



## Qlik Sense – Quick build tutorial

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Build an app and a story very quickly

September 2014



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## Welcome to Qlik Sense!

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Together, we're going to build a small Qlik Sense application from scratch in a short space of time. The dataset we're going to use is worldwide vehicle and country data: where vehicles are made, where they're sold, and country data. This is real data from real data sources.

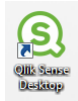
Qlik Sense is about seeing and doing, that's why I've created a [video of every step](#) of this getting started guide to help you if you get stuck. I've included notes on how to use the video at the end of this tutorial. I've also included a complete version of the finished application called "MFA Interactive"; you can open it any time you please.

Now, let's get started.

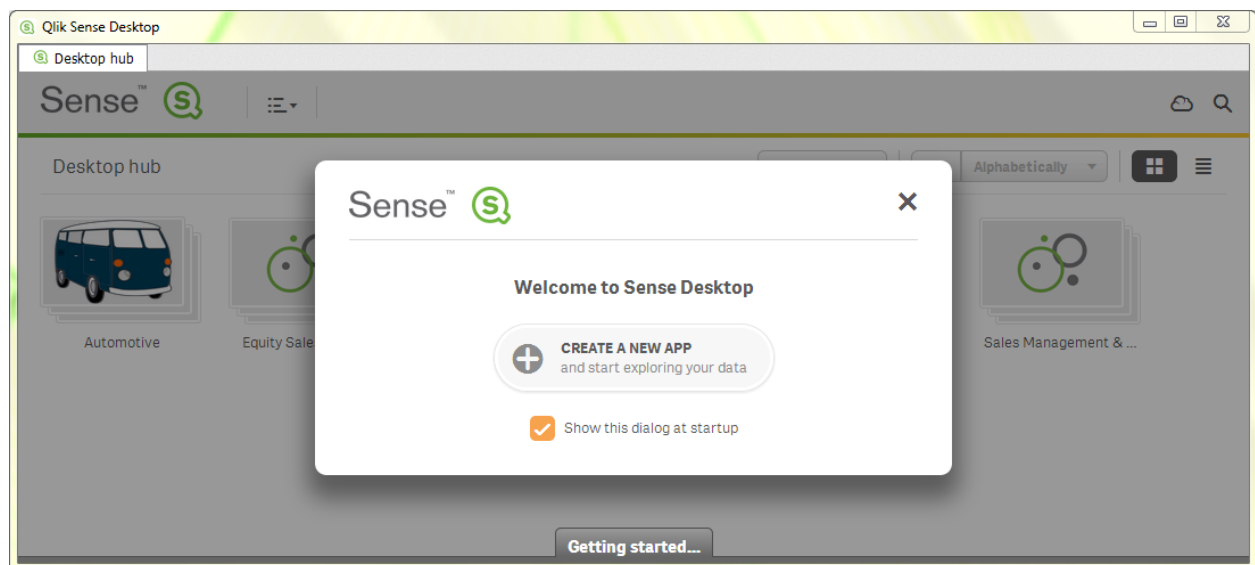
## Starting Qlik Sense and creating a new app

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### [Video section: "Starting and creating"](#)

To start Qlik Sense, double click on the Qlik Sense icon  on your desktop.

When Qlik Sense starts, it will show you this window.



In the background, you'll see the Desktop hub. The Desktop hub shows you all the Qlik Sense applications you have access to<sup>1</sup>.

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<sup>1</sup> Don't worry if you don't see the same apps as me – you'll have different apps installed on your system.

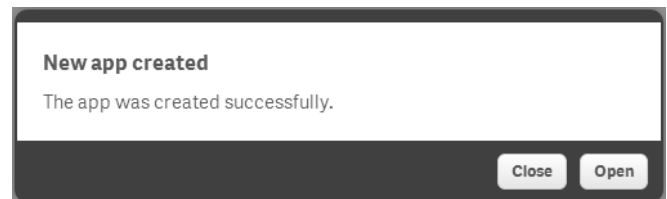
Right now, we'll create a new application, so click on 'CREATE A NEW APP'.

Qlik Sense will ask you for the name of your app. You can call your app anything you want, but I've called my app 'My First App'.

Click on 'Create'.



Once the app has been created, click on 'Open'.



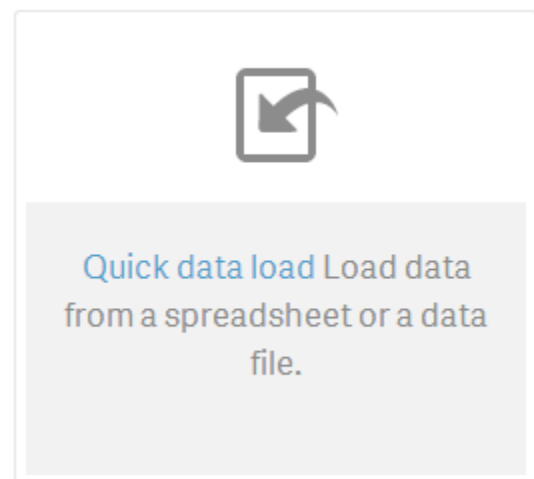
## Loading the data

### [Video section: "Loading the data"](#)

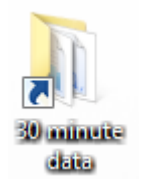
Before we can create charts, we need some data to play with.

To quickly load data, we're going to use 'Quick data load'. We're going to add data by dragging and dropping data files onto this part of our Qlik Sense window.

We'll do everything visually – we won't write a single line of script or even look at a script.

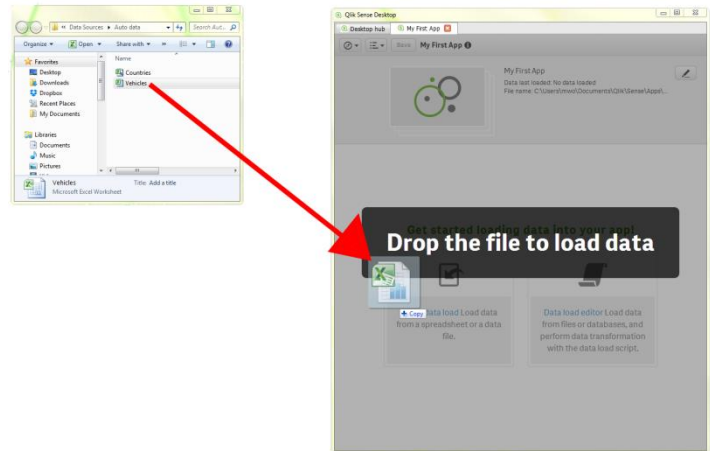


I've put all the data files you need into a folder and put a shortcut to that folder on your desktop. The shortcut is called '30 minute data'. Double click on the '30 minute data' shortcut to open the 'Data Sources' folder. You should see two files, 'Vehicles.xlsx' and 'Countries.csv'.



If you can't see the '30 minute data' shortcut, you'll need to open Windows Explorer and navigate to your 'My Documents' folder. Look under 'My Documents', you'll find the folder under 'Qlik\Sense\Tutorials\30 minute quick start\Data sources'. Open this folder in Windows Explorer.

Drag and drop the file 'Vehicles.xlsx' onto the 'Quick data load' part of the Qlik Sense window.



You'll now see the 'Select data' dialog. This dialog lets us select which fields to load in, set a header size, select tables, and more.

