IVS® Interactive Voting System

Top-5 after seven questions

Your score could have been: 95 points

	Name:	Group:	Score:	Total voting time:
1st place	Participant 20	RED	95 points	69.89 sec.
2nd place	Participant 13	BLUE	85 points	50.40 sec.
3rd place	Participant 45	RED	85 points	55.96 sec.
4th place	Participant 14	YELLOW	85 points	64.85 sec.
5th place	Participant 43	GREEN	83 points	36.11 sec.

Bottom-3 after seven questions

3rd place	Participant 50	BLUE	8 points	11.60 sec.
2nd place	Participant 36	YELLOW	7 points	3.01 sec.
1st place	Participant 27	YELLOW	6 points	0.06 sec.

www.ivsystem.nl

IVS-Professional 4.5

®

IVS-Professional 4.5

Interactive Voting System

The Interactive Voting System (IVS®) is an interactive means of making presentations and improving communication in all types of groups. It facilitates contact between speakers and listeners. The listener is able to react to the speaker and the speaker is able to respond in turn, thus creating an interaction. In this way, the passive listener becomes an active participant, which allows him to take greater part in the speaker's presentation.

IVS® consists of a network of keypads that pass on information to the cluster. This cluster collects the data and sends it to the software. IVS-Professional saves the information and presents the data in charts.

The IVS® knows many applications. Besides support for congresses and seminars where the opinion of the entire group is measured, IVS® offers several other possibilities:

Evaluation of a meeting By evaluating a meeting with IVS® the data is immediately available. Therefore the processing and reporting can be done much faster. Giving feedback to the audience is, in this case, not always wanted or needed. With IVS® you can decide whether you want to show the results immediately in a chart or evaluate the results afterwards.

Measuring consensus If you want to know whether there is a basis for a decision within the company or within a group, you can use a rating question. Besides the results for the given ratings, this question also displays the mean value and the deviation. By first asking a reference question, e.g. "In which sector are you employed", you can determine if there is a basis for the decision within a certain group.

Knowledge check Within IVS® you can set up a correct answer. Per question you can set up multiple correct answers. This way it is possible to measure the knowledge level of the audience. This methodology is used in education and training situations. It is also possible to measure whether a group of people is informed about the changes within a company or within a specialty.

Research IVS® stores the results of every keypad individually. This means that the system is anonymous but that it is possible to tell which participant voted what on a question. The results can be exported to a spreadsheet application (like Microsoft® Excel™) or to a statistical application (like SPSS Statistics). This way it is possible to easily gain lots of information.

Introduction

There are several software packages available to make use of the interactive voting system. These packages are used to make a presentation, that is also known as a script. A script contains a series of slides, that allow you to ask the questions. It is also possible to add text, images or videos to the slides, for instance to clarify a question.

IVS-Professional is the most used software package of the available IVS software. With IVS-Professional it is possible to ask both anonymous and identified questions. By voting anonymously, you can, for example, ask opinion questions, that only display the results of the total group. With an identified voting, you can ask knowledge questions, or even play a quiz, that can display the results per individual participant, or per group of participants.

When you have an identified voting, IVS-Professional also offers the possibility of assigning vote weights to the participants. This makes the software extremely suitable for supporting shareholders meetings.

The basic features, such as crossing the results with a reference question, and comparing the results of different questions, are also available in IVS-Professional. By comparing questions, the results of two or more questions are displayed next to each other in the same chart. But is it also possible to show the results of different questions in multiple charts, displayed next to each other. By crossing a question, the total results of a question are split up in separate references, that were previously determined by asking a reference question.

IVS-PowerPoint is a software package that can be used as a plug-in in Microsoft PowerPoint. This allows you to easily add slides to a PowerPoint presentation, that show a question and allow you to vote. All the possibilities of PowerPoint are of course available. The IVS plug-in makes it possible to vote, cross and compare results.

This manual describes how to use IVS-Professional to make a script. A separate manual is available for IVS-PowerPoint.

You can use this manual as a textbook. You start with the first chapter, which explains how you can easily create a script with a question and answers. The following chapters describe how to extend the script, so that it can be used in a variety of application. Next, the manual explains how to connect the network and how you can vote with your script. Finally, with the aid of an example script, you will learn how to display the results of the various participants, and how to show the score of the individual participants or of groups of participants.

Each chapter contains a number of steps, for example:

Select the template "Empty script (Widescreen 16:9)" and click **OK** to create a new script.

You can perform these steps to create an example script, as described in this manual. By means of this example script you learn the various possibilities of IVS® and IVS-Professional.

Table of contents

Making a script

Before you can support a meeting with IVS® you have to create a script. This script contains a number of slides. These slides can be presented during the meeting.

You can place one or more images on a slide. Or you can place texts on a slide. However, the most important objects that can be placed on a slide are a question and the accompanying answers. The question determines what you want to know from your audience, while the answers indicate the choices your audience can make. You can also place a result diagram on a slide, in which the results of a voting are displayed, immediately after the audience has voted.

Starting with a template

After starting up IVS-Professional, the startup dialog appears. This dialog allows you to open an already existing script, or create a new script.

If you start IVS-Professional for the first time, there are no existing scripts you can open. Therefore you start with a new script.

The start-up dialog with a couple of templates
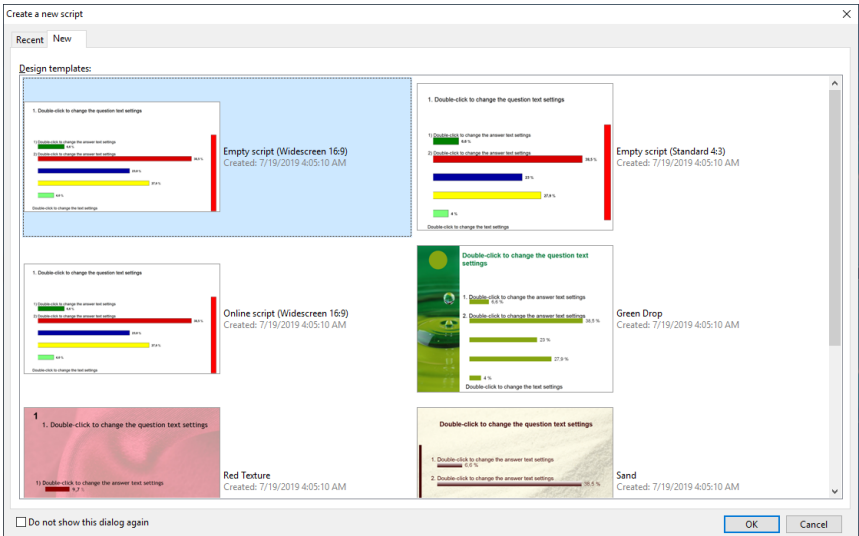
To create a new script, you can choose from a number of templates. These templates determine what your script is going to look like. The template defines, among other things, which fonts and colors are used for questions and answers.

Select a template with which you want to start your script and click on **OK** to create a new script.

A new script has been created with one empty slide.

A new script with one empty slide
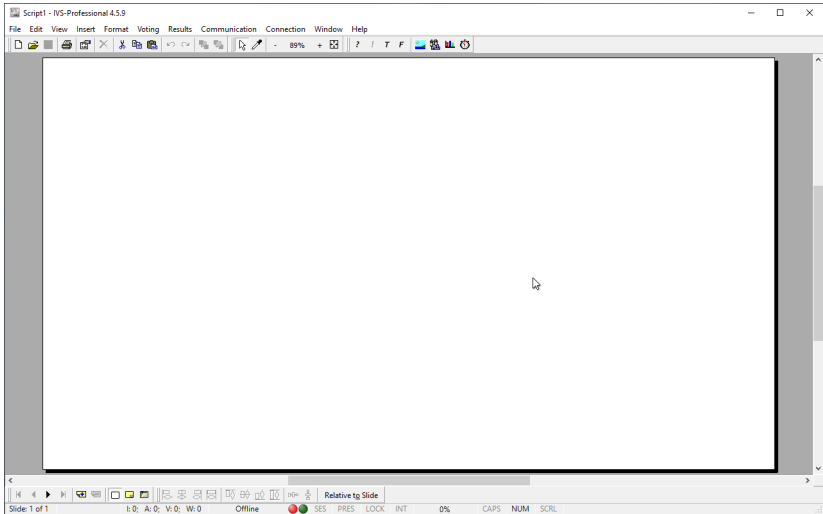
Making a question

A *question* is an object that you can place on a slide. With this object you present the question you want to ask the audience. Together with the accompanying answers, you can have your audience vote to this question.

Choose the option *Question* from the *Insert* menu to create a question
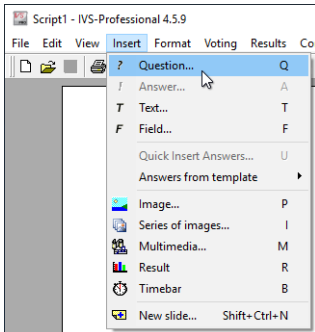
To insert a question, choose the option **Question** from the **Insert** menu. Alternatively, you can click the **Question** button (?) in the toolbar or press the Q on your keyboard.

A text window appears in which you can enter the text for the question.

Entering question text

Which of the following sports is not recognized as an official Olympic sport?
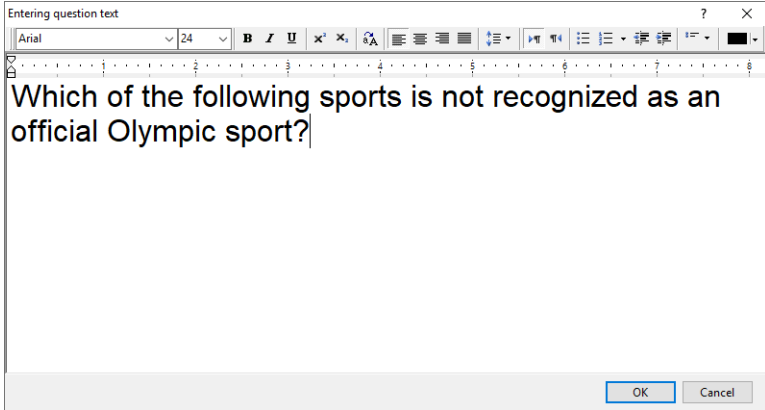
Type the following question text: "Which of the following sports is not recognized as an official Olympic sport?"

After you have entered the question text, you click on **OK**. The question will be inserted at the top of the slide.

Click on **OK** to insert the question.

1. Which of the following sports is not recognized as an official Olympic sport?
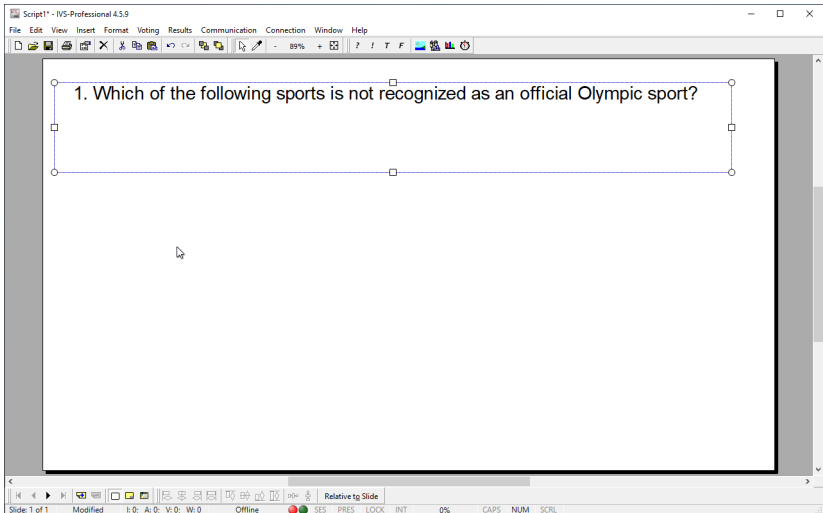
A question is automatically numbered. The number depends on the position of the question within the script.

Adding answers

An *answer* is also an object that can be placed on a slide. With this object you present the possible answers to a question, so that the audience can make a choice.

An answer is automatically numbered. The numbers of the answers correspond with the numbers on the keypad.

To insert an answer you choose the option **Answer** from the **Insert** menu. Alternatively, you can click the **Answer** button ( ) in the toolbar or press the A on your keyboard. You can also press the Return button on your keyboard provided that the question or an answer is selected.

Choose the option *Answer* from the *Insert* menu.

A text window appears in which you can enter the text for the answer.
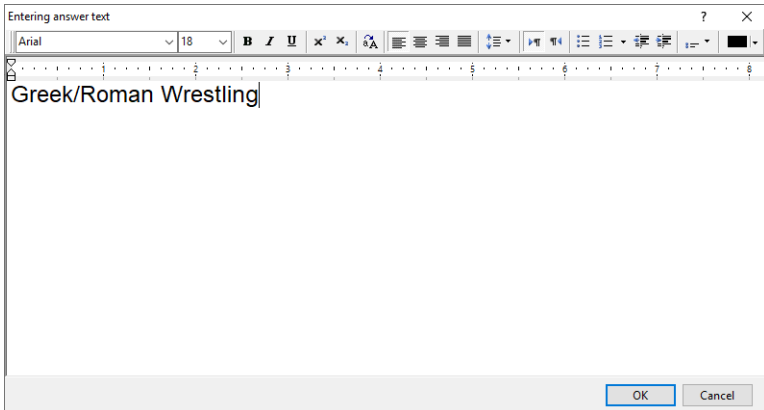
Type the answer text for the first answer: "Greek/Roman Wrestling".

After you have entered the answer text, you click on **OK**. The first answer is inserted at the top of the slide just below the question.

Click on **OK** to insert the answer.

For adding more answers, you repeat these steps, until you have all the answers you need for answering the question. You can insert up to 999 answers for answering a question.

Repeat these steps to insert the following five answers: "Archery", "Beach volleyball", "Darts", "Taekwondo" and "Tennis".

A question with six answers is inserted on this slide
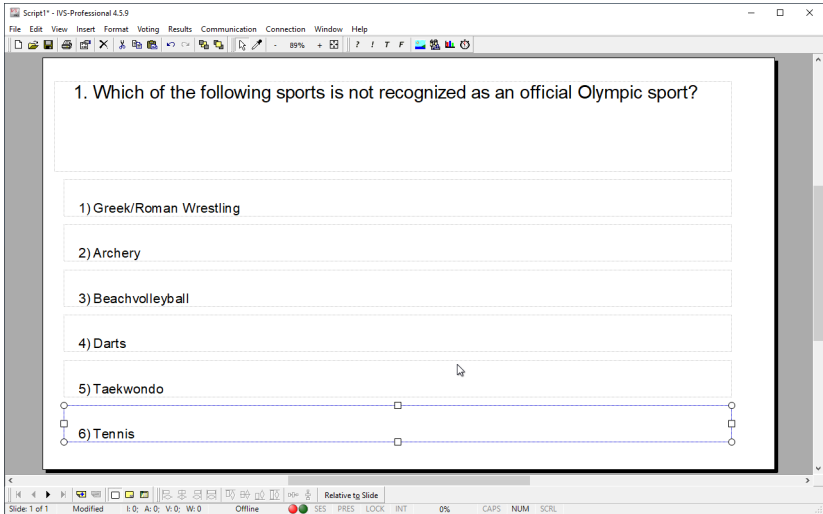
Adding a result diagram

A *result diagram* shows the results for the corresponding question. After having voted on a question, a bar chart is displayed in the result diagram, which shows the number of votes for each answer.
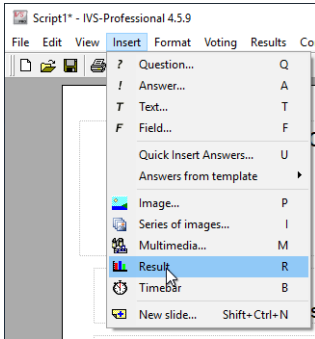
To insert a result diagram you choose the option **_Result_** from the **_Insert_** menu. Alternatively, you can click the **Result** ( ) button in the toolbar or press the R on your keyboard.

Choose the option **_Result_** from the **_Insert_** menu.

The result diagram is inserted into the slide. Because there are no results yet, the result diagram is entirely empty. You only see the text "Question 1" at the top of the result diagram. This text indicates that this result diagram belongs to question 1 and will later display the results of question 1.
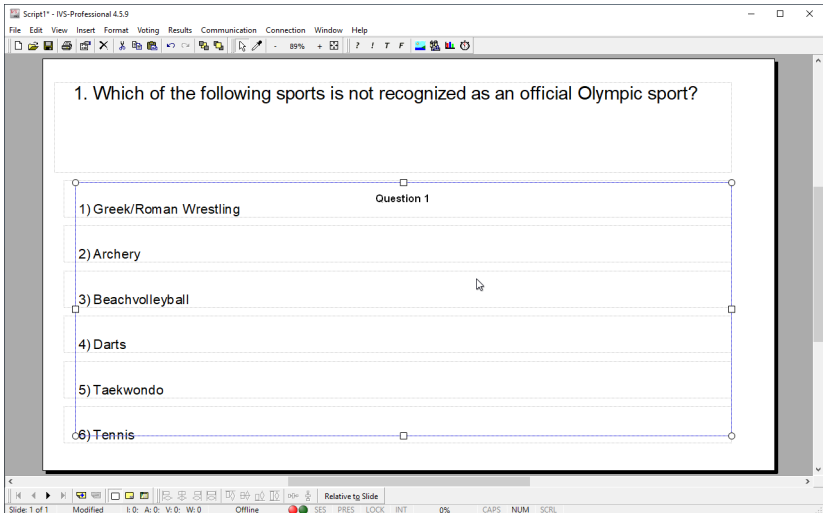
It is recommended to save the script after having created a slide.

Saving the script

By saving the script, all the slides, including the images that are used on the slides, are saved. The script is saved in its own folder, where later on the voting results will also be saved. This way, everything that belongs to the script is conveniently stored on a fixed location.

To save the script, you choose the option **Save** from the **File** menu. Alternatively, you can click the **Save** (🖫) button in the toolbar or press ⌃ + Ⓢ on your keyboard.
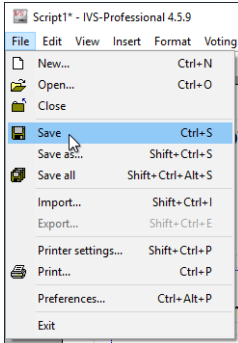
Choose the **Save** option from the **File** menu.

The standard dialog box for saving files appears. Here you enter the name of the script.
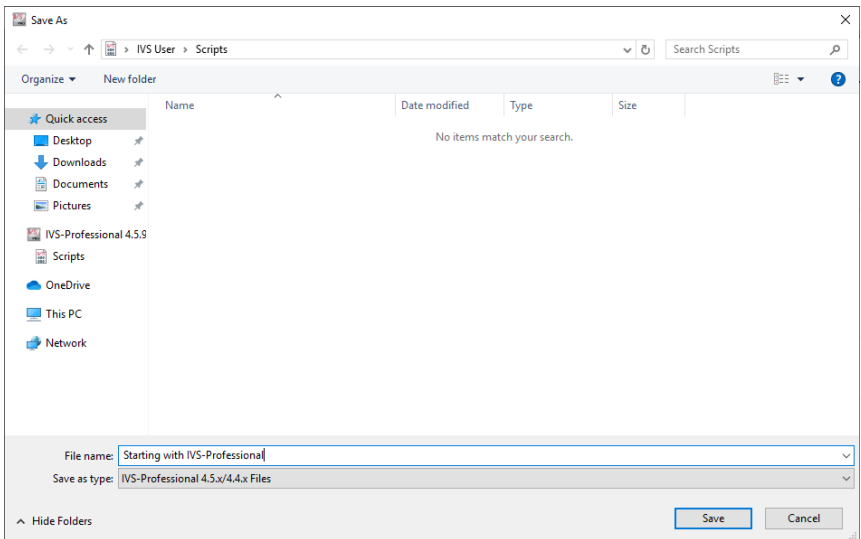
After having entered a name, you click on the **Save** button to save the script.

Enter the name of the script: "Starting with IVS-Professional" and click on **Save** to save the script.

The name of the script is displayed in the title bar of IVS-Professional.
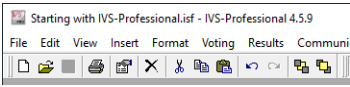
It is recommended to save the script regularly.

Using background slides

A script consists of a number of slides on which you can place questions and answers, result diagrams, images and texts. Apart from the standard slides, a script consists of at least one background slide. On a background slide you can only place texts and images.

A background slide is displayed behind a standard slide. The advantage is that objects, that you want to repeat on every slide, do not need to be inserted on each single slide again. You only have to insert them once on the background slide. Any object that is inserted on the first background slide, is automatically displayed on each normal slide.

Go to the background slide

To switch from standard slides to background slides, you choose the option *Background slide* from the *View* menu. Alternatively, you can click on the **Background slide** (🖳) button in the lower toolbar.

Choose the option *Background slide* from the *View* menu to switch to the background slide.
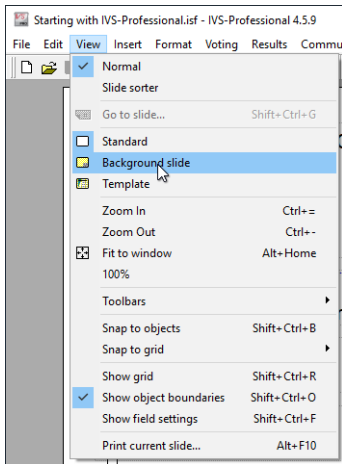
Choose the *Background slide* option from the *View* menu.

The standard slide disappears and you see an empty slide. This is the first background slide.
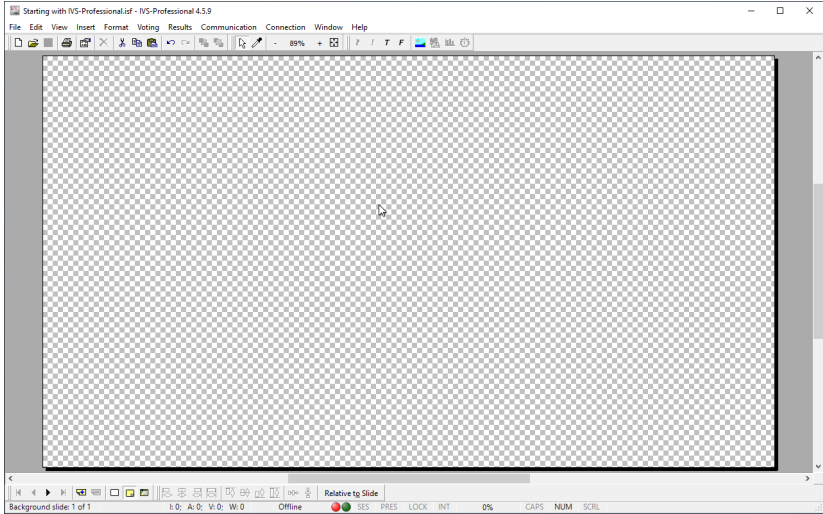
Inserting an image

When you want to show an image on each slide in the script, you place it on the first background slide. This way, you can show for instance a company logo in the corner of each slide.

To insert an image, you choose the option **Image** from the **Insert** menu. Alternatively, you can click on the **Image** ( ) button in the toolbar or press ⌹P on your keyboard.

Choose the
option *Image*
from the *In-
sert* menu to
insert an im-
age
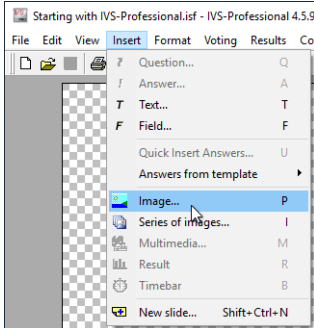
Click *Image* from the *Insert* menu.

A standard dialog box for opening files appears. Here you choose the location and select the name of the file you want to open.
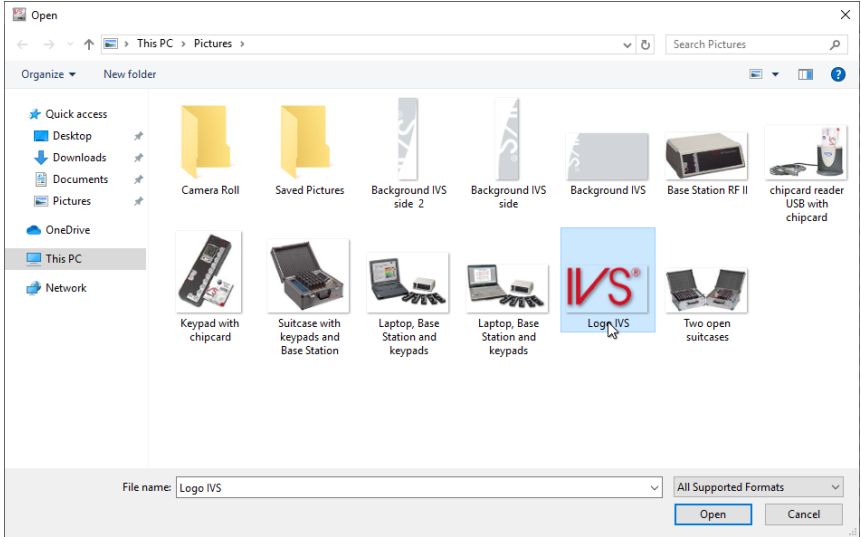
The most common file formats, like bitmap, JPG, PNG and GIF are supported. If you choose for a PNG format, transparency and semi-transparency are also supported. If you choose for a GIF format, transparency and animation are also supported. There are some limitations to the GIF format. You can only place one GIF image on a slide. If the GIF image is both transparent and animated, and you are moving the image to a new location, the background of the original location is also moved. The normal background can be restored if after moving the image you go to the previous slide and then go to the next slide. The background of an animated GIF image might also contain strangely colored pixels.

After you have selected the file, you click on **Open**. The image is inserted into the background slide.

Select an image and click **Open** to place on the background slide.
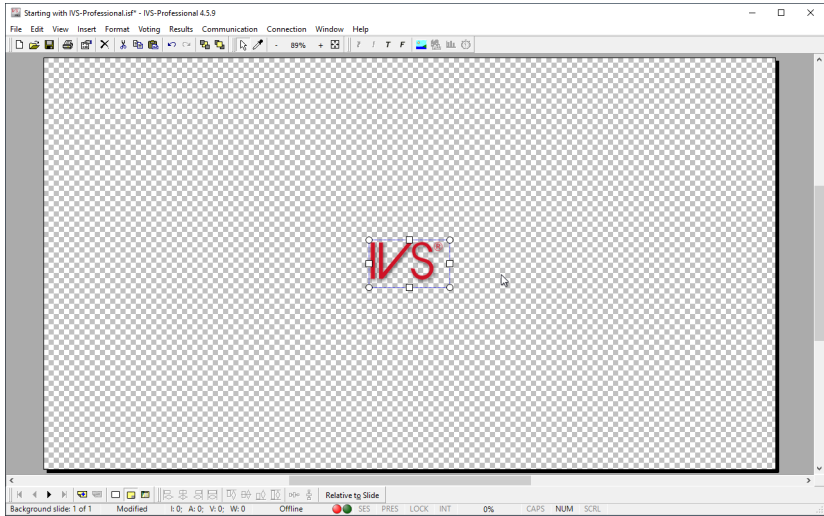
Selecting objects

The image you just inserted is automatically selected. A selected object has four squares along the edges and four circles on each corner. When an object is selected you can move it, make it bigger or smaller or you can edit it.

You can select an object by clicking on it with the left mouse button. You see the squares and circles appear immediately. To deselect an object you either select another object or you click on the slide with the left mouse button.

Moving objects

When an object is selected you can move it around on the slide. To move an object you click on it with the left mouse button and keep the button pressed. If you move the mouse the object will be dragged along. You can see this because the outline of the object moves with the mouse. The object itself will first stay on its original position.
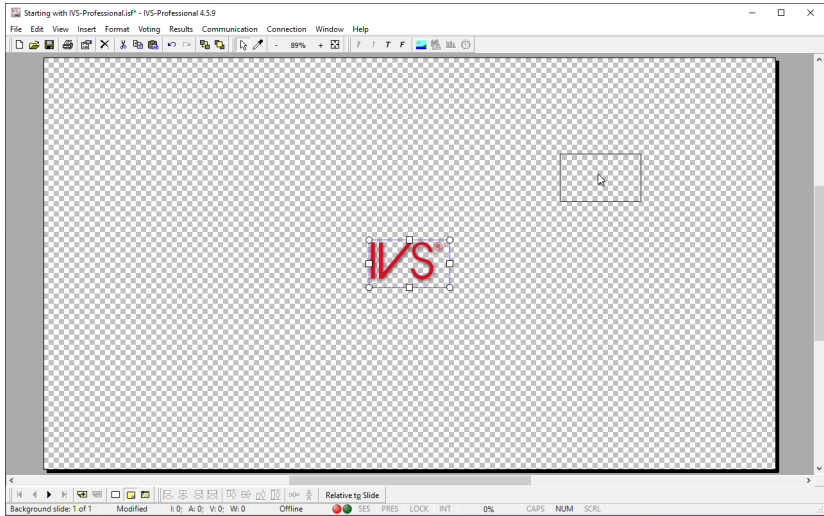
After you moved the object to its new position you release the mouse button. The object now moves to its new position.

If you don't want to move the object, you can press the [Esc] key while dragging the object. Moving the object will be canceled and the object stays at its original position.
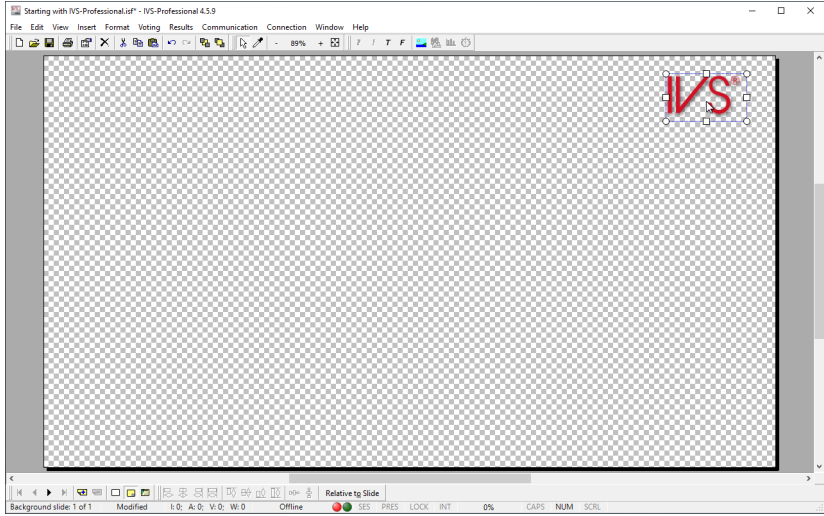
To the normal slides

After you have inserted an image on the background slide, you return to the normal slides. You do this by choosing the **Standard** option from the **View** menu. Alternatively, you can click on the **Standard slide** button ( ) in the lower toolbar.

> Choose the *Standard* option from the *View* menu.

Choose the option *Standard* from the *View* menu to return to the standard slides
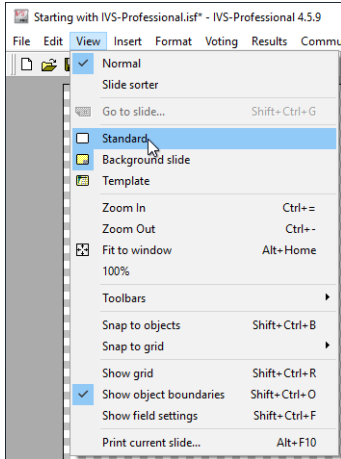
You are now back at the standard slides where you see your first slide with the question and six answers. Behind this slide you see the image that you put on the first background slide.

The background slide is displayed behind the standard slide
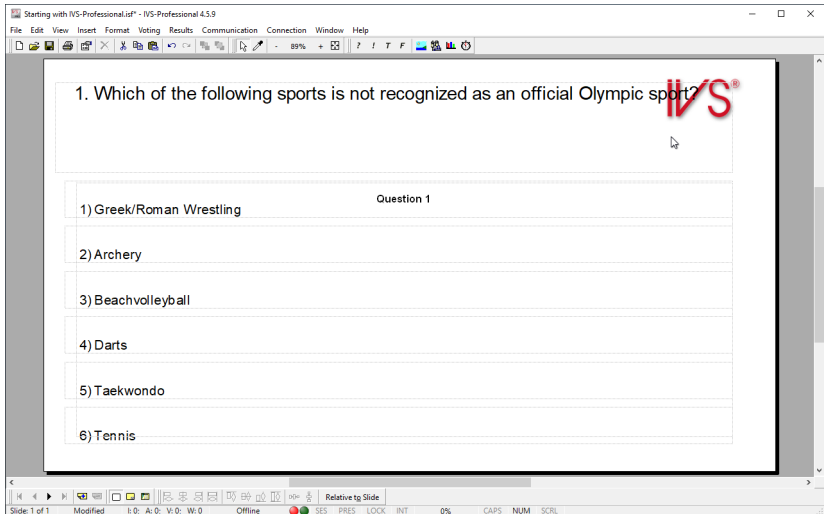
Working with results

A *result diagram* is used to show the results of the voting. However, when you are making a script, no results are available yet. Therefore nothing is shown in the *result diagrams*.

For a correct layout of your script, it would be handy when results would be displayed. This way, you can see for instance whether the bars are on the correct position and have the correct color or not. To display results when you are creating a script you can make use of example results.

By using example results, it looks as if every question is voted. With every answer a random number of votes is displayed. With example results you can do almost everything you would when you had real results. However, you cannot export or print example results. And keep in mind: these are only random example results.

Importing example results

To display results in the script, whether they are real results or example results, you have to import them. To import results, you choose the option **Import** from the **File** menu.
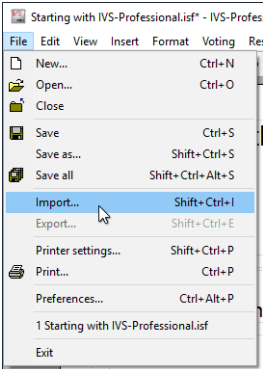
Choose the *Import* option from the *File* menu.

The dialog box for importing session appears. This dialog lists all the results that belong to this script. Because this script has not been used to vote with, there is only one session available, namely the one with example results.
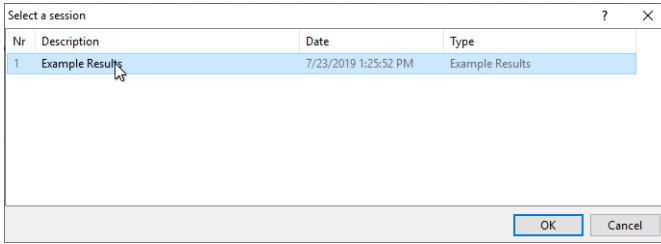
Select this session and click on **OK** to import the results from this session.

Select the session "Example results" and click on **OK**.

The example results are now displayed in the result diagrams.
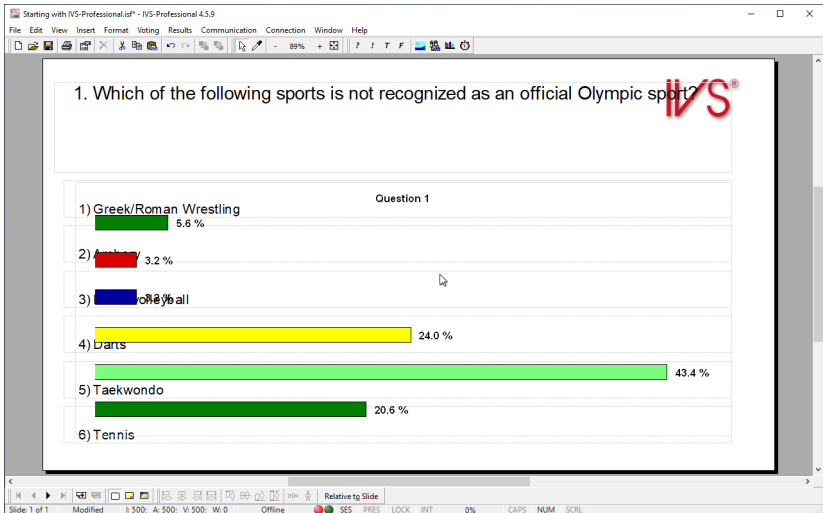
Formatting the result diagram

The results are displayed in a bar chart. Each bar is shown below the corresponding answer. Behind each bar, the percentage of participants that have voted on this answer is shown.

You can change how the results are displayed, according to your wishes. You could, for instance, choose to show absolute figures instead of percentages. Or you could show the results in a pie chart. To change the way results are displayed, you go to the properties of the result diagram.

To go to the properties of the result diagram, you click on the result diagram with the right mouse button and choose the option ***Properties*** from the menu.

The dialog box *Properties of result* appears, in which you can change the properties of the result diagram.

Dialog box with the properties of the result diagram
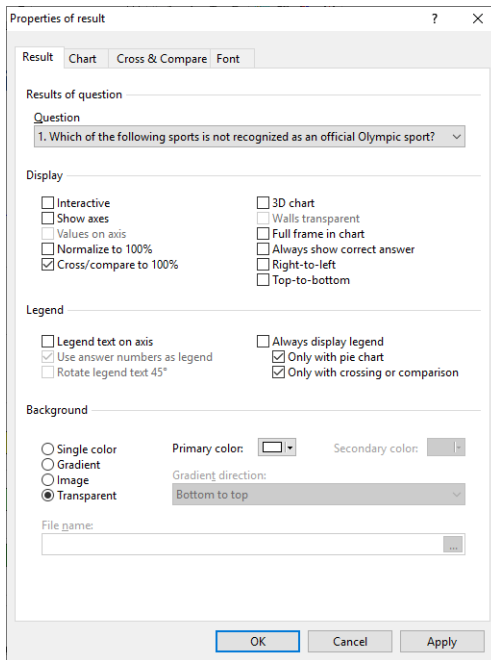
Results of question

This shows the question of which the results are shown in this result diagram. When you insert a question, answers and a result diagram on a slide, the result diagram will automatically be linked to that question. Should you want to show more result diagrams for this question, this link would not be automatically made. You would have to manually link this result diagram to a question.

Display

The options under *Display* determine how the result diagram is displayed.

Interactive When results are shown interactively, you can see the bars grow during voting. When results are not shown interactively, the diagram remains empty until the voting is closed.

Show axes With this option axes are shown at the left and at the bottom of the chart. The text that is shown along these axes is determined by the options **Values on axis**, **Legend text on axis** and **Use answer numbers as legend**.

Values on axis Along the bottom axis values are shown that give an indication of the absolute value of each bar. The exact value is shown with each bar. Depending on the available space, the values are shown in steps of 5 or 10 or even greater. This option is only available when **Show axes** is also enabled.

Normalize to 100% The largest bar in the chart will be displayed using all available space in the chart. When the largest bar represents 43.4% it will be displayed from the bottom to the top of the chart. With the option **Normalize to 100%** enabled only a bar that represents 100% is displayed using all available space. A bar representing 43.4% will use about half the available space.

Cross/Compare to 100% When crossing or comparing two or more questions, the total number of votes for all questions are taken to the same level. When this option is **not** checked, the bars in the chart are based on the absolute number of votes. A bar with four votes is therefore smaller than a bar with six votes. When displaying the results in percentages, the bar with four votes is still smaller than the bar with six votes. However, the bar with four votes can have a result of 25%, while the bar with six votes can have a result of 20%. This will make 25% look less than 20%. When this option **is** checked, the bars in the chart are based on the percentage of votes. A bar with 25% of the votes is bigger than a bar with 20% of the votes.

3D chart The chart is displayed three-dimensionally. Disable this option if you want a flat chart.

Walls transparent The left wall and the bottom wall of the chart can be made transparent with this option. If they are not transparent, they will use the color set at *Primary color*. This option is only available if the **3D chart** option is also enabled.

Full frame in chart By default, only the left and bottom wall are visible. With this option you can also show the right and top wall. These two walls are only represented by a line.

Always show correct answer With this option the correct answer is shown immediately upon closing the voting. This means that all bars belonging to a correct answer will be shown in green, and all bars belonging to a wrong answer will be shown in red. See also "Showing the correct answer" on page 99.

From right to left This option allows you to display a mirrored result diagram. The bars are shown from the right to the left instead of from the left to the right and the legend is on the left side of the chart instead of on the right side. This option is only available if your computer is set up to use from-right-to-left languages, like for example Arabic.

From top to bottom With this option the bars are displayed from top to bottom. Normally the bar belonging to answer 1 is displayed at the bottom of the chart – in the case of a bar chart – or on the left in the chart – in the case of a column chart. By enabling this option, the bar belonging to answer 1 appears at the top of the chart or at the right of the chart.

Legend

Apart from the answer text, each answer also has a legend text. In most cases the legend text is the same as the answer text. Only when the answer text is too long, the legend text will be a shortened version of the answer text.

In the result diagrams, the legend texts of the answers can be displayed in various ways.

Legend text on axis This option shows the legend text of the answers along the bottom axis of the result diagram. When the text of one of the answers it too long, it could happen that the legend text of the adjacent answers is not shown. You can solve this either by selecting **Use answer numbers as legend** or by shortening the legend text. The option **Legend text on axis** is only available when the option **Show axes** is also enabled.

Use answer numbers as legend Instead of the legend text, you can also show only the numbers of the answers. This option is only available when both the options **Show axis** and **Legend text on axis** are enabled or when **Always display legend** is enabled.

Rotate legend text 45° When the legend text is displayed along the axis, you can use this option to rotate the text 45°. This option is especially useful when the legend texts are too long, which causes that not all of the texts are shown. When the legend text is rotated, it can always be displayed. This option is only available when the options **Show axes** and **Legend text on axis** are also enabled.

Always display legend Besides showing the legend texts along the axis, it is also possible to show a separate legend. This can be done by enabling the option **Always display legend**. The legend will be displayed on the right side of the result diagram.

Only with pie chart Because it is not possible to show a legend along the axis of a pie chart, this option offers the possibility to show a legend with a pie chart. The legend is not shown with a bar chart, a line chart or a 3D area chart because these charts have the legend along the axis. This option is not available when the option **Always display legend** is enabled.

Only with crossing or comparison This option only shows a legend when the results are crossed or compared. In that case, the legend shows what the crossing or comparison represents. This option is not available when the option **Always display legend** is enabled.

Background

The background of the result diagram can be changed. You can choose from one single color, a gradient from one color to the other color, or an image as the background, or you can leave the background transparent. These different options are almost the same as those of the slide. For a more comprehensive description, see "Background" on page 50.

Single color The background is displayed as one single color. The desired color can be chosen by clicking the **Color** button behind *Primary color*. The walls of the chart are also displayed in a darker and lighter tone of this primary color, unless the option **Walls transparent** is enabled.

Gradient The background is displayed as a gradient from one color to another. The desired colors can be chosen by clicking the **Color** button behind *Primary color* and behind *Secondary color*. From the list under *Gradient direction*, you can choose the direction of the gradient. The direction is always given from the primary color to the secondary color. If you choose the option *From bottom to top*, the primary color is displayed at the bottom and the secondary color at the top.

Image With this option you can display an image as the background. By clicking the **Browse** button (⬚) under *File name*, you can select a file that you want to use as an image on the background. The image will always be stretched, to fit in the available space of the result diagram.

Transparent This option makes the background transparent, so that you can see the slide through the result diagram. The walls of the chart are not automatically made transparent. Use the option **Walls transparent** to do this.

Select the options *Show Axes* and *3D chart* from the *Display* options and *Transparent* from the *Background* options with white as the *Primary color*.

Setting up the chart

The dialog box *Properties of result* consists of four tabs. The first, *Result*, contains the options that relate to displaying the result diagram. The second, *Chart*, contains the options that relate to displaying the chart in the result diagram. The third, *Cross & Compare*, contains options for displaying a crossing or comparison. And the last one, *Font*, contains options for setting up the font for all texts used in the diagram.

Click on the *Chart* tab at the top of the dialog box.

Properties of result

Result | Chart | Cross & Compare | Font

Chart type

- ○ Column chart
- ● Bar chart
- ○ Pie chart
- ○ Line chart
- ○ 3D area chart
- ○ 4-quadrant chart

Bar chart

Type:
Rectangle

Bar width: 50 %

☑ Frame around bar

Gradient direction:
From right to left

Start color:

☐ Middle color:

Results

Type: Percentages

Maximum number of bars: 0

Number of digits: 1

First displayed bar: 1

Values with bar

☑ Display values

☐ Display background

Distance to bar: 15

Text color:

Background color:

OK | Cancel | Apply

Chart type

You can choose from a variety of charts to display the results. The most used chart types are the bar chart and column chart. But you can also choose a pie chart, a line chart or a 3D area chart. The 4-quadrant chart is a special chart type. In this chart, the results of two consecutive questions are displayed. The results of the first question are displayed along the X-axis, while the results of the second question are displayed along the Y-axis. If you choose for this chart type, you will be notified of the fact that this is a special chart type, that cannot be used just like the other chart types to display the results of a voting.

Bar chart

If you display your results in a bar chart or column chart, you can also choose how the bars or columns should be displayed. You can choose from thirteen different types. Furthermore you can select the width of the bars or columns. This width can vary from 5% up to 100% of the available space. The width is adjustable in 5% steps. The default width is 50%.

If you choose the type 'Rectangle with gradient' you can have the bar color gradually fade from a starting color at the beginning, if necessary through a second color in the middle, to a final color at the end. Under **Start color** you choose the color with which all bars should start. The bars all end in a color that you have set in the properties of each corresponding answer. If necessary, you can

choose a third color that is used in the middle of the bar. Besides, you can also indicate the direction of this gradient. The direction is given from the selected starting color to the final bar color.

The option **Frame around bar** determines whether or not the thin black line is displayed around each bar.

Results

The results that are displayed with each bar, can both be displayed in percentages and absolute values.

Absolute The results are displayed in absolute values.
Percentages The results are displayed in percentages of the total number of votes.
Absolute/Percentages The results are displayed both in absolute values and in percentages of the total number of votes.
Percentage of total The results are displayed in percentages of the total number of votes. Besides that, the total number of votes is also displayed.
Percentage relative to total voters This option is only applicable when this question can be voted more than once. The results are displayed in percentages relative to the total number of participants that voted at least once. Because there can be more votes than there are participants – each participant can vote more than once –, this percentage can be more than 100%.
Absolute/Percentages relative to total voters The results are displayed both in absolute numbers and in percentages relative to the total number of voters.
Legend This option displays the legend texts instead of the number of votes.

If you choose to display the results in percentages, you can enter the number of digits behind the decimal point under *Number of digits*. This can vary from 0 to a maximum of 5 digits behind the decimal point.

With the option **Maximum number of bars** you determine how many bars you would like to display at most in this diagram. The default value is 0, which will display all bars. If you want to show less bars than the number of answers, for example to show the ten most important answers from a series of 25, you can indicate that here.

The option **First displayed bar** determines which bar will be the first one to be displayed in the diagram. All bars preceding this bar will not be displayed. You can combine this option with the **Maximum number of bars** option to determine which range of bars you want to display. This allows you to divide a series of 20 answers across two diagrams. For both diagram, you set the **Maximum number of bars** to 10. For one diagram, you set **First displayed bar** to 1. For the other, you set this to 11. One diagram will now show the first ten bars and the other will show the second ten.

Values with bar

Together with each bar, the total number of votes of the corresponding answer is displayed. You can indicate whether these values are to be displayed or not, and if so, where they should be displayed. You can also adjust the text color and the background color of these values.

Display values The results of each answer are displayed along with the bar. Use *Text color* to choose the text color in which these results are displayed.

Display background A colored area is displayed behind the results which improves the legibility. Use *Background color* to select the color of this area.

Distance to bar With this option you indicate at what distance the result should be displayed from the bar. The higher this value, the further the result will be displayed from the bar. The value can be both positive and negative. A positive value indicates that the result will be displayed outside the bar, a negative value indicates that the value will be displayed inside the bar.

Select *Rectangle with gradient* as type under *Bar chart*. Then click on the *Cross & Compare* tab.

Settings for crossing and comparing

In the third tab of the *Properties of result* dialog box you can set up how a crossing or comparison will be displayed. Normally, both a crossing and a comparison display the bars next to each other.

Dialog box with the properties for crossing and comparing of questions

35

Cross

Here you indicate how the bars are to be displayed when crossing a question.

Side by side The bars of the various references are displayed side by side.

Stacked The bars of the various references are stacked on top of each other.

Stacked to 100% The bars of the various references are stacked on top of each other. Additionally all stacked bars have the same height.

Front-to-back The bars of the various references are displayed behind each other. If you want to use this option, make sure that the option **3D chart** is also enabled.

With the option **Immediately cross with question** you can indicate that the results in this chart should immediately be crossed with another question. In that case, you don't have to cross the results manually. Enter the number of the question with which you want to cross the results in this chart. If you want to cross the results manually, leave this value set to 0. For more information about crossing, see "Crossing results" on page 82.

With the option **Immediately show multiple-choice distribution with question** you can indicate that you immediately want to show a multiple-choice distribution of the results in this chart. In that case, you don't have to display a multiple-choice distribution manually. Enter the number of the question with which you want to show the multiple-choice distribution. A multiple-choice distribution can be useful for questions that can be voted more than once. The multiple-choice distribution shows how many participants chose a particular range of answers, for example, four participants chose answer 1, 2 and 3, two participants chose answer 1, 2 and 5, etc.

Compare

Here you indicate how the bars are to be displayed when comparing a question. The options are the same as for a crossing.

With the option **Immediately compare with question** you can indicate that the results in this chart should immediately be compared with another question. In that case, you don't have to compare the results manually. Enter the number of the question with which you want to compare the results in this chart. If you want to compare the results manually, leave this value set to 0. For more information about comparing, see "Comparing results" on page 93.

Split

With the option **Immediately split to reference/choice** you want indicate that the results in this chart should immediately be split. This option is only applicable to results that are crossed, or to results of a question that can be voted more than once. To split crossed results, you enter the number of the reference that you want to show in this chart. To display a certain choice from a question that could be voted more than once, you enter the number of the choice. For more information about splitting, see "Splitting a crossed question" on page 87. For more information about displaying a certain choice, see "Showing the different choices" on page 113.

Adjust

When you cross or compare a question and display the bars next to each other, they will become a lot smaller. The font used to display the values along with the bars can then become too big compared to the bars. These options allow you to automatically reduce or enlarge both the font size and the bar size when you cross or compare the question.

Adjust font size to Here you choose a percentage of the original font size. For example, if you choose 70%, the font size used for a crossing or comparison will be reduced to 70% of the original font size.

You can set up a percentage in steps of 1%, with a minimum of 5% and a maximum of 200%.

Adjust bar width to Here you choose a percentage of the original bar width. For example, if you choose 50%, the bars will be displayed at half the original size during a crossing or a comparison.

You can set up a percentage in steps of 1%, with a minimum of 5% and a maximum of 100%.

Click on the *Font* tab.

Setting up the font

In the last tab of the *Properties of result* dialog box you can set up the font that is used by the result diagram.

Dialog box
with the
properties for
the fonts
used in the
chart
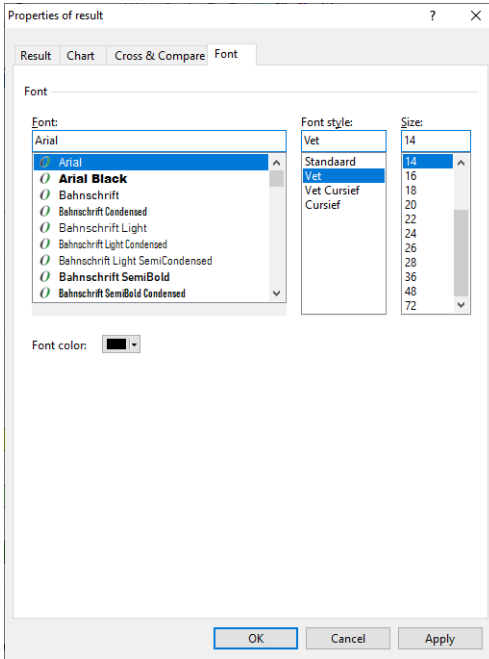
In this dialog you can set up the font used for all texts in the result diagram. You can also set up the font style, the size and the color of the font used. The font color will only be used by texts displayed along the axes. The text color for texts displayed with the bars can be set up separately on the *Chart* tab.

Click on **OK** to apply the changes.
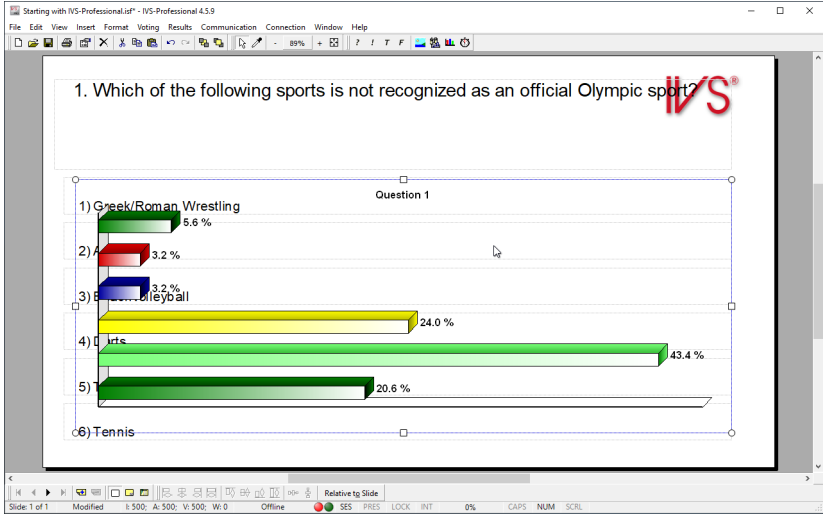
Changing the layout of the slide

When inserting the question, answers and the result diagram, they were inserted into the slide at a default position. This default position is determined by the template that was used. The default template that was used to design this script, was designed to display the bars in the chart just below the answers. This setting however, was based on five answers instead of six answers that are used in this script.

After inserting all objects, they can be moved to the correct location. The example results that you just imported can help you in positioning the answer texts.

Finally you can add a suitable background to your slide.

Enlarging and reducing objects

When an object is selected, four squares will appear along the edges and four circles appear on the corners. You can use these squares and circles to enlarge or reduce an object. By placing the mouse on one of the corners of the selected object and then clicking on it with the left mouse button, you can move this corner, which enlarges of reduces the size of the selected object. If you move the mouse, the outline of the object moves along with the mouse. The object itself will first stay at its original position. Only when you release the left mouse button, the object will get its new size.

The bars in the chart are covering the answers. To prevent this, you can reduce the size of the chart a little, so that the left edge of the chart ends just behind the answers. To do this, place the mouse pointer on the middle square at the left side of the chart, click on it with the left mouse button and keep it pressed. Move the mouse to the right to reduce the size of the chart.
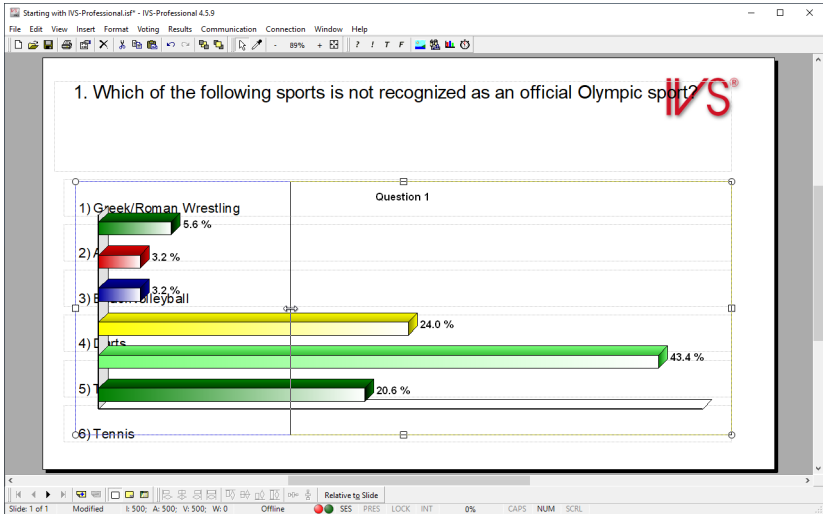
Release the mouse button when the object reaches the correct size. The object changes to its new size.

