

Training Guide

Actionable Insights and KPIs

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Introduction

Action Centers are embedded self-service analytics for QAD's Adaptive Enterprise Resource Planning (ERP) and Adaptive UX solution suite. This training guide provides all the basic knowledge required to use action centers for analyzing data and building tailor-made action centers. The guide starts with an overview on creating KPIs and their visualizations, which are the elementary building blocks for action centers. With those KPI visuals, you can then build comprehensive dashboards that we call action centers because they are fully interactive.

KPI visuals can be used as Insights, the contextual KPI visuals that are embedded in the Adaptive UX screens. Users can personalize these screens and choose which visuals they want as Insights.

A chapter of this training guide is dedicated to Financial KPIs, which are built using Financial Report Writer cubes from the QAD Financials app as data sources.

Historical data KPIs are another special type of KPI that allow you to store snapshots of data from the data lake so that you can analyze trends.

This training guide also includes an overview of QAD's predefined action centers, which are part of the standard QAD Adaptive UX apps.

The guide then wraps up with a chapter dedicated to user permissions for action centers.

With the exception of the hands-on sections, all chapters are available as videos. Watching these videos before doing the hands-on exercises is the most efficient way to master action center knowledge. The videos are available in the QAD Learning Center portal and can be located by searching for their description, *QAD Actionable Insights and KPIs - March 2023*.

Audience

This training guide is targeted at people who are involved in a QAD Adaptive UX implementation and who want to get the most out of the embedded analytics capabilities that come with the solution suite.

The target audience can be both the administrators and end-users of QAD customers. This training guide is also beneficial for QAD partners and QAD employees who guide customers in the implementation of QAD Adaptive UX.

There is an exam based on the knowledge gained from this training course. By successfully passing this exam, the trainee gets a QAD Actionable Insights and KPIs certification.

Prerequisites

Adaptive UX Navigation Knowledge

Before starting this training course—including the hands-on exercises, you should have already acquired the basic skills needed to navigate the QAD Adaptive UX menus and hybrid views. A hybrid view, or view, is a combination of a browse with a form for viewing or entering data.

Environment

For the hands-on parts of this course, the trainee must have access to a March 2023 Adaptive UX environment. These environments are made available for students enrolling in a formal QAD training program.

The hands-on parts of this course can also be run on a customer environment, preferably a development or test environment (non-production), so that the trainee's data changes do not interfere with the

performance of the production system. If you use a customer environment, the data will be different than the data shown in the examples in this training guide.

In QAD-provided environments, you can sign in with the following credentials:

- Username: demo@qad.com
- Password: qad

If you are unsure of which version of Adaptive UX you are running, you can find this out in the UI, under Help => About. The About menu option should display Adaptive User Experience: 2.26.0.42 or higher.

Note: At minimum, QAD version 2018 EE or later is required to install action centers.

Training Overview

Chapters

There are 11 chapters in this training guide. The chapters correspond with 11 training videos that are available in the QAD Learning Center:

- Video 1 – Solution Overview
- Video 2 – Analyze KPIs on Action Centers
- Video 3 – Create KPIs
- Video 4 – KPI Bulk Actions
- Video 5 – Financial KPIs
- Video 6 – Historical KPIs
- Video 7 – Create Visuals
- Video 8 – Create Action Center
- Video 9 – Insights
- Video 10 – QAD Predefined Action Centers
- Video 11 – Action Center Permissions

Hands-On Exercises

There are four hands-on exercises that you should complete after watching the corresponding training video:

- Analyzing KPIs after video 2
- KPI Creation after video 3
- Creating Visuals after video 7
- Action Center Creation after video 8

You can proceed with the training at your own speed and convenience, but we recommend that you follow the order of this training guide. Since most chapters further build on the information from the previous chapters, it is also recommended that you do not leave too much time in between your study sessions, so that you still remember the content of previous chapters.

Duration

The total duration of the videos is about three hours. When you add the total video run time to the time required to complete the hands-on exercises, you will need to spend about six hours to master all the study and practice required for this course.

Certification

After completing the training, you can take a multiple-choice mastery test. When you pass the mastery test (a minimum of 80% correct answers), you get a certification for QAD Actionable Insights and KPIs. This certification will become mandatory for QAD business consultants performing Adaptive UX implementations.

Solution Overview (Video 1)

Data Sources

The QAD ERP suite consists of apps for many functional areas.



Each of those apps stores its data in a central database that can be queried using browses. Many standard QAD browses exist, and customers can also build their own custom browse queries.

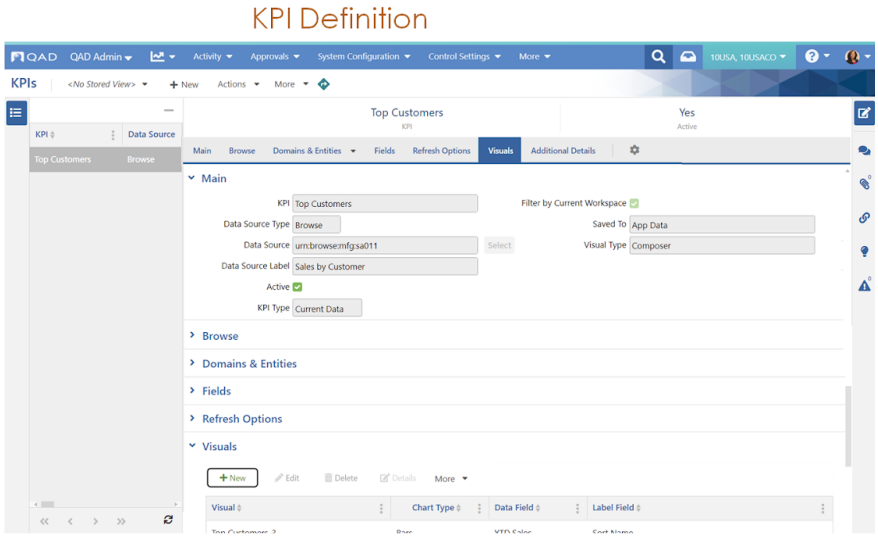
In the action centers, any browse in the system becomes available as a data source for building KPIs.

For Financials data, most companies already use financial statements, such as the balance sheet, income statement, and cash flow statement, that they built using Financial Report Writer.

Data from report writer cubes can also be used as a data source for the KPIs of the action centers.

KPIs

You can create new KPIs at will using the **KPIs** maintenance screen. In this screen, you can select a data source from the list of browses.



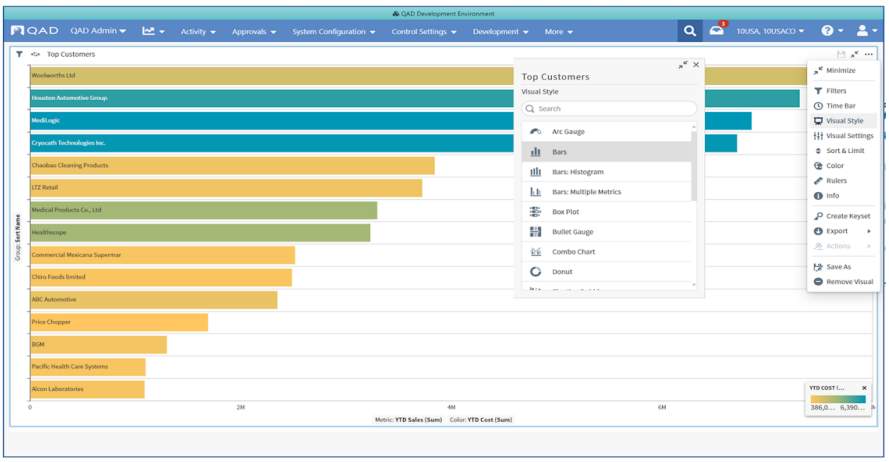
You can specify the selection criteria to apply when retrieving the data; this happens in the same way as setting search criteria when running a browse query. You can also specify the domains and entities to

read data from. You select the fields to use as dimensions and facts for the KPI calculations and visualizations. Once the KPI is defined, you can start creating visuals.

Visuals

Visuals are graphical representations of data in chart or table form.

Visuals



You can choose the chart type, define the dimensions used for the chart, define aggregation types, make calculations with formulas, apply additional filtering, and even create pivot tables.

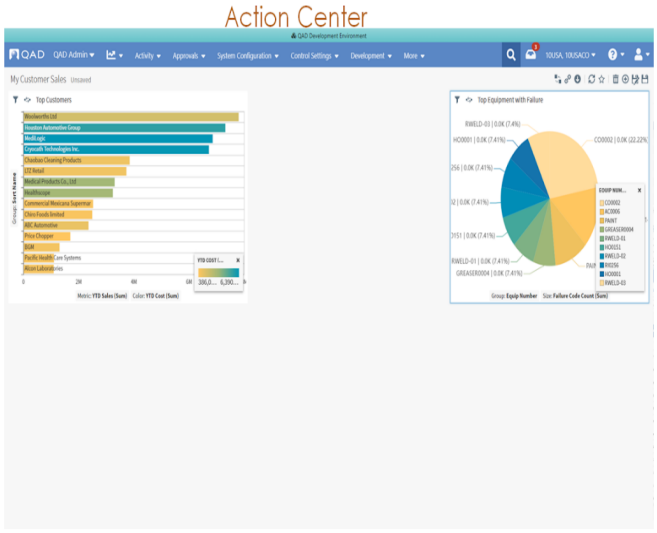
KPI Visuals Gallery

With the same KPI definition, you can create many different visuals. All the visuals that you create are stored in a shared Gallery.

Action Centers

The visuals in the Gallery are then used to build action centers, which brings us to the most prominent component of the solution: the action center itself.

Action Center



Users can create personal action centers, or administrators can create shared action centers, and share those with users, based on their roles.

Starting from an empty dashboard, you can select visuals from the Gallery and add those visuals to your action center.

You can repeat this process for as many visuals as you like. On the resulting action center dashboard, you can rearrange the visuals and save the action center. You can come back at any time later to add more visuals or to modify or replace existing visuals on your dashboard. This action center dashboard is also the starting point for further analysis of the KPIs. This process is explained in more detail in the upcoming chapters about action centers.

Let's summarize what you have learned in this overview. You saw how any of the QAD ERP browses and Financials KPIs can be used as data sources to build powerful KPIs with attractive visuals that are stored in a shared Gallery. Users can build their own action centers by selecting KPIs from the Gallery and tailoring their action centers to show all the KPIs that they want to track and analyze.

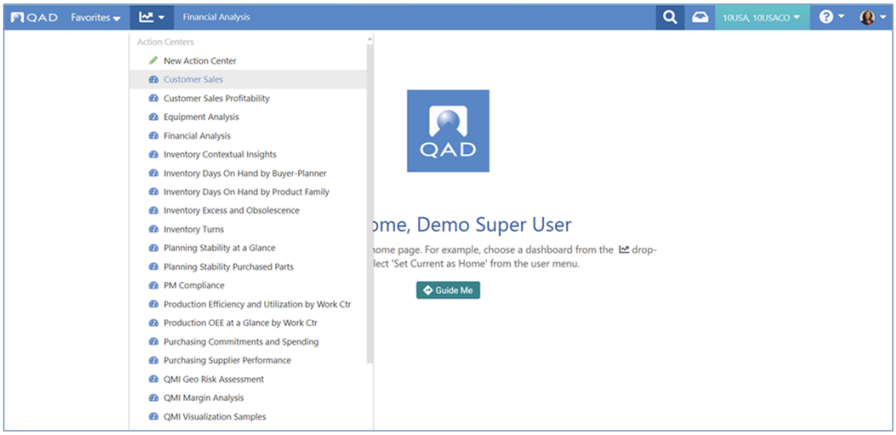
Analyzing KPIs (Video 2)

In this chapter, you will learn how to analyze KPIs and get actionable insights into the data that drives your business.

Opening an Action Center

In the Adaptive UX menu, there is a chart icon that, when clicked, opens a drop-down list of action centers. The list shows the action centers that are associated with your roles in the system, and it also shows the action centers that you created.

Opening an Action Center



QAD 2

When you click any of the listed action centers, the action center opens and shows the KPI visuals in panels spread over the page.

The visuals can be charts, KPIs, maps, tables, or pivot tables.

Analyzing a Visual

Action centers often contain selection lists and date selection widgets that allow you to filter the content of the action center easily.

Analyzing a Visual

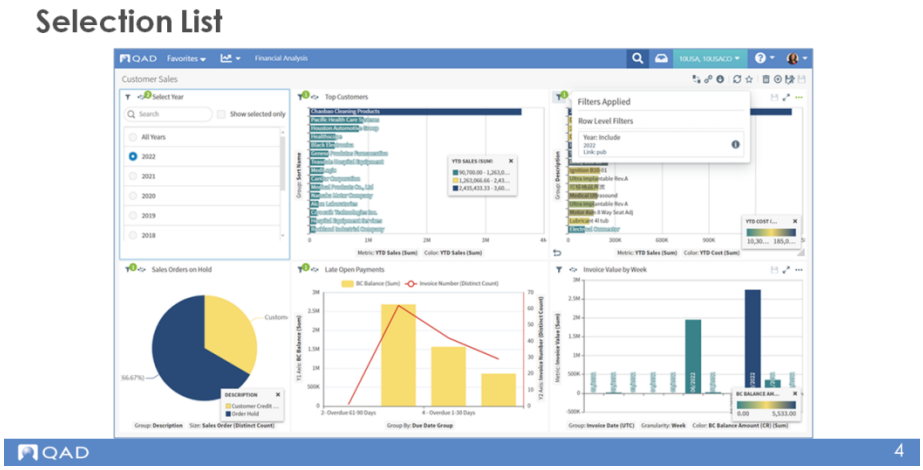


QAD 3

If you hover over a chart with your mouse pointer, you then see a tooltip that shows the values associated with the data point that you are hovering over. For example, here we see the Invoice Value for Week 10 in 2022 and the invoice amount in base currency that determines the color of the bars. If the chart has a legend with the elements of the chart, for example, on the Late Payments chart, then you can also click the legend items to show or hide them on the chart.

Selection List

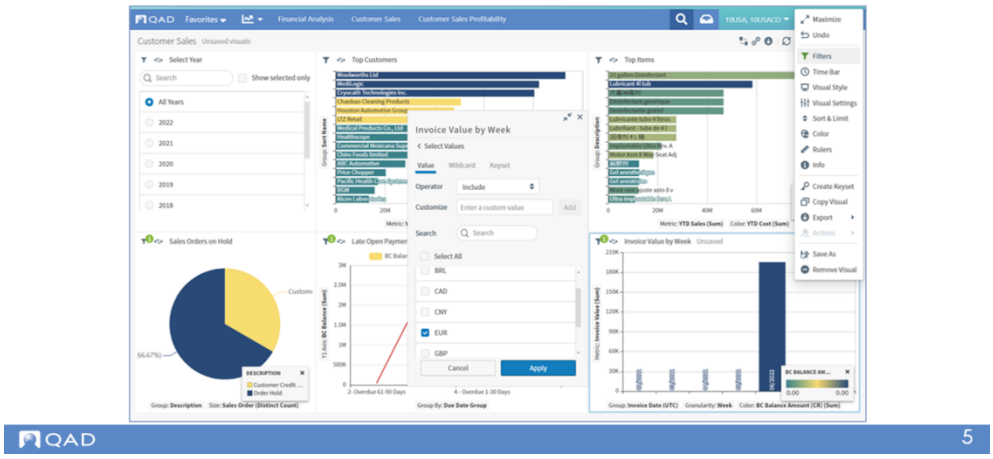
Selection list widgets—for example, the Years list—allow the visuals to be filtered in the action center.



You can select the elements in the list and see the data in the visual filtered accordingly. More than one visual can be controlled by the same selection widget. All visuals that are filtered by the selection list are assigned a green bullet that lights up next to the filter icon. Click the filter icon to see what filters are applied. In this example, we see the Year Includes 2022 filter applied.

Depending on the settings of the list filter, you can perform multiple-element selections or single-element only selections. You can also add or remove the ALL elements option to/from the list using the settings. You can learn more about these settings in the chapter about creating action centers, and in the corresponding video.

Visual Filters

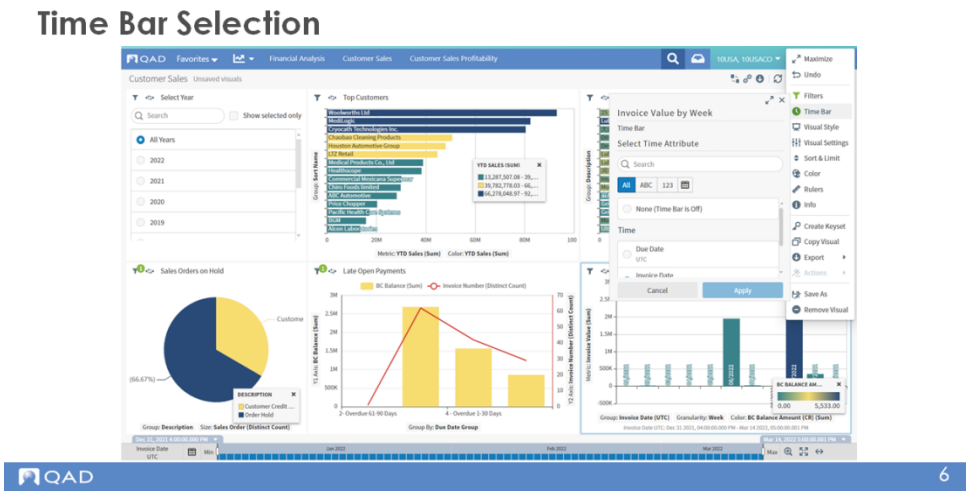


You can apply any desired filter to a visual. For example, in the Customer Sales action center, we want to filter the invoice value by week to only show invoices in Euro. Click the three dots in the top-right corner of the visual panel to open the visual settings menu. There, you choose the Filter option.

In the Filter dialog, you can define filter criteria; for example, you can select the Currency field and select EUR from the list of currencies to include. Click Apply to confirm the currency selection. You can now select other filter criteria or click Apply again to apply the filter settings on the visual. The chart shows only EUR invoices now.

A green bullet appears on the top-left corner of the panel, next to the filter icon, to indicate the number of filters set on the visual. When you click the filter icon, you see which filters are set and you can also remove those again by clicking the minus sign next to the filter criteria.

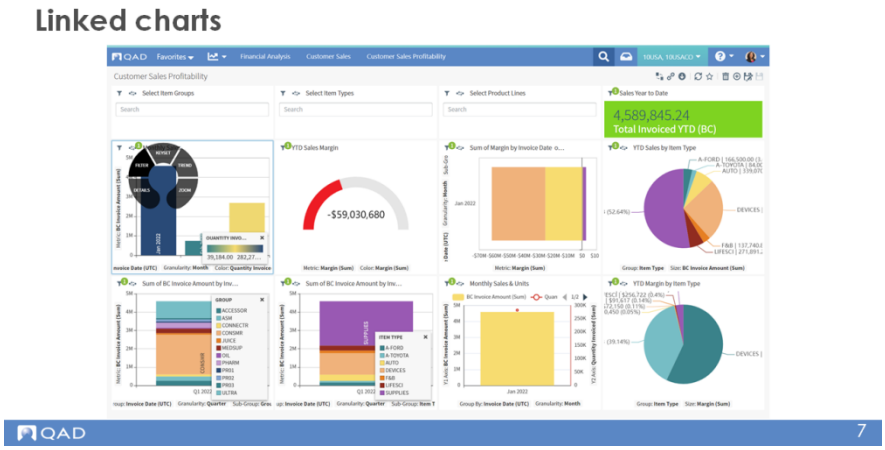
Time Bar Selection



Any visual that has a date field can be filtered by a time bar. For example, in the Invoice Value by Week visual, you can click the three dots in the top-right corner of the visual panel to open the visual settings menu and activate the time bar by selecting the date field that controls the chart—for example, Invoice Date. Now, you can select a time range at the bottom of the screen and the chart data is filtered accordingly. This time bar setting can be saved with the visual.

You can learn more about these settings in the chapter about creating action centers, and in the corresponding video.

Linked Charts

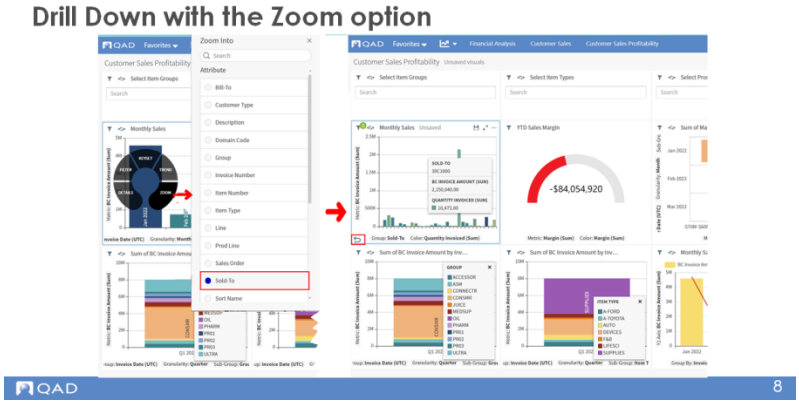


You can also link charts to each other so that one chart acts as a filter for another chart. For example, in the Customer Sales Profitability action center, all charts are linked because they have the same KPI as the data source. By default, charts with the same KPI data source are linked.

If you now click, for example, on the January 2022 bar of the Monthly Sales graph, then a radial menu pops up. If you choose Filter from that menu, then all other visuals are filtered to show data for that month. You can remove that filter again by clicking the Published Filters icon on top of the Monthly Sales and remove all published filters. You can also use other fields, like item codes, customer codes, and so on, as cross-chart links for filtering. You can link visuals from different KPI data sources on an action center.

You can learn more about linking charts in the chapters about creating KPIs and creating action centers, and in the corresponding videos.

Drill Down with Zoom

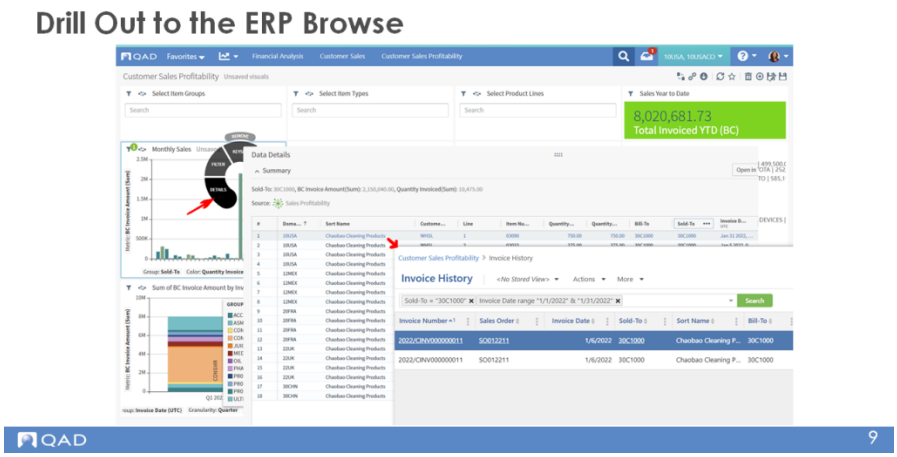


With the Zoom option, you can drill down and slice the data by any dimension. For example, when you click the July 2021 bar of the Monthly Sales graph, a radial menu pops up. Click the Zoom option in that menu to display a list of dimensions. Then, when you select Sold-To from the list, the chart shows the July 2021 data, sliced by Sold-To.

Next, you can continue to drill down by clicking any Sold-To, selecting Zoom again, and selecting the Item Number as the next level with which to slice the data.

Notice that, at the bottom left of the chart panel, there is an icon that you can click to go back to the previous drill-down level.

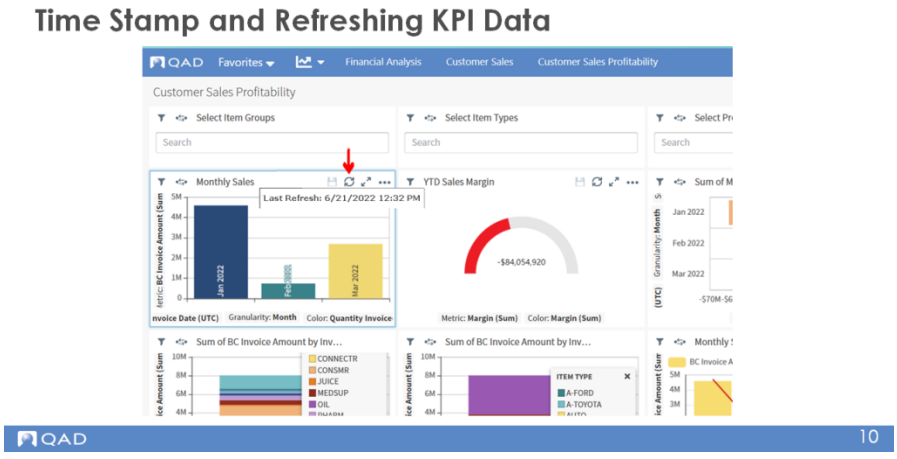
Drill Out to the ERP Browse



KPIs retrieve their data from the ERP system using a browse query. At any time during the drill down in an action center, you can see the data in the source browse. To do this, choose the Details option from the radial menu, which opens a table with details of the data stored in the data lake. Then, click any row in the table and the ERP browse opens.

The browse is filtered to show the same selection of data as the clicked row, but restricted to the current logged in domain or entity because most transaction browses are automatically filtered that way. You see a flash warning if you select a record that belongs to another domain and, therefore, the ERP browse stays empty.

Timestamp and Refreshing KPI Data



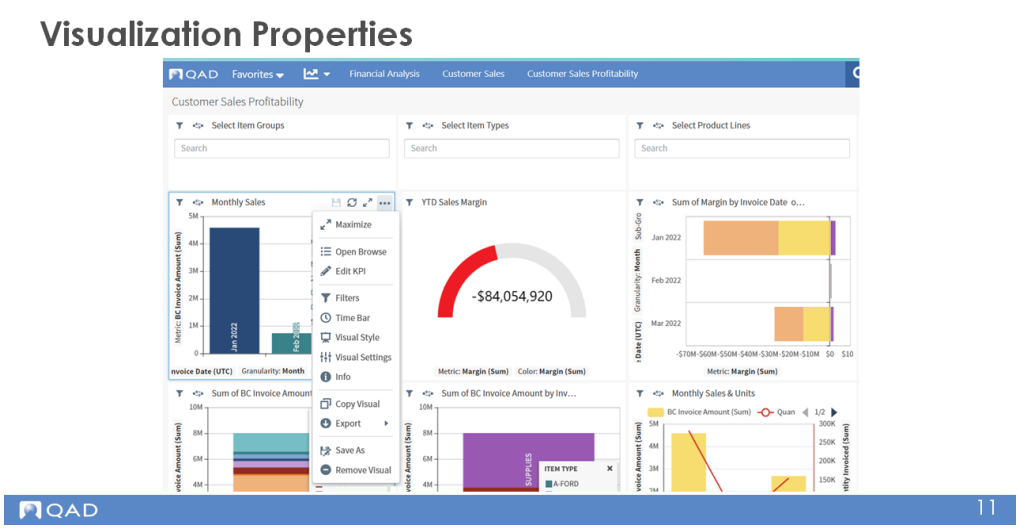
The data for analytics is stored in a Cassandra data lake, and is refreshed at scheduled times, set in the KPI definition.

If the Allow Manual Refresh setting is enabled in the KPI, there is a refresh icon at the top of the visual. When you hover over that icon, you see a tooltip with the date and time when the KPI data was most recently refreshed.

If you want to see the most current data from the ERP system, click the refresh icon. This starts the process of refreshing the data, which takes, on average, 20 seconds. During the refresh, the Processing data tooltip appears.

When the data refresh is complete, the chart is reloaded to show the latest data and also a new timestamp shows in the tooltip.

Visualization Properties



When you click the ellipsis icon (the three dots at the top right of a visual), a list of actions that you can run on a visual is displayed. The options in this list can be restricted through the permissions that the administrator has granted you, based on your roles in the system.

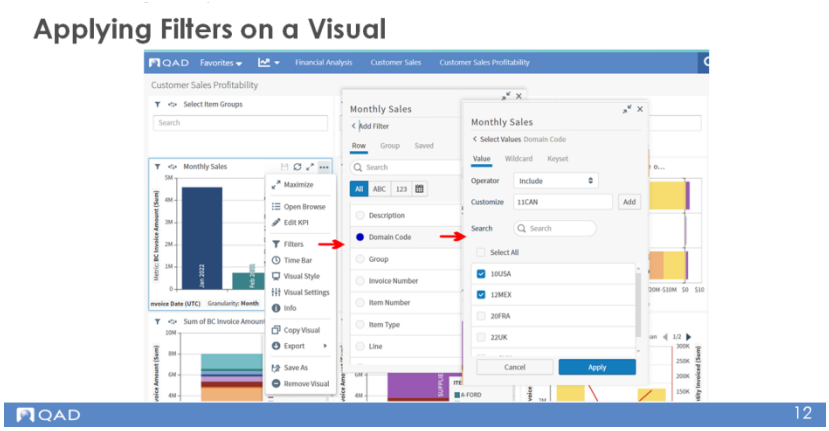
A much-used action is to apply additional filtering using the Filters option, which is explained in the next topic of this chapter.

Another useful option is Open Browse, which lets you see the ERP browse used as the data source. When opened from this menu, the browse is unfiltered, as opposed to when you open the browse from the drill-down Details screen.

The Edit KPI option opens a view of the KPI definition so that you can verify and adjust settings. This is an option used by authors of action centers. It can be hidden for data consumers who only analyze data, without changing the setup. You can find more details on the Edit KPI option in the *KPI Creation* chapter of this training guide, and in the corresponding video.

The remaining options are explained in the *Create Visuals* chapter of this training guide, and in the corresponding video.

Applying Filters on a Visual



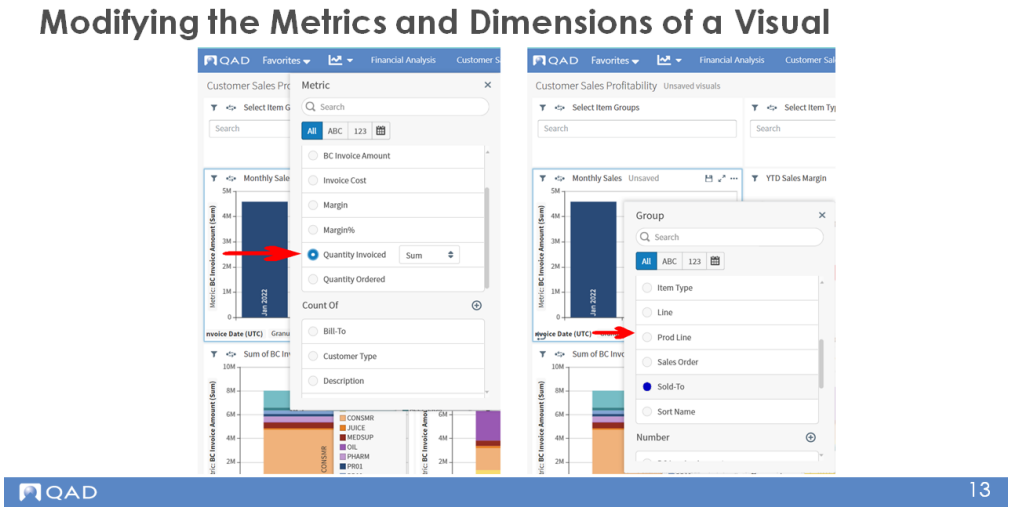
When you click the Filter icon on a visual's upper-left corner, or when you click the Filter icon in the three dots (More) menu, a dialog opens for setting filters on the data. First, you must select the field that you want to filter on—for example, the Customer Type.

Then, you specify the included values. You can select those from the list, which is based on the current data. You can add missing values in the Customize text box and click the Add button next to the text box. Here, we want to add the OEM customer type.

You can also specify a filter to exclude, rather than include, certain values. For this, you must change the Operator field from Include to Exclude.

You can use the Wildcard option to filter using criteria like Contains, Begins With, and so on.
If multiple criteria apply, you must combine them using AND and OR logical operators. For this step, there is the option to build nested groups of criteria.

Modifying the Metrics and Dimensions of a Visual



Metrics are the values that you are actually measuring in a KPI or chart: a sum, an average, a count, or a ratio.

The Monthly Sales chart measures the Sum of the Invoice Value in Base Currency. If you click the BC Invoice Amount (Sum) label on the left of the chart, then you can select another metric; for example, the total quantity shipped.

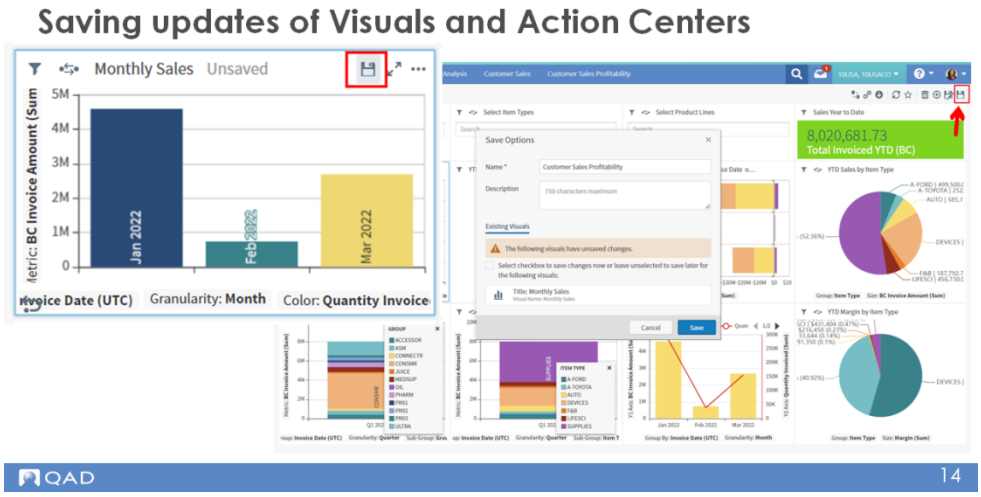
In the same chart, the Invoice Date is the grouping dimension (also called label dimension) and, in this example, it is grouped by month.

You can change the grouping dimension to, for example, group by Sold-to, by clicking the Invoice Date label and selecting Sold-to from the list.

When grouping by a date field, like Invoice Date, you can also change the granularity and—for example—group by quarter, instead of by month.

Many more options for changing visuals are explained in the *Create Visuals* chapter, and in the corresponding video.

Saving Updates of Visuals and Action Centers



After modifying a visual, if you have the permissions to update visuals, then click the Save button at the top of the visual to save your changes.

After modifying the layout or content of an action center, you still have to save the action center, with all the modifications. Saving is only possible if you have general permission to update action centers and specific permission to update the current action center. When you save an action center, the system also detects unsaved visual modifications and allows you to save those with the action center.

For more information about action center permissions, see the chapter *Action Center Permissions* and its corresponding video.

Hands-On Exercise: Analyzing KPIs

Now that you have completed the first two chapters, watched the videos, and read the training guide, it's time to practice the analysis of KPIs in an action center by doing the following hands-on steps:

1. Sign in to QAD Adaptive UX.
2. Locate and open the Purchasing Supplier Performance action center.

3. Locate the Overall OTIF Percent_1 visual, a pie chart showing the total number of orders that are OTIF and Not OTIF.
4. To show the numbers by site, click the Not OTIF segment of the pie chart.
5. Click Zoom.
6. From the Zoom Into list, click Site.
7. Zoom into the 10-100 segment of the visual. From the Zoom Into list, click Supplier Name.

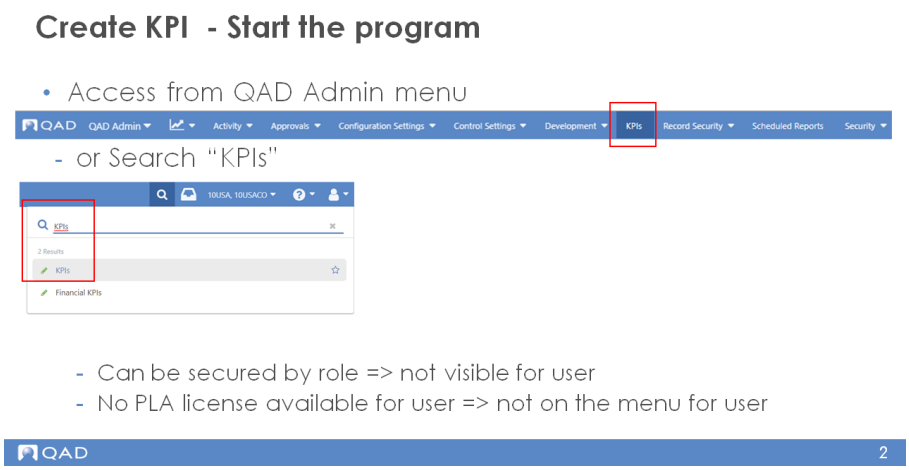
   How many Not OTIF orders are there for Bridgeville Industries?

8. To show what domains the orders come from, zoom into the Bridgeville Industries segment of the visual. From the Zoom Into list, click Domain Code.
9. To open the browse with the orders for Bridgeville Industries, click the Show More icon on the top right of the visual.
10. From the visual menu, click Open Browse. In the browse, all orders for Bridgeville Industries during the selected period for site 10-100 display.
11. To determine how many orders were In Full (IF) but not On Time (OT), click the cogwheel icon to add the On Time and In Full columns, then click Apply.
12. Group the columns for easier counting:
    a. Increase the records per page to 2000.
    b. Click the ellipsis in the On Time column and click Group By Column.
    c. Click the ellipsis in the In Full column and click Group By Column.

Now you are ready to pick up the phone and have a chat with Bridgeville Industries about their service level.

KPI Creation (Video 3)

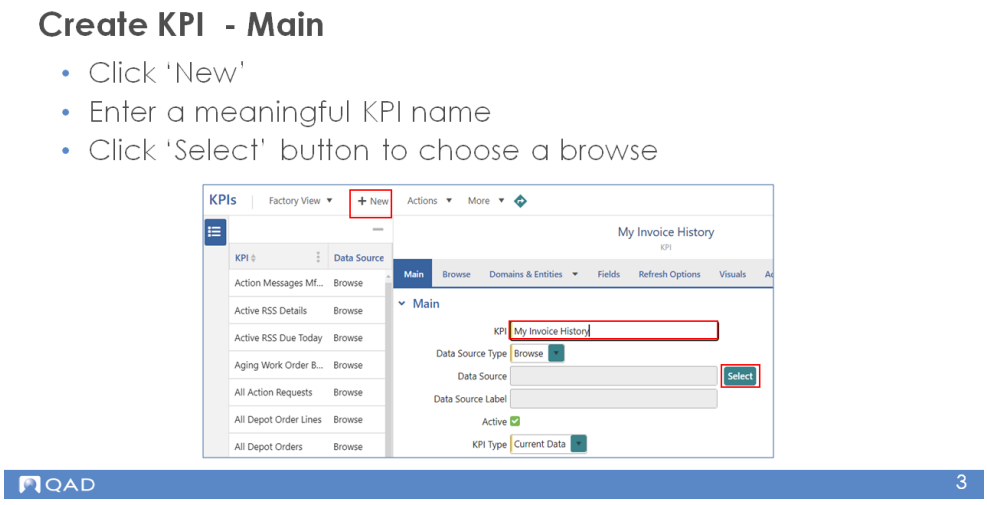
Create KPI – Open KPIs Screen



The KPIs view is the screen where you can create and maintain KPIs. If you have access to the QAD Admin role menu, then you can find KPIs as an option under the More > Analytics menu.

Even if you do *not* have the QAD Admin menu, you can still search for the KPIs maintenance screen by typing KPIs in the menu search.

Create KPI – Specify the KPI Name



When the KPIs screen opens, you see a list of existing KPIs in a browse. Double-click any of these KPIs to bring up the settings for that KPI in a maintenance form on the right-hand side of the screen.

If you want to create a new KPI, click the + **New** icon at the top of the screen; an empty KPIs form opens. In the KPI field on the Main panel, enter a meaningful name for the new KPI.

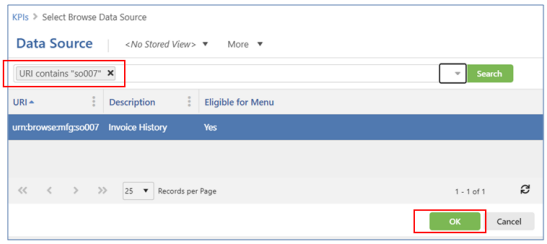
Create KPI – Search for Browse

Click the Search button to search for the browse that you want to use as the data source.

This opens a dialog with a list of all browses in Adaptive UX.

Create KPI – search for browse

- From the browse with all browses, search for a browse with "URI" Contains "so007"



- Result is the Invoice History browse, click OK

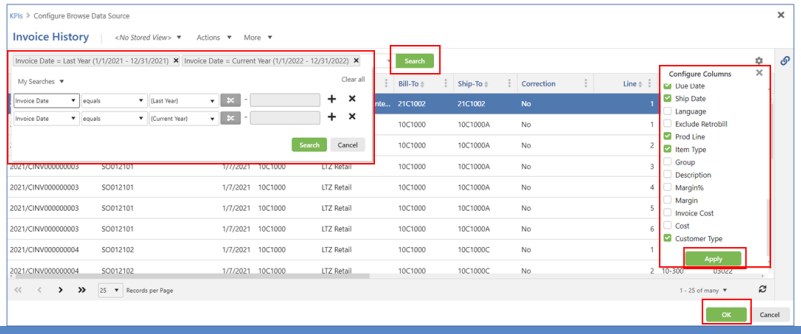
QAD 4

You can search for a browse by its name in the menu, or you can search for it by the URI. For example, you can search for a browse with a description of Invoice History; this returns the Invoice History browse. If you know the browse code, for example, so007, you can also search with "URI contains so007." This search also returns the Invoice History browse. When you have located the browse, select it and click OK.

Create KPI – Configure Browse Fields and Search Criteria

Create KPI – Configure Browse (Search Criteria)

- Select Fields
- Search records with "Year" equal "Last Year" and "Current Year
- Click OK



QAD 5

The next step is to configure the browse columns and to set search criteria. This is a mandatory step in the process, even when you don't want to set search criteria. Search criteria are important in limiting the number of records returned from the browse. In this example, we only want to see the data for last year and this year.

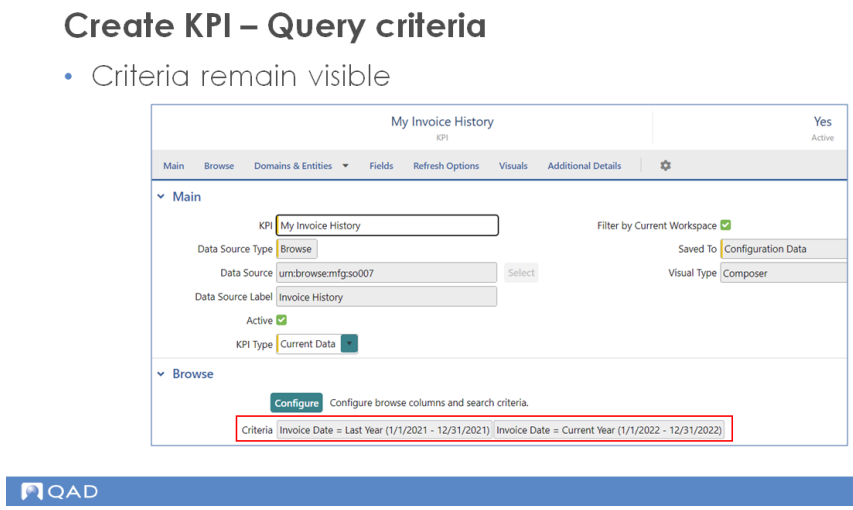
Click the blue Configure button on the KPIs screen, which opens the browse that you selected earlier—in this example, the Invoice History browse.

First, we enter the search conditions, Invoice Date equals Last Year and Invoice Date equals Current Year. Note that you can also use fixed calendar dates. Click Search to verify that the browse returns the expected records.

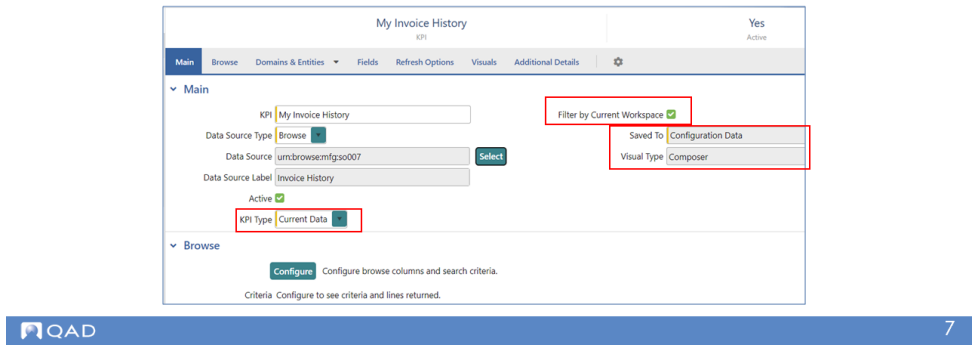
Next, check if you can see all the fields that you need. Only the first 20 fields of the browse are visible by default. This subset is returned for performance reasons. With the cogwheel icon to the right of the

Search button, you can open the Configure Columns list of all fields and toggle the visibility of the fields. Here, we add BC Invoice Amount, Due Date, Ship Date, Product Line, Item Type, and Customer Type. We unselect some fields that we don't need. Confirm the column selection using the Apply button below the list. Then, click OK to save the browse settings.

This brings you back to the KPIs screen, where you can still see the search criteria. You can always change those again later.