**Select data from Vehicles.xlsx**

**Tables**  
Filter tables

**File format**  
Excel (XLSX)

**Field names**  
Embedded field names

**Header size**  
- 0 +

**Fields**  
Filter fields

<input checked="" type="checkbox"/>	Ye...	<input checked="" type="checkbox"/>	Country	<input checked="" type="checkbox"/>	Car sales	<input checked="" type="checkbox"/>	Car production	<input checked="" type="checkbox"/>	Commercial vehicle sal...	<input checked="" type="checkbox"/>	Commercial vehicle pr...
	2013		Albania		2300				170		
	2013		Algeria		192000				71400		
	2013		Angola		20000				9000		
	2013		Argentina		661800		506539		287058		284468
	2013		Armenia		4900				340		

Cancel Load data

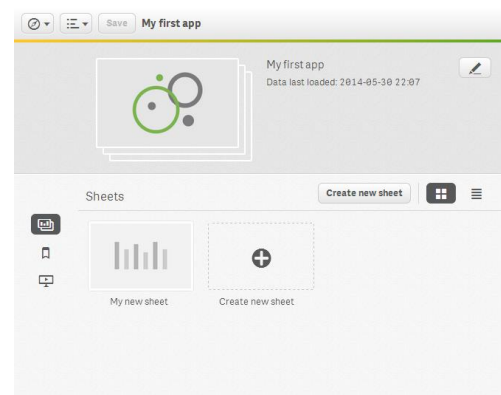
The data shown on this dialog is the data from the Excel spreadsheet 'Vehicles'. The 'Fields' are the column from the spreadsheet. If we didn't want to load some of the fields we could just untick the boxes by the fields we don't want to load. For now, we'll load in the whole data file.

Click on 'Load data'.

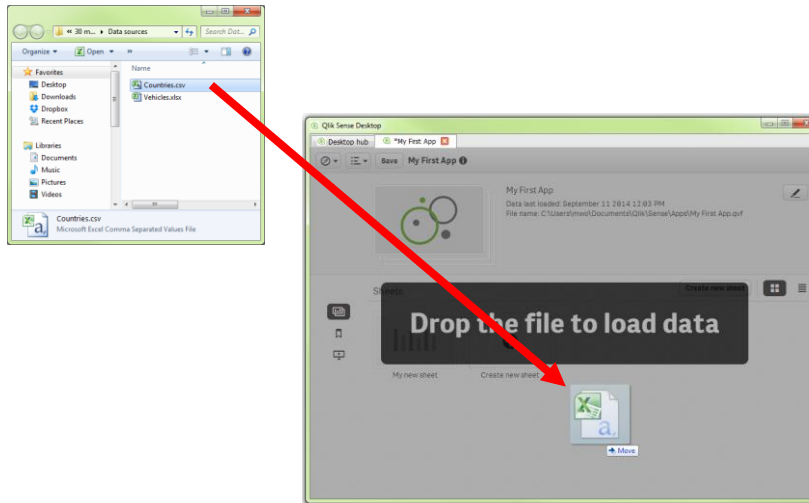
When the load has finished, click on 'Close'.

We've just loaded our first data!

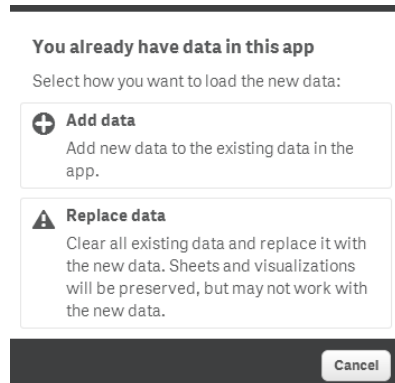
You should now be looking at the 'App overview' which will show you all the sheets in your application.



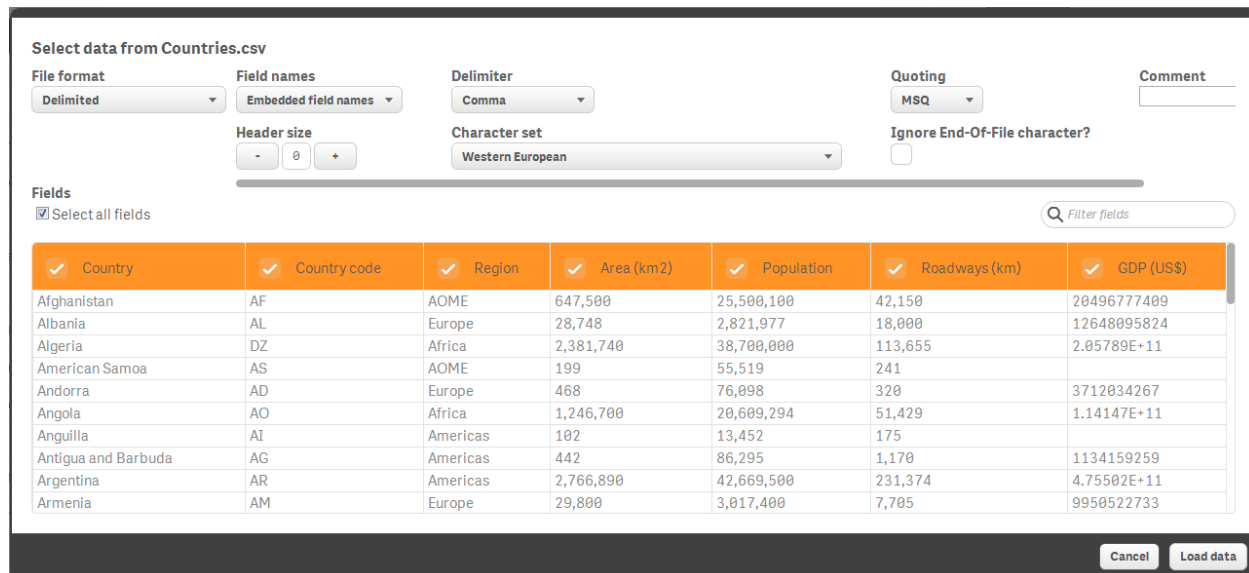
We'll load our other data file to give us a complete data set to play with. Drag the file 'Countries.csv' onto the lower part of the window as shown here.



The next dialog asks if you want to add or replace the data you've loaded. We want to add data, so click 'Add data'. This will guide us through the process of loading data without writing a script.



You'll now see the 'Select data' dialog as shown below. This looks a little different from what we've seen before because this time we've loaded a CSV file rather than an Excel file. The options on the dialog are appropriate for a CSV file.



The default settings are all good, so click on 'Load data'.

On the 'Data loaded successfully' dialog, click 'Edit the sheet'.

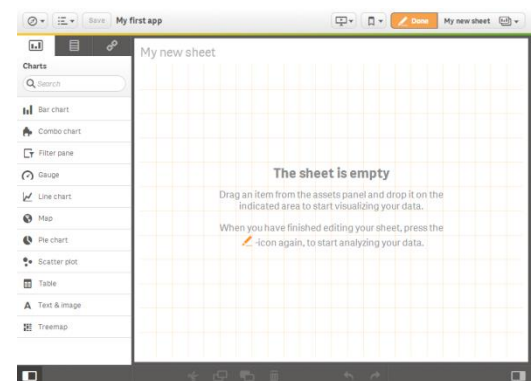
That's it! You've just loaded two data files into Qlik Sense. Under the hood, Qlik Sense has *automatically* linked the two data files – you didn't have to do anything to link the data files. We've done all this with no scripting. Now, let's draw some charts.


## Creating your first chart – a line chart

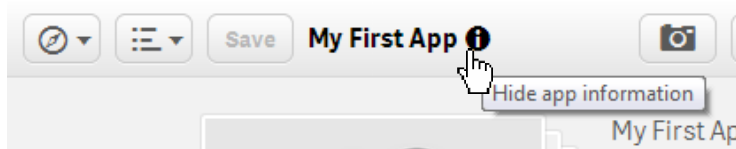
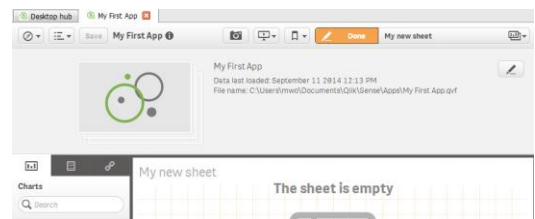
### Video section: "Creating your first chart – a line chart"

We've loaded our data set containing details of cars and countries, so now we want to start exploring the data. The easiest place to start is by looking at car sales over time. Are car sales going up or down and how did the recession affect sales?