Release the left mouse button when the object has its desired size.
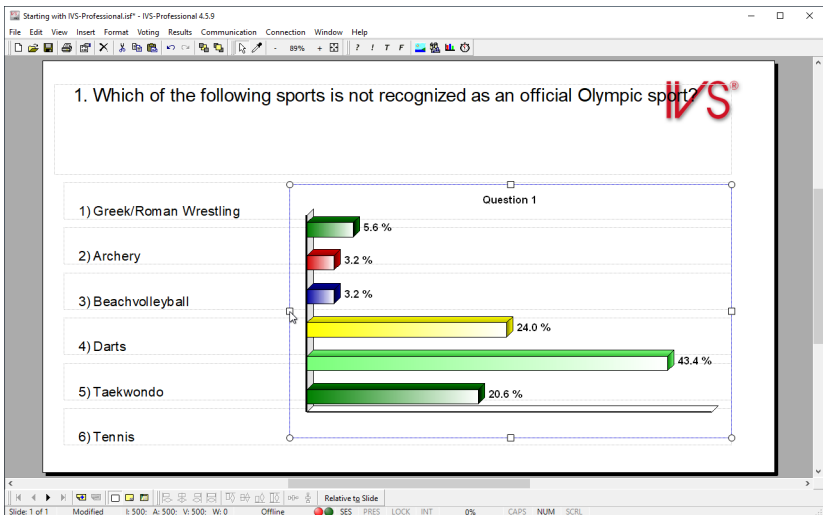
Similarly, you can move the right side of the question a little to the left, so that the text of the question is no longer displayed on top of the logo.

Select the question, click on the center square on the right and drag it to the left, so that it is well in front of the logo.
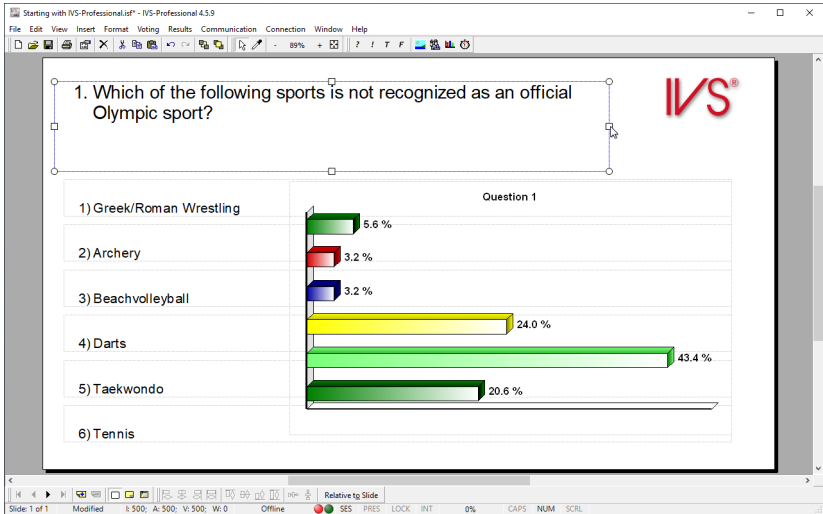
Positioning answers

The answers are all perfectly aligned, but the in-between distance is fairly large. By moving the answers closer to each other, they can be aligned with the bars in the bar chart.

First, select the lower answer and move it upwards until it is in a horizontal line with the lower bar of the chart. Make sure the answer is moved a little to the right compared to the other answers.

Select answer 6 and drag it upwards until it is in line with the lower bar of the chart.
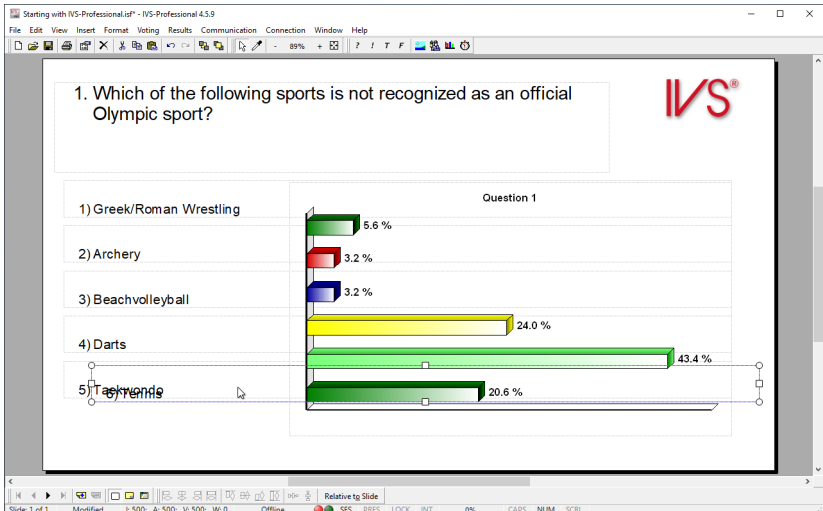
Selecting more than one object

The last answer is now aligned with the lower bar in the graph, but the alignment with all the other answers has disappeared. The answer is too far to the right. Therefore this answer has to be aligned again with the other answers.

If you keep the ⬚Shift key pressed while selecting objects, you can select multiple objects at once. If you do not use the ⬚Shift key you can select only one object at a time.

> The last answer is still selected. Press the ⬚Shift key and then select the second last answer.

Both the last and the second to last answer are selected
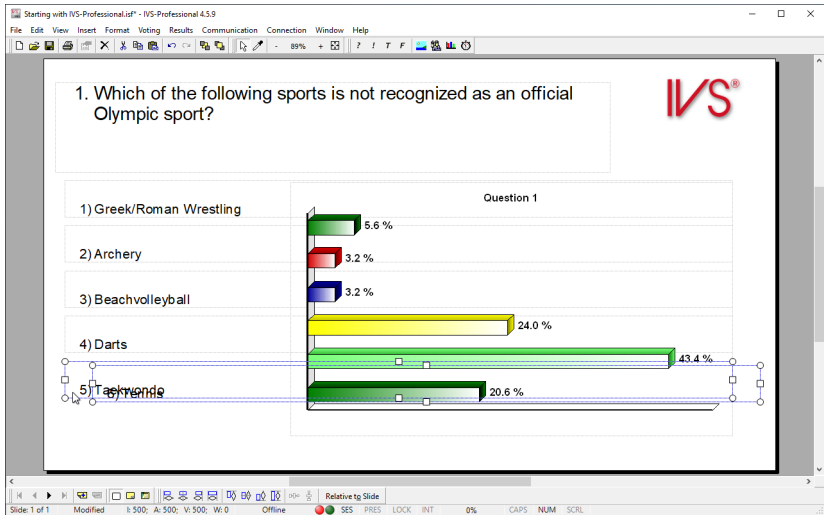
Aligning objects

By aligning objects, they are neatly put under each other, or next to one another. To do this, you choose the option ***Align or distribute*** from the ***Edit*** menu and then select one of the ten available options to align or distribute your selection. Alternatively, you can click on one of the selected objects with the right mouse button and choose the option ***Align or distribute*** from the menu, or you can click on one of the button in the *Align or distribute* toolbar at the bottom of the screen.
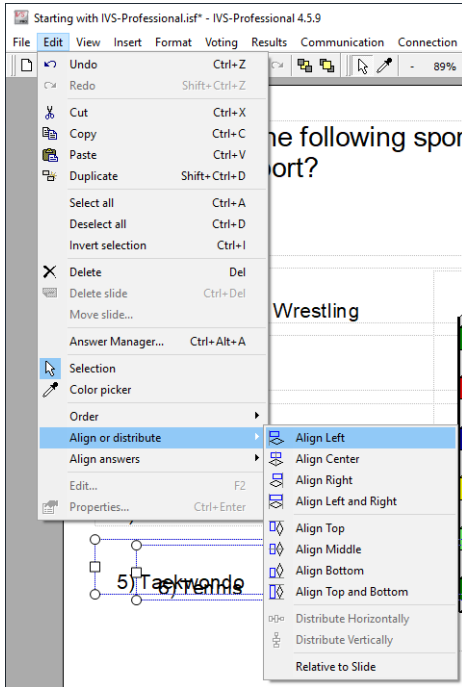
Aligning horizontally

The first four options determine the horizontal alignment.

Align Left The selected objects are aligned with their left side at the same position. The most left object is used as a reference. Therefore this object is not moved while all other objects are moved to the left.

Align Center The selected objects will be centered. The point of reference is the center between the left edge of the most left object and the right edge of the most right object. All selected objects will use this point of reference as their center.

Align Right The selected objects are aligned with their right side at the same position. The most right object is used as a reference.

Align Left and Right The selected objects are both left and right aligned. The left edge of the most left object and the right edge of the most right object are used as a reference.

Aligning vertically

The next four options determine the vertical alignment.

Align Top The selected objects are aligned with their top edge at the same position. The top most object is used as a reference. Therefore this object is not moved while all other objects are moved up.

Align Middle The selected objects will be centered. The point of reference is the center between the top edge of the top most object and the bottom edge of the bottom most object. All selected objects will use this point of reference as their center.

Align Bottom The selected objects are aligned with their bottom edge at the same position. The bottom most object is used as a reference.

Align Top and Bottom The selected objects are both top and bottom aligned. The top edge of the top most object and the bottom of the bottom most object will be used as a reference.

The options for aligning objects are only active when two or more objects are selected at the same time. If you use the option **Relative to Slide**, the options for aligning objects are active when one or more objects are selected at the same time.

Distribute

The last two options determine how the selected objects are distributed.

Distribute Horizontally The selected objects are equally distributed between the most left and the least left object. These two remain at the same place while all other objects are equally distributed between those two objects.

Distribute Vertically The selected objects are equally distributed between the top most and the bottom most object. These two remain at the same place while all other objects are equally distributed between those two objects.

The options for distributing objects are only active when three of more objects are selected at the same time.

Relative to Slide

When aligning objects, one of the objects is always used as a reference. If you select the option **Relative to Slide** it is not one of the objects that is used as a reference but the slide itself. For instance, if you choose the option **Align Left**, all selected objects will be aligned to the left edge of the slide.

Choose the *Align or distribute* option from the *Edit* menu and then the *Align Left* option.
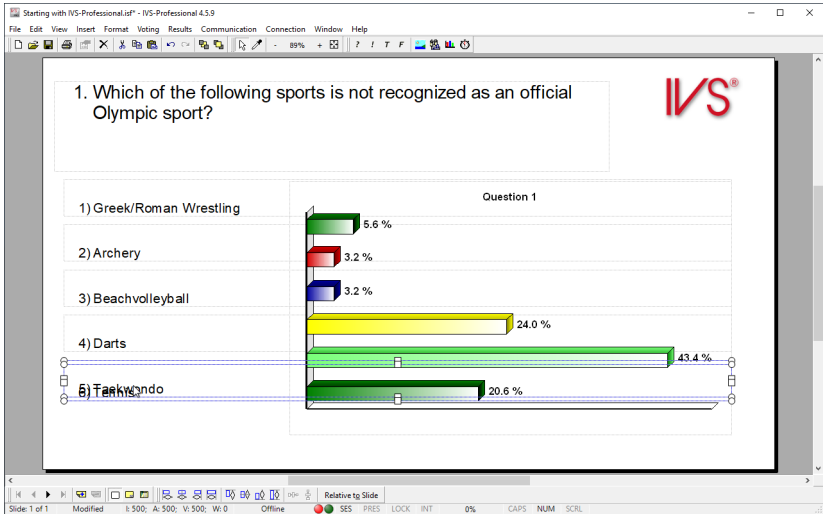
Now that the last answer is at the correct position, all the other answers can be correctly positioned the same way.

Deselecting objects

Both answers are still selected. You have to deselect them first. To deselect any object, you click somewhere on the slide where there are no objects. You can then select a new object to be moved. Alternatively you can choose the option *Deselect all* from the *Edit* menu, or press [Ctrl] + [D] on the keyboard.

First click anywhere on the slide where there are no objects to deselect both selected answers. Then click on the first answer, this will be selected. Drag the answer down so that it ends up at approximately the same position as the first bar in the graph. Hold down the [Shift] key while moving, so that the answer is only moved vertically. Its left side remains at the same position.

Answers 1
and 6 have
been moved
so that they
are at the
same height
as the bars in
the chart
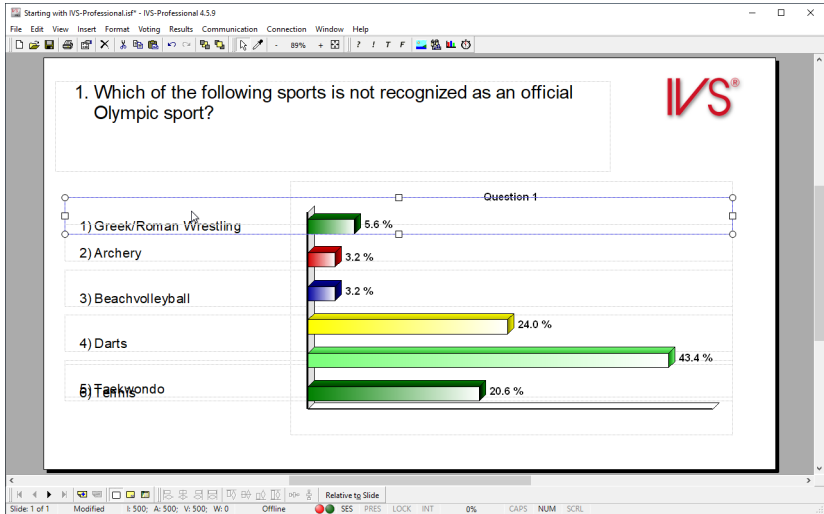
Distributing objects

The first and last answer are now at the same height as the bars in the chart, but the other answers are still too high or too low. By selecting all the answers again and then aligning and distributing them, they can easily be aligned to one another and put at the same height as the bars in the chart.

The first answer is still selected. The others can be selected by keeping the ⌜Shift⌝ key pressed and subsequently clicking on each answer.

Press the ⌜Shift⌝ key and subsequently click on the answers 2, 3, 4, 5 and 6.

To distribute the answers so that they are put neatly in front of the bars, you choose the **_Distribute vertically_** option from the **_Align or distribute_** menu. The selected objects are distributed equally between the top most and the bottom most object.

In the Align or distribute toolbar at the bottom of the screen, click on the **Distribute vertically** button (⊟).
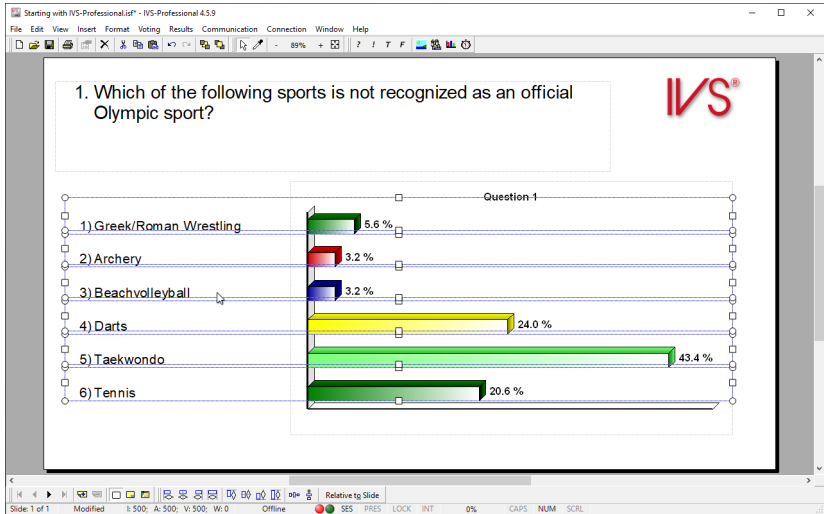
Customizing the slide

You can not only customize the properties of objects, but you can also customize the properties of the slide. You can provide each slide with a description, change the background color and select which background slide you want to display with this slide.

You go to the properties of the slide by choosing the option *Properties* from the *Edit* menu. Alternatively, you can click the **Properties** ( ) button in the toolbar, click on the slide with the right mouse button and choose the option *Properties* from the menu or you can press Ctrl + Return on your keyboard, provided that no objects are selected.

Click on the slide with the right mouse button. Choose the option *Properties* from the menu.

The dialog box *Properties of slide* appears in which you can customize the properties of the slide.

Properties of slide

Slide   Background

Description

Background slide

☑ Use background slide

Background slide 1

Jump

Next slide: 0

IVS-Online

☐ Show this slide in IVS-Online

OK   Cancel   Apply
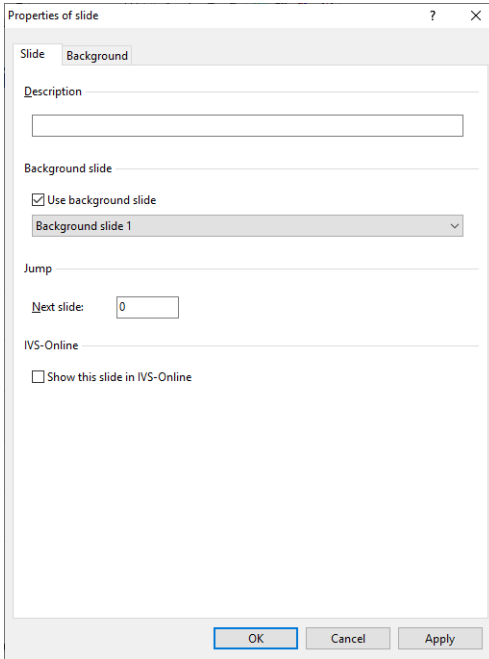
Description

You can provide each slide with a description. This makes it easier to find a certain slide later.

As a description for this slide you enter: "Slide with question about Olympic sport".

Background slide

A background slide can be displayed behind each normal slide. Using this background slide, you can easily repeat objects, that are automatically displayed on every slide.

Use background slide Select this option if you want to display a background slide behind the current slide. From the dropdown list below this option, you then choose the background slide that you want to display behind this slide.

Jump

Use this option to indicate that you don't necessarily want to go to the next slide when you press ⊞ or ⊞. Enter the number of the slide you want to jump to. If you simply want to go to the next slide, enter a 0.

IVS-Online

If you let your participants vote via IVS-Online, you can show this slide to the online participants. If the option **Show this slide in IVS-Online** is selected, this slide will be shown to the online participants as an image. This option is only available if you have an IVS-Online license. For more information about voting via IVS-Online, see "Voting with the smartphone via IVS-Online" on page 231.

Setting up the background

The second tab in the *Properties of slide* dialog contains options that can be used to set up the background of the slide. You can select the color of the slide, choose to display a gradient or even select an image to be used as the background.

Click on the *Background* tab, at the top of the dialog.

Dialog box with the properties of the background of the slide
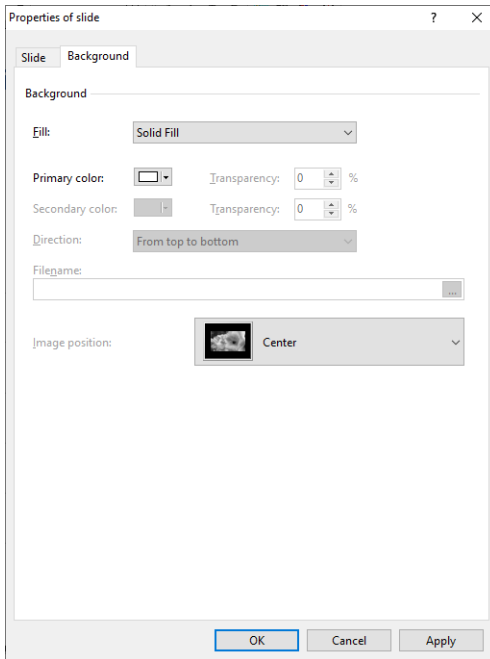
Background

The background of a slide can be customized. You can choose from one single color for the entire slide, a gradient from one color to another color, or you can use an image as the background.

Single color

If you want your background to be one single color, you select the **Solid Fill** option. Next, you click the **Color** (⬜▾) button behind *Primary color* to select the desired background color.

If you click on the color area of the **Color** button, the standard Windows color dialog box appears. You can choose a color from this dialog box or define a custom color.

If you want to use a specific color from your script, but you don't know exactly which color this is, you can pick up the color using the color picker (✐). When you click on the color picker, the mouse cursor changes in a color picker. You then click on the color you want to use. The selected color can be found in the *Custom colors* section of the standard color dialog box.

If you click on the small arrow of the **Color** button, a menu appears from which you can select various colors.
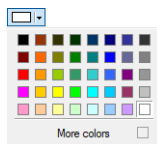
Here too you can define a custom color by clicking on the **More colors** button.
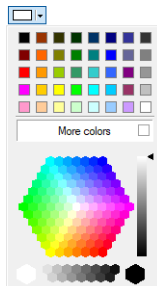
Gradient

If you want to make a more dynamic slide, you can use a gradient. Select the option **Gradient Fill**. Next, you click on the **Color** button behind *Primary color* to select the primary color. This color is used at the top of the slide. Then you click on the **Color** button behind *Secondary color* to select the

secondary color. This color is used at the bottom of the slide. The background of the slide will show a gradient from the primary color at the top of the slide to the secondary color at the bottom of the slide. From the dropdown list *Gradient direction* you can choose another direction for the gradient. Directions are indicated from the primary color to the secondary color.

Image

To completely customize the slide, you can use an image as background. Select the **Picture Fill** option. You can now select a file that is going to be used as a background image, by clicking on the **Browse** ( ) button. A standard dialog box to open files appears. Select a location and the name of the file you want to open.

From the dropdown list *Image position* you can choose how the image is displayed on the slide.

Fill The image is scaled so that the smallest edge fits along the smallest edge of the slide. A part of the image might be cut off the make the image fit.

Fit The image is scaled so that the largest edge fits along the largest edge of the slide. Part of the background color of the slide might stay visible.

Stretch The image is scaled so that it fills the entire slide. The original image ratio is not taken into account, which might lead to the image being stretched.

Tile The image is placed in the top left corner of the slide and is repeated both horizontally and vertically until it fills the entire slide.

Center The image is displayed in the center of the slide. Part of the image might be cut off if the image is larger than the slide, or part of the background color of the slide might stay visible when the image is smaller than the slide.

If you want the image to fill the entire slide, use an image of 1280 x 800 pixels for a widescreen slide, or of 1024 x 768 pixels for a normal slide.

Select the *Image Fill* option. Then, click on the ***Browse*** button and select an image. Click on **Open** to use it as a background. Select *Center* for the *Image position*.
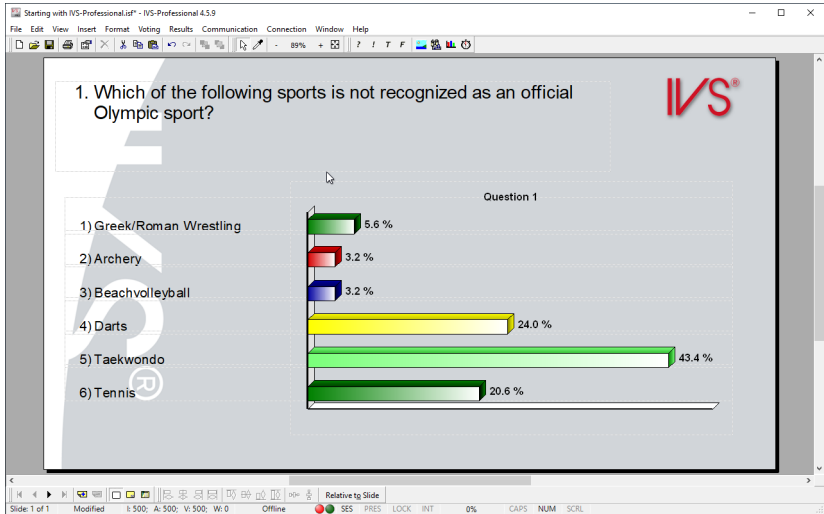
Changing texts

Once the question and the answers are inserted, it is possible to change the text, but also the font, the size and the color afterwards.

By double-clicking the question or the answer, the same text window appears as when inserting the question or the answers.

Double-click the question to change the font.
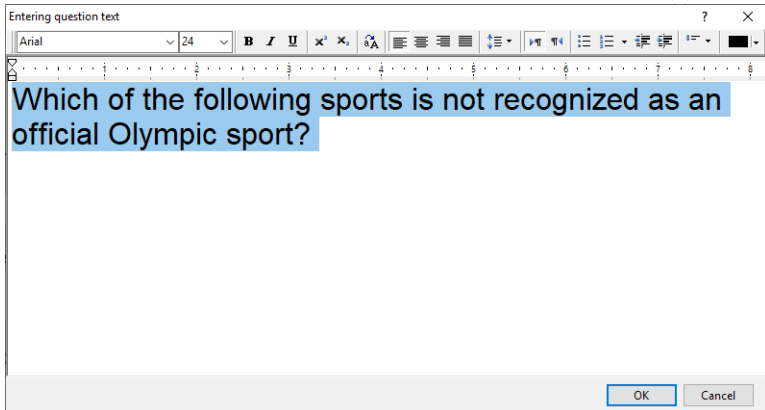
The text of the question is displayed in the text window. The text is selected, so that you change or replace the text immediately.

In the toolbar at the top of the text window you can choose a different font and size for the text. You can make the text bold, italicized or underlined. You can use superscript or subscript. You can convert small letters to capitals. You can left align a paragraph, center it, right align it or justify it, change the line spacing, display the text from-left-to-right or from-right-to-left, display bullets in front of each paragraph, use paragraph numbering, indent the paragraph less or more, align the text vertically, and change the text color.

Change the font to Myriad Pro, 28 points, bold and the color to dark gray. If you don't have Myriad Pro, you can also use Tahoma, 24 points, bold. Click on **OK** to apply the changes. Do the same to change the font of the answers to Myriad Pro, 20 points, bold and the color to dark red.

The font and color of the question text and answer texts have been changed
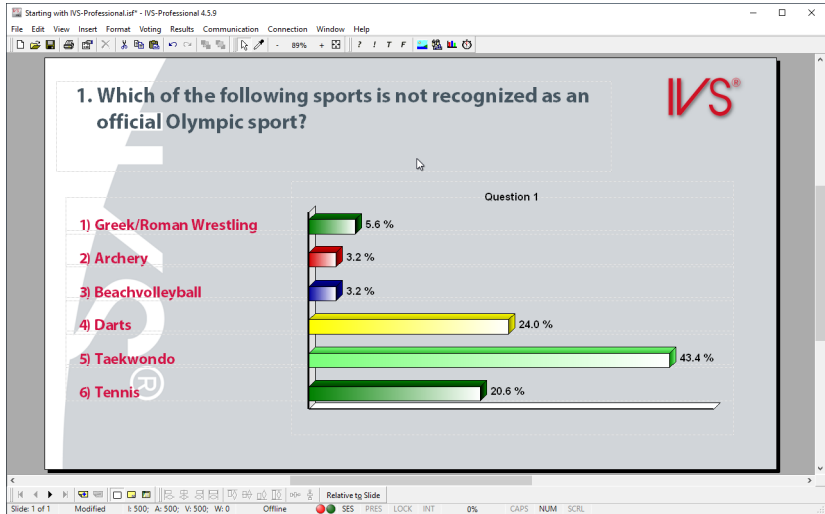
Making a new slide

Your first slide is now entirely ready. You have inserted a question with some answers and a result diagram to show the results. You put a logo on the background slide and changed the background of the slide, so that it shows an image. You aligned the answers to the bars in the chart and finally you changed the font and color of the question text. Now you are ready to create the next slide.

To create a new slide, you simply go to the next slide. Press the key on your keyboard. Alternatively, you can press or click on the **Next slide** ( ) button in the lower toolbar.

Because you have only made one slide and there is no next slide, you will be asked if you want to add a new slide. Click **OK** to add a new slide. The new, empty, slide is shown. In the top right corner you will see the logo that you inserted on the background slide.

Press to go to the next slide. Click on **OK** to insert a new slide.
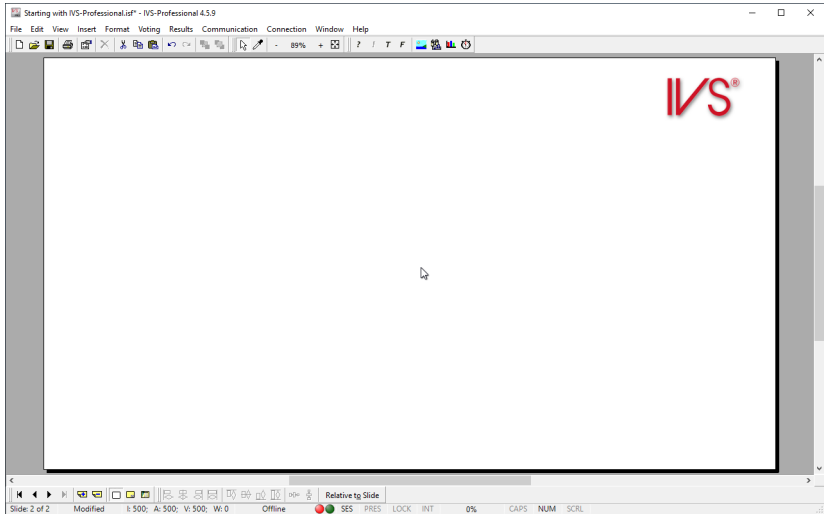
The new slide looks exactly like the first slide you started with. To prevent you from customizing the background, adjusting the text and positioning the question and answers over and over again, each time you create a new slide, you can adjust these default properties once so that every next slide you create will look the same. These default properties can be adjusted in the template.

The template

Besides standard slides and background slides, there is a third type of slide in a script. This slide, of which each script has only one, is the template. On the template slide you will find a question, two answers, a result diagram, a text and a timebar. You can only change the properties of these objects. Adding or removing objects is not possible.

All the object properties you change in the template are automatically applied to all objects on the standard slides and on the background slides of the script. For example, you can change the font and the text color of the question in the template. These changes will be applied to all questions in your script, with the exception of those questions that you manually change the font or text color of.

You could change the properties in the template before you start making a script. This way, all the slides in your script will look the same. But you could also make changes in the template afterwards. And you can save the template separately, so that you can later use it in another script.

Go to the template

To switch from the standard slide to the template, you select the option *Template* from the *View* menu. Alternatively, you can click on the **Template** ( ) button in the lower toolbar.

Choose the option *Template* from the *View* menu.

The standard slide disappears and the slide of the template is shown.
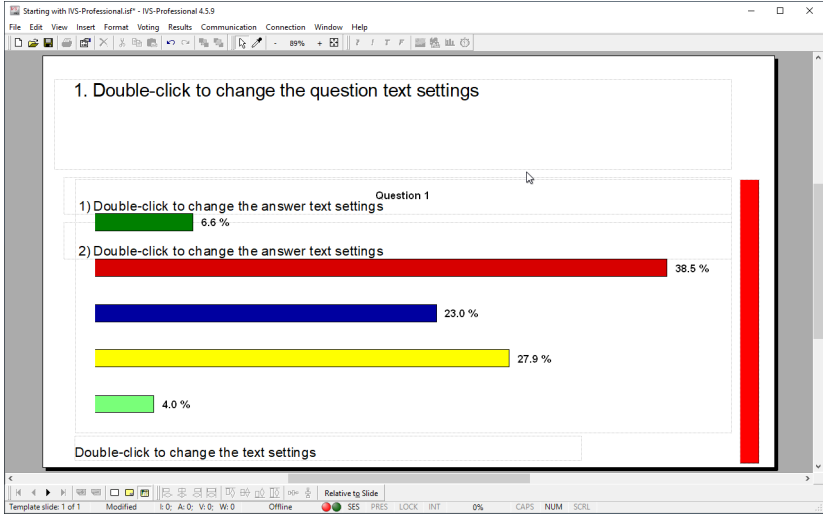
Customizing the slide

In the template you can change several properties of the slide. All new slides that you create later will automatically get these properties.

You go to the properties of the slide by choosing the option **Properties** from the **Edit** menu. Just like when customizing the properties of the standard slide, you will see the *Properties of slide* dialog box. Here you can change the properties of the slide.

Click somewhere on the slide with the right mouse button and choose the option **Properties** from the menu.
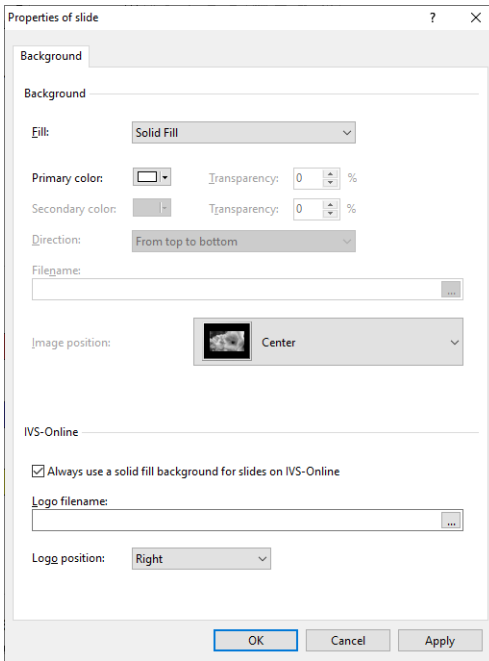
You can only change the background of the slide in the template. This is done in the same way as changing the background of the standard slide. See "Customizing the slide" on page 48 for a description.

Because the settings of the template are also used for IVS-Online, you can set a few extra options here, which are used specifically for IVS-Online. These options are only available if you have an IVS-Online license.

If you enable the **Always use a solid fill background for slides on IVS-Online** option, the background slide used for IVS-Online will always have a solid color, regardless of the **Fill** setting. For example, you can use an image as background for your slides in IVS-Professional, while the background has a solid color for online users.

The **Logo filename** option allows you to select an image that will be displayed as a logo at the top of the slide in IVS-Online. With **Logo position** you determine whether the image is displayed on the left, right or in the middle of the slide. The logo is always displayed half the size of the selected image, with a maximum height of 512 pixels.

Change the background just like you changed the background of the first slide. That is, you choose the option *Image*, click on the **Browse** button and select the same file that you selected for the first slide.

An image is
used as the
background
of the slide
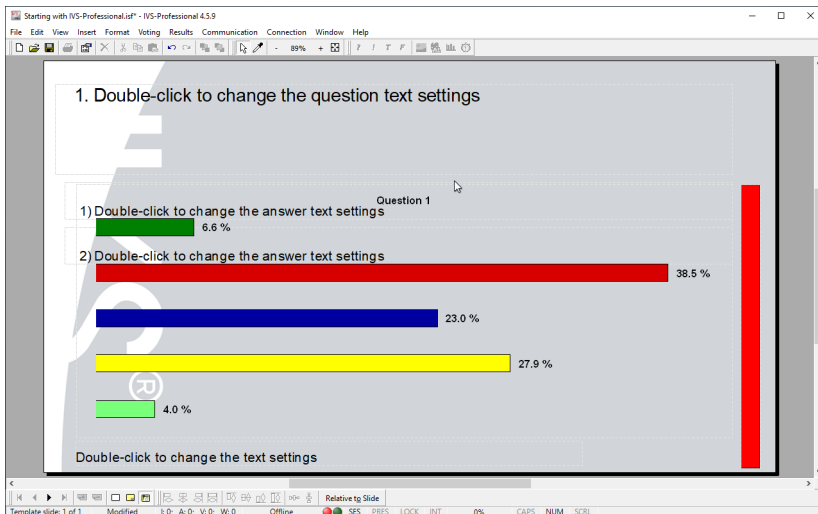
Customizing the result diagram

To have the results look the same on each slide, you change the result diagram on the template. To do this, you go to the properties of the result diagram, by clicking on the result diagram with the right mouse button and choosing the option **Properties**. See "Formatting the result diagram" on page 28 and "Setting up the chart" on page 32 for a description.

Changing the bar colors

You can set up a bar color for each of the answers. This color is normally selected using the properties of each answer. But because there are only two answers available in the template, you can select the colors here using the properties of the result diagram.

Go to the properties of the result diagram and select the *Colors* tab.

**Setting up
the bar colors
for the an-
swers**
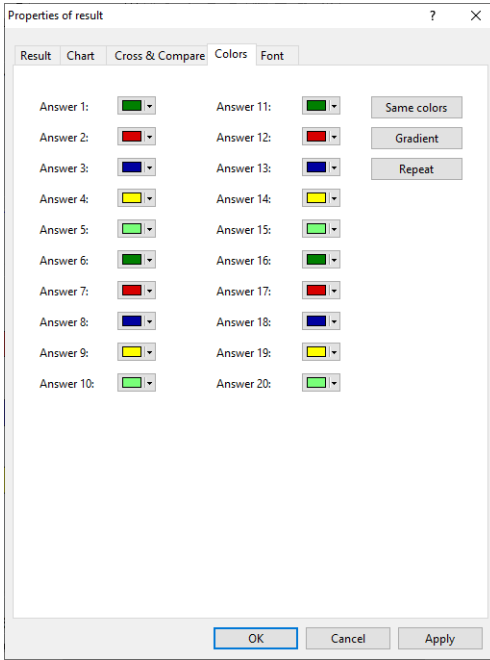
You will see an overview of the bar colors for the first twenty answers. You can set up a color per answer. If you use more than twenty answers, the answers 21 to 40 will get the same color as answer 1 to 20.

Same colors

To set up the same color for each of the answers, you can make use of the **Same colors** button. You first setup the desired color for the first answer. Then click on the **Same colors** button. All answers will get the same bar color as the first answer.

Gradient

With the **Gradient** button you can have the bar colors gradually change from one color into the other color. First set up the desired starting color for the first answer. Then you set up the desired ending color for one of the other answers. When you now click on the **Gradient** button the colors will gradually change from the starting color of the first answer to the ending color of the answer you set up last.

Repeat

After having set up the colors for the first view answers, you can have these colors repeated for the remaining answers by clicking on the **Repeat** button. For example, if the last color you set was the sixth answer, and you then click the **Repeat** button, answer 7 to 12 will get the same colors as

answer 1 to 6, as will answer 13 to 18. And finally answer 19 and 20 will get the same color as answer 1 and 2.

Set the color of the first answer to white. Then click on the **Same colors** button to also set the color of all the other answers to white. Click on **OK** to close the properties window.

Moving answers

The position of the two answers on the template slide determines the position of new answers on the standard slides. The position of the first answer determines where the first new answer will be positioned. The position of the second answer determines where the second new answer will be positioned. The third new answer will automatically be positioned on the same distance from answer two, as answer two is positioned in relation to answer one. The distance between both answers on the template therefore determines the distance between all subsequent answers.

Using the grid

When moving answers, you can freely move them around the slide. To align the answers, so that each answer has its left side on the same position, you use the option *Align or distribute* from the *Edit* menu. See also "Aligning objects" on page 43.

Another method to left-align the answers is by using the grid. When you activate the grid, you will see a grid of dots displayed on the slide. You can have all objects automatically align to these dots. You can activate the grid, by selecting the option *Display grid* from the *View* menu. Alternatively you can press ⎇Shift + ⎇Ctrl + Ⓡ on the keyboard.

From the *View* menu, choose the *Display grid* option.

A grid of dots is now displayed on the slide.
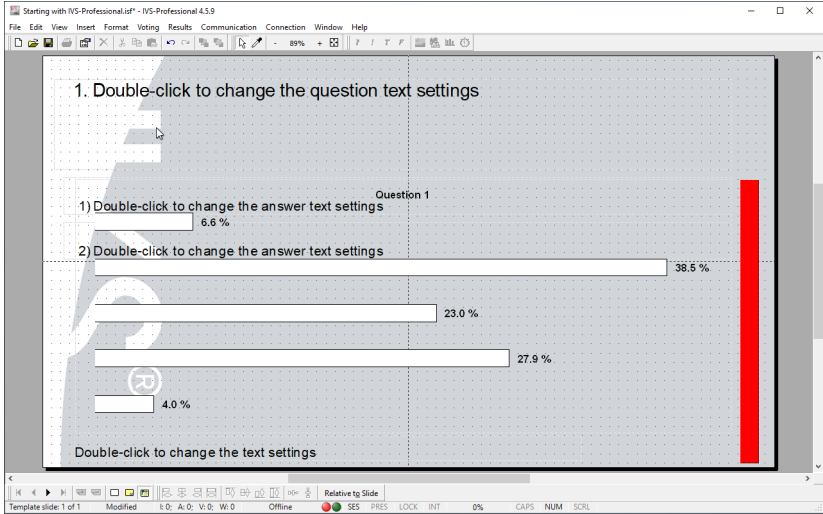
After activating the grid, you have to set up how you want the objects to automatically align to the grid. You can choose to have an object automatically align horizontally only, or vertically only, or both horizontally and vertically.

To do this, you select the option **Snap to grid** from the **View** menu, and then you select the option **Horizontal** or **Vertical**.

Select the option *Snap to grid* from the *View* menu and subsequently select the option *Horizontal*. Make sure the option *Vertical* is switched off.

When moving an object around, you can place it very precisely vertically, but horizontally it will always be placed on a grid marker. This allows you to easily align the objects.

Alternatively, you can move objects in a horizontal or vertical direction only by keeping the `Shift` key pressed while moving the object. As long as you keep the `Shift` key pressed, you can move the object only in a horizontal direction, or only in a vertical direction. If you release the `Shift` key, you can move the object in any direction again.

Move the result diagram somewhat to the left, so that the left side is placed exactly on a grid marker.

For the remainder of this manual, the grid is no longer used. You can deactivate the grid by selecting the option **Display grid** from the *View* menu again. You also have to deactivate the option **Snap to grid** from the **View** menu, to prevent objects from still being aligned to the grid.

Select the option *Display grid* from the *View* menu to deactivate it. Select the option *Snap to grid* and then *Horizontal* from the *View* menu to deactivate this.

When the grid markers are placed too close to each other, or even not close enough to each other, you can change the distance between the markers. You can do this in the preferences of IVS-Professional. See "Preferences" on page 231 on how to do this.

Customizing the texts

The last customization that needs to be done to make the template look like the first slide is reducing the size of the question's textbox and adjusting the font of the question and the answers.

If you want to change the font of the answers, you only have to do this for the first answer. The other answer changes automatically.

Reduce the size of the question's textbox on the right side and at the bottom. Also place the textbox somewhat higher on the slide. Next, double-click the question to change the font to Myriad Pro, 24 points, bold and change the color to dark gray. Click on **OK** to apply the changes. Finally, double-click on the first answer to change the font to Myriad Pro, 20 points, bold and the color to dark red. Click **OK** again to apply the changes.

The textbox of the question has been adjusted and the font and color of the question and answer texts have been changed
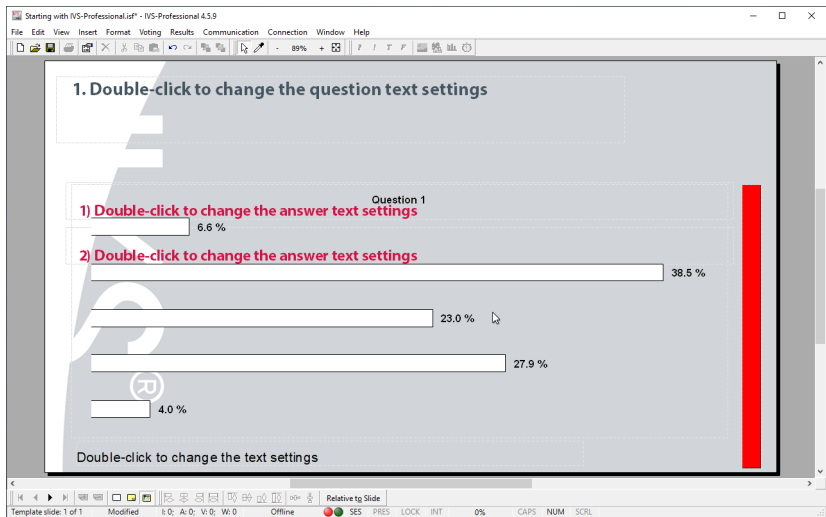
To the standard slides

After you have adjusted the background of the slide, the question text and the answers, you return to the standard slides. To do this, choose the option ***Standard*** from the ***View*** menu. Alternatively, you can click on the **Standard slide** (⬚) button in the lower toolbar.

Click on the **Standard slide** button in the lower toolbar.

The standard
slide has
changed to
follow the
settings in
the template
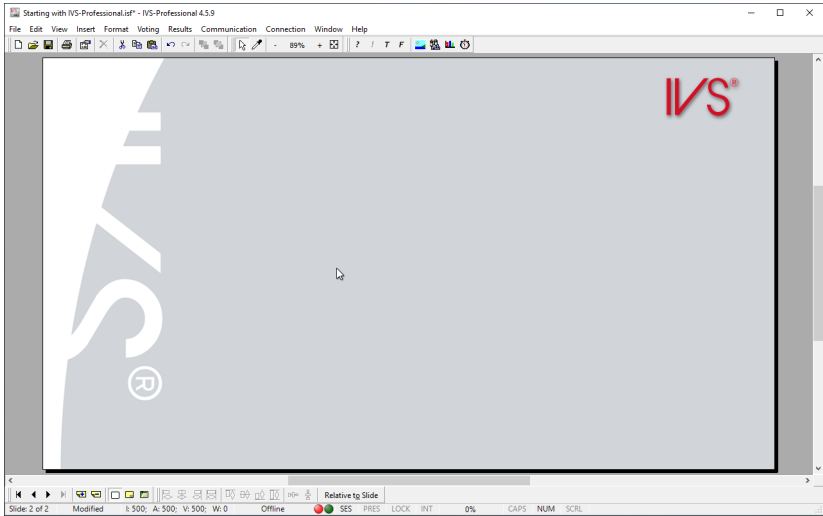
You can see that the slide has changed to follow the settings in the template.

Reapplying the template

The changes you made in the template do not entirely match the changes you made before on the first slide of your script. The first slide still differs from the template.

If you go back to the previous slide you can see that some of the settings from the template are applied to this slide, and some are not. You can go back one slide by clicking on the **Previous slide** button (◄) in the lower toolbar. Alternatively you can press [Page Up] or [F7] on the keyboard.

Go back to the previous slide by pressing [Page Up] on the keyboard.

Normally, all setting are taken from the template. If you make changes to the template and then return to the normal slides, all these changes are immediately followed by the normal slides. However, if you make changes to a normal slide so that it differs from the template, then this slide will always keep its own settings, regardless of whether you make any more changes to the template.

On the first slide for example, you changed the position of the result diagram. Even though you also did this on the template, the result diagram still kept its own position. The same is true for the position of the question.

If you want this slide to look exactly like the slide you set up in the template, you can reapply the template to this slide. To do this, you choose the option *Reapply template* from the *Format* menu.

Choose the *Reapply template* option from the *Format* menu.
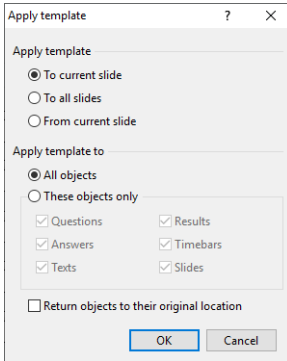
You can now indicate to which slides and to which objects you want to reapply the template.

To current slide The template will only be reapplied to the current slide.
To all slides The template will be reapplied to all slides in the script.
From current slide The template will be reapplied to the current slide and all subsequent slides.

All objects The template will be reapplied to all objects on the slide.
These objects only The template will only be reapplied to the selected objects.

Return objects to their original location When reapplying the template, all settings are taken from the template, except for the position of the objects. If you want to return the objects to the position you set up in the template, you have to enable this option.

Choose the option *To current slide* and the option *All objects*. Also enable the option *Return objects to their original location*. Click on **OK** to reapply the template.

The template
has been re-
applied to the
first slide
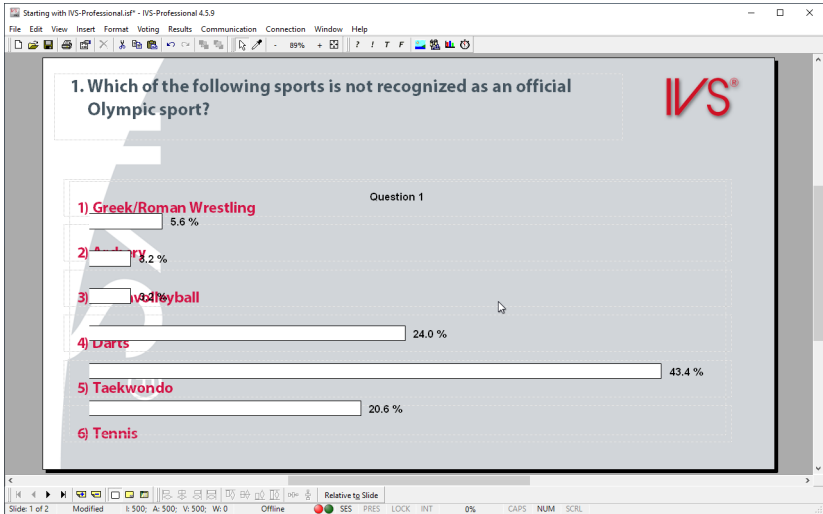
Aligning answers

By reapplying the template, the answers are no longer aligned in front of the bars. Before, the answers were placed neatly in front of the bars by moving the first and last answer manually. Then, the other answers were aligned by using the **Align left** and **Distribute vertically** options. This way of aligning always works and works for all types of objects.

The option **Align answers** from the **Edit** menu also allows you to align the answers. This option only distributes the answers vertically, just like the **Distribute vertically** option, and places the answers exactly in front of, exactly on top of, or exactly below the bars in the chart. This option only works for answers, and not for other types of objects. And this option only works when there is a result diagram with results in it on the slide.

To align the answers in front of or on top of the bars, this option takes into account the height of the textbox of the answer. When aligning in front of the bars, the center of the textbox is aligned with the center of the bar. When aligning on top of the bars, the textbox is placed with the bottom edge exactly on top of the bar. When aligning below the bars, the textbox is placed with the top edge exactly on the bottom of the bar.

Choose the option **Align answers** from the **Edit** menu and then the option **On top of the bars**.

Go back to the next slide by pressing [Page Down].

Saving the template

After you have adjusted the template to your wishes, you can save it for later use. You can save the template by choosing **Save template** from the **Format** menu.

Choose the option *Save template* from the *Format* menu.

The standard dialog box for saving files appears, in which you enter the name of the template. Always save your template in the *Templates* folder, that is automatically selected. This will make it appear in the start-up screen when you start IVS-Professional.
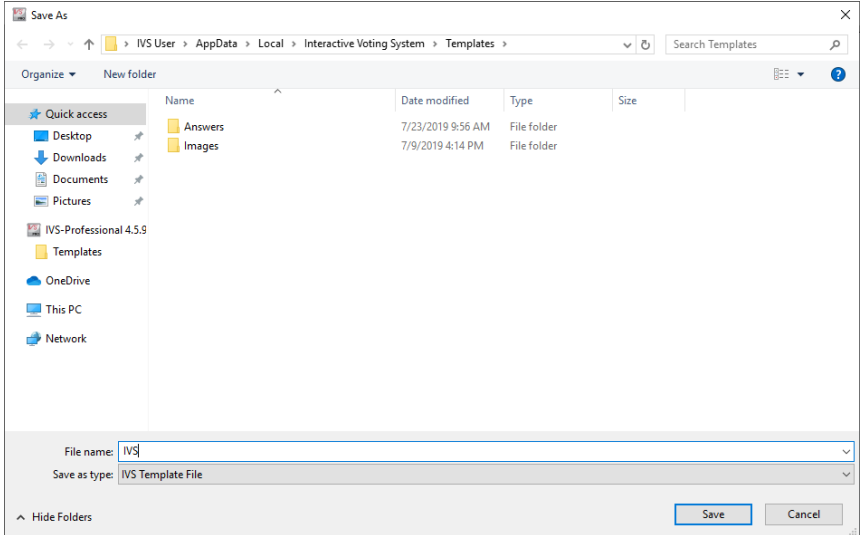
Enter the name of this template: "IVS" and click on the **Save** button to save the template.

Saving the script

After having saved the template, it is recommended to also save the script. Click on the **Save** (🖫) button in the toolbar to save your script.

While making your script, do not forget to save it regularly.

Asking a reference question

The first question in a script is often a practice question. With this question, the audience can become acquainted with the voting system. The audience can practice with giving an answer, and, when necessary, correcting an already given answer. The results are immediately and interactively displayed on screen, so that the audience can see that something really happens when they push a button on their keypad. A practice question is often a question based on current affairs. Most of the times, one of the answers given is the correct answer, while one of the other answers is obviously the wrong one.

The second question in a script is often a reference question. Using a reference question, you can divide the audience into certain groups. With all the other questions, you can then show how these are answered by the different groups.

A simple reference question could be: *"Are you:"*, with possible answers being: *"Man"* and *"Woman"*. With all the other questions, you can show what both the men and the women answered to this question. Viewing the results, divided into the groups of a reference question, is called *crossing*.

You can make multiple reference questions in one script.

Inserting a reference question

Insert a new question into the still empty second slide. Add two answers and insert a result diagram. See also "Making a question" on page 14, "Adding answers" on page 16 and "Adding a result diagram" on page 17.

Create a question with the following text: "Are you:", two answers with the text: "Man" and "Woman" and add a result diagram.

You see the question immediately appear in the font and the color that you set up in the template. The two answers appear at the same position as where you placed them in the template and the result diagram shows horizontal bars. But, the result diagram now shows two bars for the two answers, and not five bars like in the template. That is why the answers are not at the same height as the bars. You will have to realign the answers on top of the bars.

Choose the option *Align answers* from the *Edit* menu and then the option *On top of the bars*.
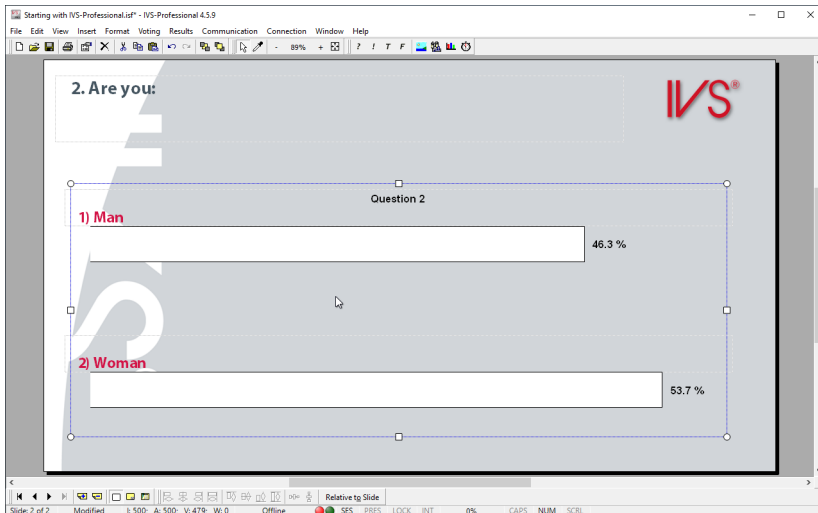
The properties of a question

After inserting a question, it still is a normal question. In the properties of the question, you have to indicate that this is a reference question.

You go to the properties of the question by clicking on it with the right mouse button and choosing the option *Properties* from the menu.

Click on the question with the right mouse button and choose *Properties* from the menu.

The dialog box *Properties of question* appears, in which you can change the properties of the question.

Numbering

Each question is automatically numbered. Therefore you cannot change the number of a question. You can select the style of the number though. If you want display your question without a number, you select "None" as a style.

Question options

In the question options you determine the type of question you want to ask. This primarily relates to the way results are displayed.

Display mean If you enable this option, the mean value (x) of the results will be displayed just below the result diagram. Although you can enable this option for every kind of question, it is only useful for rating questions. These are questions where you ask your audience to give a rating from, for instance, 1 to 5.

Display deviation If you enable this option, the standard deviation (d) of the results will be displayed just below the result diagram. Like with the mean value, this option can be enabled for every kind of question, but it is only useful for rating questions.

Display answers next in rank If you choose to display your answers next in rank, the answer that received most of the votes will be displayed at the top or on the left of the chart and the answer that received the least number of votes will be displayed at the bottom or on the right of the chart.

Please note that when using this option, you also need to use the option **Legend text on axis** or the option **Display legend** (see also "Legend" on page 31), otherwise you don't know which bar belongs to which answer.

Calculate answers next in rank If a question can be voted more than once, the given answers can be calculated next in rank. For example, if you allow a question to be voted three times, the first answer given will get three votes, the second answer two votes, and the last answer one vote. If the answers are not calculated next in rank, each answer given will only get one vote.

Last answer does not belong to total With this option the results of the last answer are not counted when determining the total number of votes. This last answer will always show an absolute number of votes, while all the other answers together represent 100% of the votes. This option is especially useful when the answers are yes / no / abstain, and the abstentions will not be counted when determining the total.

Answers from high to low This option can be used to show the answers the other way around in the chart. Normally, answer 1 is at the top or on the left side of the chart. By enabling this option, answer 1 will be at the bottom or at the right side of the chart.

Reference question This option indicates that this question is a reference question. This allows the audience to be divided into groups.

Group question With a group question you can have your audience divide themselves into different groups. The answers of a group question determine the groups. When the audience votes on a group question, the choice they make is stored in the participants list. This will overwrite an existing grouping, that you had programmed before in a participants list. Someone who does not vote, will stay in the group he was originally assigned to. This option is only available when the option **Identified voting** is also enabled. For more information about programming groups in a participants list, see "A list of participants based on names" on page 127.

Use voting time When this option is enabled, the program can keep track of the amount of time that goes by before a participant makes a choice. If this option is not enabled, the voting time for this question is not recorded and each participant will get a time of 0.00 seconds. For more information, see "An overview of the score per participant" on page 218.

Identified voting This option indicates whether this question should be voted with or without identification. If the question has to be voted with identification, each participant has to put his chip card into the keypad to be able to vote. This option is only available in IVS-Professional. If you use IVS-Basic, you can only vote anonymously.