Create KPI – Main Panel



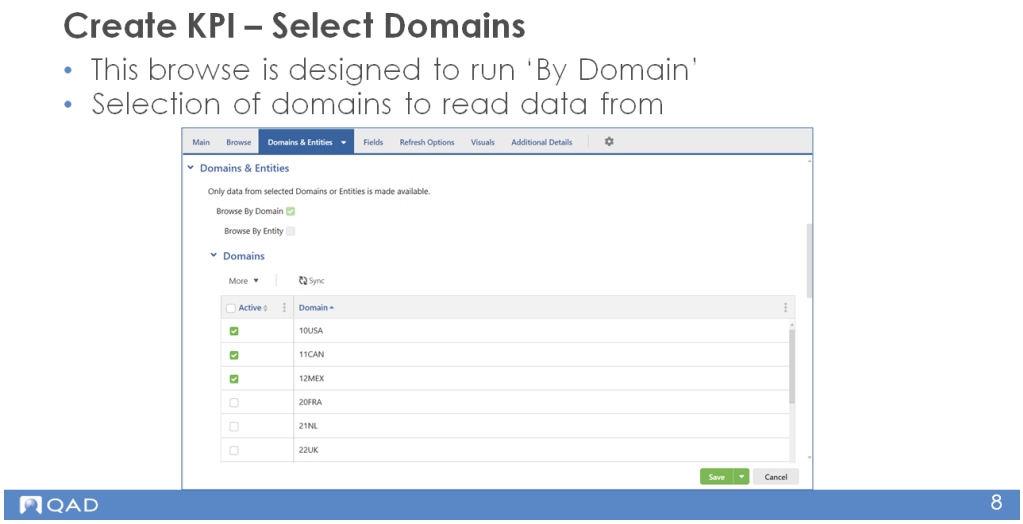
In the Main panel, there is a checkbox called Filter by Current Workspace. If this checkbox is selected, the KPI reads the data according to the workspace that a user is logged onto. So, typically, you see data for the current logged-on domain or current entity for financial browses. When the checkbox is cleared, the KPI shows data for all domains or entities that you select in the panel further down the screen. However, in any case, the data displayed for a user is limited to the domains and entities that the user has permission to access and run the data source browse. There is a separate chapter (and video) that explains the security for action centers in more detail.

The Saved To field shows Configuration Data because, as of the September 2022 release, all KPIs are stored as Configuration Data and not as app data anymore. The Visual Type field shows Composer for all

new visuals created. Older versions had Thinkspace as the visual type.
The KPI Type field shows Current Data by default, which means that the data is always the latest available result set of the query.

The other option in the KPI Type field is Historical Data, which allows you to keep historical summary snapshots of the data for a number of days, weeks, or months, so that you can analyze trends. For more information on historical data KPIs, see the chapter *Historical KPIs* and the corresponding video.

Create KPI – Select Domains



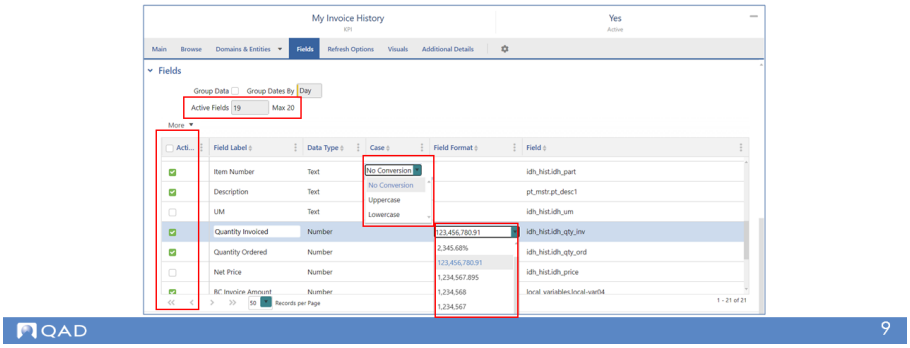
In the Domains & Entities section, the Browse by Domain checkbox is selected. This is a read-only field, for information purposes only, and indicates that the selected browse always returns data by domain. So, if you have selected Filter by Current Workspace, you see the results for the current domain, one at a time. If Filter by Current Workspace is not selected, then the browse reads the combined data from all the domains selected in the Domains list. You must select the extensive list of all the domains that users of this KPI will need. The smaller the selection, the faster the KPI reads the data, so make sure that you're not selecting domains that you do not expect to use in the data analysis. You can always change the domain selection later.

Create KPI – Select Fields

In the Fields section, there is a grid showing all the fields returned from the browse.

Create KPI – Select Fields

- Selection of all required fields (max. 20 per KPI)
- You can change the labels, case conversion and field formats



Here, you can choose the fields that you need for the KPI by selecting the checkboxes in the Active column. It's important that you only select the fields that you need for KPI analysis. Select the key dimensions that you want to measure, such as customer, supplier, item, amounts, and quantities, and select the time dimension, transaction dates, due dates, and so on. For performance reasons, 20 is the recommended maximum number of fields that you should select for a KPI. If you need more fields, then you probably need more than a single KPI to analyze the data, and you can create two or more KPIs for the same browse data source.

Important: You can change the field selection at a later time. However, removing fields later breaks the KPI visuals that you have created using these fields, and you will have to recreate the visuals. So, it's important to carefully select the fields you need.

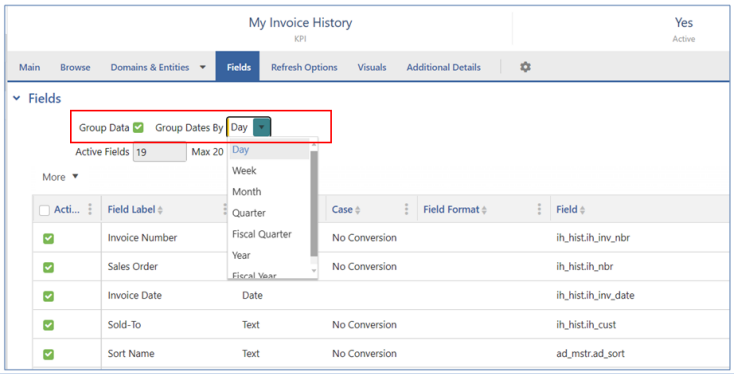
The Data Type and the Field Name columns are read only, and for information purposes only. In the Case column, you can indicate that all values for a field must be converted to uppercase, lowercase, or not converted. This conversion is needed when the ERP database contains a variety of capitalizations for the same codes. For example, A001 with an uppercase A and a001 with a lowercase a for the same customer. Without this conversion, the visual shows these as different customers.

For date fields and number fields, you can also set the field format.

Create KPI – Group Data

Create KPI – Group Data

- Large transaction browses => aggregated data



QAD 10

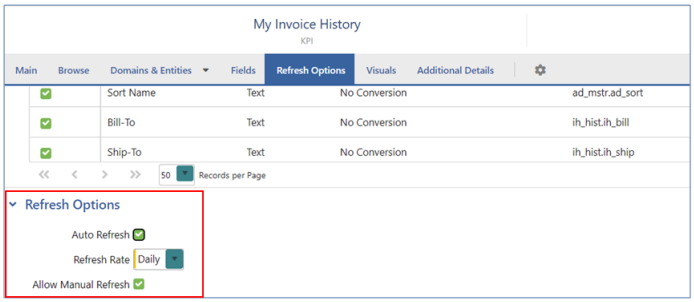
When your source browse returns very large amounts of data, with hundreds of thousands or even millions of rows, the analytics query service has a powerful feature that can pre-aggregate data from the data lake. When you select the Group Data checkbox, all the records returned are aggregated in groups for each unique combination of active fields, with the numeric fields summed automatically. There is also an option to set the granularity for the grouping of date fields. This gives you a choice to add all records together per day, per week, per month, and so on.

This feature, typically, reduces a million-record dataset to less than a hundred thousand records, aggregated, which keeps action centers performing.

Create KPI – Refresh Options

Create KPI – refresh Options

- Allowing to refresh data automatically and/or manually by user request
- 30 Auto-refresh KPIs maximum



QAD 11

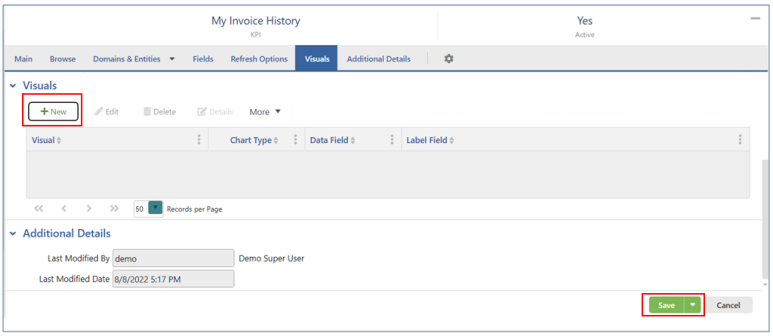
In the Refresh Options panel, you can indicate the frequency of automatic refreshes for the KPI—daily, weekly, or monthly. If you leave Allow Manual Refresh selected, then users can refresh the data on the spot at any time to get real-time data. Refresh data is visible to all users of the KPI.

In some scenarios, you may not want users to perform a manual refresh to ensure that all users see the KPI values during the day and then have the KPIs refreshed automatically overnight. You can select the Auto Refresh option for a maximum of 30 KPIs in the system—for system performance reasons. If you need to select more than 30 KPIs, then a special request must be created for the QAD Cloud team to increase the number.

Create KPI – Save KPI

Create KPI – Save and Visuals

- Click Save
- +New Visuals button becomes enabled



QAD 12

Now, we have completed the KPI definition, and we save it by clicking the Save button. This also enables the + New visuals button.

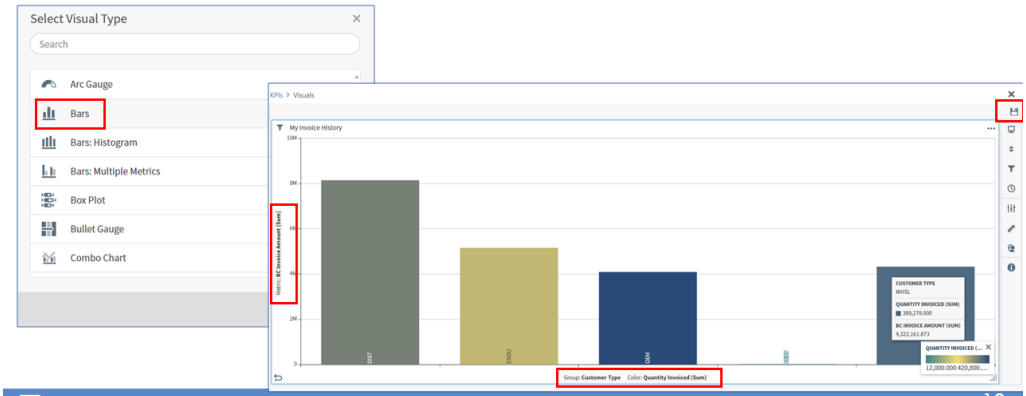
Note that, in the Additional Details panel, the user ID and date and time of the last modification become visible.

Now, we click the +New visuals button.

Create KPI – Visual Creation with the Visual Builder

Create KPI – Visual creation => Visual Builder

- Select visual type and set main dimensions



QAD 13

This brings us to the visual creation dialog. First, we have to choose the visual type from a list. You can, for example, select a bar chart.

Then, a first version of that chart shows up. You can change the metric by clicking the Y-axis label on the left and selecting, for example, BC Invoice Amount from the list. For the X-axis, click the label below the chart and select, for example, Customer Type from the list. For the color metric, we choose Quantity Invoiced.

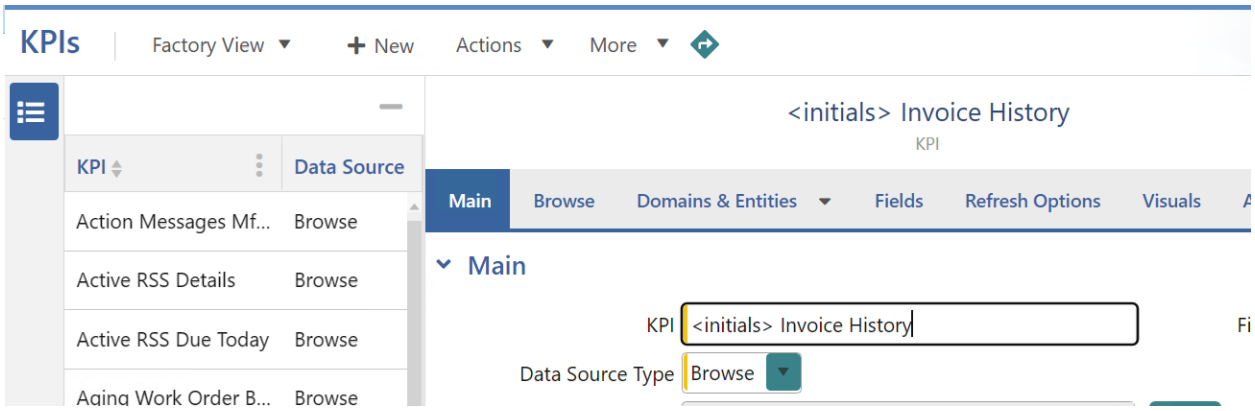
We have now created a first visual and we click the Save icon at the top right of the visual. There, we give the visual a meaningful name and a default title for when it is used on an action center. It is good practice to start by giving both fields the same value.

After the visual is saved, the dialog closes and the new visual is listed in the Visuals grid on the KPIs screen. The visual is also automatically added to the KPI Visuals Gallery view.

Hands-On Exercise: Creating KPIs

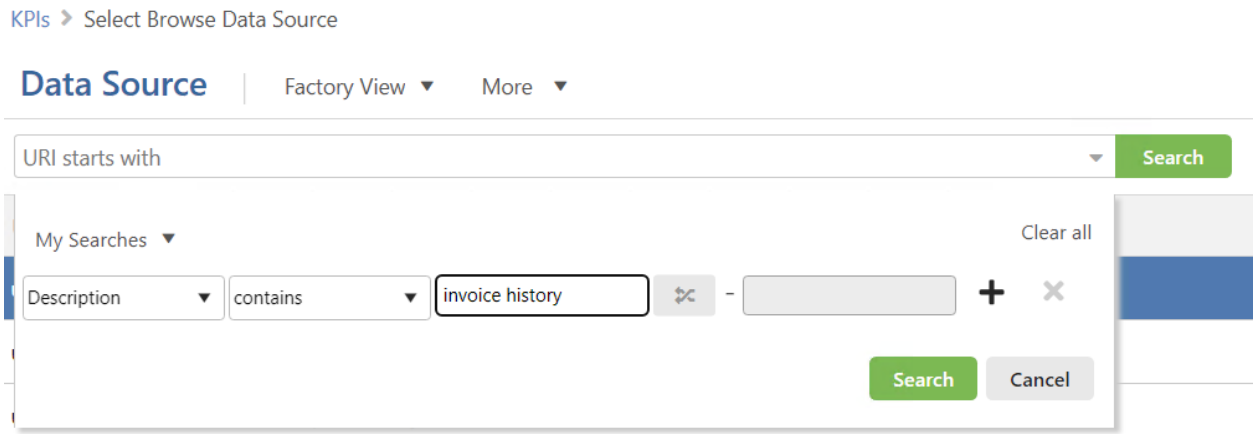
Now that you have studied the chapter about creating KPIs by watching the video and reading the training guide, it's time to practice it in a hands-on exercise.

1. Sign in to QAD Adaptive UX.
2. In the Search menu, search for the term KPIs. Select the KPIs result to open the KPIs view.
3. Click the New icon to create a new KPI.
4. In the KPI field, enter a name that starts with your initials and is followed by Invoice History.

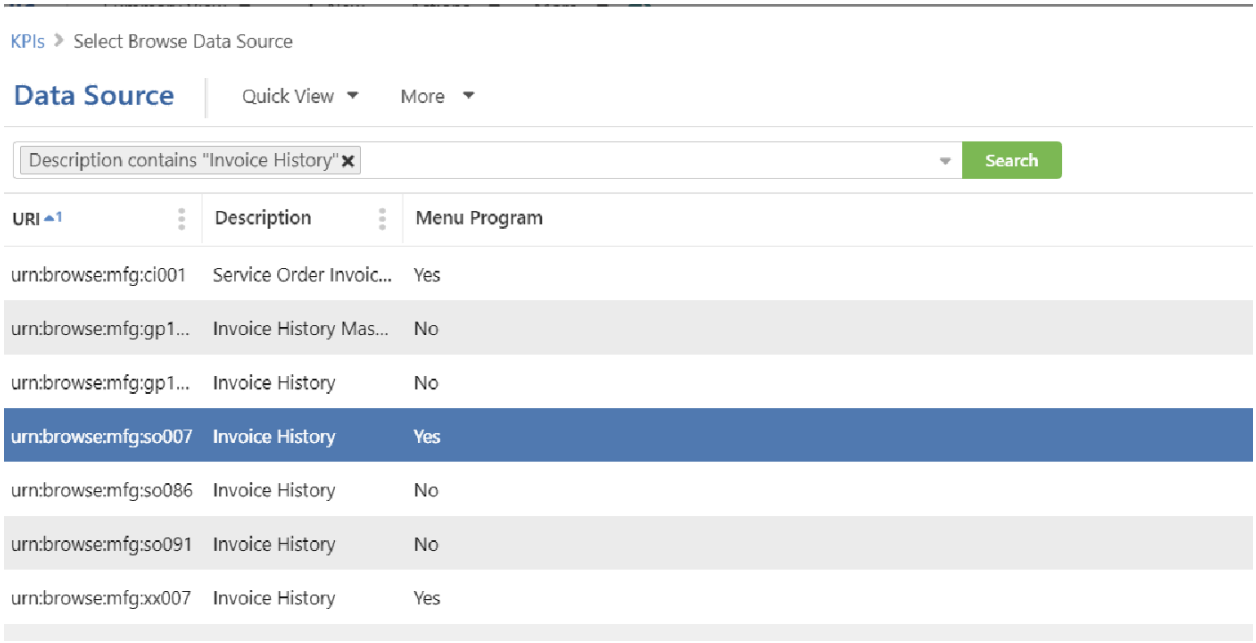


5. On the right of the Data Source field, click the Select button to select a browse as a data source.
6. In the search dialog, search for a browse with a description that contains the words Invoice History with the following search criteria:

Description contains invoice history



7. Click the Search button.
8. Select the browse that has so007 in the URI field and click OK.



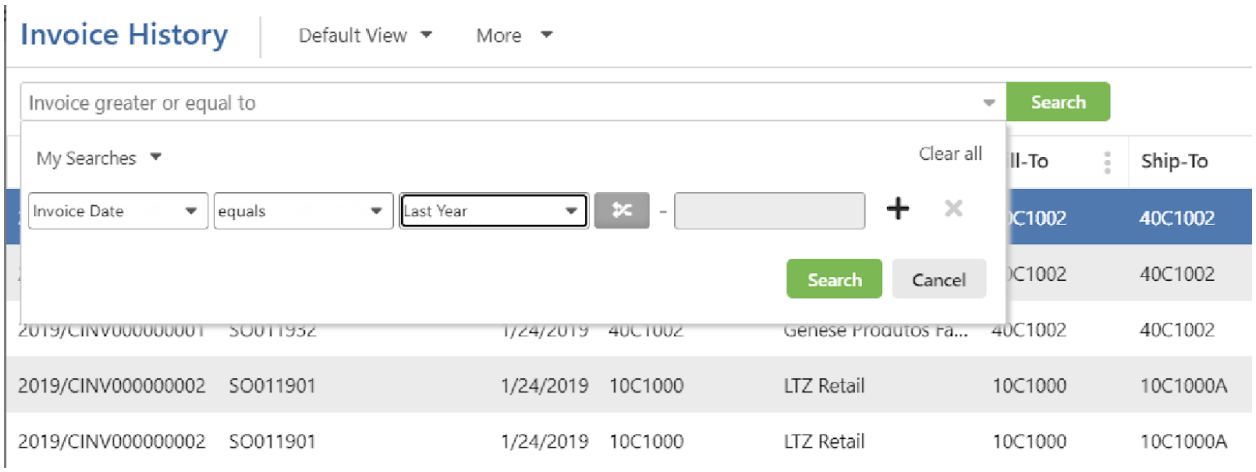
On the KPIs screen, you can now configure the browse search criteria.

9. Click the Configure button. This opens a dialog with a browse.
10. In the browse search criteria, search for an invoice date that is equal to last year with the following search criteria:

    Invoice Date Greater or Equal to Last Year.

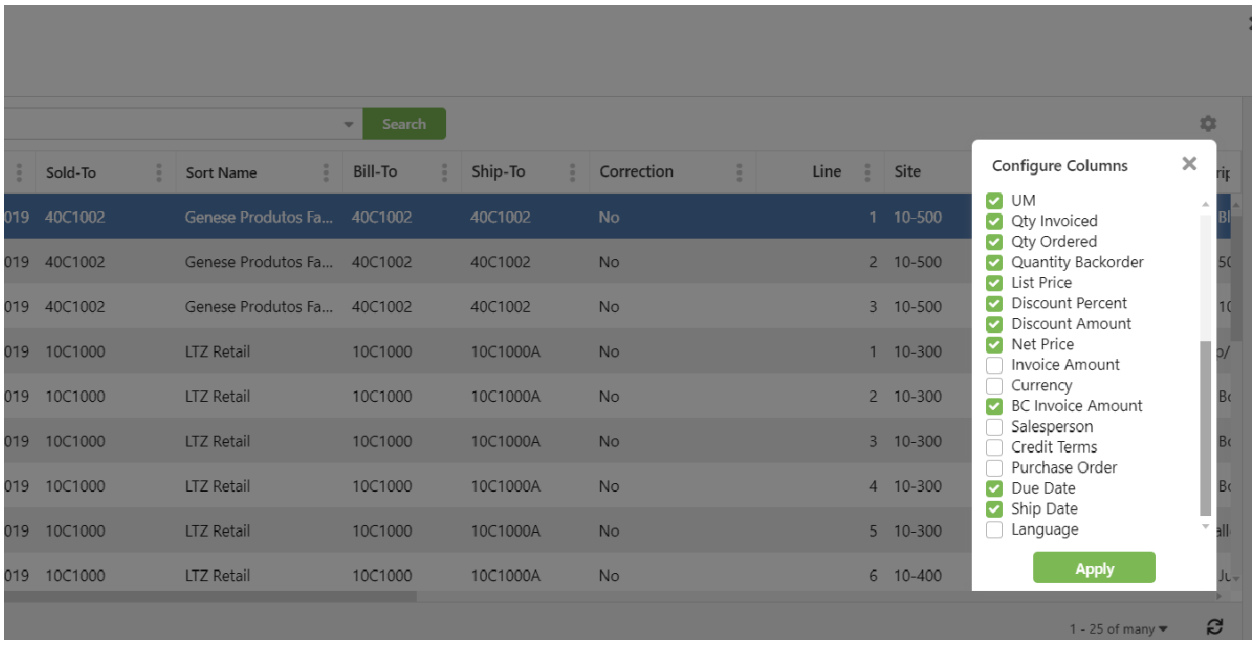
    Tip: Click the toggle button next to the calendar icon to see a list of date variables.

11. Click Search. You should now see records for the relevant years.

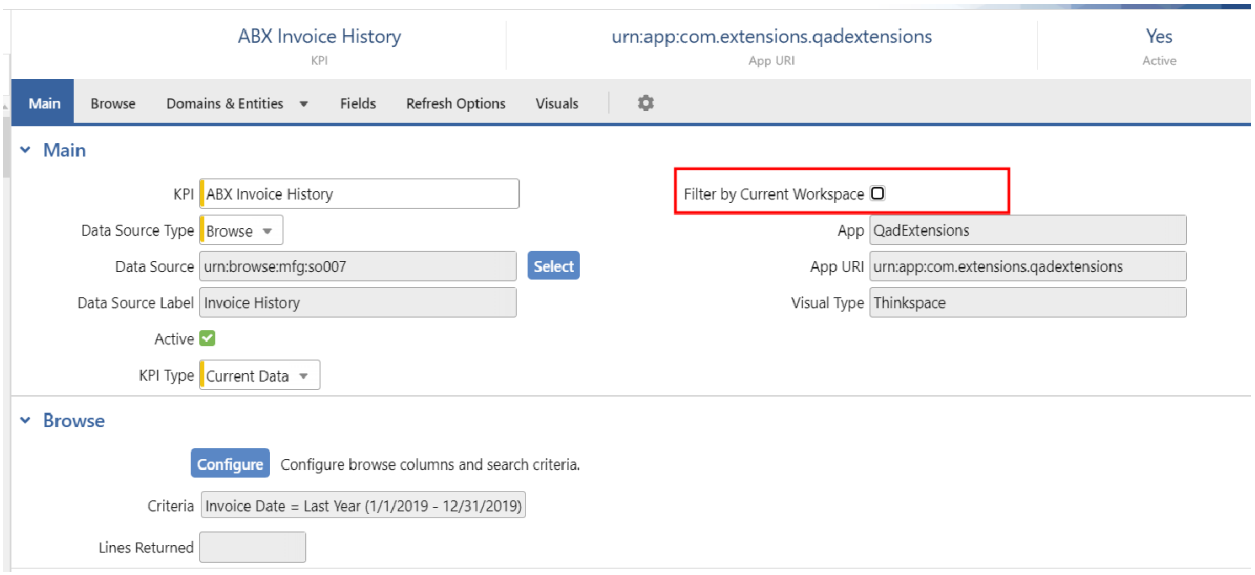


Important: Only the first 20 fields of the browse are visible by default for performance reasons. The columns that you need for the KPI are not visible initially.

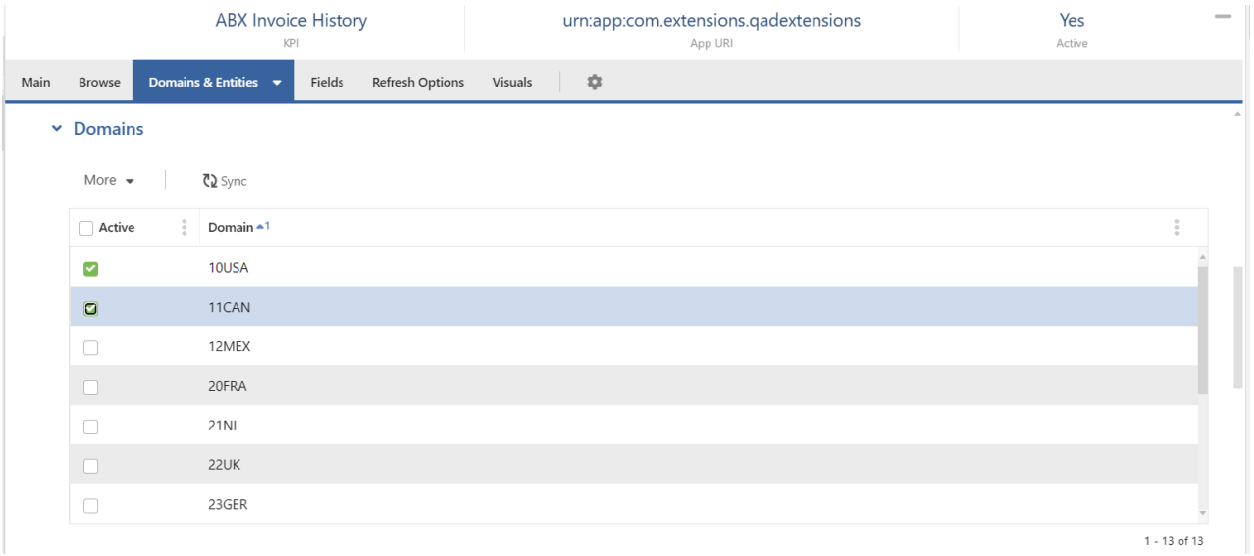
12. To make the relevant columns visible, click the cogwheel at the top right of the browse and scroll down the list of fields. Select the BC Invoice Amount, Due Date, and Ship Date checkboxes. Click Apply to close the Configure Columns dialog.



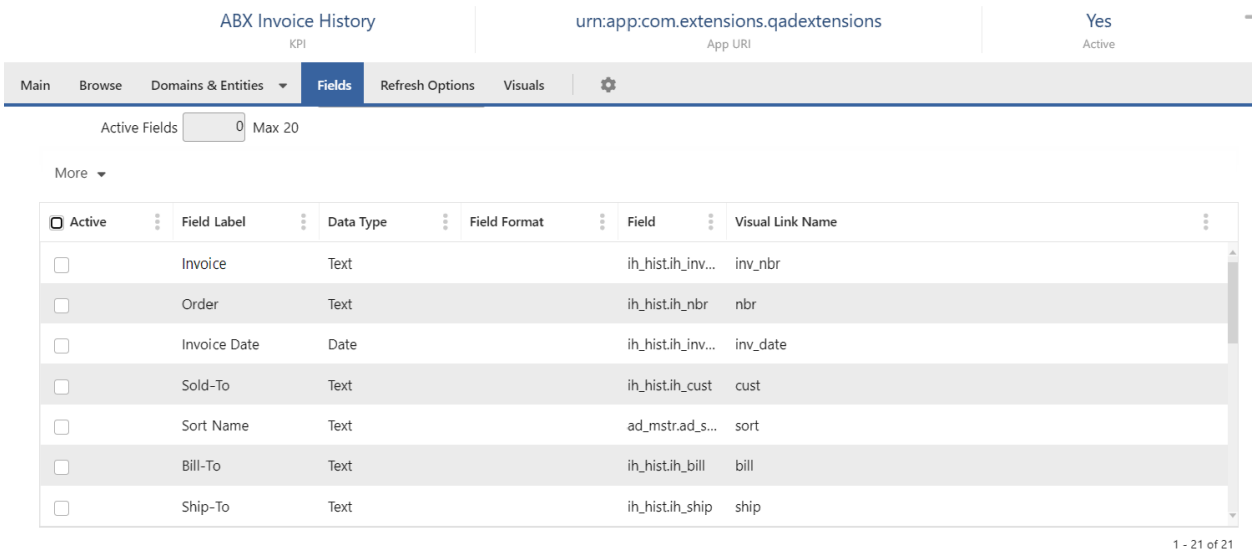
13. Click OK at the bottom of the browse to save the search criteria and to close the Configure dialog.
14. In the Main panel, clear the Filter by Current Workspace checkbox on the top right.



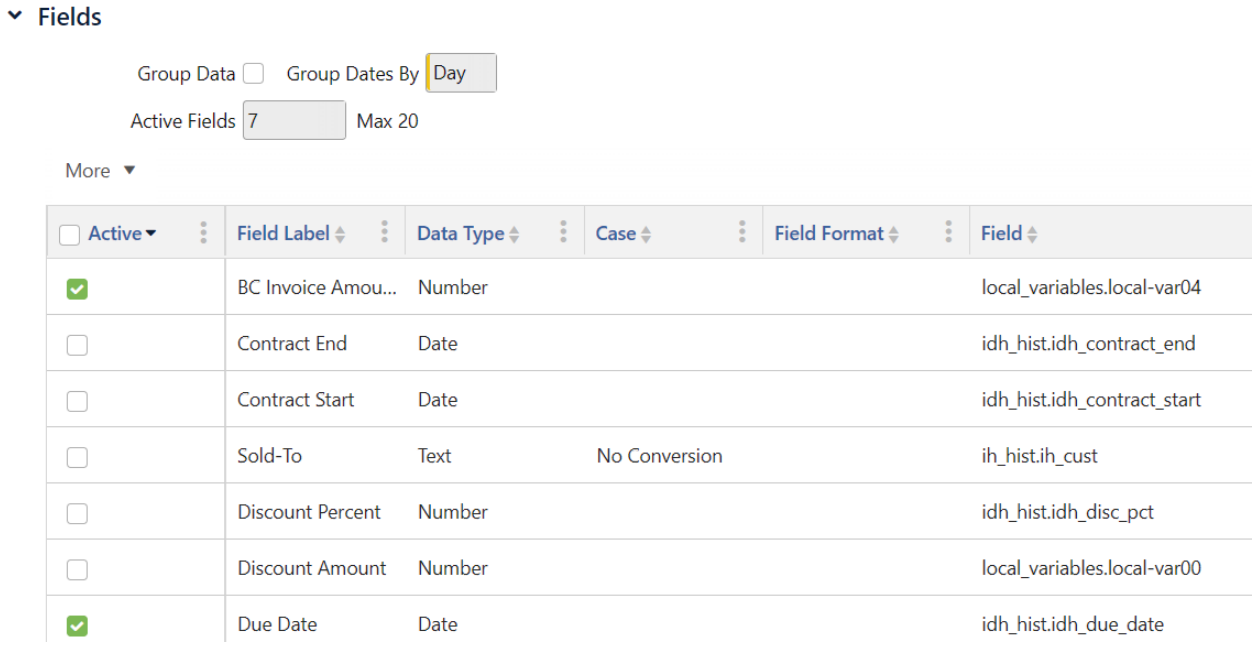
15. Scroll to the Domains selection grid. Select the current workspace domain—10USA—and a few other domains.



16. Navigate to the Fields selection panel, which has a list of all visible fields from the browse.
17. Select the fields that you need for the KPI. First, select the Active checkbox twice at the top of the list to clear the selection for all fields.



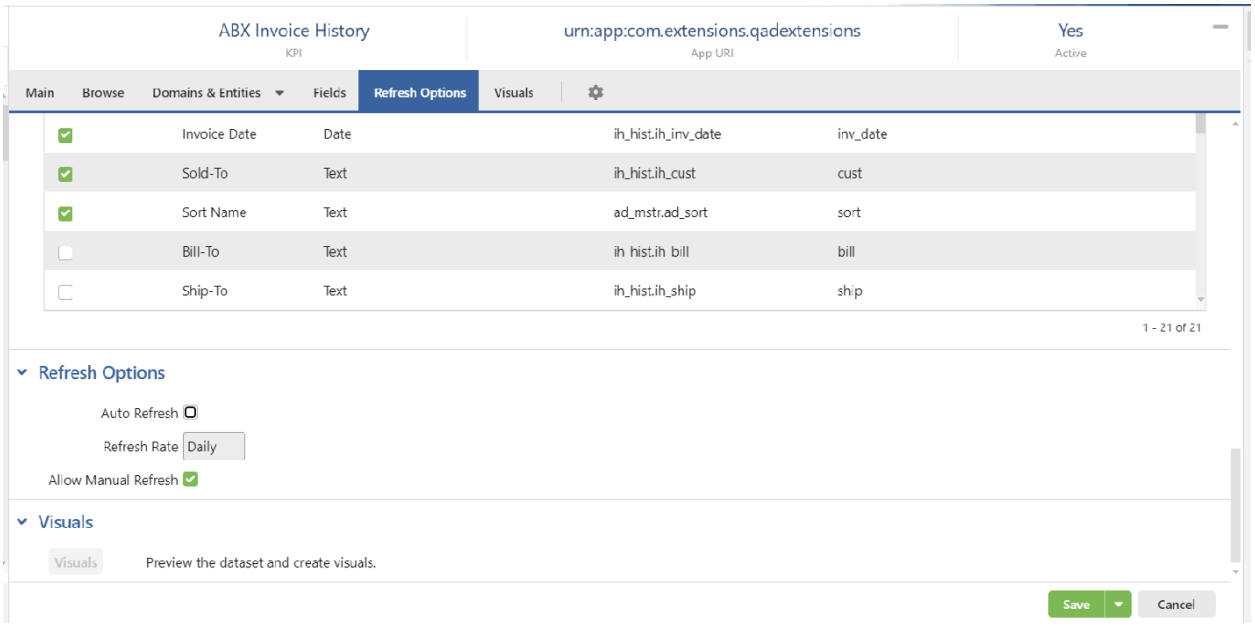
18. Select the checkboxes for the following fields:
    - BC Invoice Amount
    - Due Date
    - Invoice Date
    - Quantity Invoiced
    - Quantity Ordered
    - Ship Date
    - Site



19. Scroll down to the Refresh Options panel and clear the Auto Refresh checkbox.

    Note: When you clear the Auto Refresh checkbox, you avoid error messages about too many auto-refresh KPIs being active. There are a maximum of 30 auto-refresh KPIs allowed in the

system. Auto-refresh is only needed in a production environment for KPIs with data that you need to be refreshed overnight.



20. Click the Save button to save the KPI.

Now you are ready to create a first visual for the KPI.

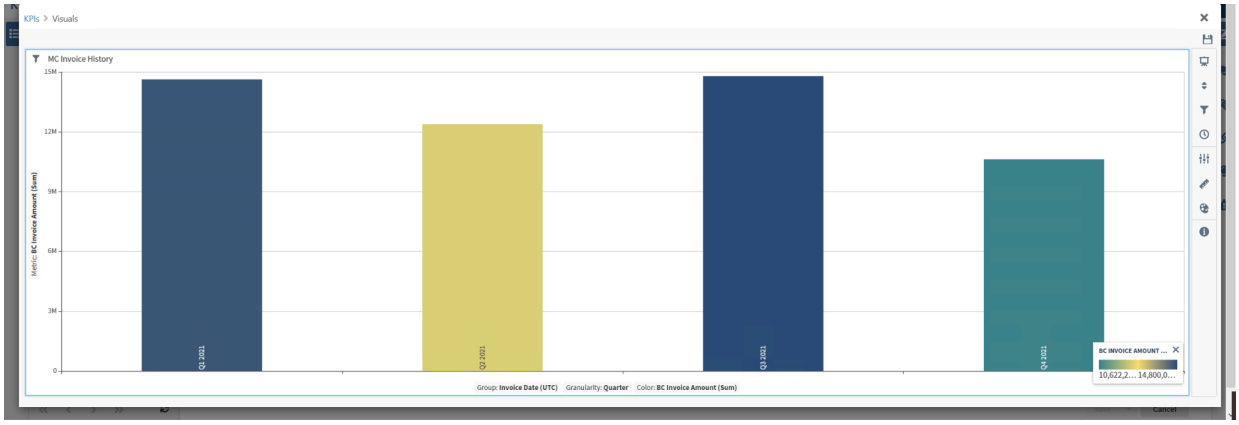
21. Click the New icon above the Visuals grid. This opens the visual builder.
22. From the Select Visual Type view, click Bars. A first version of a bar chart is displayed.

    Note: Sometimes a warning displays at the top of the screen with a message that the data is still being processed. In that case, you must wait for a moment, then click the Refresh icon to the right of the yellow warning message.

You can now change the fields that you want to use as dimensions for the chart.

23. Click the Y-axis (vertical axis). From the Metric pop-up window, select the BC Invoice Amount (Sum) metric.
24. On the X-axis (horizontal axis), click the Group attribute and select the Invoice Date (UTC) group.
25. Click Granularity. Select Quarter as the granularity of the buckets on the X-axis.

As a result, the following column chart displays.



26. Now your chart is ready to be saved in the shared Gallery.
    a. Click the Save icon at the top right of the visual builder.
    b. In the Visual Name field, enter a name for the visual, for example, <your name> Invoice History.
    c. In the Default Title field, enter the same name.

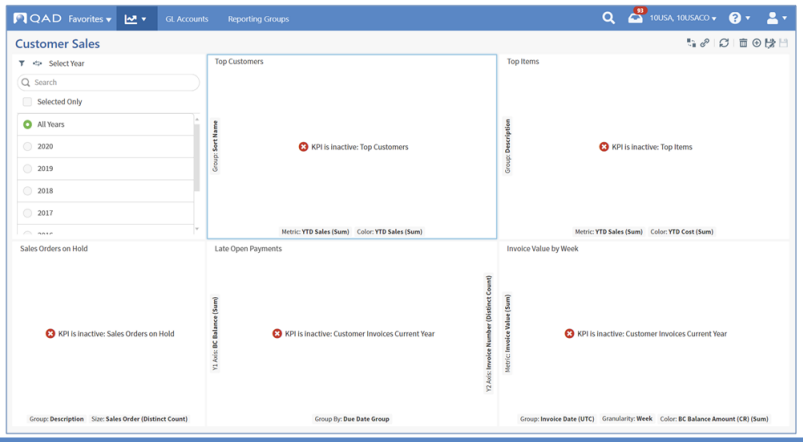
Congratulations! You have completed this hands-on exercise.

The next hands-on exercise, *Creating Visuals*, further explores all the possibilities for the chart visualizations.

KPIs Bulk Actions (Video 4)

Bulk Actions - Inactive KPIs in QAD Action Centers

Bulk Actions - Inactive KPIs in QAD Action Centers



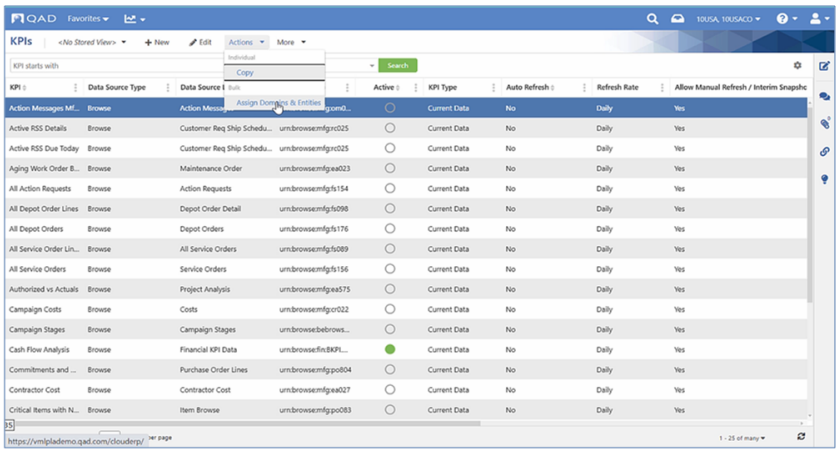
QAD 2

In this chapter, you will learn how to use bulk actions to activate multiple KPIs and to assign domains or entities to KPIs in bulk.

Here, we see, for example, the Customer Sales Action Center as it comes out of the box, with all KPIs showing a warning message that they are inactive. This is because active KPIs take system resources, which we don't want to consume until you really want to use the KPIs.

Bulk Actions - Assign Domains and Entities

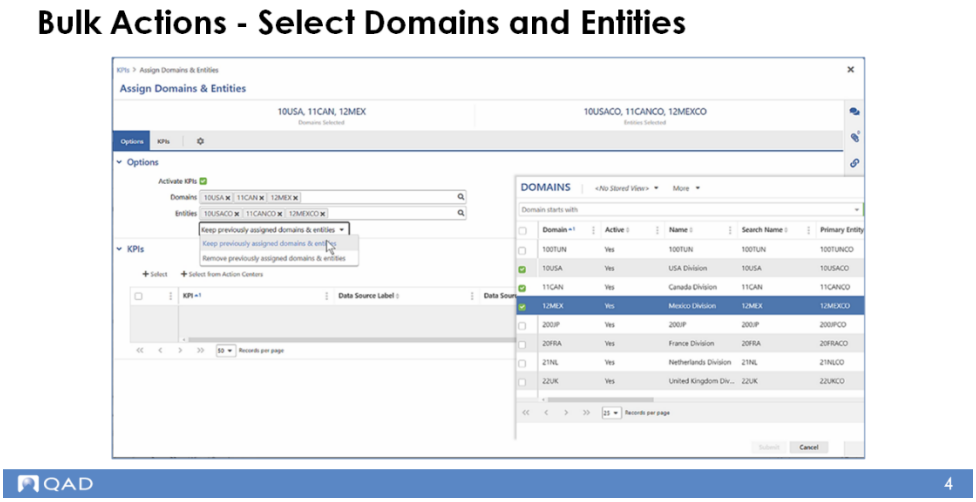
Bulk Actions - Assign Domains and Entities



QAD 3

So, if you want to start using one or more KPIs, to make them active, you open the KPIs menu and under Actions, choose the Assign Domains & Entities bulk action.

Bulk Actions - Select Domains and Entities

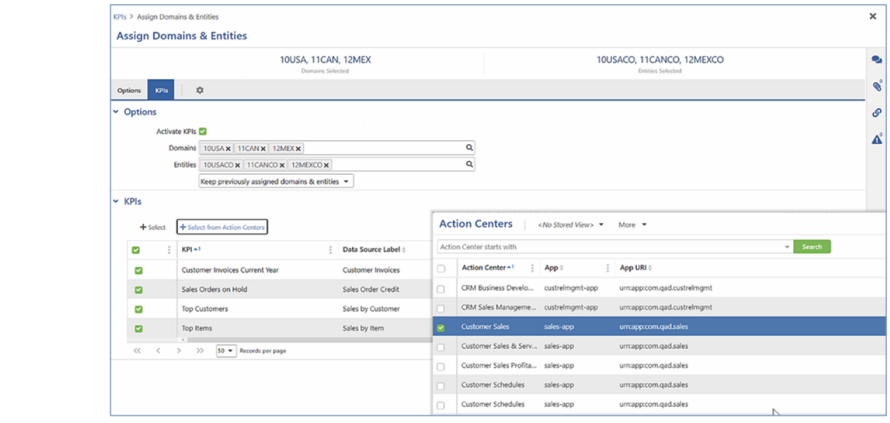


This opens a new dialog. First, you have to select the Activate KPIs checkbox. Then, in the Domains field, enter the codes for the domains that you want the KPIs to retrieve data from. There is a lookup option so that you can easily select multiple domains. Here, for example, we select the 10USA, 11CAN, and 12MEX domains.

In the next field, specify entities to retrieve data from. This is needed if you want to use Financials KPIs, which have data organized by entity in the browses used as data sources. You can use the lookup option to select the entities.

Next, you must choose what will happen to domains or entities that were already set in the KPIs. Do you want to remove the previously assigned domains from the KPIs and replace them with the new selection of domains or entities? Or, do you want to keep the previously assigned domains and entities and just add the new selection? The latter option is useful if you have created a new domain in an already-operational environment.

Bulk Actions - Select KPIs by Action Center



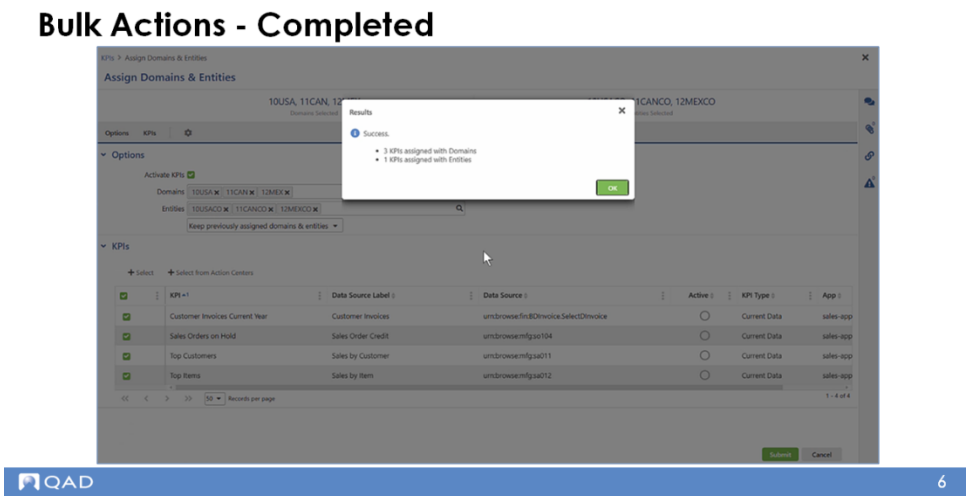
As a next step, select the KPIs that you want to apply the updates to.