You should be in the sheet edit view as shown on the right.



Your window might be showing you information about your app at the top of the window. If you see this information, click on the  button to hide it.



If you can't see this view at all, you're probably in the 'App overview'. If this is the case, click on 'My new sheet' and the edit icon.



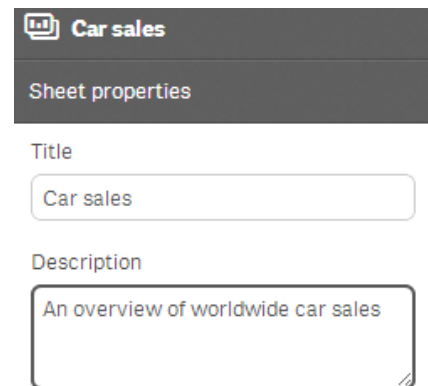
To move out of the edit view into the explore view click the 'Done' icon. Click 'Edit' to go back to the edit view.



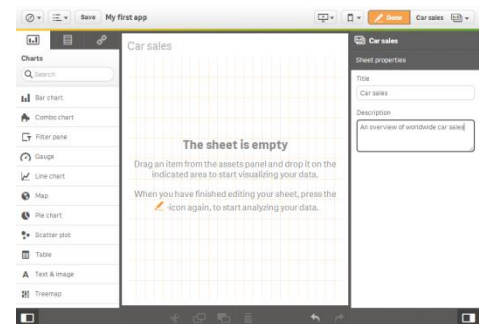
Right now the sheet is called 'My new sheet'. That's a dull name. Let's call it something more interesting. To rename the sheet, we need to edit the sheet properties. On the bottom right of the Qlik Sense window you'll see the properties icon. Click on this icon to open the sheet properties.



Let's call the sheet 'Car sales' and use 'An overview of worldwide car sales' as the description. Of course, you can enter completely different text if you feel like it. You don't need to click on anything to 'accept' the text - it updates automatically.



On the left hand side of the window is a list of charts we can add to our sheet. On the right hand side are the properties of the object we're editing, which in this case is the sheet. We're going to add our chart in a moment, but first we need to understand what happens when we click on some of the icons.



At the top left of the Qlik Sense window are three icons which move us between different panes.



This is the 'Charts' icon that shows charts (which is where we are now).



This is the 'Fields' icon which shows us the various fields in our data set.

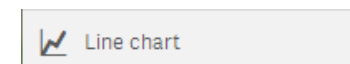


This is the 'Master items' icon which shows us master items.

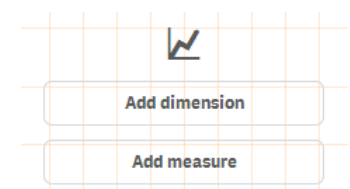


See what happens when you click on the icons. When you're done, make sure you're looking at the 'Charts' panel. Now, let's build our chart.

In the 'Charts' panel, click on the line chart icon and drag it onto the sheet.

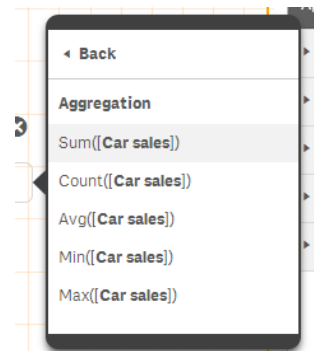


We need to add our dimension, so click on 'Add dimension'. Choose 'Year'.

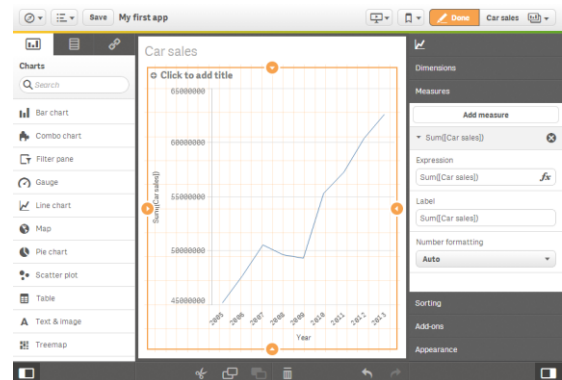




We need to add a measure, so click on 'Add measure'. We want 'Car sales' and we want to add it as 'Sum([Car sales])'. In our data files, we have car sales data by year and by country. What 'Sum([Car sales])' does is sum up all the car sales for each year by country.

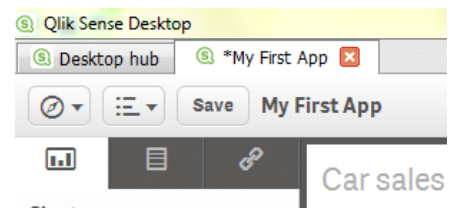


Here's what your sheet should look like.



Click on 'Save' which is on the top left hand side of the window.

Congratulations! You've just built your first Qlik Sense chart!

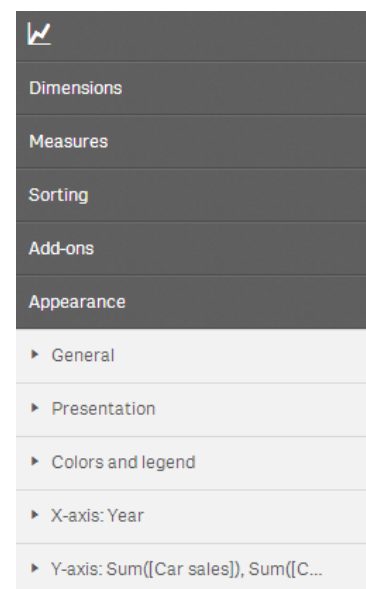


## Customizing your line chart

### [Video section: "Customizing your line chart"](#)

The default chart settings are OK, but we'd like to take control over the appearance of our charts. We're going to make some changes to the way the chart looks. Some changes are subtle, others more obvious.

Click on the chart to make sure it's selected (when it's selected, it's outlined in orange). On the right hand side of the window, you should see the properties panel for the chart which should look like this.



Qlik Sense has labeled the car sales axis 'Sum([car sales])' because that's how we've calculated it, but it would be great to give this axis a better name. Click on 'Measures', then click 'Sum([Car sales])' and change the 'Label' to 'Total car sales' which is a much better name.

The numbers on the car sales axis aren't quite in the format we want. Let's change the number formatting. Change the 'Number formatting' to 'Number' and the formatting to '1,000' (you might need to scroll down to see the formatting options). This uses a comma as a thousand separator and removes the decimal point.

As you make these changes, notice how your chart updates.

Measures

Add measure

Total car sales

Expression

Sum([Car sales])

Label

Total car sales

Number formatting

Number

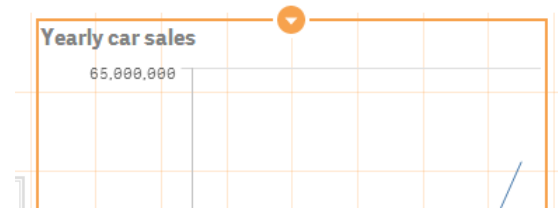
Formatting

Simple

1,000

The last thing to do is add a chart title. Click on the top left of the chart where it says 'Click to add title' and type 'Yearly car sales'.

Click on 'Save'.