Use vote weight By enabling this option, the voting weight of the individual participant is taken into account. This option is only available if you also enabled the **Identified voting** option.

Knock-out race This option indicates that the current question is part of a knock-out race. Only participants that are still in the race can vote on this question. This option is only available if you have also enabled the **Identified voting** option. For more information, see "The knock-out race" on page 229.

Number of answers If you had already added answers to this question, the number of answers you added will be displayed here. If you don't add any answers, then you determine here how many answer options you want for this question. See also "A rating question without answers" on page 79.

Legend & Colors

You can set up the legend text of this question and the colors for the correct and wrong answers.

Legend text Here you can enter the legend text for this question. The legend text will be displayed in the legend when you are comparing questions. By default, the legend text is equal to the question text, with a maximum of 32 characters. When the question text is too long, you can enter a shorter version here. Also see "Comparing questions" on page 95.

Correct answer Here you can set up a color that the bars, belonging to the correct answer, will get when you show the correct answer. See also "Showing the correct answer" on page 99.

Wrong answer Here you can set up a color that the bars, belonging to the wrong answer, will get when you show the correct answer.

Voting options

Using the voting options, you can set up extra options of the keypad while you are voting this question.

Use confirmation key This option determines that your audience not only has press the key of their choice, but also has to confirm the choice by pressing the confirmation key on the keypad. If you ask a question with more than ten answers, your audience always has to confirm their choice using the confirmation key, regardless of this option. This option only applies when you use RF-I or RF-II keypads.

Use correction key This option determines whether an already cast vote can be corrected by pressing the correction key on the keypad. After casting a vote, the correction key can be used to withdraw the vote and a new choice can be made. When you use RF-I keypads, this option cannot be combined with the option **Use enter key**.

Use scroll keys This option determines whether or not the scroll keys on the keypad can be used. These keys allow your audience to scroll through the earlier given answers, when more than one answer can be given. This option can only be used when the option **Times to vote** is set to more than one and when you use RF-II keypads.

Allow double votes When this option is enabled, a question that allows more than one answer to be given, accepts the same answer more than once. This option can only be used when the option **Times to vote** is set to more than one. If you use RF-I or Lite keypads, it will still be possible to vote for the same answer more than once, but these double votes will be ignored by the software. If you use RF-II keypads, the keypad will not accept a double vote. In that case, the choice made will blink in the LCD screen.

Maximum times to vote This option determines how many answers can be given. This can be used when you need your audience to choose three answers from a list of ten possibilities. See also "Voting a question more than once" on page 104.

Minimum times to vote This option is only available when a question can be voted more than once. The minimum times to vote determines how many times a participant has to vote before his votes are counted.

Automatically close after receiving this many votes With this option you can have the voting automatically close after a fixed number of votes are received. This option can be used when you have a small audience in which everyone is forced to vote. The voting will be automatically closed after the last person has cast his vote. If you enter 0, the voting will not be closed automatically.

Select the option *Reference question* and switch to the *Background* tab.

Background

On the Background tab you can set the background of the question's text box. You can choose **No Fill**, which keeps the text box transparent, but you can also choose a solid fill, a gradient fill or a picture fill. The options are almost the same as for the background of a slide. See "Setting up the background" on page 50.

If you choose a solid fill or a gradient fill, you can select not only a color, but also the transparency of that color. It ranges from 0%, with the color fully visible, to 100%, with the selected color completely transparent.

Finally, you can also set the corners of the text box to be rounded. For this you can set a radius that determines the roundness of the corners.

Go to the *Advanced* tab.

Advanced settings

On the *Advanced* tab you will find options that only need to be set for advanced applications.

Identification group If you use identified voting, you can indicate here which identification group is used for this question. With an identification group you determine which group the participants are in and what their voting weight is.

Score for non-voters If you want to use a total score to be achieved, you can assign a certain score to each answer. In addition, you can assign a score for non-voters to the question. All participants who answer this question, receive the score assigned to the given answer added to their total score. Participants who do not vote, get the score of the question added to their total score.

Default answer With this option you can have participants who do not vote be counted to a certain answer. This can be useful for reference questions, where not everyone answers the reference question. To assign these participants to a certain group, you can set a standard answer for a reference question.

Set maximum vote time for non-voters If you use voting time, only participants who vote will receive a voting time. Participants who do not vote will receive a voting time of 0 seconds. In some cases this can result in an unfair score count, for example when you use the **Score for non-voters** option. Participants who do not vote will receive a score, but no voting time. With the option **Set maximum vote time for non-voters** you can overcome this by assigning the maximum voting time to participants who do not vote. The maximum voting time is the time that the voting was open.

Estimation question With this option you indicate that this question is an estimation question. For an estimation question, the participant has to estimate a certain value. When the participant estimates the correct value, he gets the full score for it. Under **Correct value** you can set the correct value for this estimation question. With **Score for correct value** you set how many points the participant gets when he estimates the correct value. The farther away the participant is from the correct value, the fewer points he will receive. For example, if the correct value is 50 and the corresponding score is set to 10 points, a participant who chooses 50 will receive the full 10 points. If he chooses 49 or 51, he will receive 9 points. If he chooses 45 or 55, he gets 5 points. And if he chooses 40 or less, or 60 or higher, he will receive no points, unless the **Allow negative score** option is enabled. In that case, a participant can also receive points deduction if he is too far from the correct value.

Click **OK** to apply the changes.

A second reference question

Following on the first reference question, you can ask another reference question, with which you divide your audience into other groups, for instance, the sector in which one is employed.

First create a new slide, insert a question with five answers and a result diagram. Because this question has five answers, the answers are perfectly aligned on top of the bars of the chart, just as you had set up

The second reference question divides the audience into sectors in which one is employed
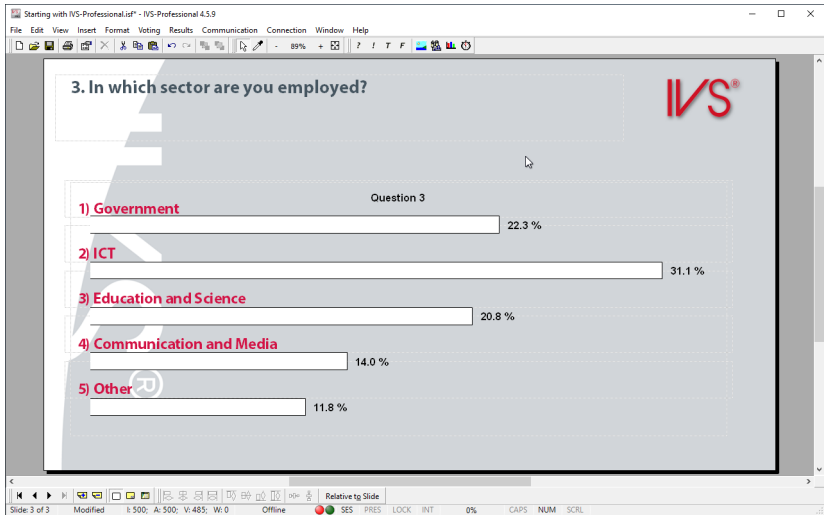
Asking a rating question

With a rating question, your audience does not make a choice from a number of answers, but instead gives a rating on a certain subject. For example, people can rate a subject on a 5-point scale or a 10-point scale. If you use a rating question like this, you do not have to add any answers.

You can also use a rating question with more descriptive answers, like from "very bad" to "very good" or from "fully agree" up "fully disagree". Of course, if you use a rating question like this, you have to add the answers.

Using a rating question, you can also show the mean (x) and standard deviation (d) of the results. This allows you to see what your audience on average thinks about the subject, and how the results are scattered around this average.

A rating question with answers

To ask a rating question with a descriptive rating, you have to insert a question with a couple of answers.

Create a new slide. Insert a question with the following text: "To take greater pleasure in working, better coffee is needed. Do you agree with this proposition?". Also add a result diagram.

A rating question allows your audience to express their opinion about a certain proposition
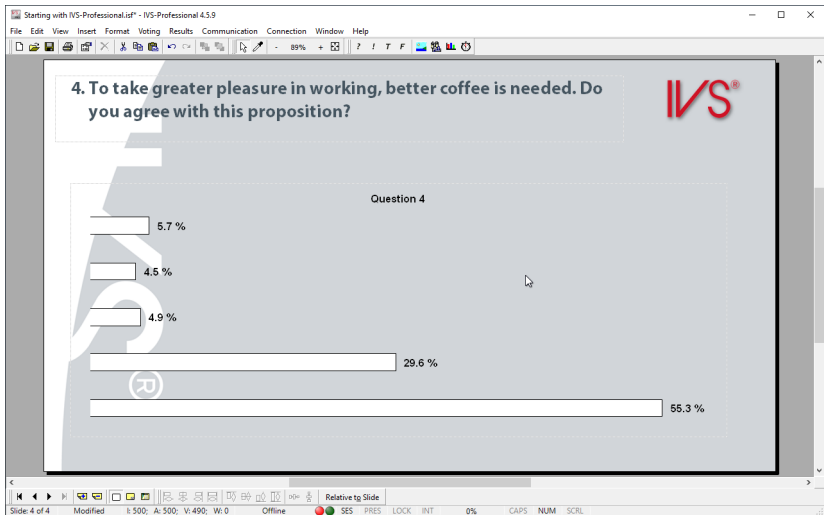
Inserting a fixed set of answers

When asking a rating question with a descriptive rating, you mostly insert a number of fixed answers. For each rating question you insert for example two answers, 'I agree' and 'I disagree'. Or you have a rating question with five answers, varying from 'I fully disagree' to 'I fully agree'.

For these types of questions you can very easily insert the same set of answers. From the *Insert* menu, you choose the option *Answers from template* and then you choose one of the predefined sets of answers.

Choose the *Answers from template* option from the *Insert* menu and then the option *I completely disagree..I completely agree*. The five answers are automatically inserted.
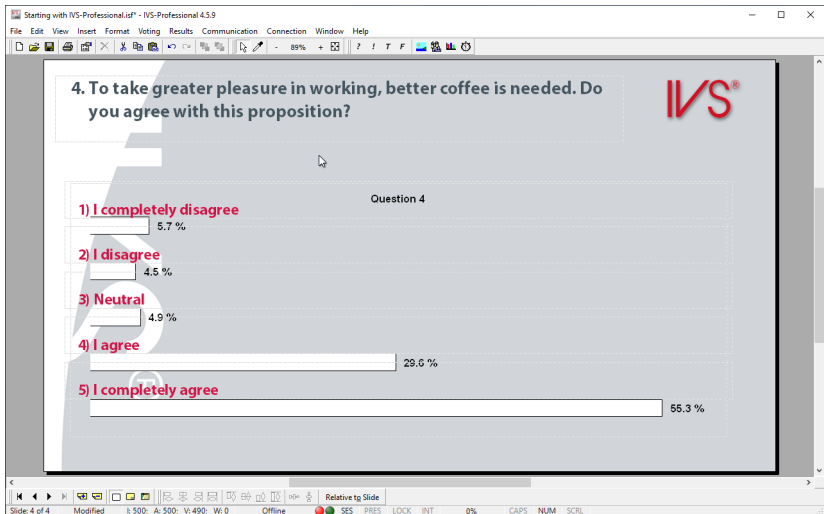
The mean and deviation

To show both the mean and deviation for this rating question, you go to the properties of the question and check the options **Display mean** and **Display deviation**. The mean and the standard deviation are shown at the bottom of the result diagram.

Click on the question with the right mouse button and choose the option *Properties*. In *Properties of question* the dialog box you check the options *Display mean* and *Display deviation*. Click on **OK** to apply the settings and close the dialog box. Because the result diagram now displays the mean and standard deviation, the bars are moved up a little. Realign the answers so that they are on top of the bars again.
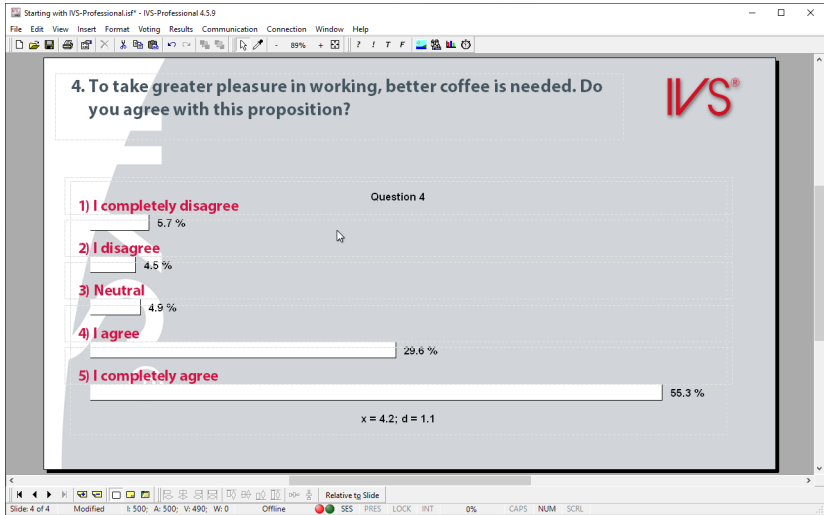
A rating question without answers

If you ask a rating question where your audience has to give a mark, you do not have to insert answers. Instead, in the properties of the question, you set the number of answer options you want to allow for this question.

Create a new slide. Insert a question with the following text: "A number of people have complained about the poor quality of the coffee. On a scale of 1 to 10, how would you rate the quality of the coffee?" and insert a result diagram. Enlarge the text box of the question a little, so that the entire text fits into the box.

A rating question where the audience has to give a mark to a certain subject
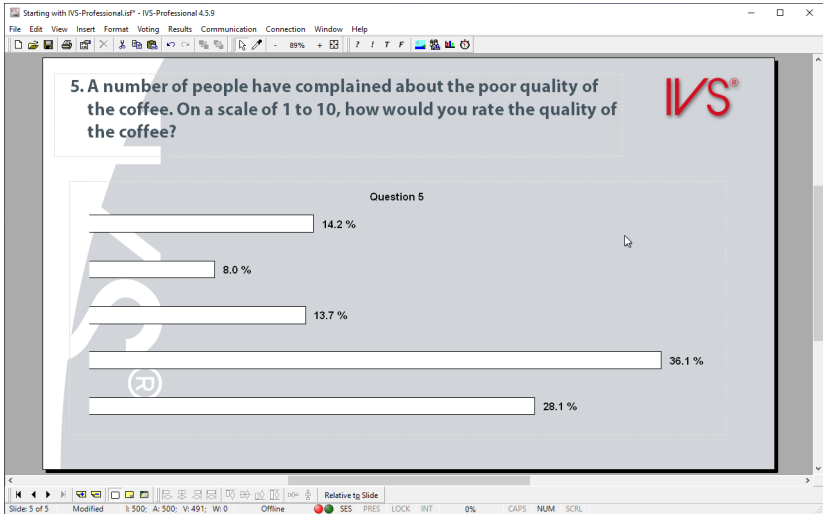
In the properties of the question you have to set that you want to use ten answers.

Go to the properties of the question and set the *Number of answers* to 10. Also check the options *Display mean* and *Display deviation*. Click on **OK** to apply the settings.

A rating question with 10 possible answers
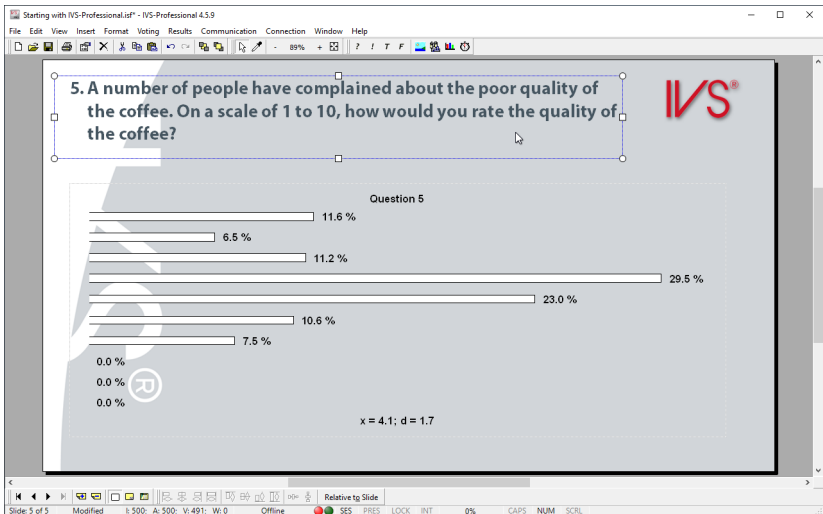
This horizontal chart barely leaves room for the bars. You can better turn this horizontal chart into a vertical chart. And because the lack of answer options, there is no direct relation between the answers and the bars. To re-establish this relation, you can display the legend text along the axis. Both options are set in the properties of the result diagram.

Go to the properties of the result diagram. Check the option *Legend text on axis*. Next, go to the *Chart* page and select *Column chart* from the *Chart type* options.

The chart is displayed vertically and the legend text is displayed along the axis
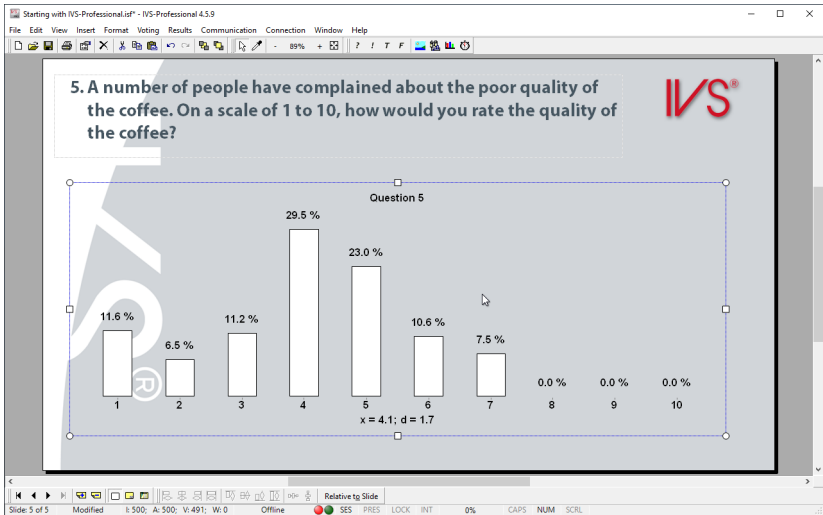
Crossing results

By asking one or more reference questions in your script, you can divide your audience into different groups. Throughout the rest of your script, you ask questions that at first show the total results. By *crossing* this question with one of the reference questions, you can view the total results for each group.

Crossing with a simple reference question

In the chapter "Asking a reference question" on page 69 you made two reference questions. A simple reference question with one two answers and a more comprehensive reference question with five answers. These answers are the references or groups, into which you divide your audience.

The next two questions are rating questions. First the total results of these questions are displayed, which are the total results of the entire audience. By crossing this question with the reference question "Are you man or woman", you can see how the group of men has rated this question and how the group of women has rated this question.
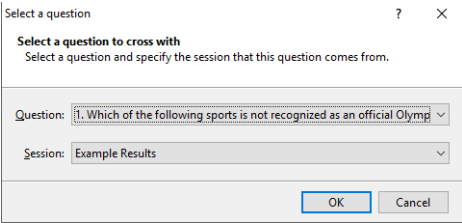
To do this, you go back to slide 4 with the question "Do you agree with this proposition?".

Go back to slide 4 by pressing ⌨.

You can cross a question by choosing the option **Cross** from the **Results** Menu, or by pressing ⌨ + Ⓖ on the keyboard. You will see a list containing all the questions with which you can cross the current question. This list contains all the questions from your script, and not just the reference questions. A question can be crossed with all other questions from the script, not just the reference questions.

Press ⌨ + Ⓖ to cross this question with another question.

Dialog box to choose a question to cross with

Select the question that you want to cross with and click **OK** to perform the crossing.

Under *Question* you choose "2. Are you:". Next, click **OK**.
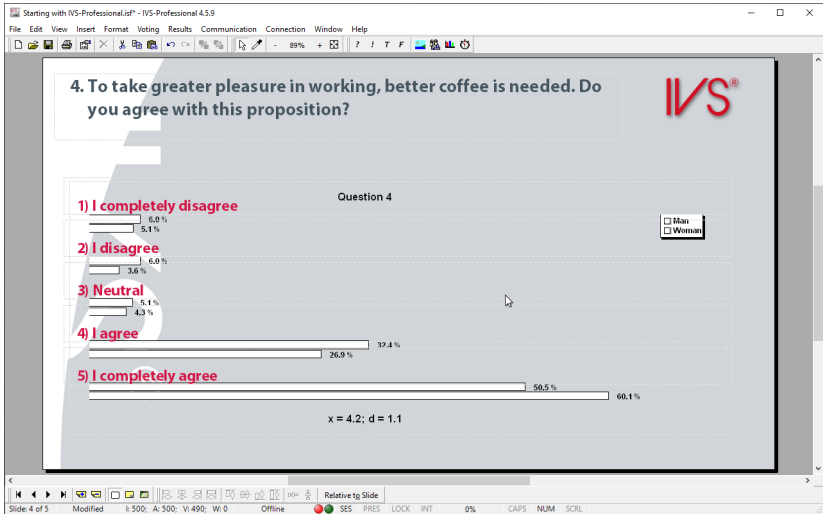
After the crossing, two bars are displayed for each answer. The first bar indicates the total number of votes of the men, the second indicates the total number of votes of the women.

Both bars take over the color of the answers of the question you crossed with. Because we chose to set the bar colors of all answers to white in the template, both answers of the reference question "Are you:" have the same color. And therefore they also have the same color in this crossing. To make the crossing more understandable, it is better to give the bars of the reference question different colors.

To change the bar colors of the reference question, you go back to the second slide. In the properties of both answers you set up the bar color.

Go back to slide 2. Click with the right mouse button on the first answer and choose the option *Properties*. The dialog box with the properties of the answer is shown.

Properties of answer   ?   ✕

Answer Background Advanced

Numbering

Number: [1   ▼]   Style: [1)   ▼]   ☐ Custom color: [▼]

Legend & Colors

Legend text: [Man   ]

Bar color: [▢ ▼]

Answer options

Next slide: [0   ]
Score: [0   ]
☐ Display as correct answer

[OK   ]   [Cancel]   [Apply]

Numbering

Each answer is automatically numbered. You can change this number afterwards, so that you can change the order of the answers. You can also change the style of the number that is displayed. If you want the answer to be displayed without a number, set the style to "None". You can then provide a number for each answer, for example by using a different font, or by using an image that displays the answer number. Please take extra care that the number you use matches the number of the answer, so that when the participants vote 1, they have indeed voted for answer 1.

When you enable the **Custom color** option, you can select a different color to be used for the answer number. If you do not set a separate color, the answer number will have the same color as the last character of the answer text.

Legend & Colors

Here you can enter the legend text and the bar color of this answer. The legend text can be displayed along the axes of the result diagram or in a separate legend on the right side of the result diagram. If the answer texts are too long, you can enter a shorter version here.

By clicking on the *Bar color* button, you can select the color of the bar belonging to this answer.

Answer options

The answer options allow you to make several changes to the options of the answer.

Next slide With this option you can indicate to which slide you want to jump when this answer gets the most votes. You enter the number of the slide you want to jump to. If you only want to go to the next slide, enter a 0. After closing the voting, you can press ⬚ or ⬚ to go to the slide you indicated.

Score If you want to make use of a total score for your participants, you can assign a certain score to each answer. All participants that choose this answer, will get the score assigned to this answer added to their total score.

Display as correct answer With this option you indicate that you want this answer to be displayed as a correct answer. When displaying the correct answer, all answers that you indicated to be displayed as correct, will have their bar displayed in green, while all other answers will have their bar displayed in red.

Background

On the Background tab you can set the background of the answer's text box. You can choose **No Fill**, which keeps the text box transparent, but you can also choose a solid fill, a gradient fill or a picture fill. The options are almost the same as for the background of a slide. See "Setting up the background" on page 50.

If you choose a solid fill or a gradient fill, you can select not only a color, but also the transparency of that color. It ranges from 0%, with the color fully visible, to 100%, with the selected color completely transparent.

Finally, you can also set the corners of the text box to be rounded. For this you can set a radius that determines the roundness of the corners.

Advanced settings

On the *Advanced* tab you will find options that only need to be set for advanced applications.

Answer group You can group several answers together in a certain group. If you allow a question to be voted on more than once, it will only be possible to choose answers that are in the same answer group. When an answer from a different answer group is chosen, all other given answers will be discarded. For example, if you can vote three times on a certain question, and someone first votes for an answer from answer group 1, next for another answers from answer group 1 and finally for an answer from answer group 2. In this case, only the last answer from answer group 2 will be counted. The first two given answers are not canceled, so it's not possible to still choose three answers from answer group 2.

Add this answer's results to answer With this option you can have the votes, that were originally meant for this answer, added to a different answer. For this answer, no results will be displayed. For instance, if you want to group the results of answers 2, 3 and 4 together, you go to the properties of answer 3 and 4, and indicate that the results have to be added to answer 2. All the

votes that came in for answer 2, 3 and 4 are now all added together and displayed with answer 2. Answer 3 and 4 will not display any results.

This answer repeats the given answers of question This option turns this answer into a special case. If this option is enabled, it is no longer possible to vote for this answer itself. Instead, votes given to a previous question will automatically be repeated for this question. Behind this option you enter the question number from which you want to repeat the votes. This option can be combined with the option to allow a question to be voted more than once. In that case, all the votes given for the previous question will be repeated for this question by only selecting this single answer.

This answer selects all the answers above This option also makes this answer a special option, so that no vote can be cast on this answer itself. All the above answers are selected instead. You can only select this option for answer 3 and higher and when you can vote on this question multiple times. For example, if this question is allowed to vote three times, and you enable this option for answer 4, a participant only needs to select answer 4, which has the same effect as successively selecting answers 1, 2 and 3.

> Set the bar color to blue and click on **OK** to apply it. Next, click with the right mouse button on the second answer and choose the option *Properties*. Set the bar color to pink and click on **OK** to apply it. Go back to slide 4 and cross this question again by pressing `Ctrl` + `G`, selecting question 2 and clicking **OK**.

The crossing is now displayed with different colors for the two groups
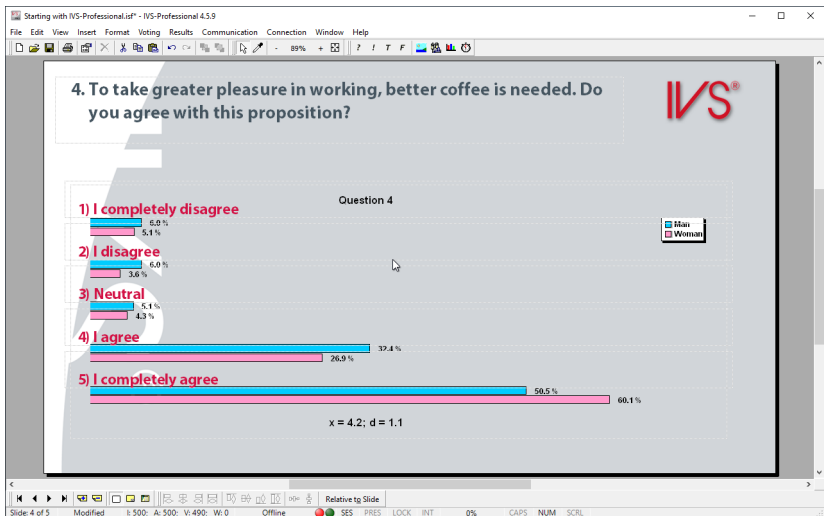
Both groups now have a different bar color. You can now better see how both groups have responded to this question. The blue bars represent the group of men, while the pink bars represent the group of women. You can see for instance, that more than 50% of the men completely agree with the subject, while more than 60% of the women completely agree.

After crossing, the mean and standard deviation are still displayed. They are however based on the entire group, that is both men and women.

Crossing with a more comprehensive reference question

The first reference question only had two references, that divided your audience into two groups. The next reference question has five references, that divide your audience into five groups.

Crossing the current question with the second reference question shows a chart with five bars next to each other. Again, the bars of this question also take over the colors of the answers belonging to the reference question. So it is better to set up different bar colors for this question too.

Go to slide 3, click with the right mouse button on the first answer, choose the option *Properties* and set the bar color. Repeat this for all other answers. Set the colors to red, yellow, green, purple and blue. The go back to slide 4 and cross the current question with the second reference question by pressing `Ctrl` + `G` and then choosing question three as reference question.
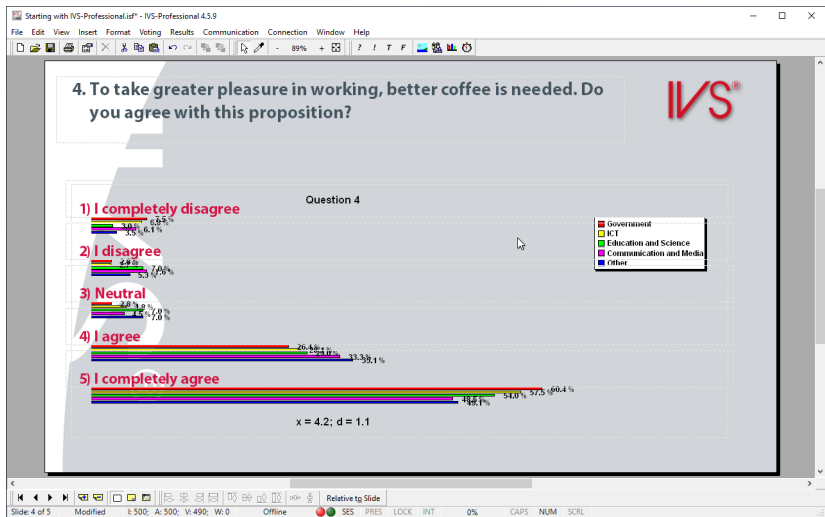
The bars are now so small that the results overlap each other and are not or hardly legible. Besides that, it is difficult for the audience to understand what exactly is displayed here.

Splitting a crossed question

If you cross a question with a reference question that has more than three references it is advised to *split* the question after crossing. By *splitting* the question you display the results *per reference*.

To split a crossed question, choose the option *Split* from the *Results* menu, or press `Ctrl` + `U` on your keyboard. A dialog box appears in which you can enter which reference you want to see.

The dialog
box where
you enter
which split or
reference you
want to show
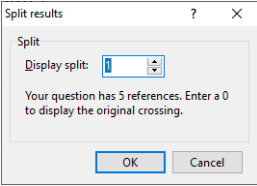
It is also possible to split a crossed question without using this dialog box. To do this, you press `Ctrl` + `!1` to display the first reference, `Ctrl` + `@2` for the second reference, etc. This key combination allows you to split a maximum of nine references. If you have more than nine references, you still have to use the dialog box.

Press `Ctrl` + `U` to split the crossing. Enter 1 as the split number. Click **OK** to perform the split.
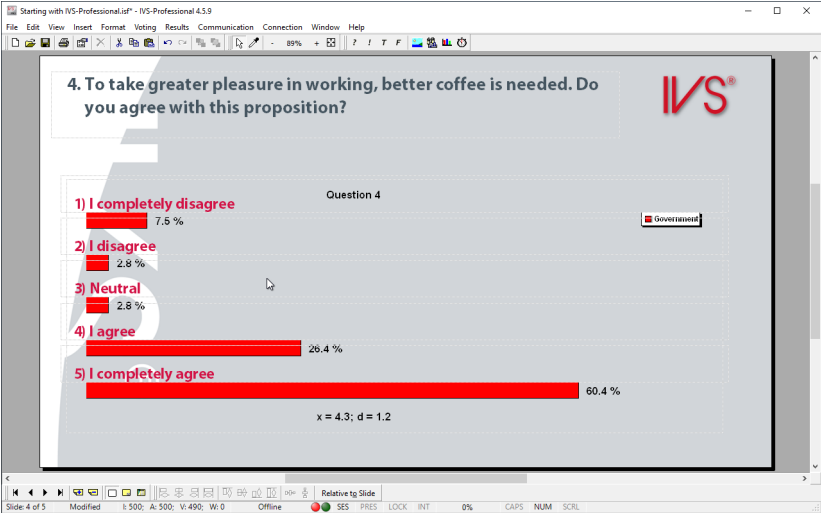
Now, only the results of the first reference are shown. In the legend the description of this reference is displayed.

Because this is a rating question, both the mean and standard deviation are displayed at the bottom of the chart. After crossing a rating question, the mean and deviation of the total results are still displayed. Only when splitting this crossing, the mean and standard deviation for this particular reference. In the example above you see the mean and deviation of the group "Government".

To show the results of another reference, you can split the question again. Choose the option *Split* from the *Result* menu and enter the number of the reference that you want to show.

Undoing a split

After showing each reference separately, you can undo the split to go back to the original crossed question. You undo a split by choosing the option **Split** from the **Results** menu. In the dialog box that appears, you enter a 0 as the split. After clicking on **OK** the original crossing will be displayed again.

You can also undo the split without using the dialog box. To do this, press ⌷ + ⌷ on the keyboard.

Press ⌷ + ⌷ to undo this split.

Displaying a crossing differently

When a normal crossing becomes too complicated, because the reference question has more than three references, you can display the crossing in a different way. Instead of placing the bars side by side in the bar chart, it is also possible to stack them on top of each other.

To do this, you go to the properties of the result diagram. Open the tab *Cross & Compare* and choose the option **Stacked** under *Cross*. The bars of the various references are now stacked on top of each other instead of side by side. This makes it easier to see the relationship between the various groups and also the relationship between the various answers. The percentages that are displayed while stacking the bars on top of each other are hardly visible. It is better to leave them out.

Go to the properties of the result diagram. Open the tab *Chart* and disable the option *Display values*. Next, open the tab *Cross & Compare* and choose the option *Stacked* under *Cross*. Finally, click on **OK**.

A crossing which displays the bars stacked on top of each other instead of side by side
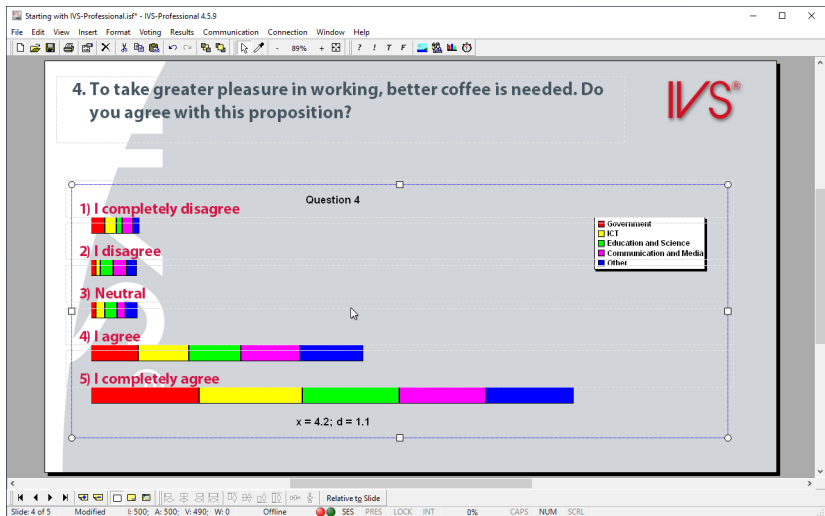
Back to the normal results

To return to the normal, uncrossed results of this question, you choose the option **Normal** from the **Results** menu. You can also press [Ctrl] + [L] on your keyboard.

Press [Ctrl] + [L] to show the normal results again.
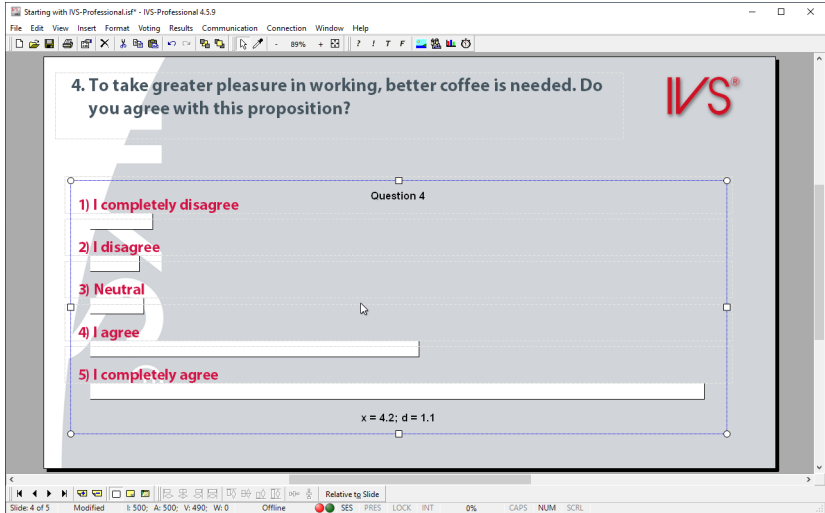
The results are still displayed without percentages. In the following examples these percentages are used again, so you can now enable them again in the properties of the results diagram.

Click with the right mouse button on the result diagram and choose the option **Properties**. Open the *Chart* tab and enable the option *Display values*.

Crossing with multiple reference questions

In IVS-Professional you can cross a question with up to five reference questions. By first crossing a question with the reference question "Are you man or woman" and then with the reference question "In which sector are you employed", you can see what the men that are employed in the sector "Government" have answered, or what the women that are employed in the sector "Communication and Media" have answered.

To cross a question with two reference questions, you first cross the question with the first reference question. Then you split this question to the reference you are interested in. Finally, you cross this question again with the second reference question. This crossing can also be split into the separate references.

Press `Ctrl` + `G` to cross this question with another question. Under *Question* you choose question 2 "Are you:". Next, click on **OK**. Press `Ctrl` + `!1` to split this crossing. You now only see the results of the men.

Press `Ctrl` + `G` again to cross this question with another question. Under *Question* choose question 3 "In which sector are you employed?". Next, click on **OK**. You now see an overview of all men, in which sector they are employed and what they have answered to this question.
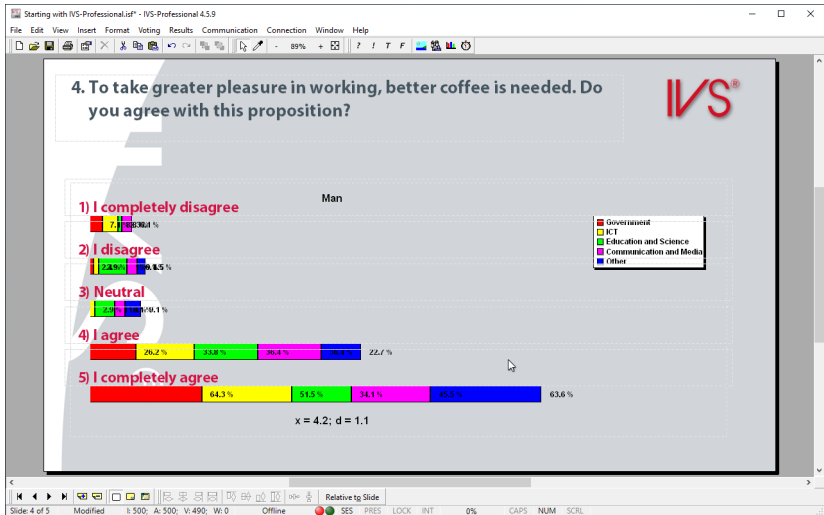
Here you can see what all the men, divided into different sectors, have answered. At the top of the result diagram, you see the first reference.

This crossing can also be split again, to display the results per reference.

Press on ⌨ + #3 to split this crossing. You now only see the results of the men that are employed in the sector "Education and Science".

The second crossing is split into the reference "Education and Science", so that only the results of the references "Man" and "Education and Science" are displayed
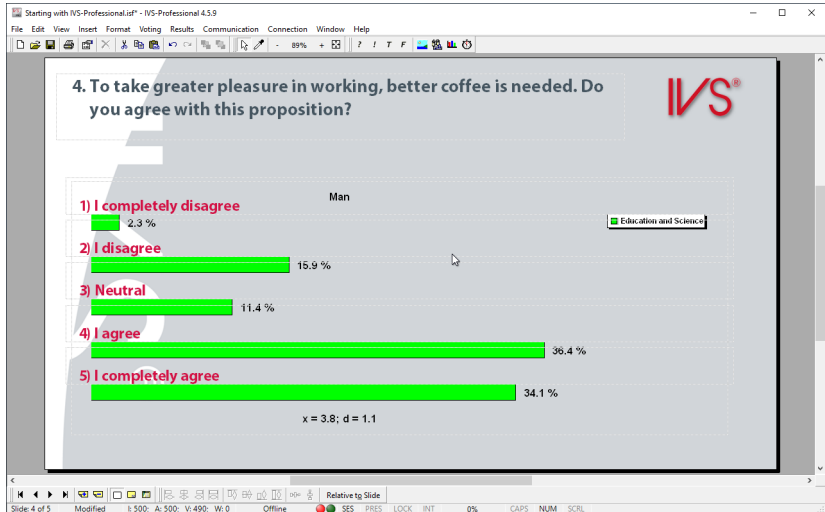
When necessary, you can cross this split again. In that case, you can see both previous references "Man, Education and Science" displayed at the top of the result diagram.

Comparing results

When you ask a question twice, you can compare the results of these two questions. For instance, if you can ask a question at the start of a meeting and then repeat the same question at the end of the meeting. By comparing both questions you can see whether your audience has changed their minds or not.

Another method where comparing two exactly the same question is applied, is the so-called *Peer Instruction*. This originally American method is often applied in educational environments. With this method, two the same questions are asked. The students have to answer the first question by intuition, and then they get a few minutes to discuss about the answers with their peers. After the discussion, they are invited to vote again and the results are compared with each other. In practice, it happens that the number of correct answers remarkably increases for the second question.

Inserting a question to compare

Before you can compare results, you need two similar questions to compare. The condition is that both questions have the same number of answers. Of course the answers on both questions have to be the same and have to be in the same order.

Go to the last slide and create a new slide. Insert a question with the following text: "A temperature of 272 Kelvin equals how many degrees Celsius?" Add four answers with the following text: "-3 degrees", "-1 degree", "1 degree" and "3 degrees". Finally, insert a result diagram and align the answers on top of the bars.
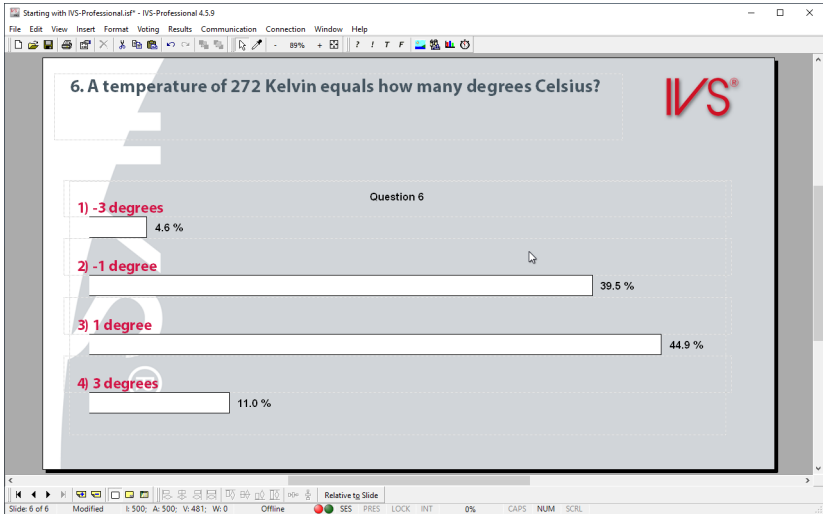
Setting the correct answer

The question that is asked is a knowledge question. After asking this question and showing the results, you can see how many people in the audience knew the correct answer. If desired you can also show the correct answer. The bar that belongs to the correct answer will turn green while all the others will turn red.

To show the correct answer you have to set up one or more of the answers to be the correct one. Setting the correct answer is done in the properties of the corresponding answer. It is possible to set up more than one correct answer.

Click on the second answer with the right mouse button and choose the option *Properties*. Enable the option *Display as correct answer*. Click on **OK** to apply the settings.

Copying a slide

To compare two questions with each other, both questions need to be identical. The easiest way to achieve this is to copy the entire slide with the first question.

You can copy an entire slide by choosing the option ***Copy*** from the ***Edit*** menu, provided that no objects are selected. Alternatively, you can click on the **Copy** ( ) button or press the Ctrl + C keys on the keyboard. To insert the copied slide as a new slide, you choose the option ***Paste*** from the ***Edit*** menu. Alternatively, you can click on the **Paste** ( ) button or press the Ctrl + V keys on the keyboard.

Click anywhere on the slide to be sure that no objects are selected. Next, click on the **Copy** button in the toolbar and then on the **Paste** button.

A new slide has been inserted that is identical to the copied slide. The only exception is the question that automatically got a new number. All objects on the newly inserted slide are automatically selected.
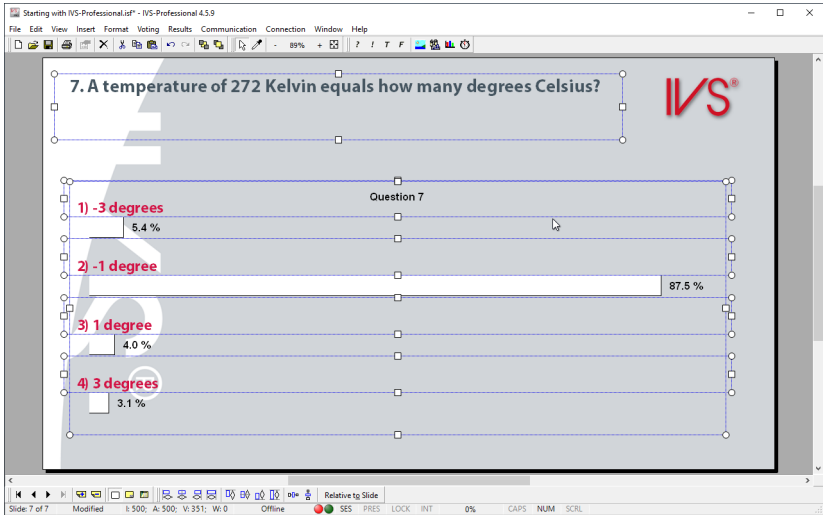
Comparing questions

You can compare a question with another question, by choosing the option **Compare** from the **Results** menu, or by pressing the ⌾ + Ⓜ keys on the keyboard. A list appears, containing all questions with which the current question can be compared. This list only contains questions with the same number of answers as the current question.

Press ⌾ + Ⓜ to compare this question with another question.
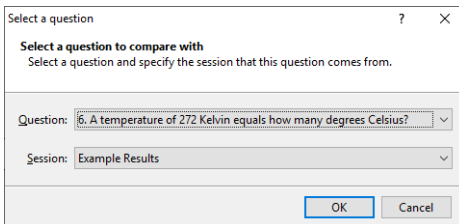
Select the question you want to compare with and click on "OK" to perform the comparison.

Questions are compared to one another
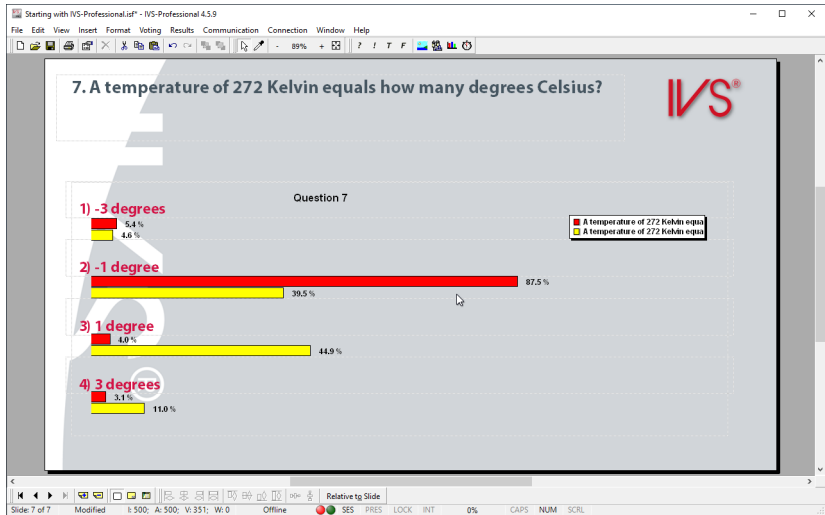
In the chart you see the results of both questions next to each other. The lower bars represent the results of the current question, while the upper bars represent the results of the question that you compared with.

The color of the bars can be changed in the properties of the result diagram on the template slide. On the *Cross & Compare* tab, you can set up the colors for a maximum of ten bars.

The legend shows the legend text of both questions. By default, this legend text is equal to the question text, with a maximum of 32 characters.

To modify the legend text, you go to the properties of the question. Under *Legend & Colors* you enter the text that you want to be displayed in the legend as **Legend text**.

Go to the previous slide. Click on the question with the right mouse button and choose the option *Properties*. Enter "Result current knowledge" as the *Legend text*. Click on **OK** and go to the next slide. Here you also go to the properties of the question. Enter "Result after explanation" as the *Legend text*. Click on **OK** and compare the question again by pressing ⌨ + Ⓜ, selecting question 6 and clicking on **OK**.
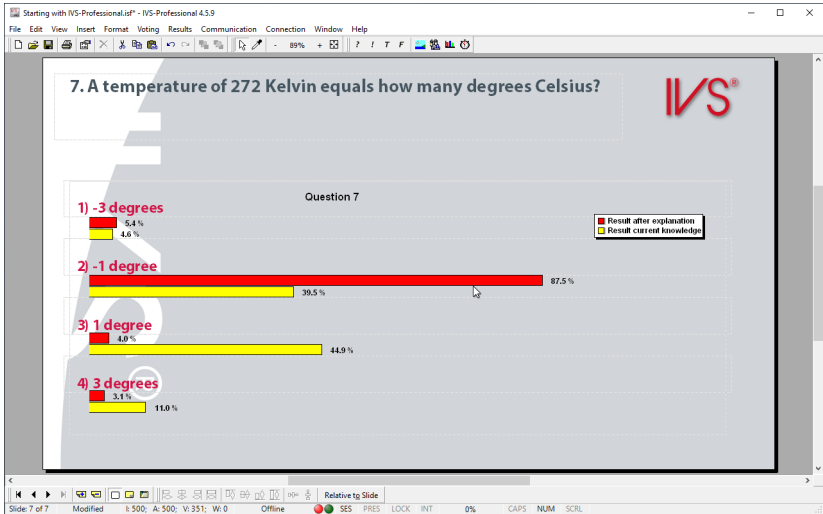
Comparing in percentages

When you compare two questions and display the results in percentages, it sometimes seems as though the results do not match the bars that are displayed. This mainly happens when more people voted on one question than on the other question.

To prevent this from happening, the results are normalized to 100% when you compare two or more questions. This means that all questions are treated as if the same number of people had voted on them. The length of the bars is then based on the percentage of votes. Normalizing only happens when the results are displayed in percentages. When you change to one of the other display modes, the results are no longer normalized and the length of the bars is based on the actual number of votes.

Click on the result diagram with the right mouse button and choose the option *Properties*. Deselect the option *Cross/compare to 100%* and click on **OK** to apply the settings.
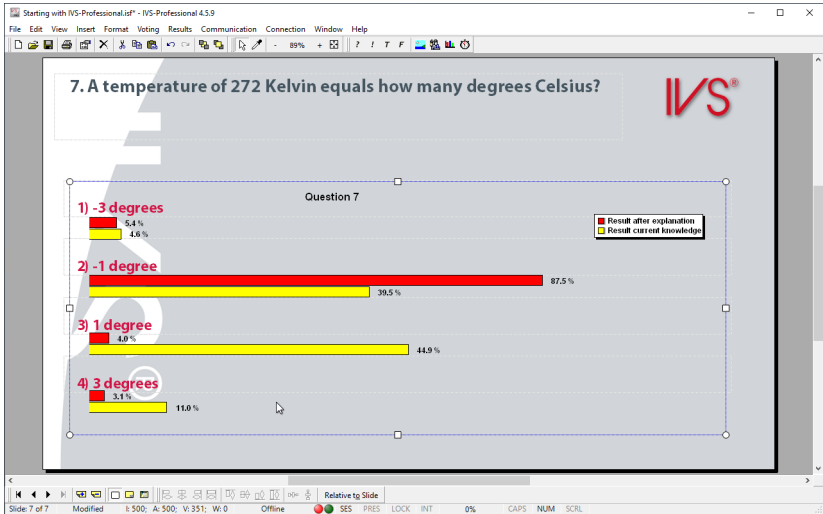
In the comparison above, you can see that when this question was voted for the first time, 4.6% of the participants voted for answer 1, while the second time 5.4% voted for answer 1. Still, the bar belonging to 4.6% is longer than the one belonging to 5.4%. This is because the length of the bars is now based on the absolute number of votes. The 4.6% of the first question corresponds to 22 participants, while the 5.6% of the second question corresponds to 19 participants. The difference in percentages is caused by the fact that a different number of participants have voted on both questions. On the first question, a total of 481 participants have voted, while on the second question, only 351 participants have voted.

When you use example results, it will not happen very often that one question receives more votes than the other question. The results in the example above are manipulated to explain the difference. In practice, however, it might occur, for instance, when you are comparing a question from a morning session with one from an afternoon session, where less people attended the afternoon session.

Go back to the properties of the result diagram and enable the option *Cross/Compare to 100%* again. Click on **OK** to apply the settings.

Switching between absolute numbers and percentages

Results are mostly presented in percentages in the diagrams. Every once in a while a presenter or the audience asks for the number of people that chose one of the answers. In this case you can switch to absolute numbers, even during the presentation.

You do this by choosing **_Absolute/Percentages_** from the **_Results_** menu or by pressing ⌨Shift + ⌨Ctrl + ⌨A on the keyboard.

Press the ⌨Shift + ⌨Ctrl + ⌨A keys on the keyboard to show the result in absolute numbers.
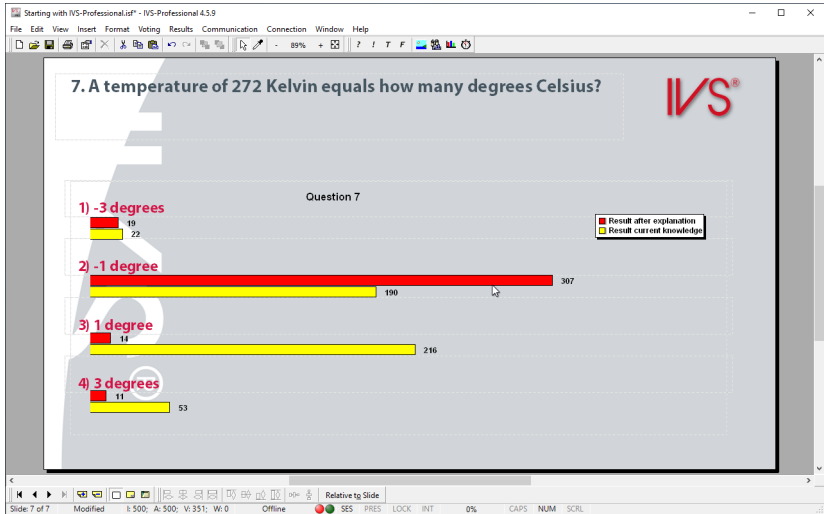
Because the percentages are being normalized, you see the length of the bars change when you switch from percentages to absolute numbers.

By choosing the option **Absolute/Percentages** from the **Results** menu again, or by pressing `Shift` + `Ctrl` + `A` on the keyboard again, you switch back to the original display mode.

Showing the correct answer

This knowledge question has four answers. One of them is the correct one, the other three are wrong. In the properties of the second answer you indicated that this answer should be displayed as the correct answer. The correct answer can be displayed by choosing the option **Correct Answer** from the **Results** menu or by pressing the `Ctrl` + `Y` keys on the keyboard. The bar of the correct answer will turn green, while those of the wrong answers turn red. The colors used can be set up in the properties of the current question.

Press `Ctrl` + `Y` to show the correct answer.
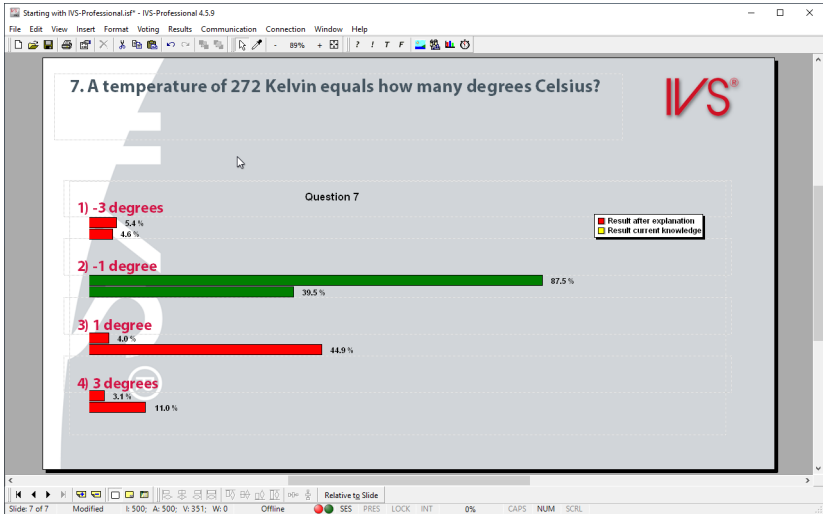
By showing the correct answer, the results are displayed in percentages again, even though you just changed to absolute values. This is because the change to absolute values was only temporary. By showing the correct answer, the results are displayed the way they were set up in the properties of the result diagram.