With the + Select button, you can open a lookup of KPIs and select multiple KPIs from the browse.

With the + Select from Action Centers button, you can open a browse of all action centers in the system, and select one or more of those.

When you close the lookup using the OK button, all KPIs for the selected action centers are listed in the KPIs selection grid of the main dialog for the bulk action. When you are happy with the selection, click the Submit button.

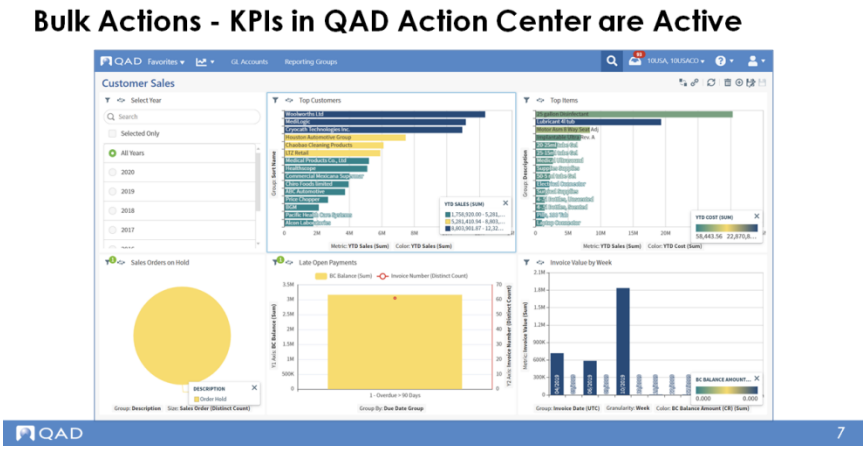
Bulk Actions - Completed



A few seconds later, a message pops up indicating how many KPIs were updated.

Now, you still have to be a little patient because, for newly activated KPIs, it takes a couple of minutes before all the data is retrieved and prepared for the action center.

Bulk Actions - KPIs in QAD Action Center are Active



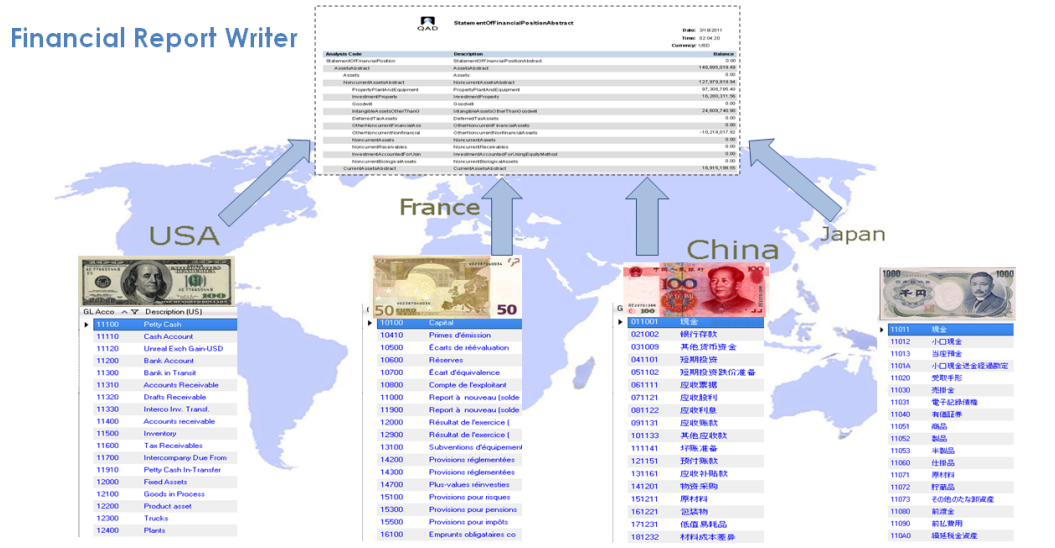
If we open the Customer Sales action center after a few minutes, the warnings about inactive KPIs are gone. If we reload the page, all the data shows up.

Financial KPIs (Video 5)

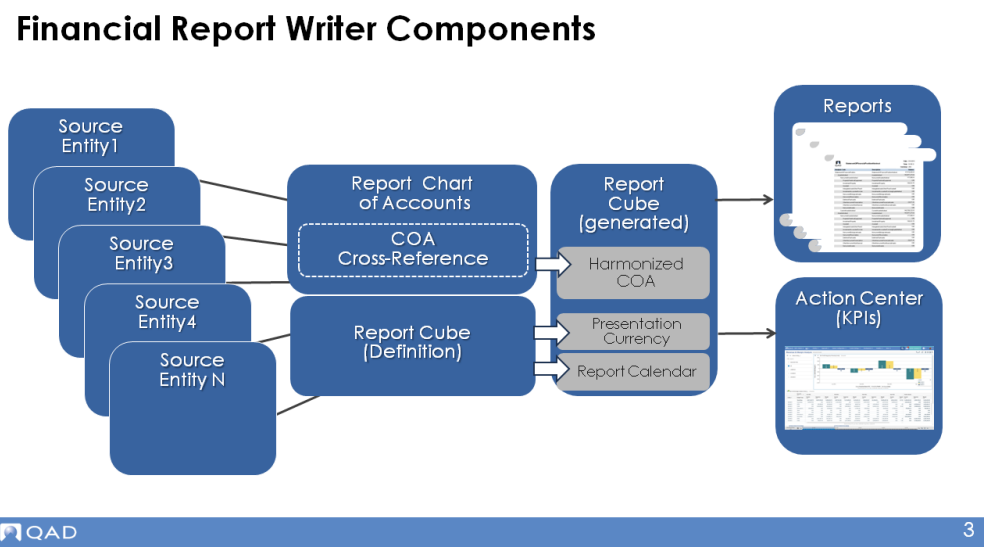
Financial Report Writer

Enterprises with operations around the globe operate with different currencies and charts of accounts.

With Financial Report Writer, it is possible to create consolidated financial statements in a single reporting currency and following a single reporting chart of accounts.



Financial Report Writer Components



To achieve this goal, you must first define a financial report chart of accounts and a financial report cube.

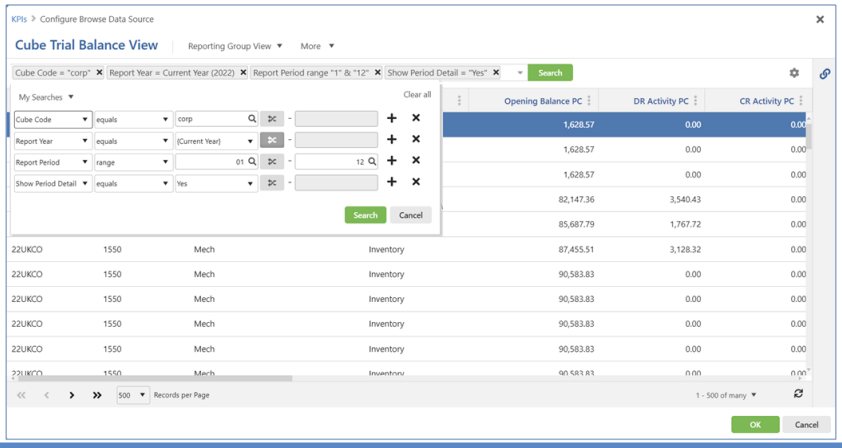
Based on those definitions, you can generate a report cube with consolidated GL activity and balances in a single reporting currency and a single chart of accounts.

A Cube daemon process keeps the data in the report cube up to date in real time. The details of this setup are explained in the *QAD Financials User Guide*.

The report cubes are the data source for both financial reports and for KPIs in the action centers.

Cube Trial Balance View

Cube Trial Balance View



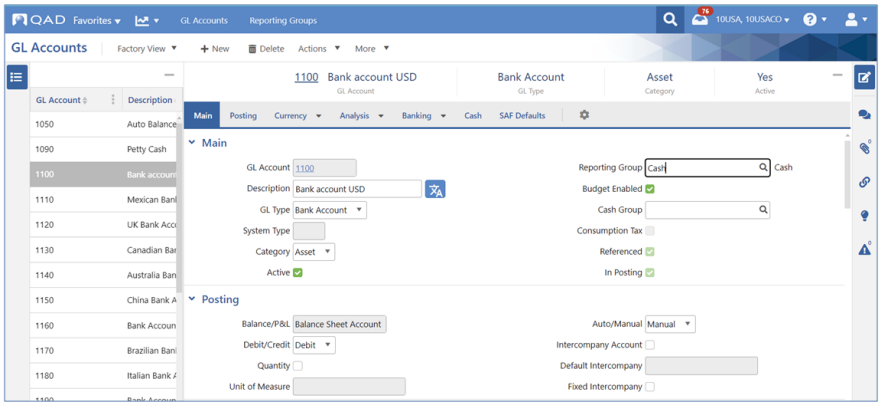
QAD 4

The Cube Trial Balance View browse retrieves GL balances and activity from the report cubes, and is an excellent data source for Financials KPIs. In the September 2022 release, a new Reporting Group field was added to the browse. Using that field, you can easily group the data in the KPI visuals.

In previous releases, another browse, the Financial KPI Data browse, was used to feed the KPIs. However, that browse required additional setup for report analysis codes, report trees, and report masters, and special setup for Financials KPIs in the Financials module. With the enhanced Cube Trial Balance View browse, the setup becomes much easier. You just need to create a report cube.

Reporting Group

Reporting Group

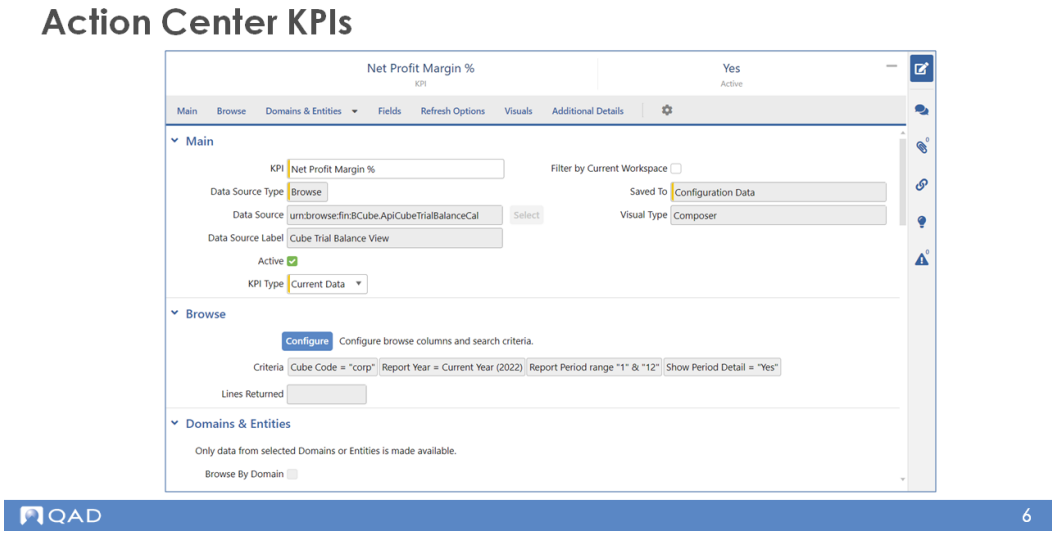


QAD 5

In addition, you must ensure that the Reporting Group field in all of the GL accounts is populated correctly. You can update the Reporting Group field directly in the GL Accounts view or you can do a bulk update using the Excel Export and Import functions under the More menu of the view.

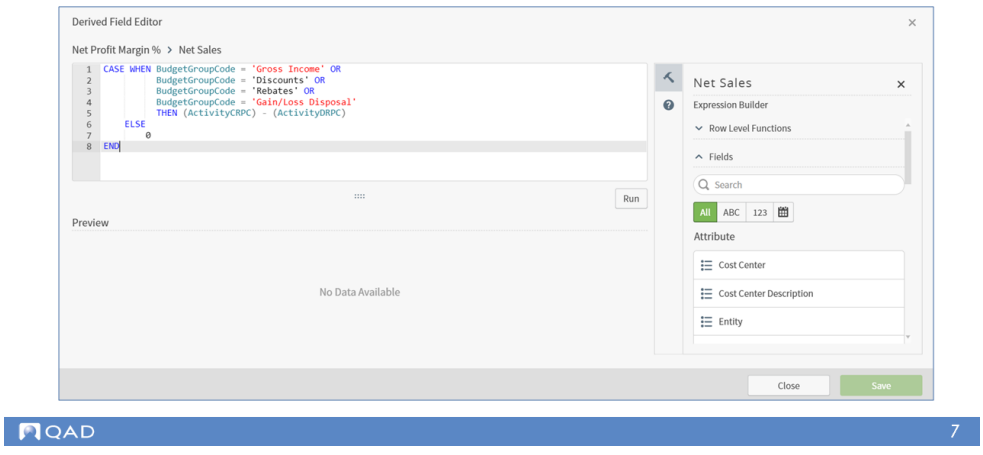
In addition, you can update the Report Group master in bulk from Excel.

Action Center KPIs



You can use the Cube Trial Balance View browse as a data source for KPIs in action centers. In the Configure option for this browse, it is mandatory to set a report cube code as a filter. You must also set a year and period range to retrieve data for. It is possible to use a variable year such as Current Year.

Derived Fields in the Visuals



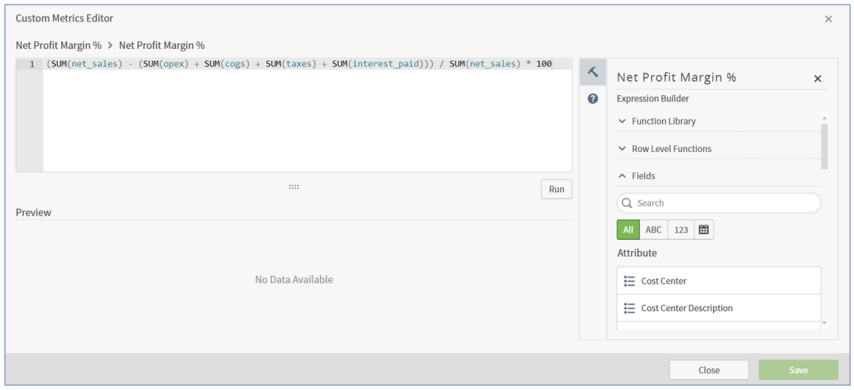
Now, you can start creating Financials KPI visualizations.

Based on the reporting groups for the GL accounts, you can further group the data in the visuals. Here, we see how the GL activity for several reporting groups are added together in a net sales amount.

Derived fields are explained in detail in the chapter *Create Visuals* and in the corresponding video.

Custom Metrics in the Visuals

Custom Metrics in the visuals



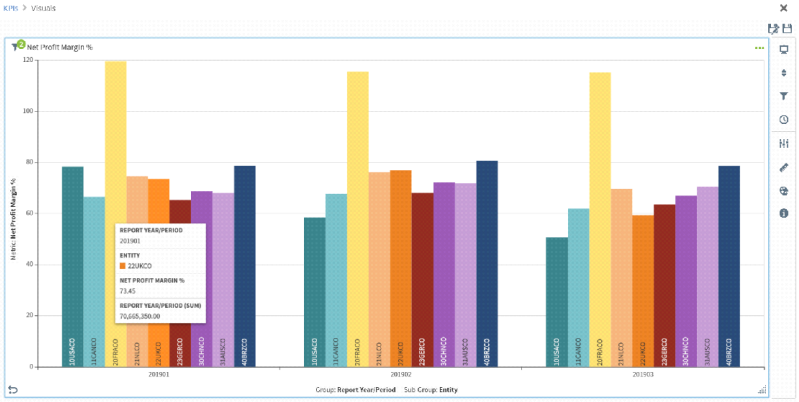
QAD 8

When we have all required groups of GL data, we can make aggregated calculations using the Custom Metrics functionality.

Here, we see how the net profit margin percentage is calculated. Custom metric fields are explained in detail in the chapter about creating visuals, and in the corresponding video.

Here is the result of the net profit margin percentage for each of the entities in the first quarter.

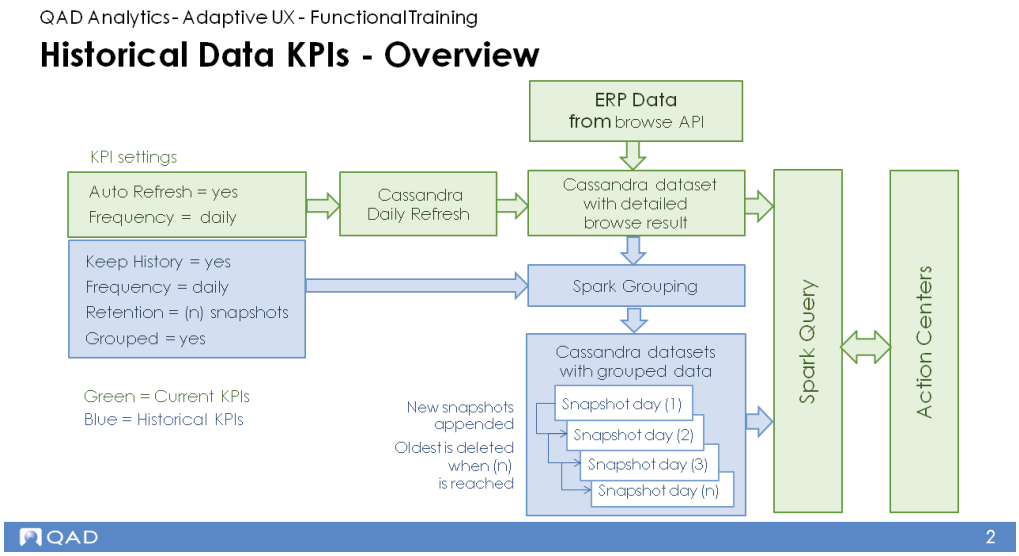
Custom Metrics in the visuals



QAD 2

Historical KPIs (Video 6)

Historical Data KPIs - Overview



KPIs with historical data make it possible to keep daily, weekly, monthly, or quarterly snapshots of the KPI data so that you can analyze the trends in KPIs over time.

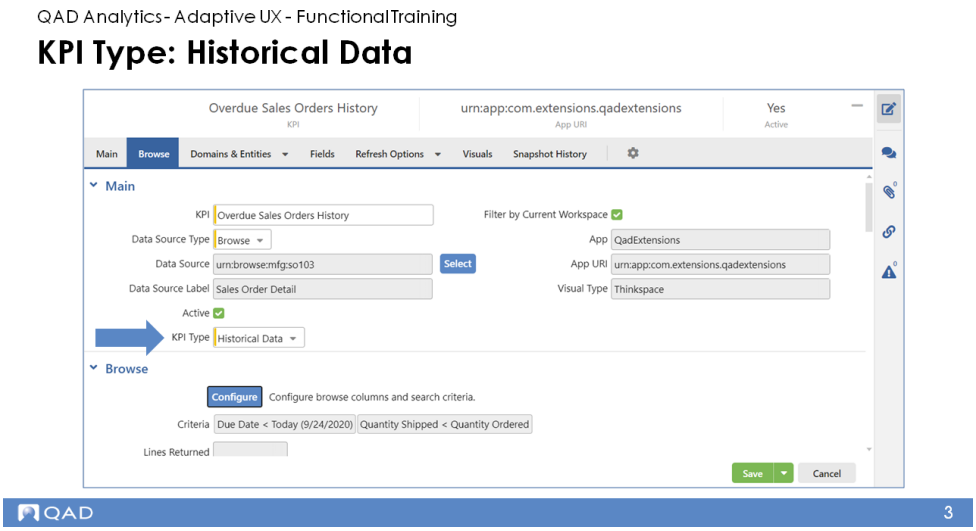
On the diagram, the green boxes show the settings and dataflow for current KPIs. You can see that, for current data KPIs, the ERP data is queried and the detailed results are stored in a dataset in the Cassandra data lake. With the historical data KPIs in the blue part of the diagram, you can see that the result sets in Cassandra are grouped by Spark and the resulting snapshot is stored again in Cassandra in separate snapshots with a timestamp.

The data from those snapshots can then be visualized and analyzed in action centers. Using the snapshot date as a timeline, you can analyze the trends of a KPI over time.

The user has full control over the frequency of the snapshots and over the number of snapshots that must be kept for each KPI. There are also system administration settings that control the total number of snapshots and the maximum number of records in each snapshot so that users cannot accidentally blow up the disk usage. The cloud settings for these configurations are 1,100 snapshots in total and 200,000 rows maximum per snapshot. This means that, for example, you can define 30 historical KPIs (each with three years of monthly snapshots (30 x 36 = 1080)) or 36 KPIs with one month of daily snapshots each, or a mix of different durations and frequencies.

There is also a function to create an interim preview that shows the latest value of the KPI so that you do not have to wait until the next real snapshot day.

KPI Type: Historical Data

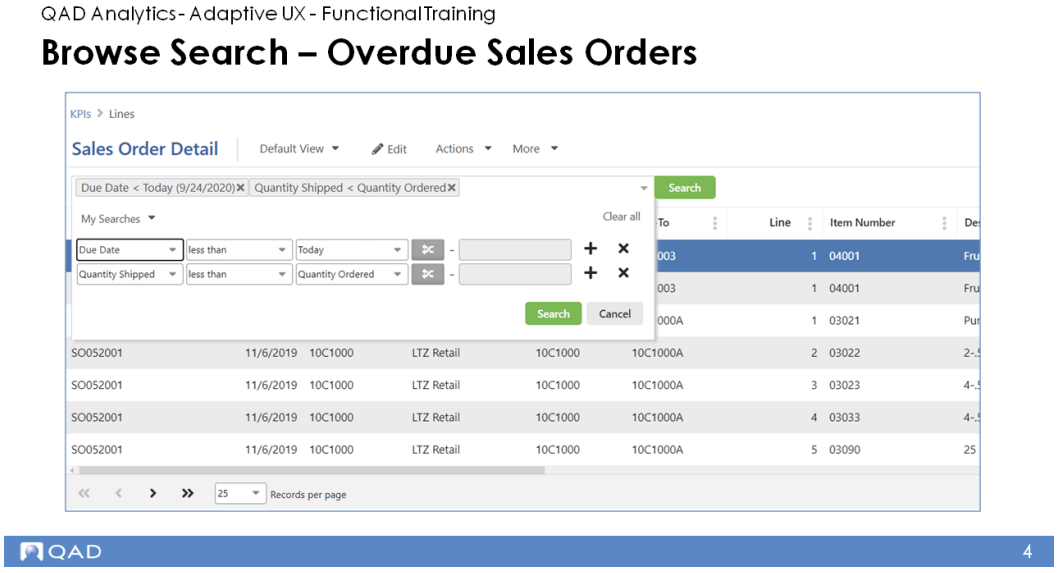


We start with a new KPI that we call Overdue Sales Orders History.

For this KPI, we select the Sales Order Detail browse (so103)—you can search for a browse with a URI that contains so103.

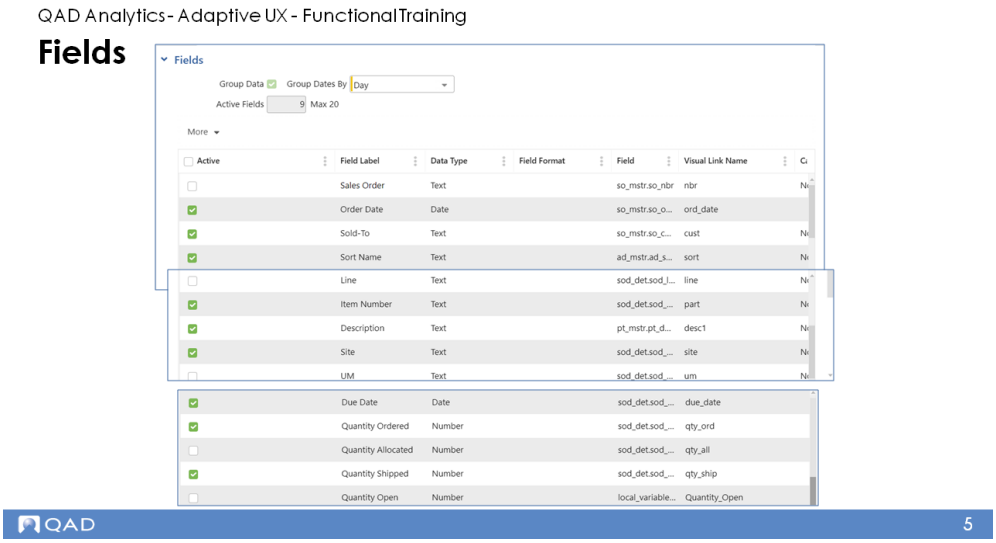
For the KPI Type field, we select Historical Data.

Browse Search – Overdue Sales Orders



In the browse configuration, we set the search criteria Due Date < Today and Quantity Shipped < Quantity Ordered, which means that the browse will show all orders that are overdue today.

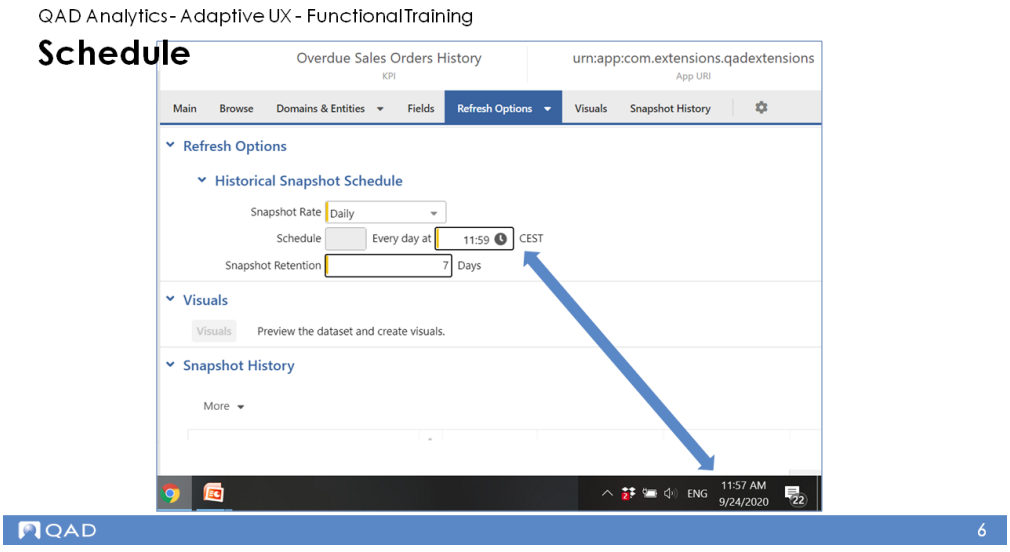
Fields



In the Fields section, select the dimensions that you want to be available for analysis in the historical snapshots. It is recommended that you keep the number of active fields low, which also keeps the size of the snapshots low.

Note also that the data is automatically grouped for historical KPIs.

Schedule

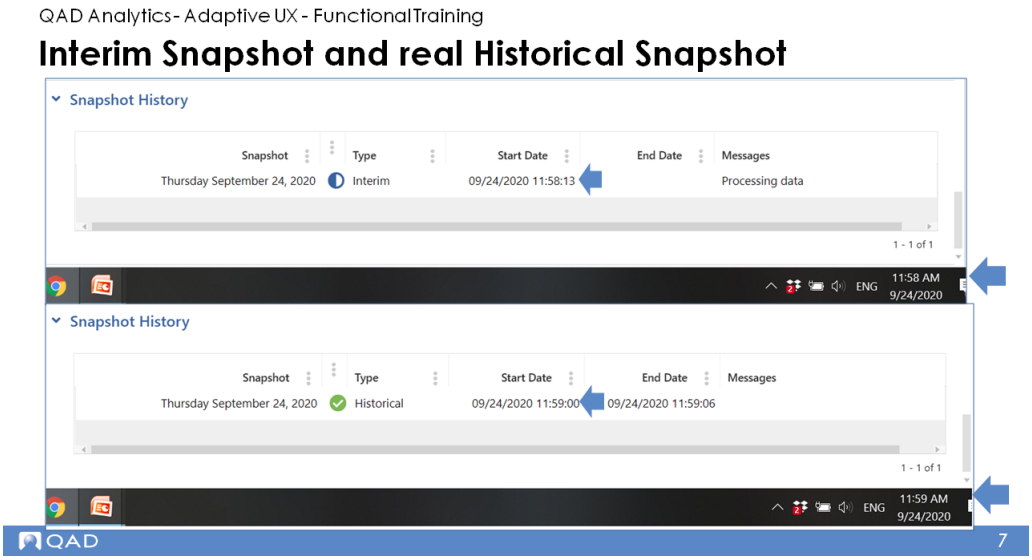


In the Historical Snapshot Schedule sub-panel, you set the frequency of snapshots using the Snapshot Rate field. For the demo, we select Daily.

Next, you can select the time of day that the snapshot needs to be made—that is the time in your local time zone, based on the browser locale. For the demo, we select a snapshot time that is two minutes after the current time on the client PC.

For Snapshot Retention, we set 7 days, meaning that the last seven days of snapshots will be kept in the system. On day eight, the oldest snapshot will be removed.

Interim Snapshot and Real Historical Snapshot

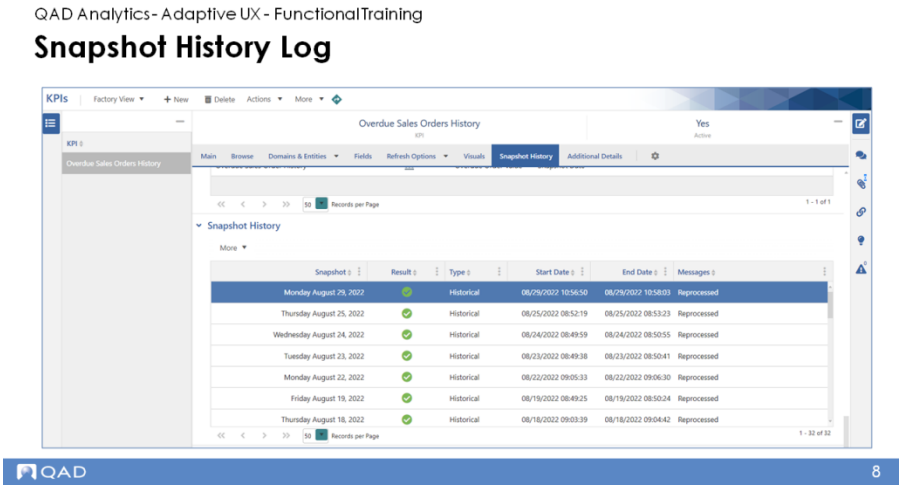


As soon as you save the KPI, you will see, in the Snapshot History grid, that the first interim snapshot is made. For a new KPI, an interim snapshot is always made when the KPI is first saved. With that interim snapshot, you can already see preliminary data, even when the real historical snapshot is scheduled for much later.

A setting allows users to create new interim snapshots at any time, when they want to see the latest data in between real historical snapshots. Only a single interim snapshot can exist at any time. So, a new interim snapshot always replaces the previous interim snapshot.

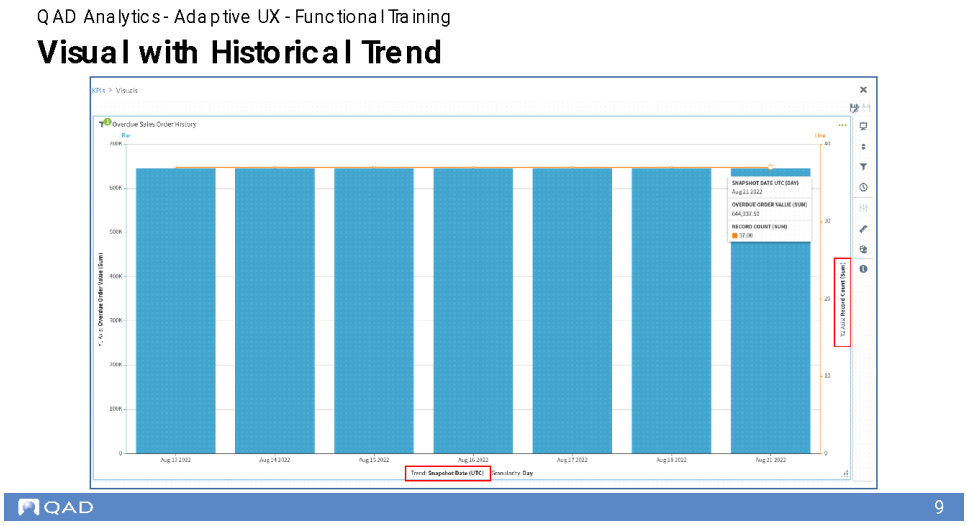
Since we have set the real historical snapshot to be created just two minutes later, we can reopen the KPI a little later. Then, we see that a real historical snapshot was effectively created at the requested time and the interim snapshot was removed.

Snapshot History Log



Here is another KPI, with the same settings, that was created several days ago. You can see the list of snapshots that were made each day.

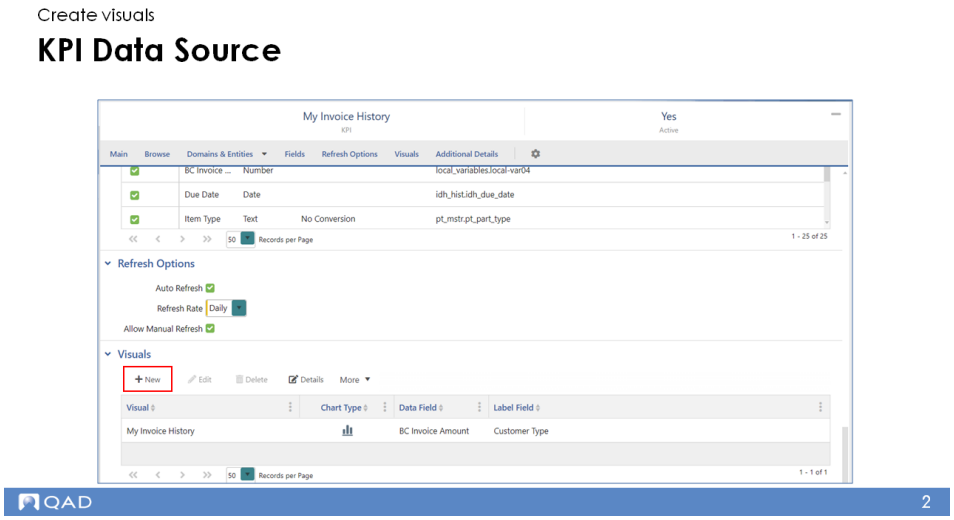
Visual with Historical Trend



In the Visuals screen, we created a chart with the snapshot date on the X-axis and the record count on the Y-axis. Both fields are added automatically in historical KPIs. The line chart shows the trend for the overdue orders. In this example, the chart is a flat line because the order data did not change over the last week.

Create Visuals (Video 7)

KPI Data Source



In this chapter, you will learn how to create visuals for action centers in the March 2023 release.

We start from a KPI called My Invoice History that uses the Invoice History browse (so007) as a data source.

Another chapter, *KPI Creation*, describes the steps required to create KPIs. If you have not read this chapter yet, then please do so first.

The most important fields used for this KPI are:

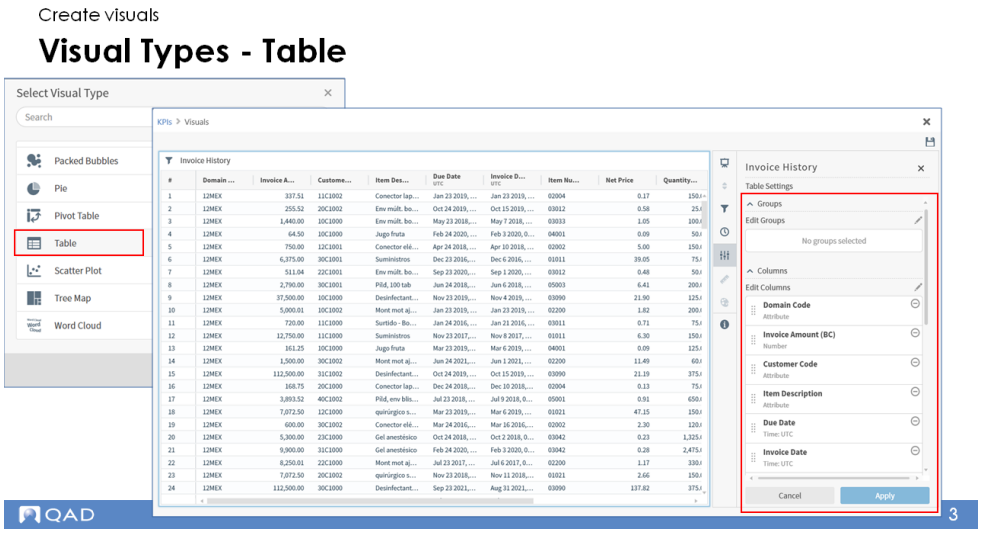
- Sort Name (customer name)
- Sold-To (customer code)
- Item code
- Description
- Qty ordered
- Qty invoiced
- Due date
- Ship Date
- Invoice date
- BC Invoice Amount
- Price
- Site

Note: If visuals do not display or do not work as expected, delete your browser's cache and refresh the page.

We start the creation of a visual by clicking the + New button above the Visuals grid of the KPIs screen.

This opens a dialog where we select the visual type.

Visual Types – Table



In the dialog that pops up, there are many visual types that you can select from.

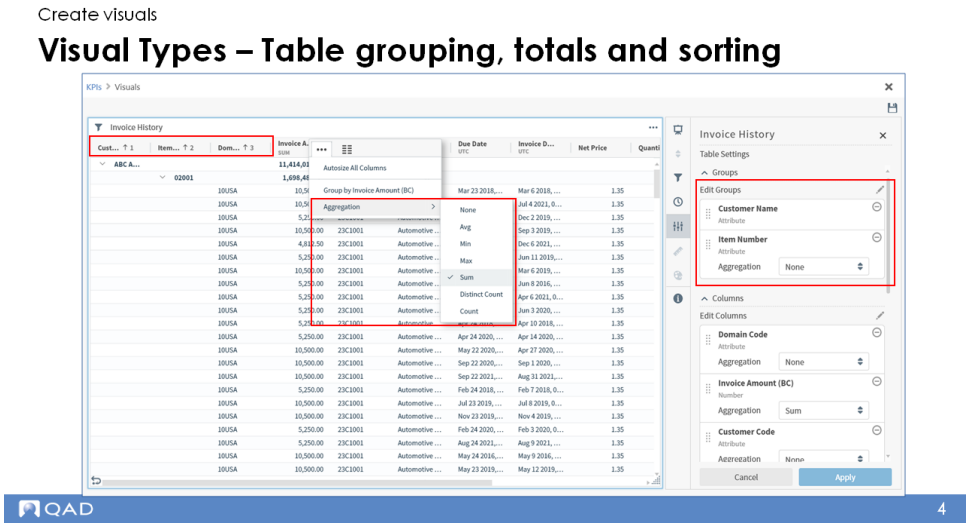
We will now discuss the most important types in detail.

The first type concerns tables that give summary overviews of the data for a selection of fields. Initially, all active fields from the KPI are listed in the table.

Before we continue, we also remove the time bar that is set by default. To do this, click the clock icon in the menu on the right and select None. We also check the Filter settings to remove the date range that was set by the time bar. Now, we see all the data for the last two years, as set in the KPIs screen.

Using the Visual Settings dialog that you can open from the menu on the right, select and rearrange the table columns. You can click the minus sign next to a field in the Edit Columns dialog to remove that column from the table. In the Edit Columns list, you can change the order of the columns using drag and drop.

Visual Types – Table Grouping, Totals, and Sorting



Now, we drag the customer name to the Groups area, and click Apply at the bottom of the dialog. The table gets grouped by customer, with totals for number fields like Invoice Amount.

We can also drag, for example, Item Number to the grouping area and click Apply again to create the next level of grouping.

You can now click the expand and collapse icons in the table to open and close the groups and to see the details behind each of them.

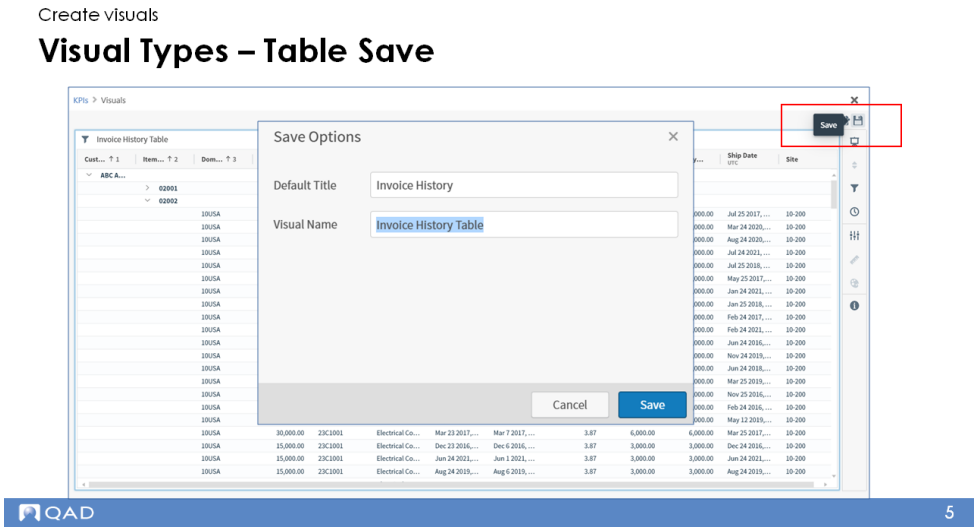
By clicking the column header label, you can sort the table by that field. If you want to sort by Customer Name and then by Item Number, you first click the Customer Name header and then use the Shift key and click the Item Number header to make Item the second-level sort. The data is immediately sorted accordingly. A small number 1 and 2 appear next to the column labels. You can repeat this for more columns.

By clicking the column headers in the table, you can change the aggregation type of number fields.

For non-number fields, you can aggregate by counts or by distinct counts. You can also turn off aggregation for a column by choosing None from the list of aggregation types.

Note that, in the Settings dialog, if you scroll down, you get some options for the way that very large datasets are retrieved in pages or with infinite scrolling.

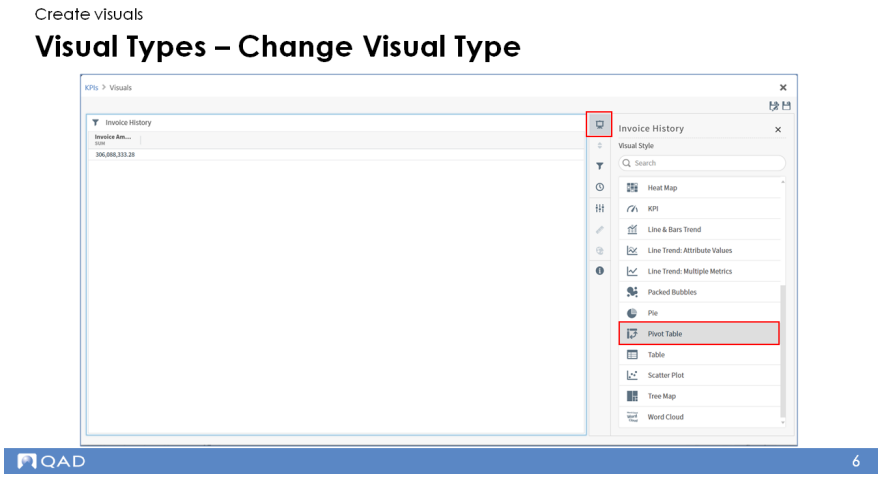
Visual Types – Table Save



When you are happy with the result, you can save the visual by clicking the Save icon at the top right of the visual.

This opens a dialog where you must give the visual a meaningful name and a default title for when the visual is displayed on an action center. The visual name is intended to easily identify the visual in a lookup, while the title indicates how you want to present the visual to end users.

Visual Types – Change Visual Type

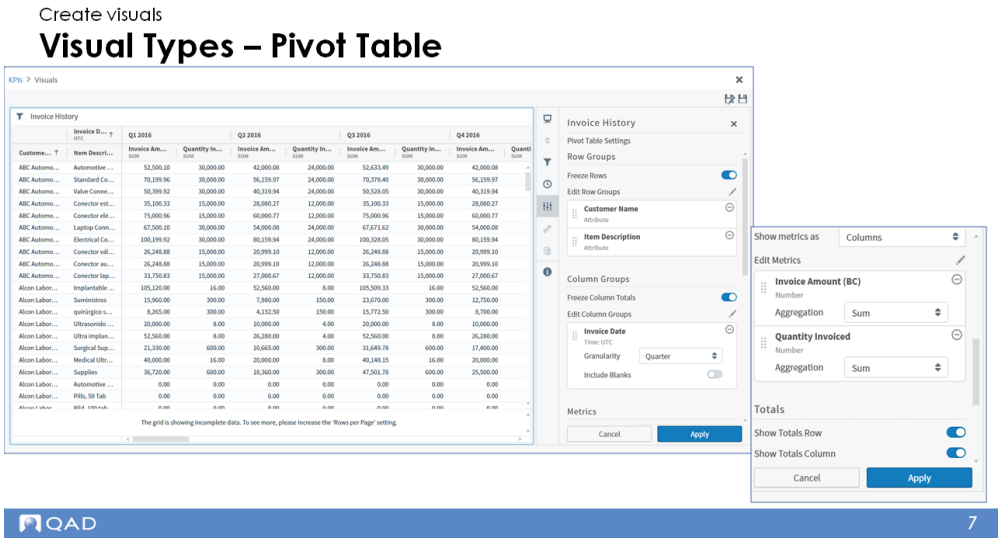


You can always change the visual type of an existing visual. For example, you can change a table to be a pivot table.