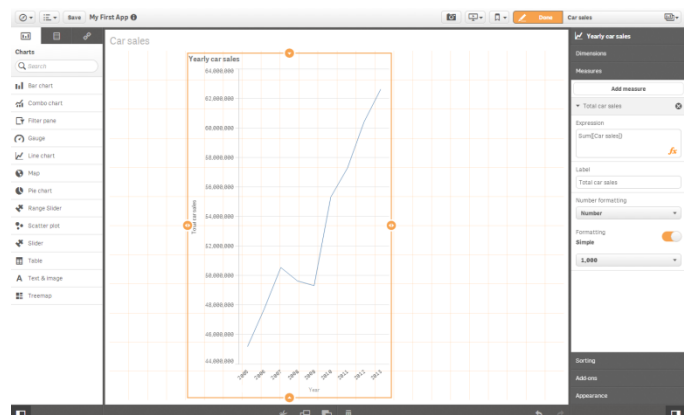
You've now customized your chart to make it look the way you want.

On the 'Properties' panel, there's a range of other settings you can use to further customize how your chart looks. If you have time, experiment with making some changes yourself.

## Resizing your line chart

### Video section: "Resizing the line chart"


We need to make our line chart smaller so that it takes up a third of the width of the sheet. Click on the orange arrows to resize and reposition the chart.

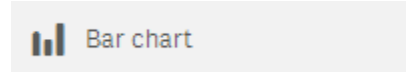


## Adding a bar chart

### [Video section: “Adding a bar chart”](#)

So what countries are buying cars? Let’s add a bar chart to find out. We’re going to build a bar chart showing car sales by country.

From the ‘Charts’ panel,  drag and drop ‘Bar chart’ onto the sheet.



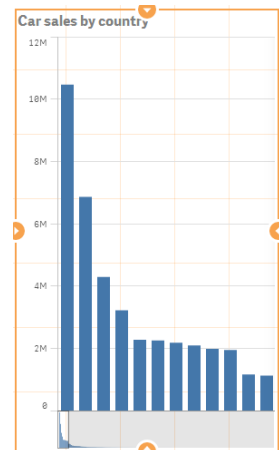
On the bar chart on the sheet, click on ‘Add dimension’, and add ‘Country’<sup>2</sup>.

We want to add a measure to show the car sales by country, but we have to think for a second about what we want to display. We could show the *sum* of car sales over time, but I think in this case it makes more sense to show the *average* car sales over time.

Click on ‘Add measure’, add ‘Car sales’, and select ‘Avg([Car sales])’.

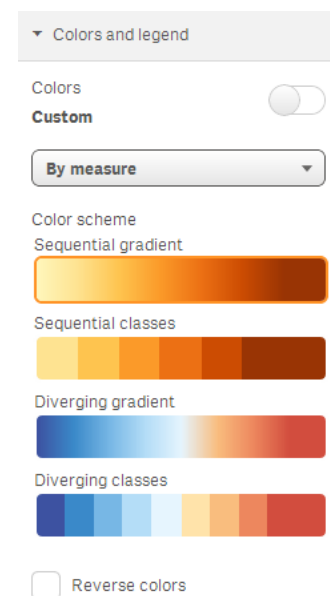
Qlik Sense now draws the chart. This shows us the mean (average) car sales for that country over all the years in our data set.

‘Click to add title’ and type ‘Car sales by country’.



Let’s customize the chart a bit so it appears exactly as we want it. On the ‘Properties’ pane:

- Click ‘Measures’, then click ‘Avg([Car sales])’
  - Change the label to ‘Mean car sales’
- Click on ‘Appearance’
  - I want to change the color of the bars so that the country with the largest sales has the deepest color and the country with the least sales has the lightest color. Click ‘Colors and legend’, then click on ‘Colors’ to change it to ‘Custom’, in the drop down menu select ‘By measure’. You can experiment with the color settings to see what effects you can get.

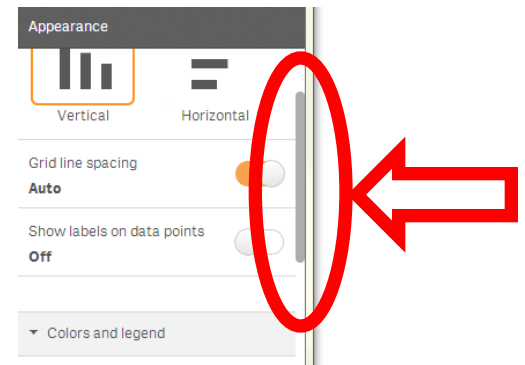


<sup>2</sup> If you want to try something a little different, instead of scrolling through the list of fields, type the field name in the search box (the box with the magnifying glass).

Depending on your window size, the 'Colors and legend' menu options might not be immediately visible. If this is the case, you'll need to use the scroll bar to scroll down to see them.

- Click 'Y-axis: Mean car sales', 'Scale' to 'Narrow'. This gives us more values on the axis. Again, you might need to use the scroll bar to see the menu item.

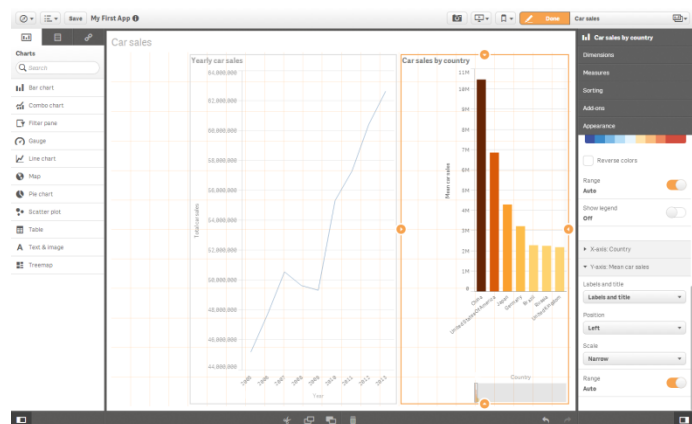
In case you need to use it, here's what the scroll bar looks like, I've circled it here in red.



Click on 'Save'.

Here's what you should have now.

We have two charts!



## Adding a pie chart

### [Video section: "Adding a pie chart"](#)

We know what countries are buying vehicles, but what regions<sup>3</sup> of the world are the biggest vehicle markets? We'll use a pie chart to find out.

Resize the bar chart to create some space on the bottom right of the sheet.

Click on 'Pie chart' and drag it onto the sheet.

Click 'Add dimension and choose 'Region'.

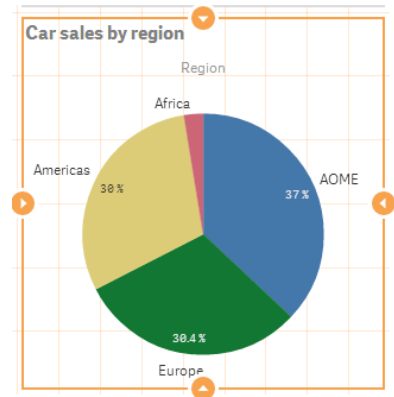
Click 'Add measure', click 'Car sales' and 'Avg([Car sales]).

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<sup>3</sup> In our data set the world is divided up into four regions: Europe, Americas, Africa, and AOME. AOME is Asia, Oceania, and the Middle East.

Set the title to be 'Car sales by region'.

You should have something that looks like this. Depending on the size of your pie chart in the sheet, you might not see the 'Region' label, but it will render once the pie chart is big enough.




By default, Qlik Sense will show the dimension label 'Region'. While this is helpful in most cases, here it's obvious that we're dealing with regions, so we won't show it. On the 'Properties' pane click on 'Appearance', then click on 'Presentation', and click 'Dimension label' to turn off the dimension label.

Click on 'Save'.