By choosing the option **Correct answer** from the **Results** menu again, the bars will turn back to their original colors.

Press ⌨ + Ⓨ to show the normal bar colors again.

Back to the standard results

To show the original results again after a comparison, you choose the option **Normal** from the **Results** menu. You can also press ⌨ + Ⓛ on the keyboard.

Press ⌨ + Ⓛ to undo the comparison.

Two result diagrams on one slide

Another way of comparing questions is by inserting two result diagrams on one slide. One result diagram displays the results of the first question, the other result diagram displays the results of the second question.

Reduce the size of the result diagram by moving the left side to about halfway through the slide. Insert an extra result diagram in this slide, by copying the original result diagram and then pasting it.

When you insert an extra result diagram in a slide, a warning is displayed.
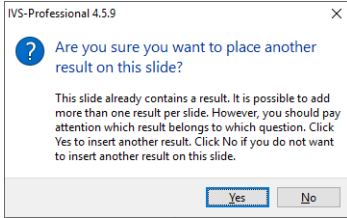
Click on **Yes** to insert an extra result diagram.

After pasting the second result diagram on the slide, it will be placed at exactly the same position as the original result diagram. Move the second diagram to the left, so that it is alongside the original result diagram. Keep the ⇧Shift key pressed while moving to make sure the diagram is only moved in horizontal direction.
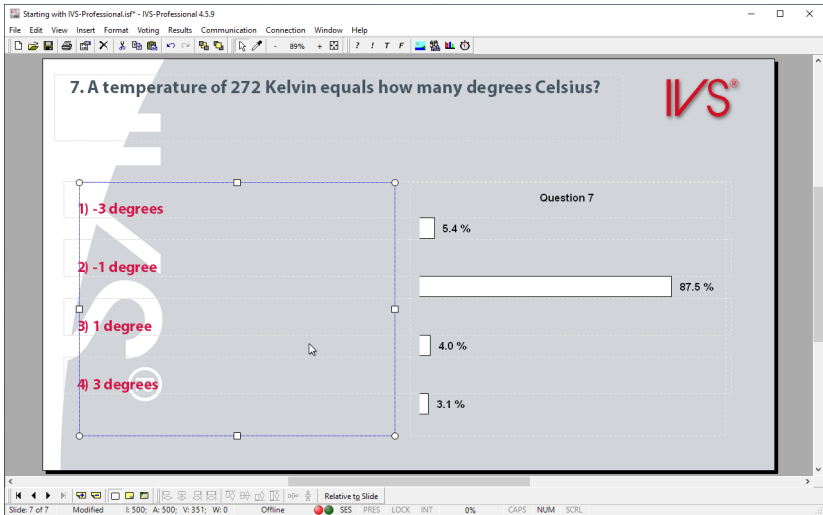
An extra result diagram is not automatically linked to a question. In the properties of the result diagram, you have to select the question of which this result diagram will display the results.
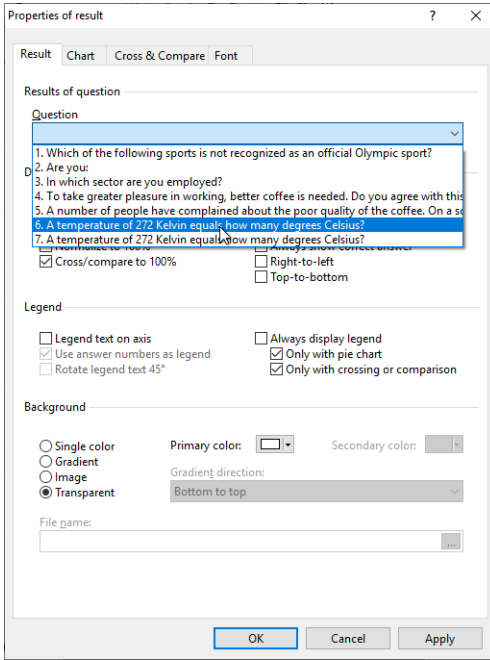
Go to the properties of the left result diagram. Under *Question* you select "6. A temperature of 272 Kelvin equals how many degrees Celsius?". Click on **OK** to link this result diagram to the selected question.

Because this result diagram is linked to a question that has already been linked to another result diagram, a warning is displayed.
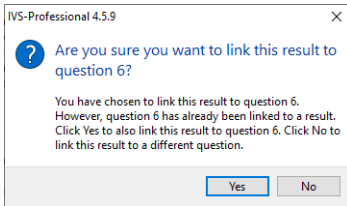
Click on **Yes** to link this result diagram also to that question. This question now has two result diagrams that display its results.

Click on **Yes** to also link this result diagram to question 6.

After linking a result diagram to a question, the results of this question are immediately displayed.

Both dia-
grams now
display the
results of two
different
questions
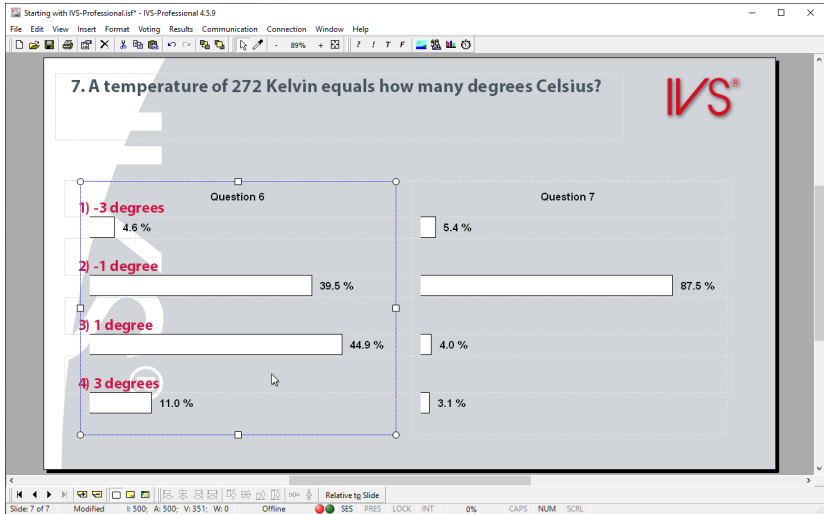
A disadvantage of this method is that when you are going to vote this script, the results of question 6 are already visible in the first result diagram, while question 7 still has to be voted. The voting behavior of your participants could be influenced be these results. Those participants that still don't know what to vote, can go for the results as they are already visible for question 6.

To prevent this from happening, it is better to show the results of question 6 only with question 6, the results of question 7 only with question 7, and make another slide following question 7 that shows both result diagrams side by side. To leave no doubt, you could repeat the question and answer texts by inserting them as normal texts.

Voting a question more than once

A standard multiple choice question offers the audience the possibility to choose one of the available answers. With some multiple choice questions is desirable to have the audience choose more than one answer.

An example is a question with ten answers out of which the three most appealing have to be chosen. The most appealing should be selected first followed by the answer that is appeals second, etc.

Another example is choosing a certain amount of people from a list. Someone could for example choose the ten best equipped candidates for a certain position out of a list of 30 people.

Quickly inserting answers
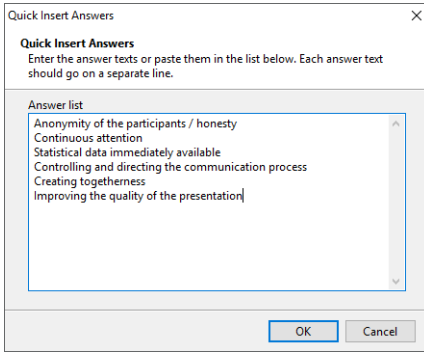
To ask a question that can be voted on more than once, you first have to add a question with a number of answers.

Create a new slide. Insert a question with the following text: "What are the most important benefits of the Interactive Voting System?".

This question has six answer options. You can insert the answers one by one and each time type in the answer text for one answer option. However, it is also possible to insert answers quickly, entering the answer texts for all answer options in one go. This can be especially useful if you already have the answer texts underneath each other in a Word document, for example.

To quickly insert answers, choose **Quick Insert Answers** from the **Insert** menu. Alternatively you can press the U on the keyboard. A window will appear in which you can enter the answer texts for the answer options.

Quick Insert Answers   ✕

Quick Insert Answers
Enter the answer texts or paste them in the list below. Each answer text should go on a separate line.

Answer list

> Anonymity of the participants / honesty
> Continuous attention
> Statistical data immediately available
> Controlling and directing the communication process
> Creating togetherness
> Improving the quality of the presentation

OK   Cancel

In the answer list, enter the texts of the various answer options. Each answer text is placed on a separate line. If an answer text is longer than the width of the input window, it will automatically wrap to the next line. However, this is still seen as one line. Only when you press ⎡Return⎤ do you start a new answer option.

Press Ⓤ to quickly insert answers. Enter the following answer texts, each on its own line: "Anonymity of the participants / honesty", "Continuous attention", "Statistical data immediately available", "Controlling and directing the communication process", "Creating togetherness" and "Improving the quality of the presentation".

A question with multiple votes

To be able to vote this question more than once, you go to the properties of the question and choose how many times you want to vote for this question with the option **Maximum times to vote**.

Click on the question with the right mouse button and choose the option *Properties*. In the *Properties of question* dialog box, set the option *Times to vote* to 3. Click **OK** to apply the settings and close the dialog box.

Answers that fall outside the slide

The distance between the two answers in the template was set up in such a way, that when using five answers, they would be exactly in line with the bars in the result diagram. This results in the sixth answer barely fitting on the slide, and the seventh answer falling outside the slide.

With every next answer you are inserting, a dialog box will pop up stating that the answer would fall outside the slide. You will have to manually move the answer to the correct position.
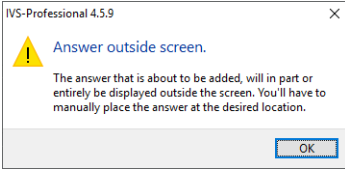
Insert another two answers with the following text: "Brainstorming and prioritizing themes" and "Immediate evaluation and documentation possible". When the dialog box pops up, you click **OK**. Use the scroll bar on the right side of the screen to scroll both answers into view. Manually move all answers closer together so that they all fit on the slide. Use the option *Align or distribute* to neatly align all answers. See also "Positioning answers" on page 40.

The answers are manually moved to make them all fit on the slide
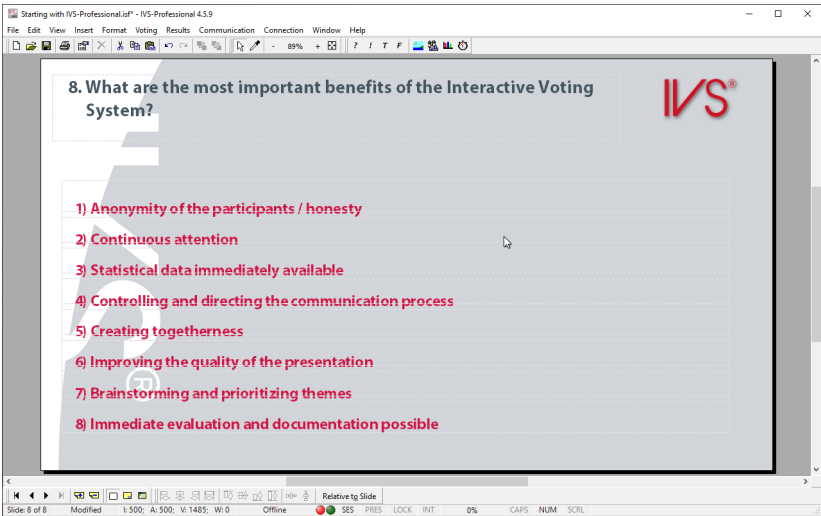
Result diagram on the next slide

If the answers to your question are short, you will have plenty of space left to put a result diagram on the slide. However, when you have a larger amount of answers, and the answer texts are also getting a bit longer, the available space to put your result diagram in will become more and more limited. In those cases you could place the result diagram on the next slide. In that case you can use all available space of the entire slide for your result diagram.

Create a new slide. Insert a result diagram and resize it until it almost fits on the entire slide. Leave a free space at the top of the slide.
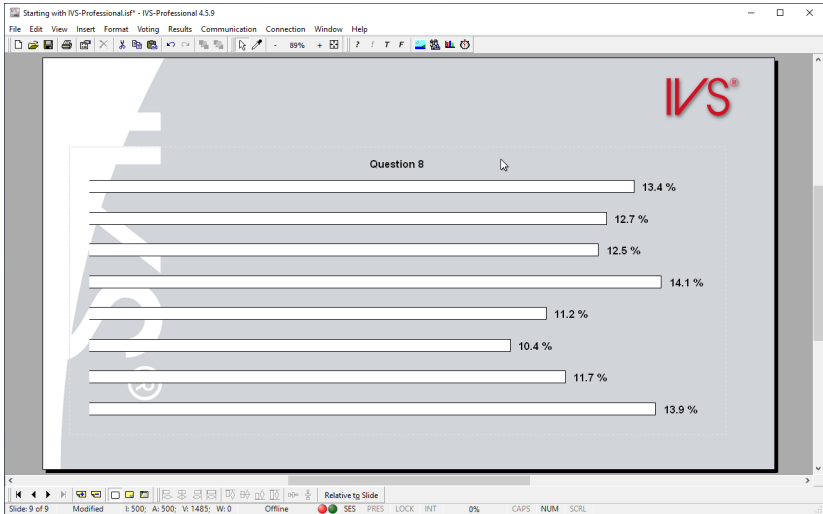
Because there are no answers in front of the bars you cannot see the relation between the bars and the answers. This can easily been solved by showing the legend texts on the axis.

Go to the properties of the result diagram and select the option *Legend text on axis*. Deselect the option *Use answer numbers as legend* to have the entire legend text displayed.
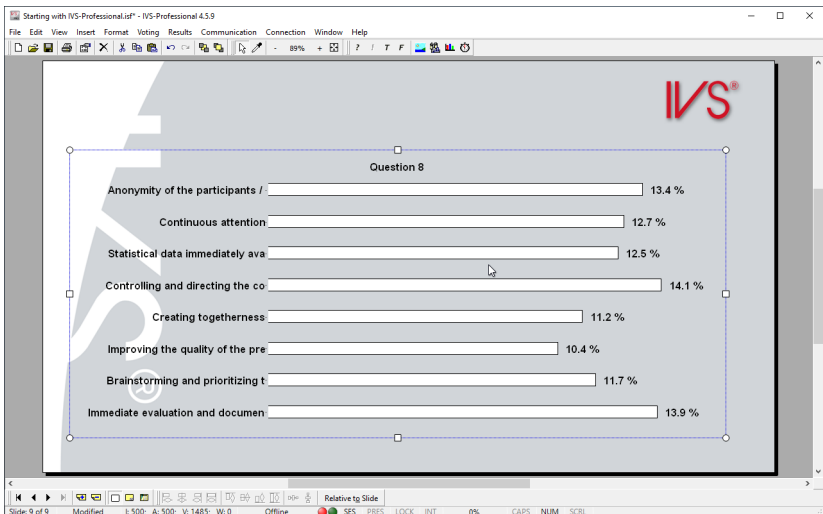
Changing the legend text

When you insert an answer and enter the text for it, the legend text of the answer is automatically entered. In most cases, the legend text equals the answer text. Only when the answer text is too long, the legend text will be truncated. The maximum number of characters for the legend text is 32.

You can manually change the legend text to prevent half sentences. You can change the legend texts in the properties of the accompanying answer.

Go back to the previous slide. Click on the first answer with the right mouse button and choose the option *Properties*. Change the legend text to "Anonymity" and click **OK**. Repeat this for all the other answers entering the following texts: "Continuous attention", "Statistical data", "Controlling process", "Creating togetherness", "Improving the quality", "Brainstorming" and "Immediate evaluation". Go to the next slide. The legend texts have been adjusted.

The legend texts are adjusted to a shortened version of the answer texts
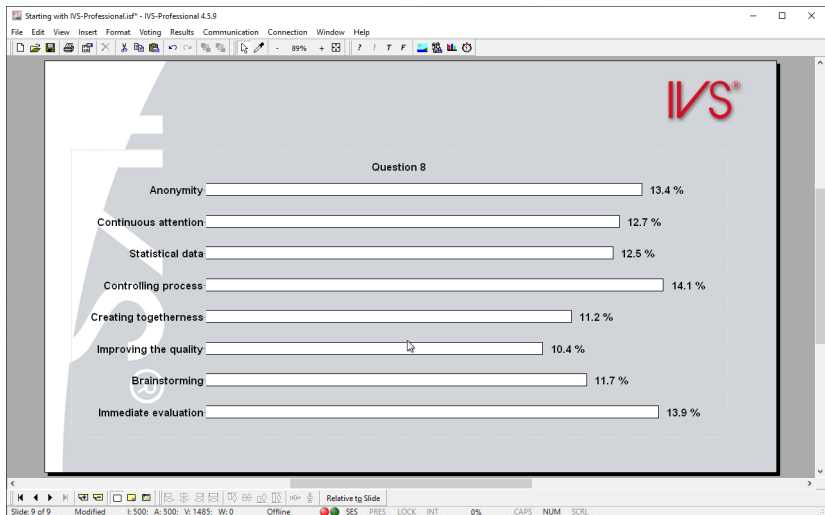
Adding a text

By showing the legend text on the axis, the relation between the answers and the bars in the result diagram is restored. However, because there is no question on this slide there is no relation anymore between the answers and the question. This can be solved by repeating the question text on this slide, not as a new question, but as a plain text.

To insert a text, you choose the option *Text* from the *Insert* menu. Alternatively, you can click the **Text** (T) button in the toolbar or press the T on your keyboard.

To save you from re-typing the entire question text, you could copy the text. To do this, you go back to the slide with the question, double-click the question and copy the question text. When inserting the text, you can simply paste the question text.

To get the text to the exact same position on the slide as the question text, you can first insert the text on the slide with the question. Then position the text so that it falls exactly over the question text. Then cut the text from this slide and paste it back on the next slide.

Go back to the previous slide. Double-click the question. The question dialog box appears with the question text already selected. Copy this text by pressing Ctrl + C. Click **Cancel** to close the dialog box without making any changes. Press T to insert a text. The dialog box for entering text appears. Press Ctrl + V to paste the copied text. Click on **OK** to close the text dialog box and insert the text.

The question text is repeated by inserting it as a text
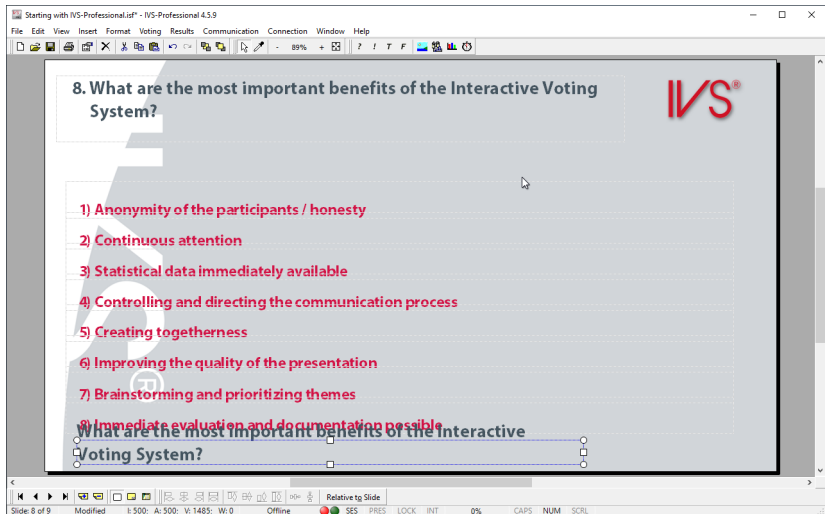
Automatically align objects

To position the text exactly in the same position as the question text, you can use the automatic alignment of objects. When this option is enabled, when moving an object, or enlarging or reducing it, an object will be automatically aligned with another object as soon as it comes close to this object.

To enable automatic alignment, select the option **Snap to objects** in the **View** menu. Alternatively you can press Shift + Ctrl + B on the keyboard.

When you now move an object, its left edge will be placed exactly on the left edge of another object, when it comes close to that left edge. Its left edge will also be placed exactly on the center or on the right edge of another object. The same applies to the center and the right edge of the object being moved. Those, too, will be placed exactly on the left edge, the middle or the right edge of another

object. Moreover, it does not only apply to the edges of other objects, but also to the edges of the slide.
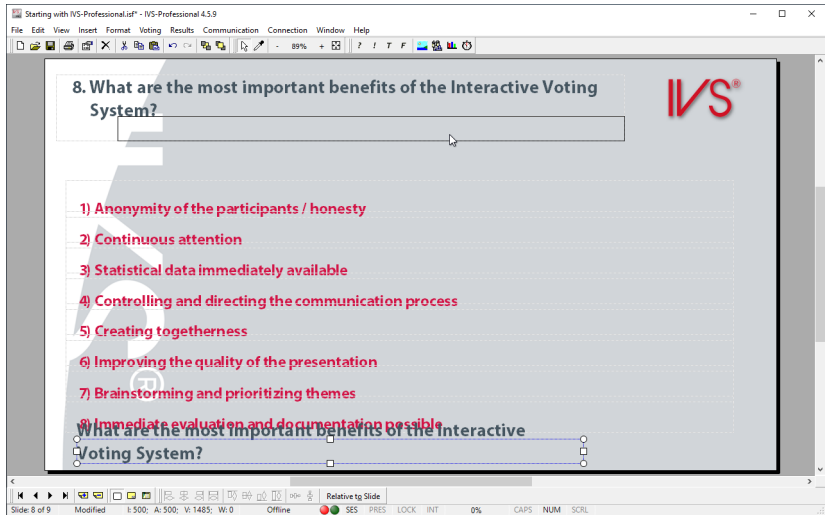
If you want to temporarily disable automatic alignment while moving an object, then keep the [Alt] key pressed while moving. As long as you keep the [Alt] key pressed, you can move an object freely. When you release the key, the object will automatically align to the edges of other objects again.

Enable the auto-align option by enabling the *Snap to objects* option in the *View* menu. Move the text box so that its right edge and bottom edge snap to the right edge and the bottom edge of the question text. Then enlarge the text box so that its left edge and top edge also snap to the left edge and the top edge of the question text.

Aligning text vertically

By default, the text in an answer object and text object is aligned with the lower edge of the text box, while the text of a question object is, by default, aligned with the upper edge of the text box. Although the text boxes of the text object and the question object are now exactly on top of each other, one text is at the top while the other is at the bottom. In addition, a question text is automatically numbered, so that its text is somewhat indented.

By aligning the text in the text object with the top of the text box, it will be in the same position as the text in the question object. To do this, double-click the text object, so that the text entry window appears. Next, set the **Vertical Alignment** option to **Align Top**.

Setting the vertical alignment of the text to Align Top

The text of the text object is top aligned, just like the text of the question object
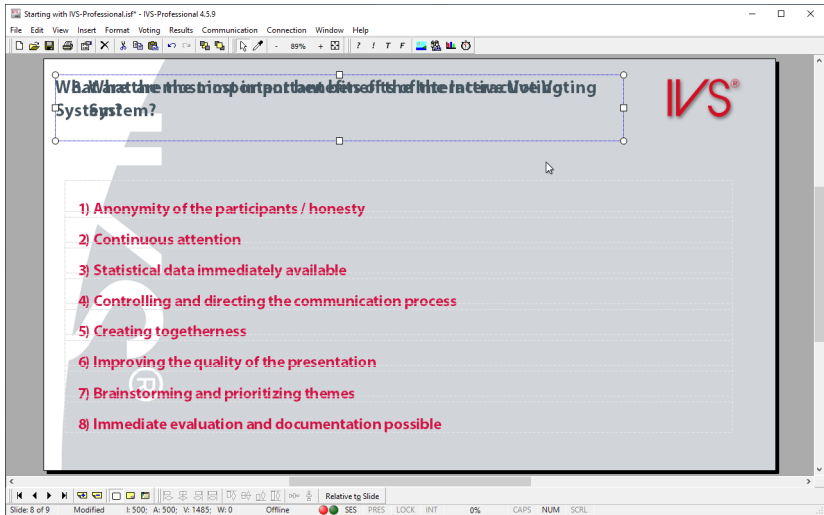
Moving objects with the arrow keys

Due to the numbering of the question text, the text box of the text object has to be moved slightly to the right in order to get the texts exactly aligned. You can try to do this very carefully with the mouse, but you can better use the arrow keys to position objects precisely.

After you select one or more objects, you can move these objects across the slide by using the arrow keys. If you hold down the [Ctrl] key while moving, you can move the objects in larger steps. If you hold down the [Shift] key while moving, you can move the objects in very small steps.

Cutting objects

The text box is now positioned in such a way that the text falls exactly over the text of the question. Now the text box only needs to be moved to the next slide, so that it ends up in exactly the same position again. You can do this by cutting the object from this slide and pasting it back onto the next slide.

To cut an object, select it and choose **Cut** from the **Edit** menu. Alternatively, you can click the **Cut** ( ) button in the toolbar or press [Ctrl] + [X] on the keyboard.

Press ⌑Ctrl⌑ + ⌑X⌑ to cut the text box.

To re-insert the cut object on another slide, go to the slide in which you want to insert it and choose the option ***Paste*** from the ***Edit*** menu. Alternatively, you can click the **Paste** (🖻) button in the toolbar or press ⌑Ctrl⌑ + ⌑V⌑ on the keyboard.

Go to the next slide and press ⌑Ctrl⌑ + ⌑V⌑ to insert the cut text box on this slide.

The text box has been pasted on the next slide
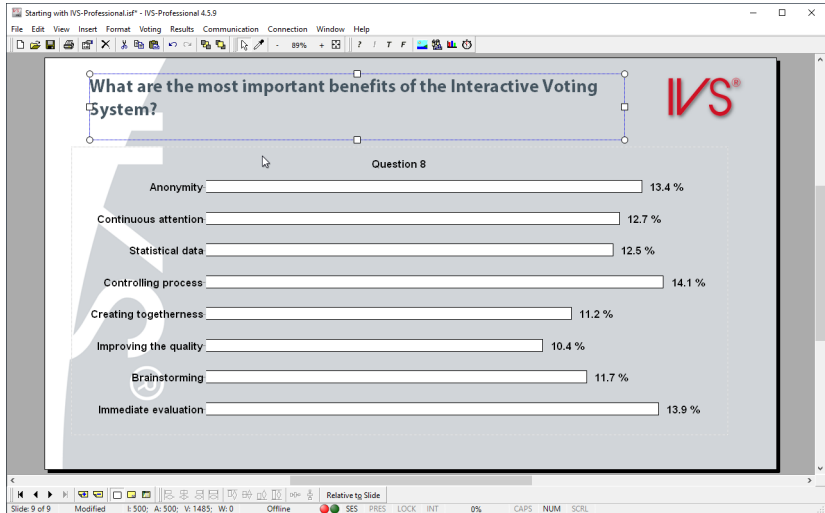
Showing the different choices

The results of a question where more than one answer can be given, show a total overview of all votes. You could also show the results of the first choice, the second choice, etc. You do this by *splitting* the results the same way you did with *crossing* questions.

To split the question, you choose the option ***Split*** from the ***Results*** menu or press ⌑Ctrl⌑ + ⌑U⌑ on the keyboard. A dialog box appears in which you can enter which of the available choices should be displayed. You can also press ⌑Ctrl⌑ + ⌑!1⌑ up until ⌑Shift⌑ + ⌑(9⌑ to immediately display the first choice till the ninth choice.

Press ⌑Ctrl⌑ + ⌑!1⌑ to split this question so that the first choice is shown.
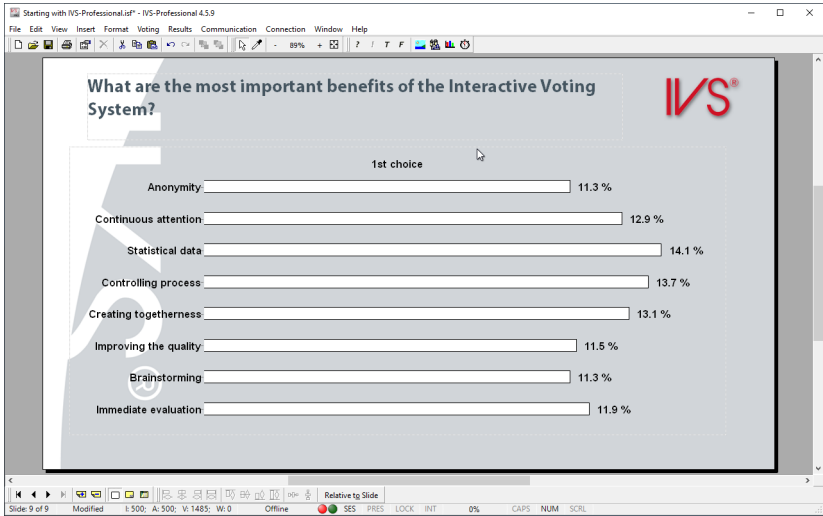
At the top of the result diagram you can see which choice is currently displayed.

You can show the results of the second and third choice by following the same procedure.

Undoing a split

After displaying each choice separately, you can undo the split to show the total results again. You undo a split by choosing the option **Split** from the **Results** menu. In the dialog box that appears, you enter a 0 as the split number. After clicking on **OK**, the total results are displayed again. Alternatively, you could choose the option **Normal** from the **Results** menu to undo the split, or press `Ctrl` + `L` on the keyboard.

Calculating results next in rank

The total overview of the results of a question that can be voted more than once, does not take into account the preference of the votes. When someone first chooses answer 1, then answer 3 and finally answer 2, he indicates that he thinks answer 1 is the most important answer, answer 3 is less important, and answer 2 is the least important. Another participant first chooses answer 3, then answer 2, and finally answer 1. In the total overview, both answer 1 and answer 2 and 3 all have 2 voted.

With the option **Calculate results next in rank** you can include the preference of the votes when calculating the total overview. If it is allowed to vote three times, the first answer given will get three votes, the second answer two votes and the last answer given gets one vote. In the example above, the first participant gives three votes to answer 1, two votes to answer 3 and one vote to answer 2. The second participant gives three votes to answer 3, two votes to answer 2 and one vote to answer 1. It follows that answer 3 was considered the most important, with a total of five votes. In second place follows answer 1 with four votes, and in third place answer 2 with three votes.

The option **Calculate results next in rank** can be switched on in the properties of the question.

Go back to the previous slide. Click on the question with the right mouse button and choose the option *Properties*. In the *Properties of question* dialog box you select the option *Calculate results next in rank*. Click on **OK** to apply these settings and close the dialog box. Go to the next slide.

Displaying results next in rank

When you display the separate choices it can be useful to show the results next in rank. When showing results next in rank, the answer that received most votes is displayed at the top of the result diagram. The answer that received the least votes is displayed at the bottom. You can see at a single glance which answer received the most votes.

To display the results next in rank, you go to the properties of the question and enable the **Display results next in rank** option.

Go back to the previous slide. Click on the question with the right mouse button and choose the options *Properties*. In the *Properties of question* dialog box, you enable the *Display results next in rank* option. Click on **OK** to apply the changes and close the dialog box. Then go to the next slide.

The total results are now displayed next in rank. When you split these results into the first choice, you immediately see which answer most people voted for first. When you split them into the second choice, you see which answer most people voted for second, etc.

Split these results into the first choice by pressing Ctrl + 1.

You see at a single glance which answer most people voted for as their first choice
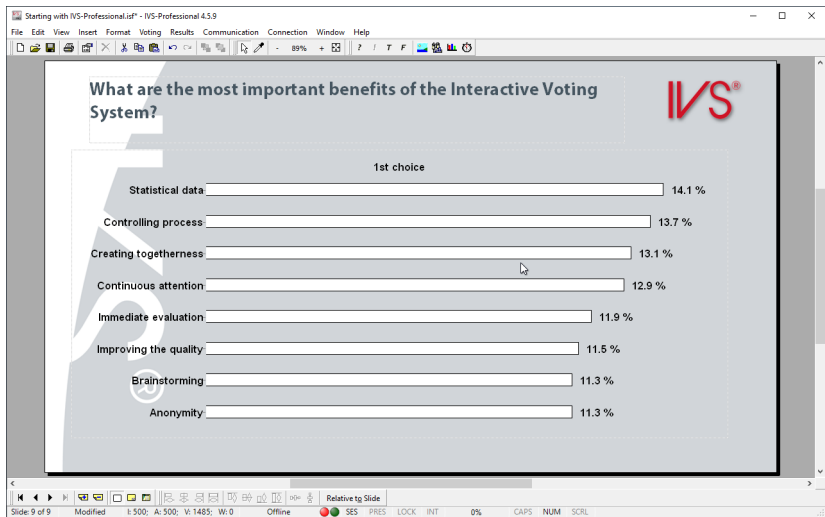
Answers that received the same number of votes are displayed underneath each other. The exact order in which this happens however is undetermined.

Printing the script

When you are going to use your script during a session, it could be helpful to have a printed overview of your script. With this overview, you can see which question is going to be the next and which slide contains this question. Besides, you can make notes about which question needs to be crossed or compared with which other question.

There are several ways in which you can print the script. You can make a print-out that only contains the questions and answers. But you could also make a print-out of the entire slide, so that you can see which question has its result on the next slide, or where the slides without questions are.

When printing a script, any result, if available, will also be printed. This can be done in a text-only format, together with the question and results, or in a slide overview, in which the entire charts are printed.

The results that are printed are the results that are displayed in the script when you are printing it. Until now you have been working on your script using example results. These are the only type of results that cannot be printed to prevent you from accidentally printing example results instead of real results after a session. As long as there are example results in your script, you cannot print it.

Removing example results

There are two ways to remove the results from the charts, showing empty charts again. Choose the option **Clear charts** from the **Results** menu. All results are now removed from the charts.

When you imported the example results (see "Importing example results" on page 27) you actually opened an existing session (see also "Using a session again" on page 163). By closing the session, the results will be removed from the charts, too. You can close the session by choosing the option **Stop session** from the **Voting** menu.

Choose the option *Clear charts* from the *Results* menu.
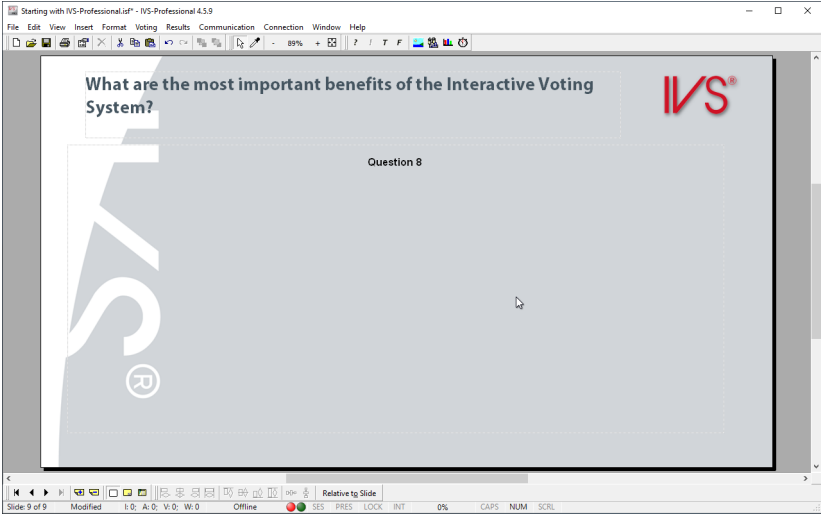
Printer settings

The default printer as defined in Windows is used to print a script. Should you want to select another printer, check whether the correct printer is selected or change the settings of the printer, you can choose the option *Printer settings* from the *File* menu.

Choose *Printer settings* from the *File* menu.

The standard *Print* dialog box appears. In this box you can select a printer or change the printer settings.
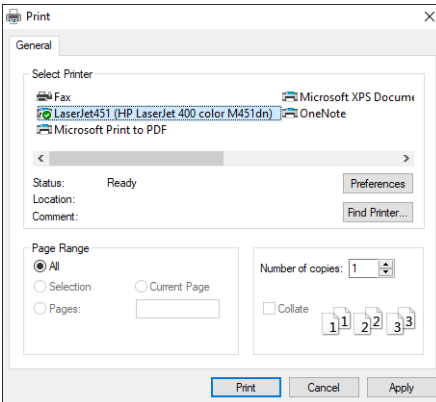
When necessary, select the correct printer and click **Print** to apply the settings.

Printing a script overview

To print a script, you choose the option *Print* from the *File* menu. Alternatively, you can click the **Print** (🖨) button in the toolbar or press ⌨ + P on the keyboard.

> Click the **Print** button in the toolbar.

A dialog box appears where you can indicate what you want to print and how you want it to be printed.

Slides

Instead of printing the entire script, you could also choose to print a certain number of slides.

From slide This box shows the slide number and a description of the slide, if available. This is the first slide to be printed.

To slide This box shows the slide number and a description of the slide, if available. This is the last slide to be printed.

Cross

While printing the script, you can have the results automatically crossed with a certain question.

Cross all slides with question Select this option if you want to cross all questions in your script with one of the other questions, before they are printed. From the list under this option, you choose the question with which you want the other questions to be crossed. This option is only available when a session has been started or when results have been imported. This option does not apply to all print types.

Print

Questions, answers and results can be printed in various ways. You could for example, choose to only print a text overview, but it is also possible to print a complete slide overview.

Print as type Here you choose how you want to print the selected slides.

Settings

By clicking on the **Settings** button, the standard *Print* dialog box appears, in which you could select a different printer or change the settings of the printer.

Select, as far as it hasn't been done yet, slide number 1 in the box *From slide* and slide number 9 in the box *To slide*. Select "Script layout" in the *Print as type* box. Click on **OK** to print the script overview.

Printing a handout

When printing a handout not only the questions and answers are printed, but instead an image of the entire slide is printed. This results in an overview of the slides as they will be presented on the screen.

To print a handout, you choose the option **Print** from the **File** menu. In the dialog box, you select the option "Handout" from the **Print as type** box.

Choose the option *Print* from the *File* menu. From the *Print as type* box, you choose the option "Handout". Next, click on **OK**.

A dialog box appears where you select how many slides you want to be printed on one page.

The dialog box where you can choose how many slides should be printed on one page
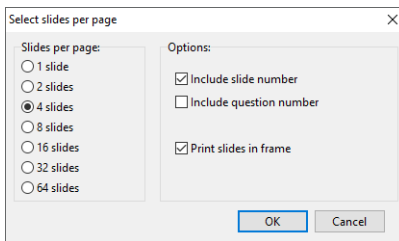
If you choose one slide per page, each slide will be printed full page. If you choose two slides per page, two slides will be printed under each other, et cetera.

Additionally you can set a number of options that control whether the slide number or question number should also be printed, or whether slide should be printed within a frame.

Include slide number When this option is checked, the slide number will be printed at the top-left, next to the slide.

Include question number When this option is checked, and a question is available on the slide, the question number will be printed at the bottom-right, below the slide.

Print slides in frame When this option is checked, the slide is printed within a frame. A black rectangle will be printed surrounding the slide. This is especially useful when you have a lot of slides with a white or other light colored background.

Choose the option *4 slides* and check the option *Include slide number*. Next, click on **OK** to print the handout.

Printing to file

In the dialog box for printing a script you can choose several options from the **Print as type** box, that don't send the results to a printer, but to a file instead. This allows you to also save the script overview to a file. This file contains the same information that would normally be printed on paper. Other options are printing a complete slide to an image. This allows you to make images of all your slides, for example for inserting them in a Word document.

For printing to a file you choose the ***Print*** option from the ***File*** menu. In the dialog box that is shown you choose the option "Script overview (to file)" from the Print as type box. When you click on **OK**, the standard dialog box for saving files appears. You enter the name of the file and choose the location where you want to save this file. Click on the **Save** button to actually save the file.

Choose the *Print* option from the *File* menu. From the *Print as type* box, choose the "Script overview (to file)" option. Click on **OK**. In the dialog box you enter the name of the file and choose a location. Click on **Save** to save the file.

To save the slides as images, you also choose the ***Print*** option from the ***File*** menu. If you don't want to save all slides as images, you can choose from which slide and to which slide you want to save to an image from the **From slide** and **To slide** boxes. From the **Print as type** box you select the "Print to file (Bitmap)", "Print to file (JPEG)" or "Print to file (PNG)" option, depending on which image format you want to save. After you click on **OK**, the dialog box for selecting a folder appears.

Choose the *Print* option from the *File* menu. From the *Print as type* box, choose the "Print to file (PNG)" option. Next, click on **OK**.

In this dialog box you select the folder where you want to save the images. After you have selected a folder you click on **Select Folder** to save the images in the selected folder. Saving the images can take some time, depending on how many slides you want to save.

Creating a list of participants

In IVS-Professional you can indicate per question whether it should be identified or voted anonymously.

When you use RF-I or RF-II keypads, each participant gets a chip card to participate in an identified voting. This chip card has to be inserted into the keypad during the voting. Without a chip card it is not possible to vote.

If you use Lite keypads, the keypad itself is the identification. There is no need to insert a chip card.

Before you can use your script to vote, you first have to make a list of participants. This is a list that contains all the chip cards or keypads that may take part in the voting. Although it is possible to vote with chip cards that do not appear in this list, the votes are discarded by the software. It is not possible to vote with keypads that are not in this list.

It is also possible to link the name of a participant to a chip card or keypad. Later, when you are going to print or export the results, you can see what each individual participant has voted. The participant can also be categorized into a group, which makes it possible to review the results per group.

Finally, it is possible to link a vote weight to a chip card or keypad. This allows a participant with a higher vote weight to exercise more influence on the voting than a participant with a lower vote weight.

A simple list of participants with chip cards

The IVS-Participant Registration utility allows you to make a list of participants with names, groups and voting weights. By then inserting the chip cards into the chip card reader one at the time, or by entering the identification number of the keypad, you can link the chip card or keypad to a participant.

Close IVS-Professional and then start IVS-Participant Registration. You can find IVS-Participant Registration in the *Start Menu* under *IVS*.

**IVS-Partici-
pant Registra-
tion for creat-
ing a par-
ticipants list**
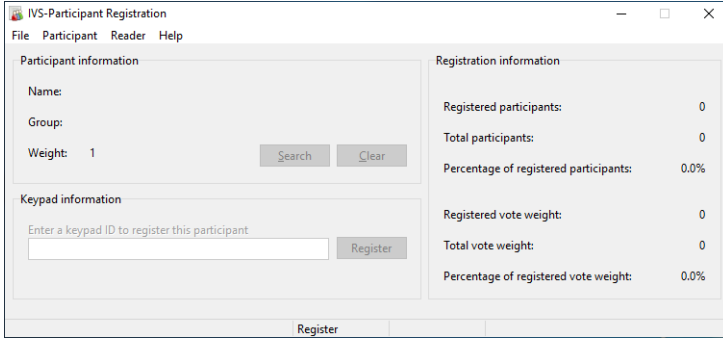
The chip cards that are going to be used can be read with the chip card reader that comes with the system. The chip card reader is connected to one of the computer's USB ports. When you connect the chip card reader for the first time, you have to install the driver only once. This driver is installed automatically by Windows. After having connected the chip card reader, it is initialized automatically. When necessary, you can select the appropriate chip card reader from the **Reader** menu. If your card reader is not listed, check whether the driver has been installed correctly.

**Select a chip
card reader
for register-
ing chip cards
or choose
manual regis-
tration for
registering
Lite keypads**
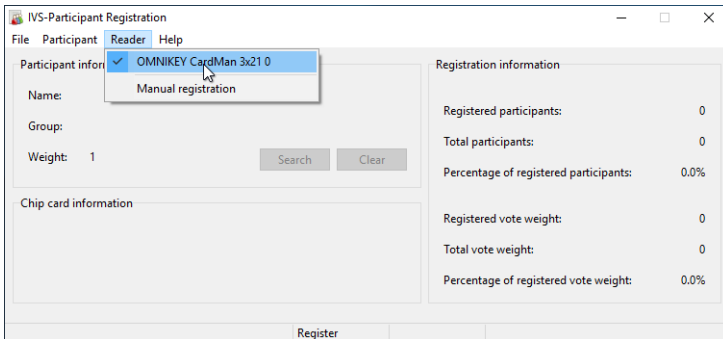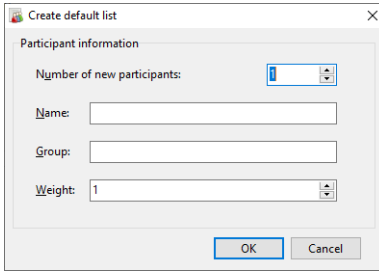
To register keypads, there is no need to connect a chip card reader. Should this still be the case, select the **Manual registration** option from the **Reader** menu.

Connect the chip card reader to a USB port. Install the drivers when necessary. Then choose the **OMNI-KEY CardMan 3x21 0** option from the **Readers** menu. The chip card reader will now be initialized.

By creating a simple list of participants, you just place the chip cards or keypads that are going to be used in a list. During a voting, only those participants, that own a chip card or keypad that was placed in this list, can vote. Although it is possible to vote with a chip card or keypad that is not listed in the list of participants, the votes are discarded by the software.

To create a simple list of participants, choose the **_Create default list_** option from the **_Participant_** menu. After _Number of new participants_, you fill in the number of chip cards or keypads that you want to place in the list of participants.

Click on **OK** to create the list of participants. The participants in this list will not receive a name, do not belong to any group and all have a voting weight of 1 vote.

Choose the **_Create default list_** option from the **_Participant_** menu. For _Number of new participants_ you enter 25. Then, click on **OK**.

If it turns out that you have added insufficient participants to your list of participants, you can select the **_Create default list_** option once again, to add some extra participants to the list.

Adding names and groups

The **_Create default list_** option also allows you to create a default list where each participant does get a name and, when necessary, a group. To do this, enter the name of the participant in the input field after _Name_ and enter the name of the group you want to add this participant to, in the input field after _Group_. Please note that all participants get the same name, group and voting weight.

When necessary, you can add an index number to each participant name. Enter the staring value for the index, placed between square bracket, into the input field after _Name_.

Suppose you want to create a default list with 100 participants divided into two groups, with Participant 1 to Participant 40 in the group MALE and Participant 1 to Participant 60 in the group FEMALE. Choose the **_Create default list_** option, enter 40 for _Number of new participants_, enter Participant [1] for _Name_ and MALE for _Group_. Click on **OK**. Again, choose the **_Create default list_** option, enter 60 for _Number of new participants_, enter Participant [1] for _Name_ and FEMALE for _Group_. Click on **OK**.

Registering chip cards

After creating a default list, the first participant from this list is automatically selected, so that you can link a chip card to this participant. To do this, you insert a chip card into the chip card reader. After reading the chip card, the identification number of the chip card is displayed. On the right hand

side of the window, you can see how many participants have already been registered, that is, are linked to a chip card, and how much voting weight has already been registered.

When you remove the chip card from the chip card reader, the next participant is automatically selected, so that you can immediately register this participant. When all participants have been registered, the automatic registration process ends.

Insert a few chip cards into the chip card reader to link these to the participants.

Registering keypads

After creating a default list, the first participant from this list is automatically selected, so that you can link a keypad to this participant. To do this, enter the keypad's unique identification number and click on the **Register** button to register this participant. On the right hand side of the window, you can see how many participants have already been registered, that is linked to a keypad, and how much voting weight has already been registered.

If you own a barcode scanner, you can also scan the keypad's identification number with the barcode scanner. Depending on the scanner you use, you don't even have to click the **Register** button.

After clicking the **Register** button, or after this was done automatically by the barcode scanner, the next participant is automatically selected, so that you can immediately register this participant. When all participants have been registered, the automatic registration process ends.

Enter some keypad IDs and click on the **Register** button each time to link these to the participants.

Saving the list of participants

You can now save the list of participants you created by choosing the option ***Save*** from the ***File*** menu.

Choose the option ***Save*** from the ***File*** menu.

The standard dialog box for saving files appears. Here you enter the name of the file and choose a location to save the file. Preferably save the file in the *Participant Lists* folder as indicated by IVS-Participant Registration. IVS-Professional will automatically display this folder when you have to select a participants list.

Enter the name of the participants list: "Participants test script" and click on the **Save** button to save the participants list.

A list of participants based on names

Instead of making a simple list of participants, you can also make a list of participants based on the participants' names. By doing so, you link a chip card or keypad to an individual participant. Additionally, you can arrange the participants in certain groups and link a certain voting weight to this participant.

To create a list of participants based on names, you choose the ***Manage*** option from the ***Participant*** menu. The participant management window appears, where you can add, edit and delete individual participants.

To add a participant, click in the window with the right mouse button and choose the **Add** option, or press ⌨ + Ⓝ.
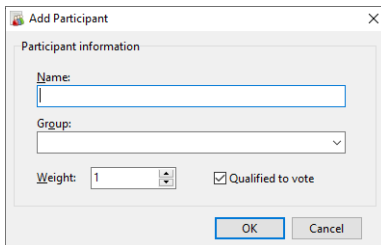
Click in the window with the right mouse button and choose *Add*.

After *Name*, you fill in the name of the participant. After *Weight*, you fill in the voting weight that you want to link to this participant. If you don't want to use a voting weight, you enter the default voting weight of 1 for each participant.
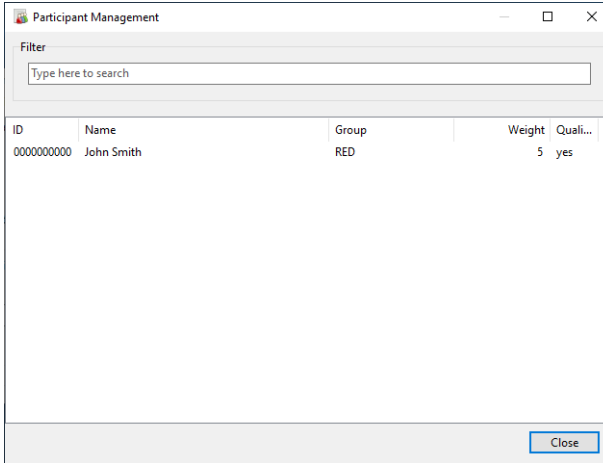
It is also possible to arrange the participants in different groups. When playing a quiz you can show the group scores as well as the individual scores. To place a participant in a certain group, you just enter the name of the group after *Group*. If you don't want to use any group, leave this field empty.

With the **Qualified to vote** option, you determine whether this participant can vote or not. This option is especially useful when using multiple identification groups. For more information, see "A list of participants with multiple identification groups" on page 130.

After filling in all the information, click on **OK** to add this participant to the list of participants.

A participant with name, group and voting weight was added

ID	Name	Group	Weight	Quali...
0000000000	John Smith	RED	5	yes

Participant Management — Filter: Type here to search — Close

Repeat these steps for the other participants.

Importing a list with names

If you already have a list with the names of all participants, you can import this list, so that you don't have to enter all the names one by one.

You can import a list with names by choosing the option *Import* from the *File* menu. If there are already participants in the list, you are first asked whether you want to clear this list before importing the list with names, or want to keep the current list. If the latter is the case, the imported names are added to the current list.

You can either import a text file or an IVS card list. A text file contains the information for one single participant on each line, starting at the second line. First thing on the line is the participant's name, then a tab as a delimiter followed by this participant's group name, and finally another tab as delimiter followed by the voting weight for this participant. The first line in the text file is reserved for group definitions.

Registering participants

After adding all participants, or after importing an existing list with names, you can start registering the participants. You can register a specific participant by clicking on the **Search** button and finding the relevant participant in the list. After selecting the participant, you can register this participant by placing a chip card in the chip card reader or by entering the keypad's identification number.

When you want to register all participants one by one, without having to search for a specific participant, you can choose the *Automatic participant selection* option from the *Participant* menu.

The first non-registered participant is now selected. After registering this participant, the next non-registered participant is automatically selected.

Unregistering participant

When you register a participant with the wrong chip card or keypad, you can unregister this participant. To do this, select the *Unregister* option from the *Participant* menu. Insert the wrongly registered chip card or enter the identification number of the wrongly registered keypad to detach this chip card or keypad from a participant. Next, select the *Register* option from the *Participant* menu to link the correct chip card or keypad to this participant.

Checking participants

When you have a chip card or keypad and don't know to which participant it belongs, you can check the chip card or keypad. Select the *Check* option from the *Participant* menu. Insert the chip card or enter the keypad's identification number and click on the **Check** button. When this chip card or keypad was linked to a participant, the participant's information is shown.

A list of participants with multiple identification groups

You can create multiple so-called identification groups from all the participants in your list of participants. Each identification group contains all the participants from your list, but you can change a participant's voting rights, put him in a different group or give him a different voting weight, per identification group. You can define as many identification groups as you need. In IVS-Professional, you can choose per question which identification group you want to use for this question.

To be able to use identification groups, the advanced mode should be enabled. You can enable the advanced mode by selecting the *User Interface* option from the *File* menu, and then selecting the option *Advanced Mode*.

To create another identification group, you open the participant manager by selecting the *Manage* option from the *Participant* menu.

Next, select the **Show participant information for this identification group** option and, when necessary, choose a different identification group. All participants are initially shown with their default information. You can then edit each participant's information. You can modify the group name and voting weight and whether participants are entitled to vote or not. The participant's name cannot be modified.

You can modify the information for multiple participants all at once, by first selecting multiple participants, then clicking on one of the selected participants with the right mouse button and selecting the *Edit* option. When the participants are arranged in different groups, the group name edit box will be empty. Leave this edit box empty, to leave the current group name of each selected participant unchanged, or enter a new group name for each selected participant. Likewise, the edit box for the

voting weight is empty, when the selected participants have a different voting weight, and the voting right checkbox contains a square when the selected participants don't share the same voting rights. When necessary, you can change to voting weight, and check or uncheck the voting right checkbox, to change the voting weight and voting right for all selected participants.

After selecting a different identification group, it is not possible to add new participants. This is only possible when showing the default participant information. It is also not possible to delete participants from a different identification group. When choosing the **_Delete_** option, you only delete the changes made to the default information, so that this participants gets the same settings as he has in the default participants list.

In the advanced mode, it is also possible to connect three user-defined values to a participant. You can fill in any text you like. In IVS-Professional, you can show any of these three values by using a field.

Close IVS-Participant Registration and start the IVS-Professional. In the startup dialog you choose the last used script "Starting with IVS-Professional" and click on **OK** to reopen the script.

Connecting the network

Now that you created a script with a number of slides and questions you can let your audience vote on these questions. To do so, you use the Base Station, that has to be connected to your computer, and a number of keypads, that have to be initialized by the Base Station. Keypads and Base Station together make up the voting network.

The keypad is used to have the audience cast their votes. Each participant receives one keypad to do so. There are 10 or 11 keys on the keypad that allow the audience to make a choice. The LCD screen displays the choice that is made. To correct the choice made, the keypad has a correction key. On RF-I and Lite keypads this is the red key. On RF-II keypads it is the red C-key. On both RF-I and RF-II keypads you find this key on the left side of the keypad. On Lite keypads you find this key to the left of the LCD screen.

On the RF-II keypad, there are two scroll keys and an enter key just below the LCD screen. Whether these keys are used or not depends on the settings of each question in the script.

All keypads have a built-in wireless transmitter and receiver that are used to communicate with the Base Station. The Base Station controls the keypads to open and close a voting and to activate only those keys that are relevant for the voting. Furthermore, the Base Station receives the information from the keypads during a voting. These are processed and transferred to IVS-Professional, so that it can show the results in a chart. A RF-I or RF-II Base Station can control up to 1,000 keypads and a Lite Base Station can control up to 250 keypads.

The keylock

You need a license for IVS-Professional to be able to use the voting network. This license determines how many keypads you can use. One license you get free of charge with the software. This license allows you to use a maximum of 30 keypads. For all other licenses, you need to connect a so-called keylock to the computer. Depending on the keylock you use, you get a license for a maximum of 250 keypads or 4,000 keypads.

Keylock for connecting to the USB port

The keylock should be connected to a USB port of the computer.

Charging the keypads

To be able to operate completely wireless, the keypads are equipped with a battery. Depending on the type of keypad, this is either a rechargeable NiMH-battery, or two normal AA-type batteries.

The RF-I and RF-II keypads are equipped with a rechargeable battery. These keypads come in a charging case, that cannot only be used to transport the keypads, but also to charge the battery. To charge the keypads, you place them in the charging case with the charging contacts facing down and then switch on the case by connecting it to the AC power.

RF-I keypads

When the case is switched on, the battery status of the keypad is indicated by a LED. When charging the battery the LED blinks red. When the battery is fully charged the LED lights continuously red.

It takes about two hours to fully charge the battery. After that, the keypad can be used for about eight hours.