To do this, click the icon that depicts a screen at the top of the menu on the right. A list of different visual types or styles appear.

Search for pivot table in that list and select it. The visual changes to a pivot table. Initially, there will not be much data displayed because you need to configure the pivot table, which requires a bit more work than a simple table.

Visual Types – Pivot Table



A pivot table is a powerful type of visualization because it shows a summary of data across multiple dimensions in the rows and columns.

To configure the pivot table, click the Settings icon in the menu on the right of the visual builder screen. In the Settings dialog, click the little pen icon next to Edit Row Groups. Now, you can select one or more fields to group the data by. For example, select Customer Name and Item Description and click Apply. The visual has not changed yet because you still have to select the column groups. Click the pen icon next to Edit Column Groups and search for Invoice Date as the dimension to group the column data by. Click Apply and change the granularity to Quarter.

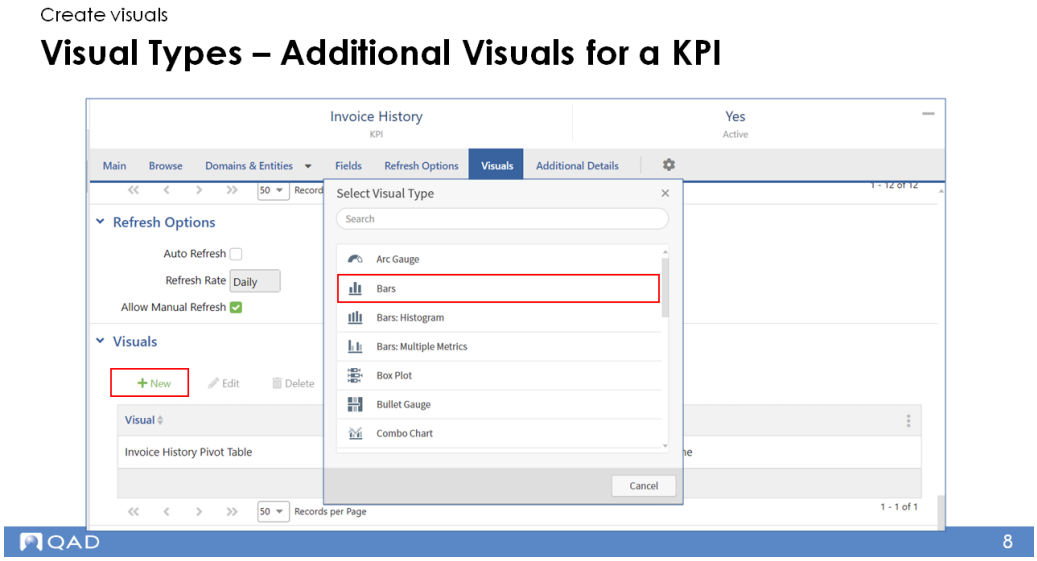
Then, configure what metrics to display in the cells. Click the pen next to Edit Metrics and select Invoice Amount (BC) and Quantity Invoiced as metrics. Click Apply. Finally, enable the totals for both rows and columns. Now, click Apply again—all the settings are applied to the pivot table. Now, you only need to click the Invoice Date header label to sort the columns chronologically and then click the Customer Name label to sort the rows alphabetically by Customer Name.

You can still change the order of the row groups or column groups—for example, by dragging the Customer Name field in the Settings panel up so that it sits on top of Item Description. Click Apply to see the change in the pivot table.

The great power of pivot tables is that you can also drill down on any cell in the table to see underlying details.

Now, we can save the visual.

Visual Types – Additional Visuals for a KPI

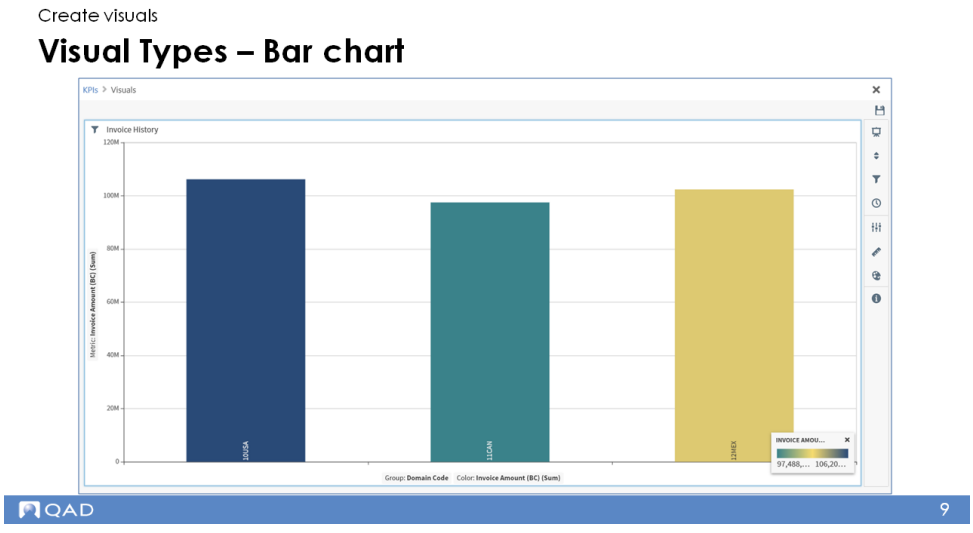


In the previous examples, we changed a simple table to a pivot table. However, you can also have more than one visual based on the same KPI data.

If you close the visual builder, you are back in the KPIs screen, where the first visual is listed. Now, you can click + New above the Visuals grid again to create another visual.

This brings up a choice of visual style, and this time we choose Bars.

Visual Types – Bar Chart



Bar charts are most suitable for a small number of data points, like a top ranking or a high-level overview of categories. The initial setting of the chart picks an arbitrary field to group by on the X-axis; for

example, grouping by domain code. Also, for the metric on the Y-axis, an arbitrary number field is picked as an initial setting.

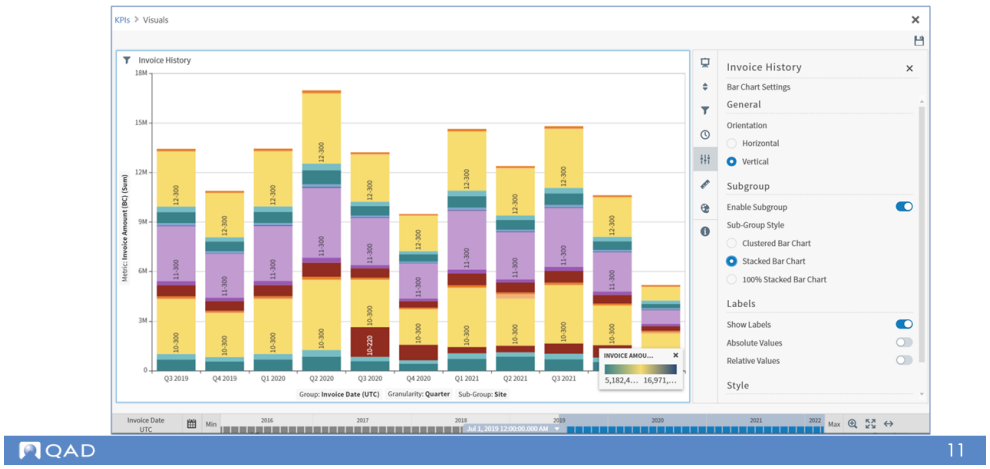
Visual Types – Bar Chart Dimensions



Maybe we want to analyze the Invoice History by quarter, based on the invoice dates.

So, we click the Group field at the bottom of the visual and select Invoice Date from the list of fields. Then, a bar for each time is displayed. We need to group that by day, so we click the Granularity field at the bottom and select Day from the list. Or, we select Quarter as the granularity. The chart is now redrawn by quarter. If you want to change the metric, then we click the field on the left of the chart and select the metric. Invoice Amount (BC) was already selected so we don't have to change that. Note that there is also a Color field at the bottom of the chart. With that field, you can set the metric that determines the color of each bar. Here, also, we keep the Invoice Amount (BC) as the color indicator.

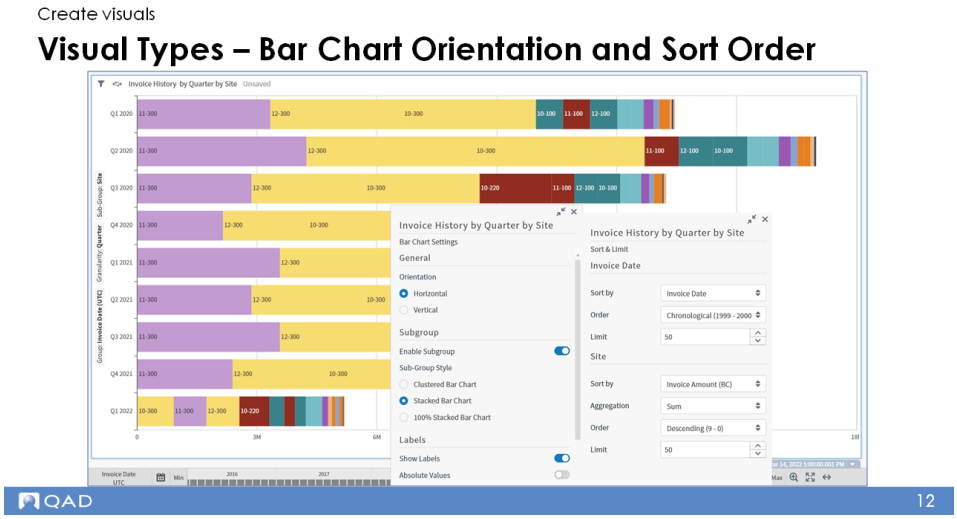
Visual Types – Bar Chart Settings



Another feature of bar charts is that you can create subgroups on each bar to show the subdivision of the amounts by another dimension.

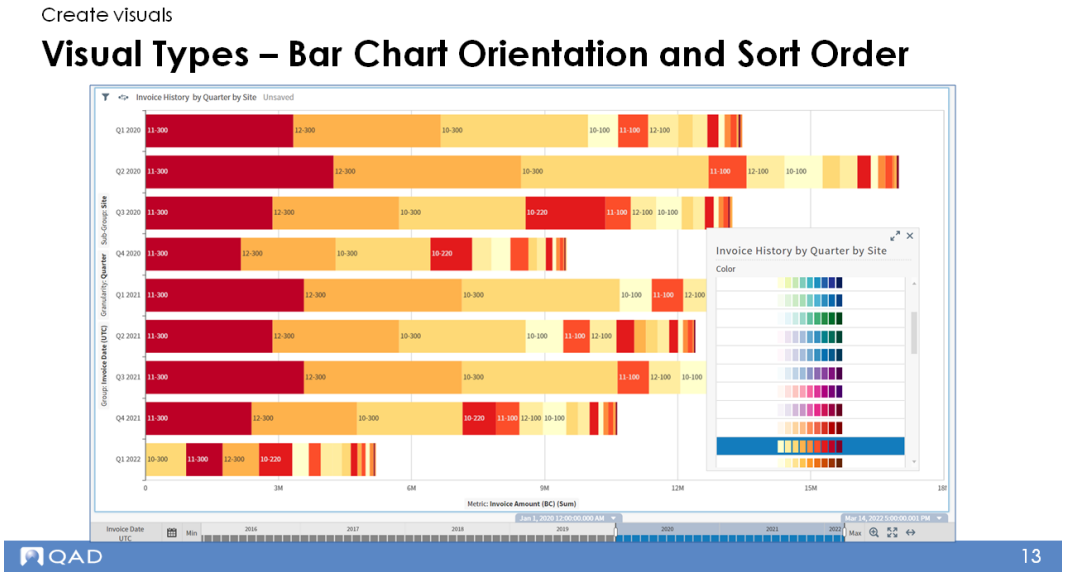
To do this, first open the Settings panel on the right and turn on the Enable Subgroup switch. Below the switch, you can choose between clustered, stacked, and percentage subgroup styles. Here, we choose Stacked. Then, at the bottom of the chart, a Subgroup label appears. Click the field next to it and select the field to group by, for example, Site Code. Now, each bar is subdivided in amounts by site. You can hover over the bars to see the detail amounts.

Visual Types – Bar Chart Orientation and Sort Order



In the Settings side panel, you can also switch between vertical bars and horizontal bars, and you can also choose what labels to show. You can also change the thickness of the bars. Another side panel allows you to change the sort order of the data points. For example, we can sort the sites by descending invoice amount (BC), which means that the site with the most sales shows first. You can also limit how many sites you want to display.

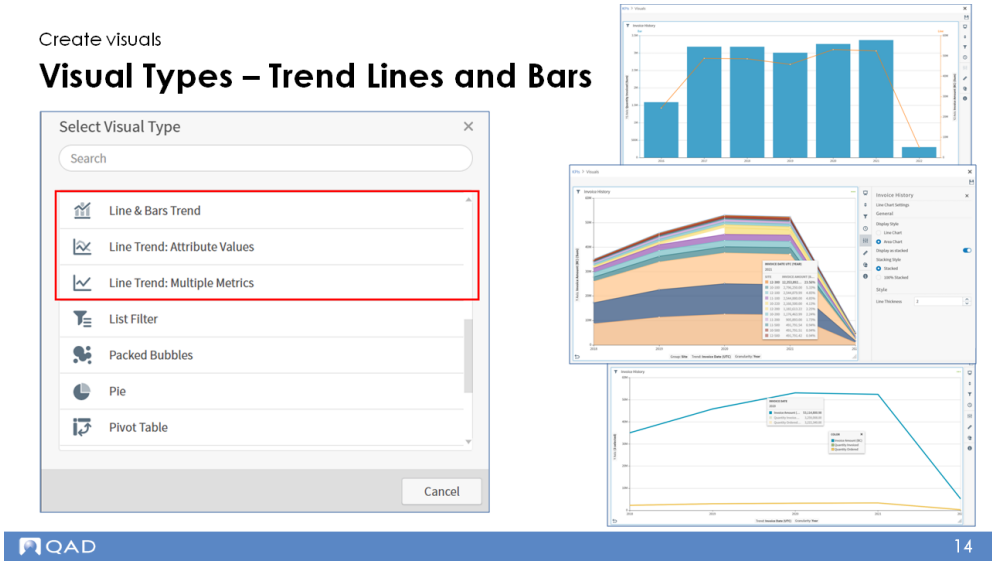
Visual Types – Bar Chart Colors



In the Color Settings side panel, you can choose another color palette for the chart.

Then, we save this visual and call it My Invoice History Bars.

Visual Types – Trend Lines and Bars



There are three types of chart that are typically used to depict a trend over time. For the X-axis, you must always use a date field. These charts can only be used if the KPI data source has one or more date fields.

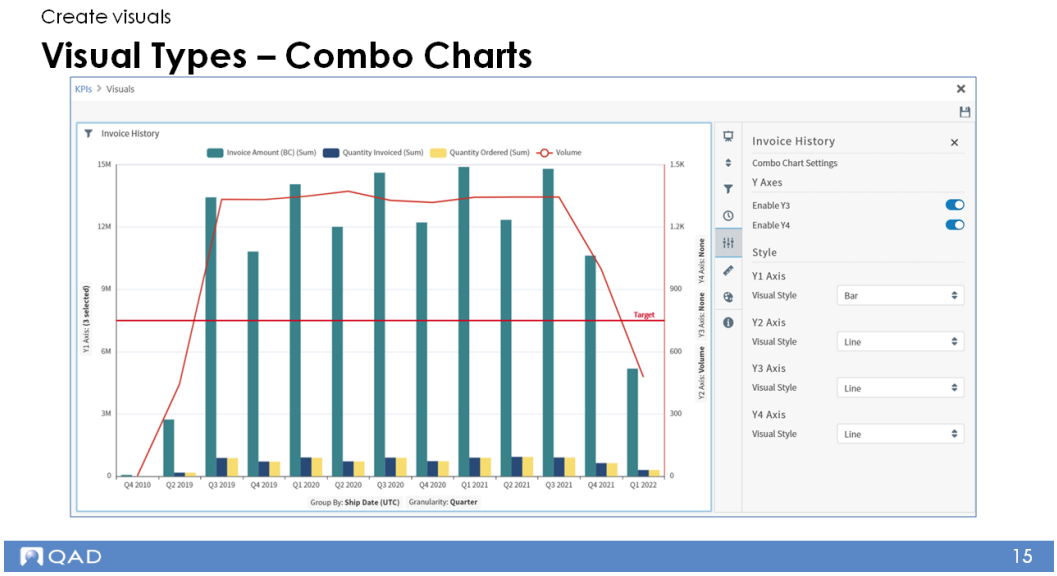
With the line and bars trend chart, you must select two metrics for the Y-axis. The first metric is shown as bars and the second metric is shown as a line.

With the Line Trend: Attribute Values visual type, you can select a single metric, for example, Invoice Value, and an attribute, for example, Site. For each site, a line is drawn that shows the invoice values for

the site over time. In the Settings panel, you can change the lines into an area display, which can also be stacked areas.

With the Line Trend: Multiple Metrics visual type, you can choose more than one metric, for example, Invoice Value and Quantity Invoiced, and display those as lines over time.

Visual Types – Combo Charts



Combo charts combine different chart types in one chart—for example, a combination of bars and lines.

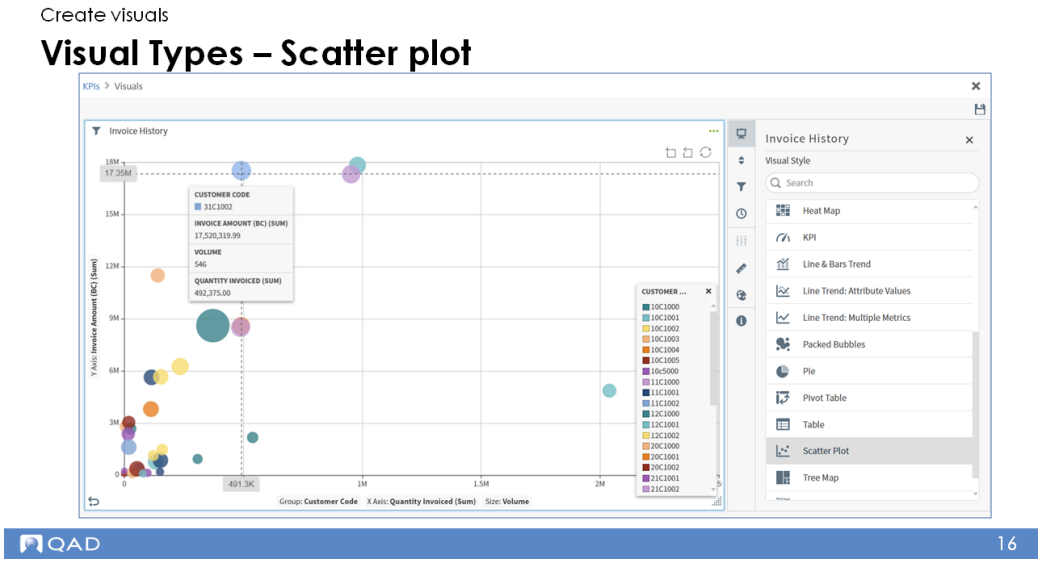
On the Y-axis on the left, you can select the metrics to show as bars—for example, the Invoice Amount (BC), the Quantity Ordered, and the Quantity Invoiced. On the Y-axis at the right, you can select more metrics. For each metric, you can then choose the line or bar style.

Combo charts let you choose what to group by on the X-axis. You can group the data using a date field, but you can also group by any other data dimension.

On the Ruler panel, we can set reference lines and, for that, we have added a sales target line with a label of Target, and have set a value for the target and a color for the line.

By clicking the legend at the top of the chart, you can hide and unhide metrics.

Visual Types – Scatter Plot



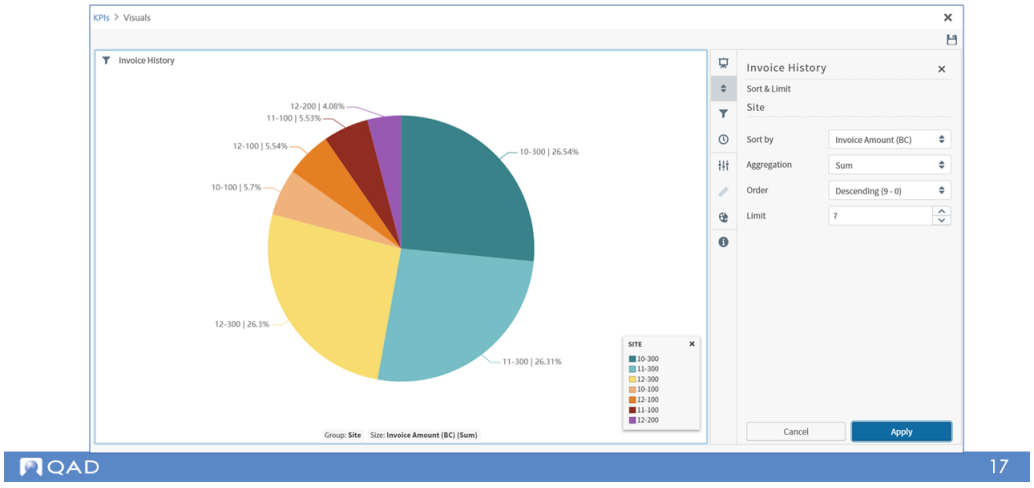
The next visual type, the scatter plot, is useful for depicting two correlating values over many data points. This visual type is most useful for scientific or statistical data.

The Invoice History data is less suited to a scatter plot chart, but we can give it a try.

On the Y-axis, we put the invoice amount and, on the X-axis, we put the quantity invoiced. We group by customer name, so each customer becomes a circle on the chart, and for the size of the circles, we choose the volume—that is, the count of invoice lines in this dataset.

If you hover over the data points, you can read the various values for each customer.

Visual Types – Pie Chart and Donut Chart

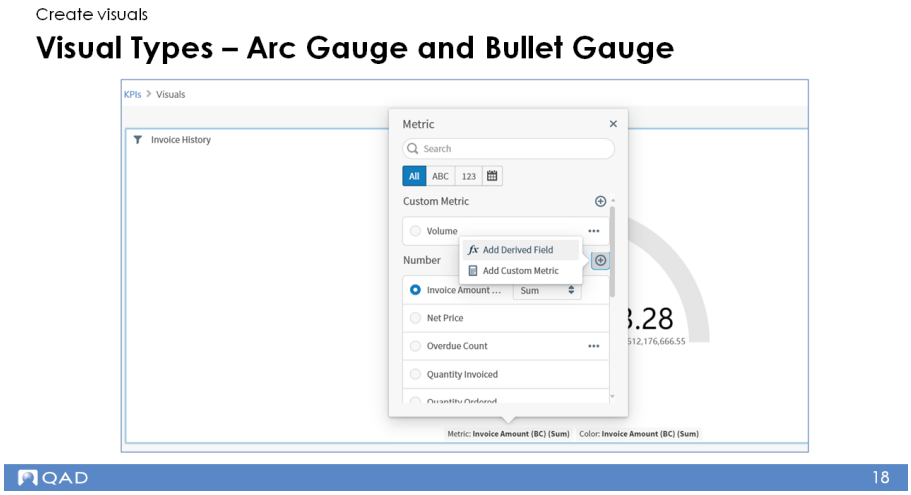


A pie chart and a donut chart have the same purpose—they depict proportional values over a limited number of categories. For example, with the Invoice History data, we can create a pie chart with the invoiced value by site.

Since we have many sites, we can limit the display to the top seven sites, for example. Make sure that the data sort is based on the sum of Invoice Amounts (BC) for each site, in descending order. The seven sites with the largest amounts are displayed.

In the Settings panel, we changed the label display to show the site code and the percentage in the pie. The tooltip shows the value of each group and also the percentage.

Visual Types – Arc Gauge and Bullet Gauge



Arc gauges and bullet gauges show a single number value on a scale.

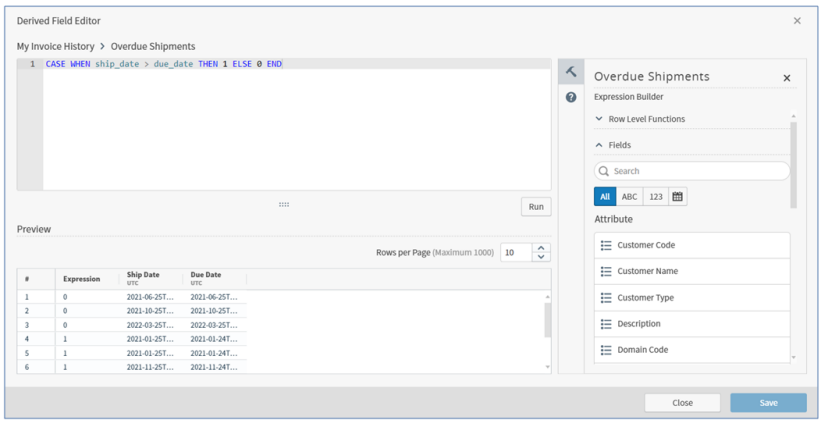
To make this a more interesting case, we build an arc gauge that also shows the percentage of overdue shipments.

For that, we first need to add a derived field that indicates which lines are overdue and which are not.

After clicking the Metric field at the bottom of the Gauge, a list of metrics is displayed. Here, instead of selecting an existing field, we click the + sign above the list and select Add Derived Field to open the Derived Field Editor.

Create visuals

Visual Types – Arc Gauge and Bullet Gauge



QAD 19

In the Derived Field Editor, we enter Overdue Shipments, which will be the name of the new derived field.

In the box below the label, we enter the formula:

CASE WHEN ship_date > due_date THEN 1 ELSE 0 END

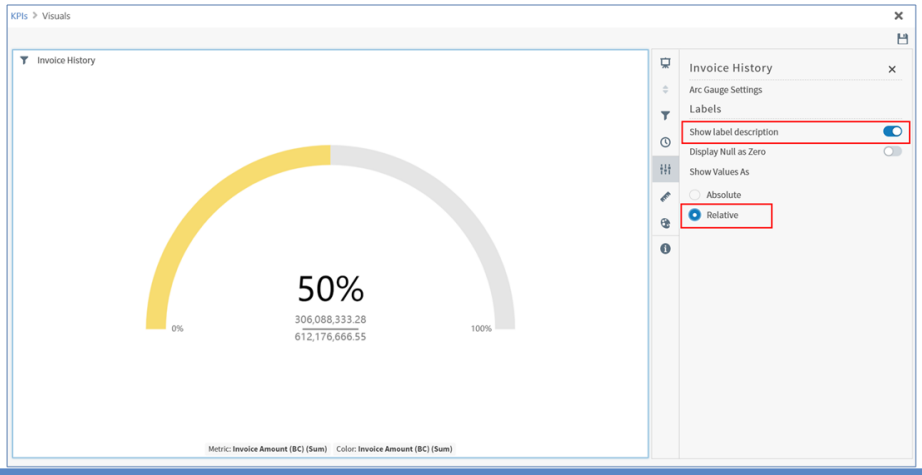
There is a Help section on the right-hand side of the screen, where the supported functions and syntax are explained and where you can select fields for the formula.

Then, we click the Run button to validate the formula and we see that the result in the Expression column shows what we expected: a value of 1 when the ship date was after the due date and 0 when it was before or on the due date.

Now, we save the new Overdue Shipments field and, in the Metric selection, we can now select this field.

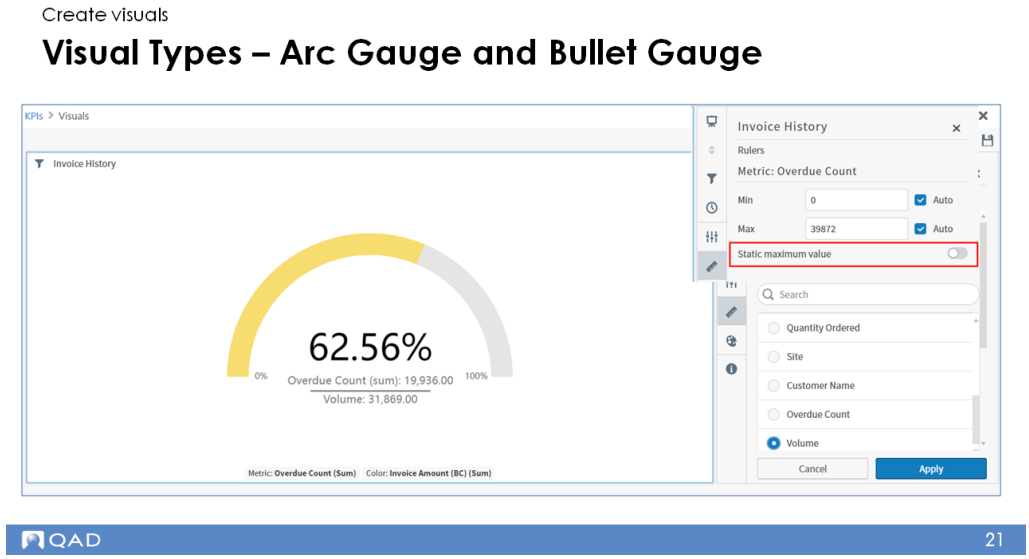
Create visuals

Visual Types – Arc Gauge and Bullet Gauge

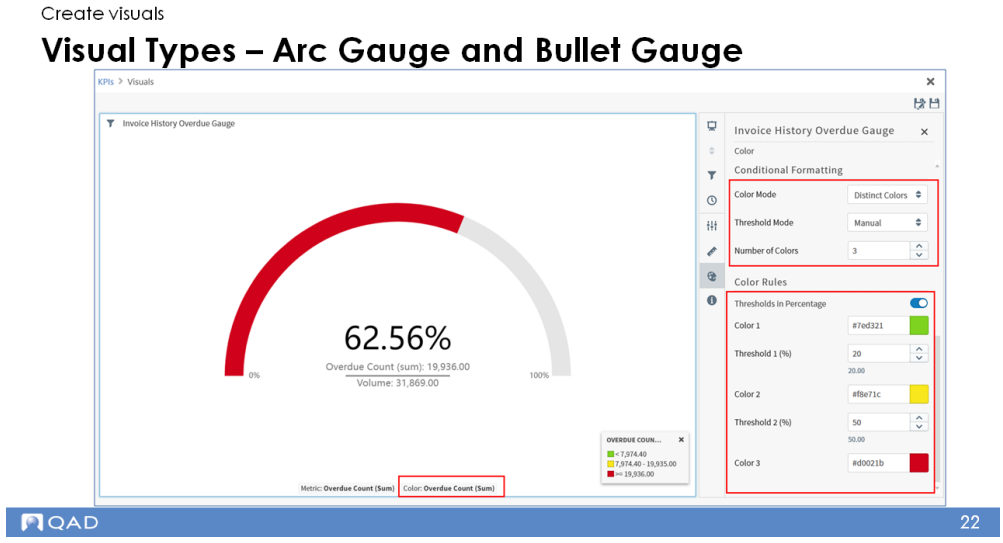


QAD 20

The next step is to open the Settings panel on the right-hand side and to switch ON the Show label description. We then select the Show Relative value display, which means percentage.



However, we still need to set what the denominator of the relative value is. For this, we go to the Rulers panel on the right-hand side and switch OFF the Static maximum value switch. Then, we can select a field as a metric to give the maximum value and we select Volume, which is the total number of records. Now, we see the correct percentage of overdue lines compared to the total number of lines.



Now, we still want to set the gauge colors with threshold values for each color. First, we select Overdue Count as the Color metric at the bottom of the chart.

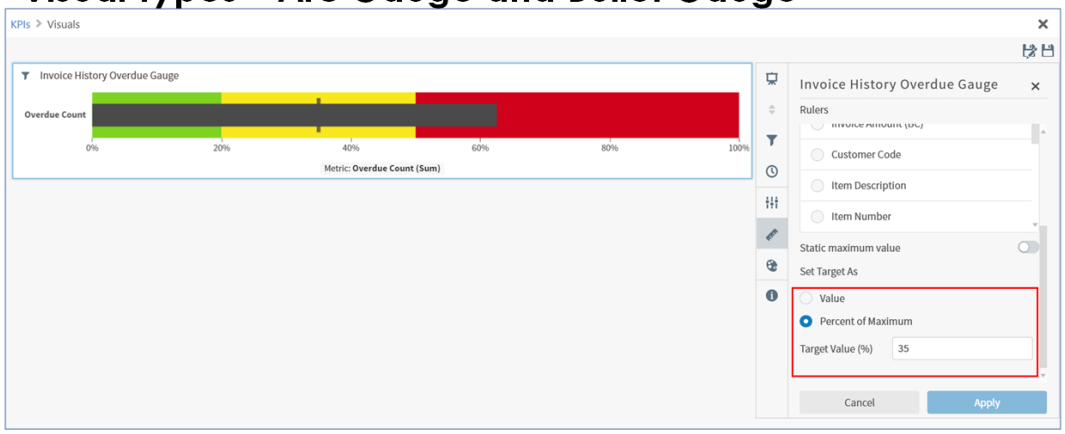
Then, we open the Colors panel at the right-hand side of the chart and scroll down to the Conditional Formatting section. There, we set the Color Mode field to Distinct Colors, the Threshold Mode field to Manual, and the Number of Colors field to 3.

Then, we fill in the Thresholds in Percentage panel with, for example, thresholds of 20 and 50, and set Color 1 to green, Color 2 to yellow, and Color 3 to red. This representation means that a percentage of overdue lines below 20 shows a green arc, percentages between 20 and 50 show a yellow arc, and percentages higher than 50 percent overdue lines show a red arc.

Now, our arc gauge is ready to save.

Create visuals

Visual Types – Arc Gauge and Bullet Gauge



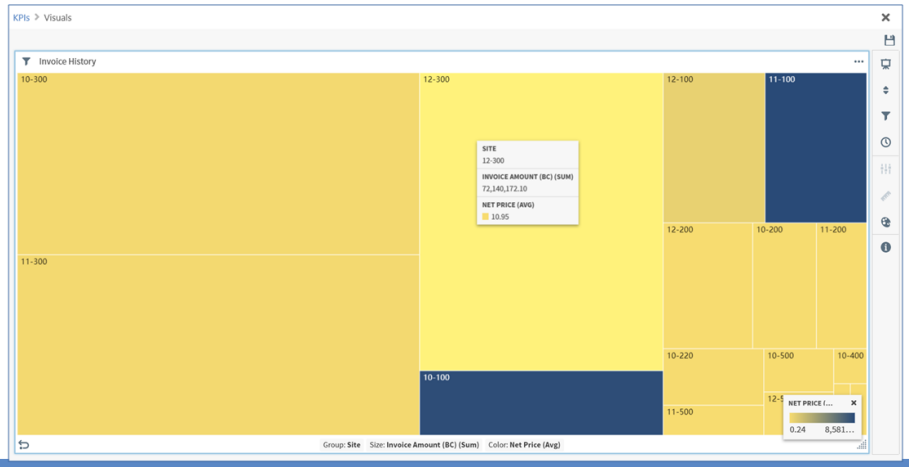
QAD 23

For a bullet gauge, we follow exactly the same setup steps. We only need to set one additional parameter under Rulers—the Target Value, which is displayed as a brown line marking, for example, the 35% point.

Visual Types – Tree Map

Create visuals

Visual Types – Tree Map

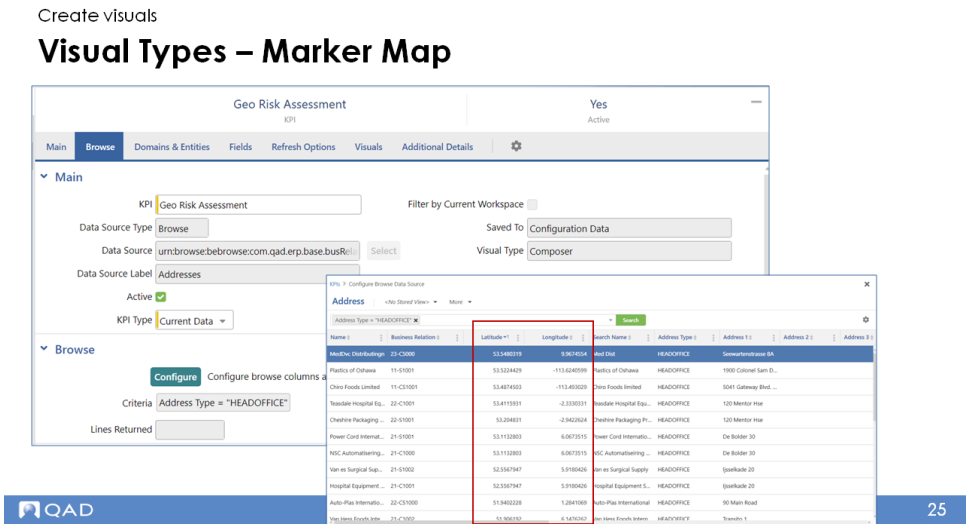


QAD 24

Treemaps give a good overview of two metrics over various groups; for example, the values and quantities of inventory over various locations.

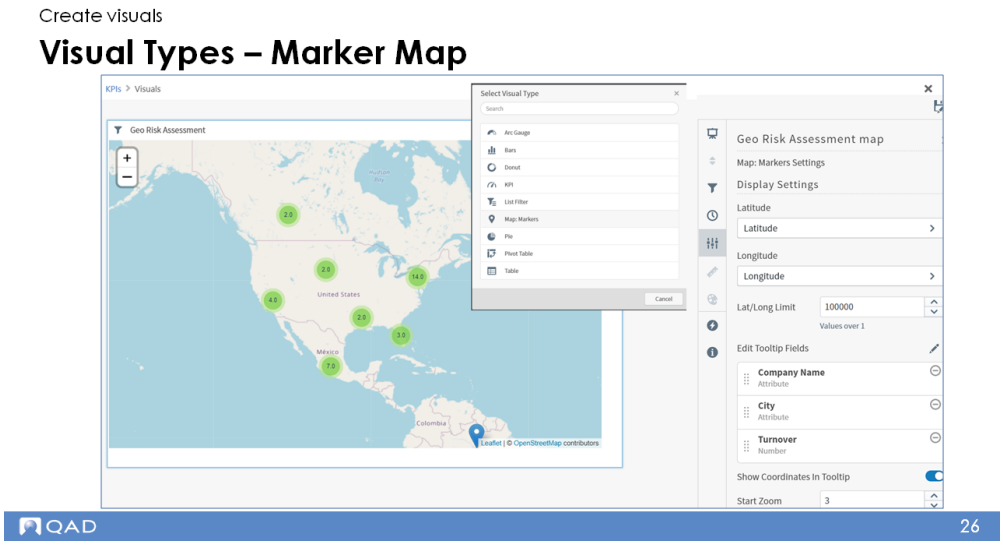
With the Invoice History data, we can, for example, show the invoice amounts by site again. The size of the panels shows the total sum of the invoice amounts for the site, while the color shows the average price. The dark blue indicates that items of high average value are sold in the site.

Visual Types – Marker Map



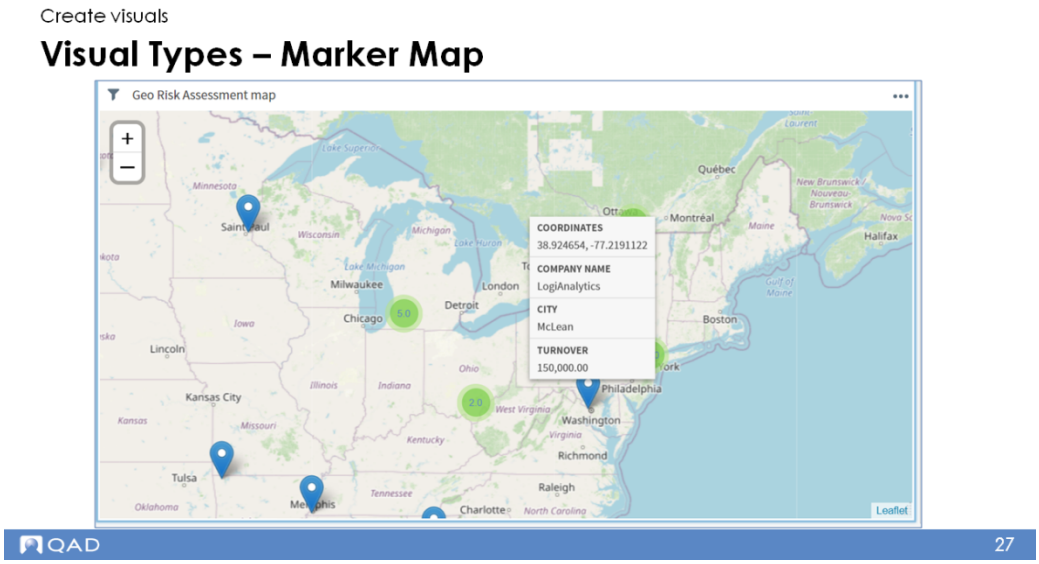
The marker map is a geographical map with markers that are based on geo-locations in your data.

Those geo-locations can be found in the Address table of the ERP system, where the fields Longitude and Latitude have been added and populated with the correct values. If your data source contains this address data, you can create a KPI based on that data and make sure that Latitude and Longitude are selected as active fields.



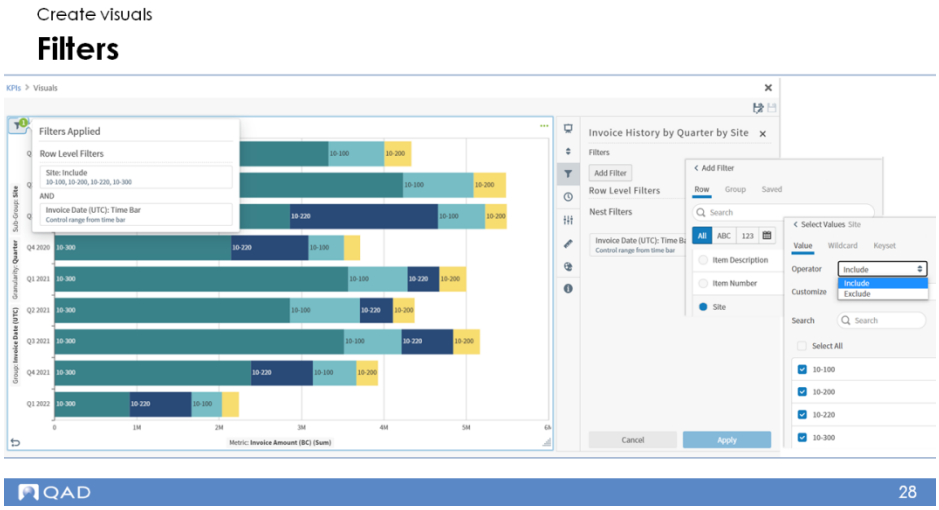
Based on this KPI, we start to create a new visual and select Map: Markers as the visual type.

Then, we open the Settings panel to select the correct fields for latitude and longitude. As a result, all the addresses appear as markers on the map. Then, we edit the tooltip fields. These are the fields that are displayed if you hover over the marker point on the map.



Here, we zoom in on the East Coast area and see the coordinates, the company name, the city, and state displayed for the companies in the area.

Filters



Filters allow you to set selection criteria for data in the visuals. Maybe you want to only see data for a given site or customer.

For example, we again take the Invoice History KPI, with a chart that shows the invoice totals per quarter and per site. We want to set a filter to show only data from sites 10-100, 10-200, 10-300, 11-100, 11-200, and 11-300.

To do that, we click the Filter icon at the right-hand side of the chart and click the Add Filter button. Then, we can select any field to filter on. We select the Site field. By default, the Include operator is applied and we are prompted to select site codes to include in the visual.

The list of site codes is based on the current data. However, there could be site codes missing at the moment because there is currently no data for them, but that could change in the future. Therefore, there is a Customize field that allows you to add missing codes.

Once you have selected the site codes, you must click Apply to add the new filter to the visual.

At the top left of the visual, the filter icon lights up in green and, if you hover over that area, you see the filters applied.

You can also change the operator to Exclude and then the selected site codes are excluded from the visual.

Instead of a list of site codes, you can also work with wildcards like *all the sites starting with 10* or *all site codes containing 100*. Wildcards are useful if you have codes with a logical structure. With this approach, you can avoid building long Include lists.

Filters – Nested Conditions



You can repeat the addition of filter criteria. By default, those criteria are combined with existing criteria using an AND operator, which means that all criteria are applied together.

It is possible to create more complex filters that have groups of criteria in a hierarchy with both AND and OR operators. These are nested filter conditions. In the Filters settings screen, you can click the Nest option to open an additional space, where you can drag filter conditions to and set the operator AND or

OR. You can create multiple nests and, by dragging one nest into another, you build a hierarchy of conditions that will be applied following the AND and OR combinations.

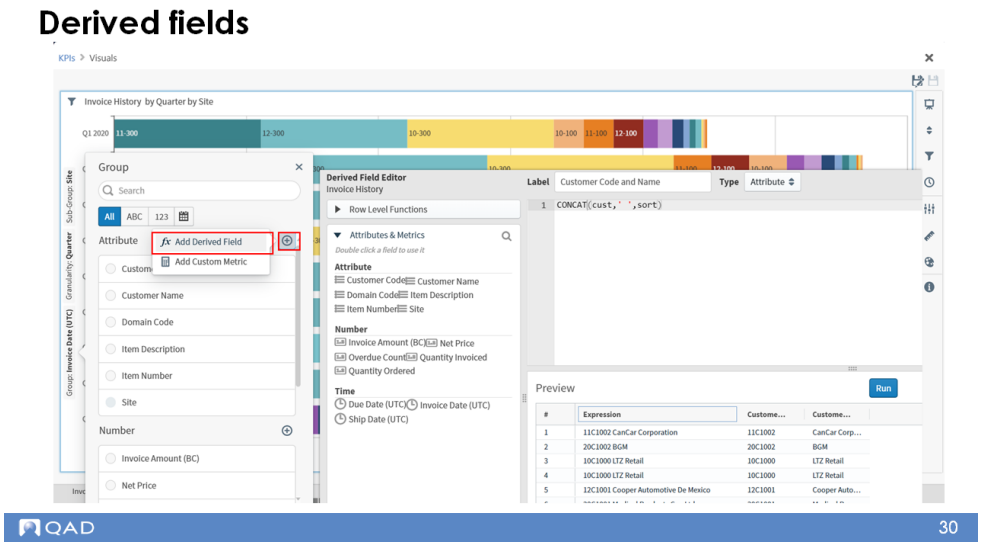
For example, you have filtered all site codes that begin with 10 and for which you want to see all invoices. In addition, for one special site, 11-100, you only want to include invoices if they have a total larger than 1000 dollars.