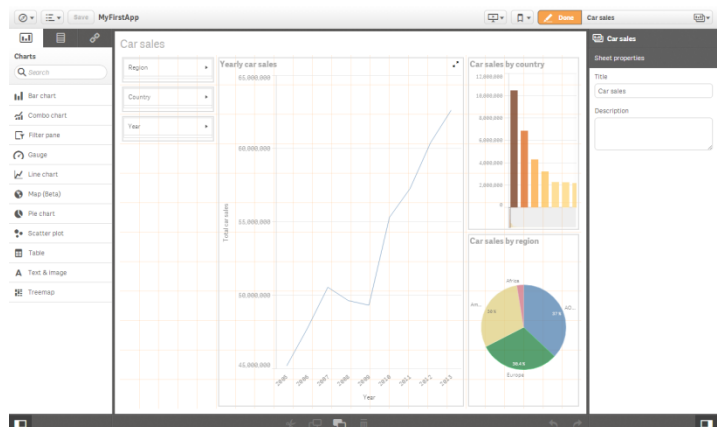
## Adding filters

### [Video section: "Adding filters"](#)

We've got a lot of data displayed, but we'd like to select some field values, for example, we'd like to just select 'Japan', or 'Africa', or '2011'. We'll use a filter panel to do this.

We're going to do things a little differently here. Click the 'Fields' icon  to see the fields in your application. These fields are the same as the column headings in our spreadsheets. Now drag 'Region' onto your sheet to any place where there's room (you can always move things around later) – don't drag it onto an existing chart. Dragging it onto an empty space automatically creates a filter for us. We could have created the filter from the 'Charts' panel, but this way is easier. We need to add more filters, so resize the 'Region' filter to create more room on the sheet.

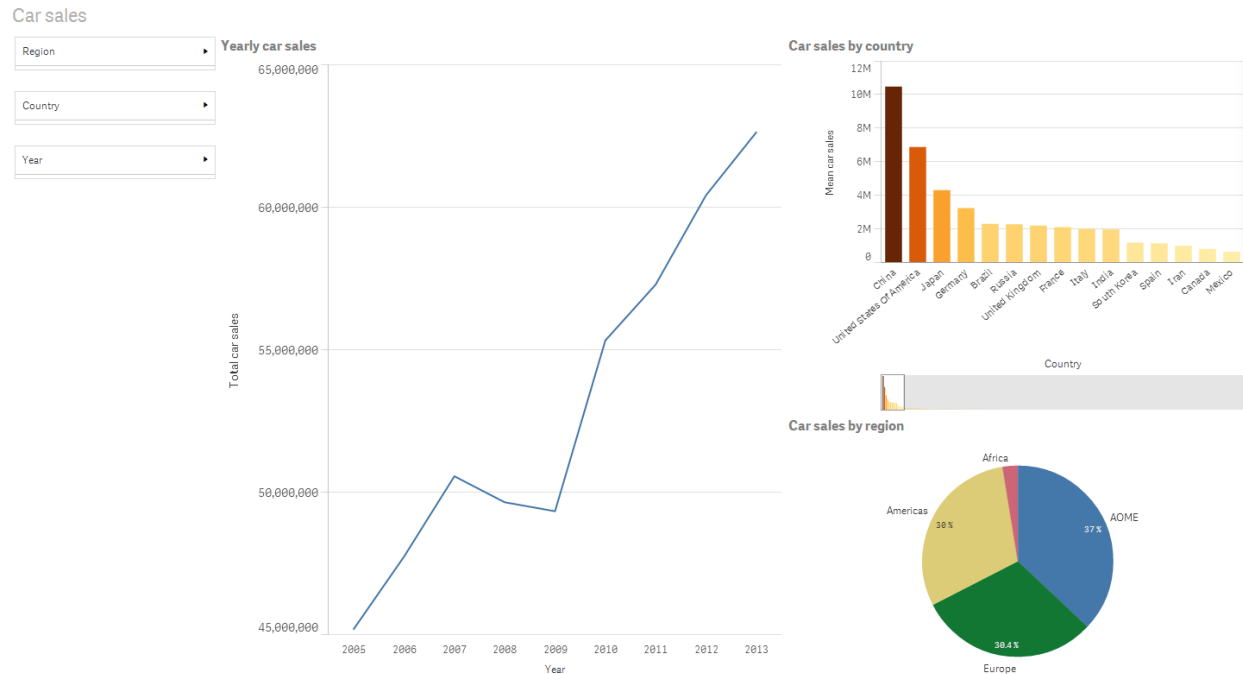
Again from the 'Fields' pane, drag 'Country' onto the chart. Resize the filter to create room. Drag 'Year' on the chart and resize it. Your sheet should look like this.



Click on 'Save'. On the top right of the Qlik Sense window, click on 'Done'.




You have created your first Qlik Sense application. It should look something like this.



Congratulations!

## Interacting with the application

### Video section: “Interacting with your application”

This section is all about interacting with your application. You can use the application you’ve just created, or you can use the pre-built application ‘MFA Interactive’ which is an application I created using these instructions. To open this app, click on the navigation button,  select ‘Open hub’, then click on ‘MFA interactive’. Now, open the sheet ‘Car sales’.

### Expanding the view of charts

Sometimes, it might be nice to see a chart in more detail. Sometimes, we’d like the chart to take up the whole window.

If you hover your mouse on the top right of a chart, you’ll see this symbol. Clicking this symbol expands the chart to fill the entire window.



To shrink the chart back down again, hover your mouse over the top right of your chart and click this symbol.

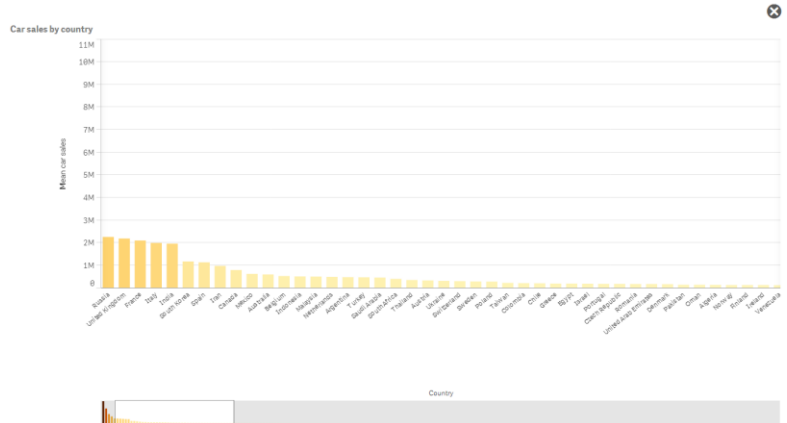


## Viewing lots of data

When we plot charts with lots of data, there's a conflict between meaning and completeness. If we show all of the data on the chart, we can lose detail, and as a result we can lose meaning. However, if we just show part of the data, we lose the complete view of the data.

To solve this conflict, Qlik Sense gives us both a detailed view and an overview. The bar chart on our sheet shows how this works.

The chart is in two parts. The top part shows a small and detailed view of the data. In this case, it shows just the top few countries. The bottom part of the chart (in grey) shows the whole data set in a zoomed out view. You can move through the data set by clicking and dragging the white box in the zoomed out view.