The moment the keypad is taken from the case, it switches itself on. A keypad stays switched on until it is put back into the case to be charged, or until the battery runs empty.

RF-II keypads

When the case is switched on, the battery capacity of the keypad is indicated by the LED.

When the battery is charged for less than 40% the LED lights continuously red. When it is charged between 40% and 70% the LED will blink red. When charged over 70% the LED will blink green. When fully charged, the LED lights continuously green.

It takes about five hours to fully charge the battery. After that, the RF-II keypad can be used for approximately 20 hours.

The moment the keypad is taken from the case, it switches itself on. A keypad stays switched on until it is put back into the case to be charged, or until the battery runs empty.

Lite keypads

When the keypad is equipped with a set of fully charged batteries, it can be used for approximately one year. If the batteries are empty, they must be replaced with a new set of batteries.

A Lite keypad is normally switched off and is only switched on when a key is pressed.

Connecting the Base Station

The Base Station has to be connected to a USB port of your computer. Always use the USB cable that comes with the system. An RF-I or RF-II Base Station also has to be connected to the AC power using the supplied adapter. When connected to the power, a red LED lights at the front side of the Base

Station. A Lite Base Station is powered by the USB bus, so there is no need for a separate power adapter. When the computer is switched on, a red LED lights at the front side of the Lite Base Station.

When the Base Station is connected to the computer for the first time, you have to install the device drivers. Please refer to the separately supplied "Supplement connecting USB Base Station" booklet.

To achieve the best communication with the keypads, do not place the Base Station too close to computers or other devices, or in the neighborhood of cables. If you need the Base Station in a large room we advise you to place it on a tripod in the front or in the back of the room with the front of the Base Station facing the audience.

Communication with the Base Station

When the Base Station is connected to the computer and, when necessary, to the AC power and the device drivers are installed, IVS-Professional can communicate with it. To establish this communication, you choose the option **Settings** from the **Communication** menu. A dialog box for setting up the communication appears.

Connect your Base Station to a USB port and connect it with the supplied adapter to the AC power. Install the device drivers for the Base Station when you are asked to do so. Then, choose the option *Settings* from the *Communication* menu.

The dialog box to set the communication helps you through the settings in only a few steps
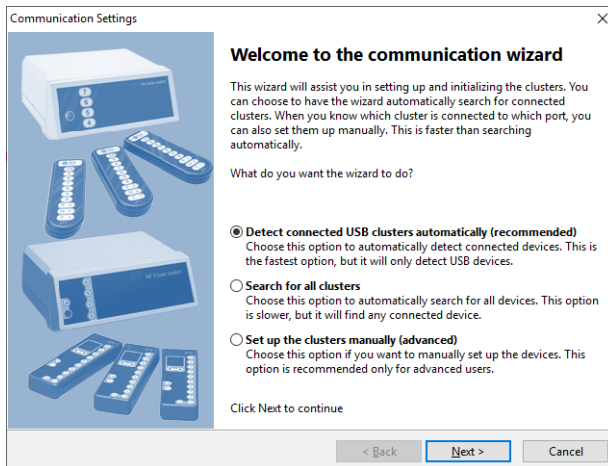
Searching for clusters

By installing the device drivers for the Base Station, your computer gets an extra serial port. This port is used to communicate with the Base Station. In the *Communication Settings* dialog box you will see an overview of all serial ports available on your computer, up to a maximum of sixteen ports. For each of these ports you can indicate if a Base Station is connected to it or not.

You can manually indicate on which ports a Base Station has been connected, but you can also have the wizard automatically detect which ports have a Base Station connected and what type of Base Station this is.

If you choose **Detect connected USB clusters automatically (recommended)**, the wizard retrieves the information about the connected clusters from the Windows device manager. This is the fastest method to detect the clusters, but it only works to detect the most common USB-connected clusters.

If you choose the **Search for all clusters** option, the next step is that the wizard will check each port to see which cluster is connected to it. This method is a lot slower, but it also detects the less common clusters connected to the serial port.

If you choose for the **Setup the clusters manually (advanced)** option, automatic searching is skipped.

Click **Next** to start the automatic searching of the clusters, or to manually select the clusters.

Choose the *Detect connected USB clusters automatically (recommended)* option and click on **Next** to continue. The wizard retrieves the information about the connected clusters from the device manager.

Selecting the clusters

For each of the available serial ports, you have to indicate whether a cluster is connected to this port, and if yes, which type of cluster. If you had the clusters detect automatically, the correct clusters are already filled in for the appropriate serial ports.

The automatically detected clusters are already selected

For each of the available serial ports you select which type of cluster is connected to it. If no cluster is connected to a serial port, select 'None'. After having selected the correct clusters, you click **Next** to continue.

Click on **Next** to continue.

Selecting channels

To be able to communicate over a wireless connection, the Base Station uses one of the available channels. Because multiple channels are available, multiple Base Stations can be used together, without them interfering with each other. If two Base Stations are in each other's vicinity and they both use the same channel, they will interfere with each other, which causes a very bad wireless connection with the keypads.

Select a channel for the keypads to communicate with the Base Station

In the *Communication Settings* dialog box you see an overview of all serial ports to which a Base Station is connected. For each of these ports you can indicate which channel the Base Station should use to communicate with the keypads.

If you use only one Base Station it does not matter which channel you choose for communication. However, if you use multiple Base Stations, or if there is an active Base Station in a room nearby, you have to select a unique channel for each Base Station.

If you use an RF-I or RF-II Base Station, you can choose from four different channels. You can therefore also use a maximum of four Base Station at the same time. If you use a Lite Base Station, you can choose from 51 different channels. Although it is theoretically possible to use a maximum of 51 Base Stations, in practice you cannot use more than sixteen Base Stations, because the software cannot select more than sixteen ports.

After you have set the channel, click the **Next** button to continue.

Initializing the clusters

After selecting the correct serial port and setting the channel, the Base Station can be initialized. During initialization, IVS-Professional checks whether it can communicate with the Base Station on the selected serial port. If communication succeeds, the Base Station is set to the selected channel.

**The con-
nected Base
Station can
be initialized**
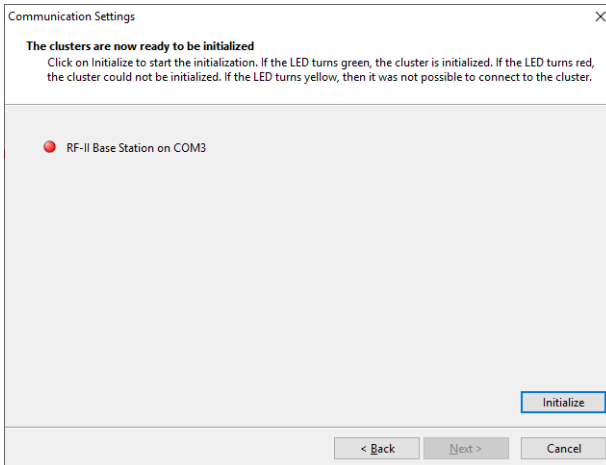
In the *Communication Settings* dialog box you see an overview of all serial ports to which a Base Station is connected. The status of the Base Station is indicated by means of a LED. A red LED indicates that the Base Station hasn't been initialized yet. A dark red LED indicates communication with the Base Station. A green LED indicates that the Base Station has been successfully initialized. A yellow LED indicates that the selected serial port could not be used for communication. If that is the case, check to see whether other software that is running on your computer, might keep the serial port busy. If that is the case, close this software, or select a different serial port to connect the Base Station to. Please refer to the separately supplied booklet "Supplement connecting USB Base Station".

To initialize the Base Station click the **Initialize** button. When the Base Station has been initialized, this is indicated by a bright green LED. If the LED stays red, click the **Previous** button to check the settings. Also check whether the Base Station is connected to the AC power, whether it is correctly connected to a USB port of the computer and whether the device drivers have been installed.

After the Base Station has been successfully initialized, you could if necessary check the version of the Base Station. To do this, move the mouse over the text behind the green LED. A little window appears showing the version number of the Base Station. This version number consists of two parts. The first part indicates the version of that part of the Base Station that communicates with the computer. The second part indicates the version of that part that communicates with the keypads.

The connected Base Station has been initialized and the version number is showing
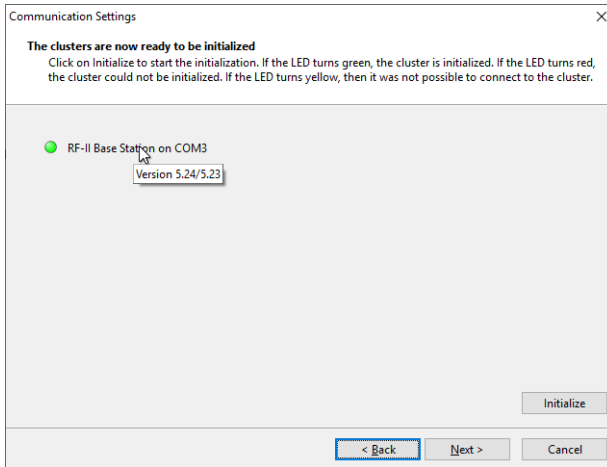
After initializing the Base Station, click the "Next" button to continue.

Click **Next** to continue.

Keypad functionality

There are three types of Base Station: the RF-I Base Station, the RF-II Base Station and the Lite Base Station. There are also three types of keypad: the RF-I keypad, the RF-II keypad and the Lite keypad. The RF-I keypad and the RF-II keypad can be used by both the RF-I Base Station and the RF-II Base Station. The Lite keypad can only be used by the Lite Base Station.

If you use an RF-I Base Station, there is no need to choose the keypad functionality. RF-I functionality is automatically selected. You can use both RF-I and RF-II keypads, but you cannot use the extra features of the RF-II keypad.

If you use an RF-II Base Station, you have to choose which keypad functionality you are going to use. This keypad functionality determines whether you can both use RF-I and RF-II keypad, or whether you can only use RF-II keypads.

If you use a Lite Base Station, there is no need to choose the keypad functionality. You can only use the Lite keypads.

Communication Settings ✕

What keypad functionality do you want to use?
You are using one or more RF-II Base Stations. You can choose which functionality you want to use.

○ **RF-I functionality**
Choose this option if you are going to use RF-I keypads, or if you are going to use a mixed set of both RF-I and RF-II keypads. Both keypad types will behave exactly the same.

◉ **RF-II functionality (recommended)**
Choose this option if you are only going to use RF-II keypads. This allows you to use the extended functionality of the RF-II keypads. Any RF-I keypads you might have cannot be initialized.

< _B_ack   _N_ext >   Cancel

If you are only going to use RF-I keypads, you choose **RF-I functionality**. If you are going to use both RF-I and RF-II keypads, you also choose **RF-I functionality**. If you are only going to use RF-II keypads, you choose **RF-II functionality**.

After having chosen the functionality, you click the **Next** button to continue.

Choose the option _RF-II functionality_ and click **Next** to continue.

Initializing keypads

Keypads have to be initialized before the Base Station can communicate with them. During initialization the keypad will be set to the same channel as to which the Base Station was set.

Only when you use an RF-II Base Station and you chose to use **RF-II functionality** you can choose which keypads should be initialized.

Communication Settings   ✕

Which keypads do you want to initialize?
You can choose to only initialize keypads that are outside the charging case, inside the charging case, or both.

◉ **Initialize keypads outside charging case (recommended)**
   Choose this option to only initialize keypads that are outside the charging case.

○ **Initialize keypads inside charging case**
   Choose this option to only initialize keypads that are inside the charging case. The charging case must be unplugged and you must initialize the keypads within ten minutes after unplugging the case.

○ **Initialize both inside and outside charging case**
   Choose this option to initialize keypads that are either inside or outside the charging case. If the keypads are inside the charging case, it must be unplugged and you must initialize the keypads within ten minutes after unplugging it.

                                          < _B_ack   _N_ext >   Cancel

Initialize keypads outside charging case (recommended) If you start initializing the keypads, only keypads that were taken from the charging case will be initialized. This option is recommended, because with this option the keypads can always be initialized.

Initialize keypads inside charging case With this option, only the keypads that are still inside the charging case will be initialized. The only condition is that the charging case cannot be connected to the mains anymore. After disconnecting the case from the mains, the keypads can be initialized for a period of ten minutes. After that, the keypads can no longer be initialized.

Initialize both inside and outside charging case This option initializes all keypads, whether they are still inside the case, or were taken from the case. Keypads that are still in the charging case can only be initialized when the case is no longer connected to the mains. After disconnecting the case from the mains, the keypads can be initialized for a period of ten minutes. After that, the keypads can no longer be initialized.

After having indicated which keypads you want to initialize, click the **Next** button to continue.

Select the _Initialize keypads outside charging case (recommended)_ option and click the **Next** button to continue.

Vote time

If you have an RF-II Base Station with software version 5.12 or higher, and you chose to use **RF-II functionality**, you can make use of the voting time of the keypad.
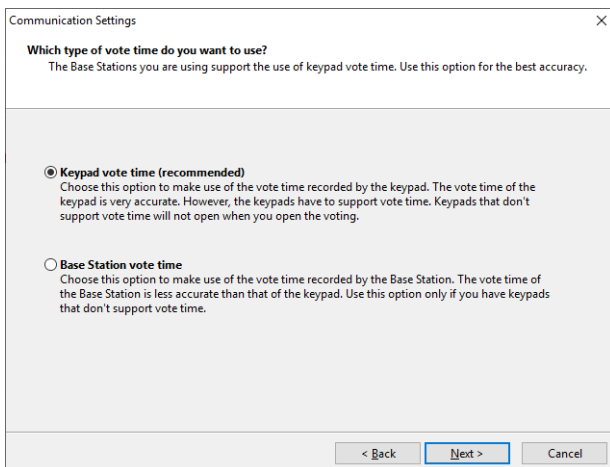
Keypad vote time (recommended) Select this option to use the vote time of the keypad. During the voting, the keypad keeps track of the time from the moment the voting is opened, until the moment a key is pressed. This vote time is very accurate. However, the keypads have to support the vote time. If you choose this option while your keypads do not support the vote time, they will not open when you open the voting. Keypads with a software version 3.25 or higher support the vote time. You can check the version number by testing the network (see also "Testing the network" on page 144). Keypads with software version 3.25 or higher will show their version in the display. Keypads that do not show a version in the display have a software version that is at least lower than 3.25.

Base Station vote time Select this option if you don't want to use the vote time of the keypads, but instead want to use the vote time of the Base Station. This vote time is less accurate than that of the keypad. Only choose this option if you are using keypads that do not support the vote time.

If your Base Station has a software version lower than 5.12, this step is automatically skipped. You can still make use of the vote time. In that case the vote time of the Base Station will be used.

After you have indicated which voting time you want to use, click the **Next** button to continue.

Select the option *Keypad vote time (recommended)* and click on **Next** to continue.

Storing the configuration

Now that the Base Station has been set up and initialized, you can store this configuration. Every time you start IVS-Professional, it will try to initialize the Base Station with these same settings.

You can have
IVS-Profes-
sional auto-
matically ini-
tialize the
Base Station
when starting
the program

Communication Settings　　　　　　　　　　　　　　　　　　　　✕

Would you like to store this configuration?
You can store this configuration so that the next time you start IVS-Professional, this same configuration is
automatically initialized.

◉ **Yes, store this configuration**
Choose this option if you want to store the currently attached clusters and automatically initialize
them the next time IVS-Professional is started.

○ **No, I want to select a different configuration next time**
Choose this option if you do no plan on using the same configuration next time you start
IVS-Professional. IVS-Professional will not try to automatically initialize any attached clusters.

　　　　　　　　　　　　　　　　[< _B_ack]　[_F_inish]　[Cancel]

Yes, store this configuration If you start IVS-Professional, it tries to initialize the Base Station on the same serial port and with the same channel you just configured.

No, I want to select a different configuration next time When you select this option, IVS-Professional does not try to initialize the cluster during startup. Select this option if you often use IVS-Professional without any Base Stations connected, for example, when you are only preparing scripts.

After having selected the desired option, click the **Finish** button to finish the setup of the Base Station.

Choose the option *Yes, store this configuration* and click **Finish** to finish the set up.

Initializing the keypads

After the Base Station has been set up and initialized, you have to initialize the keypads. During initialization, all available keypads will report themselves to the Base Station. The Base Station numbers the keypads and sets them to the same channel the Base Station was set.

If you are using RF-II keypads, you can see when a keypad is initialized. In that case, you can see the IVS® logo in the LCD screen. When using RF-I keypads or Lite keypads you cannot see whether a keypad is initialized or not.

To initialize the keypads select ***Initialize all keypads*** from the ***Communication*** menu.

Choose the option *Initialize all keypads* from the *Communication* menu.

RF-II Base Station [COM3] - Initializing

Keypad information

Mode: RF-II
Present: 0

Stop
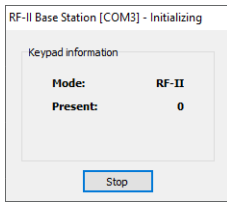
During initialization of the keypads the *Initialization* dialog is shown. It shows in which mode the Base Station is currently operating and the number of keypads already initialized by the Base Station. When the number of keypads changes, it will be displayed in red. If it stays the same for more than a second, it is displayed in blue. When the number of keypads has reached the maximum license, it is displayed in purple.

If you use RF-I keypads, you have to take them out of the charging case before they can be initialized. As soon as a keypad has been initialized, you will see that the counter in the initialization window is increased by one.

If you use RF-II keypads, you have to take them out of the charging case before they can be initialized. As soon as a keypad has been initialized, you will see that the IVS®-logo appears in the LCD screen. In the initialization window you will see that the counter is increased by one.

When using Lite keypads, you first have to switch them on before they can be initialized. You can switch on a Lite keypad by pressing a random key. The key you pressed appears in the LCD screen. The keypad will then try to find a Base Station. If it finds a Base Station, the red LED lights. The keypad then waits until the Base Station confirms that it has found a keypad. When the keypad receives this confirmation, the green LED lights shortly and the number disappears from the LCD screen. The keypad has now been successfully initialized and the counter in the initialization window is increased by one.

If you are initializing keypads and the number stops at 30, even though you took more keypads from of the case, check whether you connected your keylock. Also see "The keylock" on page 132.

Take all keypads that you want to initialize out of the charging case. Wait until all keypads show the IVS®-logo on the LCD screen. Also check the initialization dialog to see if the number of initialized keypads matches the number of keypads that you took out of the charging cases.

When all keypads are initialized, you can click on the **Stop** button in the initialization dialog to stop the initialization of the keypads.

Click on **Stop** to stop initializing the keypads.

Saving a list with initialized keypads

When all keypads have been initialized, the Base Station maintains a list of the keypads it initialized. This list is also stored on your computer by default. In the unlikely event that the Base Station would get disconnected from the mains, this list can be restored in the Base Station. This prevents you from having to put all keypads back in the charging cases and having to initialize them again.

You can also save the list of keypads yourself, allowing you to choose a file name and a location where you want to save the list. This can be useful if you want to take the list to another computer. To save the list, select **Save initialized keypads** in the **Communication** menu.

The standard dialog box for saving files appears. You can enter the name of the list in here.
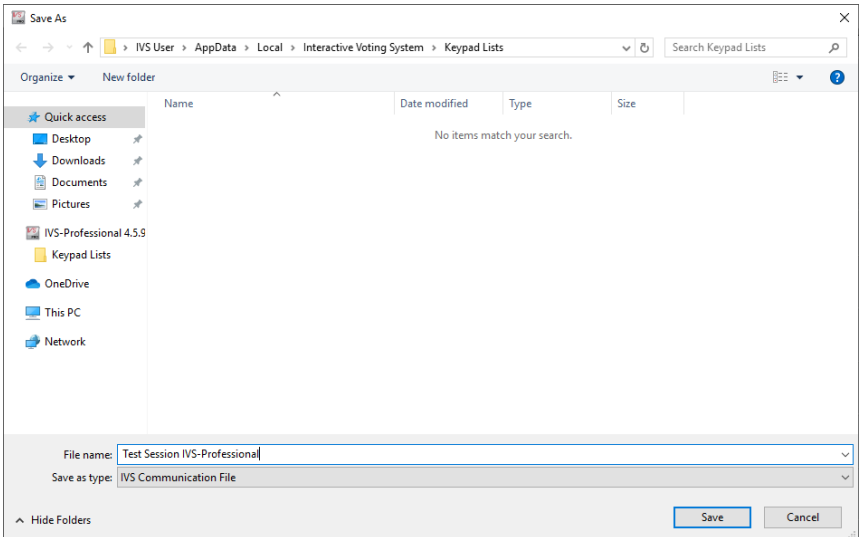
After you have entered a name, you click on **Save** to save the list.

Enter the name of the list: "Test session IVS-Professional" and click on the **Save** button to save the list.

Testing the network

After initializing the keypads and saving the list of initialized keypads, you can test the RF-I and RF-II keypads. During this test the Base Station continuously sends messages to the keypads. The keypads show that they receive the messages by alternately lighting their red and green LED respectively. Because Lite keypads are switched off by default, and are only switched on when a key is pressed, they cannot be tested.

After saving the list with initialized keypads, you are asked whether you want to test the network. If you only use Lite keypads, this question is skipped, because Lite keypads cannot be tested.
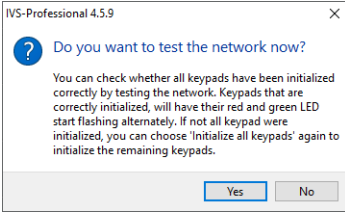
Always respond **Yes** to this question to see if the keypads function correctly.

Click on **Yes** to test the network of keypad.
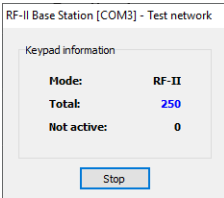
While testing the keypads, the *Test network* dialog is displayed. It shows the mode the Base Station is currently operating in, how many keypads have been initialized by the Base Station and how many keypads do not respond to messages from the Base Station.

Click on the **Stop** button in the *Test network* dialog to stop testing the network.

Click on the **Stop** button to end testing the network.

The keypads are now ready to vote.

Voting

The script together with the initialized voting network offers the possibility to vote. The script you already made can be used to start a presentation. During the presentation, the script will be displayed full screen. You can project this presentation in the hall, so that your audience can read the question and answers on screen and can see the results immediately after voting.

A script can be used several times for a presentation. This is why a session is started for each presentation. All results of the keypads are stored during a session. If you have the same presentation again, you simply start a new session. By doing so, the new results will be stored without losing the previous results.

After having given all presentations, you can easily review the results. By opening a session, the results of this session are displayed again. You can also cross and compare results just like during a real-time session.

Starting a presentation

You start a presentation by choosing the **Start presentation** option from the **Voting** menu. Alternatively, you can press ⌨ on keyboard.

Press ⌨ to start the presentation.

When you start a presentation, you must also immediately start a session. Only when a session has been started, or when no Base Station is connected, is the presentation screen immediately displayed.

Starting a session

You can give a name to each session you start. If you want to reopen a session, for example to have a look at the results again, or print the results, this helps you to find the session you want to open.

When you start a session, a dialog box appears where you can enter the description for this session. If you have set at least one question to be identified, you must also select a list of participants. The session can only be started if you select a valid participant list.
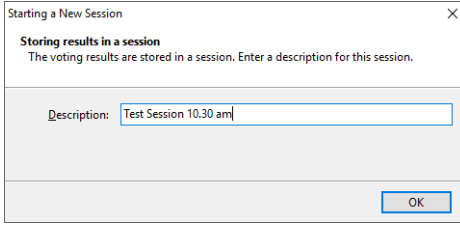
If you have to select a list of participants, the last one you used is automatically indicated. It is very easy to use this one again. But if you want to use another list of participants, then you can choose one from the list, that displays the ten last used lists of participants. If you want to use a list of participants that is not displayed in the list, you can click on the **Browse** button ([...]). The standard dialog box for opening files appears, in which you select the list of participants you want to use.

After having entered a description and, when necessary, after having selected a list of participants, you click on **OK** to start the session.

Enter the description for this session: "Test Session 10.30 am" and click on **OK** to start the session.

The presentation screen

After starting the session, the script will be displayed in the presentation screen.

The slide is displayed full screen. Because there is a toolbar at the bottom of the screen, there is a black bar on each side of the slide. If you don't want these bars to be displayed, you can enlarge the slide. However, part of the slide will be hidden behind the toolbar.

To enlarge the slide, you press ⌨Shift + F6 on the keyboard. Press ⌨Shift + F6 again to display the slide full screen again.

By enlarging the slide, the black bars disappear, but the bottom part of the slide is hidden behind the toolbar

1. Which of the following sports is not recognized as an official Olympic sport?

IVS®

1) Greek/Roman Wrestling

2) Archery

3) Beachvolleyball

4) Darts

5) Taekwondo

6) Tennis

To show the part of the slide that disappears behind the toolbar, you can hide the toolbar. But then you won't be able to see any status information of the voting network.

To hide the toolbar, press `F10`. By pressing `F10` again, the toolbar will be displayed again.

Showing the presentation screen on a different monitor

The presentation screen is normally shown on the same monitor as the edit screen. During a presentation, it is not possible to edit the script anymore. When your computer supports the use of multiple monitors, you can show the presentation screen on a different monitor. When using a laptop, you can for example send the presentation screen to the beamer, while keeping the edit screen on your laptop monitor.

When the presentation screen is shown on a different monitor, there is no need to display the status bar in the presentation screen. You can keep an eye on the progress of the voting by looking at the status bar in the edit screen. In this status bar you can also see that there is an active presentation. This is indicated by the 'PRES' indicator.

You can set up on which monitor you want to show the presentation screen in the preferences of IVS-Professional. You open the preferences by selecting the **Preferences** option from the **File** menu. For more information, see "Preferences" on page 231.

Locking the presentation screen

When the presentation screen is shown on a different monitor, you can still use the edit screen for some last minute changes that become immediately visible in the presentation screen. If you don't want these changes to be immediately visible, for example if you want to momentarily go to another slide, you can temporarily lock the presentation screen. As long as the presentation screen is locked, it will display the same image even if you use the edit screen to go to a different slide.

You can lock the presentation screen by choosing the ***Lock presentation screen*** option from the ***Voting*** menu, or by pressing ⌨ on the keyboard. You can see whether the presentation screen has been locked or not by means of the 'LOCK' indicator in the status bar of the edit screen. By pressing ⌨ again, the presentation screen is unlocked. The slide that is currently displayed in the edit screen will also be displayed in the presentation screen.

Opening the voting

You can now vote on this question. To do this, you need to open the voting. By opening the voting, the proper keys on the keypad are activated.

When you are using RF-I or RF-II keypads, after opening the voting the green LED lights. By pressing one of the keys, a vote is given. The red LED lights shortly, after which both LEDs are switched off. When both LEDs are off, the vote has been sent to the Base Station.

The Lite keypads do not indicate that the voting has been opened. You can always press any key on the keypad, after which the keypad displays this key in the LCD screen. However, if no voting has been opened, the key pressed will almost immediately disappear from the LCD screen.

If the voting has been opened, you can press any key on the keypad. If you press an invalid key – you press the 6 while there are only five answers, for example – the key pressed is displayed in the LCD screen and almost immediately disappears again. If you press a valid key, the keypad will try to find a Lite Base Station and the red LED lights when a Base Station was found. The keypad then waits until the vote is accepted by the software. If the vote is accepted, the green LED will light shortly and the vote disappears from the LCD screen. If the vote is not accepted – for example, when this keypad votes for the second time, while only one vote was allowed – the red LED will be switched off without the green LED lighting shortly.

To open the voting, press ⌨ or click the **Open voting** (🔲) button in the toolbar. You can see that the voting has been opened, because the status in the toolbar now says "Opened" instead of "Stand-by". Besides, the green LED in the toolbar is turned on.

The keypad status is also shown in the toolbar. The "I:" indicates the number of initialized keypads. The "A:" indicates the number of keypads, that were active at the moment the voting was opened. The "K:" indicates the number of keypads that have voted, while the "V:" indicates the number of votes that were received so far.

If the question uses identified voting and you provided your participants with a voting weight, the "W:" indicates the total weight of the votes received so far.

You determine which information is displayed in the status bar. If you right click on the information in the status bar, you can select which information you want to see and which information you don't want to see. By default, all information is displayed except for the number of voted keypads.

Press on ▣ to open the voting. On all initialized keypads, the green LED is turned on. Press a key on each keypad. Only use the keys 1 to 6.

Closing the voting

When all votes have been received, you can close the voting. On all RF-I and RF-II keypads that haven't voted yet, the green LED is turned off and the keypads do not respond to a key press anymore. After closing the voting, the results are displayed in the result diagram.

Press ▣ or click the **Close voting** (▣) button on the toolbar to close the voting. The toolbar now shows "Closing" while the voting is being closed, after which "Stand-by" appears again. The results of the voting are displayed in the result diagram.

Press on ▣ to close the voting.

You can vote all the other questions in the same way. Press on ▣ or ▤ to go to the next slide or click on the **Next slide** button (▶) in the toolbar. Open the voting by pressing ▣ and close it again by pressing ▣ .

Press on ▤ to go to the next slide. Press on ▣ to open the voting. Vote a few times for this question and press ▣ to close the voting. Repeat this for each slide until you reach question 8.

Voting on a question more than once

With most of the questions it will only be possible to make one choice out of the available answer options. If the voting has been opened, the green LED on the RF-I and RF-II keypads lights. After giving a vote, the red LED lights shortly, after which both LEDs are switched off. It is not possible to vote anymore.

On the Lite keypads, the red LED lights after giving a vote. After the vote has been confirmed by the Base Station, the green LED lights shortly, after which both LEDs are switched off. You can still press any key, and the red LED still lights, but the green LED will not light anymore.

On a question that can be voted on more than once, you see that on the RF-I and RF-II keypads the green LED lights again, after the red LED was lit shortly. A second vote can now be given. Again, the red LED lights shortly. Only after the last vote has been given for this question, will both LEDs be switched off.

On the Lite keypads, both LEDs are switched off after the green LED was lit shortly. A second vote can now be given. Again, the red LED lights and after the vote has been confirmed by the Base Station, the green LED lights shortly. After the last vote has been given for this question, it is still possible to press any key, and the red LED still lights, but the green LED will not light anymore.

Press on ⌨ to open the voting. Vote three times on each keypad. Then, press ⌨ to close the voting. Press ⌨ to go to the next slide, where the results are displayed.

Crossing and comparing in the presentation screen

You can also cross and compare results in the presentation screen. The control, however, is a bit different from the control in the edit screen. Because the presentation screen is also shown on the big screen, no dialog boxes will appear on the screen. All information that needs to be entered to cross or compare is entered in the toolbar at the bottom of the screen. If this toolbar was hidden, it will automatically appear when something needs to be entered.

However, if you show the presentation screen on a different monitor than the edit screen, all input will be entered the normal way in the edit screen.

Crossing with a reference question

Crossing a question with a reference question is very easy in the presentation screen. Press [Alt] + [!1] to cross the current question with the first reference question. Press [Alt] + [@2] to cross the current question with the second reference question, etc.

Go to slide 4. Press [Alt] + [!1] to cross this question with the first reference question.

A crossing performed in the presentation screen
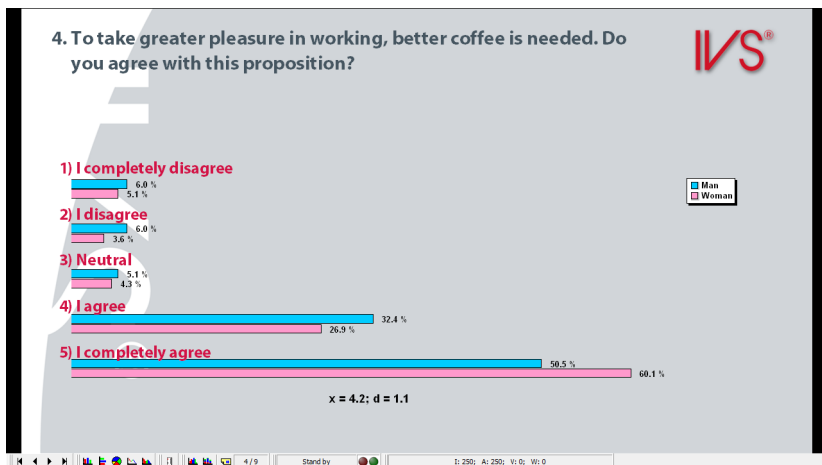
For more information about crossing with a reference question see "Crossing with a simple reference question" on page 82.

Crossing with a normal question

Even when a question is not set to be a reference question, you can still cross with it. Click on the *Cross* (🔤) button in the toolbar or press ⌨ + G to perform a crossing. An edit box is activated in the toolbar. In the edit box you have to enter the question number with which you want to cross. Enter the question number and press ⏎, after which the crossing will be shown.

If you would like to select a question from a list of available questions, press ⌨ + G to perform a crossing. Enter a 0 in the edit box and press ⏎. A dialog box appears from which you can choose a question to cross with.

For more information about reference question, see "Asking a reference question" on page 69. For more information about crossing with a reference question, see "Crossing with a simple reference question" on page 82.

Splitting a crossing

You can split a crossed question in the presentation screen using the keys ⌨ + 1 to ⌨ + 9 . Use ⌨ + 1 to only show the results of the first reference. Use ⌨ + 2 to only show the results of the second reference, etc.

When you have more than nine references, use ⌨ + U to split. Next, you enter the number of the reference and press ⏎.

You can undo a split, by pressing ⌨ + 0. The original crossing will be shown again.

For more information about splitting a crossing, see "Splitting a crossed question" on page 87.

Comparing questions

To compare the current question with another question, you click on the **Compare** (🔤) button in the toolbar, or press on ⌨ + M. The edit box in the toolbar is activated. Enter the question number of the question you want to compare with. Next, press ⏎ to compare the current question with the other question.

By entering a 0 instead of a question number, a list with available question is shown. From this list, you can choose a question to compare with.

For more information about comparing questions, see "Comparing questions" on page 95.

Showing different choices

A question that was voted more than once can also be split, so that you can show the results of the first choice, the second choice, etc.

To show the results of the first choice, you press ⌘ + 1. To show the results of the second choice, you press ⌘ + 2, etc. If you have a question that could be voted more than nine times, then you use ⌘ + U to split that question. In the edit box in the toolbar, you enter the number of the split. Next, you press Return to show the split.

You can undo the split, by pressing ⌘ + 0. The total results of this question are displayed again.

For more information about questions that can be voted more than once, see "Voting a question more than once" on page 104.

Ending the presentation

When all questions are voted, you can end the presentation. Immediately after the presentation you can print the results. You can also export the results to use them in other software applications.

Back to the edit screen

After ending the presentation, you return from the presentation screen to the edit screen. In the editing screen, you can print the script or export the results. Press [Esc] to return from the presentation screen to the edit screen.

Press [Esc] to return to the edit screen.

Back in the edit screen where the results of the voting are still visible
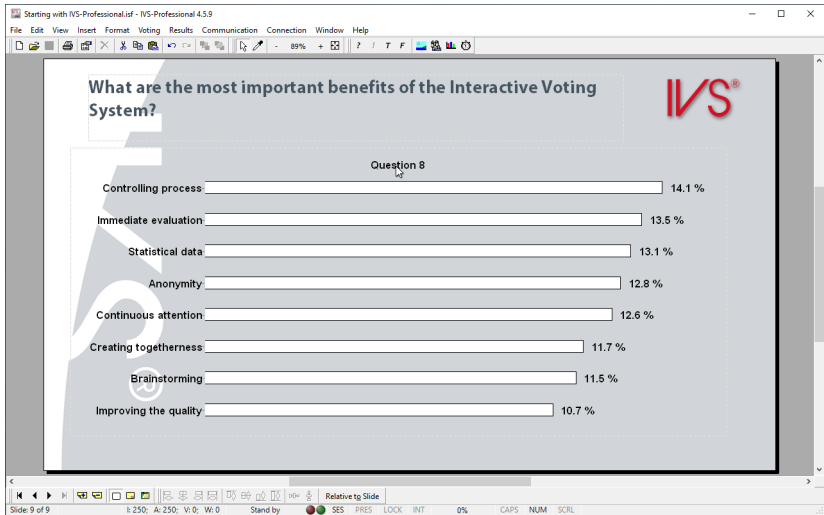
In the edit screen the results of the voting are visible too. When you return from the presentation screen to the edit screen, the session in which the results are stored, is still open.

Printing a script layout with results

In the edit screen, you can print a script overview, including the results that were just voted. To do this, you choose the option *Print* from the *File* menu. A dialog box appears in which you select what you want to print and how you want it to be printed.

Choose the option *Print* from the *File* menu.

| Print | ? | × |

Slides

From slide:

| 1. | ∨ |

To slide:

| 9. | ∨ |

Cross

☐ Cross all slides with question:

| 1. Which of the following sports is not recognized as ar | ∨ |

Print

Print as type:

| Script layout | ∨ |

| Settings... | | OK | Cancel |
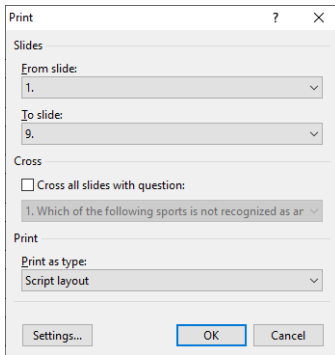
Select the slides you want to print and choose *Script layout* as print type. Click on **OK** to print the script.

Click on **OK** to print all questions including the answers and the results.

For more information about printing a script layout, see "Printing a script overview" on page 119.

Printing a handout with results

Printing a handout with results is done in the same way. You choose the option ***Print*** from the ***File*** menu. In the *Print* dialog box you can select which slides have to be printed. Choose *Handout* as print type.

Select the option **Cross all slides with question** to make a hand-out in which all questions are crossed. Choose a question from the list below with which you want all other question to be crossed, for example the question "Are you man or woman".

Select the option *Print* from the *File* menu. Select *Handout* as print type. Select the option *Cross all slides with question*. In the list of questions, select question "2. Are you…". Click on **OK** to print the handout.
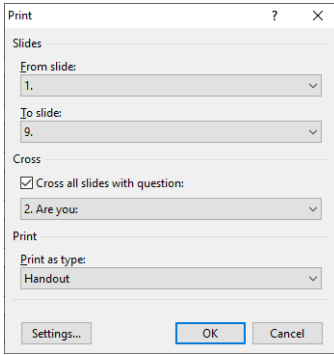
A dialog box appears where you can choose how many slides you want to print on one page.

Choose the option *4 slides* and click on **OK** to print the handout.

For more information about printing a handout, see "Printing a handout" on page 120.

Exporting individual results

To edit results in other application like Microsoft® Excel™, you can export the results. Choose the option **Export** from the **File** menu to export the results.

Choose the option **Export** from the **File** menu.

A dialog box for exporting results appears.
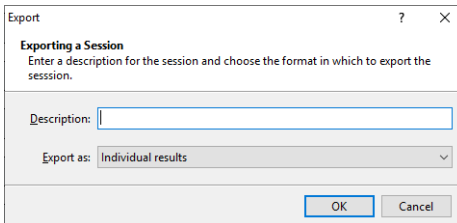
In this dialog box, you can enter a description for the results that you are about to export. You can also select in which format you want to export the results. The *Individual results* type only exports the results of each individual keypad.

After having entered a description and selected an export type, you click on **OK** to export the results.

Enter the description "Export individual results", choose *Individual results* as export type and click on **OK**.

A new dialog box appears in which you can change the export options.

Score options

Not only the individual results per keypad, but also a score per participant can be exported. This allows you to see which of the participants got the most points.

Minimal and maximal score

To only export the participants that have a certain score, or that stayed below a certain maximum score, you can indicate a minimal and/or maximal score. Only the participants below a certain minimum or above a certain maximum or in between a minimum and maximum score are exported.

Export only participants with a total score that is less than x points Choose this option if you want to export only those participants that stayed below a certain maximum score. You fill in a maximum score and only those participants that stay below this score will be exported.

Lies between x and y points Choose this option if you want to export only those participants that stayed between a certain minimum and maximum score. You fill in a minimum and maximum score. Only participants that have more points than the minimal score and less points than the maximum score will be exported. For example, if you fill in a minimal score of 20 points and a maximum score of 25 points, then only participants with 21, 22, 23 or 24 points will be exported.

Is more than x points Choose this option if you want to export only those participants that have at least a certain score. You fill in a minimum score and only those participants that got more points than this minimum score will be exported.

Click on **OK** to continue.

The standard dialog box for saving files appears. Enter the name of the file and choose a location to save the file. The description you have entered when exporting the results is automatically suggested as filename.

After you entered the name and chose a location to export the results to, you click the "Save" button to export the results.

Click **Save** to export the results.

Opening individual results in Microsoft® Excel™

You can now open the exported file in Microsoft® Excel™.

Start Microsoft® Excel™. Click on *File* and choose the *Open* option. Next, click on *Browse*. Choose "Text files" as file type. Choose the location where you saved the exported file. Click **Open** to open the file.

The exported individual results in Microsoft® Excel™

In each row, you see the answers per keypad. The first row shows the question number. Keypad 1 has voted 5, keypad 2 has voted 6, etc.

For questions that can be voted for more than once, the first row shows Question 8-1 for question 8, first time voting, Question 8-2 for question 8, second time voting, etc.

If you indicated this, you will see a score in the last column. This column keeps track of how many points each keypad got.

Closing the network

You can close the network at the end of a session. This requires no special operations. You can close IVS-Professional by choosing *Exit* from the *File* menu or click the small cross at the right upper corner in the window. You unplug the Base Station and put the keypads back in the charging cases. Make sure that the charging cases are connected to the mains, so that the keypads are reset as soon as they are put back.

However, if you are going to use the system for another session, you can leave the network intact. You only have to close this script and open the next one. Now you can continue voting immediately.

Close IVS-Professional by choosing *Exit* from the *File* menu.

Using a script again

After you made a script and used it for a voting session, you can use the same script again. This allows you to use the same presentation for another audience.

You can use the same script, start the same presentation, but create a new session to save the results. By doing so the results of both sessions are saved separately, so that you can also print or export them separately.

It is also possible to compare the results of a question from the first session, with the results of the second session. You could, for example, use the same script for a morning and an afternoon session. During the afternoon session, you can compare the results with those of the morning session.

Opening a script

After starting IVS-Professional the start-up dialog is shown. In this dialog you select whether you want to open a recent script or create a new one.

If you have already created a script with Professional, a list of the ten most recently used scripts is displayed in the start-up dialog.

Start IVS-Professional again.

Start-up dialog box with the last used scripts
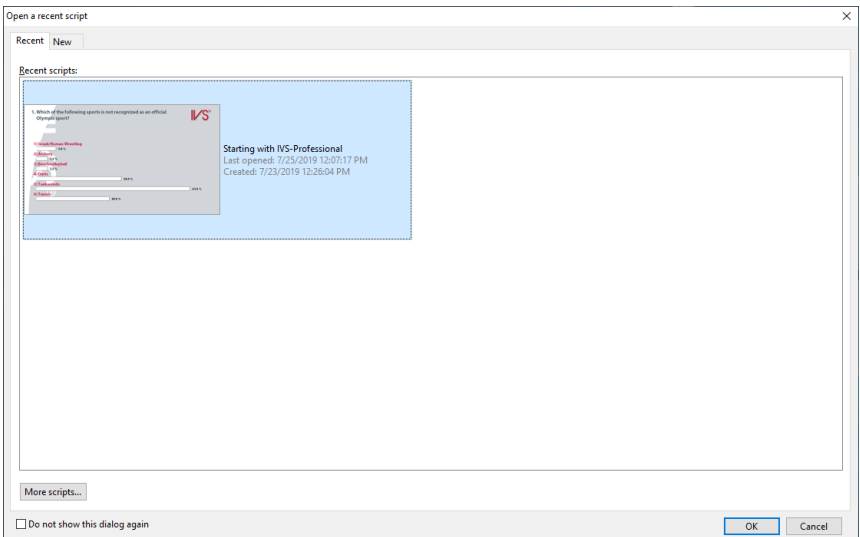
Select the script you want to open and click on **OK**.

When the script that you want to use, is not in the list, you can click **More scripts…**. The standard dialog box for opening files appears, in which you can select a script to open.

Select the script that is displayed in the list and click on **OK** to open it.
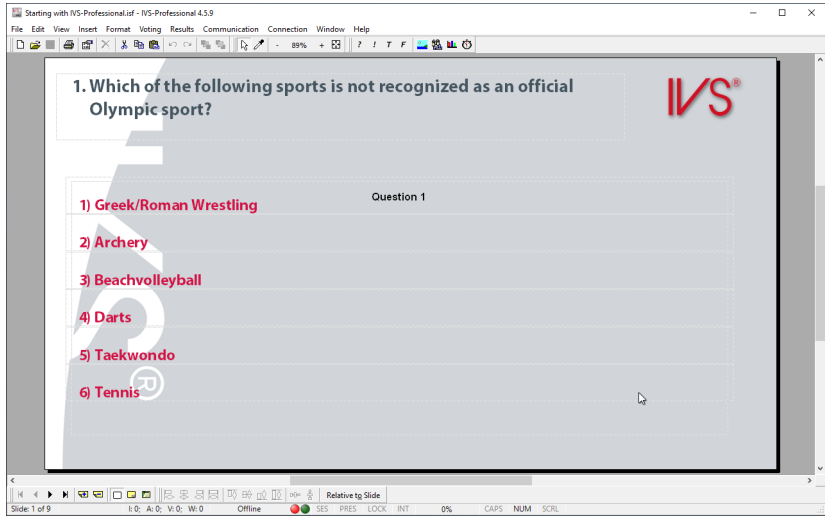
Initializing the Base Station

When the Base Station is still connected to the computer and to the mains, it will be initialized automatically when you start IVS-Professional. In the status bar you will see "Stand-by", indicating that the Base Station is ready for use.

You can check the network by choosing the option *Test network* from the *Communication* menu. When all keypads respond to the network test you can close the test by clicking **Stop** in the *Test network* dialog box. The network is now ready for voting.

When the Base Station is no longer connected to the mains, you have to reconnect it and initialize the Base Station again. Choose the option *Initialize cluster* from the *Communication* menu to initialize your Base Station again.

If this is not the case, connect the Base Station to the mains. Choose *Initialize cluster* from the *Communication* menu.

The dialog box for setting up the communication appears, in which you can initialize the Base Station.
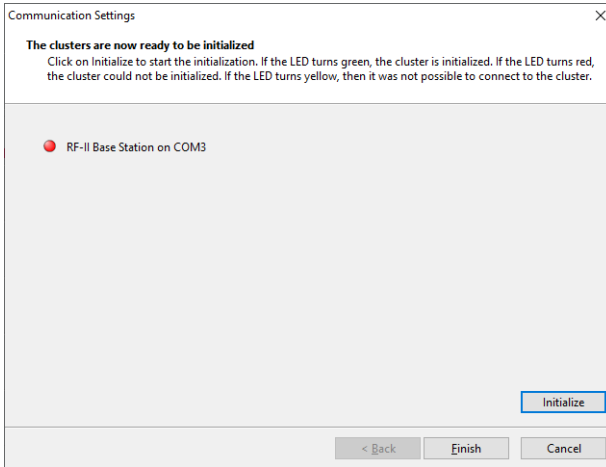
Click the **Initialize** button to initialize the Base Station. After initializing the Base Station correctly, the green LED in the dialog box is turned on. Click on **Finish** to finish initializing the Base Station.

Click **Initialize** to initialize the Base Station. Click **Finish** to finish the initialization of the Base Station.

For more information about initializing the Base Station, see "Communication with the Base Station" on page 134.

Initializing keypads

If you did not put the keypads back in the charging cases, you can use the keypads immediately again for a second session. If you did put them back in the charging cases, you have to initialize the keypads again.

To initialize the keypads, you choose the option *Initialize all keypads* from the *Communication* menu. For more information, see "Initializing keypads" on page 139.

Starting the presentation

After you checked the Base Station and the keypads you can start a presentation again. Choose the option *Start presentation* from the *Voting* menu. You are asked again if you want to start a new session. Respond with **Yes** to this question and enter a description for the second session. The script is now ready and you can vote with it again.

For more information, see "Voting" on page 146.

Using a session again

If you use a script again for another audience, you start a new session.

If your voting session consists of a morning session and an afternoon session, it is possible that you have to close the computer during the break. A part of the questions is answered during the morning session. To keep the results from the morning session and the afternoon session together, you have to put the morning session results back into the script to be able to add the results of the afternoon session.

To add results to an existing session, this session must first be imported. You do this by choosing the *Import* option from the *File* menu. A dialog box appears in which you select the session you want to import.

Choose the *Import* option from the *File* menu.

Dialog box for importing sessions
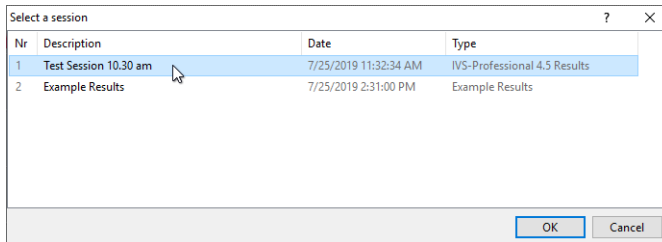
Select the session that you want to continue and click on **OK** to import the session. The results that were already saved in this session will be displayed in the result diagrams. You can press ⊞ Page Down multiple times to go to the slide where you left off. If you happen to know the slide number where you left off, you can also press Shift + Ctrl + G and enter the slide number of the slide where you left off. Finally, you start the presentation by choosing the **Start presentation** option from the **Voting** menu, of by pressing F12.

For the remainder of this manual we will not make use of a previously voted session. Therefore, click on **Cancel** to close this dialog without importing a session.

Modifying an existing script

If you use the same presentation for different audiences on a regular basis, you can use the same script. Every now and then you might want to change a question, add a question or remove one.

By using an existing script, you can easily make a new script by changing existing questions or adding new slides with additional questions.

The slide sorter helps you to copy or move slides very easily. When you move a slide, you can, for example, pose a question at an earlier point than in the original script.

Inserting a new slide

When you use the script, as it is made so far, for a presentation, you immediately start with the first question. You can consider starting with a welcome slide. You could, for example, display this slide when the audience enters the room.
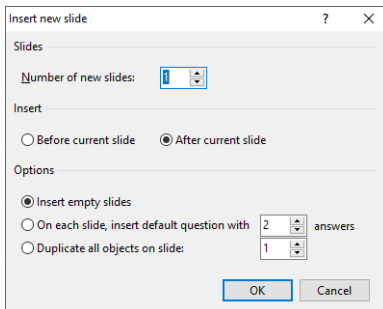
To create a welcome slide at the beginning of the script, you have to make a new slide **before** the current first slide. Go the current first slide and add a new slide by choosing the option *New slide* from the *Insert* menu. Alternatively, you can press [Shift] + [Ctrl] + [N] on the keyboard.

You could also insert a slide by clicking on the **Insert slide** button ( ) in the lower taskbar. However, this inserts an empty new slide **after** the current slide without any questions.

Choose the option *New slide* from the *Insert* menu.

The dialog box for inserting new slides appears.

The dialog box for inserting new slides

Slides

At **Number of new slides** you select how many slides you want to insert. This offers the possibility to insert a number of new slides at once.

Insert

Here you select whether you want the new slides to be inserted before or after the current slide.

Before current slide All new slides are inserted before the current slide. This option allows you to insert slides before the first slide.

After current slide All new slides are inserted after the current slide. This option allows you to insert slides behind the last slide.

Options

When inserting new slides, you can insert standard empty slides. However, it is also possible to insert slides with a question, answers and a result diagram or copy an existing slide.

Insert empty slides This option inserts standard empty slides.

On each slide, insert default question with 2 answers All new slides that you insert contain a question, a number of answers and a result diagram. You select how many answers you want to insert with each question. The maximum number of answers is 20. After inserting the slides you have to enter the question texts and answer texts.

Duplicate all objects on slide 1 This option allows you to duplicate an existing slide a number of times. All objects of the selected slide are automatically duplicated on each new slide.

Enter 1 for the *Number of slides*, select the option *Before current slide* and the option *Insert empty slides*. Click on **OK** to insert the new slide.
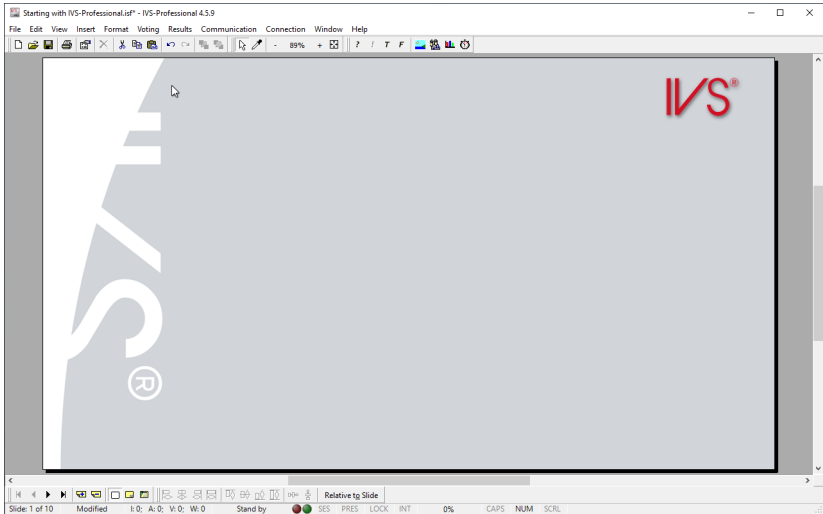
Adding a text

The welcome text for this slide can be inserted as normal text. Choose the option *Text* from the *Insert* menu or press the T on the keyboard.

The dialog box for entering text appears. Enter your welcome text and change the font when desired. Click on **OK** to insert the text.

Press T to insert a text. Enter the text "Welcome to the IVS®" in the dialog box. Choose Arial Black as font with size 48. Center the text. Put the ®-sign in superscript. Click on **OK** to insert the text.

The welcome
text is in-
serted at the
position that
is indicated in
the template
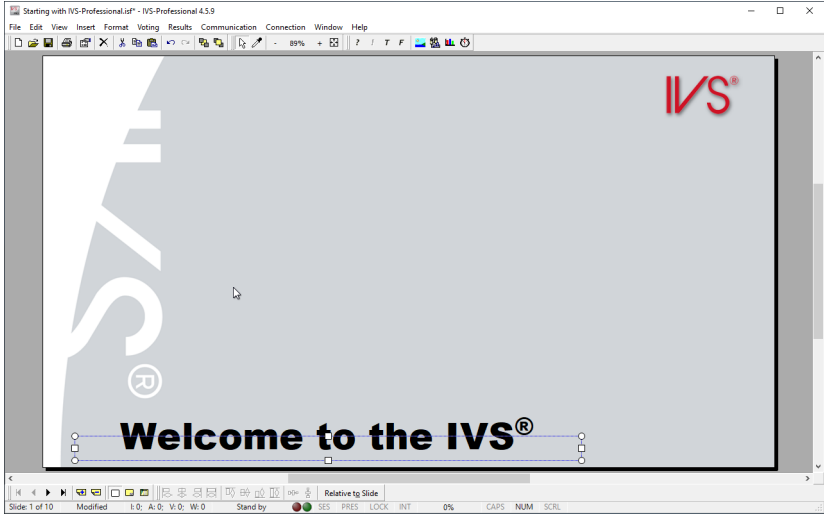
The text appears at the position that is indicated in the template. Because the text box is too small, the text is displayed outside the text box.

Make the top of the text box slightly larger so that the entire text fits into the text box. Move the text box to the center of the slide. Because the automatic object alignment is still enabled, the center of the text box will automatically align with the center of the slide.

The welcome
text in the
middle of the
slide
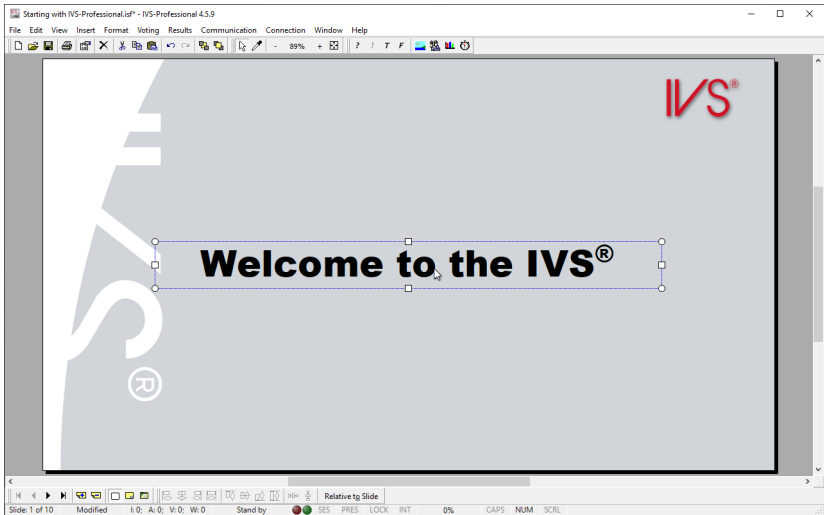
Using another background

A background slide is automatically displayed on each slide. You can put a logo on the background slide that will be repeated on each slide.