The filter then logically looks like:

Site Begins with 10 OR (Site Included in 12-300 AND Invoice Amount > 1000).

You must create nests and group the conditions in the correct nests by dragging them into the nests. You can also change the logical AND and OR operators between the nested conditions.

Derived Fields



Derived fields are extra fields that you can add to the dataset and that are the result of a calculation using other fields.

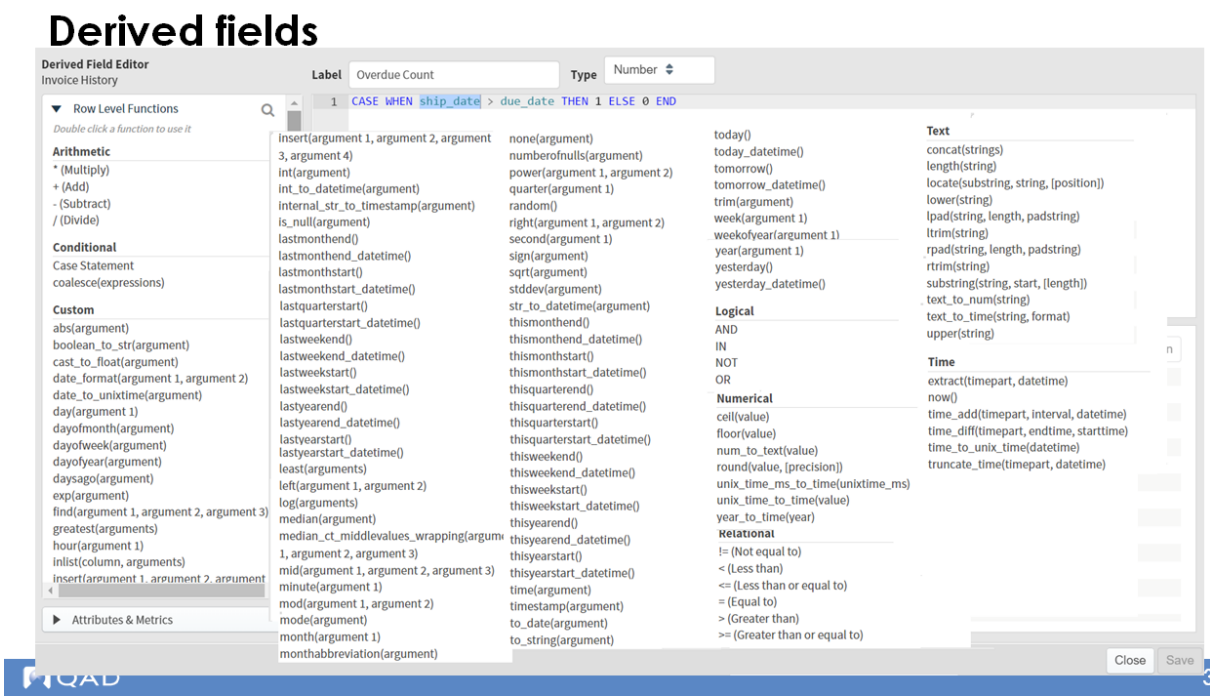
In a previous example, we already used a derived field, Overdue Shipments, for the arc gauge. Let's look at another example.

To create a derived field, you first click the grouping or metric field at the bottom of a visual or at the left-hand side of a visual. This step opens the list of fields available for that visual. Then, click the plus sign above the field list and that presents you with the choice of adding a derived field or a custom metric. Click Add Derived Field to open the Derived Field Editor.

Start by giving the new field a meaningful name; for example, Customer Code and Name. Then, enter the calculation formula—for example, CONCAT(cust, ' ', sort). You can retrieve the field names by clicking the fields at the right-hand side.

Then, you test the formula by clicking the Run button. The Expression column shows the result. If the formula contains incorrect syntax, then an error appears, telling you what is wrong.

Derived Fields – Functions Overview



Derived fields can be arithmetic calculations like addition, subtraction, multiplication, and division.

They can also be calculations with dates, like time_diff, to calculate the interval between two dates or time_add, to add or subtract a number of days to a date.

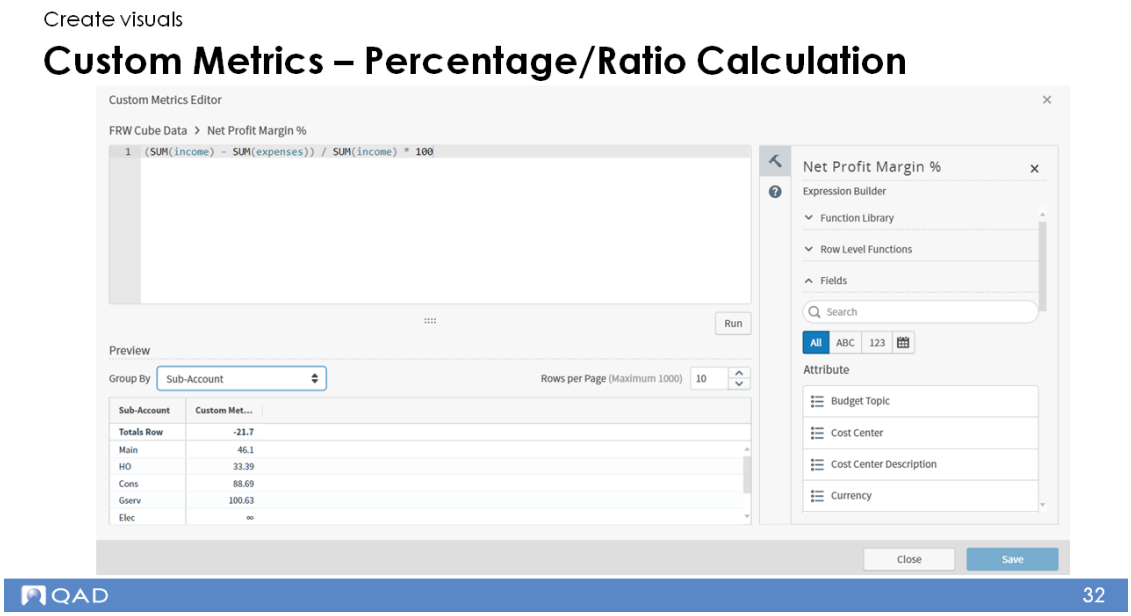
There are many row-level functions that you can use. You can get a list of these in the side panel.

Conditional calculations with the case statement (CASE WHEN … THEN … ELSE …. END) are very useful. These constructions can also be nested.

In an earlier example, we used the CASE statement for calculating the overdue count for Invoice History data.

Custom Metrics

Custom Metrics – Percentage/Ratio Calculation



Another category of extension to your data is custom metrics. While the derived fields add a calculation on row level, the custom metrics add a numeric column that is the result of a calculation at aggregation level. A nice example of this is the Net Profit Margin calculation, which has a formula of (SUM(income) - SUM(expenses)) / SUM(income) * 100 and results in a margin percentage.

This formula first makes the total sum of income and expense amounts (two derived fields) and then applies the formula with the totals.

This calculation happens automatically on any aggregation level that is needed for the visual. For example, if the visual shows Net Profit Margin by Entity, then the total income and expense is calculated by entity first, before performing the margin percentage calculation. You can then change the visual to show, for example, margins by product. Then, the income and expense is calculated automatically by product line before the margin is calculated.

This dynamic behavior is a very powerful feature because you define the formula once for all use cases.

In the Custom Metrics Editor, you can see the available aggregation functions on the left. These functions can be used in arithmetic combinations such as addition, subtraction, multiplication, and division.

Here, we see the result of the Net Profit Margin custom metric used in the bar chart.

Create visuals

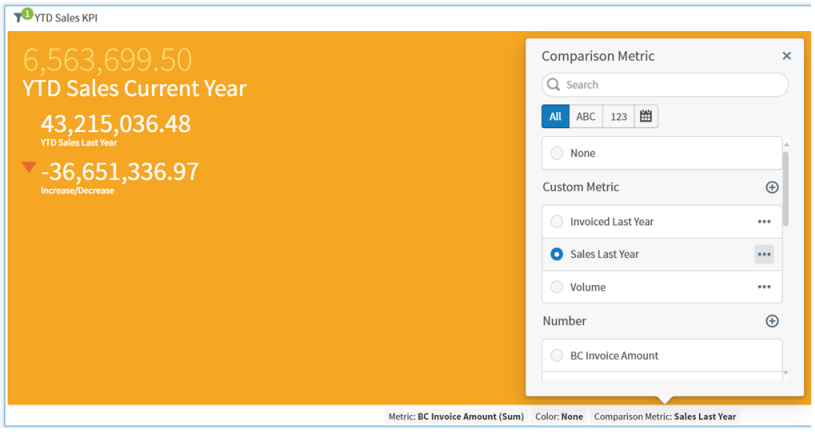
Custom Metrics



Custom Metrics – Comparison with Previous Period

Create visuals

Custom Metrics



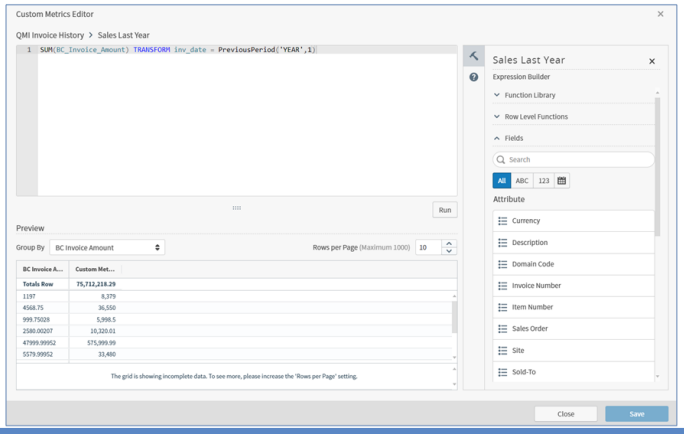
Another use case of custom metrics is in the comparison of data from a previous period.

Here, we see a Year To Date Sales KPI that has a comparison metric enabled. The metric is defined with the custom metric function.

Custom Metrics – Previous Period

Create visuals

Custom Metrics – PreviousPeriod



The PreviousPeriod function looks back one year for the invoice dates and sums the invoiced amounts in the same period a year ago.

Note: This function only works when the date field used in the formula is selected on the time bar.

To use this function, the TRANSFORM expression must be used in the custom metric to convert the date range for a specified time attribute. For example:

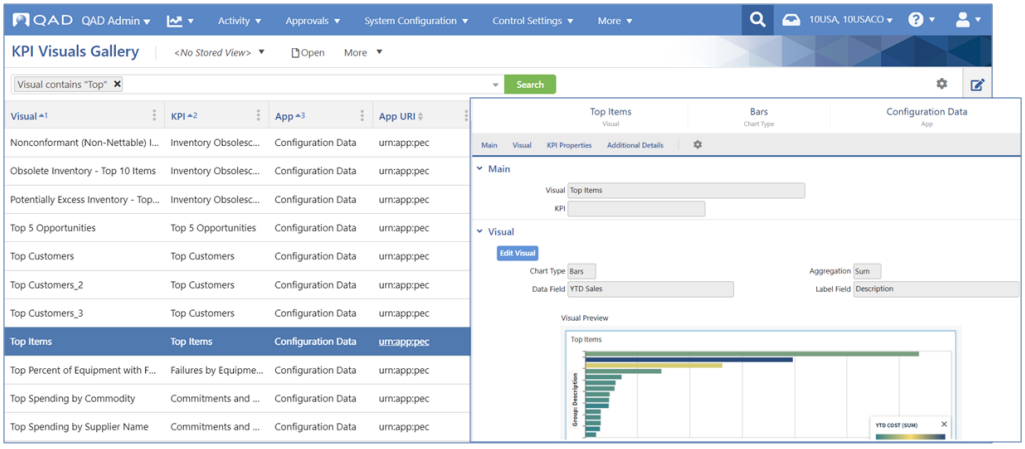
SUM(BC_Invoice_Amount) TRANSFORM inv_date = PreviousPeriod('YEAR',1)

Another use case of custom metrics is when you want to compare actual amounts against a target or budget.

KPI Visuals Gallery

Create visuals

KPI Visual Gallery



All the standard QAD visuals, and the visuals that you create, are automatically stored in a common repository called KPI Visuals Gallery.

There is a view called KPI Visuals Gallery in the QAD Admin menu. When you open that menu, you see a browse with all the visuals listed with their names, types, and the KPIs that they are linked with. If you double-click any of the rows in the browse, the panel on the right shows the main properties of the visual, a preview of the visual, and an Edit Visual button that opens the visual in the visual builder, where you can make modifications. There is only one version of each visual, so modifications you make from here are also applied to the action centers where that visual appears, and conversely. The same applies to the modifications to visuals when you open them from the KPIs screen. So, there are three ways to access and open the visuals in the visual builder.

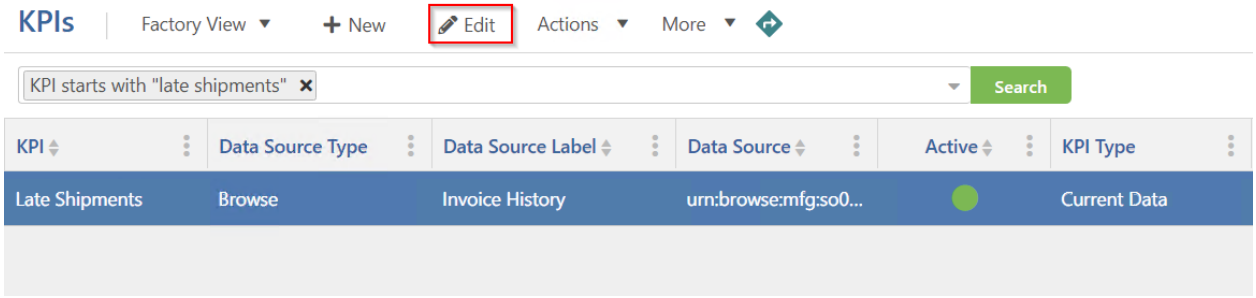
For end users who don’t have Write permissions to the KPI Visual Gallery, it is not possible to save modifications made to visuals in the action centers.

There are 27 different types of visuals available, so we cannot discuss them all in detail. However, all the capabilities that we highlight are available in those variants.

Hands-On Exercise: Creating Visuals

This hands-on exercise explores more advanced features of visual creation.

1. In the KPIs browse, locate the KPI that you created in the Creating KPIs hands-on exercise with the name <your initials> Invoice History.
2. When you have located your KPI in the browse, click Edit to open it.

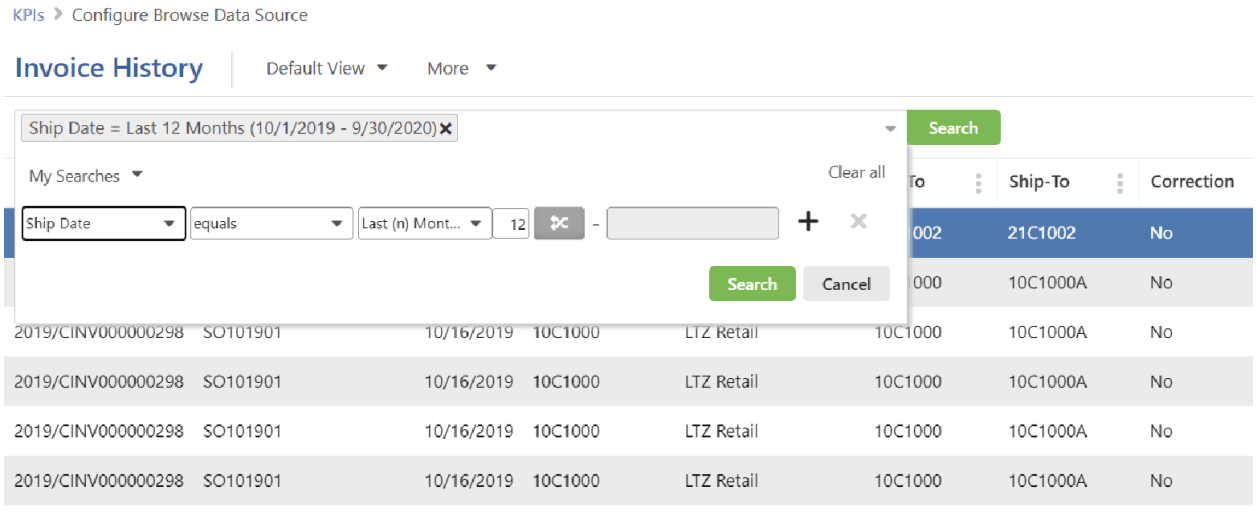


3. Scroll to the Browse panel. Click the Configure button, and configure the Criteria field to the following browse search:

   Ship Date equals Last (n) Months 12.

   Note: The search only searches for the last 12 complete months. If you want to include the current incomplete month, then you must add another criterion: Ship Date = Current Month.

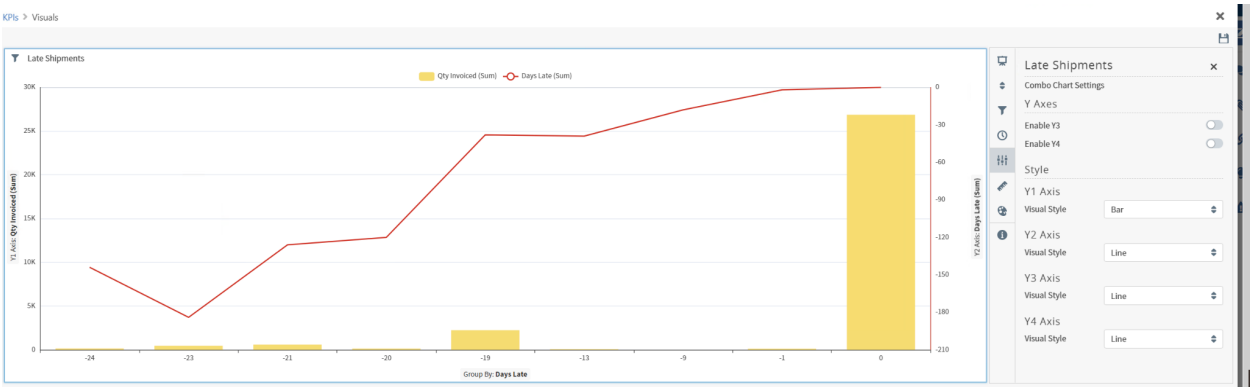
4. Click Search.



5. Click OK to return to the KPI form with the search criteria applied.
6. Save the KPI.
7. On the KPI form, scroll to the Visuals panel and click the +New icon to open the visual builder.
8. Select Combo Chart from the list of visual types.

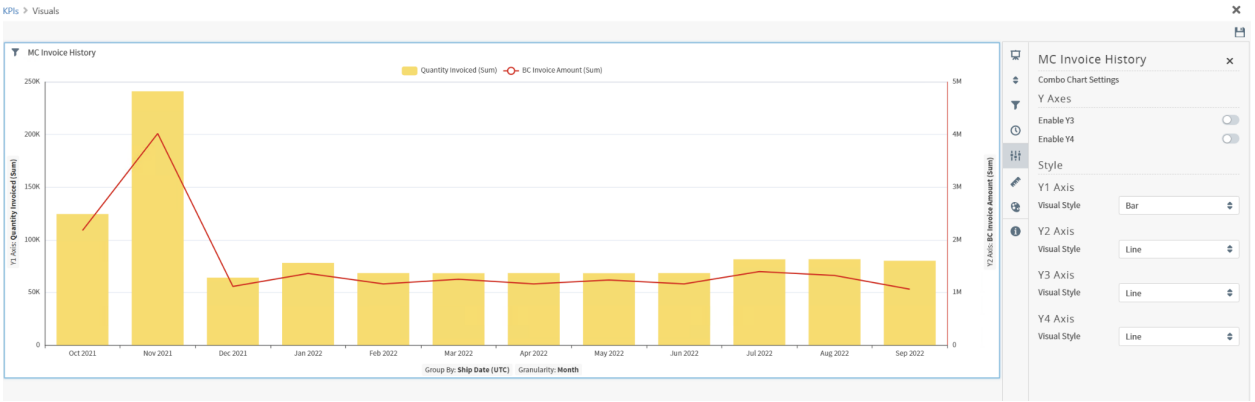
Note: Combo charts are used to depict multiple metrics on Y-axes with a common X-axis. They allow you to combine different chart types; for example, a bar chart with a line chart.

9. In the Settings side panel, disable the Y3 and Y4 axes.



10. Click the Y1-axis and select the Qty Invoiced (Sum) metric. Clear any other checkboxes.
11. Click the Y2-axis and select the BC Invoice Amount (Sum) metric.
12. On the X-axis, click Group By and group by Ship Date (UTC)
13. Click Granularity and set the granularity to Month. You will get a chart like that shown below.

    Tip: To change the axis dimensions, click the labels and select dimensions from the list.



14. Click the Save icon.
15. Save the visual with the default title and visual name Quantities and Amounts Invoiced.

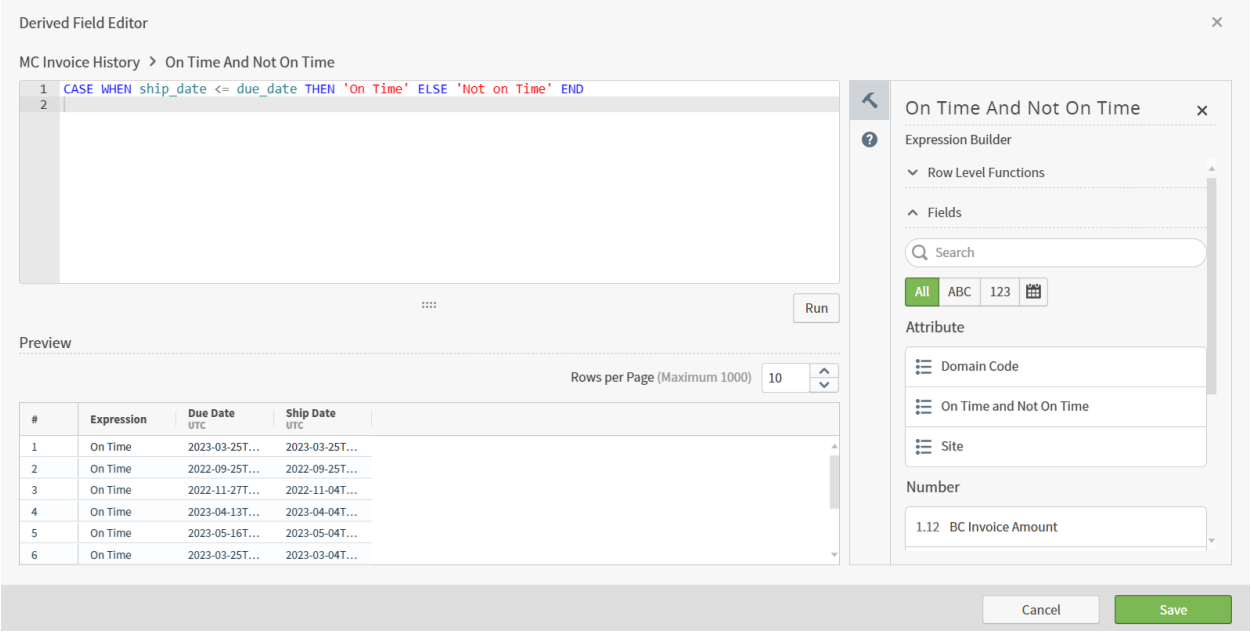
Now, let's say you want another chart to analyze the on-time shipments:

16. Click the Save As icon on the top right of the chart and give it the default title and visual name On Time Shipment Analysis.
17. Complete the following steps to add two derived fields that show which orders are delivered on time and which are overdue.
    a. Click the Y1-axis label and click one of the + signs above the list of available fields. Then, select Add Derived Field. The Derived Field editor opens.

       Note: If you cannot see any plus icons, empty your browser cache, refresh the page, and reopen the On Time Shipment Analysis visual from the Visuals panel.

b. At the top of the dialog, in the Untitled Derived Field field, enter the name On Time And Not On Time.
c. In the Expression Builder, enter the formula:
CASE WHEN ship_date <= due_date THEN 'On Time' ELSE 'Not on Time' END

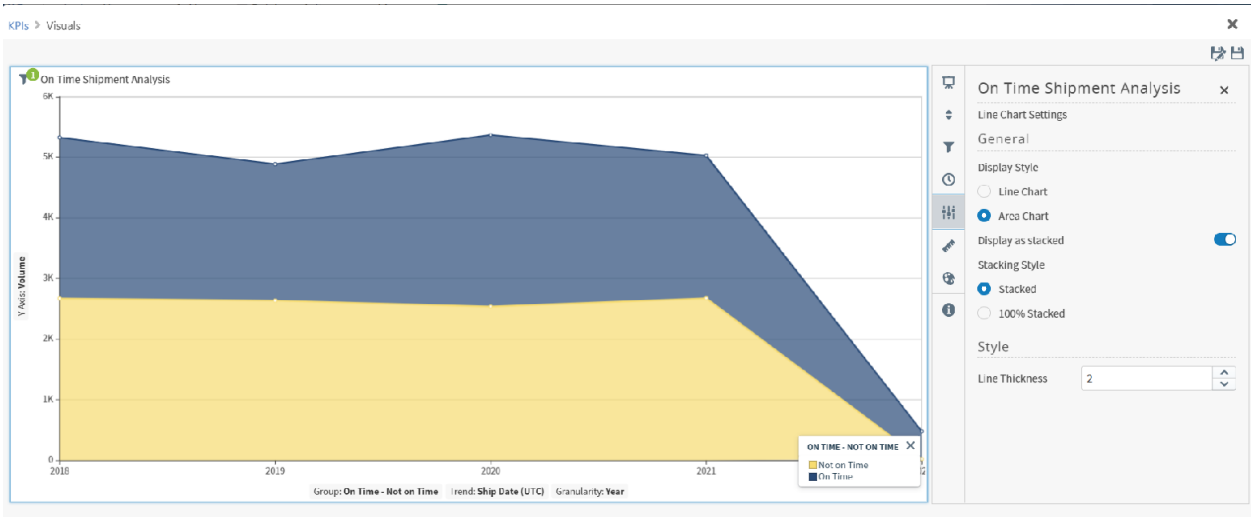
Note: You can retrieve the names of the fields by clicking the fields in the panel on the left.



d. Click Run. In the Preview pane, the value On Time displays if the shipment was sent before or on the due date, and Not On Time displays if the order shipped after the due date.

18. Click Save to add the new derived field to the list of available fields.
19. Click the Easel icon to change the visual style from Combo chart to Line Trend: Attribute Values.
20. On the Y-axis, select the Volume metric, which counts all rows in the data.
21. On the X-axis, configure the following settings:
    a. For the Group attribute, select the On Time And Not On Time derived field
    b. For the Trend attribute, select Ship Date (UTC).
    c. For the Granularity attribute, select Quarter.
22. In the Settings panel, change the display style to Area Chart.
23. Turn on the Display as Stacked toggle.

The chart shows the number of On Time and Not On Time shipment over the years:

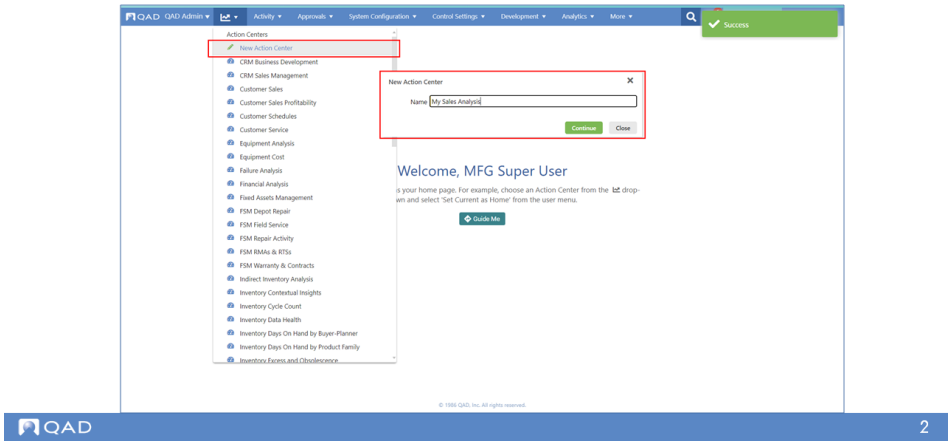


24. Save the chart.

Action Center Creation (Video 8)

New Action Center

Create Action Center



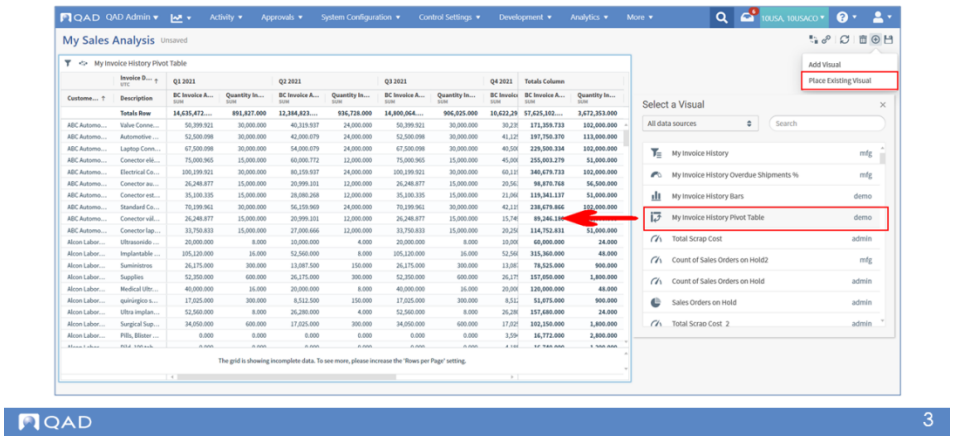
In the Adaptive UX menu, there is a Chart icon. When you click the icon, it opens a drop-down list of action centers.

The first option in that list is New Action Center. When you choose that option, a small dialog opens, where you can enter the name of your new action center—for example, My Sales Analysis—and click Continue. After a few seconds, a Success message flashes up and now you can find the new action center added to the drop-down list.

When we open the new action center, it is still empty.

Place Existing Visuals

Place Existing Visuals



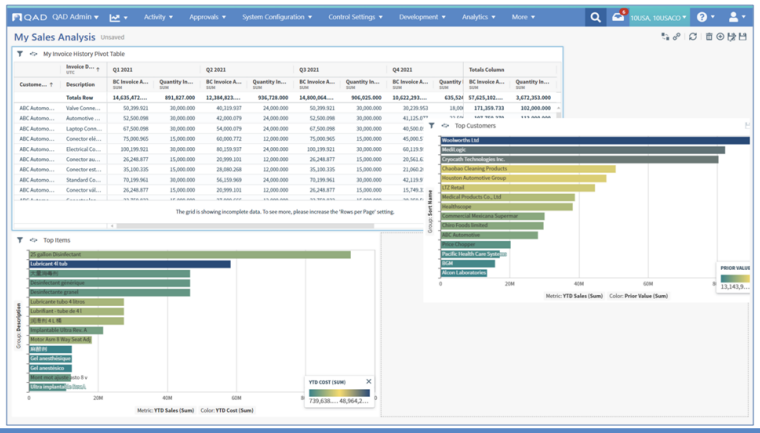
When you click the + (plus sign) icon in the action center, you can choose between Add Visual and Place Existing Visual.

We start with selecting the second option to place an existing visual. A selection dialog pops up and you can type the name of the visual that you are looking for. When we type Invoice History, we see all the

visuals with Invoice History in their names. We select the My Invoice History Pivot Table, which we created in a previous chapter (and video) called *Create Visuals*, and that pivot table appears on the action center. You can resize the visual by clicking the bottom-right corner and dragging it in any direction. The visual size adapts accordingly.

Change Layout

Change Layout



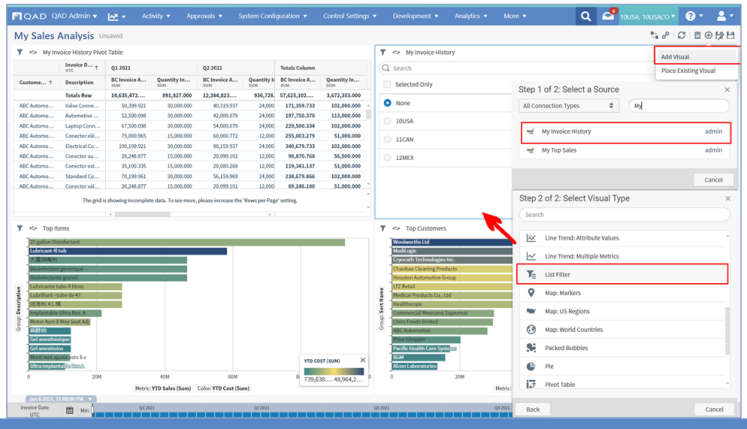
QAD 4

Next, we click Place Existing Visual again and search for the Top Customers visual and add that to the action center. We repeat the same for Top Items. You can then move visuals around by clicking their top area, next to the visual title, and dragging them around in the action center. You will notice that sometimes, you have to make the panels smaller to fit in the space where you want to position them. If they are too large, other panels are pushed down. However, it is all very intuitive, so after a few minutes of practice, you can create any layout you want.

If you are happy with the layout, click the Save icon at the top right of the action center to save the layout and any changes that you have made to the visuals.

Add (New) Visual

Add (new) Visual



QAD 5

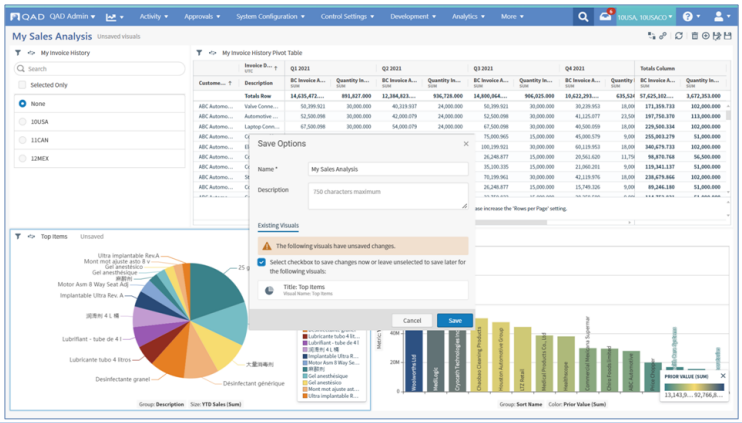
In another chapter (and video), *Create Visuals*, you learned how to create visuals from the KPIs view. You can also create visuals on the fly from the action center. Click the + (plus) sign on the top right of the action center and choose Add Visual. A dialog opens, prompting you to select a source. The list shows all the KPIs in the system and you select a KPI as the data source for the visual, for example, the My Invoice History KPI that we created in previous chapters and videos. The next step is to select a visual type—for example, List Filter. Once selected, that visual is added to the action center. You can then further configure the visual, following the same steps, as explained in the *Create Visuals* chapter and video.

In this example, we make sure that the list shows the domain codes from the Invoice History Data.

Now, save the action center. A message pops up, telling you that the newly created visual will be saved together with the action center.

Editing Visuals

Editing Visuals



If you have Update permission for the KPI Visuals Gallery, you can edit and save visuals directly from the action center.

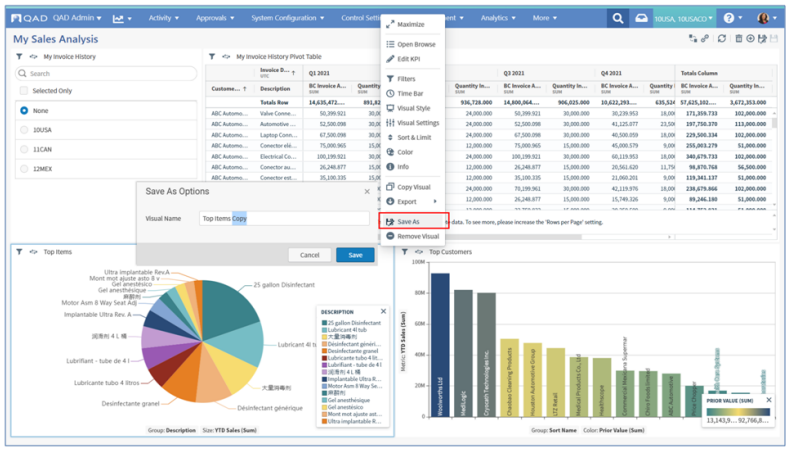
You can also open visuals for edit from the KPIs view or from the KPI Visuals Gallery view.

All three methods update the same unique visual in the central visual gallery, and your updates are shared automatically across the system.

In our new action center, we change the Top Customers bar chart from horizontal to vertical. We change the Top Items bar chart to a pie chart. After that, when you save the action center, a warning pops up, asking you to confirm the saving of updates to the visuals.

Save As of a Visual

Save As of a Visual



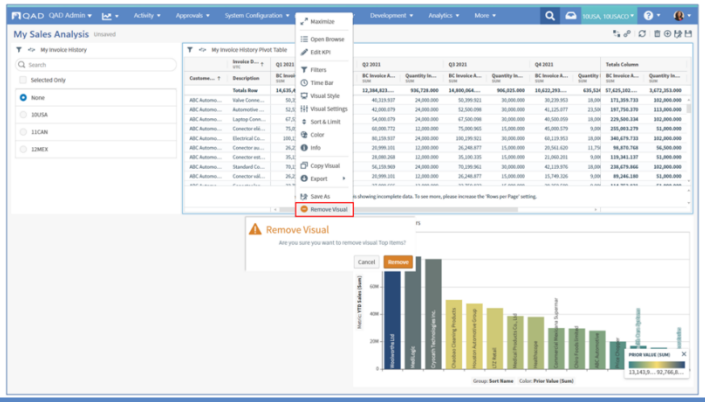
QAD 7

If a visual is used in several action centers and you want to update the visual for a single action center only, without affecting other action centers, use the Save As action in the visual's side menu to make a copy of the visual. Give the copy another name so that you can see the differences clearly later.

Note that the new copy is added to the gallery, but it does not automatically show up on the action center.

Remove a Visual

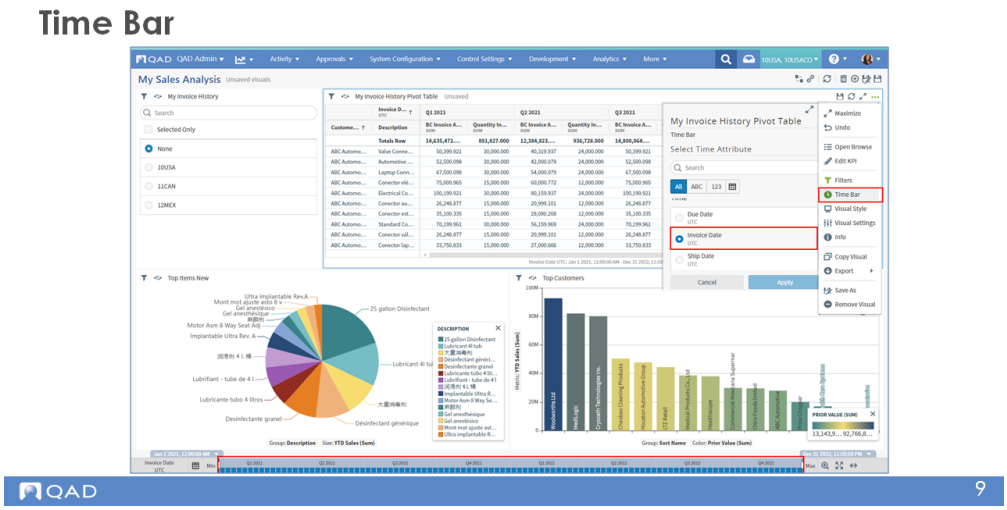
Remove a Visual



QAD 8

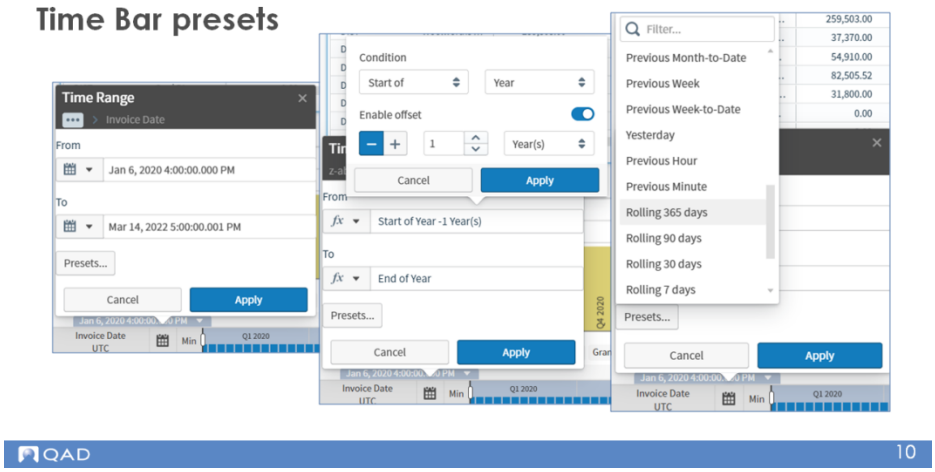
You first have to remove the original visual that you don't want to modify. Then, add the new copy that you can modify, without affecting other action centers. You can remove visuals from an action center using the Remove Visual action in the visual's side menu. This action only removes the visual from this action center. The visual remains available in the visual gallery. If you want to delete a visual completely from the system, then you must do so from the KPIs menu and this step is only possible if the visual is no longer used in any action center. If the visual is still used, an error pops up when you try to delete the visual, telling you in which action centers or insights the visual is still used.

Time Bar



Any visual that has a date field can be filtered with a time bar. For example, in the Invoice History Pivot table, you can click the three dots in the top-right corner of the visual panel to open the Time Bar dialog. Then, select the date field to control the chart; for example, Invoice Date. Now, a time bar control shows up at the bottom of the screen. You can select a date range with that by dragging the start and end date sliders. The chart data is filtered accordingly.

Time Bar Presets



The default date range for the time bar can be preset. If you click the calendar icon at the left of the time bar, then a dialog opens, where you can set the range either with fixed calendar dates or with variable dates. Variable dates can be set relative to the current year, quarter, or month.

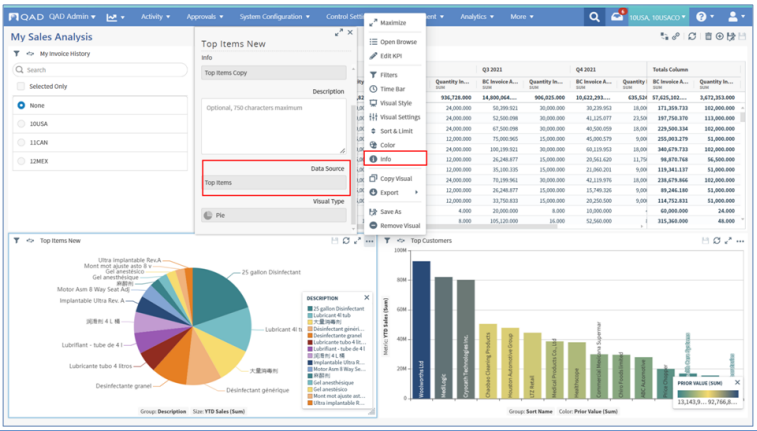
Here, we set a range starting at the beginning of the previous year, using the offset -1 option, and ending at the end of the current year.

There is also a Presets button that allows you to set a variable range with a single click. As an example, we can select Current Year.

The time bar range presets are saved with the visual.

Linking Visuals – Check KPI Source

Linking Visuals – Check KPI Source



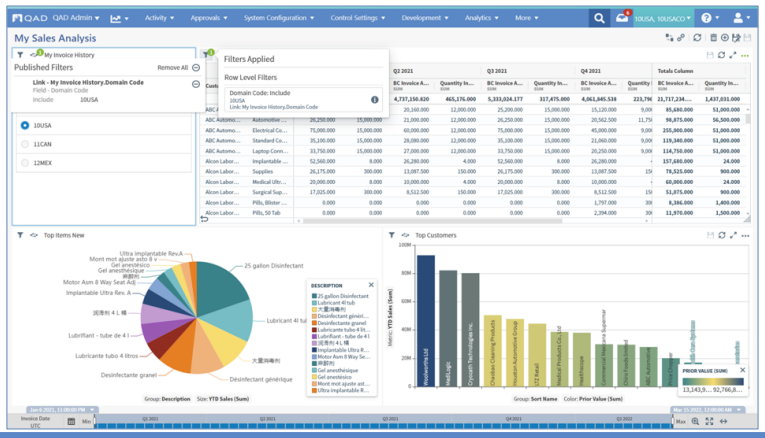
Charts can interact with each other so that clicking a data point in one chart automatically filters the other charts for the same data point.

To configure this behavior, you must first know which KPIs are used as data sources for each chart. Under the Info option, you can scroll down and see the data source name. On our action center, the two visuals at the top have the My Invoice History KPI as the data source.

The Top Items visual has the Top Items KPI as the data source. The Top Customers visual has the Top Customers KPI as the data source.