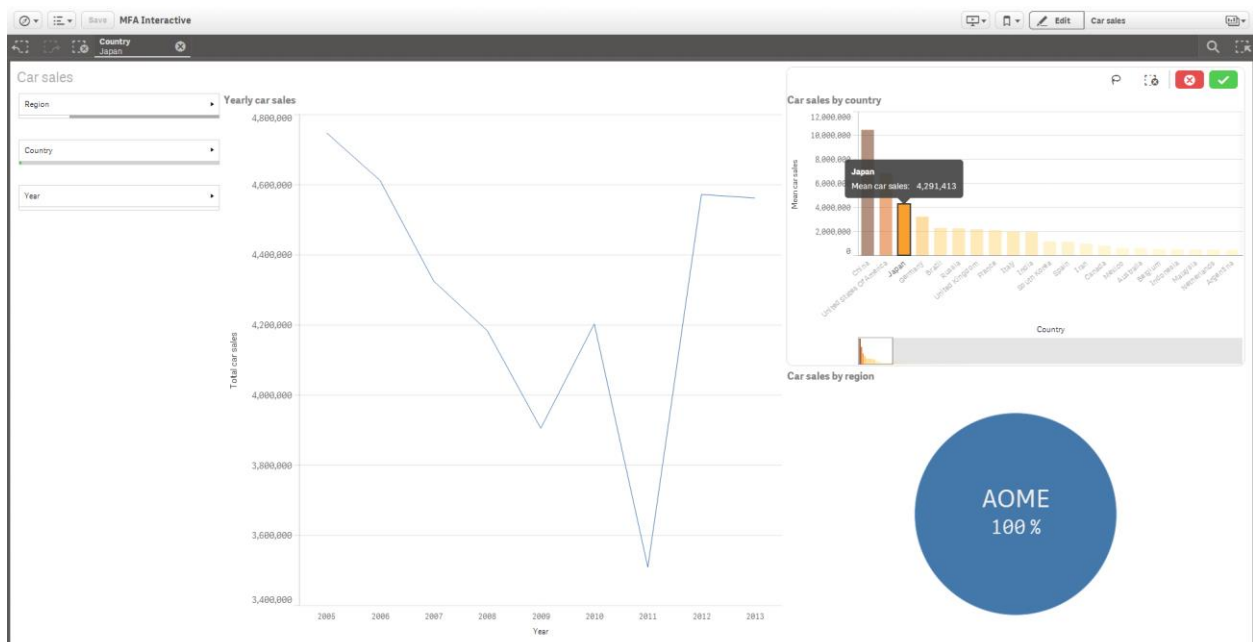


Qlik Sense uses this approach with other chart types too. Once Qlik Sense judges there's too much data to show at once, it adds the scroll bar to the bottom of the graph and shows a subset of the data on the 'top' chart.

## Selecting data on bar charts

Let's select a subset of data on our bar charts and zoom in on it.

On our bar chart, click a country, say Japan. As soon as you click on it, all the charts update to show you just that selection. The charts are now only showing data from Japan.



When we make a selection, Qlik Sense updates all the charts to show just that selection.

Here's what the icons in the top right of the chart mean:



Clicking this icon confirms your selection.



Clicking this icon cancels your selection.



Clicking this icon clears your selection.



Clicking this icon lets you select data using a lasso selection.

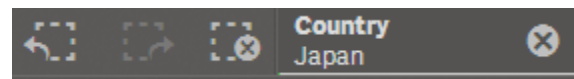
Now, confirm your selection with the green tick box.

Note the colors under the filter boxes, we'll explain what they are later.

## Deselecting data

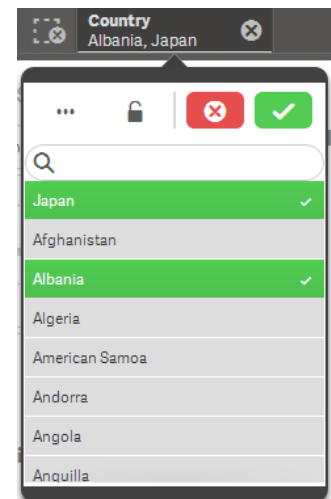
We've selected data, but how do we unselect data?



We can use the selection bar to select and unselect data.



The selection bar shows what field values have been selected, allows you to change selections, and allows you to cancel selections.

On the selection bar, click on 'Country' and Qlik Sense shows you a list of countries. We can add to our list of selected countries by clicking them.



To deselect, we can deselect everything by clicking on the 'Clear all selections' icon  or we can clear individual selections by clicking the  symbol to the right of the field on the selections bar.

Clear all selections.



## Selecting data on pie charts

Click on a segment (a region) in the pie chart and confirm your selection using the green tick box. Notice how all the charts update using your selection.

Deselect all choices.

## Selecting data on line charts

We're going to select data on a chart, but because it's easier to work on a big chart than a small one, we will make our chart fill the window. Click on the expand symbol on the top right of the line chart to expand the chart to fill the entire Qlik Sense window.

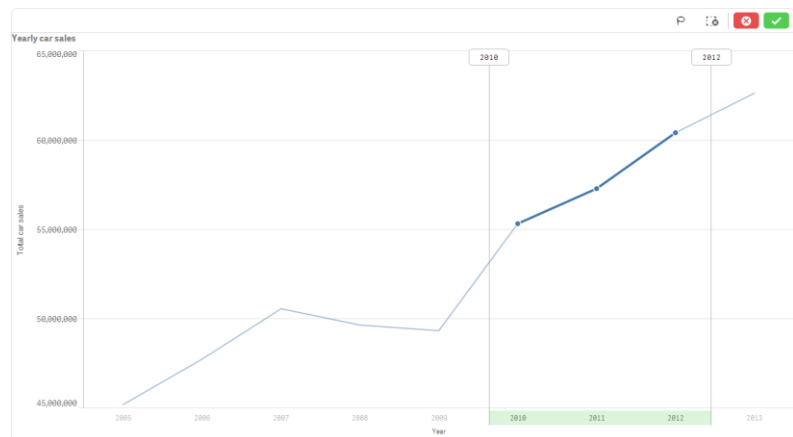


### Selecting data on axis


Move your mouse to a point just below the 'Year' axis. Now click and drag your mouse left or right. This will highlight an area of your axis and highlight points you've selected.

You can do the same for the y axis and this method of selection works for other charts too.

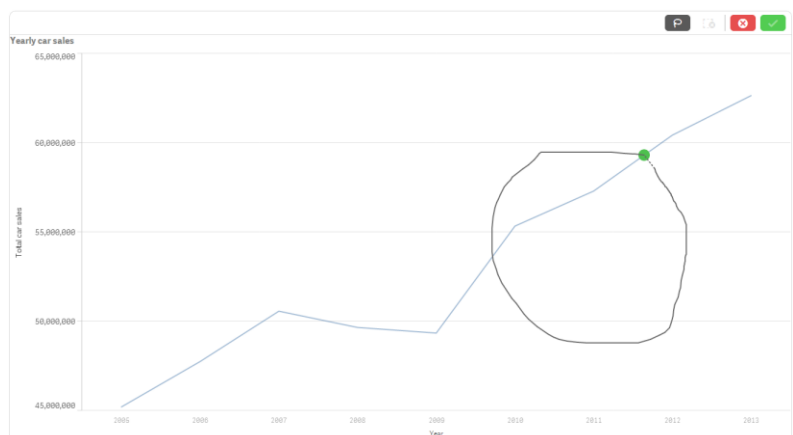
Keep this chart on the screen.



### Using the lasso

Click on the  lasso symbol. Click and drag your mouse around points to make a complete shape. The points inside the shape are your selection, all other points are deselected.

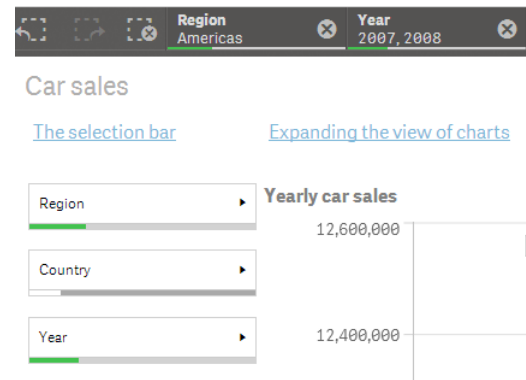
Clear all selections and shrink the chart back to its normal size.



## Selecting using the filters

The filter panes are on the top left hand corner of our sheet.  
Click on the filter panes and make some selections.

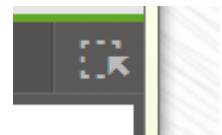
When you make selections, you'll notice some colors under the filter panes. On my application, I chose 'Americas' as the region and 2007 and 2008 as the years. Here's how the filter panes look for me.