You can consider not showing a logo on the title slide. In this case, you can disable the background slide of the title slide.

Go to the properties of the slide to disable the background slide. In the *Properties of slide* dialog, you uncheck the option **Use background slide**.

Click on the slide with the right mouse button and choose the option *Properties*. Uncheck the option *Use background slide* in the *Properties of slide* dialog box. Click on **OK** to apply the changes.

This title slide no longer shows a background slide
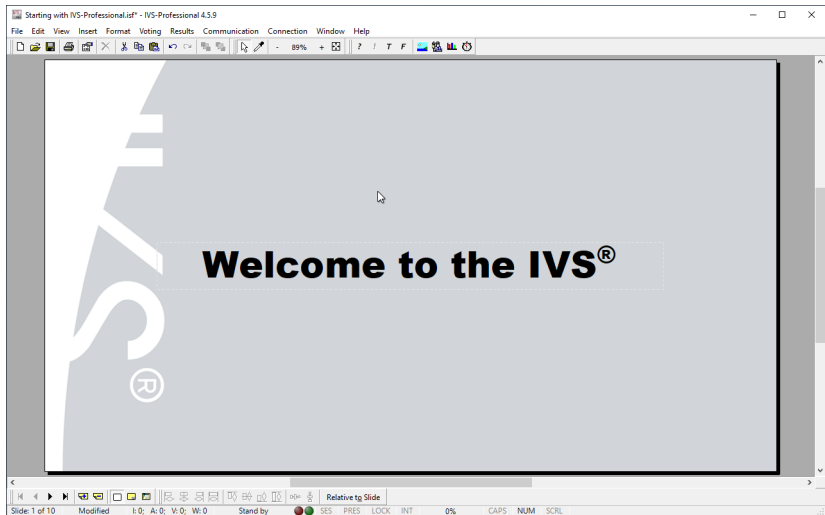
Inserting an image

You can also insert an image to the title slide, for example an image that is related to the subject. To insert an image, choose the option *Image* from the *Insert* menu. In the standard dialog for opening files, you select an image that you want to insert.

Choose the option *Image* from the *Insert* menu. Select the image you want to insert and click on **Open** to insert the image.

In the example below an image in PNG-format was used. This format supports the use of a transparent background.
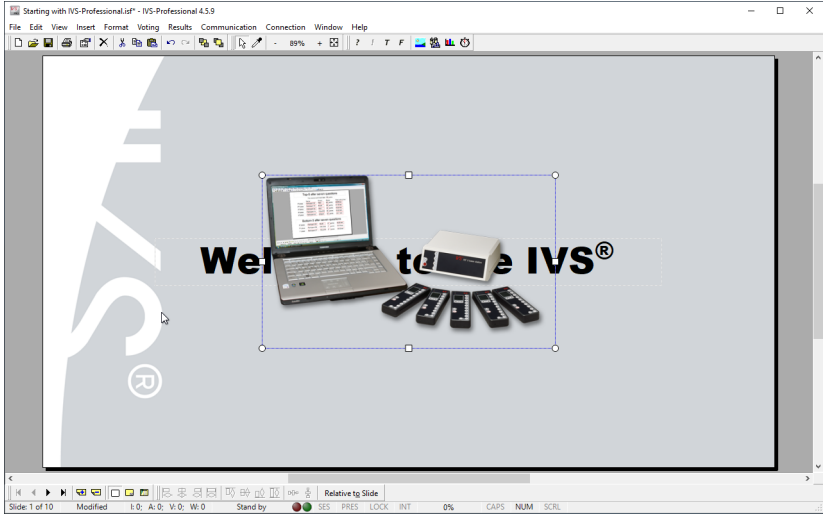
Changing the order of objects

Objects added to a slide are always inserted on top of the slide. This means that they are placed on top of other objects. The image you just added is therefore placed on top of the existing text.

The order of the objects can be changed. You could move the image that was placed on top of the text and send it further to the back, so that the image is displayed behind the text.

Select the object you want to send to the back and choose the option *Order* from the *Edit* menu and then the option *Send further*. Alternatively, you can click on the object with the right mouse button and select the option *Order* and then *Send further* or press Ctrl + Page Down on the keyboard. The selected object will be placed one step further to the back.

Select the image and press Ctrl + Page Down. The image is now behind the text.
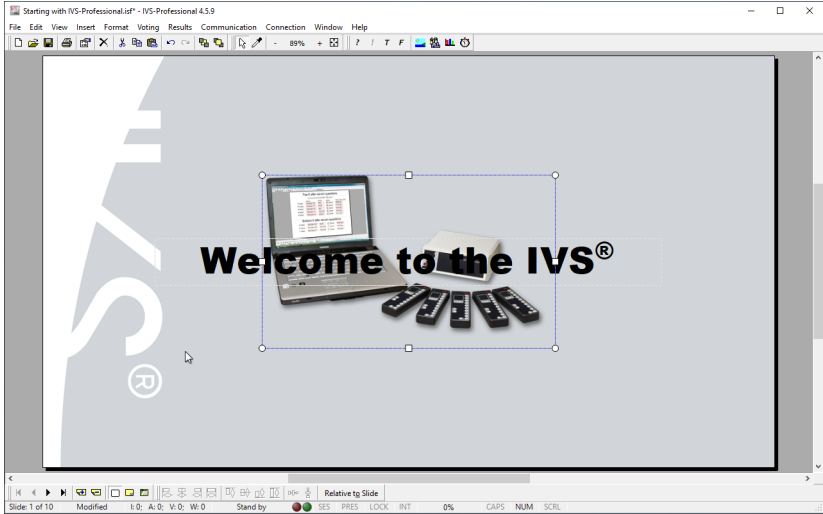
You can bring objects closer to the front in the same way. Choose the option *Order* from the *Edit* menu and then the option *Bring closer*. The option *Bring to front* moves an object immediately to the top of the slide. The option *Send to back* moves an object immediately to the back of the slide.

Simulating a shadow effect

Although the text is now on top of the image, part of the text is not quite readable. This is caused by the fact that the black text disappears against the dark background. You can prevent this by making the text lighter, but then the text might disappear against the mainly light background.

You can solve the problem of the disappearing text by placing a shadow behind the text. Using a lighter shadow behind the text prevents it from disappearing against the dark background.

IVS-Professional does not natively support the possibility to put a shadow behind texts. You can however simulate this shadow effect, by using two texts. You place a second, white text behind the dark text. By moving this text slightly compared to the text on top of it, you create the effect of a shadow behind the text.

Duplicating objects

To make sure that the texts are exactly the same, you'd better duplicate the text. By duplicating an object, you make an exact copy of it. This copy is immediately inserted in the same slide as the original. The same effect can be achieved by first copying the object by choosing the option *Copy* from the *Edit* menu, and then pasting the object by choosing the option *Paste* from the *Edit* menu.

Duplicating an object offers an extra option that normal copying and pasting does not. The duplicate can be inserted at a certain offset compared to the original. The offset can be set up using the preferences. For more information see "Preferences" on page 231.

Go to the preferences by choosing the *Preferences* option from the *File* menu. On the *Edit* tab, set both the horizontal and vertical placement to 2 pixels.

Select the object you want to duplicate and choose the option **Duplicate** from the **Edit** menu. Alternatively, you can press the Shift + Ctrl + D keys on the keyboard. A copy of the selected object is inserted.

Select the text and choose the option *Duplicate* from the *Edit* menu.

The text has been duplicated and the duplicate has been moved slightly compared to the original
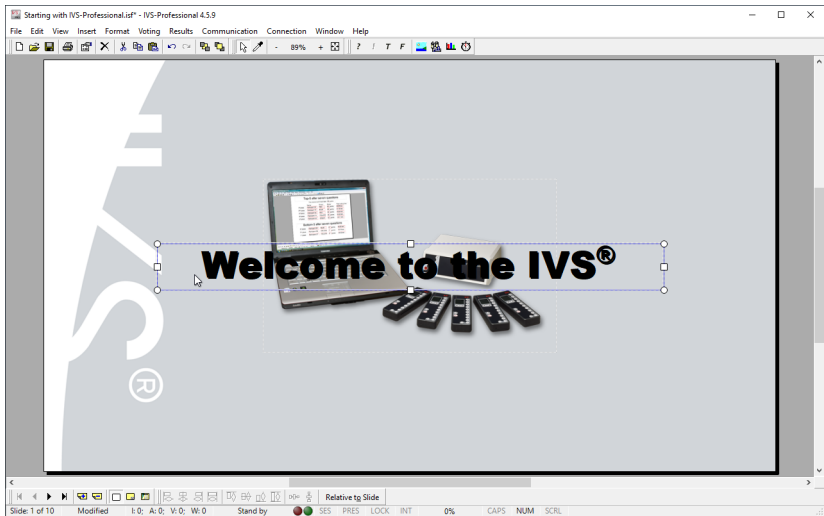
The selected text object was duplicated and the duplicate was moved slightly compared to the original, like indicated in the preferences. For achieving the shadow effect, the text color of the second text has to be changed.

Double-click on the text object on top. Set the text color to white.

The text color
of the text
object on top
has been
changed
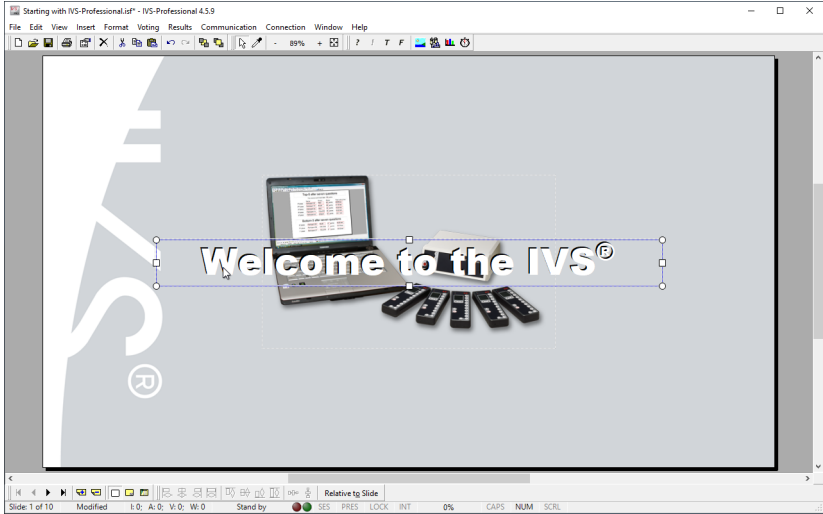
Because the white text is still on top of the black text, the effect of the shadow is just the other way around as the desired effect. We wanted to have a dark text with a lighter shadow. The white text has to be moved to the back so that it appears behind the black text. This can be done by changing the order of the objects, moving the white text one step to the back.

Select the white text on top. Press Ctrl + Page Down to move the text one step to the back.
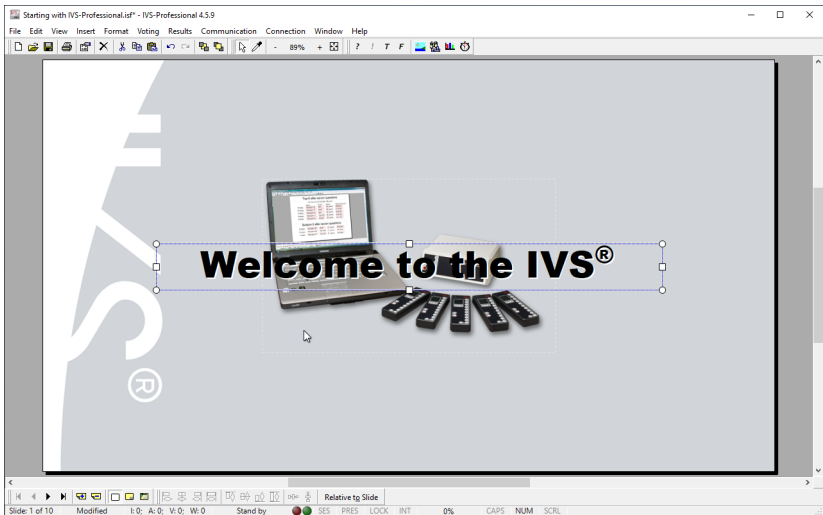
The effect of the white text as a shadow behind the black text is still not very convincing. The effect can be enhanced by moving the white text slightly more compared to the black text.

Zooming in on the slide

The white text has to be selected before it can be moved. But because the textbox is so close to the textbox of the black text, selecting it is a precision work. You will have to very precisely click on the lower protruding edge of the textbox to select it.

As an aid in selecting, you can zoom in on the slide. This allows you to very accurately operate in a small working area. You can zoom in by adjusting the zoom percentage in the upper toolbar. If you have a wheel mouse, you can also zoom in on the slide by pressing the ⌨ key and rolling the wheel upwards.

To set the zoom percentage, click on the zoom percentage in the toolbar. A window for zooming in and out appears.

You can change the zoom percentage by selecting one of the standard percentages, or by entering a percentage yourself. If you select the **Fit** option, the zoom percentage will adjust automatically so that the slide always fits exactly in the available space.

Click on the zoom percentage in the toolbar. Set the zoom percentage of the slide to 300%.
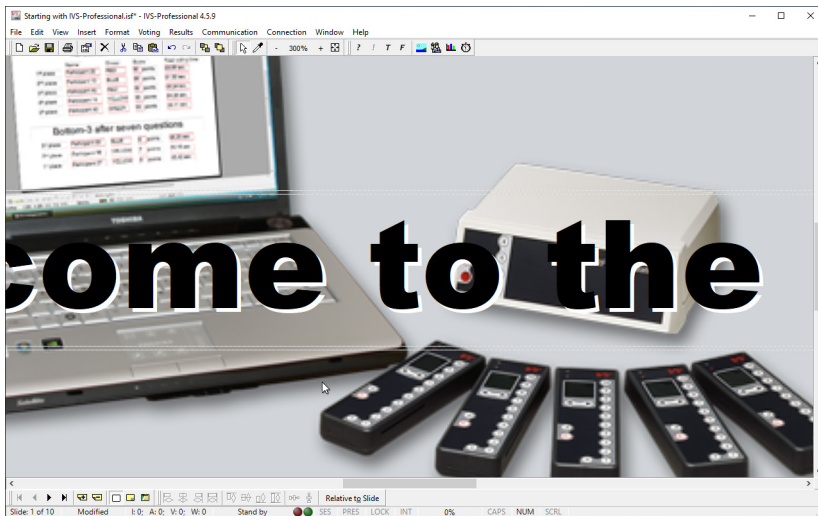
Use the scroll bars on the right and at the bottom of the slide to adjust the position of the slide on the screen, when the wrong part of the slide is displayed. You can also use the wheel of your wheel mouse to scroll the slide up or down. Keep the [Shift] key depressed while turning the wheel to scroll the slide to the left or to the right.

You display the entire slide by setting the zoom percentage to 'Automatic'. The zoom percentage is then automatically adjusted so that the entire slide is visible. The real zoom percentage is displayed in the toolbar.

You can set the zoom percentage to 'Fit' by clicking the Adjust button (⊞) in the toolbar. Alternatively, you can select the **Fit to window** option in the **View** menu or press [Alt] + [Home] on the keyboard.

Set the zoom percentage to 'Automatic' by pressing [Alt] + [Home] on the keyboard.

Selecting underlying objects

Zooming in on the slide allows you to position objects more accurately and navigate more accurately to select closely spaced objects.

If two objects are on top of each other, it can be difficult to select the lower object if both objects are fairly close together, or even impossible if the upper object completely covers the lower object.

To still be able to select the lower object, you can use the click through objects method. By clicking on a selected object while holding down the [Ctrl] key, you can click through the object, so that you click on the object below it. This allows you to still select the underlying object, even if it is completely covered by the object above.

The textbox with the white text has to be moved slightly to make the text clearer. Use the arrow keys in combination with the [Shift] key to move the text box two pixels to the right and one pixel down.

Keep the [Shift] key depressed and press the right cursor key twice and the down cursor key once to move the textbox two small steps to the right and one small step downwards.

The white text was moved slightly so that it is better visible
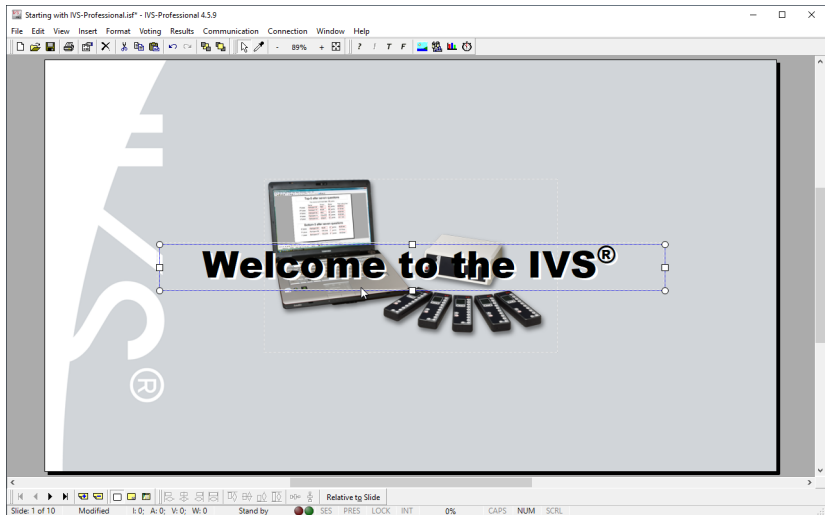
Saving the script under another name

To save the adjustments you just made to an existing script, you can save the original script again. This results in the original script being lost. To prevent this, you can save the adjusted script under another name.

Choose the option *Save as* from the *File* menu to save the script under another name. Enter a new name for the script in the standard dialog box for saving files. Click the **Save** button to save the script with another name.

Choose the option *Save as* from the *File* menu. Enter the new name for the script "Continuing with IVS-Professional". Click **Save** to save the script under the new name.

The slide sorter

The slide sorter shows an overview of all slides in the script. The slides are displayed as miniatures, so that a number of slides can be displayed on the screen at the same time. This allows you to find a slide very easily. You can also delete, copy or move slides in the slide sorter.

Starting the slide sorter

To start the slide sorter, you choose the option **Slide sorter** from the **View** menu. The large slide disappears and the miniatures are built. Building all miniatures may take several minutes, especially when you have a lot of slides in your script or when you use a lot of images. You can cancel building the miniatures by pressing the ⎋ key.

> Choose the option *Slide sorter* from the *View* menu. Wait until all miniatures are built.

All slides that are made so far are displayed as miniatures in the slide sorter
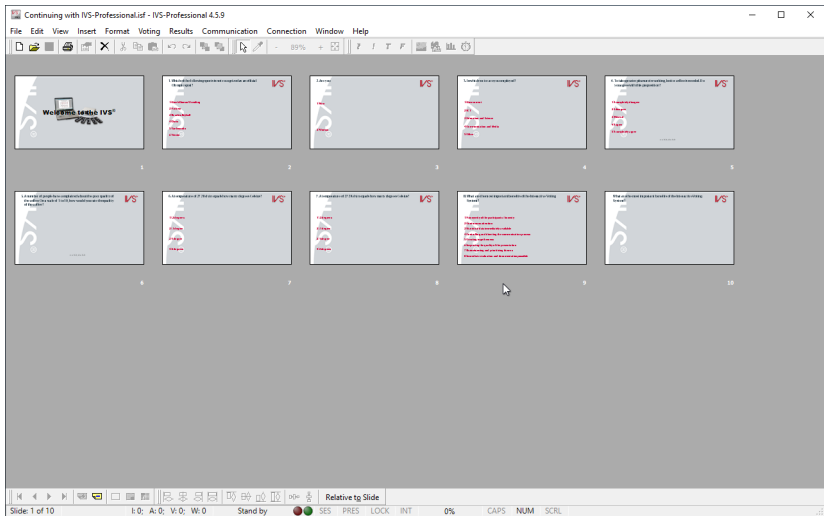
Copying slides

In the slide sorter you can select and copy several slides at the same time, after which you can paste them to add copies of the originals to your script.

You have to select slides before you can copy them. You select one single slide by clicking on it with the left mouse button. A selected slide is indicated with a blue border. By clicking on another slide with the left mouse button, you select that slide. If you want to select more slides at a time, press the ⎇ key while clicking the second slide.
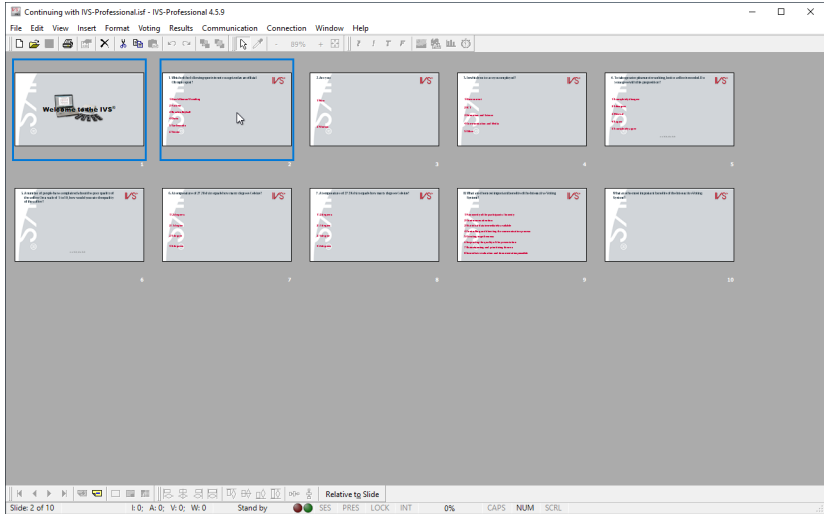
To copy the selected slides, you choose the option *Copy* from the *Edit* menu. Alternatively, you can click on one of the slides with the right mouse button and choose the option *Copy* or you press ☐Ctrl + ☐C on the keyboard.

Pasting copied slides

After you copied the selected slides you can paste them somewhere else. The new slides will either be pasted after the selected slide or, when more slides are selected, after the last selected slide.

You first have to determine the position where you want to past the new slides by selecting the slide before that position. For example, if you want to paste the slides after the last slide, then you have to select the last slide.

To past copied slides, you choose the option *Paste* from the *Edit* menu. Alternatively, you can click the selected slide with the right mouse button and choose the option *Paste* or press ☐Ctrl + ☐V on the keyboard.
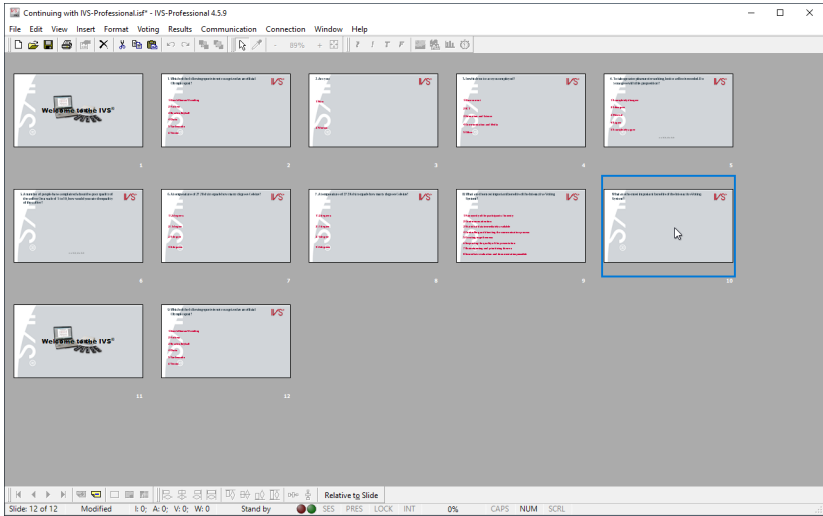
Moving slides

You can easily move slides in the slide sorter. First select the slide you want to move. Next, drag the slide to its new position. During dragging, the new position of the slide is indicated with a red border. When you release the left mouse button, the slide is moved. If you move the slide further down the script, it will be placed after the selected slide. If you move the slide further up the script, it will be placed before the selected slide.

You can move multiple slides at once, by selecting more than one slide. However, the selected slides must form a continuous block. You can, for example, select and move slide 2, 3, 4 and 5.

Select the first slide. Keep the left mouse button pressed and drag the slide to the last slide. The last slide is indicated with a red border.

The first slide
is selected
and is
dragged to
the last slide
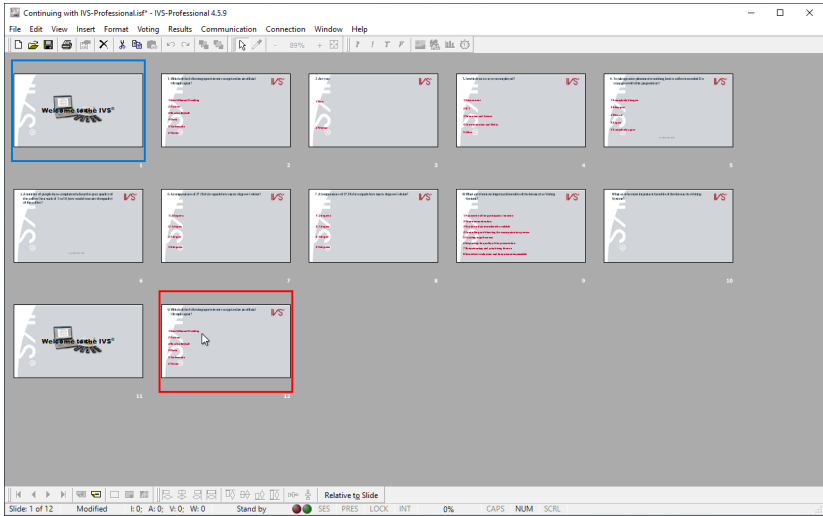
Release the left mouse button. The selected slide is now moved to behind the last slide.

The first slide
has been
moved, be-
hind the last
slide
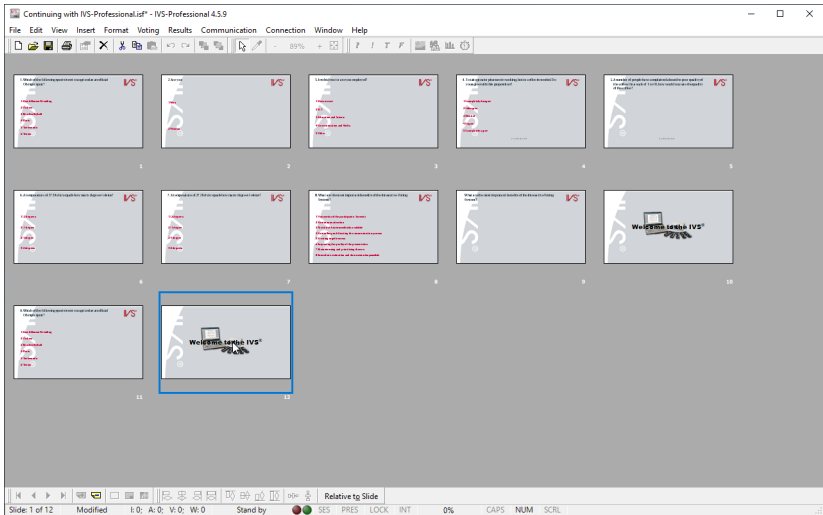
Deleting one or more slides

Deleting slides is also very easy in the slide sorter. Select the slide that you want to delete and choose the option *Delete* from the *Edit* menu. Alternatively, you can click the slide with the right mouse button and choose the option *Delete* or press the ⌫ key on the keyboard.

When a slide is empty, it will be deleted immediately. If there are any objects on the slide, you will be warned first. Click **Yes** to actually delete the selected slide.

You can delete multiple slides at once by selecting more slides.

Select the third but last slide and press ⌨Delete to delete this slide. Click **Yes** to actually delete the slide.

Back to the normal slides

There are two ways to return from the slide sorter to the normal slides. Choose the option *Normal* from the *View* menu to return to the normal slides. The slide that was selected in the slide sorter will now be displayed.

You can also return to the normal slides by double-clicking one of the miniature slides in the slide sorter. You will now return to the normal slides and the slide you double-clicked will be displayed.

Double-click the second to last slide to return to the regular slides and to display the second to last slide.

Double-clicking the second to last slide closes the slide sorter and displays the second to last slide

Deleting slides

You can delete slides not only in the slide sorter, but also in the normal edit screen. However, here you can only delete one slide at a time. To delete a slide in the edit screen, you go to the slide that you want to delete and you choose the option *Delete slide* from the *Edit* menu. Alternatively, you can press the ⌨Ctrl + ⌨Delete keys on the keyboard or click the **Delete slide** (🖵) button in the lower task bar.

When a slide is empty, it will be deleted immediately. If there are any objects on the slide, you will be warned first. Click **Yes** to actually delete the selected slide.

Press `Ctrl` + `Delete` to delete slide 10. Click **Yes** to actually delete the slide.
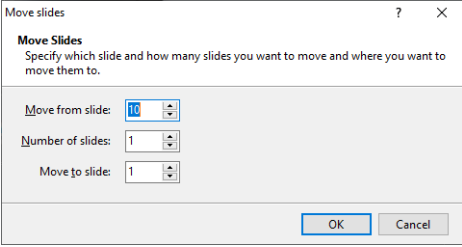
Moving slides in the edit screen

Moving slides is also possible in the edit screen. It is not as easy though as in the slide sorter, because there is no overview of all slides and you cannot drag a slide.

To move a slide in the edit screen, you choose the option *Move slide* from the *Edit* menu. The dialog box for moving slides appears.

Choose the option *Move slide* from the *Edit* menu.

The dialog box for mov-ing slides

In this dialog box, you indicate which slides you want to move and where you want to move them to.

Move from slide Here you enter the number of the first slide you want to move.
Number of slides Here you enter the number of slides you want to move.
Move to slide Here you enter the number of the slide where you want the slides to be moved to.

To move the last slide to the first one, you enter slide 10 for *Move from slide*, 1 for *Number of slides* and 1 for *Move to slide*. Click on **OK** to move slide 10 to slide 1.

Voting automatically with a timebar

Usually a script is controlled manually. You control when you want the show the next slide. You also control when the voting is opened and when the voting is closed.

You can also automate your entire script by using a timebar. By adding a timebar on each slide, you can have the voting opened after a few seconds. A few seconds later, you can have the voting closed. And a few seconds after that, you can go to the next slide. The timebar on the next slide will repeat this cycle, until the entire script is finished.

Depending on the settings, a timebar begins automatically when the slide is shown. On three different moments it can perform three different actions: open the voting, close the voting and go to the next slide. When, during the session, the timebar turns out to take too long, each of the actions can also be performed manually. When the timebar turns out to be too fast, it can be paused at any moment.

Go to another slide

By using the [Page Up] and [Page Down] keys, you can go to the previous and next slide respectively. It is also possible to go to a certain slide at once. To do this, choose the option ***Go to slide*** from the ***View*** menu. Alternatively, you can press [Shift] + [Ctrl] + [G] or [Ins] on your keyboard. The *Go to slide* dialog box appears.

Press [Ins] to go to another slide.

The dialog box to go to another slide
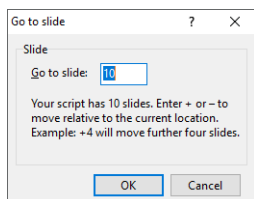
In this dialog box, you enter the slide number of the slide you want to go to. Next, click on **OK** to go to that slide.

Instead of immediately going to a certain slide, you can also move relative to the current slide. To move forward, you first enter a +, followed by the number of slides you want to move forward. To move backward, you first enter a –, followed by the number of slides you want to move backward.

Inserting a timebar

To insert a timebar in a slide, choose the option *Timebar* from the *Insert* menu. Alternatively, you can press the **Timebar** (⏱) button in the toolbar or press Ⓑ on your keyboard.

Insert a timebar by choosing the option *Timebar* from the *Insert* menu.

A timebar has been inserted into this slide, to control the voting time
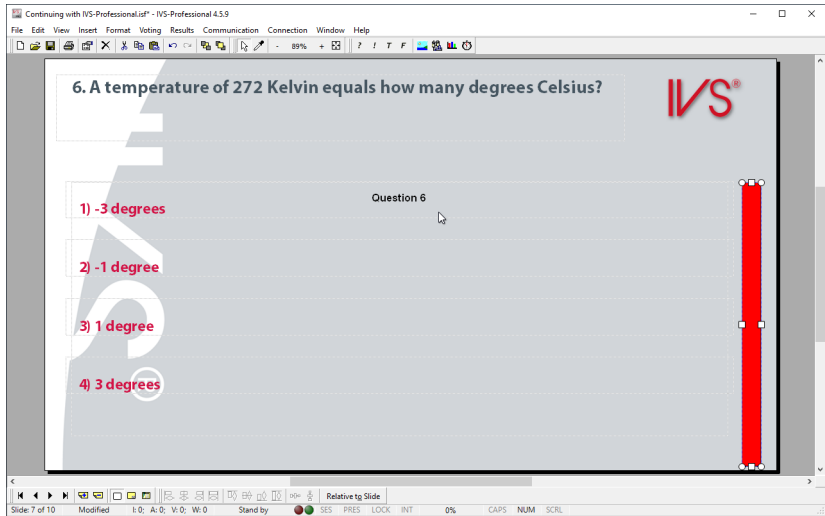
Setting up the timebar

The default setting for a timebar is that it starts to run when the voting is opened and closes the voting after ten seconds. This default setting can be changed in the template. Of course it is also possible to set up each timebar individually. For some questions the audience simply needs more time than for others.

To set up the timebar, you go to the properties of the timebar.

Click on the timebar with the right mouse button. Next, choose the option *Properties*.

The *Properties of timebar* dialog box appears.

Properties of timebar

Timebar | Font

Type

Timebar type:
Bar running down vertically

☐ Transparent
☑ Frame
☐ Counting up

Timers

			Bar color:	Background:
☐ Open voting after	10	sec.		
☑ Close voting after	10	sec.	■	☐
☐ Next slide after	10	sec.		
	☐ Start timebar manually			

Sounds

☐ Start timebar:

☐ Stop timebar:

☐ Every second:

☐ Stop sound when timebar stops

OK | Cancel | Apply

Type

The timebar can be displayed in seven different ways:

Bar running down horizontally The timebar will be displayed as a bar, running down from the right to the left.

Bar running down vertically The timebar will be displayed as a bar, running down from the top to the bottom.

Circle The timebar will be displayed as a circle, running down counter clockwise.

Time as text The timebar will be displayed as numbers, counting down. If the total time is less than 60 seconds, only the seconds will be displayed. If the time is more than 60 seconds, the time will be displayed in minutes and seconds.

Bar running down horizontally with time as text The timebar will be displayed as a bar, running down from the right to the left, with the time in numbers in the center.

Bar running down vertically with time as text The timebar will be displayed as a bar, running down from the top to the bottom, with the time in numbers in the center.

Circle with time as text The timebar will be displayed as a circle, running down counter clockwise, with the time in numbers in the center.

The choice for a different type of timebar does not mean that the shape of the timebar automatically changes too. If you inserted a standard vertical timebar, it will be displayed as a vertical bar. If you

change the type in a horizontal timebar, the bar will still be displayed vertically. However, the bar will count down from right to left.

Transparent With this option you will make the timebar transparent. The timebar will first be displayed as a bar or circle. When the timebar is running, the original background of the slide will appear.

Frame With this option a black frame will be displayed around the timebar. This option does not work for a timebar of the text type.

Counting up Checking this option will cause the timebar to count up instead of counting down. This means that the timebar will start empty and fill up along the way.

Timers

The timebar consists of three different timers, that run automatically after each other. You can turn each of these timers on or off. The time, timebar color and background color can be set for each timer individually.

Open voting after This timer starts as soon as the slide is shown. When the timer ends, the voting is opened.
Close voting after This timers starts when the voting is opened. When the timer ends, the voting is closed.
Next slide after This timer starts when the voting is closed. When the timer ends, the next slide is shown.

Start timebar manually If this option is checked, the timebar will start in a suspended state. You can resume the timebar manually by pressing ⌨.

Sounds

When the timebar is running, you can have it play several sounds. The timebar supports every file format also supported by Windows. An audio clip will always be played completely, unless some other audio clip needs to be played. In that case, any still playing audio clip is cut off.

Start timebar With this option you can play a sound when the first timer starts to run.
Stop timebar With this option you can play a sound when the last timer ends.
Every second With this option you can play a sound every second. If the audio clip itself is longer than one second, it will be restarted every second.

Stop sound when timebar stops With this option you can indicate that any playing sound has to be stopped once the timebar stops. If you are playing a sound clip that lasts 15 seconds, but the timebar closes the voting after 10 seconds, the sound clip would continue to play for another 5 seconds. By enabling this option, the sound clip will also be stopped after 10 seconds.

Copying objects

To make the entire script run automatically, you will have to place a timebar on each slide. To make all timebars exactly the same, you first set up the timebar in the template. Next, you add a timebar to each slide.

If you do not want all the timebars to be the same, you will have to edit them manually. But even then, you can make two exactly the same timebars, by copying one timebar and then pasting it on the next slide.

To copy an object, you first select it and then choose the option **Copy** from the **Edit** menu. You can also press the **Copy** button (📑) in the toolbar or press ⌃ + Ⓒ on the keyboard.

To insert the copied object into another slide, go to the slide where you want to insert it and choose the option **Paste** from the **Edit** menu. Alternatively, you can use the **Paste** button (📑) in the toolbar or press ⌃ + Ⓥ on the keyboard.

The copied timebar has been pasted on the next slide
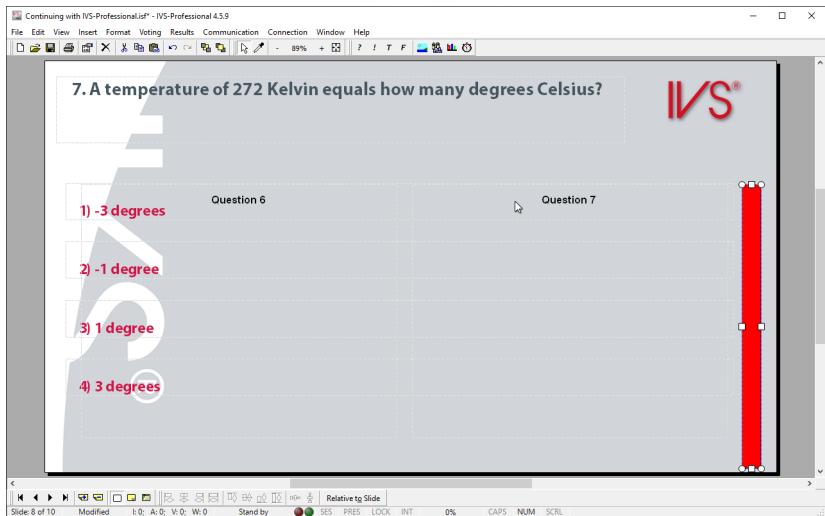
Starting the timebar

The first timebar is started when the slide is shown. This only works in the presentation screen. The other two timers work in both the presentation and editing screen. You can go to the presentation screen by pressing ⬚.

Press ⬚ to go to the presentation screen.

Because you go to the presentation screen without having started a session, that session will be started automatically. Starting a session is important if you want to store the voting results. See also "Starting a session" on page 146.

Enter the description "Testing timebar" and click **OK** to start the session.

The presentation screen is now being displayed. The first timer of the timebar is started, which causes the timebar to start running down.

The timebar is running in the presentation screen
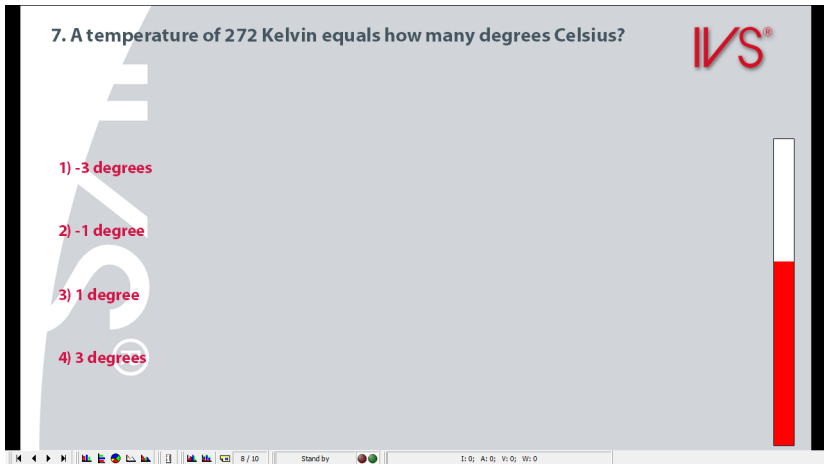
Controlling the timebar manually

When the presentation is started, the first timer automatically starts to run. When this one finishes, the second timer starts. And when this one finishes, the third timer starts. You can also start the next timer manually, by performing the appropriate action.

Starting the next timer

As soon as the first timer has finished, the voting is opened. However, if you open the voting while the first timer is still running, the second timer will immediately be started. In the same, way the third timer will immediately be started when the voting is closed while the second timer is still running.

Pausing the timer

When the timebar is running, and you discover that the time you set for the timebar is too short, you can pause the timebar. To pause the timebar press ⌨. Press ⌨ again to let the timebar continue running.

Stopping the timebar

If you want to stop the timebar completely, you press ⌨ while the timebar is this running. All timers will be stopped. A timer will only be restarted when the appropriate action when performed. For example, if the voting is opened, and you stop the then running timer, by pressing ⌨, the timebar will be stopped completely. When you manually close the voting, the third timebar will start running again. You can stop this one, by pressing ⌨ again.

Wait until the three timers have run down. Next, press ⌨ to return to the edit screen.

Working with multimedia

By using the multimedia object it is possible to add audio and/or video clips to your presentation. On each slide, you can place one or more multimedia objects, with which you can play an audio or video clip.

The multimedia object can be linked to the voting, so that the audio or video clip starts playing as soon as the voting is opened and the voting is closed as soon as the audio or video clip has ended.

By linking the multimedia object to the voting, you can have it read out the question, by playing an audio clip. Or you can ask a question based on a video clip you show.

Inserting a multimedia object

To insert a multimedia object, you choose the option *Multimedia* from the *Insert* menu. Alternatively, you can press the **Multimedia** button (🎦) in the toolbar or press Ⓜ on the keyboard.

The standard dialog box for opening files will be displayed. Here you can select the audio or video clip you want to play. IVS-Professional supports all file types which can be played by the Windows Media Player.

Add a new slide at the end of your script. Choose the option *Multimedia* in the *Insert* menu to insert a multimedia object. Select a file and click **Open** to open the file.

After having selected a file, the multimedia object is inserted. If you selected a sound clip, this will be displayed as a speaker icon. If you selected a video clip, then this will be displayed as an image of the first frame from the video clip.
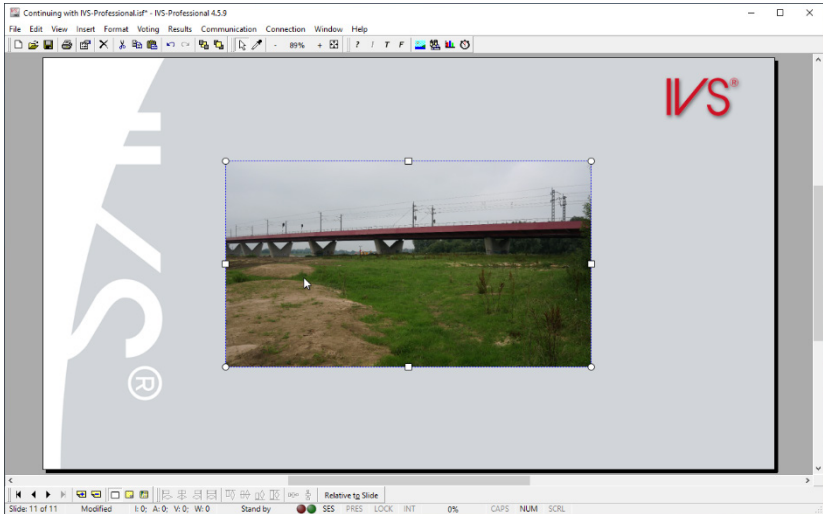
Starting the multimedia object

A newly added multimedia object is set to start manually by default. You determine when the audio or video clip is being played. To start the multimedia object, press ⌷. By pressing ⌷ again while the multimedia object is still playing, it can be stopped again.

If you press ⌷ + ⌷ while the multimedia object is playing, the audio or video clip is paused. To resume the clip you press ⌷ + ⌷ again.

While the multimedia object is playing, the voting can be opened and one can vote normally.

If you place multiple multimedia objects on one slide, and you leave them all set to start manually, they will all start playing simultaneously at the moment you press ⌷. Although it is possible to play multiple video clips simultaneously, it is not recommended. The performance of your computer decrease greatly when it has to decode multiple video streams simultaneously, which can result in the video clips stalling or IVS-Professional becoming unresponsive until all video clips have ended.

A video clip can only be played at one monitor at a time. If you show the presentation screen on a different monitor than the edit screen, the video clip will only be played in the presentation screen.

Starting automatically when voting

The multimedia object can also be started automatically as soon as the slide is displayed or when the voting is opened or closed. And, when the multimedia object has finished playing, it can automatically show the next slide, open or close the voting.

To set up the multimedia object, you go to the properties of the multimedia object.
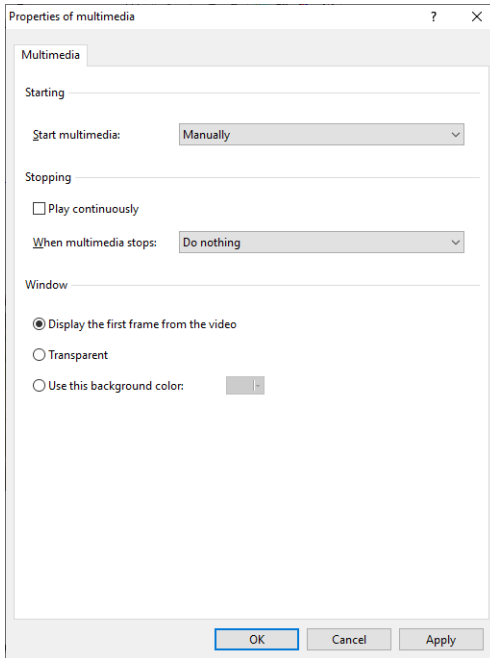
Start multimedia

The multimedia object can be started in five different ways.

Manually The multimedia object has to be started manually by pressing ⬚.
When slide is shown The multimedia object is started as soon as the slide with the multimedia object on it, is shown. This will only function in the presentation screen.
When voting is opened The multimedia object is started when the voting is opened.
When voting is closed The multimedia object is started when the voting is closed.
When the previous multimedia object end The multimedia object is started as soon as the previous multimedia object has ended.

When multimedia stops

When the multimedia object has finished playing, it can perform four different actions.

Do nothing When the multimedia object ends, no action will be taken.
Go to the next slide When the multimedia object ends, the next slide will be shown.
Open the voting When the multimedia object ends, the voting will be opened.
Close the voting When the multimedia object ends, the voting will be closed.

Window

After inserting a video clip, its window can be displayed in several ways.

Display the first frame from the video The window shows an image of the first frame from the video clip.

Transparent The window is displayed transparently.

Use this background color The window is displayed in the selected background color.

Select the option *When voting is opened* from the *Start multimedia* options and *Close voting* from the *When multimedia stops* options. Click on **OK** to set up the multimedia object.

Advanced text objects

IVS-Professional allows you to link an action to a text object. This action is executed when you click on the object in the presentation screen.

It is also possible to hide the text object in the presentation screen, or to only display it when the voting network has a certain status. For example, you can display a text for as long as the voting is opened. When you close the voting, this text will disappear again.

Displaying a text for a certain status

When you want to display a text when, for example, the voting is opened, you first have to insert a text object. You then go to the properties of this text object and select the *Advanced* tab.

Go to the properties of a text object by right-clicking on it and choosing the ***Properties*** option. Then, select the *Advanced* tab.

Dialog box with the properties of the text object

Display

With these options you determine whether this text object isn't displayed at all in the presentation screen, or is only displayed when the network has a certain status. If you check the option **Do not display in the presentation screen**, then the text object is only displayed in the edit screen. If you check the option **Only display when network status is:**, then the text object is only displayed when the network has a certain status. You can choose from the following statuses:

Offline The text is displayed when the Base Station is no longer active.
Stand-by The text is displayed when the Base Station is active but no performing any actions.
Test network The text is displayed when the keypads are being tested.
Opening The text is displayed when the voting is being opened.
Opened The text is displayed when the voting is open.
Closing The text is displayed when the voting is being closed.
Initializing The text is displayed when the keypads are being initialized.
Resetting The text is displayed when the keypads are being reset.
Detecting The text is displayed when the Base Station is being detected.

Internet

When you use IVS-Online, you can also display this text on the slide in IVS-Online, provided that the slide contains a question. You can display the text as a title or as a subtitle. You can only display one title and one subtitle per online slide. The title and subtitle are displayed directly above the question text.

Performing an action when clicked

You can link a certain action to a text object that is executed when you click on the object. This action is only executed when clicking on the object in the presentation screen. If a text object has an action linked to it, you will see the mouse cursor change into a hand when you move the mouse over the object.

You can set up an action in the properties of the text object. You can choose from the following actions:

Don't do anything No action is performed when clicking on the object
Go to the first slide Clicking on the object will take you to the first slide.
Go to the previous slide Clicking on the object will take you to the previous slide.
Go to the next slide Clicking on the object will take you to the next slide.
Go to the last slide Clicking on the object will take you to the last slide.
Go to slide Clicking on the object will take you to a certain slide. From the list below *Slide* you can choose a slide to go to.
Open the voting Clicking on the object will open the voting.
Close the voting Clicking on the object will close the voting.

Go to PowerPoint Clicking on the object will switch to PowerPoint. This requires that PowerPoint has already been started and there is an active slide show in PowerPoint.

Go to the next slide in PowerPoint Clicking on the object will switch to PowerPoint and take you to the next slide in PowerPoint. This requires that PowerPoint has already been started and there is an active slide show in PowerPoint.

Go to Risk Analysis Clicking on the object will switch to IVS-Risk Analysis. This requires that IVS-Risk Analysis has already been started.

Go to Excel Clicking on the object will switch to Excel. This requires that Excel has already been started.

After performing the action, go to the next slide By checking this option, you will immediately go to the next slide in IVS after performing the action.

Switching from PowerPoint to IVS

PowerPoint also supports linking actions to objects. This allows you to switch back from PowerPoint to IVS.

To link an action to an object in PowerPoint, you first have to select the object. Then you select the *Insert* tab and click on the **Action** button in the *Links* group.

Dialog box with the action settings of an object
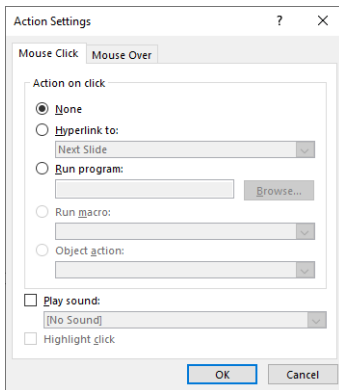
Select the option **Run program** and then click on the **Browse** button. Use the dialog box to find IVSProfessional.exe. Finally, click on **OK** to set up the action.

PowerPoint 2010, 2013, 2016 and 2019

When you start a slide show and click on the object, you will get a security notice the first time you do this.
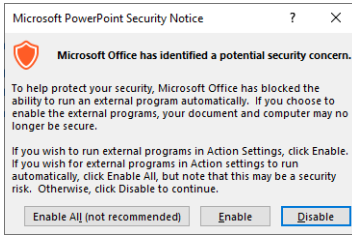
Click on **Enable** to allow external applications to be started by an action.

To prevent this notice from appearing each time you start a slideshow, you have to save your PowerPoint presentation in a trusted location. You can add trusted locations to PowerPoint by clicking on the **Options** button in the *File* menu. Select *Trust Center* in the left-hand pane and then click on the **Trust Center Settings** button. Select *Trusted Locations* in the left-hand pane and add a new location by clicking the **Add new location** button. Select a folder to set this as a trusted location. Then save your presentation in this folder.

Automatically displaying text with fields

A *field* looks like a standard text object. In a standard text object, however, you have to enter the text that is displayed. In a field object you do not enter text. The field will show its own text, depending on the type of field that you insert.

There are eight different field types.

Score offers numerous possibilities to play quizzes. You can show the scores of each individual participant but also of groups. You can also show a top-3, top-5 or top-10 of the participants that scored best.

Results displays the results of specific answers, just like the result diagram. By using this field you can display the results as text-only instead of in a diagram.

Participants this field shows the names of participants. Names are either displayed immediately, or only after a participant has voted, or even when a participant has given a certain answer.

Cumulatives offers numerous possibilities for calculating totals, averages and other statistical data for a group of questions.

Network status displays several values of the voting network, such as the number of initialized keypads, or the total number of received votes.

Slide numbering displays the current slide number or the total number of slides.

Date & Time displays the current date and/or time.

Text displays the literal text as defined in an XML file.

A field can be inserted on the standard slide as well as on the background slide. To distinguish the field from a standard text object, the field has a red boundary instead of a white boundary.

A field itself is not interactive. This means that a field behaves like a non-interactive result diagram. When opening a vote the field is cleared and when voting is closed the results are displayed. If you want to show the results in a field interactively you have to add an interactive result diagram on the slide. This result diagram does not necessarily have to be placed on the slide, it can also be placed just off the slide.

The only exceptions are a field of the *Network status* type or of the *Participant* type. These types of fields are automatically updated as soon as votes are being received.

This chapter shows a number of examples of how to use fields. A simple script is used with a number of questions and fields. No attention is paid to the lay-out of the script. And unlike the other chapters

in this manual, this chapter does not mention the specific steps to create the script. The attention is focused on the settings of the fields.

Every question in this script is set to identified voting and to using the voting time. A participant list with 200 participants is used. These participants are divided in four groups with the names 'RED', 'GREEN', 'BLUE' and 'YELLOW'. In each group there are 50 participants, that are named 'Participant 1' to 'Participant 50'.

A text file as a basis
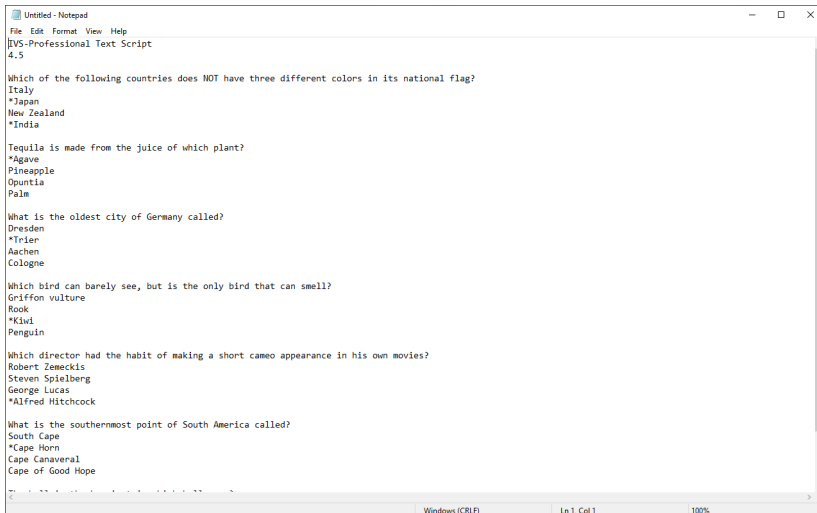
To demonstrate the usage of fields, a script is made in this chapter, that can be used to play a quiz. The quiz contains seven questions with four answers each. Each question has one correct answer and three wrong answers, with the exception of the first question, that has two correct answers.

To be able to quickly and simply enter the quiz questions into IVS-Professional, the questions and the accompanying answers are first entered into a text file. This text file will then be imported into IVS-Professional, so that is can serve as a basis for the script that's going to be made. The main advantage is that you don't have to retype the question and answer texts, or have to copy and paste them. And you can also indicate the correct answer in this text file.

The text file that is going to be imported into IVS-Professional only contains the question and answer texts. It is not possible to format the text in any way. This is done later by using the template. It is also not possible to put any object other than a question, answers or a normal text into the text file

To allow IVS-Professional to recognize the text file, it has to start with two fixed lines. These are followed by an empty line, after which the text of the first question follows. On every line directly following the question text are the texts of the accompanying answers. After the last answer follows an empty line, after which the text of the next question may start.

Example of a
text file with
questions and
answers

The first line of the text file contains the text 'IVS-Professional Text Script'. This is the literal text, without any extra spaces before, between or after the text. The second line contains the version number of this file, which is currently always 4.5. Here, too, there may be no extra space before or after the text.

When you import this text file into IVS-Professional, one slide will be created for each question. When necessary, you can have extra empty slides created by adding extra empty lines between an answer text and the following question text.

A question text may be preceded by an asterisk (*) to indicate that this is a reference question, or by a number sign (#) to indicate that this is a rating question. A combination is also possible, by putting both signs in front of the question text.

An answer text may be preceded by an asterisk (*) to indicate that this is the correct answer.