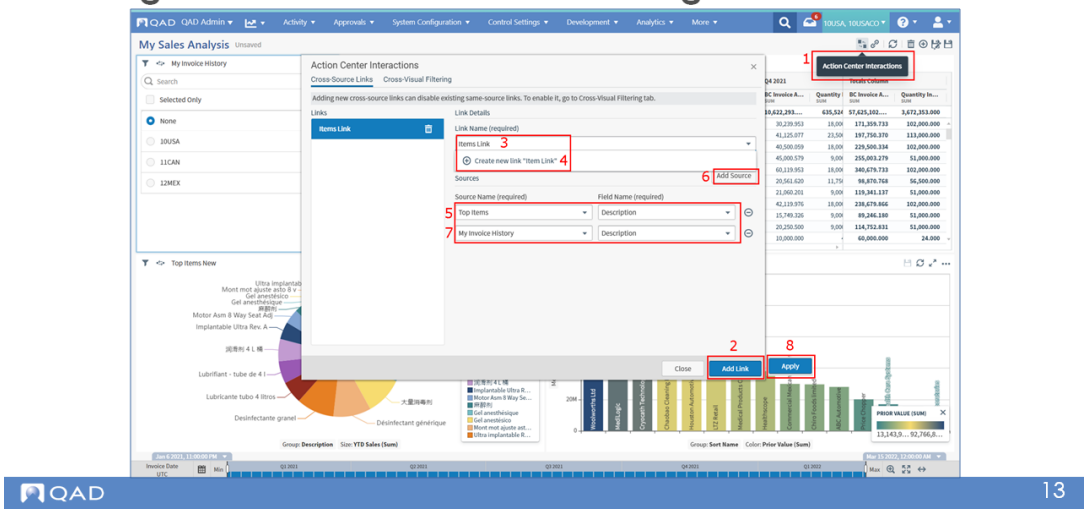
Linking Visuals – Filter with same KPI Source

Linking Visuals – Filter with same KPI Source



If we click the 10USA domain code in the Filter List visual at the top-left corner, then the My Invoice History Pivot Table visual is filtered for that domain. This is because they have the same source and, therefore, the filtering works automatically.

Linking Visuals – Cross-Source Filtering



What if you want to use another visual, such as Top Items, as a filter on the My Invoice History Pivot Table visual? This approach is known as cross-source filtering, and it is possible with additional configuration:

Click the Action Center Interactions icon, the first icon at the top right of the action center (1).

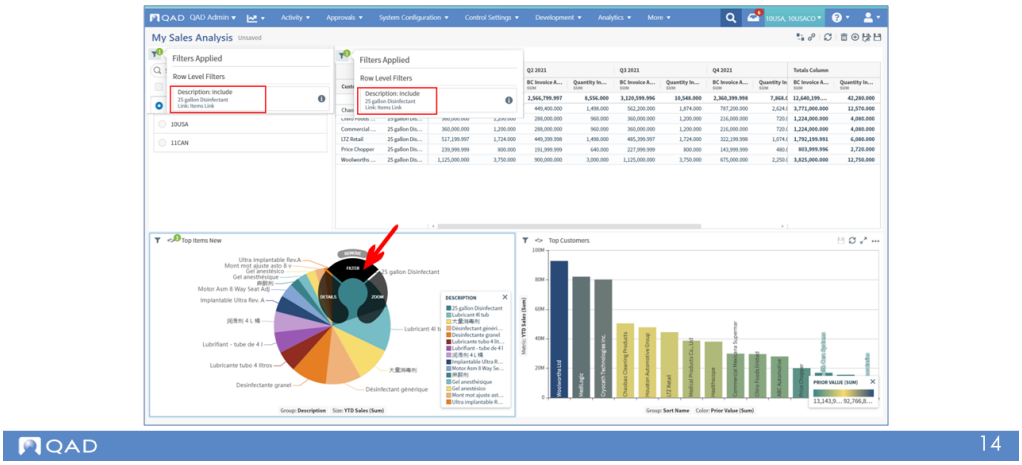
In the dialog that pops up, click Add Link (2) and enter the name, Items Link, in the Link Name text box (3). Then, click Create new link, just below the Link Name (4). In the list of sources, select Top Items and the Description field (5).

Then, click Add Source (6) so that you can select the second source, My Invoice History, and the Description field (7).

So, we now have a link between the two fields from the two sources. In this case, the field names are the same, but that does not have to be the case. What is important is that they have the same values in the data and it is also important that the Item Description in this case is the grouping dimension of the pie chart.

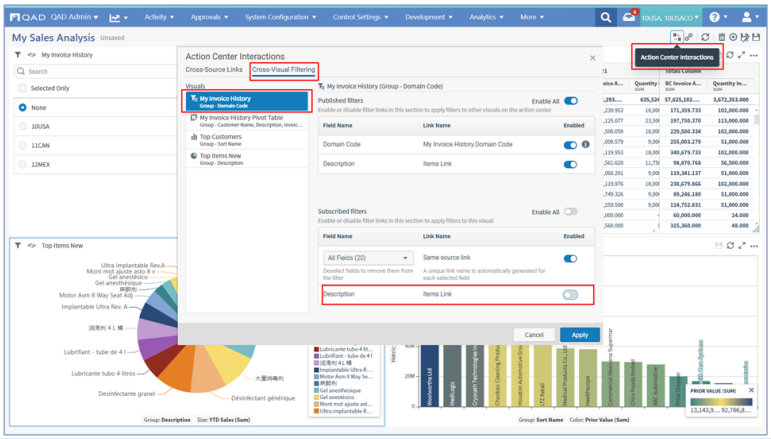
Click Apply (8) to save the new link and to close the dialog.

Linking Visuals – Testing the Cross Source Link



Now, we can test the new cross-source link. If we click any of the slices in the Top Items pie chart and choose Filter, then the description of the selected item is published. The two charts at the top—based on My Invoice History—that are subscribed on the Items Link are filtered accordingly.

Linking Visuals – Disabling Visual Links



In some cases, you don't want to filter specific visuals automatically. For example, you want the list filter based on the My Invoice History KPI to always show the list of domains for all data, but you still want to filter the Invoice History Pivot Table visual by item description when using the Filter options on the Top Items pie chart.

To make this type of exception, you can disable the subscription from the list filter for the Items link.

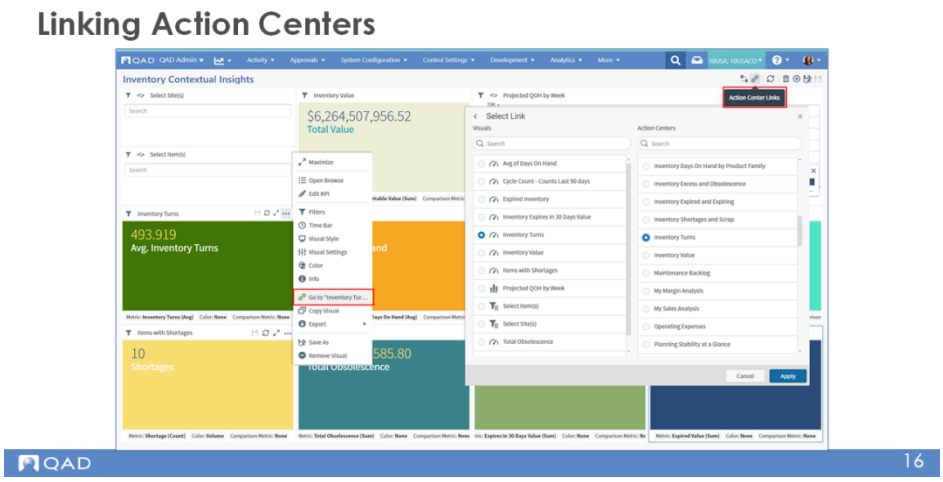
Open the Action Center Interactions dialog again. Then, open the SECOND tab called Cross-Visual Filtering. Locate and select the My Invoice History List Filter visual in the list on the left. You see, on the right, a list of filters and link names that this visual is subscribed on at the bottom. The second is the

Items Link that we created in the previous steps. With the switch next to it, you can disable it for this visual only. Then, click Apply at the bottom to confirm your changes and to close the dialog.

Now, test the filtering by Item again and notice that the Domains List Filter is not affected anymore.

If you are happy with your changes, then save the action center. The visual interaction settings are saved together with the action center.

Linking Action Centers



You can also create links for easy navigation from one action center to another.

As an example, we start from the Inventory Contextual Insights action center. Click the Action Center Links icon—the second icon at the top right of the action center. This opens a list of existing links that is initially empty. Click the Add Link button and the list of visuals on the current action center shows up on the left side with, next to it on the right side, the list of action centers. We select the Inventory Turns visual on the left and the action center with the same name on the right. When we click Apply and the new link is added in the list that was initially empty. Note that there is a switch, Inherit Filter, on the link. When that is switched ON, a filter—for example, for a given site that was applied on the visual—is also passed to the Inventory Turns action center.

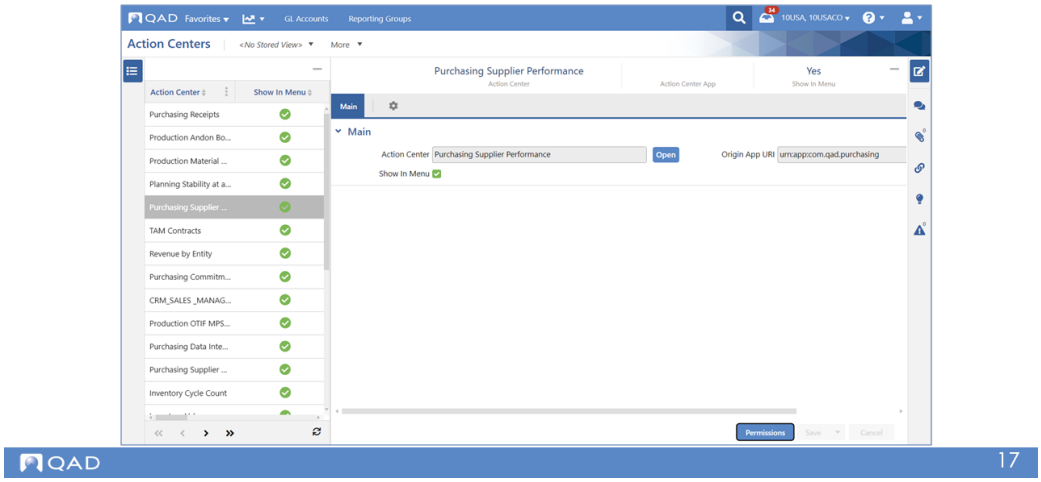
Before you test the new link, save the action center because, if you go to another action center without saving changes to the first, the new link data is lost.

Now, you can test the link. Open the side menu of the Inventory Turns visual and see a link Go To Inventory Turns action center in the menu. If you click it, the Inventory Turns action center opens, where you can perform additional data analysis. Note that there is also a Back icon at the top of that action center so that you can easily return to the first action center, Inventory Contextual Insights.

When we now select some site codes in the first action center and then open the second action center, we see that the site codes are passed as a filter.

Action Centers View

Action Centers hybrid view



The Action Centers hybrid view in the administrator menu lists all action centers in the system.

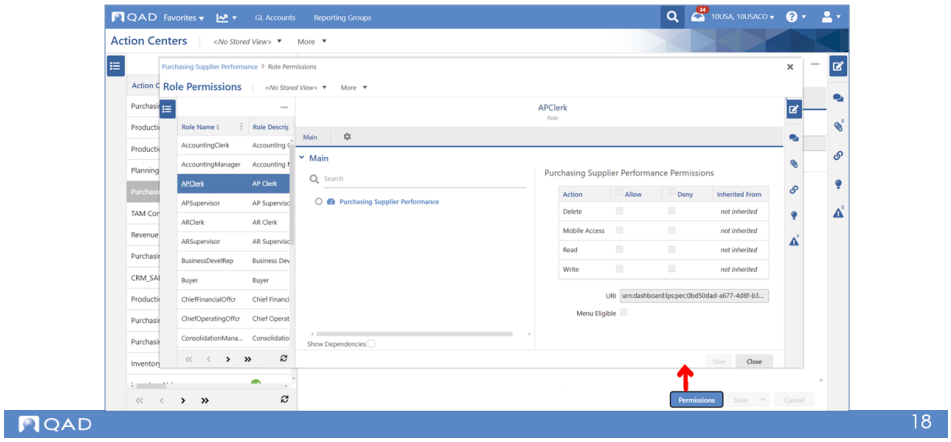
You can double-click a row to open a form with the properties of the selected action center.

The Show in Menu checkbox allows the administrator to control which action centers to show on the menu. This setting is then applied for all users of the system. However, the administrator can still open the action center from this form by clicking the Open button.

Note that there is also a field called Origin App URI, which contains information for app developers only. If action centers were developed as part of an app, you can see which app the action center relates to. There is also an option to change the origin app URI in case it is incorrect. Based on the content of this field, the action center and its KPIs are included in the packaging of the app.

Sharing Action Centers

Sharing Action Centers

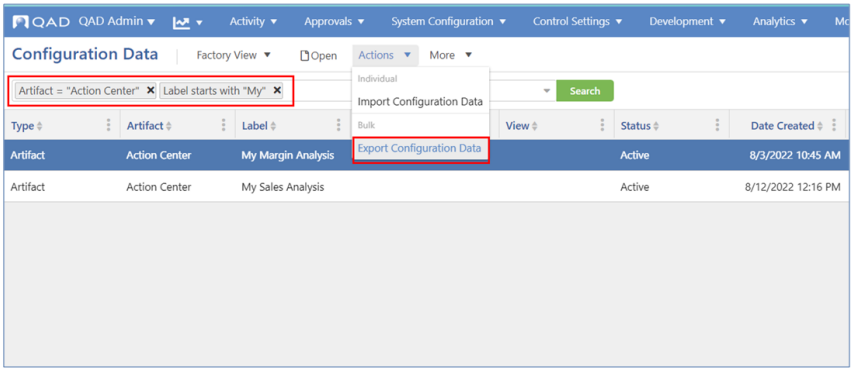


System administrators can configure who has access to an action center using the role permissions in the system. If you have administrator role permissions rights, you can also configure access to a specific action center from the **Action Centers** view.

At the bottom of the form, there is a Permissions button and that opens the Role Permissions screen for this action center. Here, you first have to select the role that you want to share the action center with and then specify if the users with that role have read access or also write or delete access.

Migrating Action Centers – Configuration Data

Migrating Action Centers – Configuration Data



QAD 19

Action centers can be easily moved from one environment to another because all action centers are stored as Configuration Data in the database.

If you have created action centers in a development environment and you want to bring those into a test environment or to a production environment, then you can do that with the Configuration Data menu. This menu has Export and Import functions under the Actions menu.

Note: For the export and import of action centers as Configuration Data to work, the source and target environments must have the same Logi version.

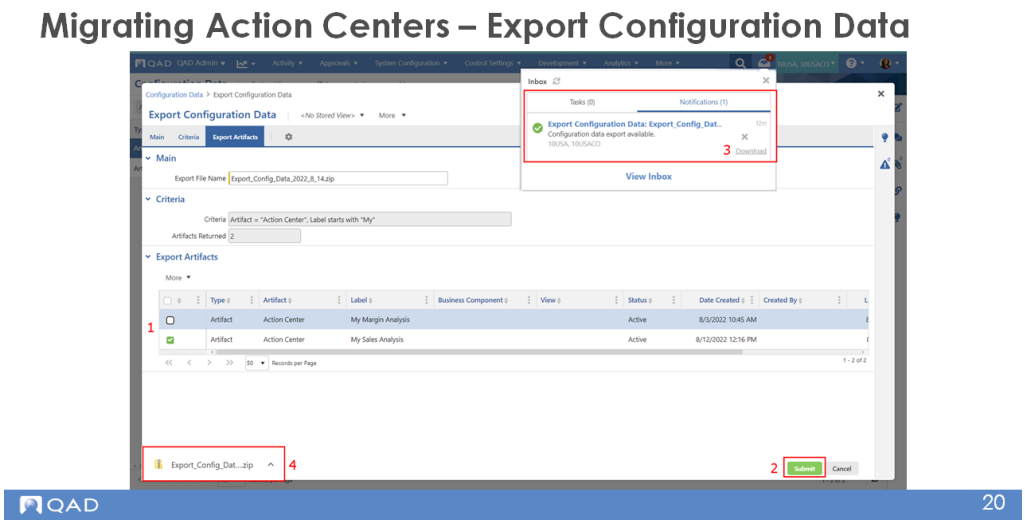
Before starting the Export Configuration Data, it is recommended that you first select what you want to export.

Here, we filter the browse based on the criteria Artifact = Action Center and Label Starts with My. As a result, we see two action centers listed here that match this selection.

It is important to note that, in the Configuration Data browse, you can also select KPIs. However, this is only needed when you want to migrate loose KPIs. When you select action centers for export, this step automatically includes all KPIs and visuals that belong to that action center. There is no need to select KPIs in this case.

Now that we have selected two action centers, we select Export Configuration Data from the Actions menu.

Migrating Action Centers – Export Configuration Data



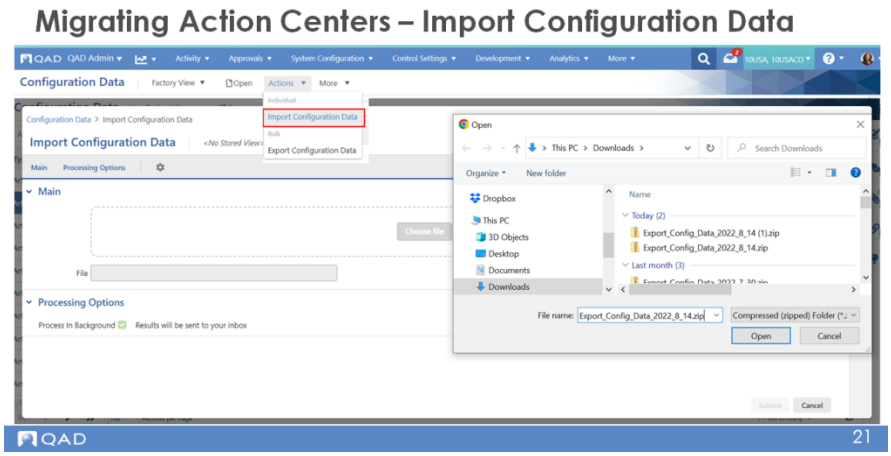
In the dialog that opens, we can specify a file name for the .zip file, where the exported data is stored.

You can still change the selection. For example, we only want to export the My Sales Analysis action center now.

So, we clear the selection for the other action center (1). Then, we click the Submit button (2) and a message pops up, confirming that the export process is started in the background. This is because, when you select many action centers, it can take several minutes before the export is completed.

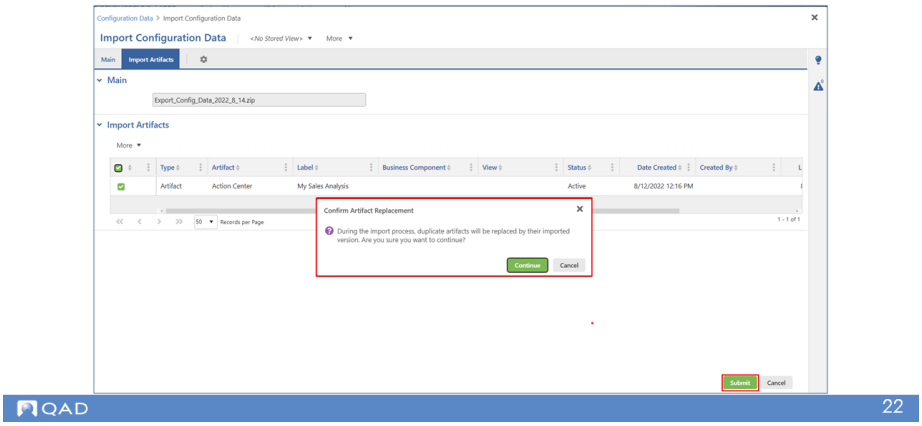
When the background processing is complete, you see a message in your inbox. The message includes a download link for the .zip file with the exported action center configuration data (3). The download writes the file in your local folder used for all browser downloads.

Migrating Action Centers – Import Configuration Data



Now, you can sign in to another environment with the same QAD Adaptive UX version and open the Configuration Data menu again to import the action centers from the .zip file. Importing is even easier than exporting. After you select the Import Configuration Data action, click the Choose File button to select the .zip file from your local folder.

Migrating Action Centers – Import Configuration Data



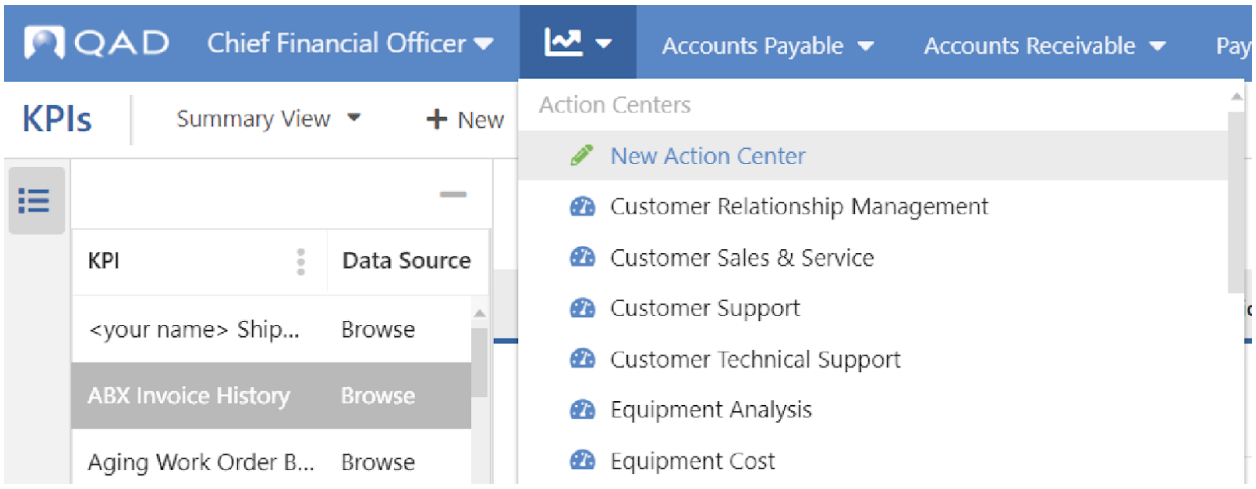
The program shows a preview of the Configuration Data in the .zip file. Here, you can make a smaller selection, if you want.

Then, click the Submit button. You get a warning that this function will overwrite existing artifacts. For action centers, this is based on the globally unique identifier (GUID) that identifies each action center. Even if you change the name of the action center in your source development environment, the system still knows which action center to update in the target environment.

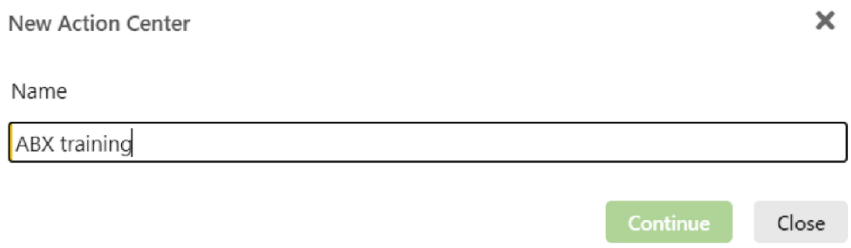
Note that the Export Configuration Data function is also an excellent way to make backups of your own developed action centers. You can then always roll back an action center to an earlier version by importing a .zip file that contains the earlier version.

Hands-On Exercise: Creating Action Centers

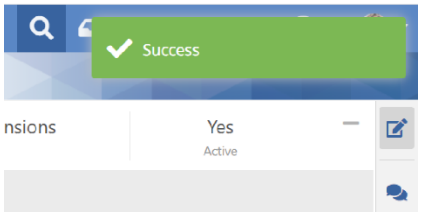
1. Open the Action Centers drop-down menu and click New Action Center.



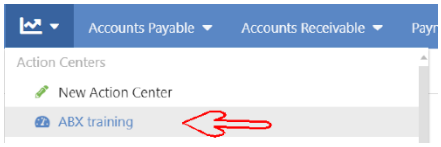
2. Enter the name of the new action center.
   For example, **<Your Initials> training**.



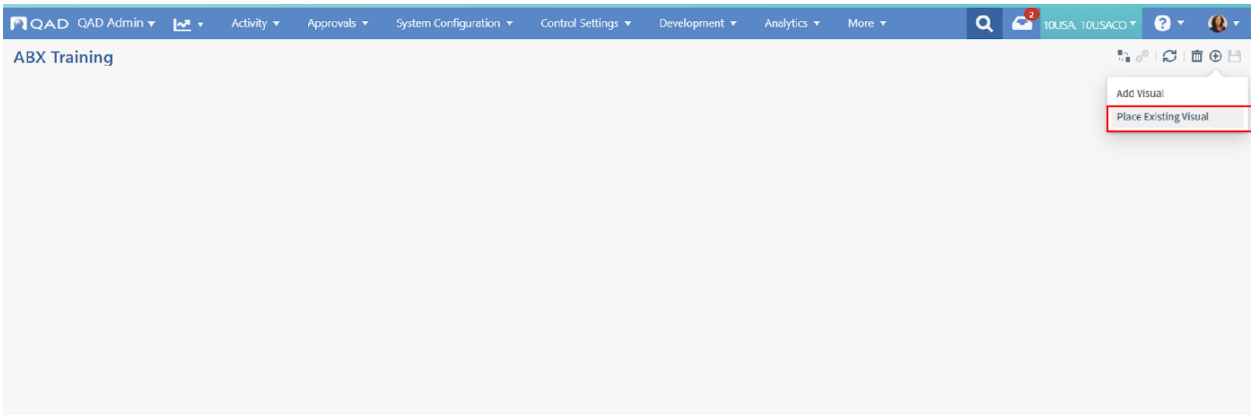
3. Click Continue and wait for a few seconds. A Success message displays on the top right of your screen.



This message means that your new action center is available in the drop-down menu of action centers.



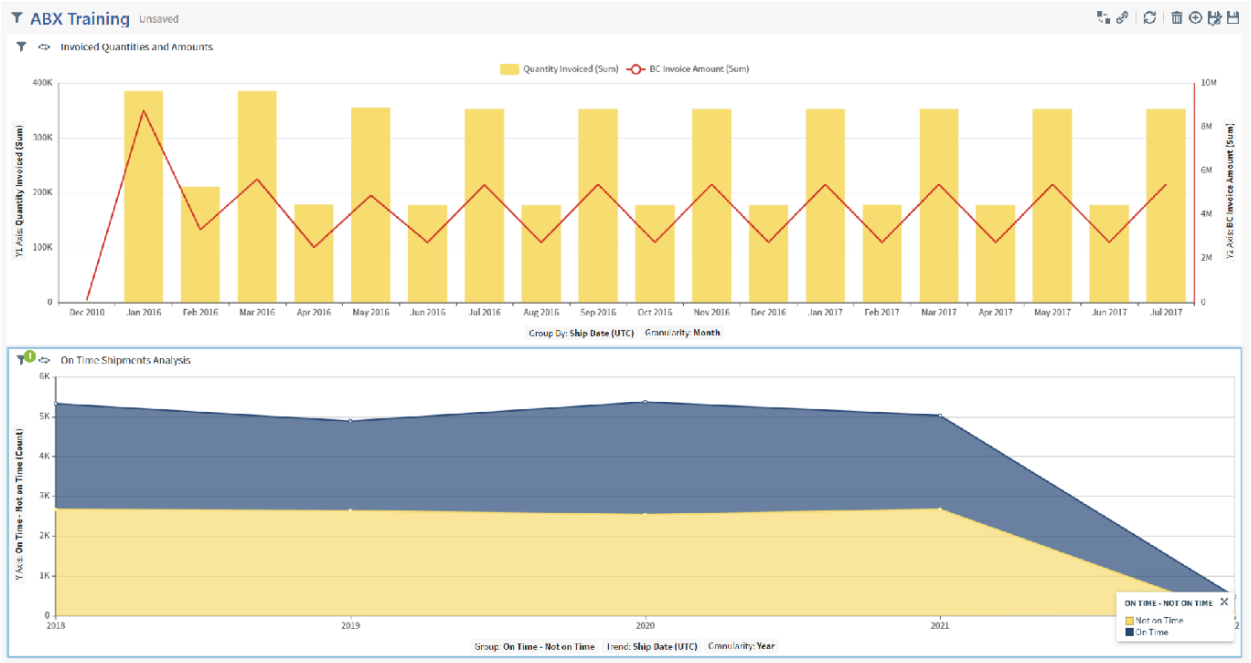
4. Open the action center from the drop-down menu.
5. Add visuals to the empty action center.
   a. Click the + icon and select Place Existing Visual.



A list of visuals in the Gallery is opened.

Note: The visuals that you created recently are at the top of the list.
You can also search for older visuals with the Search box.

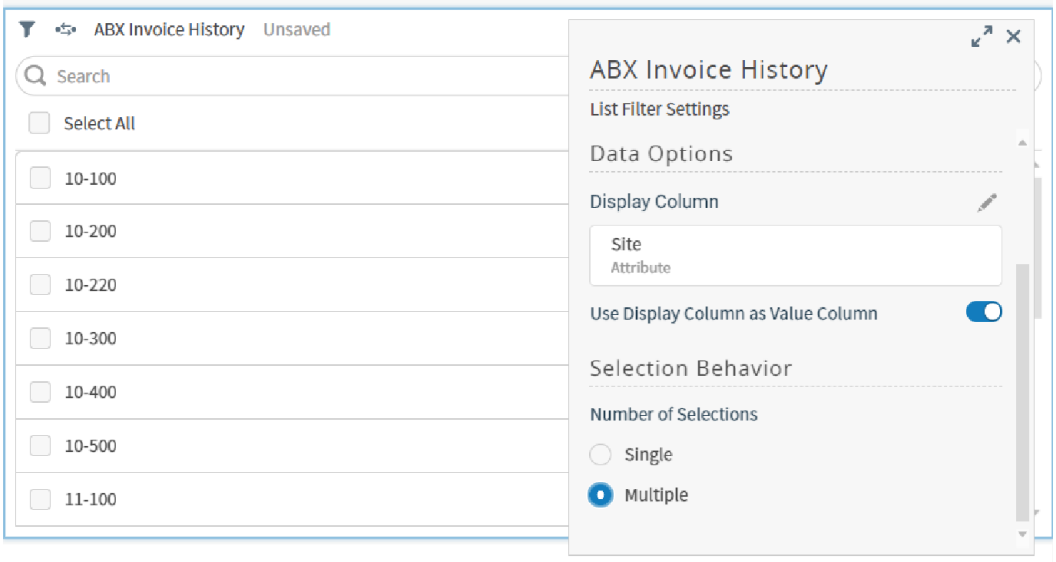
b. Select one of the visuals that you created in the previous hands-on exercise, either Quantities and Amounts Invoiced or On Time Shipments Analysis.
c. Click Place Existing Visual again and add the other visual that you created.
d. Drag the two visuals into the position where you want them:



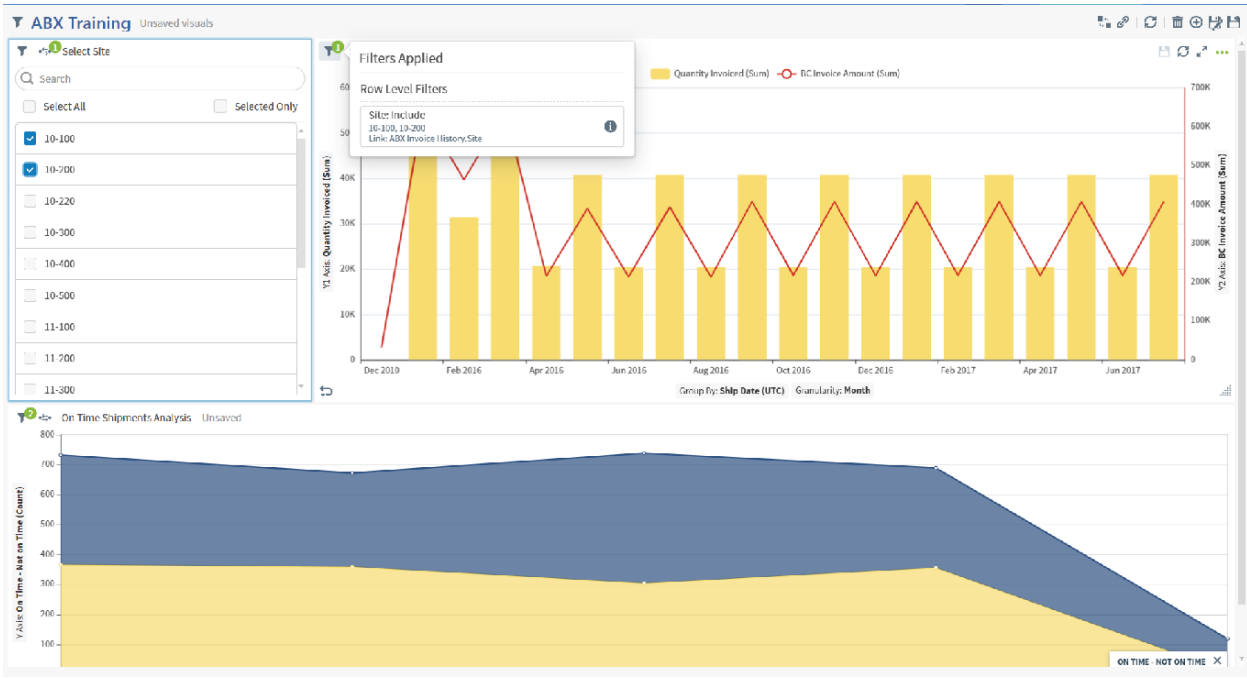
6. Save the action center by clicking the Save button—the icon without the pencil—at the top right of the action center.
7. In the Save Options pop-up, click Save.
8. Add a list of sites so that you can analyze the performance by site:
    a. Click Add Visual. For the data source, select the KPI that you created in a previous hands-on exercise— *<Yourname> Invoice History*—and select List Filter as the visual type.

A new visual, with just one field listed, is added to the action center.

b. To open the visual menu, click the ellipsis icon on the top right of the visual. Click Visual Settings.
c. In Data Options, click the pencil icon, then select Site as the display column for the list filter.
d. To return to the List Filter Settings, click the Continue button.
e. For Selection Behavior, click Multiple.



f. On the list filter visual, select the visual name and rename the visual, for example, Select Site.
g. Position the visual where you want it.
h. Select a site or sites in the list to filter the data.



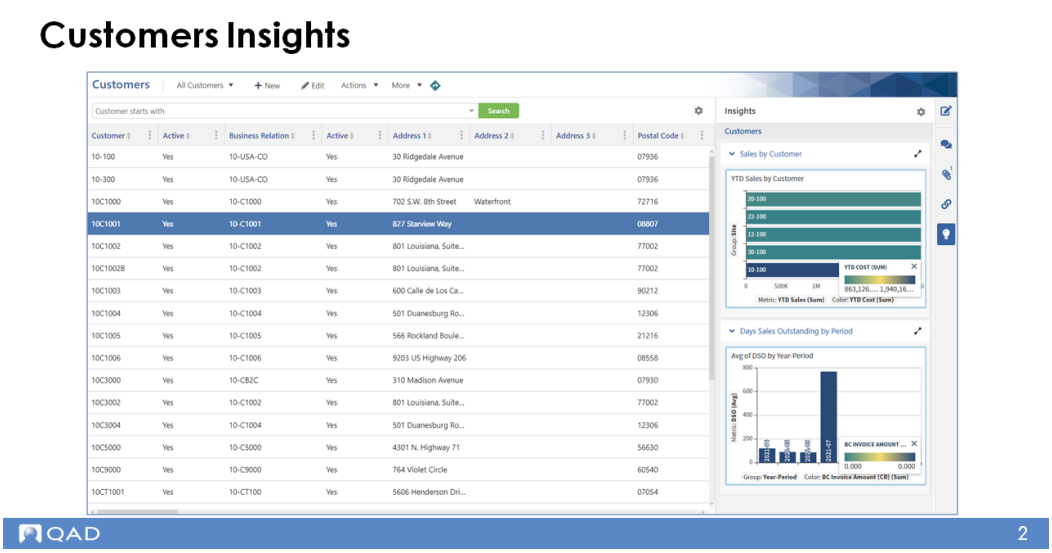
9. Save the action center. You can also try to drill down on the charts, as explained in the Analyzing KPIs hands-on exercise.

Congratulations! You just created a fully functional action center.

Insights (Video 9)

Insights is a feature that brings KPIs into the context of the application screens. It gives users great insights into the data that they are focusing on during their work.

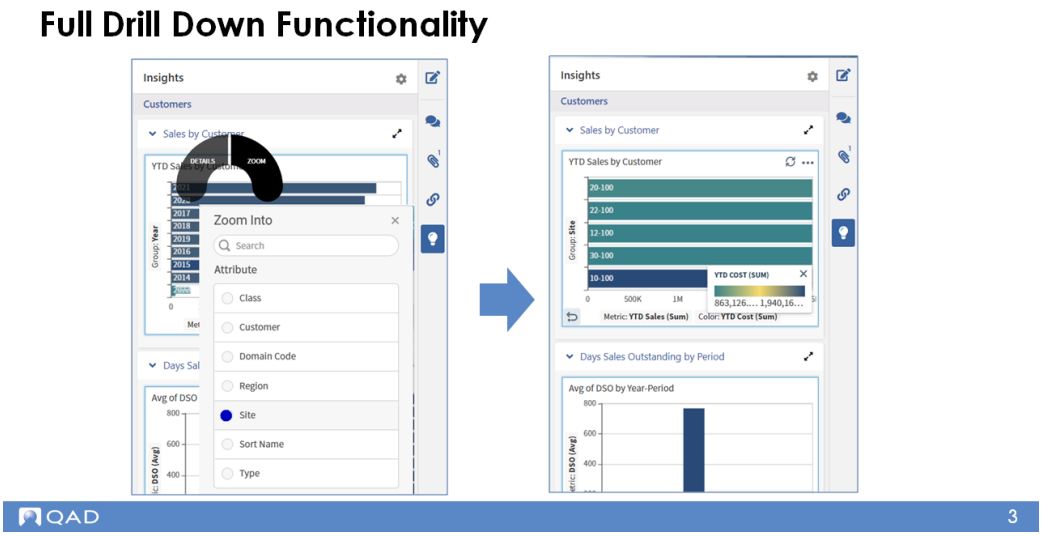
Customers Insights



If we open, for example, the Customers browse, and select a customer, then you see a new bulb icon in the menu on the right of the screen. If you click the icon, a side panel opens that shows KPI visuals that are related to the selected Customer object. Here, we see, for example, the sales history for the customer over the years and also the average days sales outstanding for the customer over the last year.

If we select another customer, the visuals are refreshed, showing the data for the other customer that is selected.

Full Drill Down Functionality

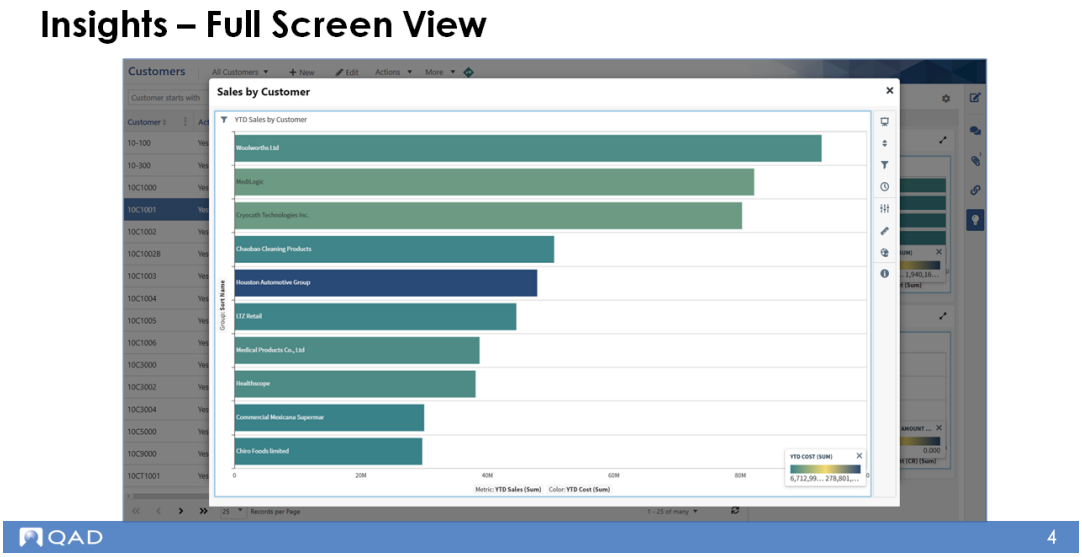


These new Insights panels not only show important information about the customer, they are also fully interactive.

For example, you can drill down on the panel. Here, we drill down on the year 2021 and slice the information by site.

You can continue this drill down, just as you are used to doing in the action centers. You can also drill out to the underlying data source browse from the Insights panels—just like in action centers. You can refresh the data in the side panels by clicking the refresh icon.

Insights – Full Screen View



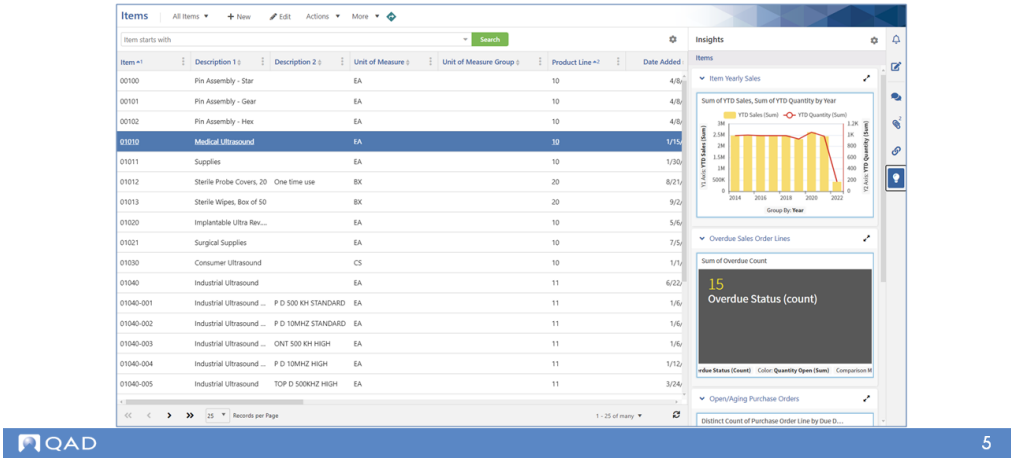
The Insights side panel can also be enlarged on the view by dragging the splitter line.

You can also expand the individual panels to have more screen real estate for analyzing the KPI.

If you have edit permissions for the selected visual, then there is the menu on the top right of the expanded screen. With that, you can make updates directly from this expanded panel. Note that these changes are shared with other users of the system.

Item – Insights

Item – Insights

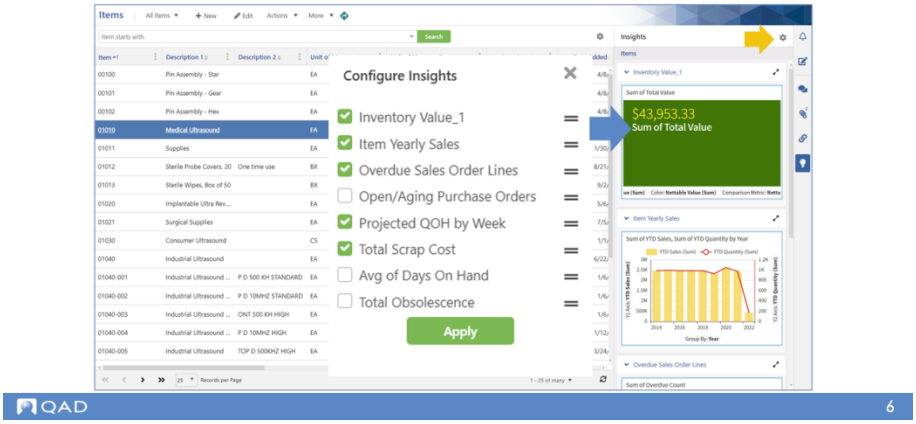


The Items screen contains another example of Insights.

Here, there are nine KPI visuals linked out-of-the-box to Insights. If you scroll down, you see that only the first three visuals are initially displayed, for performance reasons. The next six visuals are minimized. You can expand those visuals with a single click.

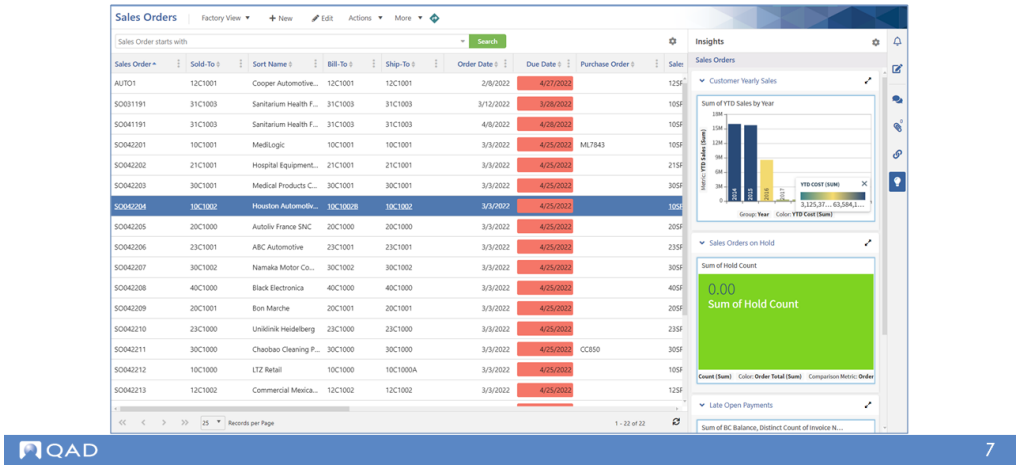
Item – Configure Insights

Item – Configure Insights



If you think that some of the minimized visuals are more important and you want to have them on top when you open the screen, then you can use the Configure Insights option. Click the cog wheel and drag the most important visuals up. You can also hide visuals. In the next section, we will show how you can add new KPI visuals as Insights.