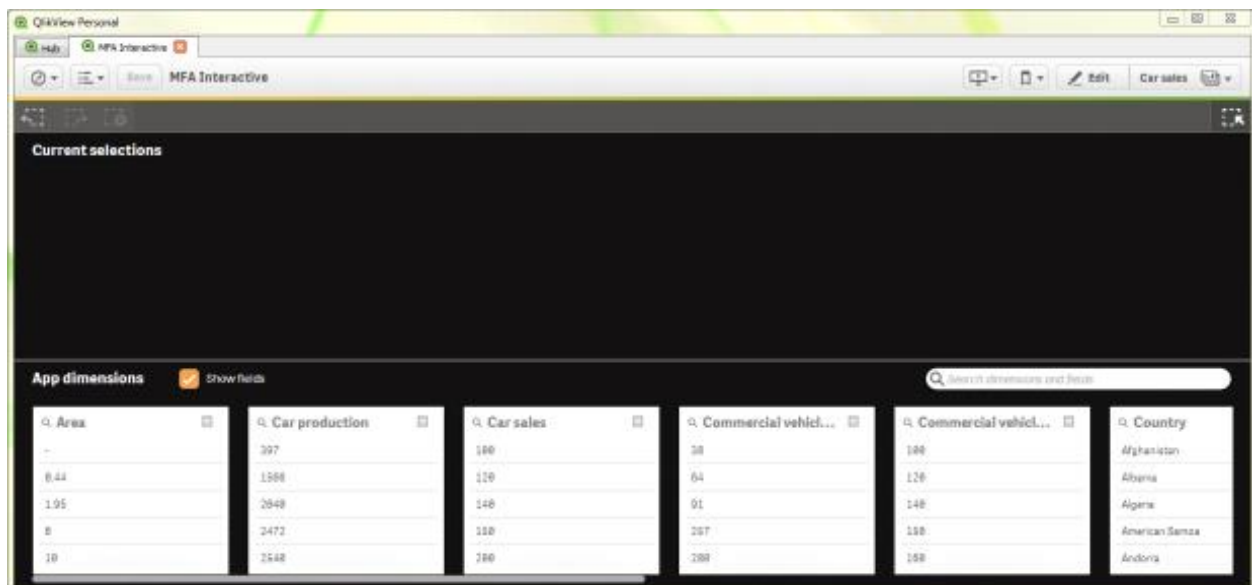
The green line under the filter box indicates how many selections I've made in the pane. I've selected one quarter of all the regions, so one quarter of the line under 'Region' is green. I haven't selected any countries directly, but about a fifth of the line under 'Country' is white. About a fifth of the countries in the world are in the 'Americas' so they are associated with my selection – that's why they are white. I have selected two years out of eight, which is why there is a green line a quarter of the way along the 'Year' filter.

## Global selectors

There's another way to make selections, using the 'Global selector' on the top right of the sheet.



Click on the 'Global selector' and it shows you all the fields in our application. You can select values from any of these fields from this page.



## Mobile development

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### Video section: “Mobile development”

This application looks great on the big screen, but what would it look like on a tablet or a phone? Why don't we find out?

Resize the Qlik Sense window to make it smaller, then a lot smaller. Notice how the charts are redrawn to preserve meaning as the available screen space shrinks. We can resize the screen down to the size of a tablet, or even a phone. We can see how our application would look on these devices. Then, we can expand the window, make our changes, and shrink it again to test out our changes. Qlik Sense is truly a mobile friendly application.

## What's next?

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If you have a little time, I've included some extra exercises at the end of this document you could do to use some other features of Qlik Sense.

This is a real dataset, so why not take some time to add your own sheets and charts to explore the data? I've included vehicle production data in the dataset, so you could create a new sheet and look at what countries are producing vehicles. You could even compare production and sales.

I have a superset of the vehicles data on my computer and I've created a fully featured application called 'Automotive'. This has a lot more charts in it than we've been able to build today. If you have time, take a look at the 'Automotive' application to see what you can do.

If you have some coding experience, and you'd like to take this a step further, we have a more advanced version of this material available which will guide you through the process of creating a more complete application.

## Some optional next steps

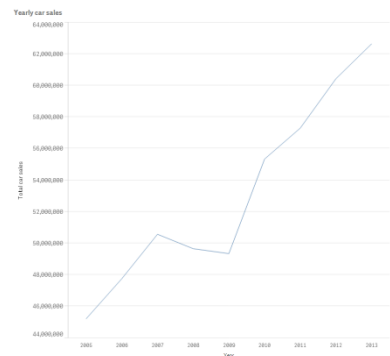
### Changing chart types

#### [Video section: “Changing chart types”](#)

Sometimes, we create the wrong chart type. For instance, you might create a line chart when a bar chart would be better. We could just delete the wrong chart and re-create the correct chart from scratch, but Qlik Sense allows you to go one better – you can change the type of an existing chart.

Let's assume you want to change our 'Year car sales' chart from a line chart to a bar chart.

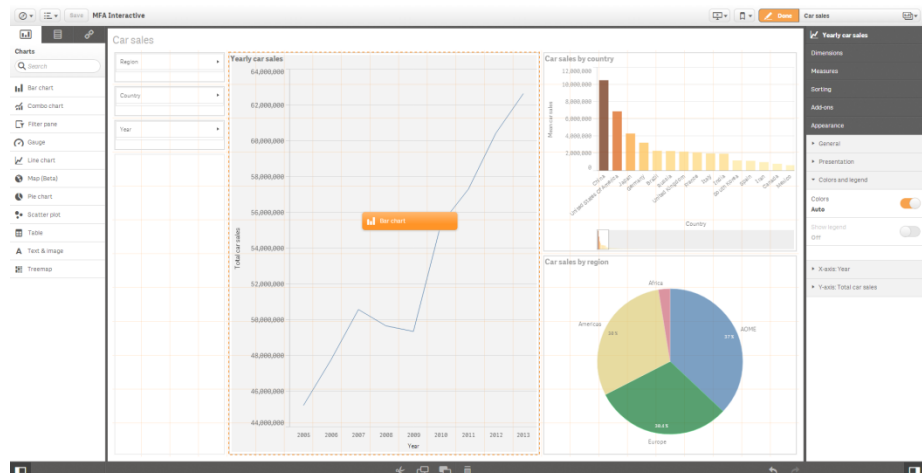
Here's our starting point.



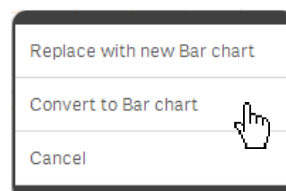
You'll need to make sure you are in edit mode before you continue. If you're not in edit mode, click the 'Edit' button.



On the charts menu, click on 'Bar chart' and drag it *onto* the 'Yearly car sales' line chart.

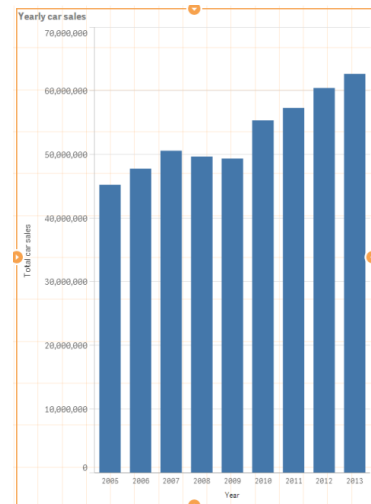


You'll see a menu appear. Click on 'Convert to Bar chart'.



You should now see the line chart transformed into a bar chart.

That's it! You've just changed the chart type in a few mouse clicks.



To go back to a line chart representation, drag and drop the 'Line chart' onto the chart, or use the 'undo' button.



## Telling stories

### Video section: "Telling stories"

Let's imagine you've been asked to explain this car sales data to your manager. One way of doing this would be to take screen grabs and tell the story using slides. But the problem with slides is that they're static. If your manager queries a slide, or asks for more detail, there's nothing you can do. With Qlik Sense's storytelling features, you can easily move from your story back to your data and answer your manager's question.

Here's an example of how it works.