Except question and answer texts, you can also enter normal texts in the text file, by preceding them with an ampersand (&).

A text file can be imported by choosing the *Open* option from the *File* menu. The standard dialog box for opening files appears. Select the text file that you want to import and click on the **Open** button.

Inserting a field

To insert a field you choose the option *Field* from the *Insert* menu. Alternatively, you can click the **Field** (F) button in the toolbar or press F on the keyboard.

Before a field is inserted, the *Properties of field* dialog box appears in which you have to indicate what type of field you want to insert.

Under *Field type* in this dialog box you select the type of field that you want to insert. Under *Field options* you can set the properties for this field, depending on the type of field you choose.

Displaying the date and time

The field type *Date & Time* allows you to display the current date and/or time. Under *Field options* you can set how you want to display the date and how you want to display the time. You can choose from seventeen predefined date/time settings, but you can also set up your own settings.

The field op-
tions for the
field type
Date & Time
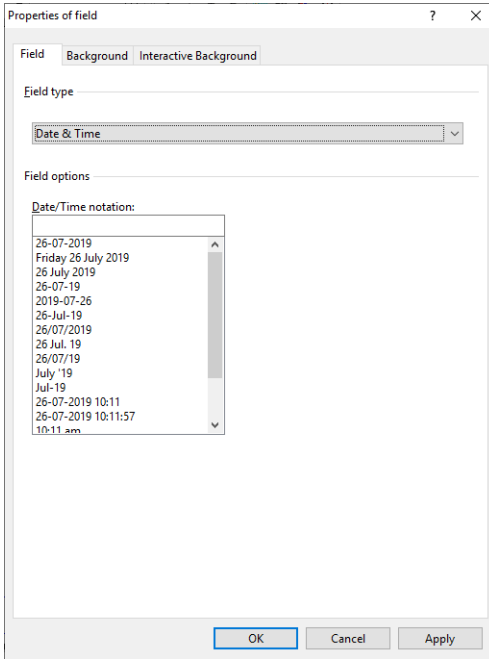
In the *Date/Time notation* text box you can fill in your own notation for showing the date and/or the time. You can also choose one of the predefined options from the list below. If you choose one of the options from this list, the notation is automatically inserted in the *Date/Time notation* text box.

You can use several combinations of characters for the notation. For example, 'dd' stands for the day of the month, 'MM' for the month as a number with a leading zero, and 'yyyy' stands for the current year as a four-digit number. The following combinations can be used:

c	Displays the date using the format given by the *Short Date Format* in *Country/Regio* of Windows, followed by the time set in hours, minutes and seconds.
d	Displays the day as a number without a leading zero (1-31).
dd	Displays the day as a number with a leading zero (01-31).
ddd	Displays the day as an abbreviation (Sun-Sat).
dddd	Displays the day as a full name (Sunday-Saturday).
ddddd	Displays the date using the format given by the *Short Date Format* as set by *Country/Region*.
dddddd	Displays the date using the format given by the *Long Date Format* as set by *Country/Region*.
m	Displays the month as a number without a leading zero (1-12). If the 'm' specifier immediately follows an 'h' or 'hh' specifier, the minute rather than the month is displayed.

mm	Displays the month as a number with a leading zero (01-12). If the 'mm' specifier immediately follows an 'h' or 'hh' specifier, the minute rather than the month is displayed.
mmm	Displays the month as an abbreviation (Jan-Dec).
mmmm	Displays the month as a full name (January-December).
yy	Displays the year as a two-digit number (00-99).
yyyy	Displays the year as a four-digit number (0000-9999).
h	Displays the hour without a leading zero (0-23).
hh	Displays the hour with a leading zero (00-23).
n	Displays the minute without a leading zero (0-59).
nn	Displays the minute with a leading zero (00-59).
s	Displays the second without a leading zero (0-59).
ss	Displays the second with a leading zero (00-59).
z	Displays the millisecond without a leading zero (0-999).
zzz	Displays the millisecond with a leading zero (000-999).
t	Displays the time in hours and minutes.
tt	Displays the time in hours, minutes and seconds.
am/pm	Uses the 12-hour clock for the preceding 'h' or 'hh' specifier, and displays 'am' for any hour before noon, and 'pm' for any hour after noon. The 'am/pm' specifier can use lower, upper, or mixed case, and the result is displayed accordingly.
a/p	Uses the 12-hour clock for the preceding 'h' or 'hh' specifier, and displays 'a' for any hour before noon, and 'p' for any hour after noon. The 'a/p' specifier can use lower, upper, or mixed case, and the result is displayed accordingly.
ampm	Uses the 12-hour clock for the preceding 'h' or 'hh' specifier, and displays 'am' or 'pm' as set by *Date and Time format* in *Country/Region*.
/	Displays the date separator character set by *Country/Region*.
:	Displays the time separator character set by *Country/Region*.
'xx'/"xx"	Characters enclosed in single or double quotes are displayed as-is. "mm" is therefore displayed as mm and not as the month as a number with leading zero.

Once you have chosen a notation or entered a notation yourself you click **OK** to accept the settings. The selected date and/or time are now displayed in the field.
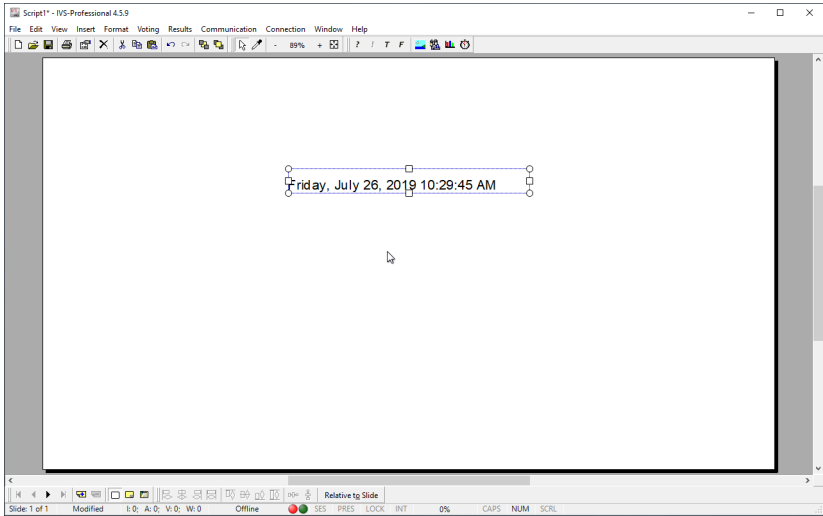
A field is not updated continuously. This means that, even though the time can be displayed accurate to the second, it does not "run". The time will only change when the slide is updated, for example when it is displayed or when an object is added or removed. The slide is also updated during voting provided that you have inserted an interactive result diagram on the slide.

Displaying slide numbers

The field type *Slide numbering* allows you to display the current slide number or the total number of slides in the script. If you place this field on the first background slide it will be displayed on each slide, provided that you use the first background slide on each slide.

Under *Field options* you can indicate if you want to show the current slide number or the total number of slides. If you want to show both you have to insert two fields. If desired, you can combine these fields with standard text objects.
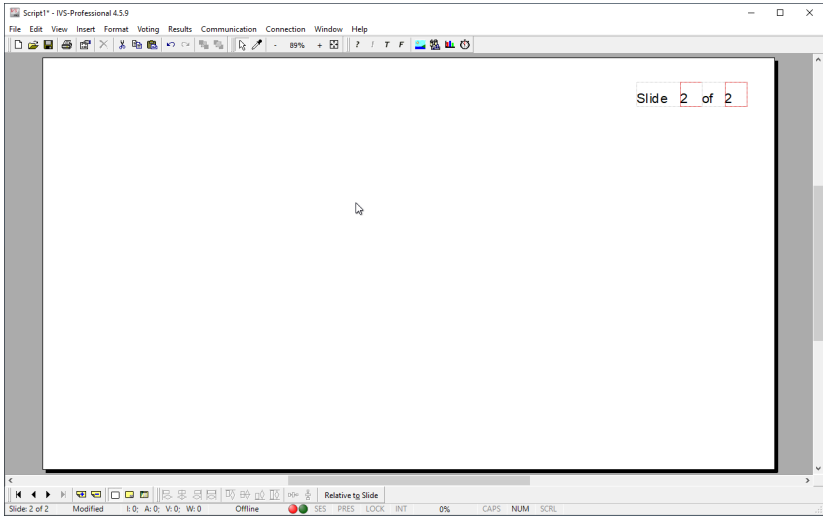
In the example above two standard text objects and two fields are inserted. The first field shows the current slide number, while the second field shows the total number of slides.

Displaying the network status

With the field type *Network status* it is possible to display different values of the voting network.

You can display one of the following eleven statuses:

Number of initialized keypads Displays the total number of keypads initialized on all connected Base Stations.

Number of active keypads Displays the number of keypads that were active at the moment the last voting was opened.

Number of voted keypads Displays the number of keypads that voted at least once.

Total number of votes Displays the total number of votes.

Total voting weight Displays the total voting weight given by all keypads that have voted.

Total number of validly voted keypads Displays the total number of keypads that gave a valid vote. A vote is valid if this keypad voted at least the minimum number of times.

Total number of invalidly voted keypads Displays the total number of keypads that gave an invalid vote. A vote is invalid if this keypad did not vote at least the minimum number of times.

Simple majority of total number of validly voted keypads Displays the simple majority (50% + 1) of the total number of keypads that gave a valid vote.

Total number of valid votes Displays the total number of valid votes. A vote is valid if this keypad voted at least the minimum number of times.

Total number of invalid votes Displays the total number of invalid votes. A vote is invalid if this keypad did not vote at least the minimum number of times.

Simple majority of total number of valid votes Displays the simple majority (50% + 1) of the total number of valid votes.

Displaying results without a result diagram

By using the field type *Results* you can show the results of a question in numbers instead of in a result diagram. In the field options you can indicate from which question and from which answer you want to show the results. You can display the results as absolute figures or as percentages. Furthermore, you can cross results with participant groups so that you can see the results of each participating group.

The field options for the field of type *Results*

Field options

In the field options you indicate which results should be displayed in this field. In **Results of question** you indicate from which question the results should be displayed. You choose a question from the list containing all questions in your script. You can also choose *Current question*. This is the question that is on the same slide as this field. If there is no question on this slide, then the last question from the preceding slides is used.

Answers

In the answer options you indicate what type of result you want to see. You can choose from the following fifteen types:

Result of answer Displays the results of a certain answer. You can select from which answer you want to see the results. In the list below **Answer** all answers from the question you chose under **Results of question** are listed.

Total result Displays the total result of all answers.

Total result of non-voters Displays the total number of keypads that didn't vote, or, in case of an identified question, the total voting weight of the participants that didn't vote. It is not possible to distinguish between keypads that have been handed out but didn't vote, or keypads that have been initialized but not been handed out. If you initialized more keypads than your final number of participants, these extra keypads will also be counted as non-voters.

Half of the total result Displays the half of the total result. This option can be used to see if a certain answer received at least half of the total votes. This is the actual half, so in case of an odd number of votes, half a vote will be shown.

Total result of negative answers Displays the total result of all answers that are considered negative. Negative answers are answers with the lowest answer number. For an even number of answers, the first half is considered negative, the last half is considered positive. For an odd number of answers, the middle answer is considered neutral. It will neither be counted to the negative answers, nor to the positive answers.

Total result of positive answers Displays the total result of all answers that are considered positive. Positive answers are answers with the highest answer number.

Total result minus last answer Displays the total result of all answers with the exception of the last answer.

Total result including last answer Shows the total result of all answers, including the last answer, even if the question is set not to include the result of the last answer in the total.

Total number of voters Shows the number of participants who cast at least one vote.

Simple majority of the number of votes Displays the simple majority (sometimes called "Half plus One") of the total number of votes. For an even number of votes, this is the half of the number of votes plus one. For an odd number of votes, this is the half of the number of votes rounded upwards.

Simple majority of the number of voters Displays the simple majority of the total number of voters. A voter is a keypad that voted at least once.

Supermajority of the number of votes (2/3) Displays the supermajority (in this case $\frac{2}{3}$) of the total number of votes. For a number of votes that is a multiple of three, this is two thirds of the number of votes plus one. In both other cases, this is two thirds of the number of votes rounded upwards.

Supermajority of the number of voters (2/3) Displays the supermajority of the number of voters.

Supermajority of the number of votes (3/4) Displays the supermajority (in this case ¾) of the total number of votes. For a number of votes that is a multiple of four, this is three quarters of the number of votes plus one. In all other cases, this is three quarters of the number of votes rounded upwards.

Supermajority of the number of voters (3/4) Displays the supermajority of the number of voters.

Simple majority of the number of votes (rounded) Displays the simple majority of the total number of votes, first rounding the result. For an even number of votes, this is the half of the number of votes plus one. For an odd number of votes, this is the half of the number of votes rounded upwards, plus one.

Simple majority of the number of voters (rounded) Displays the simple majority of the total number of voters, first rounding the result.

Supermajority of the number of votes (2/3, rounded) Displays the supermajority (in this case $\frac{2}{3}$) of the total number of votes, first rounding the result. For a number of votes that is a multiple of three, this is two thirds of the number of votes plus one. In both other cases, this is two thirds of the number of votes rounded upwards, plus one.

Supermajority of the number of voters (2/3, rounded) Displays the supermajority of the total number of participants, first rounding the result. A participant is a keypad that voted at least once.

Supermajority of the number of votes (3/4, rounded) Displays the supermajority (in this case ¾) of the total number of votes, first rounding the result. For a number of votes that is a multiple of four, this is three quarters of the number of votes plus one. In all other cases, this is three quarters of the number of votes rounded upwards, plus one.

Supermajority of the number of voters (3/4, rounded) Displays the supermajority of the total number of voters, first rounding the result.

Options

Using the options you can indicate whether you want to show the results in absolute numbers or in percentages. You can have the percentage calculated based on the total number of votes as well as the total number of voters or participants. In this case a voter is a keypad that voted at least once.

Absolute values The results are displayed in absolute numbers.

Relative to number of votes The results are displayed in a percentage of the total number of votes.

Relative to number of voters The results are displayed in a percentage of the total number of voters. A voter is a keypad that voted at least once.

Relative to number of participants The results are displayed in a percentage of the total number of participants. A participant is a keypad, regardless of whether it voted or not.

If you choose the **Relative to number of votes**, **Relative to number of voters** or the **Relative to number of participants** option, you can also indicate how many decimal digits you want to display using the **Show decimal places** option.

If you choose **Absolute values**, you can use **Precision in decimals** to specify in how many decimal places you want to display the absolute values. If you choose one decimal, the total number of votes divided by 10 is displayed. At two decimal places, the total is divided by 100, and so on. This

option is especially useful when using voting weights, where, for example, half weights must also be used. Because it is not possible to enter half weights, you can choose to multiply all weights by 100. If you then set the accuracy to two decimal places, the total result is then divided by 100 again. With the option **Show decimal places** you determine how many decimal places are actually displayed. For proper operation, the number of decimal places can be set to a maximum of one less than the accuracy.

With the **Only count participants from this group** option you can enter a group name of which you want to see the results. When counting the results, only the results from participants in this group are counted. This allows you to make a crossing with several groups.

The name of the group is case-sensitive. This means that the groups 'RED' and 'Red' are two different groups. You can also enter multiple group names by separating the group name with a semicolon.

The **Ignore vote weight** option allows you to view the results without using the voting weight, even though the current question is set to use voting weight.

In the example above the results of the four groups that answered this question are displayed. The first field after the answer "Italy" is set to show the results of the current question and the answer "Italy". Additionally, the results should be displayed as percentages with one digit behind the decimal point. Only the participants from the group 'RED' are counted. The following three fields have the same settings, except that they show the results of the groups 'GREEN', 'BLUE' and 'YELLOW' respectively. The last field is set to show the results of the current question and the answer "Italy". The results are not displayed as percentages and no group is selected to count the results from. Therefore the absolute number of votes for the first answer is displayed.

The other fields are set up the same, with the only exception that they show the results of a different answer. The last row with totals is set to display the total result stead of the result of a specific answer. The first four are set up to only show the results of a specific group. The last field shows the total result without counting participants from a certain group.

Displaying results from a series of questions

It is not only possible to display the results of a certain question, you can also display all kinds of cumulatives. These are results calculated over a series of question. You can choose from a number of simple calculations, such as the total number of votes or the average number of votes, but there are also several statistical calculations available, such as the standard deviation and the variation coefficient.

The field options for the field of type *Cumulatives*

In the field options you select the questions over which you want to calculate the cumulatives. You can also calculate the cumulatives over just one question. You can also select whether you want to calculate the cumulatives over all answers or over just a single answer. The meaning of the calculation might differ depending on whether you choose all answers or just a single answer. The result calculated over all answers is also an answer, while the result calculated over a single answer is a number of participants.

For example, if you calculate the mean value of all answers, this will results in an average answer. If you calculate it for only a single answer, the average number of participants that voted for this answer is displayed.

You have to take care that the calculations you make return useful information. It has no use to calculate the total number of votes for answer 4 over ten questions, while not all questions really have four answers.

Display

You can display various sorts of calculations.

Total number of votes Displays the total number of votes for the indicated questions. You can both display the total number of votes for a certain answer and the entire total of all answers.

Relative number of votes Displays the relative number of votes for the indicated questions. This is the percentage of voters for a certain answer compared to the total number of voters. The relative number of votes can only be displayed for a single answer. If you would display it for all answers, the result would always be 100%.

Mean value Displays the mean value for the indicated questions.

Variance Displays the variance for the indicated questions. The variance indicates the extent to which the values differ, and thus how far they are from the average.

Standard deviation Displays the standard deviation for the indicated questions. The standard deviation is approximately the average deviation from the average.

Coefficient of variation Displays the coefficient of variation for the indicated questions again. The coefficient of variation is a measure of the relative distribution of values.

Median Displays the median for the indicated questions. The median is the middle value of a series.

Mode Displays the mode for the indicated questions. The mode is the value that occurs most often.

3rd Moment Displays the 3rd moment for the indicated questions. The 3rd moment is used to determine the skew.

4th Moment Displays the 4th moment for the indicated questions. The 4th moment is used to determine the kurtosis or flatness.

Skew Displays the skew for the indicated questions. The skew indicates whether the distribution differs to the left or to the right compared to a normal distribution.

Kurtosis Displays the kurtosis for the indicated questions. The kurtosis indicates the flatness of a distribution, whether the distribution is high and narrow, or low and wide.

For options that can return a fraction, you can specify how many digits after the decimal point you want to display. This can range from zero to five decimal places.

Displaying names of participants

With the field type *Participants* you can show the names of each individual participant. Names can always be displayed, or only when a participant has voted or even if he or she gave a certain answer.

Properties of field

| Field | Background | Interactive Background |

Field type

Participants

Field options

(•) Participant: 1

( ) All participants that
   (•) gave the following answer:
   ( ) did not give the following answer:

on question:
Current question

Options

Display: Name

☐ Hide name until after voting   Start with name: 1
☐ Hide name if not present   Number of names: 0
☐ Always hide name   ☐ Display names under each other
☐ Only display participants with the following text in their name:

☐ Only display participants from this group/these groups:

OK   Cancel   Apply

With field options you can indicate if you want to show the name of a certain participant or the names of all participants that gave a certain answer on a certain question.

With the option **Name of participant** you display the name of a certain participant. The sequence is the position of a participant in the participant list. Therefore, the name of participant 1 is the first name in your participant list. This option is especially useful when you want to display the names of the participants in a regular setting. You can combine this option with the option to change the background color of a field the moment a participant votes. By doing so you can see exactly who voted, who did not vote and even what each participant voted.

The only other options that can be used, are the **Hide name until after voting** option and the **Hide name if not present** option. If you enable the **Hide name until after voting** options, the field will start empty. Only after voting, the name of the participant will be shown. If you enable the **Hide name if not present** option, the name of the participant will not be shown if the participant list indicates that this participant is not present (any more).

For each field type you can set a background just like for a standard text object. See also "Setting up the background" on page 50. When selecting *Participants* as a field type you can not only set up a background for it but you can even make is change according to what a participant votes.

In the tab *Background* you can indicate the background color for this field. You can choose between a transparent background, a single color, a gradient or an image. The group color option is only

available when this question is a group question. In that case the background will get the color of the chosen group.
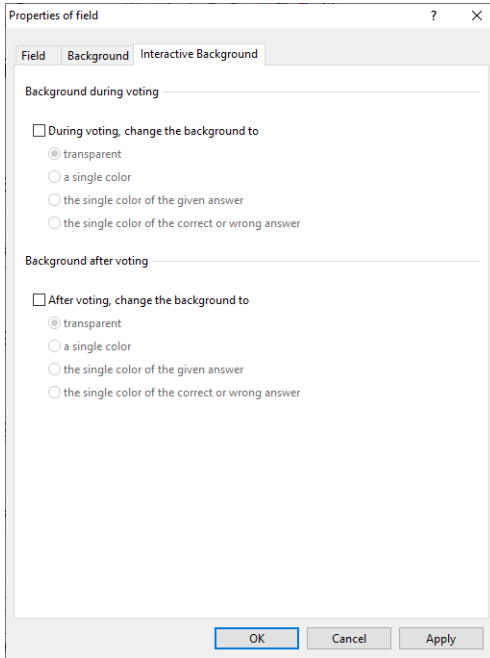
On the *Interactive background* tab you can indicate what should happen with the background when the participant has voted. If the option **During voting, change the background to** is enabled, then, as long as the voting is open, the background will be changed in the selected color as soon as this participant has voted. If the option **After voting, change the background to** is enabled, then, as soon as the voting is closed, the background will be changed in the selected color.

You can have the background color change with one of the following options:

transparent The background of the field will become transparent.
a single color The background of the field changes to a single color as indicate by the *Primary color*.
the single color of the given answer The background changes into the single color that was set up as the bar color for the answer given by this participant.
the single color of the correct or wrong answer The background changes into solid red when the participant gave the wrong answer or into solid green when the participant gave the correct answer.
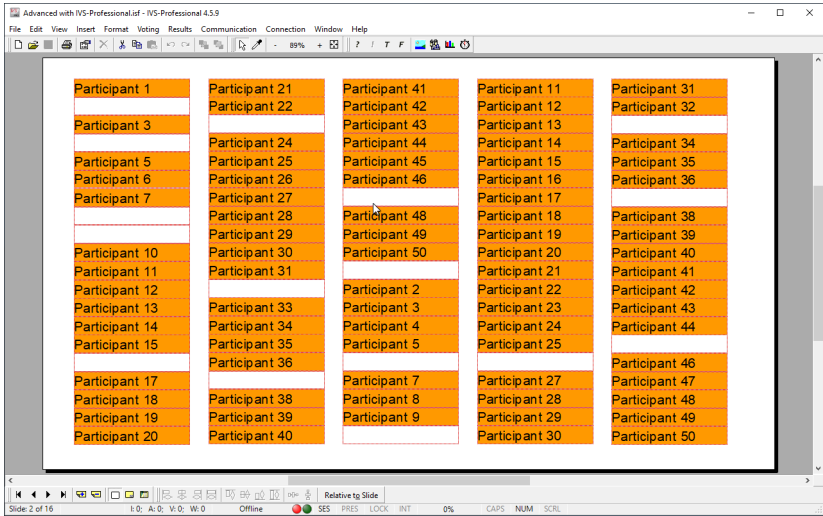
In the example above hundred fields of the *Participant* type are inserted. The first field is set up to display the name of participant 1 only when the participant has voted on the current question. First, the background is set to **None**. After that, the option **After voting, change the background to** is enabled and after voting the background must change to **a single color**. Finally, the background color was set to orange. The other fields are set up the same for participant 2 to 100.

You see that after the participants have voted, their name appears and the background of the field turns orange. For the participants that have not voted yet the name does not appear and the background stays transparent.

By setting the background to change the color after voting to the color of the given answer, you can also see what these participants have voted. In the next example, the option **After voting, change the background to** is set to **the single color of the given answer**.

The back-
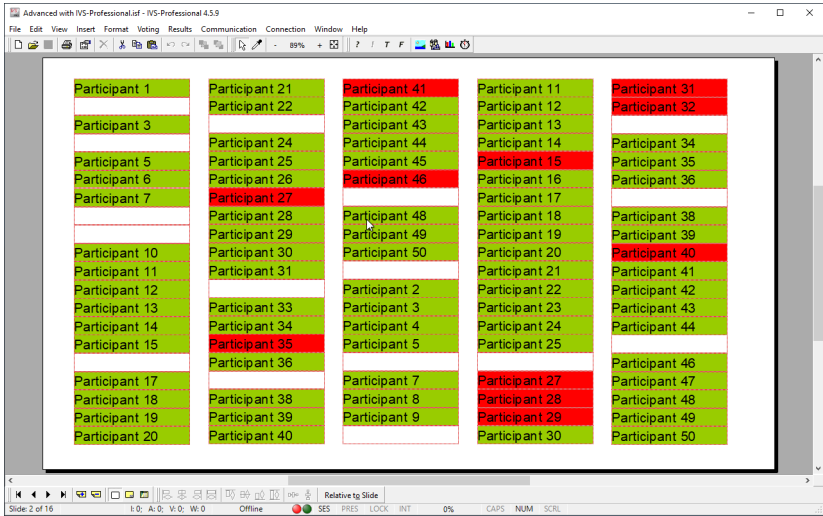ground color
of the fields is
based on the
given an-
swers
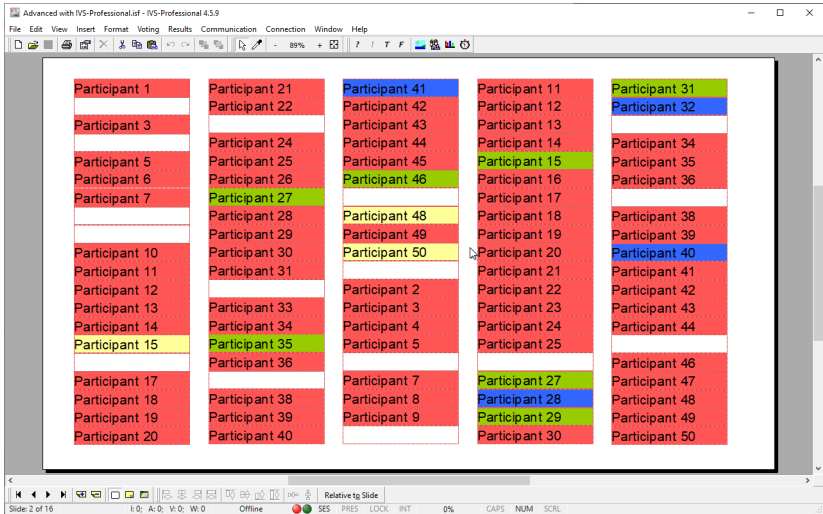
The color of answer 1 was set to green, of answer 2 to red, of answer 3 to blue and of answer 4 to yellow. In this overview you can see that the majority of the participants have chosen answer 2.

It is also possible to combine the above two options. This allows you to see who voted, but not yet what the participants voted, as long as voting is still open. You can only see what the voted once you close the voting. To achieve this, set the background color to **None**, the **During voting, change the background to** to **a single color** and the **After voting, change the background color to** to **the single color of the given answer**.

Finally, it is also possible to have the background change into red or green depending on whether the given answer was wrong or correct. For this to happen the option **After voting, change the background to** is set to **the single color of the correct or wrong answer**.

When a participant has given the correct answer the background color of his field turns green. Did he or she give the wrong answer the background will turn red. The colors red and green are not fixed. You can change them in the properties of the corresponding question. See also "The properties of a question" on page 70.
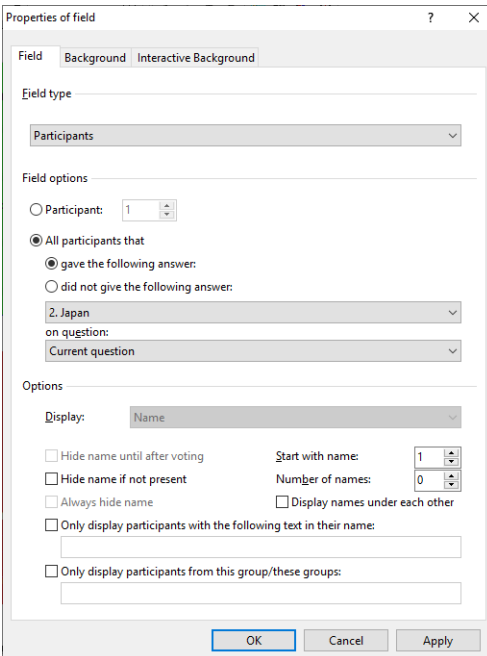
Participants that gave a certain answer

In the previous examples the name of one participant is displayed in one field. It is also possible to display several names in one field. This allows you to display the names of all participants that voted on answer 1. Or of all participants that did *not* vote on answer 1.
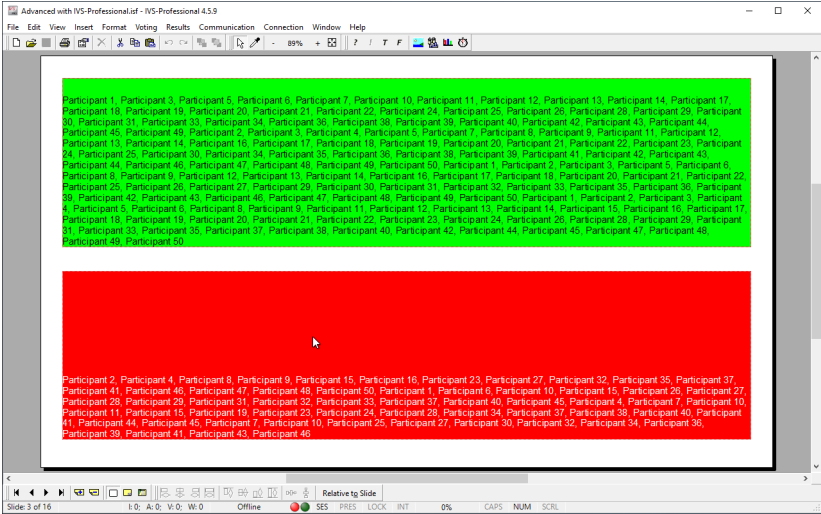
In the example above, two fields were inserted. The first field has a permanent green background color. In this field all participants are displayed that voted for answer 2 on the current question. The second field has a permanent red background color. In this field all participants are displayed that did *not* vote for answer 2 on the current question.

The properties of the first field are set to show the names of participants that gave the following answer. Answer 2 was selected as the answer, and the current question as the question.

The following options can also be set:

Display names under each other When this option is enabled the names are displayed under each other instead of side by side.

Only count participants with the following text in their name If you only want to display participants that have a certain text in their name you enable this option. In the text box below you can enter the text that must be part of the name in order for this name to be displayed. This text must appear in the name exactly as entered, which means that it is case-sensitive.

Only count participants from this group/these groups You enable this option when you only want to display participants from a certain group. You can enter the name of the group in the text box below. A group name is also case-sensitive. You can also enter multiple group names by separating the names from each other with a semicolon.

Start with name Here you specify the first name that may be displayed in this field. If you enter a 7 for example, the first six names that meet the specified conditions will not be shown. If you combine this option with the **Number of names** option, you can make different panels which show the names of the participants. To show the first 20 participants in the first panel, you set the **Start with name** option to 1, and the **Number of names** option to 20. For the second panel, you set the **Start with name** option to 21 and the **Number of names** option to 20, etc.

Number of names Here you specify the maximum number of names you want to display in this field.

The second field is set up like the first one. Only this time the option to show the names of participants that did *not* give the following answer was selected. And here too, answer 2 was selected as the answer and the current question as the question.
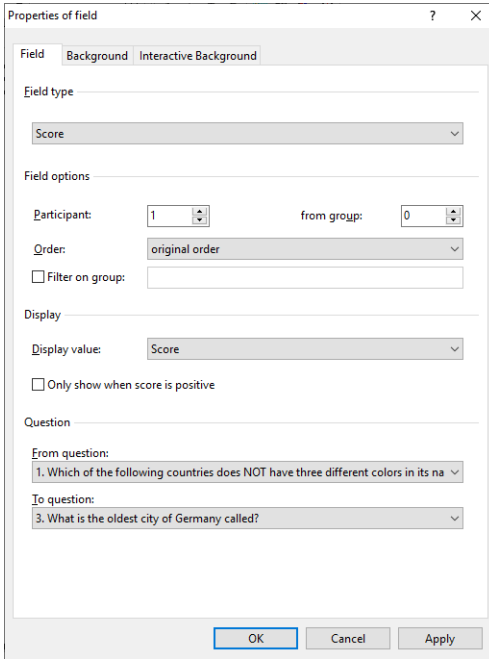
This way of displaying participants is especially useful if you want to play a knock-out race. For each question you can see which participants are still in the race and which ones were "knocked out". For more information see "The knock-out race" on page 229.

The question used in this example is not very suitable for a knockout race. In a knockout race there can only be one correct answer per question. The question in this example has two correct answers. Both answer 2 and answer 4 are correct. A participant gets 10 points for both answers.

An overview of the score per participant

With the field type *Score* you can display the score for each participant. You can display the score of each participant so that you can see exactly which participant got how many points. You can sort the participants based on their scores and put the best scoring participant at the top of the list. You can do the same per group, when participants do not play individually but in groups.

The field op-
tions for the
field of type
Score

Properties of field

Field | Background | Interactive Background

Field type

Score

Field options

Participant: 1   from group: 0

Order: original order

☐ Filter on group:

Display

Display value: Score

☐ Only show when score is positive

Question

From question:
1. Which of the following countries does NOT have three different colors in its na

To question:
3. What is the oldest city of Germany called?

OK   Cancel   Apply

Field options

Under field options you can indicate from which participant(s) or group(s) you want to show the score.

Participant This option displays the score, voting time or name of a certain participant. If you don't want to show the results per participant, but per group instead, set the participant number to 0.

Group This option displays the score, voting time or name of a certain group. The score and voting time are determined by adding the scores and voting times of each of the participants in this group together. If you don't want to show the results per group, but per participant instead, set the group number to 0.

You can also display the total score and voting time of all participants. To do this, set both the participant number and the group number to 0.

Order With this option you indicate whether the list of participants or groups should be sorted or not.

original order With this setting, the list with participants will not be sorted. It will retain its original order.

participants on score; groups in original order This settings will sort all participants on their score. The participant with the highest score will be at the first position and the participant with the lowest score will be at the last position.

participants on score; groups on score This setting will first combine all participants from the same group. Then, a group score is determined for each of the groups, by adding together the scores of each of the participants within this group. The groups are sorted on score, so that the group with the highest score will be at the first position. The participants within each group are also sorted, so that the participant with the highest score is at the first position within this group.

participants on score; groups on relative score per participants This setting is quite similar to the previous setting. However, the groups are not sorted on a total score, but on a relative score instead. This is percentage of the total group score versus the score the group could have obtained if all participants had chosen the answer with the highest score.

participants on score; groups on relative score per voters This setting also sorts the groups on a relative score. In this case, the relative score is a percentage of the total group score versus the score the group could have obtained if everyone who voted had chosen the answer with the highest score. Participants that did not vote are not taken into account.

If multiple participants or groups have the same score while sorting the list, the participant or group with the lowest voting time will be on top.

A position can also be negative. In that case you won't be displaying the best participant, but instead the worst participant. The participant at position -1 is the participant with the lowest score.

Filter on group This option allows you to filter a specific group or specific groups from the total group. To do this, you have to fill in the entire group name. A group name is case sensitive. You can also enter multiple group names by separating them from each other with a semicolon.

Display

The options under *Display* determine what you want to show from the selected participant(s) or group(s). Depending on the participants or groups you selected, instead of "participant", you could also read "participants", "group" or "groups".

Score The total score of the selected participant.

Voting time The total time that the selected participant needed to give his vote.

Name of participant The name of the selected participant.

Name of group The name of the group of the selected participant.

Minimal score This option displays the lowest score of one of the participants. This is not a total score. If you calculate the minimal score over a series of questions, then this will display the lowest score a participant got for one of those questions. If you display the minimal score for a group, then this is the lowest score that one of the participants got for one of the questions.

Maximal score This option displays the highest score of one of the participants. This is not a total score. If you calculate the maximal score over a series of questions, then this will display the highest

score a participant got for one of those questions. If you display the maximal score for a group, then this is the highest score that one of the participants got for one of the questions.

Score in percentage per number of participants This option displays the relative score of the selected participant. The relative score is the obtained score relative to the total obtainable score. This option is especially useful when you work with groups of different sizes. Otherwise a group with fewer participants would be in a disadvantage compared to a group with more participants. See also "An overview of groups with different numbers of participants" on page 226. The maximum obtainable score is the score the participants could have obtained if every participant voted for the answer with the highest score.

Maximum score per number of participants This option displays the maximum obtainable score for this participant. The maximum obtainable score is the score the participants could have obtained if every participant voted for the answer with the highest score.

Score in percentage per number of voters This option is almost identical to the **Score in percentage per number of participants** option. However, in this case the total obtainable score is the score the participants could have obtained if everyone who voted, voted for the answer with the highest score. Participants that did not vote are not taken into account.

Maximum score per number of voters This option displays the maximum obtainable score for this participant. The maximum obtainable score is the score the participants could have obtained if everyone who voted, voted for the answer with the highest score. Participants that did not vote are not taken into account.

Average score This option displays the average score obtained by everyone who voted.

Questions

Under *Questions* you can indicate which questions have to be taken to calculate the scores. This allows you to present both a half time score and a final score.

Various fields
of type *Score*
display the
name, group,
score and vot-
ing time of
the partici-
pants
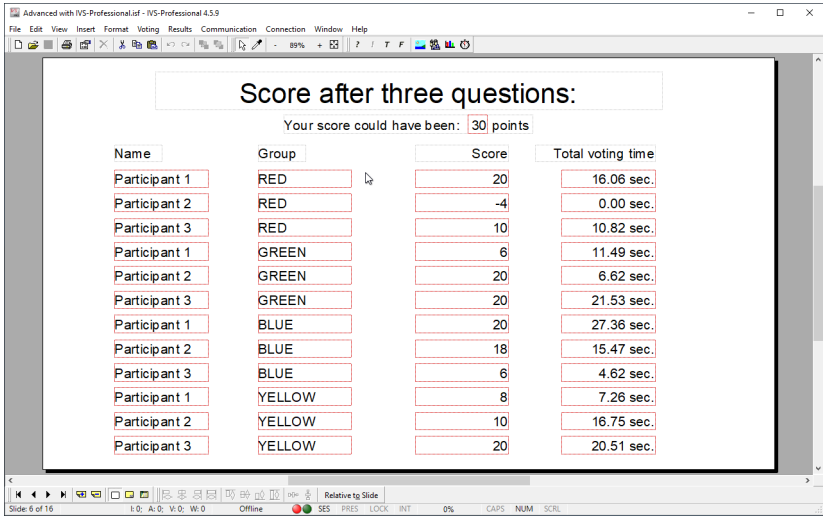
In the example above, two more questions were inserted. The first question in this script has two correct answers. When a participant chooses either of them he gets 10 points. The other two questions each have one correct answer. And for these answers too, a participant can get 10 points. The standard score for these questions is set to -2 points, so that every participant that does not vote will get 2 penalty points.

On this slide an overview is displayed showing the half time score after the first three questions. The first column displays the names of the first three participants of each of the four groups. A field is inserted with its *Field options* set to display **Participant** 1, 2, 3, 51, 52, 53, 101, 102, 103, 151, 152 and 153. Because the participants are divided into groups of fifty participants each, it is not necessary to select a certain group. The option **from group** is set to 0.

The *Display* is set to **Name of participant**. Under *Questions*, question 1 was selected as the first question and question 3 as the last question.

The second column displays the group each participant is in. Here too the *Field options* are set to **Participant** and the **from group** option is set to 0. The *Display* is now set to **Name of group**. And finally, for column 3 and 4, the *Display* is set to **Score** and **Voting time** respectively.

At the top of the slide a text is inserted showing the maximum score for these three questions. A standard text object is inserted with, on top of it, a field of type *Score*. The *Field options* are set to **Participant 1 from group 0** and the *Display* is set to **Maximum score per number of participants**. It does not matter if you select Participant 1 or Participant 200. All 200 participants can obtain the same maximum score.

If you display the group name of a participant in a score overview, you can also have it display a background color. In the properties of a field that displays a group name, you can set the background color to *Group color*. This group color can only be used when you had your audience divide themselves into groups by using a group question. The answers of a group question determine the group names and the bar colors of these answers determine the group color.

An overview of the scores made per group

The quiz in this example has 200 participants. It is impossible to show the results of all 200 participants on one slide in a decent way. Therefore, in the example, the results of only 12 participants were displayed. The 200 participants are divided into four groups. The first three participants of each group are displayed. It is also possible to make an overview of the four groups so that you can see the results of each group.

Various fields of type Score display the group score and the total voting time

The names of the groups are displayed with standard text objects. To show the scores a field of type *Score* is used. The *Field options* are set to **Participant 0 from group 0** and the option Filter on group is set to RED, GREEN, BLUE and YELLOW respectively. *Display* is set to **Score**. The same was done for displaying the voting time. Here, *Display* was set to **Voting time**.

A top-5 of participants

An overview of the scores of each participant is only useful when you can display the results of all participants on one slide. This is no problem for small groups but it does not work for a group of 200 participants.

For bigger groups it is more interesting to display a top-3, a top-5 or even a top-10 showing the best scoring participants at that time.
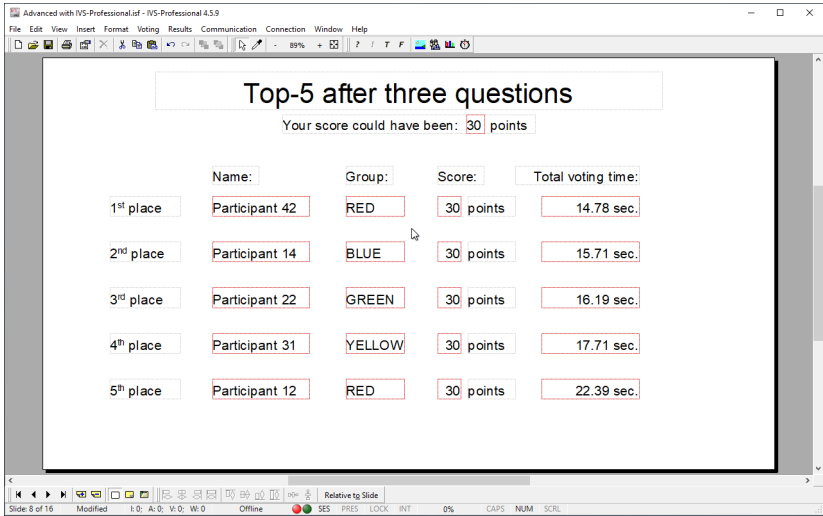
In the example above a top-5 is displayed as this would look after having voted the first three questions. Participants could make a maximum of 30 points for these three questions. You see that everyone in this top-5 did make 30 points. In this case the total voting time of each participant is also taken into account. The participant who answered all three questions correctly and also answered them the quickest, will be at position 1.

The first field on the first row is set to display the name of participant 1 from group 0. The names are sorted on score. The second field is set to show the name of the group of participant 1 from group 0. Here too the names are sorted on score. The third field is set to display the corresponding score and the fourth field to display the corresponding voting time. The same is set for the following rows of fields but for participant 2, 3, 4 and 5 respectively. Each field is set to count question 1 to 3.

You can display a top-3 or top-10, or any desired top in the same way. Under *Field options* you enter the position of the participant that you want to display. You also set the **Order** to **participants on score; groups in original order**.

In this test quiz there are four more questions after this overview. For question 4, 5 and 6, a participant can get 15 points per question and for question 7 a participant can get 20 points.

After question 7 the same top-5 is displayed as after question 3. Of course the properties of the fields are set so that the results for question 1 to 7 are counted.

Additionally, a bottom-3 is displayed on this slide as well. This gives an overview of the three worst scoring participants. The same fields as for the top-5 are used here. Only the participants at position -3, -2 and -1 are displayed respectively.

Should you want to show a top-5 on a slide that also contains a question, you have to be aware of the fact that the results are displayed the moment you open the voting. If this would be the first question, everyone will have 0 points. The top-5 does not mean anything then. The participant on the first position has exactly the same number of points as the one on the fifth position. Only when the voting is closed the correct overview of results will be displayed. It is therefore advisable to always show a top-5 on a separate slide and not on a slide that is also used for voting.

A top-4 of groups

You can display a top-5 of groups the same way you display a top-5 of participants. In this example it is a top-4, because there are four groups that participate in this quiz, but you can just as easily create a top-5 or a top-10.

**The four play-
ing groups
ranked from
best to worst
playing group**

The first field on the first row is set to display **Participant 0 from group 1**, while the **Order** was set to **participants on score; groups on score**. The second field shows the score, the third shows the voting time and the fourth the name of the participant. This fourth field was set up to display **Participant 1 from group 1**, to select the best participant from this group.

The same is done for the other fields for group 2, 3 and 4 respectively.

An overview of groups with different numbers of participants

If you play a quiz with groups that have different numbers of participants you cannot show a top-4 based on the number of points. A group with fewer participants would then have a disadvantage, because they cannot make as many points as a group with more participants. That would also mean that a group with a larger number of participants would have a better chance to end up higher in the top-4.

When the groups have different numbers of participants, you better show a relative score. This is a score in percentages based on the maximum number of points that can be made by a group. Whether a group has lots of participants or only a few doesn't matter anymore, because the maximum number of points is related to the size of the group.

In the following example the same quiz was played. There are still four groups. Group 'RED' has 38 participants, group 'GREEN' has 50 participants, group 'BLUE' has 25 participants and group 'YEL-LOW' has 35 participants. After answering all seven questions, a top-4 of the groups is displayed. First the normal score is displayed. An extra field is inserted to display the maximum score that could be made by each group. The groups are sorted on the score in percentages per number of partici-pants.

The four play-
ing groups of
different sizes
ranked from
best to worst
playing group

You see that when calculating the 1st, 2nd, 3rd and 4th position, the different sizes of the group are already taken into account. Even though the 'GREEN' group has scored most points, they are still at position three. This group has the largest number of participants and therefore could have made a much higher score. By showing the relative score instead of the standard score the overview gets clearer.

The score of
the groups
displayed in
percentages

Group 'RED' has scored a little over 45% of the total score that this group could make. This makes group 'RED' the winner. Even though group 'GREEN' has scored the most points in absolute figures,

this was only 38% of what they could have scored. And that makes group 'GREEN' a worse playing group than group 'RED'.

Still, the overview above isn't that fair. In calculating the maximum score it is assumed that all participants in the group have voted. And when making a participants list, you have to decide how many participants there are going to be in each group. Even though in the example above it was taken into account that group 'BLUE' would have 21 participants, it turned out that the real number of participants in this group was a little lower. This would make group 'BLUE' to be at a disadvantage.

You could say that this was tough luck for group 'BLUE'. They should all have come to play the quiz. But it could also be that you didn't know in advance how many participants would be in group 'BLUE', and so you made a list of 21 participants. If the group turns out to have only 17 participants, you would put group 'BLUE' at a disadvantage.

If the group size isn't known in advance, you can choose to have the relative score calculated based on the maximum score per the number of voters. If only 17 participants in group 'BLUE' vote, the maximum score is calculated for these 17 participants instead of the 21 that were originally in the participants list.

The score of the groups displayed in percentages based on the number of voters

You see that now that the score is calculated based on the number of participants that actually voted, the group 'BLUE' scored better than group 'GREEN'.

A disadvantage of this method however, is that it is now more favorable for a participant that doesn't know the correct answer to not vote at all instead of voting for the wrong answer. If he does vote, but gives the wrong answers, his score will not increase, but his maximum score does. If he doesn't

vote at all, his score will not increase, but neither will his maximum score. Relatively seen, the latter is more favorable.

The knock-out race

In a knock-out race you also play a quiz. Unlike a standard quiz, a knock-out race only allows one correct answer for each question. Furthermore, a knock-out race is always played individually and never in groups.

After each question in the knock-out race, participants that gave a wrong answer are "knocked out" of the race. They are not allowed to vote for the next questions anymore. Their keypad still opens and they can vote with. However, their vote is no longer registered. Only votes from participants that are still in the race are registered.

You play a knock-out race by enabling the **Knock-out race** option in the properties of each question. At the start of a session all participants take part in the race. When someone gives a wrong answer to a question he is out of the race. You play the race until only the winner is left. Should it happen that, at a certain question, the only remaining participants all give a wrong answer and there is no winner, these remaining candidates will not be excluded from the race and can therefore still answer the next question. This means that even though all remaining participants are "knocked out", you can still continue playing until there is only one winner left.

A knock-out race is active during one session. It is not possible to have participants that were already out of the race, take part in the race again, when you are still in the middle of your question. Only when you start a new session can all participants join again.

During a knock-out race you can ask questions that can be answered by all participants. Those questions are not part of the knock-out race. In the properties of these questions you disable the option **Knock-out race**.

For example, you play a knock-out race with 50 participants. After three questions there are 32 participants left. You then ask a question that is not part of the knock-out race. All 50 participants can answer this question. The next question is part of the knock-out race so only the 32 participants left can answer this question. After ten questions there are 5 participants left. Again you ask a question that does not belong to the knock-out race. All 50 participants can answer this question. The next question is part of the knock-out race again, so only the remaining 5 participants can answer this question. After this question there are three participants left. You ask one more question and all three of them give the wrong answer. But they can all try again when you ask the next question. In the end only one participant is left.
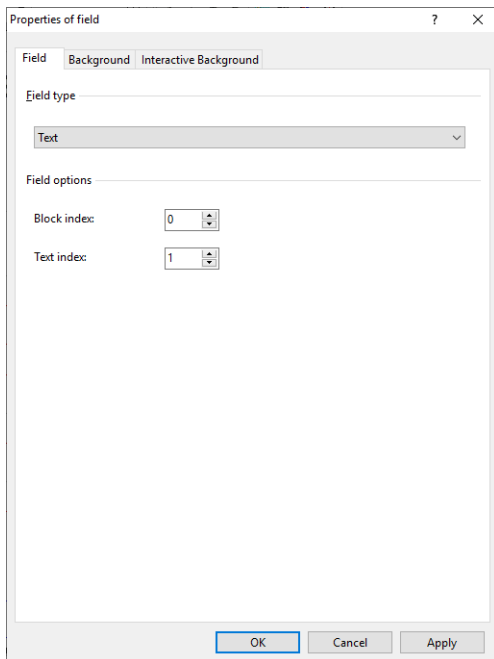
After each question in a knock-out race you can display a slide with two fields of type *Participants*. The first field is set to **Names of participants that gave the following answer**. You select the correct answer here as the answer. The other field is set to **Names of participants that did**

not give the following answer. Here too you select the correct answer as the answer. After each question you can see which participants are still in the race and which were "knocked-out". See also the example in "Participants that gave a certain answer" on page 216.

Displaying text from an external application

With a field of the *Text* type you can display any arbitrary text from an XML file. If you have this XML file written by another application, you can display information from another application in a field.

The field options for the field of type *Text*

Properties of field	? ✕

Field   Background   Interactive Background

Field type

Text	∨

Field options

Block index: 0 ⊟

Text index: 1 ⊟

OK	Cancel	Apply

An XML file is divided into a number of blocks, and each block is divided into a number of texts. The field options allow you to indicate from which block and from which text you want to display the information is this field. If you set the block index to 0, an index will be used that corresponds to the question number of the current question.

Voting with the smartphone via IVS-Online

In addition to voting with keypads, your participants can also vote via their own smartphone, tablet, laptop, desktop or any other device that is connected to the internet and has a browser. To let your participants vote online, you connect your script with IVS-Online. Your participants visit an IVS-Online website, which is linked to your script. As soon as you open voting, your online participants will see the question with the corresponding answers. By tapping the answer of their choice, they can cast their vote. If you close voting, the question disappears again from the online participants and, when this is set up, they see the result in a bar chart.

There are two steps to preparation for allowing your participants to vote online. First, you must connect your script to IVS-Online. Your script is then stored on the IVS-Online server, so that your participants can go to the IVS-Online website to participate in the voting. The second step is to initialize a virtual Base Station, called the IVS-Online Gateway. Just as a normal Base Station handles communication with the keypads, the virtual IVS-Online Gateway takes care of the communication with the online participants.

The votes that your online participants cast are temporarily stored on the IVS-Online server. Every time you open the voting, the results of a previous voting are deleted. When you disconnect from the IVS-Online server, for example when closing IVS-Professional, the results of the last voting are also deleted. Results of an online voting therefore never remain on the IVS-Online server. Just like the results of the keypads, they are only stored in a session on the computer on which you use IVS-Professional.

To use IVS-Online you need a license for IVS-Professional. This license is an extra license on top of the license for using more than 30 keypads. With IVS-Professional's free license, with which you can use up to 30 keypads, you can try out IVS-Online with up to 3 participants. You also need an account for the IVS-Online server. You can request an account from IVS-Professional by selecting *Request IVS-Online account* from the *Connection* menu.

Configuring the IVS-Online connection

To connect your script to IVS-Online, you use the configuration wizard. This wizard guides you through the configuration in a few steps. To start the wizard, choose *Configure IVS-Online connection* from the *Connection* menu.

The wizard for creating an IVS-Online connection guides you through the configuration in a few steps
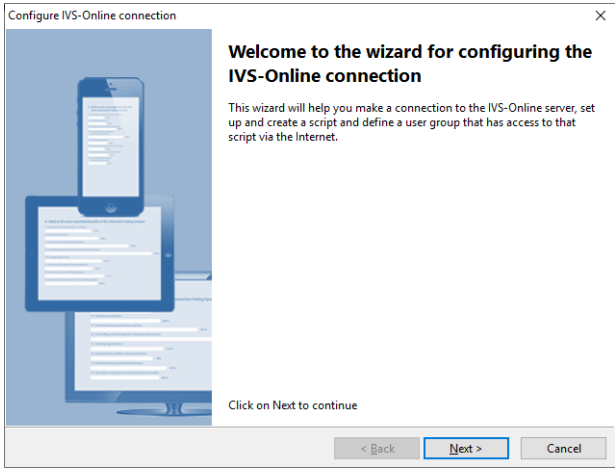
Logging in to the server

The first step is to log in to the IVS-Online server. To be able to do this, you need the account information for the server. If you do not have an account yet, you can request one by selecting *Request IVS-Online account* from the *Connection* menu. A web page will then be opened in which you can enter your email address. By clicking on the **Send activation code** button, you will receive an email with further instructions at the indicated email address. This email address is also your IVS-Online account user name.

Logging in to the IVS-Online server
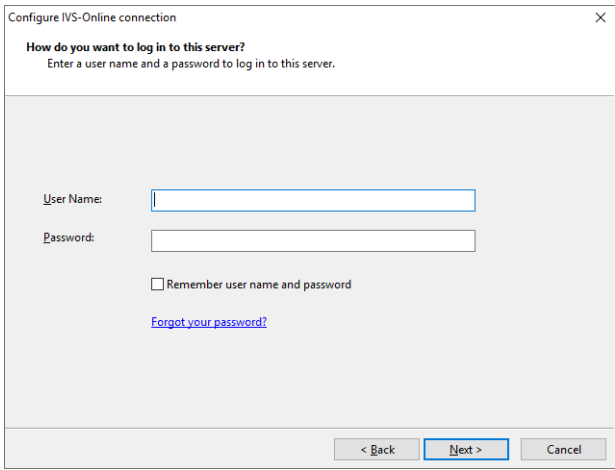
Enter your user name and the corresponding password. When you click on the **Next** button, a connection is made to the IVS-Online server and you are logged in with the entered data.
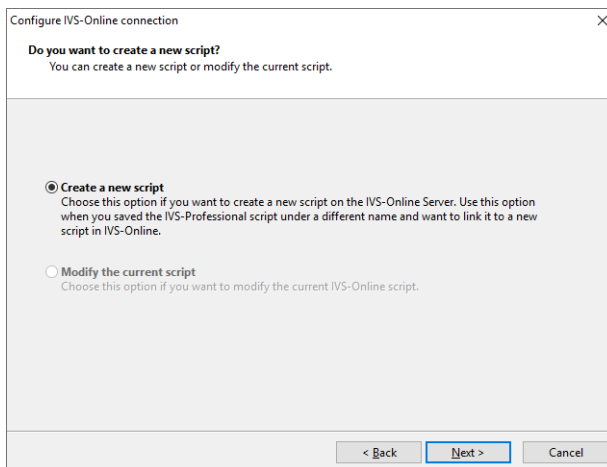
With the **Remember user name and password** option you can have the entered user name and corresponding password stored on the computer. If you have to log in again later, this information will be entered automatically. The password is stored encrypted. The user name is also stored in the script. If you open the script again at a later time, a connection is automatically made to the IVS-Online server with this user name. If the corresponding password is stored on the computer, this connection will be completed automatically. If no password has been saved, the password will be requested every time you open the script.

If you have forgotten your password, you can click on the **Forgot your password?** link. A webpage will open in which you can enter your email address. An email will then be sent to this email address with instructions on how to reset your password.