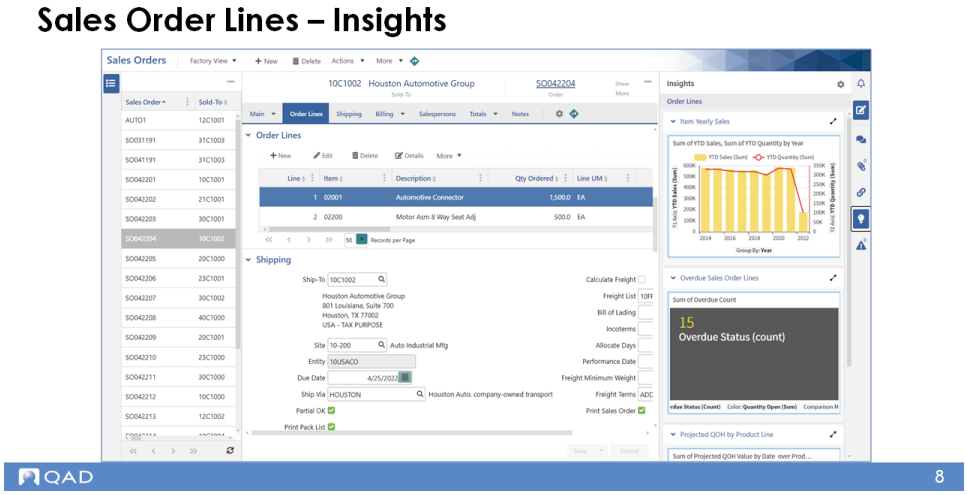
Sales Orders – Insights



Now, let's have a look at the Sales Orders screen.

Here, the Insights panel contains a few more KPI visuals—all related to the customer for the sales order: Customer Yearly Sales, Sales Orders on Hold, and Late Open Payments.

Sales Order Lines – Insights

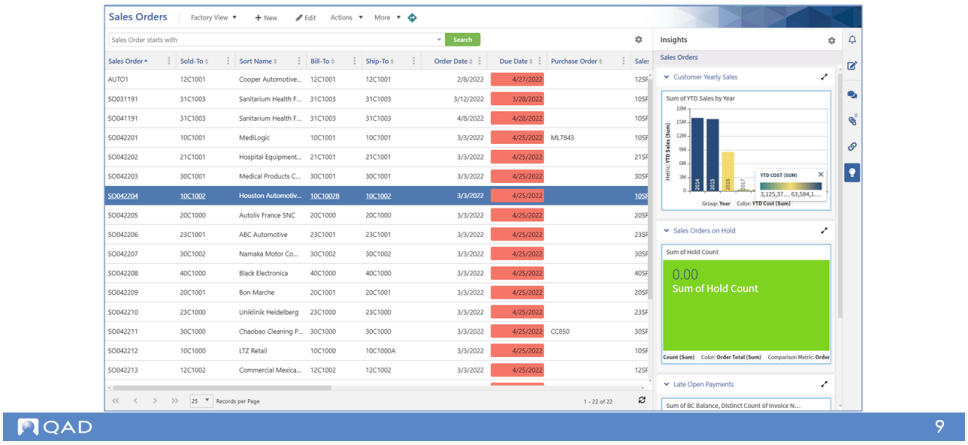


If you open a sales order and go to the Order Lines grid, then you see that the Insights panel changes and now shows information related to the order lines. The information is mostly item related: Item Yearly Sales, Overdue Sales Order Lines, and Projected QOH by Product Line.

Scrolling through the lines shows the Insight for each line.

Add New Insight

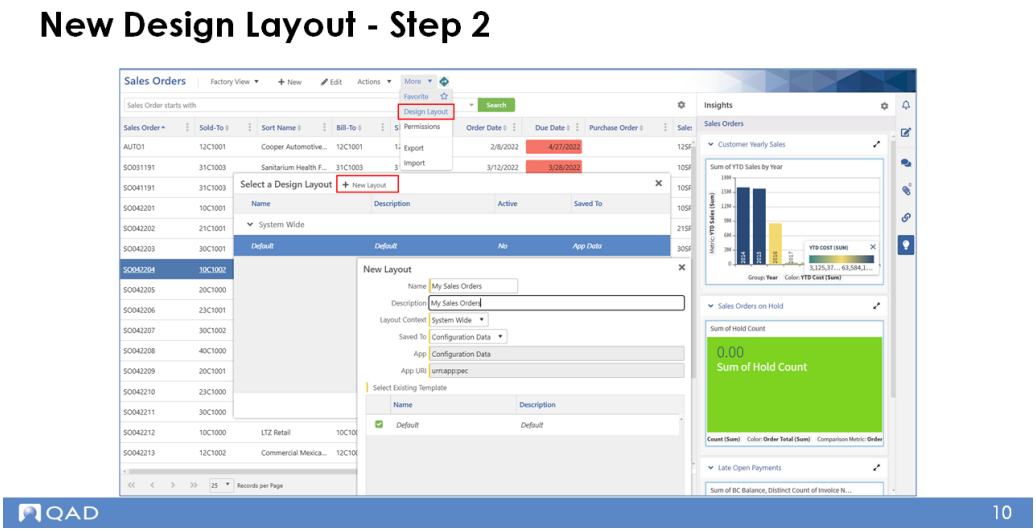
Step 1



Insights can be fully tailored to user needs.

Let's see how we can add another Insight to our sales order. Maybe we want to see how much of each item type we have sold to the customer.

Step 2: New Design Layout

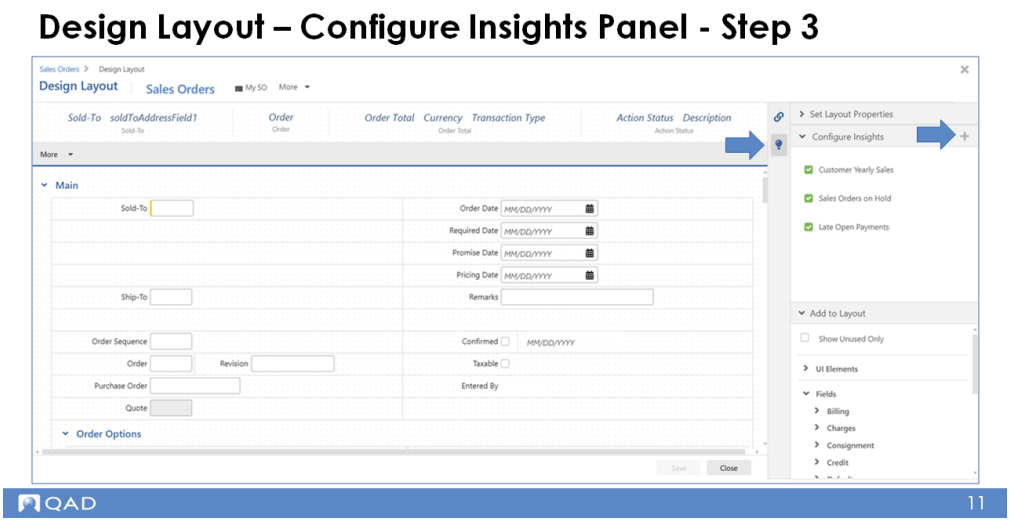


For this, we use the Design Layout feature of the Adaptive UX. Design Layout allows you to tailor all UI elements for you as a user, for a group of people based on their role, or for the organization as a whole.

Out-of-the-box, only a default QAD layout exists and you are not allowed to change it.

As a first step, we will create a new design layout. Let's call that My Sales Orders and select the standard default layout to start from. The Layout Context field determines who can use this layout. If we keep that as System Wide, everyone in the system can use it.

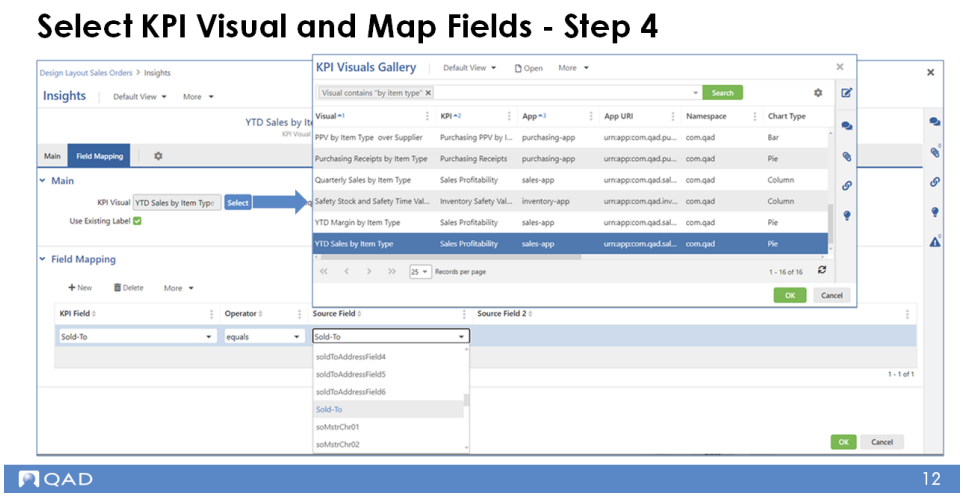
Step 3: Design Layout – Configure Insights Panel



When the new layout is displayed on the screen, you can start modifying it.

Click the light bulb icon to open the Insights details. It shows the existing Insights and it also has a + icon at the top. If you click the + icon, a screen opens, allowing you to configure a new Insight.

Step 4: Select KPI Visual and Map Fields



A new Insight always starts from an existing KPI visual. The lookup button opens the KPI Visuals Gallery browse that offers the ability to search through hundreds of visuals and select the one you need for your Insight.

Since you want to add an Insight about sales by item type, search all visuals that contain the words *by item type*.

You see a visual, YTD Sales by Item Type, listed as a pie chart. Note that, from the lookup, you can also open the visual to have a full preview.

Select the visual from the lookup browse. This brings you back to the Insights setup screen.

Under the selected visual, there is a checkbox called Use Existing Label. This means that the Insight on the Sales Orders screen has the same label as the KPI visual you selected. If you clear that checkbox, you can enter another label that more accurately describes the Insight in context. You could, for example, choose to call it YTD Sales for the current customer. Here, you keep the existing label.

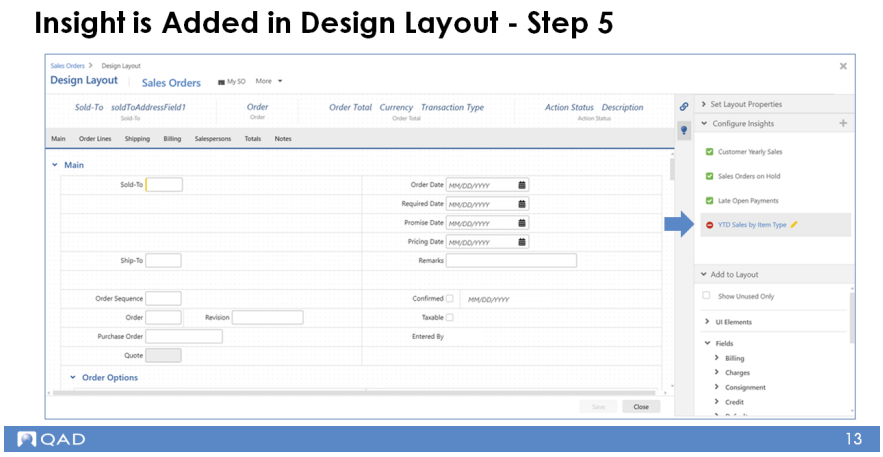
Now comes the most important step in the setup: creating a field mapping that links the visual with the view that you are configuring. Click the + New button so that you can insert a new pair of fields to map. In this example, for the KPI field, select Sold-To, and set the operator to equals. You also set the source field of the view to Sold-To.

This all sounds very easy, but there is a caveat. In the list of source fields, many of the fields are not ordered alphabetically. This is because the view has several detail panels with data related to Sales Orders. With some views, the same field name can be listed multiple times. There is only one field that works correctly for the link because it is part of the parent browse and, therefore, always available in the context. In this example, by typing the letter s multiple times, you find the Sold-To of the Sales Order header, which is the correct source field in this case.

Note that, to solve the field selection problem, show full details about each field listed so that you can see which field is the correct one from the main table.

In this case, you only need one field mapping pair. So, now, you can save the Insight screen by clicking OK.

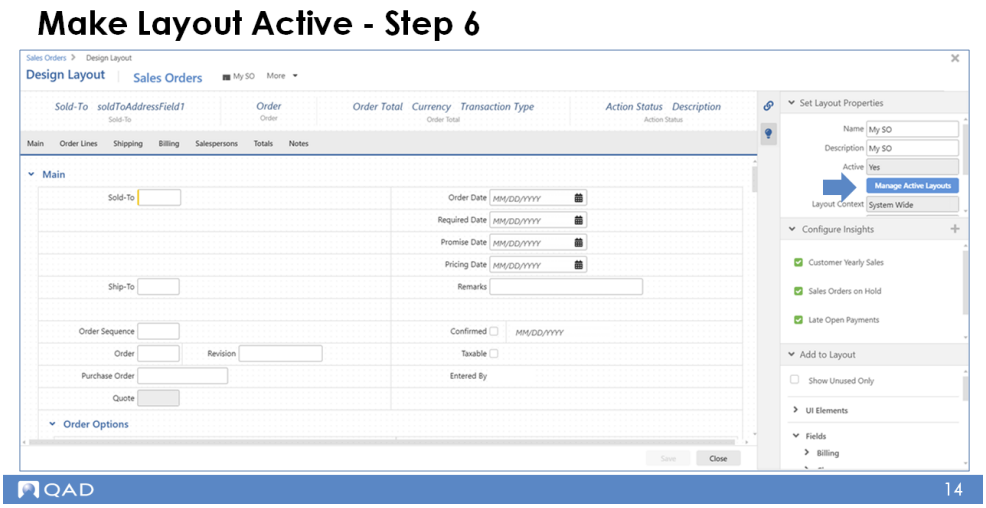
Step 5: Insight is Added in Design Layout



In the Design Layout Insights panel, the new Insight is now listed.

You can also hide some of the existing Insights by clearing the checkboxes.

Step 6: Make Layout Active

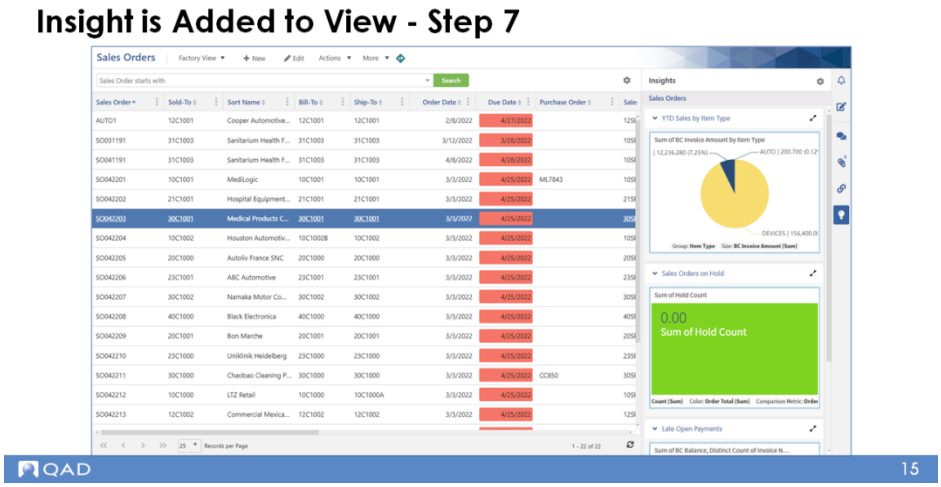


Before you can start using this design layout, you need to make it active.

In the Set Layout Properties panel, there is a blue Manage Active Layouts button, which opens a panel where you can make our new layout the active one.

Now, you can save the layout.

Step 7: Insight is Added to View



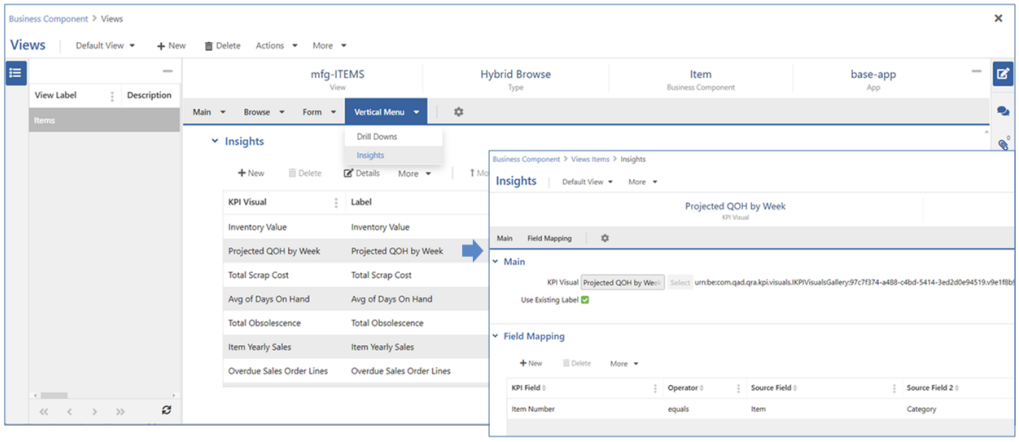
After saving and closing the design layout, you are back on the Sales Orders screen. The screen does not show the new layout changes yet because layouts are cached in memory. You must reload the page in your browser (F5) to see the new Insight added to the view.

With the cog wheel on the Insights panel, you can further change the order in which you want to see the Insights and the visibility.

So, let's put the new YTD Sales by Item Type first and hide the standard Customer Yearly Sales.

Insights in Business Component Views

Insights in Business Component Views (for App Developers)



QAD 16

When you build new business components for apps using the QAD Enterprise Platform, you can also add Insights to those business components. For that purpose, you can find an Insights subpanel in the view builder that you can access from the Business Components screen.

There, you can add Insights in exactly the same way as in the Design Layout. The only difference is that now the Insights are linked directly to the standard layout of the business component. We will not demonstrate that here. App developers can find this out without further help.

QAD Predefined Action Centers (Video 10)

The QAD predefined action centers are included in the QAD Adaptive UX apps installed.

There are 60 of these action centers and you can find more than 500 KPI visuals in them.

Customers can use these out of the box and quickly discover the power of real-time data analysis. The only preparation step that is needed is to select the domains or entities that the KPIs must retrieve data from, which you can do in the KPIs view - see *Create KPI – Select Domains*. You can also change any other configuration for KPIs and action centers. The artifacts are all stored as Configuration Data and are not overwritten when new versions of the QAD apps are installed. Only new QAD action centers and KPIs are installed with app updates.

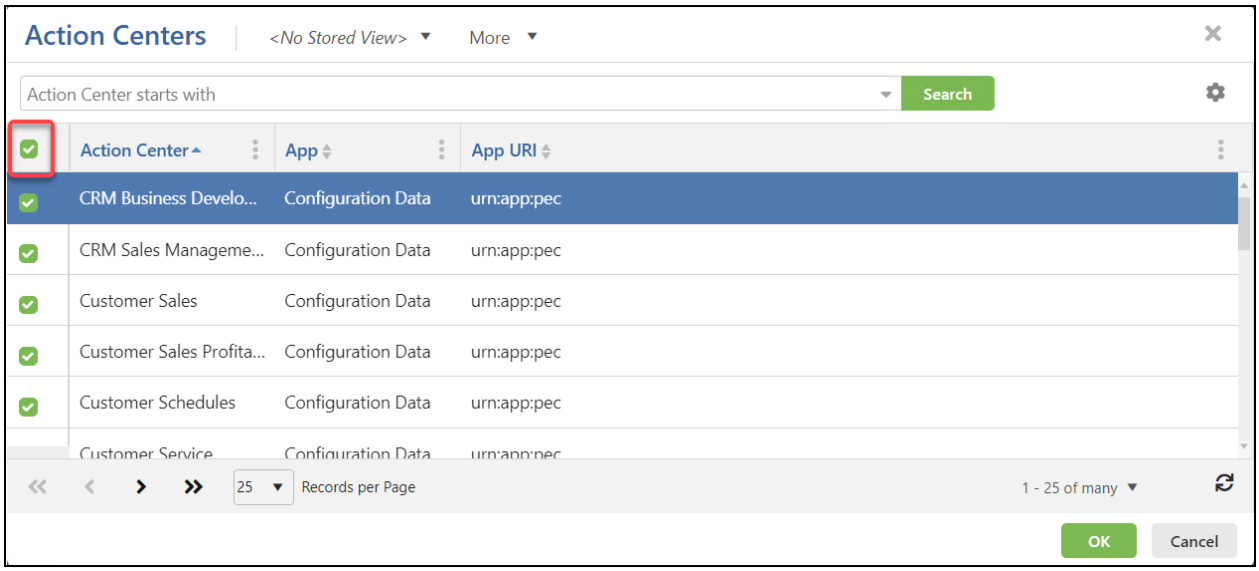
You can create new action centers and add predefined QAD visuals to them by searching for visuals in the Gallery and selecting them for your action center. You can still modify the settings of those visuals.

The following slides give a high-level overview of what you can find in the predefined QAD action centers.

Bulk Activating KPIs

If a KPI is inactive in a predefined action center, you can use the Assign Domains & Entities bulk action to turn on all KPIs in several action centers at the same time.

1. In the **KPIs** view, click Actions > Assign Domains & Entities.
2. On the **Assign Domains & Entities** screen, in the Options pane, select the Activate KPIs checkbox.
3. In the KPIs pane, click Select From Action Centers.
4. In the Action Centers pop-up window, select the checkbox on the upper-left of the table to select all action centers. Or, to enable all KPIs in specific actions centers, select the checkboxes of the action centers that you want to update.



5. Click the OK button to close the window.
6. On the **Assign Domains & Entities** screen, click the Submit button.
    a. If the Update Historical KPIs dialog box displays, click the Continue button.

If the operation is successful, a Success dialog box displays.

Sales App

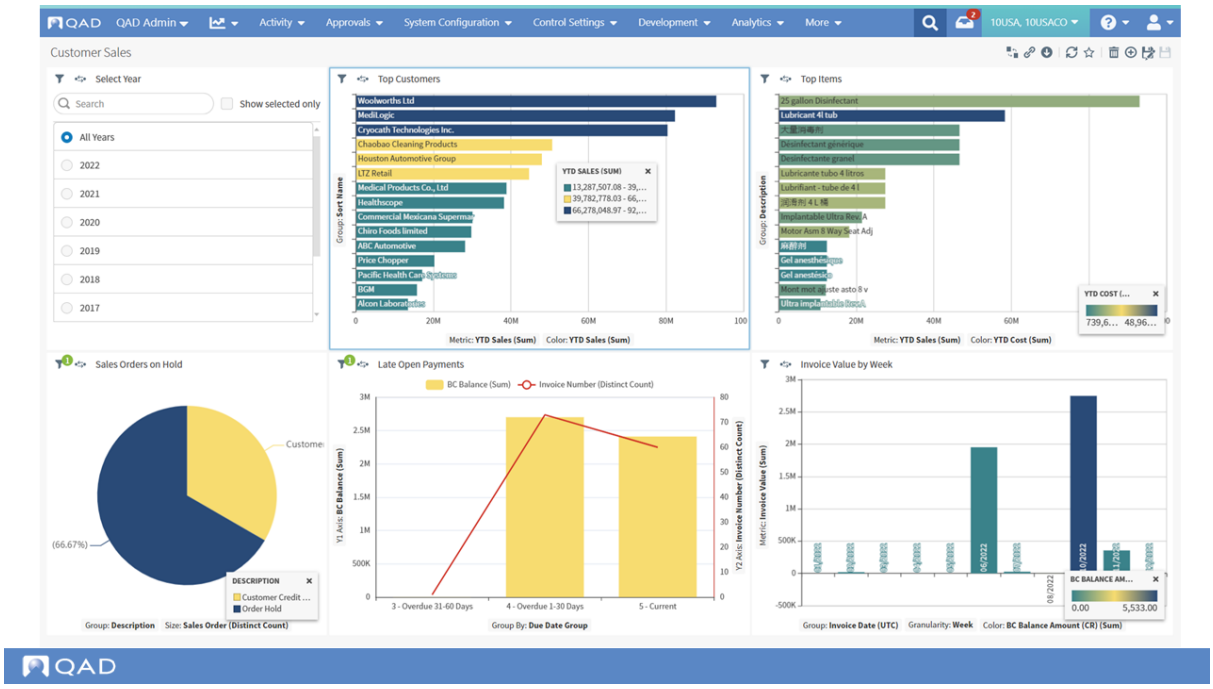
The Sales App has four action centers.

Customer Sales

With the Customer Sales action center, the Customer Service Manager can get a quick overview of both the positive and negative performance indicators for this area.

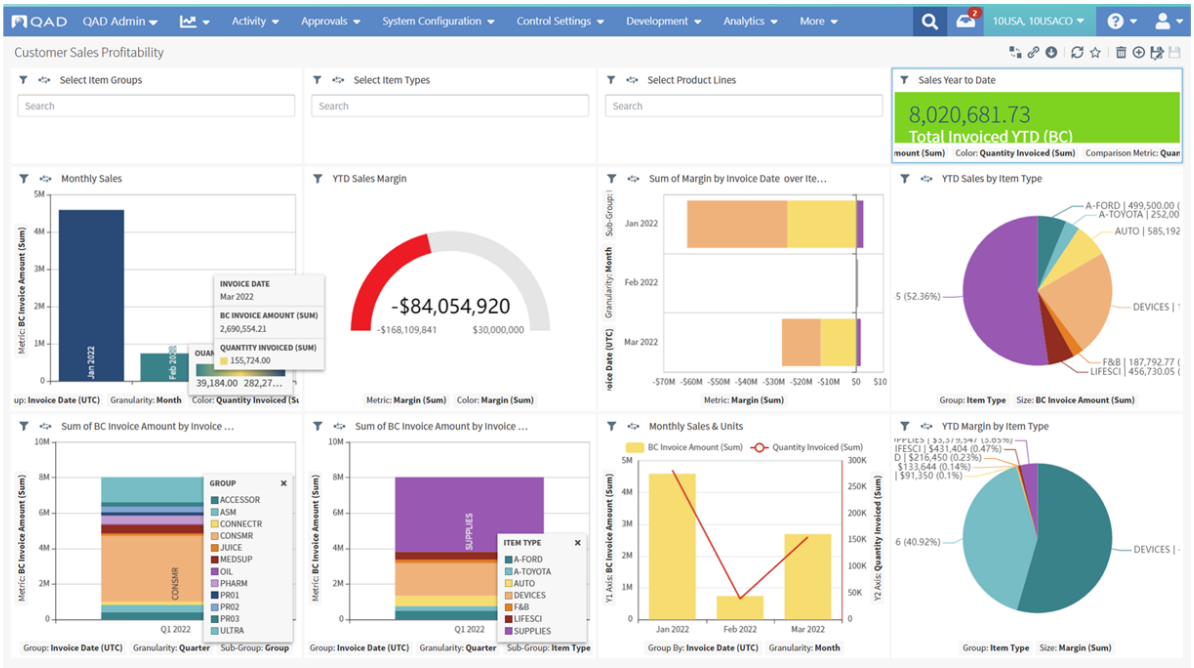
On the positive side, there are the top customers and top items that you can filter by year.

On the other side, there are KPIs like late payments, orders on credit hold, and overdue sales orders.



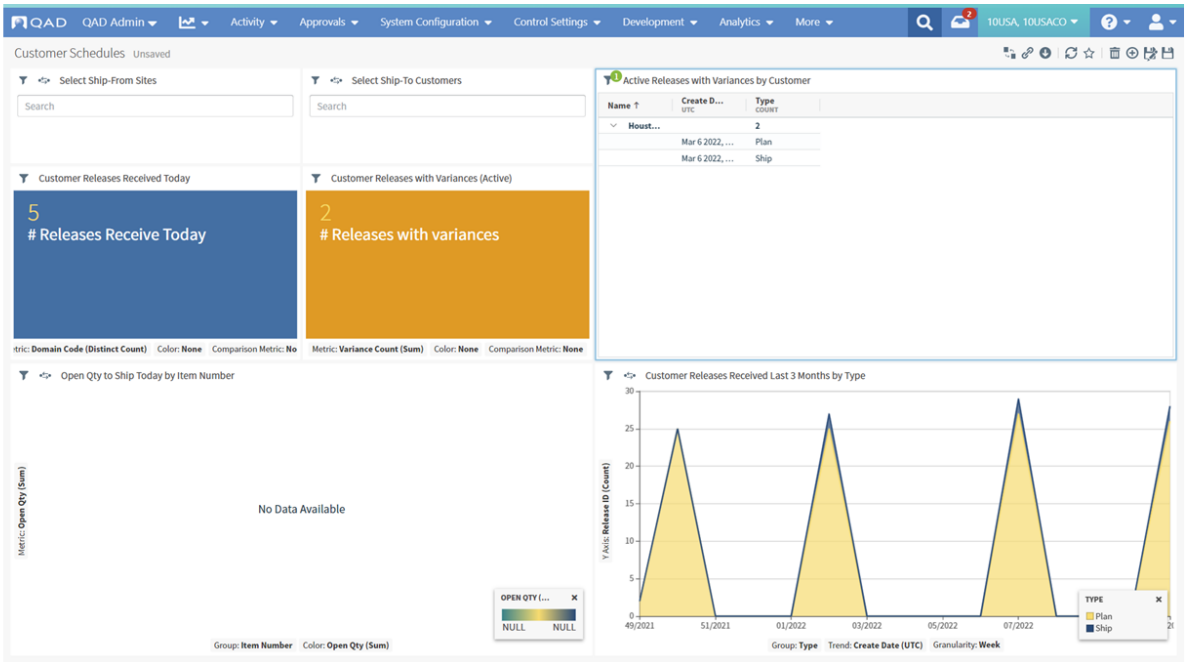
Customer Sales Profitability

The Customer Sales Profitability action center provides insights into the margins that are realized on the sold products.



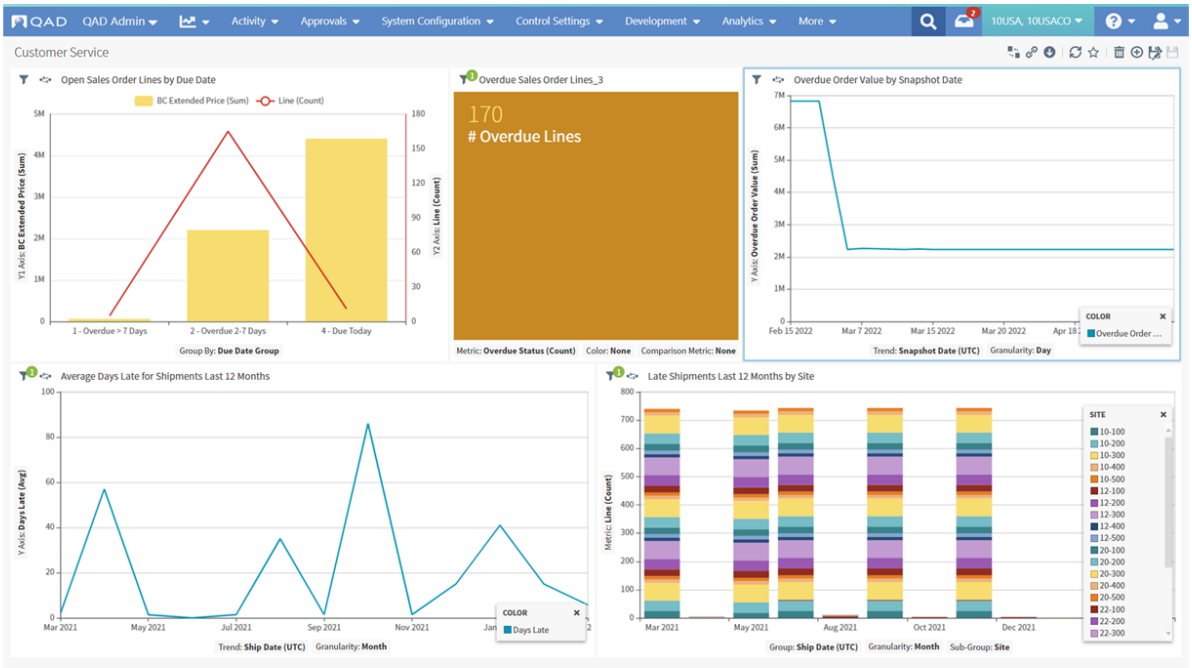
Customer Schedules

The Customer Schedules action center contains KPIs on scheduled orders.



Customer Service

The Customer Service action center highlights the performance of the sales delivery service. Do we ship on time? What are the average days late for late shipments? And so on.

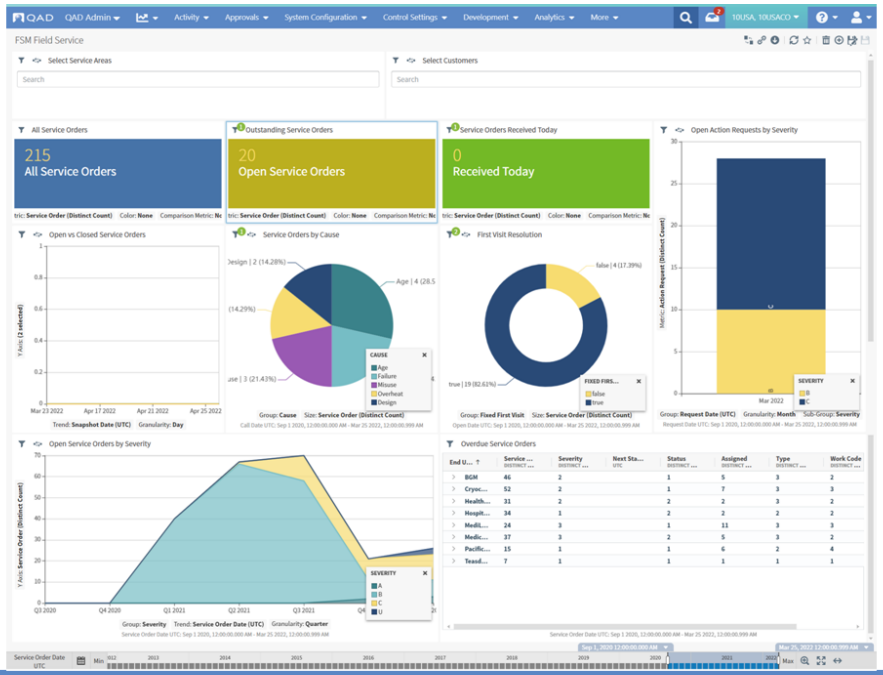


Services App

For customer support and field services, there are five action centers that help managers.

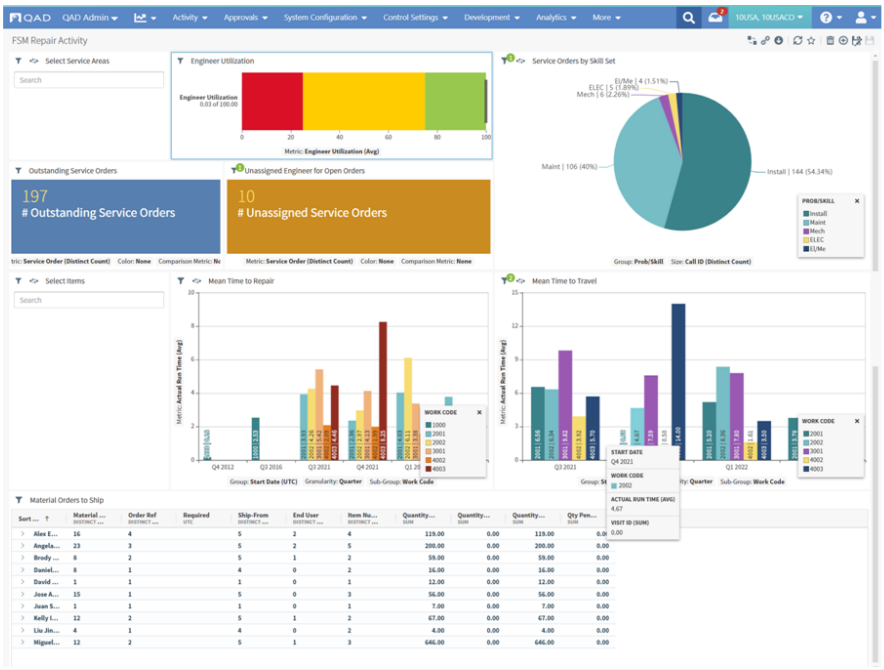
FSM Field Service

The FSM Field Service action center highlights the overall status of service order processing, starting from action requests, open service orders, and calls by severity.



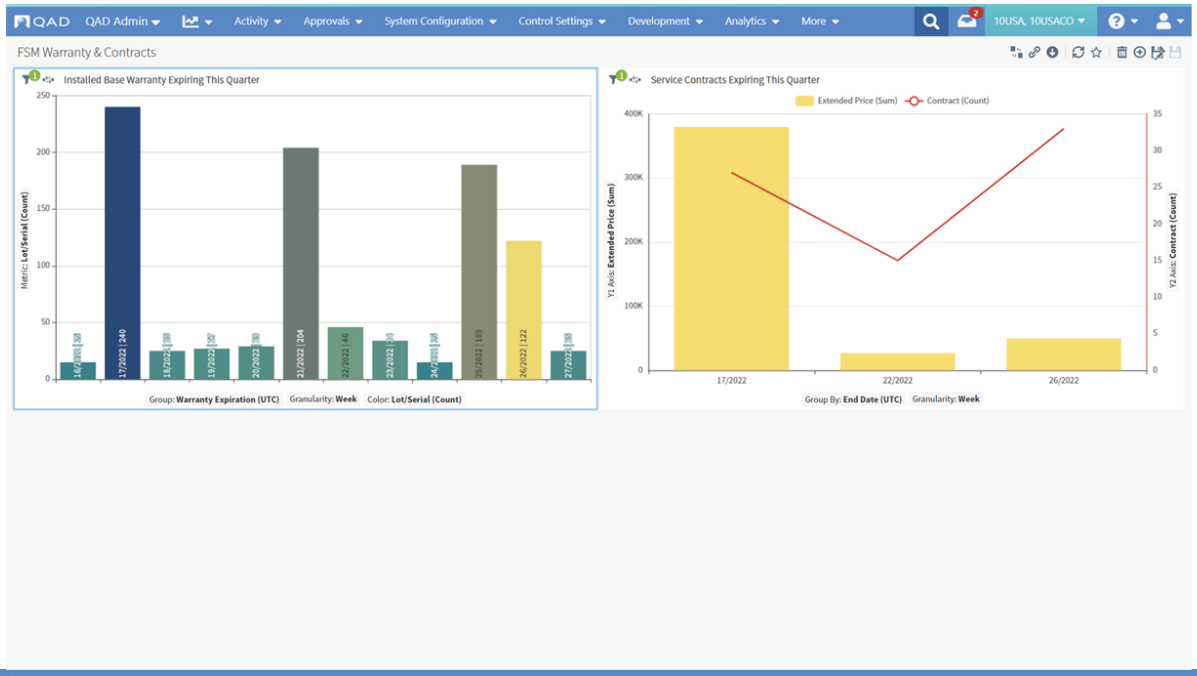
FSM Repair Activity

The FSM Repair Activity action center focuses on the activities of the service engineers, such as the time spent on repairs and travel, and the skills required.



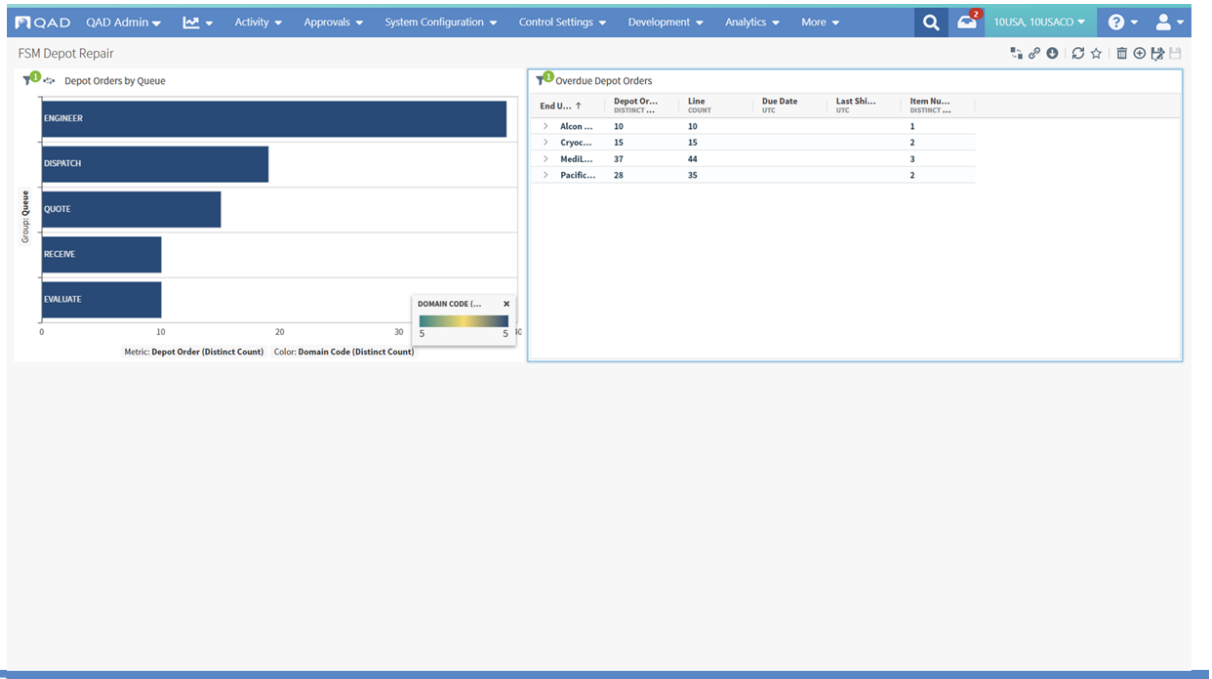
FSM Warranty and Contracts

With the FSM Warranty and Contracts action center, you can keep an eye on expiring maintenance and warranty contracts.



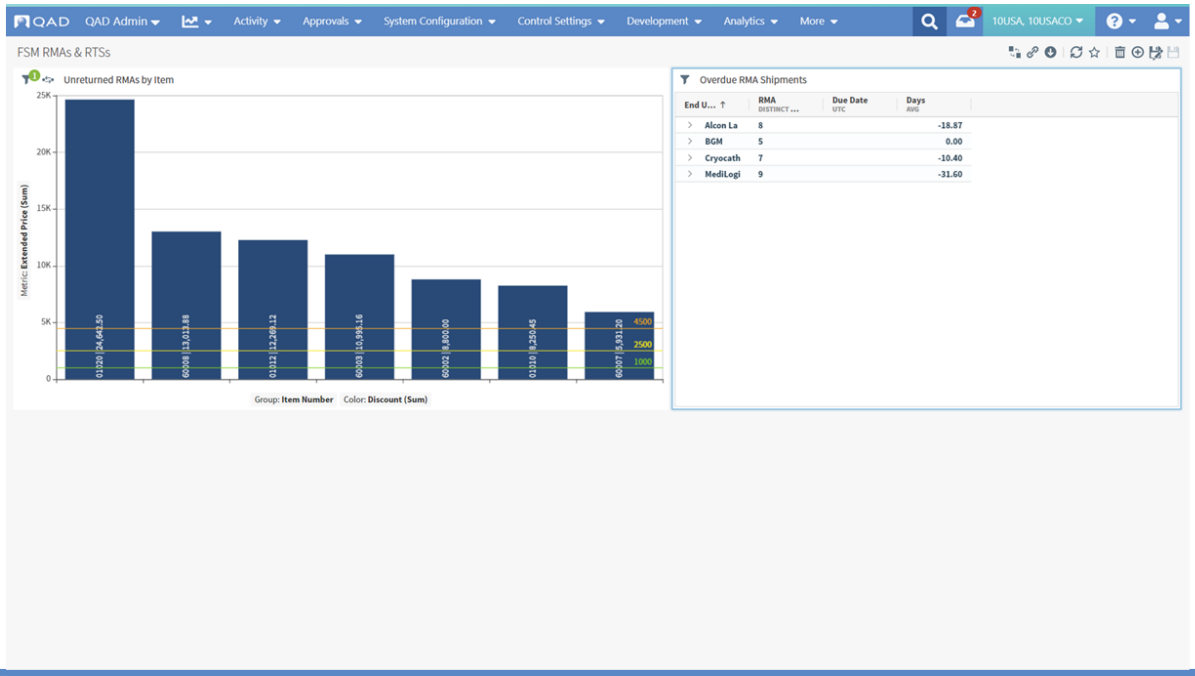
FSM Depot Repair

The FSM Depot Repair action center provides visibility on repairs that happen in your depots.



FSM RMAs and RTSs

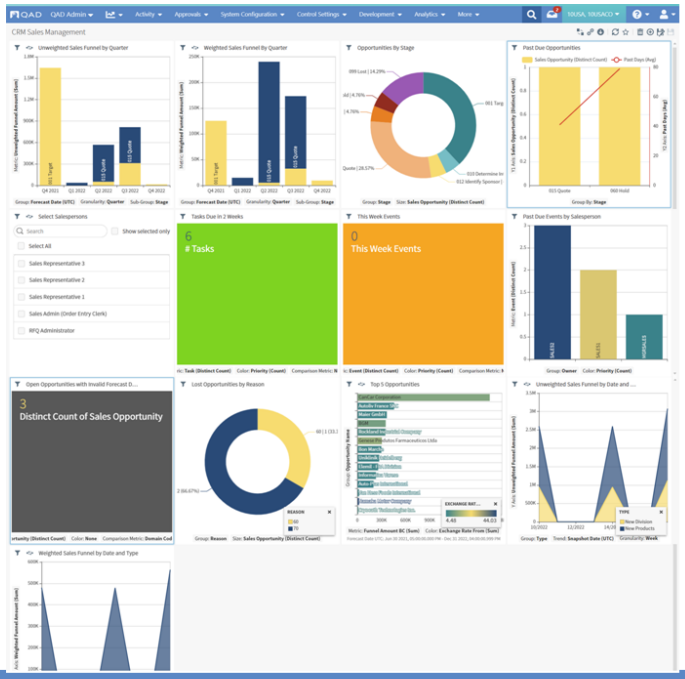
The FSM RMAs and RTSs action center deals with returns of items for repair or under warranty.