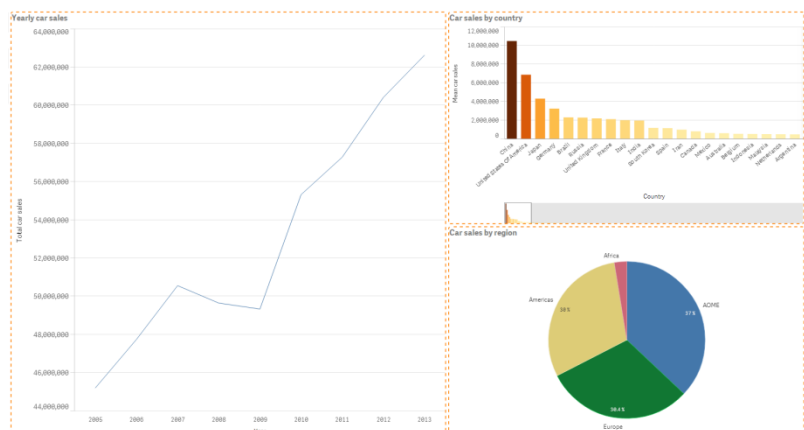
We're going to tell a story about worldwide car sales. We're going to explain what happened to overall sales, we're going to point out which countries are the most important, and we're going to point out what regions of the world are least important right now (and could therefore be good areas for growth).

We're going to start by taking a snapshot of our charts. But first, cancel any selections and make sure you are not in edit mode.

Click the "Take snapshots" icon on the top right of the window.



You should see a broken orange line around each of the charts on your sheet. Click on the 'Yearly car sales' line chart, the 'Car sales by country' bar chart, and the 'Car sales by region' pie chart.

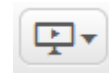


As you click on the charts, a little camera icon appears on the top right of the chart to indicate you've taken a snapshot of that chart.

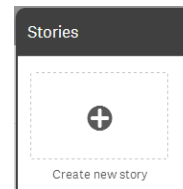


We now have three snapshots, one for each of our charts. Let's build a story.

Let's go into storytelling mode, click on the 'Data storytelling' icon which is on the top right of the window.



We want to 'Create a new story', so click on 'Create a new story'.



I'm calling my story 'Car sales' and the description is 'Overview of dynamics of car sales markets', but you can call it anything you like.

Title

Car sales

Description

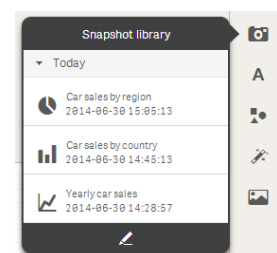
Overview of dynamics of car sales markets

Click on the story icon above car sales. This will open the first slide in our story.

We'll make the first slide in our story all about car sales over time.




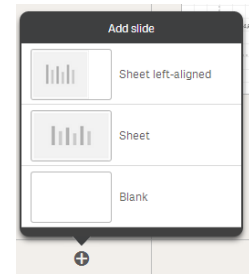
On the right of the window, click on the camera icon and drag "Yearly car sales" onto the slide.



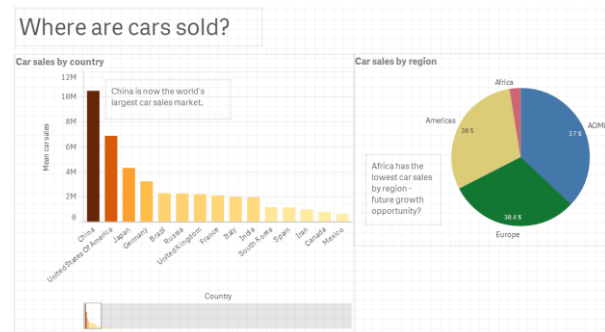
Let's give the slide a title. Click on the letter 'A' icon on the right hand side of the window and drag 'Title' onto the sheet. I've made my title 'Car sales over time'. Click on the 'A' icon again, but this time drag 'Paragraph' to the sheet. Here's where we can add some explanatory text. Here's the text I added: "Car sales show strong growth, but the recession years had a very dramatic negative effect on sales. However, the post-recession recovery has been very rapid."



Now, we'll add our second slide. Click on the  button on the bottom left of the window and select 'Blank'.



We'll add the two remaining charts to this sheet. Click on the camera icon and drag 'Car sales by region' and 'Car sales by country' onto the slide. You can overlap the visualizations. I added a title 'Where are cars sold?', and I added two paragraphs, one saying 'China is now the world's largest car sales market', and one saying 'Africa has the lowest car sales by region – future growth opportunity?'.




Click 'Save'.

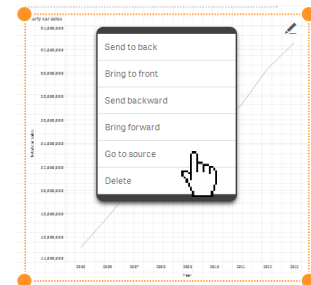
To 'play the slides' press the 'Play the story' button.



Use the left and right arrow keys to move between slides.

So far, this just looks like any other presentation package. Here's where it's different. Imagine our manager sees the car sales by time chart and the car sales by country chart and asks us what would car sales by time look like without China? It's a reasonable question that might otherwise take some time to answer, but Qlik Sense makes it easy to answer the question on the spot.

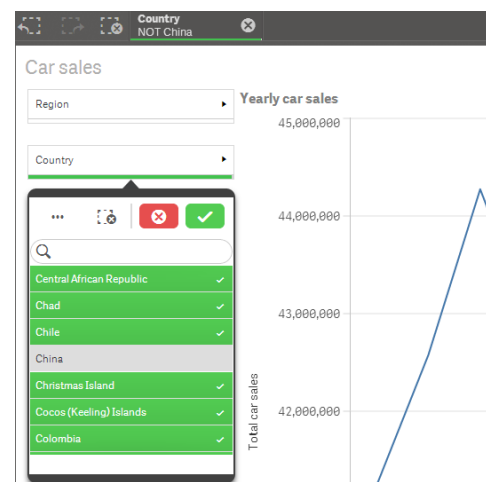
Let's go back to slide editing (click on the  symbol on the top right of the chart if you are still in play mode). Right click on the line chart, and chose the option 'Go to source'.



This takes us back to the source chart, where we can now select all countries *except* China and look at the effect on the car sales chart.

It looks like China is responsible for almost all the post-recession increase in car sales. We can show our manager this result on the spot in less than a minute.

But there's another, more interesting possibility. We can take a snapshot of this chart and add it back to our slides.



Click on the 'Take snapshots' icon. Click on the line chart to take the snapshot.

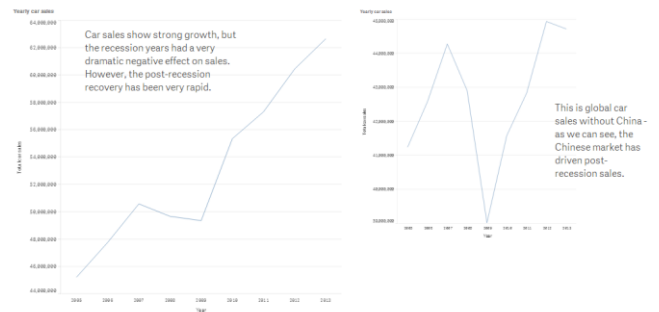
Click on the 'Data storytelling' icon to take us back to the slides. Click on the camera icon and drag the most recent 'Yearly car sales' icon onto the slide. I added a paragraph that says 'This is global car sales without China - as we can see, the Chinese market has driven post-recession sales.'

Click on 'Save'.

Now if we play the slides, we'll see our new chart showing sales including China and excluding China.

Using this approach, we can build up a story iteratively and maintain links back to the underlying charts, meaning that with just a few mouse clicks we can go back and investigate and expand on any part of our story.

### Car sales over time



## How to use the video

There's an accompanying video to go along with this tutorial. The video is on [YouTube](#). The links in this document link to different parts of the video.

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