Creating a script

After connecting to the IVS-Online server, you also have to create a script on the IVS-Online server. The questions and answers are stored in this online script, so that they can be shown to the online participants when the voting is opened. You only need to create one online script per script. You can change the online script at any time by restarting the configuration wizard.

Creating a
new online
script

Create a new script   With this option you can create a new online script on the IVS-Online server. If you have not created an online script before, this is the only option.

Modify the current script   If you restart the configuration wizard after you had previously created an online script, you can modify the online script with this option.

Naming the script

You can give your online script a name. This name may match your normal script, but this is not required. The name of the script is displayed in the title bar of the browser when your online participants visit your script.

Determining the script type

An online script can be answered in two ways. With a real-time script, the questions are answered in the same way as with a keypad. Only when the voting is opened, the question with the corresponding answers appears and the participant can make a choice. If the voting is closed, it is no longer possible to answer and the results of the voting are displayed.

With an online questionnaire all questions are immediately available. The participant can answer the questions at his own time. When he opens the webpage of the script, he immediately sees the first question. If he has answered it, he can immediately continue to the next question until he has answered the entire script. The results of the voting are not immediately available, but must be downloaded from the IVS-Online server after a certain time.

Choosing for
a real-time
script or an
online ques-
tionnaire

This script is a real-time script   With this option you can turn your online script into a real-time script. Participants will have to wait until the voting is opened before they can answer a question.

This script is an online questionnaire   With this option, your online script becomes an online questionnaire. Your participants can answer all questions at their own pace.

Setting up a time frame

You can make your online script immediately available, but you can also set a time frame within which it is available. The latter is especially useful with an online questionnaire, where you allow the participants to answer the questionnaire during a certain period of time. But you can also set a time frame for a real-time script.

Setting a time
frame within
which the
script can be
used

This script can always be used   With this option there is no restriction on the script. Your participants can visit the web page of your online script at any time. When you have created a real-time script, the participants still have to wait until a question is put to the vote. If you have created an online questionnaire, participants can immediately start answering the questions.

This script can only be used within this time frame   With this option you can set a start and end date, within which your script is available. When your participants visit the web page of your online script outside this time frame, they will be notified that the script is not (yet) available. This applies to both a real-time script and an online questionnaire.

Welcoming the online participants

When you have created a real-time script, and your online participants go to the web page of your online script for the first time, they will see a welcome page, as long as the voting is not open yet. In between all questions, when the voting is closed, they will see a standby page.

For both pages you can set the text that your participants will see. In addition, you can optionally upload an image that is displayed with this text.

If you have created an online questionnaire, this step is skipped, because with an online questionnaire your participants do not have to wait.

Setting the welcome texts for your online participants

In the upper part of this window you can enter a text that your online participants will see when they first visit the web page of your online script. You can also add an image to this text by clicking on the **Load Image** button. After selecting an image, a preview of this image is displayed in the Preview box. To no longer display the selected image, click the **Clear Image** button.

In the lower part of this window you can enter a text that your online participants will see when the voting is closed and they must wait until the voting for the next question is opened. You can also add an image to this text.

A placeholder text is displayed for both texts. This text disappears as soon as you place the cursor in the text box and enter your own text. If you do not enter your own text, the placeholder text will be used.

By default, an image of a green check mark is displayed along with the custom text for the voting. There is no preview of this image, because your online script has not yet been created. If you do not want to use an image, you can go through the configuration wizard again at a later time and click on the **Clear Image** button to remove the image of the check mark.

Showing the results

When you have created a real-time script, you can choose to also display the results of the voting on your online participants' smartphone. These results are only displayed if they are also displayed in IVS-Professional. If you have a result diagram on the same slide as the question, the results will be displayed immediately after the voting is closed. If the result diagram is on the next slide, your online participants will only see the results when you go to the next slide.

If you have created an online questionnaire, this step is skipped because no results are available with an online questionnaire.

Showing the
results to
your online
participants

Show results With this option, the results are displayed to your online participants. The results appear as soon as they are displayed in a result diagram in IVS-Professional. They remain visible until the next question is opened.

Do not show results   With this option the online participants will not see any results. If the voting is closed, they will see a standby page.

For online participants, the total results are always displayed, in absolute numbers or in percentages, depending on how they are displayed in the result diagram in IVS-Professional. The results are always shown in a bar chart, regardless of how they are shown in IVS-Professional. An crossing or comparison cannot be displayed with the online participants. When you cross or compare in IVS-Professional, the online participants only see part of the results.

Determining who is allowed to vote

Your online script is available to anyone who knows the link to the webpage of your script. This corresponds to voting with keypads, where the keypads are freely available in the room, with the difference that online participants do not necessarily have to be in the room. This is not always desirable, for example if you only want participants to vote in the room and prevent the link from being passed on to participants who are not present in the room.

You can therefore protect your script with a user name and password. You determine in advance who can participate and who cannot. If your script contains identified questions, you must also use the user name and password combination. Otherwise it is impossible to identify your online participants.

Determining who are allowed to vote

Anyone can vote   With this option there is no restriction on your online script. Everyone who visits the webpage of your online script can vote.

Anyone can vote after registration   With this option, everyone can still participate. Participants are asked to register with their email address. You can use this option with an identified vote, for example with a quiz, where you let the participants identify themselves. You do not have to

create a list of participants in advance. Although they are asked for an email address, participants do not necessarily have to enter an email address. Any name can be entered. However, if two participants in a quiz both decide to enter the name 'Santa Claus', and one of them wins the quiz, then it is impossible to determine which of them this is.

Only a select group of participants can vote   With this option one can only participate after entering a user name and password. You must enter a list of user names and passwords in advance.

Creating a user group

If you have selected the option **Only a select group of participants can vote**, you can first create a user group. This contains all users who can participate in your online script. You can reuse a user group for another online script if you want the same users to participate. In that case you can select an existing user group, and you do not have to add all users again to your online script.

Creating a user group

You can select an existing user group from the list of user groups. If you want to create a new user group, enter a name for this new user group here.

With the option **This user group is an anonymized group** you can make this group anonymous. Your participants do not have to log in with a user name and password, but follow a unique link that they receive in an email. Moreover, the voting results of each question are returned in a random order, so that it is not possible to find out which results belong to which participant. This also means that crossing questions is not possible with an anonymous group, because it is not possible to find out how the participants answered the reference question.

You use an anonymous group when you want your users to vote absolutely anonymously, but still want to determine who can participate in the vote. This is in contrast to the option **Everyone can**

vote, where the participants also vote anonymously, but where also everyone can participate, who knows the link to your online script.

Editing the user group

If you have selected an existing user group, the user name, full name, and email address of all users in this group are displayed. You can add or remove users or modify the details of certain users.

If you have created a new user group, then there are of course no users present. You can add new users or import them from an existing list.

Configure IVS-Online connection ✕

Edit User Group
Add users to the selected user group, edit the existing users' data or remove users from the user group.

Users in selected group:

User Name	Name	Email

Import...   Add...   Edit...   Delete...

< Back   Next >   Cancel
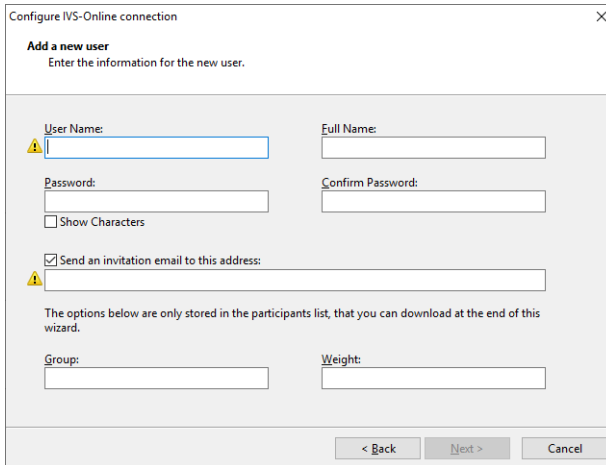
With the **Add** button you can add a new participant to this user group. With the **Edit** button you can edit the data of the selected participant. With the **Delete** button you can remove the selected participant(s) from the user group.

With the **Import** button you can import an existing list of participants, so that you do not have to add all participants one by one. The list can be a normal text file, with the data of one participant on each line, separated by a tab. The list can also be a CSV file, with the data of one participant on each line, separated by a list separator. Each line must contain the following information, in this order: user name, full name of participant, password, email address, voting group and voting weight. Only the user name is required, the other details are optional. If you do not enter a full name, the user name will be used as the full name. If you do not enter a password, the IVS-Online server will generate a password itself. If you do not enter an email address, you cannot have this participant sent an invitation; it's up to you to ensure that the participant receives his user name and password. If you do not enter a voting group, it will remain empty. If you do not enter a voting weight, this participant will receive a voting weight of 1.

Adding a user

If you click on the **Add** button, you can enter the details of a new participant so that it is added to the user group. If you click on the **Edit** button, you can edit the selected participant's details. The current details of this participant has already been filled in.

Under *User Name* you enter a name that is unique to this user group, with which the participant must log in. If you do not enter a user name, the email address will be used as the user name.

Under *Full Name*, enter the participant's full name. With an identified vote, this name will be used as the participant name. If you do not enter a full name, the email address will be used as the full name.

Under *Password* you enter the password for this user. Under *Confirm Password*, enter the password again. You can optionally check the **Show Characters** option to verify whether you have entered the password correctly. If you do not enter a password, the IVS-Online server will generate a password itself.

With the option **Send an invitation email to this address** you can have the IVS-Online server send an email to the participant, containing his user name, password and a link to the web page of your online script. This link also contains his login details, so only clicking on the link is sufficient. He then does not have to enter a user name and password.
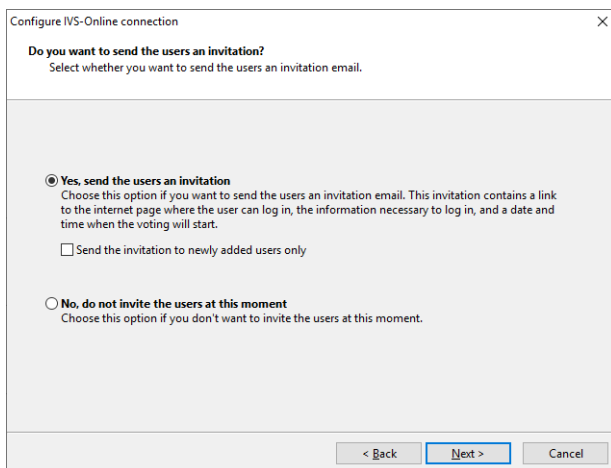
If you do not send an invitation to the participant, you must inform him of his user name and password and the link to the webpage of your online script in another way. You will be able to retrieve this information later by selecting **Export Internet Participants** from the **Connection** menu.

Under *Group* you can enter the voting group and under *Weight* the voting weight of this participant. These data are not used by the IVS-Online server, but they are stored with the participant, so that they can be filled in later when you save a participant list of internet participants.

Sending an invitation

After having added all participants to the user group, you can have the participants sent an invitation by email. This invitation contains a link to the web page of your online script, when necessary the time when this page is available, and the user name and password with which the user can log in. The email also contains a link that allows the user to log in directly, without having to enter his user name and password. This link is also coded in a QR code, which he can scan with his smartphone to go directly to the web page.

Yes, send the users an invitation   With this option, an invitation email is sent to all participants whose email address has been entered. If you enable the option **Send the invitation to newly added users only**, only participants that you have just added to the user group will receive an invitation. Users who were already in the group, and who could have received an invitation earlier, will not be invited again. This option is only available if an email address of at least one participant is known.

No, do not invite the users at this moment   Select this option if you do not want to send invitations at this time.

Setting an alias

An alias is a short name for your script. This alias is used to determine the link that your online participants must enter to access the web page of your online script. This link always starts with https://ivs.eu/, followed by your online script's alias.

You can have this alias determined automatically. The IVS-Online server then generates an alias of five random letters and numbers. You can also enter the alias yourself. However, the alias must be unique because there cannot be two different online scripts that are assigned the same link. If the alias that you have entered does not appear to be unique, because someone else has already used this alias once for another online script, an alias will still be generated automatically. You will not be notified in advance if your alias is not unique.

Automatically generate an alias   With this option you let the IVS-Online server automatically determine an alias for your script. This alias consists of five random lowercase letters and numbers.

Use a specific alias   With this option you can enter an alias for your online script yourself. The alias must be unique to the entire IVS-Online server. For example, if you enter 'test' as an alias, then there is a big chance that this alias has already been used by someone else for an online script. If the alias is not available, an alias will be automatically generated for your script.

An alias is not only linked to your online script, but also to the selected user group. If you change your online script from **Only a select group of participants can vote** to **Everyone can vote**, a new alias will be generated.

If you have assigned an alias to your online script yourself and you want to use this alias later for another online script, you must first release the alias. You do this by starting the configuration wizard again and then selecting the option **Automatically generate an alias**. The IVS-Online server will then automatically generate a new alias for your online script, which will release your own alias so that it becomes available for another online script.

Setting extra options

In addition to online voting, you can also offer your online participants the opportunity to send messages. For more information, see "Configuring message sending" on page 252.

You can only set these extra options if your online script is a real-time script. It is not possible to use extra options for an online questionnaire.

Setting extra options for your online participants

Message sending   With this option you offer your online participants the possibility to send messages.

Meeting evaluation   This option is not currently supported.

Summary

Before your online script is actually created, a user group is created and online participants are added, a brief summary of the settings is first shown. Only in the next step will all settings actually be sent to the IVS-Online server.

A summary of the settings for your online script

Configure IVS-Online connection	✕

Summary

This is a summary of the settings that are going to be changed. Click Next to perform the changes. Click Back to review your settings.

Script name:	Online script for manual
Script type:	Real-time script
Availability:	Always
Display remote results:	No
Remote voters allowed:	Only registered
User group:	User group for manual
Number of users in group:	1
Send invitation:	Yes
Script alias:	Created automatically
Use message sending:	No
Message queue name:	N/A

[< Back] [Next >] [Cancel]

Completing the wizard

After all settings have been sent to the IVS-Online server, which can take a while, especially when many invitations have to be sent, the link to the web page of your online script is displayed.

The connection to the IVS-Online server has been configured

Configure IVS-Online connection	✕

The connection has been configured

The connection to the IVS-Online Server has now been configured.

The participants can vote via the internet by entering the link below.

https://ivs.eu/21adq

You are using a select group of participants. If you want to vote with identification, then click on the Download button to download the list of participants. You can always edit this list with the IVS-Participant Registration tool.

[Download...]

Click on Finish to exit this wizard.

[< Back] [Finish] [Cancel]

You can copy the link to the clipboard by clicking the **Copy the link to the clipboard** (🖺) button.

When you have created a user group, you can download a list of participants by clicking the **Download** button. You will need this list of participants when you use identified questions in your script. For more information about participant lists, see "Creating a list of participants" on page 123.

When you click **Finish**, the final step will be to send a list of questions and corresponding answers from your script to the IVS-Online server. This may take a while.

The account data and information about the online script and user group are stored in your script. So don't forget to save your script after you have connected to IVS-Online. If you do not save the script, the online script can no longer be used later. You will then have to create a new online script. This also means that your own alias, which you have linked to this online script, is not usable, and can no longer be released for use with another online script.

Initializing the IVS-Online Gateway

After having configured the connection to the IVS-Online server, you have to initialize the IVS-Online Gateway. This is a virtual Base Station, which ensures that the voting is opened and closed among online participants. It works in the same way as a Lite Base Station, which ensures communication with the keypads. The IVS-Online Gateway is a virtual Base Station, because you do not have to physically connect it to your computer.

To initialize the IVS-Online Gateway, select **_Settings_** from the **_Communication_** menu. The Communication Settings wizard appears. Select the option **Set up the clusters manually (advanced)** and click **Next**.

You can select the IVS-Online Gateway on any port. If you do not have real serial ports on your computer, you can also use the COM255 virtual port to initialize the IVS-Online Gateway. Select the IVS-Online Gateway on port COM255 and click **Next**.

Click the **Initialize** button to initialize the IVS-Online Gateway. Then click **Next** and then **Finish**.

For more information about initializing Base Stations, see "Communication with the Base Station" on page 134.

Voting using the browser

To be able to vote, your online participants go to the link that they received in an invitation via email, or that you passed on to your online participants in another way.

Logging in

If your script is set up so that only a select group of participants can vote, the online participants must first log in with the user name and password they have received.
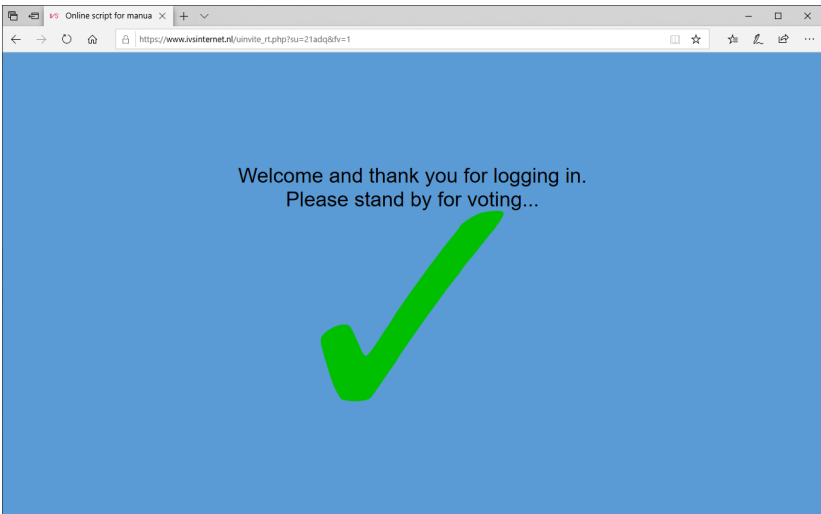
An online par-
ticipant first
has to log in
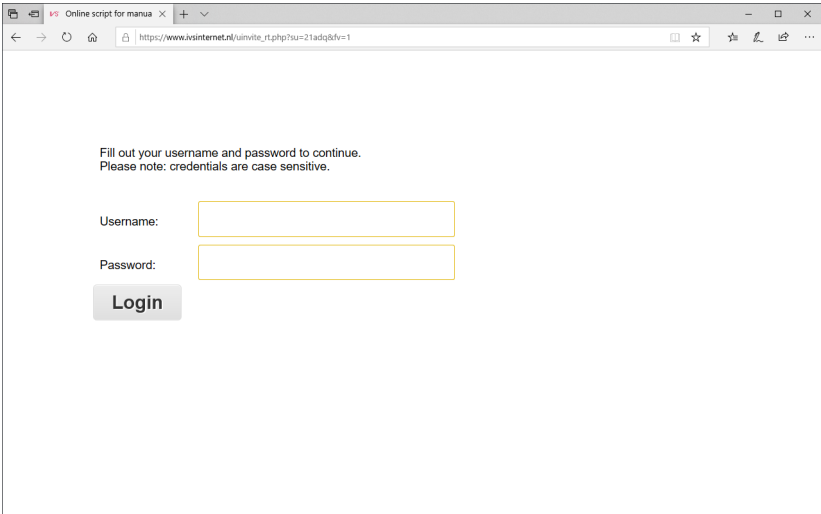
Both the user name and password are case sensitive. These must therefore be carefully copied.

After the participant has logged in, the welcome text appears, as set in the configuration wizard for the IVS-Online connection.
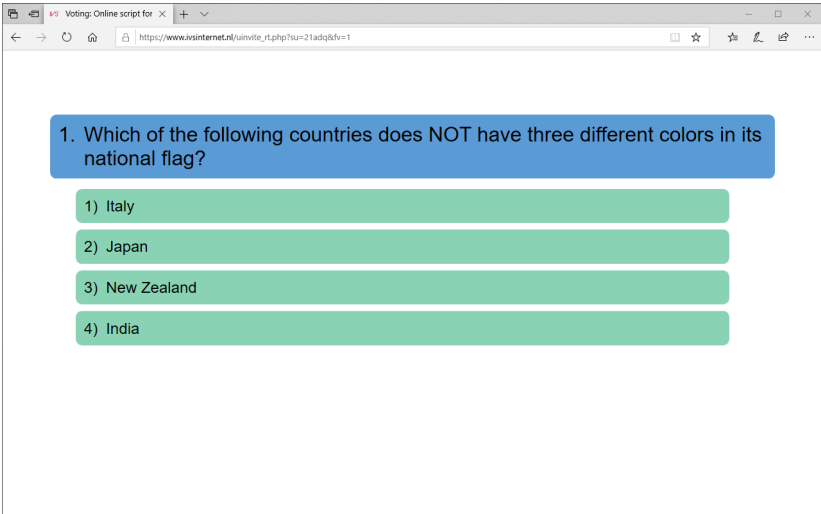
The welcome
text is dis-
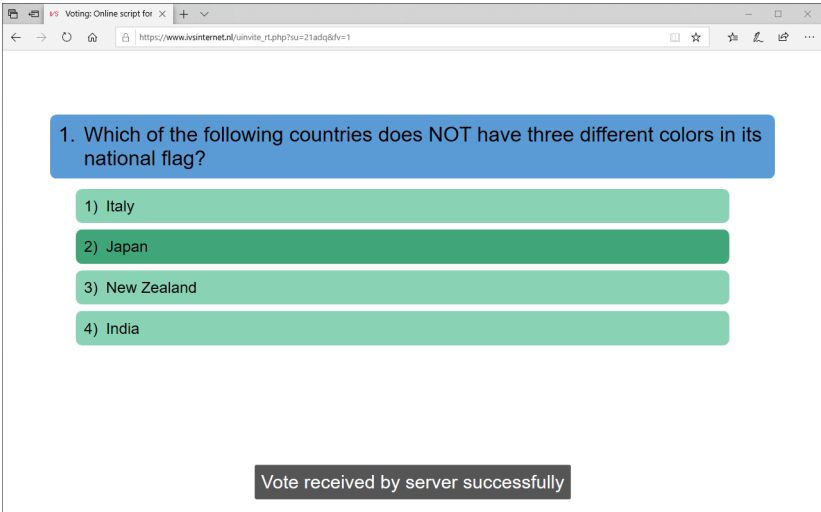played after
the online
participant
has logged in

Voting

When the voting is opened in IVS-Professional, the question with corresponding answers is displayed in the browser of the online participant.

The participant can cast his vote by clicking or tapping one of the answers. The chosen answer changes color and the bottom of the screen briefly shows that the vote has been received by the IVS-Online server.

After the voting is closed, the welcome text for the next question is displayed. If your online script was set to also show the results, the results of the voting will be displayed instead of the welcome text.
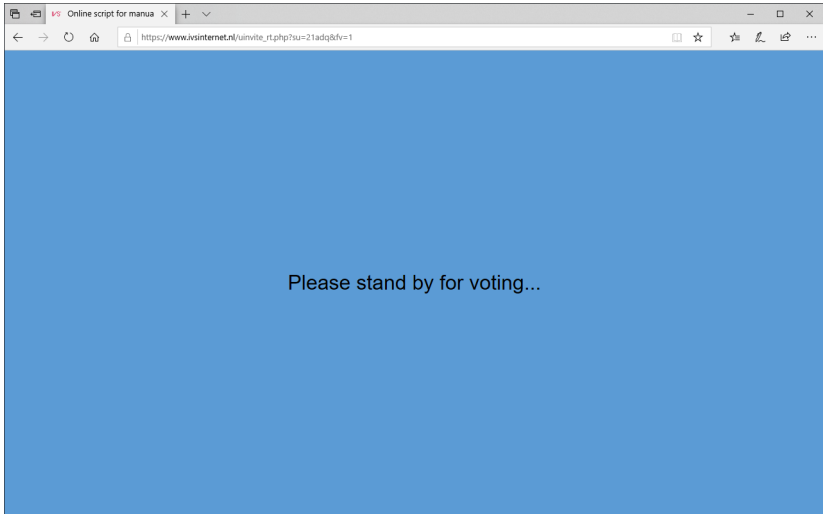
Modifying the online script's layout

The layout of the online script is based as much as possible on the script in IVS-Professional. The settings of the template are taken over where possible. Modifications to individual slides are not taken over, as this would generate too much data when opening the voting.

The examples in this chapter use a script based on the design template "Online script (widescreen 16:9)". In this template the background color of the question is set to blue and the background color of the answers to green. Besides, the option to only apply these color to slides in IVS-Online has been enabled. The question and answers in IVS-Professional therefore do not get a background color. The background color of the question is also used as the background for the standby screens.

The properties of an answer have an extra tab in the template, called *Dynamic background*, where additional background settings can be made, specifically for use with IVS-Online.

The proper-
ties of an an-
swer in the
template

Properties of answer ? ✕

Answer | Background | Dynamic background | Advanced

Background when hovering

Fill: No Fill ▾

Primary color: ▾   Transparency: 0 ⇅ %

Secondary color: ▾   Transparency: 0 ⇅ %

Direction: From top to bottom ▾

Background when selected

Fill: Solid Fill ▾

Primary color: ▾   Transparency: 0 ⇅ %

Secondary color: ▾   Transparency: 0 ⇅ %

Direction: From top to bottom ▾

OK   Cancel   Apply
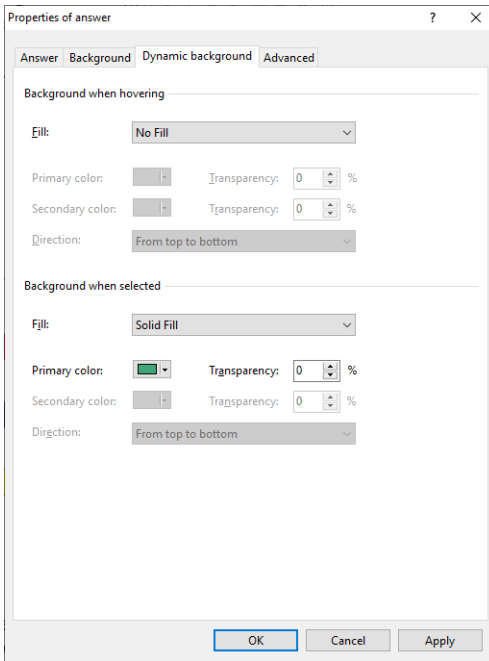
Under *Background when hovering* you can have the background color of the answer changed when the mouse cursor hovers above the answer. This only applies when the webpage is opened on a desktop or laptop, where the answer can be pointed at with the mouse before it is clicked. With a smartphone or tablet, no mouse is available and an answer cannot be pointed at. This setting there- fore has no effect on a smartphone or tablet.

Under *Background when selected*, you can have the background color of the answer change as soon as the answer is selected. This option applies to all devices on which the web page is opened. When a participant clicks or taps one of the answer options, this answer will be selected and the choice made will be passed on to the IVS-Online server. To make it clear to the participant what answer he has given, the background color of this answer can be changed to a different color.

If the option **No Fill** is chosen in either the *Background when hovering* or *Background when selected* option, the background will remain as set on the *Background* tab.

In addition to the background color, the formatting of the text of the question and answers is also taken over by the online script. Both font and size, color, bold and italics are applied. The font will only be used for the online participant if it is available on his device. For example, if you choose the Impact font for the answers, this will not be used on the smartphone of an online participant, because the Impact font is not installed there.

The position and size of the text boxes for the question and the answers are not taken over. A question always appears at the top of the screen, with the answers below. The text boxes for the question and answers always cover the full width of the screen, with the answers on both the left and the right slightly indented relative to the question.

If you have made changes to the layout, you must save your script to apply these changes to your online script. If you have already opened the webpage of your online script in a browser, you must first refresh the page in your browser before the changes to the layout will take effect.

If you make changes to the questions or answers, they will be automatically sent to the IVS-Online server when you open the voting. However, this happens every time you open the voting, which causes an unnecessary delay. Therefore, after changing questions or answers, or adding additional questions or answers, it is better to first save your script before you open the voting. When saving, the changes are also sent to the IVS-Online server, which prevents that this has to be done each time the voting is opened.

Sending messages with the smartphone via IVS-Online

Your online participants can not only vote with the questions that you put to the vote, they can also send interim messages to, for example, the presenter or a panel chair. In these messages they can, for example, respond to a presentation, but they can also ask questions that could then be answered by a panel.

Participants can send messages from the same web page that they use for voting. With the help of two buttons at the top of the page, they can switch between voting and sending messages. When you open the voting, the page automatically switches to voting, so that the participants are given the opportunity to cast their vote.

Sending messages is independent of voting with IVS-Professional. Your participants use the same webpage, but the messages are only sent to the IVS-Online server and can be viewed and moderated via another webpage. This does not require IVS-Professional. However, configuring the option to send messages is done from the same configuration wizard that you use to configure online voting.

Configuring message sending

If you have not yet connected to IVS-Online, start the configuration wizard by selecting **Configure IVS-Online connection** from the **Connection** menu. See "Configuring the IVS-Online connection" on page 231 on how to do this.

If your script is already connected to IVS-Online, you can also select the **Configure Message Sending** option in the **Connection** menu. This will skip the first steps of the wizard.

Setting extra options

If you have selected the **Configure Message Sending** option, the configuration wizard will start at the page for setting additional options. Here you enable the **Message sending** option to be able to configure this option.

Configure IVS-Online connection

Do you want to set up extra options?
Select the extra options you want your remote voters to be able to use besides voting.

☑ **Message sending**
Select this option if you want to allow your remote voters to send messages to the moderator.

☐ **Meeting evaluation**
Select this option if you want to allow your remote voters to fill out an evaluation form during or at the end of the meeting.

< Back   Next >   Cancel

Creating a message queue

The messages that your participants send are stored in a message queue. You can create a new message queue that is linked to your online script, but you can also link an existing message queue to your online script.

Configure IVS-Online connection

Which message queue do you want to use?
Select an existing message queue or create a new one.

◉ **Create a new message queue**
Select this option if you want to create a new message queue.

○ **Use an existing message queue**
Select this option if you want to use an existing message queue. Any messages that are already in the queue, will stay in that queue. Select an existing queue from the list below.

< Back   Next >   Cancel

Create a new message queue With this option you create a new message queue and link it to your online script.

Use an existing message queue With this option you can link a previously used message queue to your script. If there are any messages in this queue, they will just remain. Your online participants can add additional messages to this message queue.

The properties of a message queue

You can set four properties of a message queue. In addition to the name of the message queue, you can also adjust the texts that your online participant will see on the message page. This message page consists of a text box in which the participant can type his message text and a button with which the message is sent.

If you have selected an existing message queue, this screen will be populated with the data from the selected message queue and you can change this information if necessary.

Under *Name*, enter a name for this message queue. This name is only an indication of this message queue, and is used, for example, when you later want to link this message queue to another online script.

Under *Message box caption*, enter a text that will appear above the text box on the message page. Under *Message box placeholder text* you enter a text that will be placed in the text box. This text is only a placeholder text. This is displayed as long as the user has not entered his own text, and cannot be sent.

Under *Submit button caption*, enter a text that will be displayed on the send button.

The texts that appear in the three text boxes when you have created a new message queue are also placeholder texts. They disappear as soon as you enter your own text. If you do not enter your own text, these placeholder texts will be used for the text box and the submit button on the message page.

The properties of the message wall

The messages sent by the participants are displayed on a message wall. You can adjust a number of properties of this message wall.

Configure IVS-Online connection

Change the message wall properties
You can select a logo that appears at the top of the message wall and change the number of columns the messages will be displayed in.

Logo: [Load Image...]   Preview
        [Clear Image]

Header background color: [ ]

Number of message columns: [1 Column ▼]

[< Back]   [Next >]   [Cancel]

The message wall is a fairly simple webpage, which displays the messages sent by the online participants. You can, for example, display this message wall on the big screen during your meeting.

By clicking on the **Load Image** button, you can load an image that is displayed as a logo on the message wall. The logo is displayed in a header at the top of the message wall. If you have selected an image, you can also set a background color for this header.

Under *Number of message columns* you can set in how many columns the messages are displayed on the message wall. You can choose from a fixed number of columns, but you can also have the number of columns determined automatically. Depending on the amount of messages and the amount of text in a message, the messages are automatically divided into several columns.

Summary

Before your message queue is actually created and set up, a summary of the settings is first displayed. Only in the next step will all settings be actually sent to the IVS-Online server.

Completing the wizard

After all settings have been sent to the IVS-Online server, the link to the web page of your online script is displayed. In addition, two additional links are displayed. One refers to the message wall, the other to a moderator page, on which a moderator can first moderate the messages before they appear on the message wall.

The connec-
tion to the
IVS-Online
server has
been config-
ured

Configure IVS-Online connection ✕

The connection has been configured
The connection to the IVS-Online Server has now been configured.

The participants can vote via the internet by entering the link below.

https://ivs.eu/21adq

Messages sent to the moderator by your participants, can be moderated via the internet by entering the link below.

https://ivs.eu/21adq/moderator

The moderated messages will appear on a message wall, that can be viewed via the internet by entering the link below.

https://ivs.eu/21adq/wall

You are using a select group of participants. If you want to vote with identification, then click on the Download button to download the list of participants. You can always edit this list with the IVS-Participant Registration tool.

Download...

Click on Finish to exit this wizard.

< Back   Finish   Cancel

Sending messages via the browser

When the online participant logs on to the web page of your online script, two buttons now appear at the top of the page. With the **Voting** button the participant can participate in the voting, with the **Message** button the participant can send a message.

IVS Online script for manua ✕ + ∨

https://www.ivsinternet.nl/uinvite_rt.php?su=21adq&fv=1

VOTING   MESSAGE

Send your message to the moderator:

Type here...

Send message
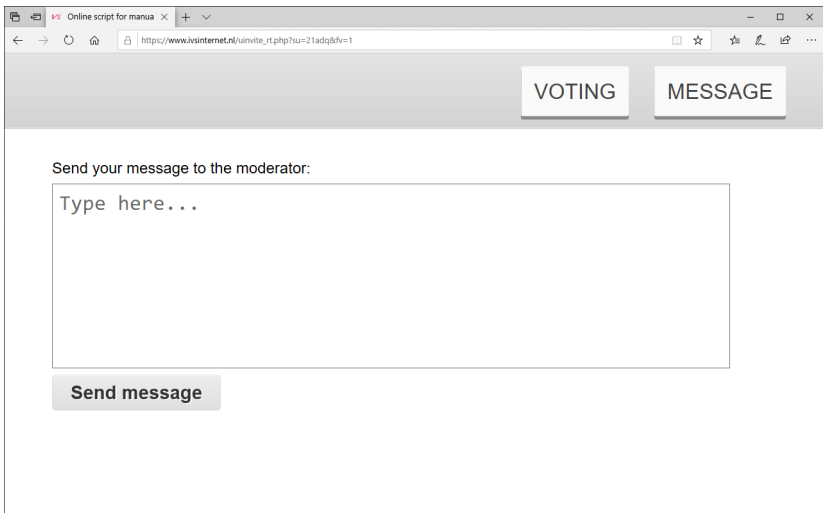
Moderating messages

The messages sent by the participants are not published directly on the message wall. This is to prevent all sorts of nonsensical messages from appearing on the message wall. Instead, the messages are first sent to a moderator. This moderator determines whether or not a message is published on the message wall.

You can moderate the messages yourself by going to the website https://ivs.eu/moderate and logging in with the details of your IVS-Online account. Then select the desired message queue. You will then see all messages that are in this message queue.

When you have someone else do the moderation, it is not useful to give your account details away. That is why you can designate a guest moderator who can access your message queue via a special link.

A link to the moderator page of your online script is displayed at the end of the configuration wizard. This is a shortened link to a registration page for moderation. On this page you can log in with your account information from IVS-Online. You will then see the special link for the guest moderator.

You can request the link for the moderator page from IVS-Professional by selecting **Show Moderator Link** from the **Connection** menu.

The link for the moderator
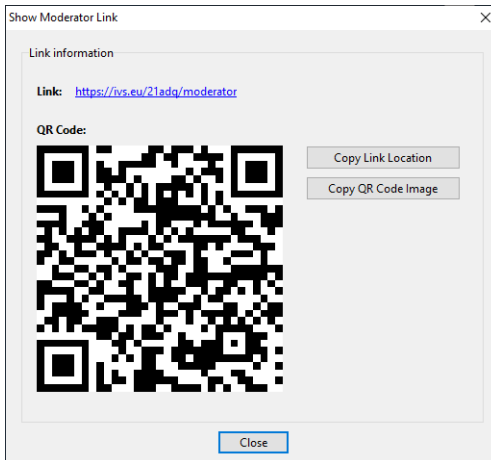
The link displayed in this window is the same short link that was also displayed at the end of the configuration wizard. If you follow this link, you still need to log in before you can moderate the message queue. If you click on the **Copy Link Location** button, the full link is copied to the clipboard. When you go to the webpage via this full link, you do not have to log in and you can immediately moderate only this single message queue.

The full link is also coded in the QR code image. You can scan it directly to open the message queue moderation page, or you can copy it to the clipboard by clicking the **Copy QR Code Image** button. You can then, for example, paste this image into an email and mail it to your guest moderator.
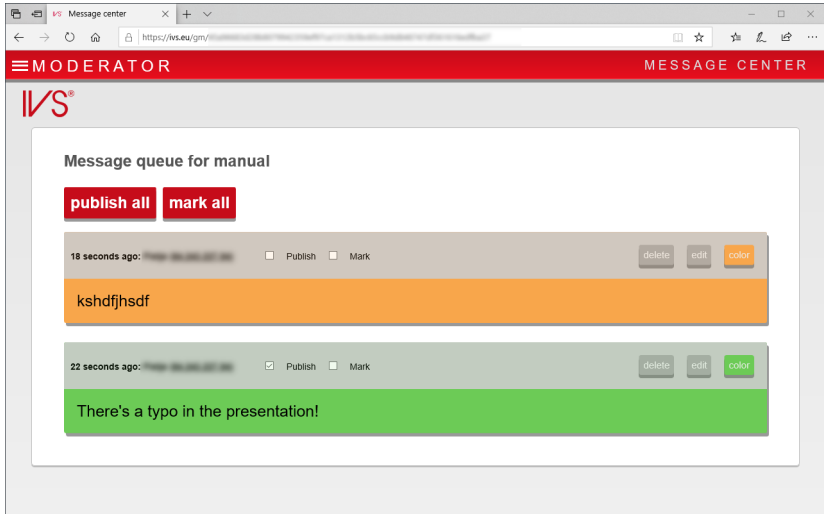
An overview of all sent messages is displayed on the moderation page. Each message includes the user name and IP address used to send the message. The moderator can publish a message on the message wall by placing a checkmark at *Publish*. Optionally, the message can be marked by checking *Mark*. A marked message is displayed on the message wall using a different text color and a slightly larger font.

The moderator can also delete a message by clicking the **Delete** button. He can change the message text by clicking the **Edit** button. Finally, he can adjust the color of the message by clicking the **Color** button. Every message is assigned a random color by default.

Showing the message wall

The messages published by the moderator will be placed on the message wall. The message wall is a web page that can be displayed in a browser.

You can view the message wall yourself by going to the website https://ivs.eu/wall and logging in with the details of your IVS-Online account. Then select the desired message queue. You will then see the message wall with all messages published by the moderator.

At the end of the configuration wizard a link is displayed to the web page of the message wall of your online script. This is a shortened link to a message page for the message wall. On this page you can log in with your account information from IVS-Online. You will then see the special link for the message wall.

You can request the link for the message wall from IVS-Professional by selecting **Show Message Wall Link** from the **Connection** menu.

The link displayed in this window is the same short link that was also displayed at the end of the configuration wizard. If you follow this link, you still need to log in before you can view the message wall. If you click on the **Copy Link Location** button, the full link is copied to the clipboard. When you go to the webpage via this full link, you do not have to log in and you can immediately view the message wall for this single message queue.

The web page for the message wall
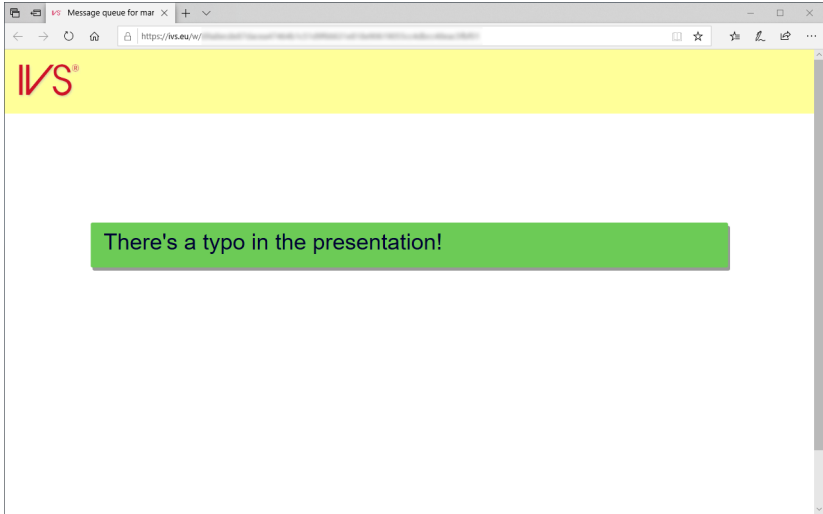
Preferences

Using the preferences you can change some of the options of IVS-Professional. You can, for instance, change what happens when IVS-Professional is started. And for the editing of a script, you can change the distance of the grid and the mouse sensitivity.

You can change the preferences by selecting the option **Preferences** from the **File** menu.

Select the option *Preferences* from the *File* menu.

The dialog box for changing the preferences is displayed.
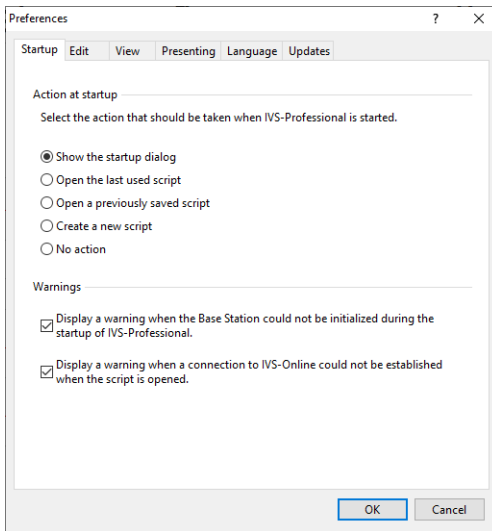
Startup

On the *Startup* tab you can choose what you want to happen when IVS-Professional starts. Normally, the startup dialog is displayed, but you can also choose to immediately create a new script, or to not do anything at all.

Show the startup dialog When starting up, the startup dialog is shown. Within this dialog, you can choose to open one of the last used scripts, or to create a new script.
Open the last used script When starting up, the last script you used is automatically opened again.

Open a previously saved script After starting up IVS-Professional, the default dialog box for opening is script is displayed. You can then choose which script you want to open.

Create a new script IVS-Professional starts with a new empty script.

No action IVS-Professional just starts up, without opening a script or displaying a dialog box.

Display a warning when the Base Station could not be initialized during the startup of IVS-Professional When this option is checked, a warning is displayed upon startup of IVS-Professional if the Base Station could not be initialized, while IVS-Professional was set up to automatically initialize the Base Station. If this option is not checked, no warning will be displayed when initializing fails.

Display a warning when a connection to IVS-Online could not be established when the script is opened If this option is checked, a message will be displayed when IVS-Professional is started and a connection to IVS-Online could not be established, while the script is set to connect to IVS-Online. If this option is not checked, no notification will be made if the connection to IVS-Online fails.

Edit

On the *Edit* tab you can set up how far a duplicate should be moved with regard to the original object, what the grid size is and what the mouse sensitivity is.

Duplicate placement

When duplicating an object, you can have the object moved compared to the original at the same time. You can set the horizontal as well as the vertical displacement. The displacement can both be positive – the duplicate will be moved down or to the right – and negative – the duplicate will be moved up or to the left. The maximum horizontal displacement is half of the screen width, the maximum vertical displacement is half of the screen height. This is true for both positive and negative displacement.

When you enable the button between the horizontal and vertical placement, the horizontal and vertical placement are kept the same.

Grid size

If you use the grid to easily align objects, you can change the distance between the grid markers here. You can set both a horizontal and vertical grid spacing. The minimum distance is 8 points, the maximum horizontal distance is half of the screen width and the maximum vertical distance is half of the screen height.

When you enable the button between the horizontal and vertical distance, the horizontal and vertical distance are kept the same.

Mouse sensitivity

The mouse sensitivity determines how far you have to move the mouse before an object is moved. The default sensitivity is 10, which means that only when you move the mouse 10 points, the object moves along with it. The higher the number of the mouse sensitivity, the further you have to move the mouse before an object moves along with it. The minimum sensitivity is 1, the maximum sensitivity is 10.

Snap distance

If you use the **Snap to objects** option, the snap distance determines how close the moved object needs to approach another object before the moved object is automatically aligned with one of the edges of the other object. The minimum distance is 2, the maximum distance is 20.

View

On the *View* tab you can indicate on which monitor you want to show the presentation screen and the screen's aspect ratio.

Multiple monitors

When your computer or laptop has multi-monitor support and you set up the second monitor to use the extended desktop, you can select on which of the monitors you want the presentation screen to be displayed. This allows you to display the presentation screen through a beamer connected to your laptop, while the edit screen is displayed on the laptop's internal display. There is no need to display the toolbar in the presentation screen. You can follow the progress of the voting through the edit screen.

If you choose the Automatic option, the presentation screen will be displayed on the first monitor that is not the primary monitor when more than one monitor is available. If only one monitor is available, the presentation screen will be displayed on this monitor.

Screen size

The screen size specifies the size a slide is to be displayed in, when it is set to 100% display. The screen size also determines whether the slide is displayed on a wide-screen monitor or on a standard monitor. You can choose from a number of standard sizes, but you can also specify a screen size yourself.

Standard (4 : 3) With this setting, the slide is 1,024 pixels wide and 768 pixels high. The ratio is 4 : 3. This ratio is particularly suitable for older types of projectors.
Widescreen (16 : 9) With this setting, the slide is 1,280 pixels wide and 720 pixels high. The ratio is 16 : 9. This ratio is suitable for the newer types of projectors.
Widescreen (16 : 10) With this setting the slide is slightly higher, namely 800 pixels. The ratio is 16 : 10. This ratio is suitable for some types of widescreen monitors.

Full HD (16 : 9) With this setting, the slide has the size of a Full HD screen, namely 1,920 pixels wide and 1,080 pixels high. The ratio is 16 : 9. This setting is suitable for the newest projector types and most monitors.

Double Full HD (32 : 9) With this setting, the slide is extra wide, which corresponds to two adjacent Full HD monitors. The slide is 3,840 pixels wide and 1,080 pixels high. This setting is suitable for ultrawide monitors or for two projectors projecting side by side.

4K Ultra HD (16 : 9) With this setting, the slide has the size of a 4K Ultra HD screen, namely 3,840 pixels high and 2,160 pixels wide. This setting is suitable for 4K monitors and 4K projectors.

8K Ultra HD (16 : 9) With this setting, the slide has the size of an 8K Ultra HD screen, namely 7,680 pixels high and 4,320 pixels wide. This setting is suitable for 8K monitors and 8K projectors.

Custom With this setting you can set the dimensions of the slide yourself. You can set both the screen width and the screen height and thus determine the ratio yourself.

If you change the screen size while you have one or more scripts opened, some of the objects might not or not entirely fit on the slide.

If you open a script that was made with a different screen size, the software temporarily switches to the screen size the script was made in.

Presenting

On the *Presenting* tab you can set up whether you are using a Wireless Presenter to open and close the voting.

Use a Wireless Presenter to open/close the voting Enable this option if you are using a Wireless Presenter and want to be able to open and close the voting with it.

The Presenter alternately sends F5/Esc Most Presenters have a button to start and stop the presentation in Microsoft PowerPoint. The first time this button is pressed, it sends an F5 keystroke to the computer, the second time you press it, it sends an Esc keystroke. F5 can be used to open the voting. By selecting this option, the Esc key is set up to close the voting. Please note that you won't be able to use the ⎋ key on the keyboard anymore to cancel the voting. The ⎋ will close the voting normally.

The Presenter sends a certain key, namely B Other Presenters have a button that sends a specific keystroke to the computer. For instance, this could be the B to blank the screen in Microsoft PowerPoint. By selecting this option, the ***Change voting*** menu option will be set up to use this key. You can then use this button to change the voting, that is, open and close it.

Please note that when closing IVS-Professional, the **Use a Wireless Presenter to open/close the voting** option is automatically disabled. This is to prevent that the ⎋ key would stay set to close the voting, which would make it impossible to ever cancel the voting.

Language

On the *Language* tab you can indicate in which language you want to use the software. To use the software in multiple languages, you can install additional language packs. For each language pack that you install, the language appears in the list of display languages.

In the list of display languages you set a priority order for the languages to be used. The software is displayed in the language at the top of the list, unless the software is not available in this language. In that case the next language in the list, that is available, is used.

You can select a language in the list and move it up and down the list with the up and down arrow buttons. The **Set as Default** button places the selected language at the top of the list, making it the default language for the software. With the **Match Microsoft Windows** option, the software uses the same language that is set for Windows. If you use Windows in a different language, the software will also use this language, provided that it is available for the software.

Note that the language you select in the list is not the language used for the software. To use this language, you must first place it at the top of the list with the **Set as default** button.

The language setting is a global setting that applies to all IVS software. If you change the language of IVS-Professional, the new language also applies to IVS-Risk Analysis (when you have installed this package) and to all utilities. An exception is IVS-PowerPoint, which always uses the same language that Microsoft Office is used in (provided that this language is available for IVS-PowerPoint).

Updates

On the Updates tab you can indicate how often you want the software to check for available updates. You can choose from once a day, once a week, once a month, or not at all. You can always manually check whether an update is available by choosing the ***Check for updates*** option from the ***Help*** menu.

Troubleshooting

It is possible that you run into trouble during a session. For example, someone could stumble over the power cord of your Base Station, which leaves the Base Station disconnected. The following scenarios describe what could happen and what you have to do to bring the session to a successful ending.

Scenario 1: Keylock not connected

You have arrived at the location where you are about to give your session, with plenty of time to spare. All keypads are in the charging case and are fully charged. You start IVS-Professional and start the initialization of the keypads. You take 100 keypads out of the cases. If you take a look at the initialization box, you see that only 30 keypads have been initialized and no more are being initialized.

Initialization stops at 30 keypads

RF-II Base Station [COM3] - Initializing

Keypad information

Mode:	**RF-II**
Present:	**30**
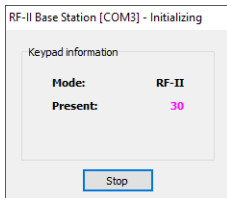
Stop

You check the keylock and discover that you forgot to connect it. To continue the initialization, you do the following:

- Stop the initialization of the keypads.
- Connect the keylock to a USB port of the computer.
- Continue initializing the keypads by choosing the option ***Initialize all keypads*** from the ***Communication*** menu.

Scenario 2: Wrong keylock or keylock forgotten

Just like in scenario 1 it turns out that you cannot initialize more than 30 keypads. While checking the keylock you discover that you have connected a keylock that it is not suitable for this version of IVS-Professional. On top of that, you forgot to take the correct the keylock. To continue the initialization, you do the following:

- Stop the initialization of the keypads.
- Choose the option *Temporary license* from the *Help* menu. With this option you can purchase a temporary license without having to connect a keylock. The dialog box for the temporary license appears.
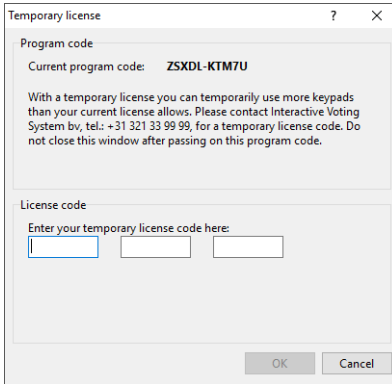
- In the *Temporary license* dialog box you see a program code, consisting of two blocks of five letters or numbers. You now call one of *Interactive Voting System* employees and tell him or her this program code. In exchange for this code you will receive a temporary license code, consisting of three blocks of five letters or numbers. You enter this in the three edit boxes.
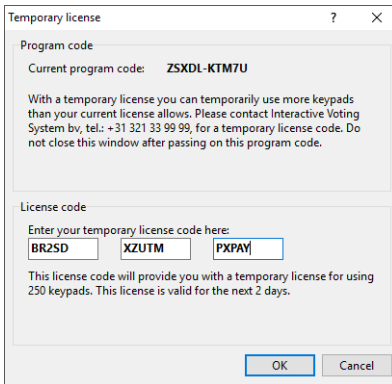
- If the temporary license code was entered correctly, you see how many keypads can be used with this license and how long this license will remain valid. Click **OK** to activate this license.
- Continue initializing the keypads by choosing the option *Initialize all keypads* from the *Communication* menu.

Scenario 3: Base Station powerless while initializing keypads

While you are initializing the keypads, someone pulls a plug somewhere, resulting in your Base Station becoming powerless. Of course, the initialization stops, but not all keypads have been initialized. To continue initializing, you do the following:

- If it has not been done yet, reconnect the power to the Base Station.
- Initialize the Base Station by choosing the option *Initialize cluster* from the *Communication* menu.

- Click the **Initialize** button in the *Communication Settings* dialog box. When the Base Station has been reinitialized, click on the **Finish** button.
- All keypads have to be reset. This is done by placing them in the charging cases, while the charging cases are connected to the power supply. If you are using RF-I keypads, these keypads have to stay in the charging case for at least 5 minutes. If you are using RF-II keypads, they are reset immediately when they are placed in the charging case. If you are using Lite keypads, then they don't need to be reset.
- Restart the initialization of the keypads by choosing the option ***Initialize all keypads*** from the ***Communication*** menu.
- Take all keypads you want to use out of the charging cases.

Scenario 4: Base Station powerless before session has started

Just like in scenario 3, your Base Station becomes powerless. However, all keypads are already initialized. You had not yet started your session.

When the keypads are being initialized, the Base Station keeps a list of all initialized keypads. After initializing the keypad, you save this list. When the Base Station becomes powerless, it will lose the list of keypads, so that it doesn't know which keypads are initialized. The keypads themselves are still initialized and therefore it is not necessary to reinitialize them. To continue your session, you do the following:

- If it has not been done yet, reconnect the power to the Base Station.
- Initialize the Base Station by choosing the option ***Initialize cluster*** from the ***Communication*** menu.
- Click the **Initialize** button in the *Communication Settings* dialog box. When the Base Station has been reinitialized, click on the **Finish** button.
- You will have to place the list of initialized keypads back into the Base Station. You do this by choosing the option ***Load initialized keypads*** from the ***Communication*** menu
- The standard dialog box for opening files appears. Select the list of keypads that you have saved before and click **Open**.
- A dialog box appears in which you can see how many keypads have already been loaded into the Base Station and how many have to be loaded in total.

The list of keypads is placed back into the Base Station

RF-II Base Station [COM3] - Loading list

Keypad information

Loaded: **230**
Total: **250**

Stop
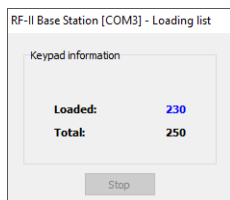
- After the list has been reloaded, you will be asked if you want to test the network. This allows you to see if the communication with the keypads has been restored correctly. Click **Yes** to test the network. The dialog box for testing the network will appear.

- After having checked that all keypads function correctly, click **Stop** to end the testing of the network.

Scenario 5: Base Station becomes powerless during a session

Just like in scenario 3 and 4 the Base Station becomes powerless. You already started the session and have voted on some of the questions. In the presentation screen, no dialog boxes are displayed on screen. You notice that the Base Station became powerless, because in the toolbar at the bottom of the screen "Offline" is displayed, instead of "Stand-by". It could be that "Offline" will appear at the moment you open the voting. To continue your session, you do the following:

- If your projector has a pause mode, use this, so the audience doesn't see what you are doing.
- Go back to the edit screen by pressing [Esc].
- Follow the steps as described in scenario 4.
- Restart the presentation by pressing [F8].
- Take the projector out of the pause mode.

Scenario 6: Computer crashes during a session

While you are doing a session, your computer crashes for whatever reason. You have to restart the computer to be able to work with it again. To continue the session, you do the following:

- If it has not been done yet, restart your computer.
- Start IVS-Professional. When you start IVS-Professional, the Base Station will be initialized automatically.
- In the start-up dialog of IVS-Professional, you select the script you were working with. If the script is not displayed, you click on the **More scripts…** button. In the standard dialog for opening files, you open the desired script.
- You open the same session you were working with. You do this by choosing the option *Import* from the *File* menu.

Dialog for importing sessions

- Select the session you were working with and click **OK** to import this session.
- Go to the slide where you were before the crash.
- Start the presentation by pressing [F8].

Scenario 7: Base Station powerless or computer crashes during session

While you have opened the voting, the Base Station becomes powerless or the computer crashes. To continue your session, you do the following:

- If your Base Station got powerless, follow the steps as mentioned in scenario 5.
- If your computer crashed, follow the steps as mentioned in scenario 6.
- Open the voting again for the question where you were. The audience has to vote for this question again, because some votes could be lost during the power loss or the crash.

Index