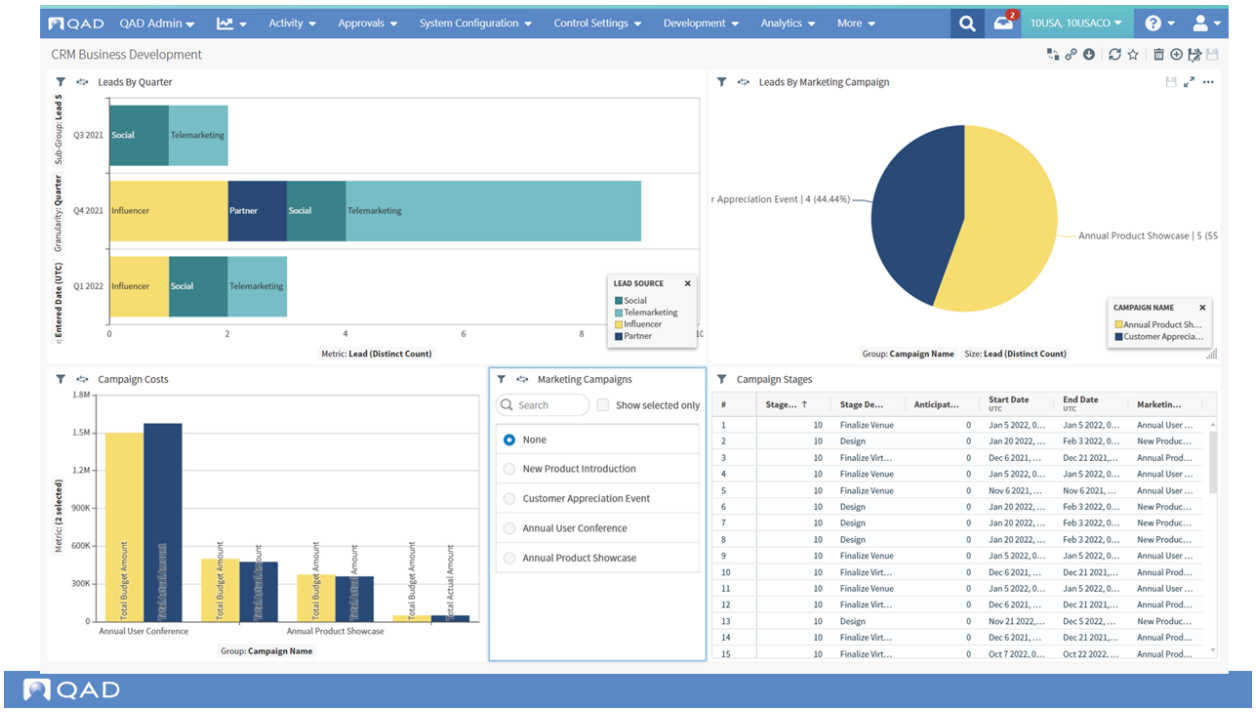
Customer Relationship Management App

Customer Relationship Management (CRM) is an add-on app with two action centers.

The CRM Sales Management action center gives the sales manager visibility on all aspects of the sales cycle, from leads and opportunities in the funnel to actual sales and accounts.



The CRM Business Development action center provides a more high-level overview of the activities in the sales team.

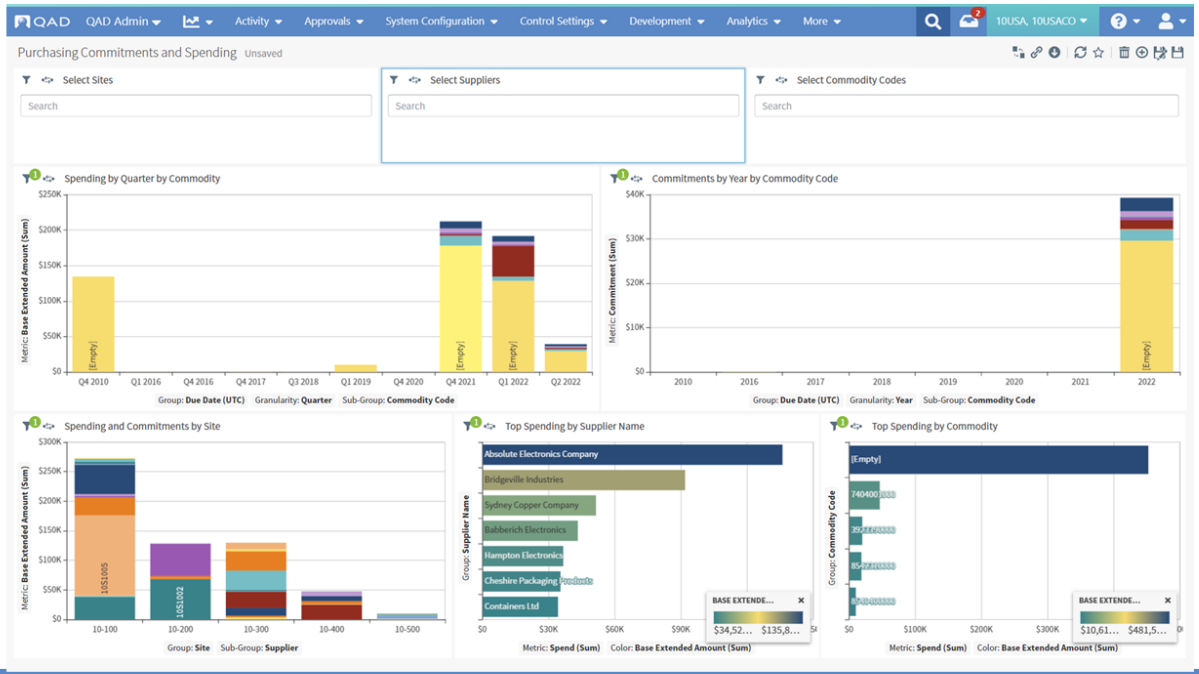


Purchasing App

There are a number of action centers for purchasing managers.

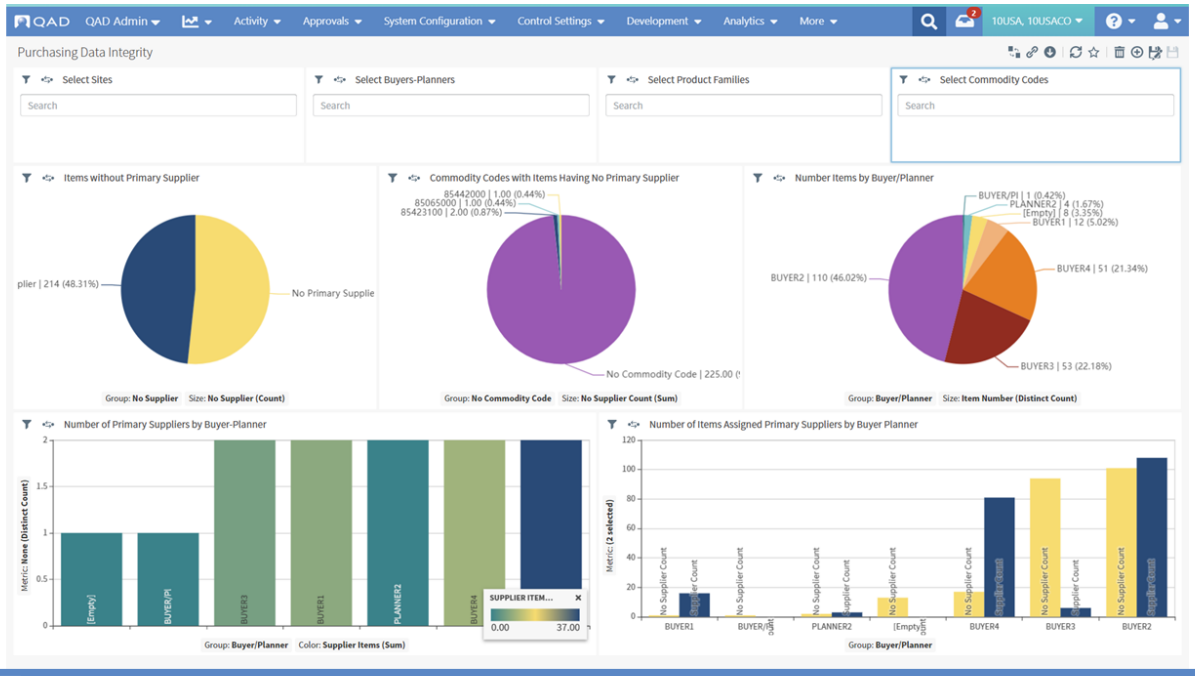
Purchasing Commitments and Spending

The Purchasing Commitments and Spending action center shows the value of orders over time by site, and by commodity, and spending by supplier and by item.



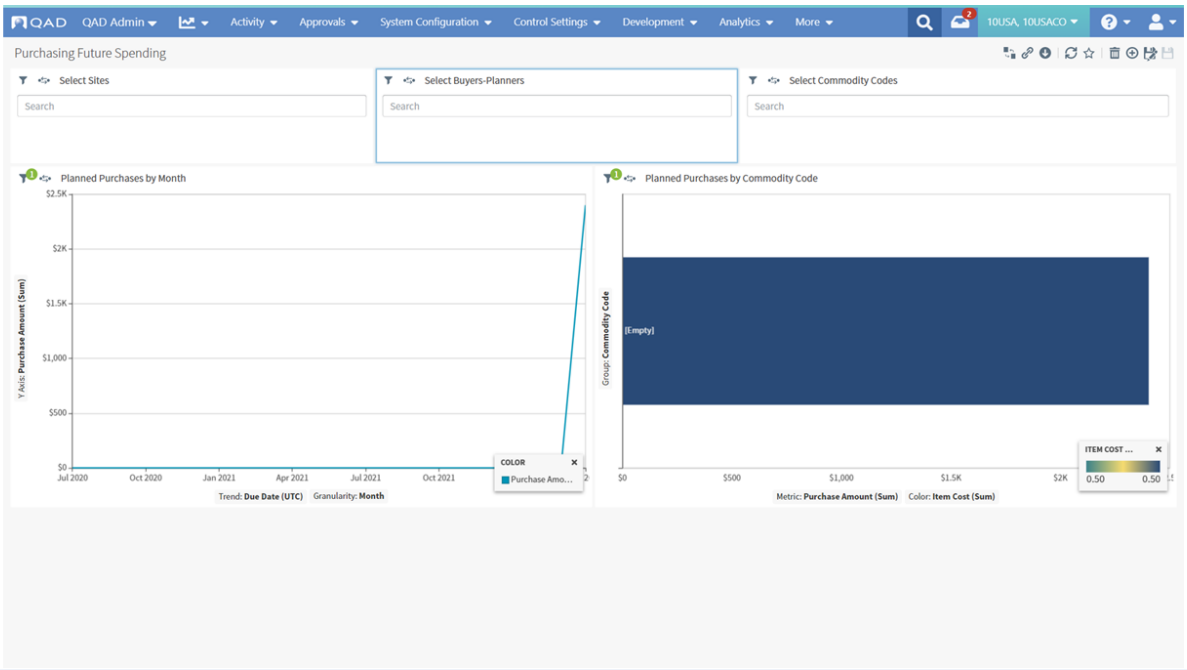
Purchasing Data Integrity

The Purchasing Data Integrity action center allows you to check that all purchased items are correctly set up. You can analyze this by commodity and by buyer, and drill down to the item details.



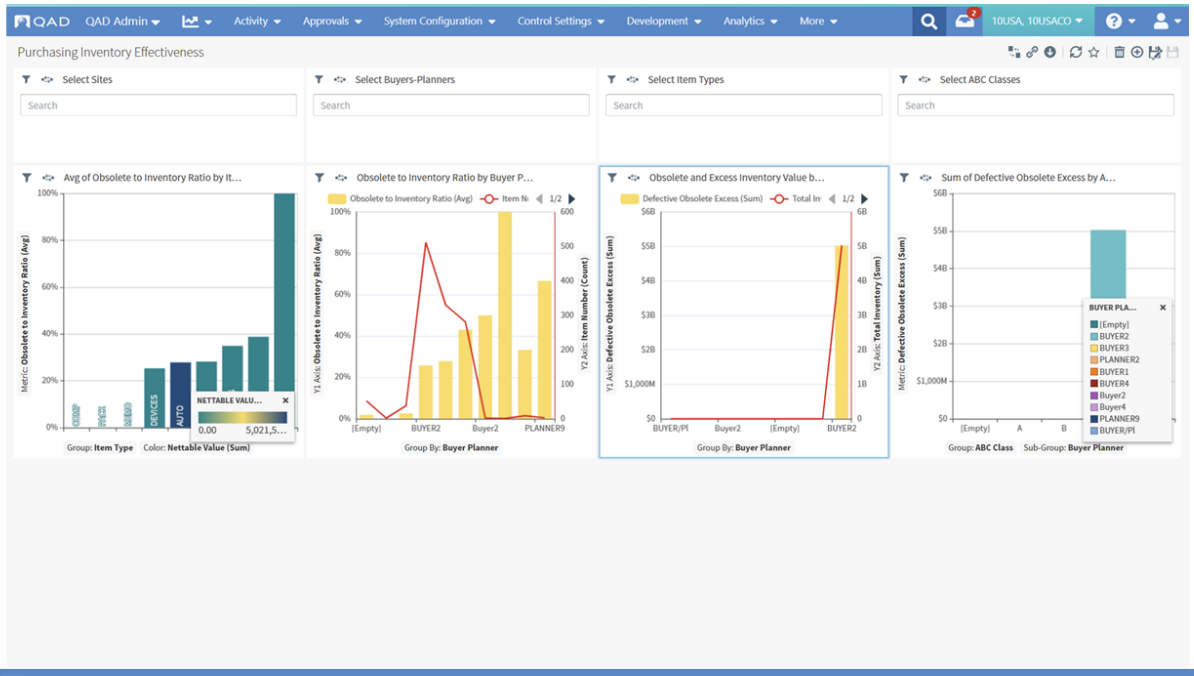
Purchasing Future Spending

As the name indicates, the Purchasing Future Spending action center shows purchases that are due for delivery in the coming months.



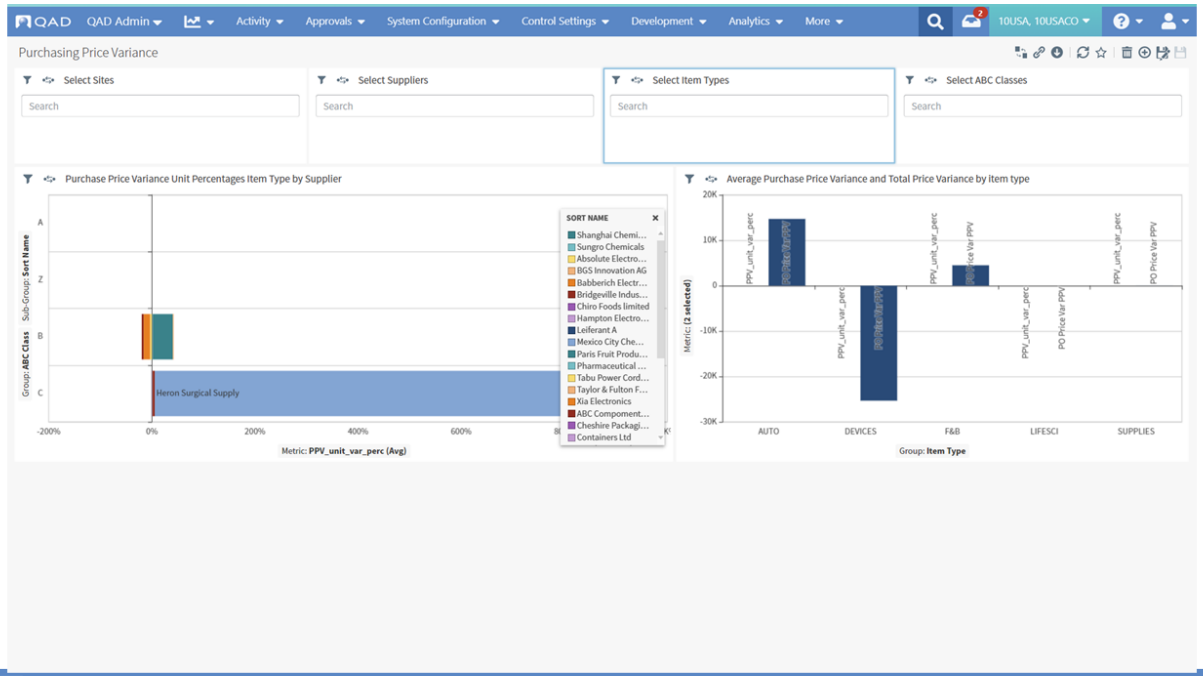
Purchasing Inventory Effectiveness

The Purchasing Inventory Effectiveness action center indicates which of the buyers have over-purchased and, therefore, have excessive inventory and obsolete inventory that must be reduced.



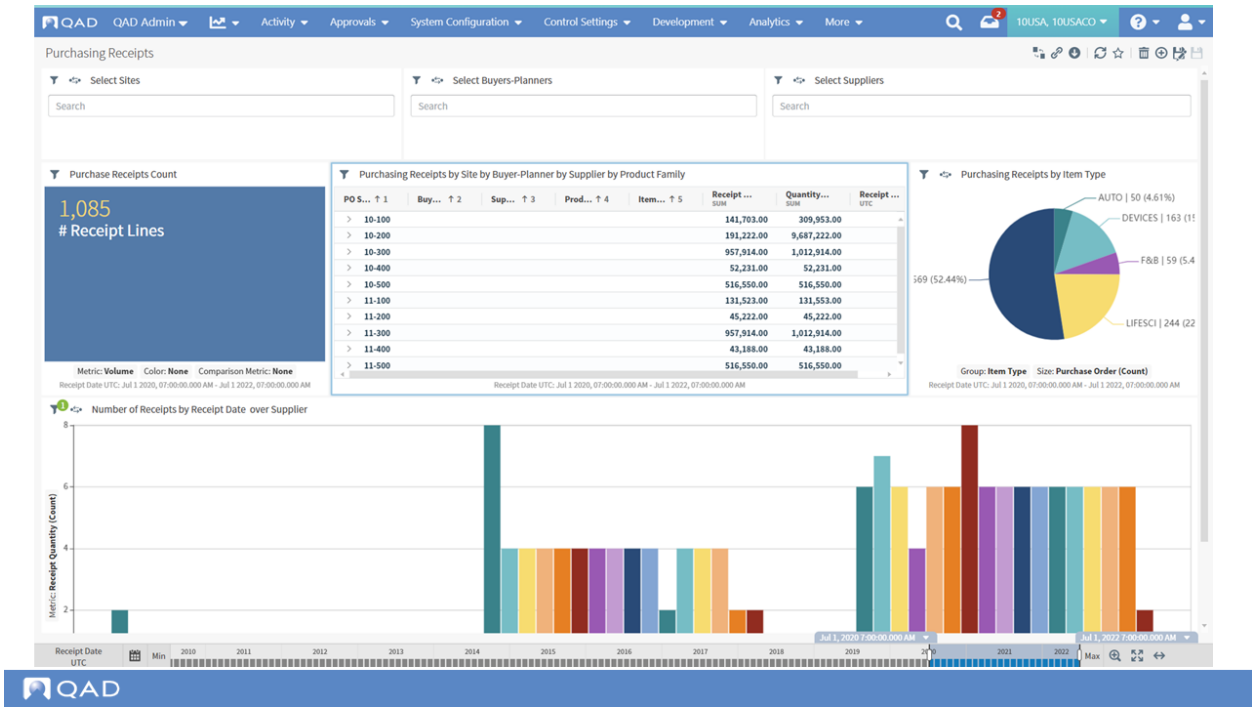
Purchase Price Variance

The Purchasing Price Variance action center analyzes the differences between prices on purchase orders compared to the actual invoiced amounts.



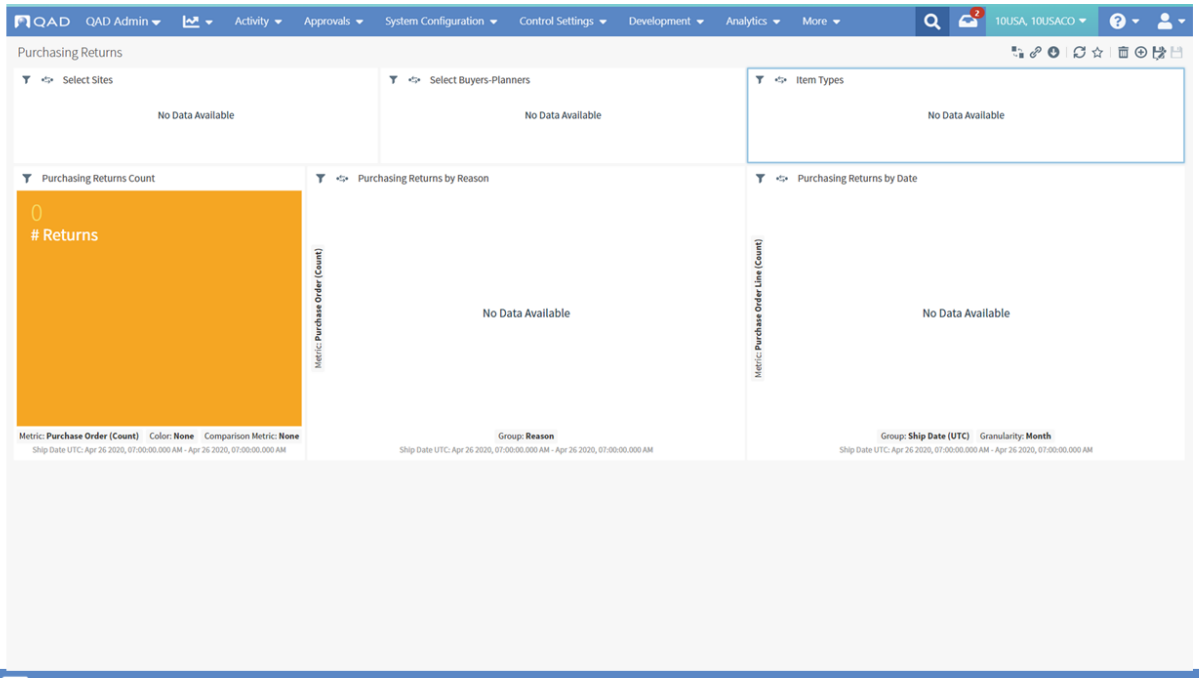
Purchasing Receipts

The Purchasing Receipts action center measures the volumes and values of goods received from suppliers.



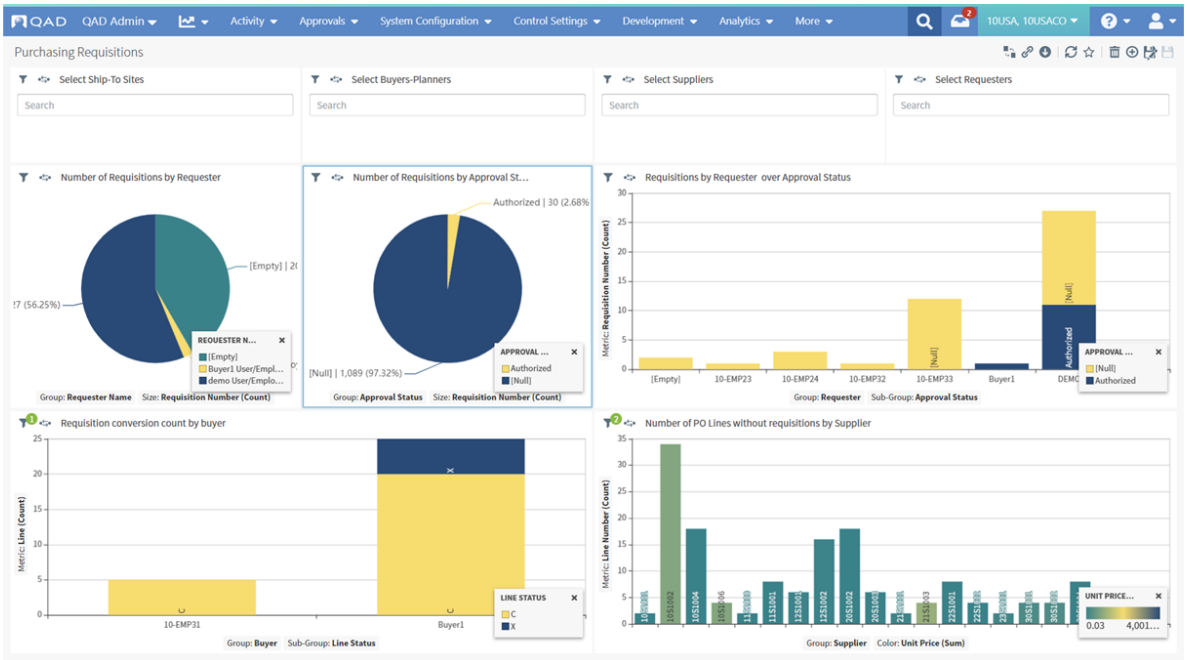
Purchasing Returns

The Purchasing Returns action center provides an indicator of suppliers that deliver poor quality or incorrect products.



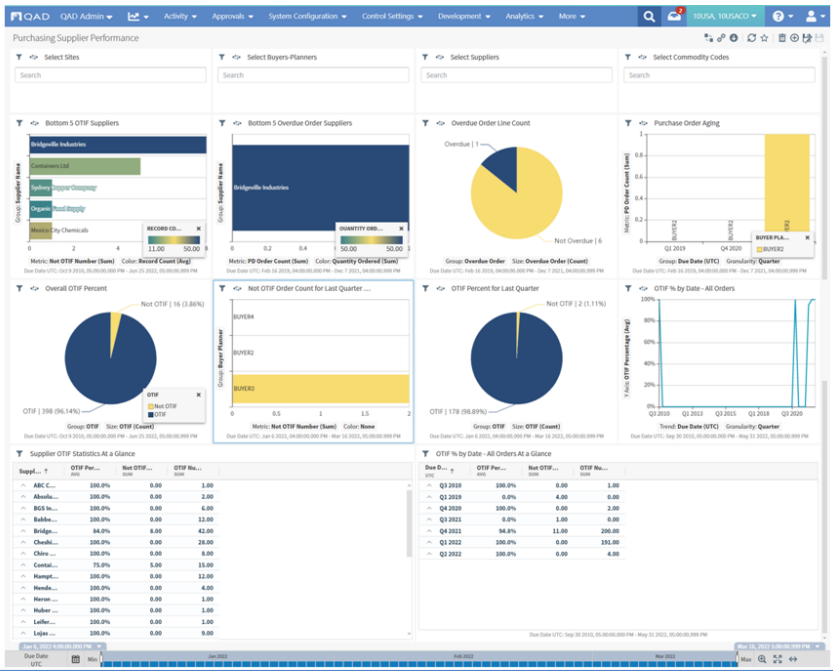
Purchasing Requisitions

Most purchases start from a requisition. Visibility on purchasing requisitions is an early indicator of future spending.



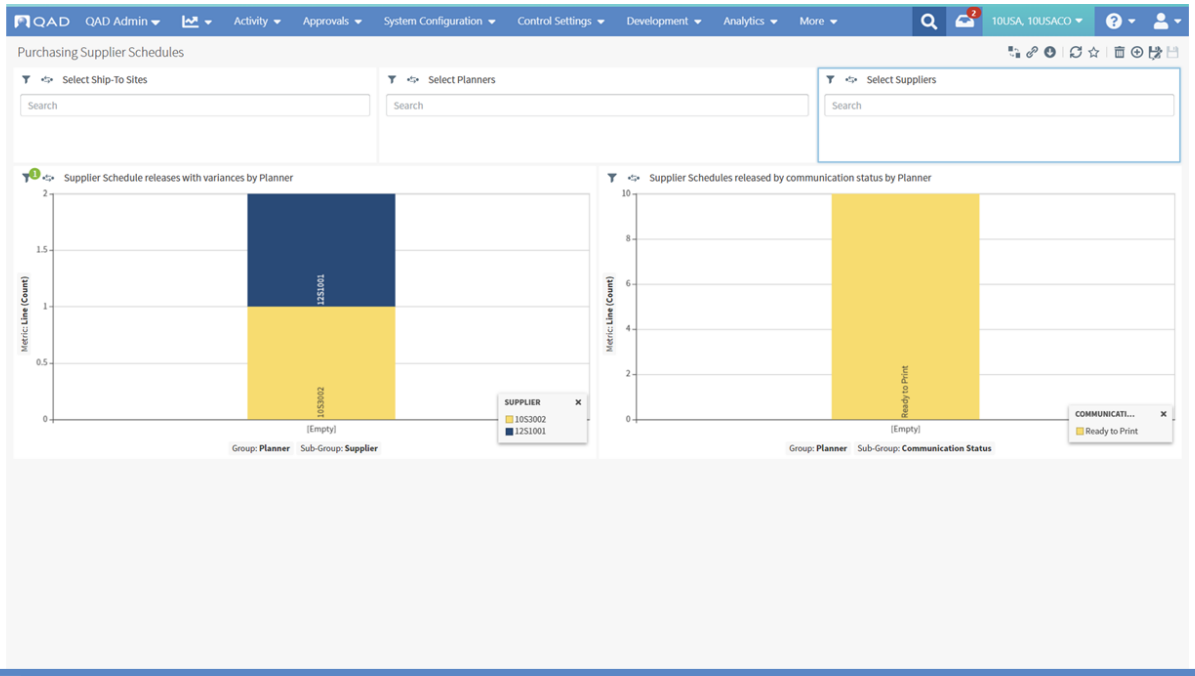
Purchasing Supplier Performance

The Purchasing Supplier Performance action center provides visibility on very important KPIs like the Supplier OTIF (on time and in full) deliveries. It also shows overdue orders.



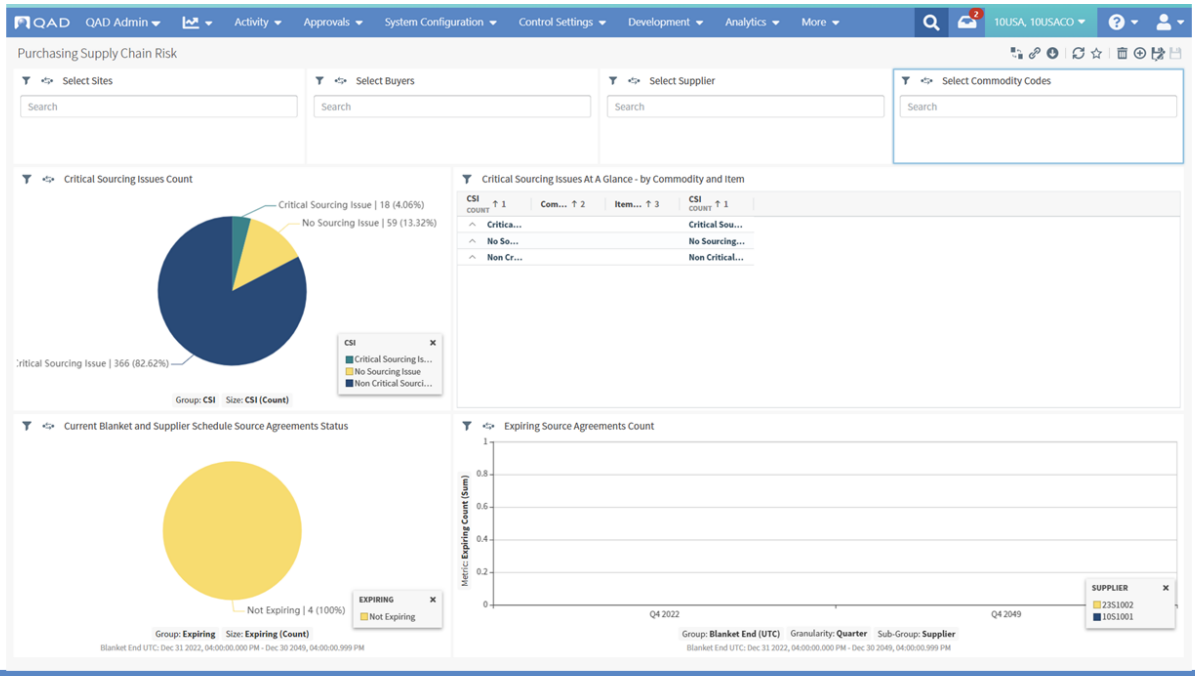
Purchasing Supplier Schedules

With strategic suppliers, you probably work with scheduled orders. These can be analyzed in the Purchasing Supplier Schedules action center.



Purchasing Supply Chain Risk

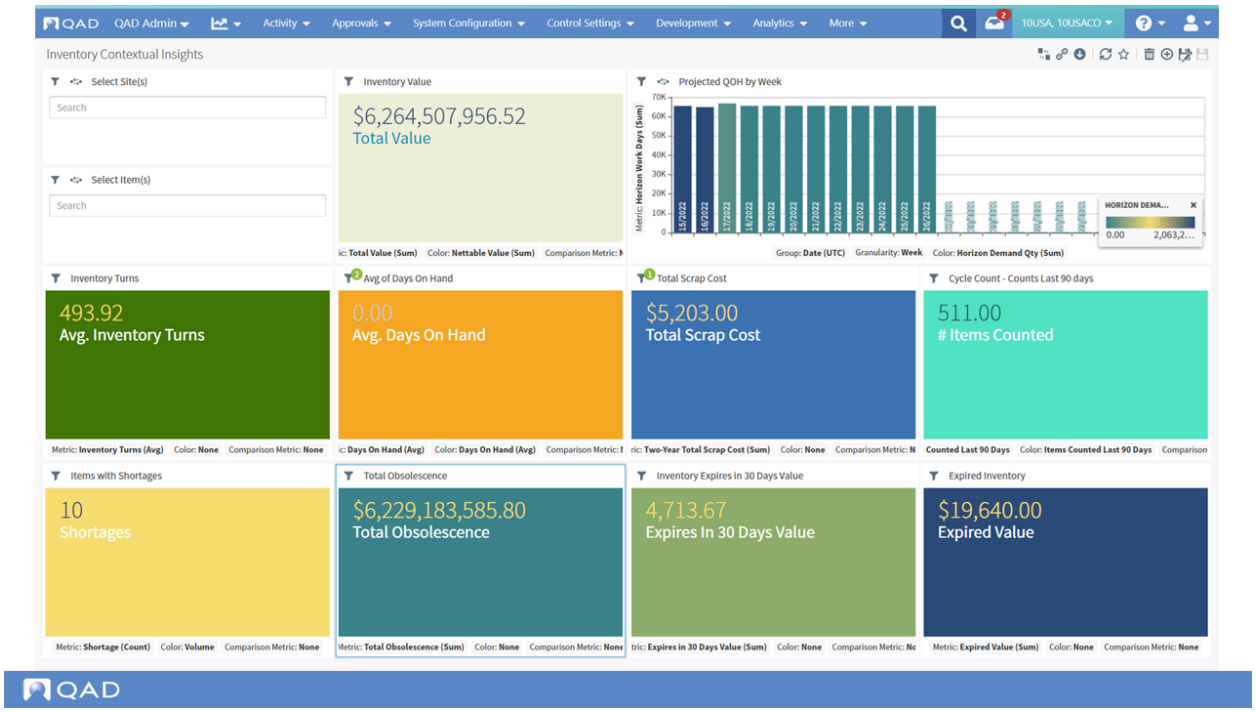
The Purchasing Supply Chain Risk action center looks at the critical sourcing of important materials that you have potential vulnerabilities for.



Inventory App

Inventory managers can use the ten predefined action centers of the Inventory App.

Inventory Contextual Insights

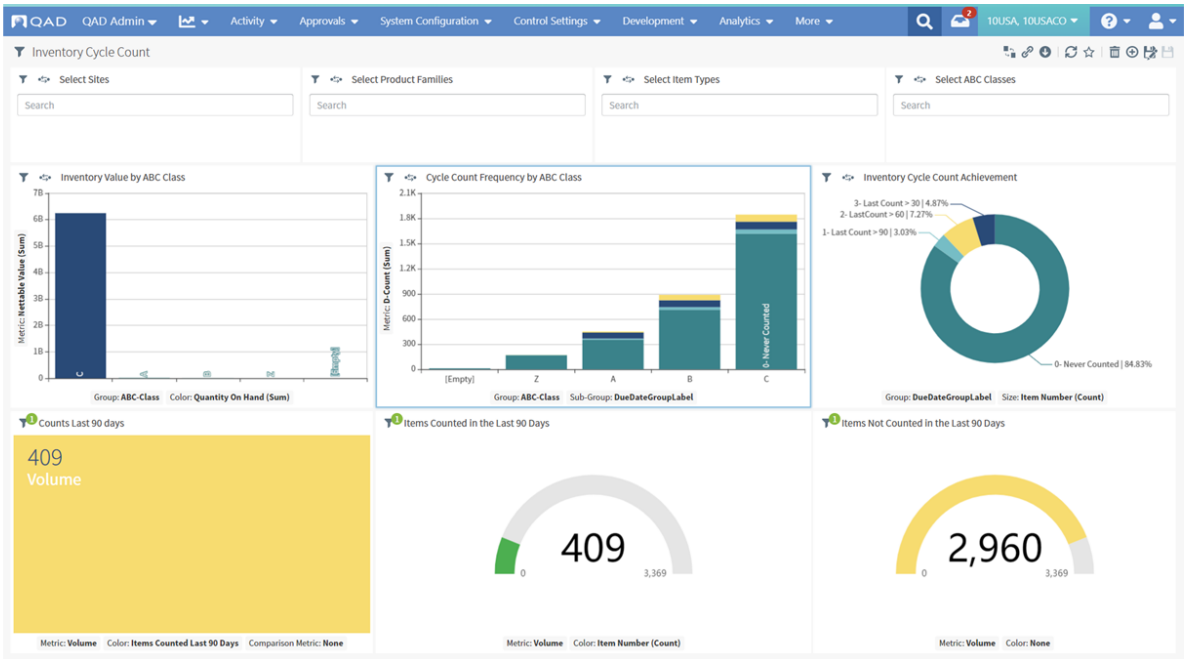


The Inventory Contextual Insights action center is a collection of many inventory KPIs that are used as Insights in various application screens.

From here, you can create links that open action centers with the details behind each high-level KPI.

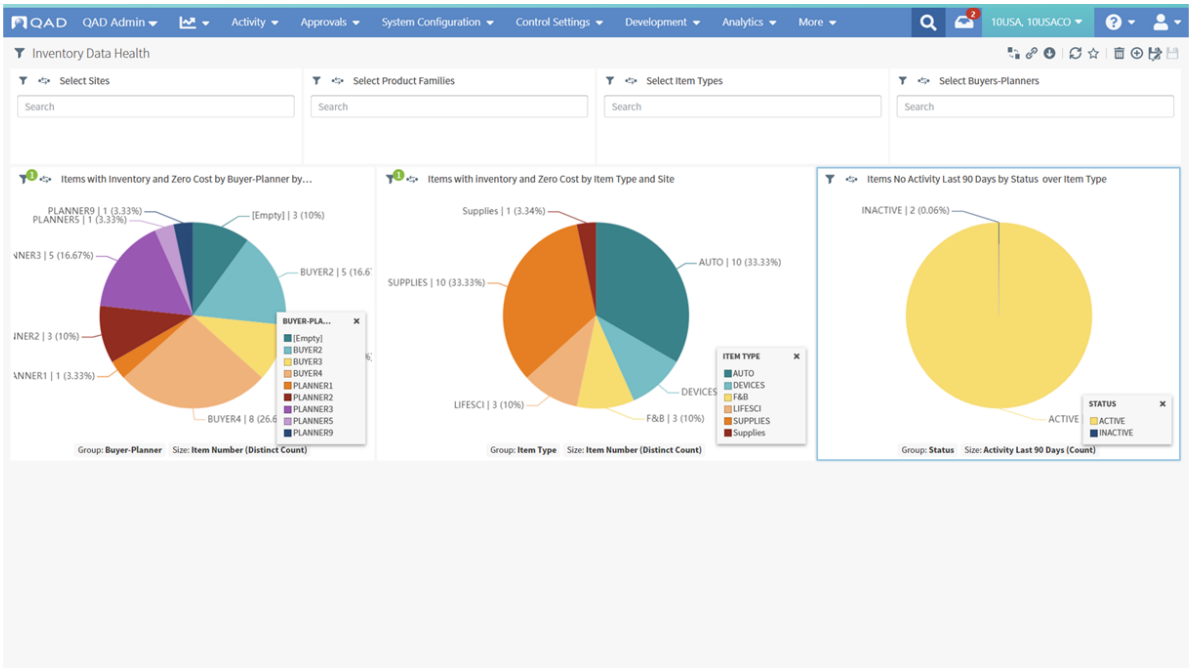
Inventory Cycle Count

The Inventory Cycle Count action center shows how well the cycle count process is executed.



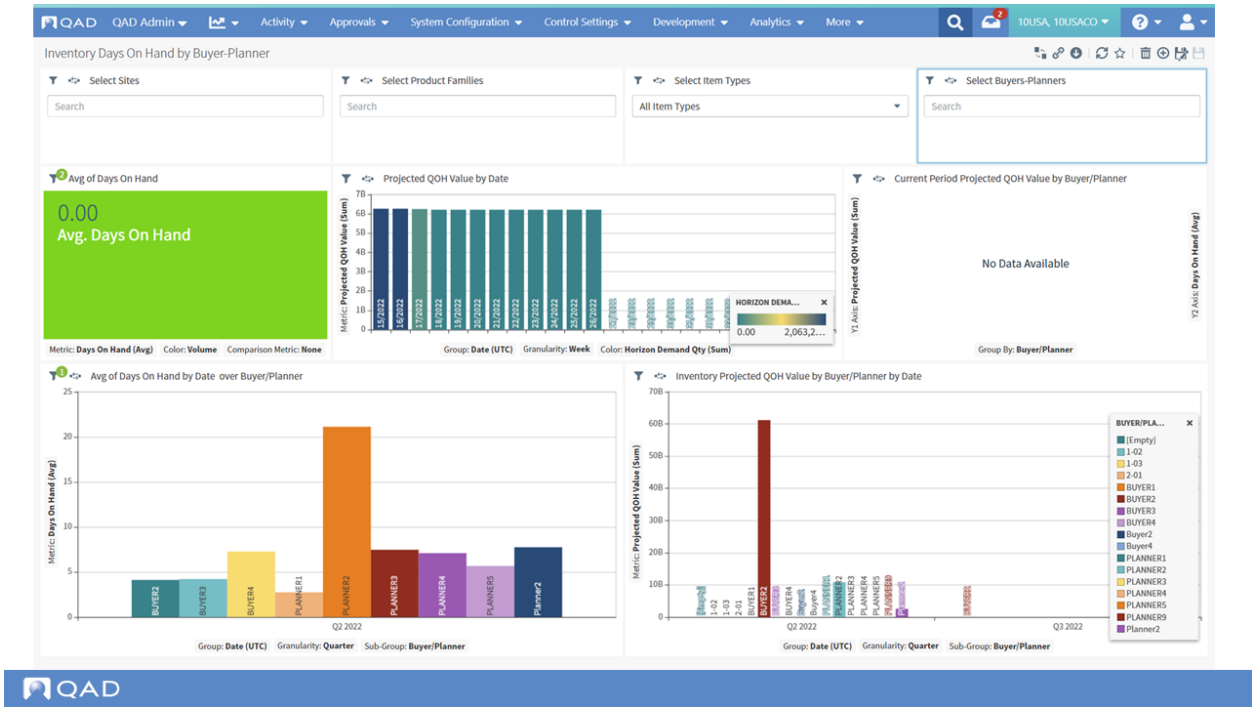
Inventory Data Health

The Inventory Data Health action center allows you to check the completeness of the item cost setup.



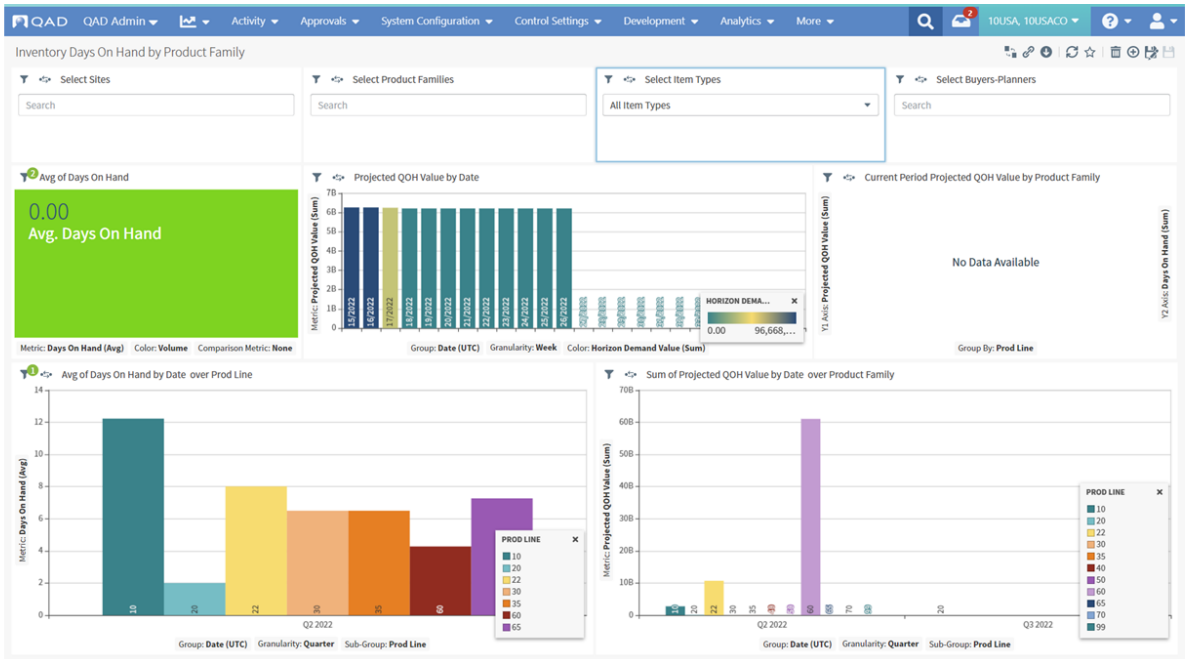
Inventory Days On Hand by Buyer-Planner

The Inventory Days On Hand by Buyer-Planner action center allows you to monitor the balances between low inventory levels with risks of stock-outs and costly high inventory levels. Quick selections by buyer-planner and other dimensions are possible.



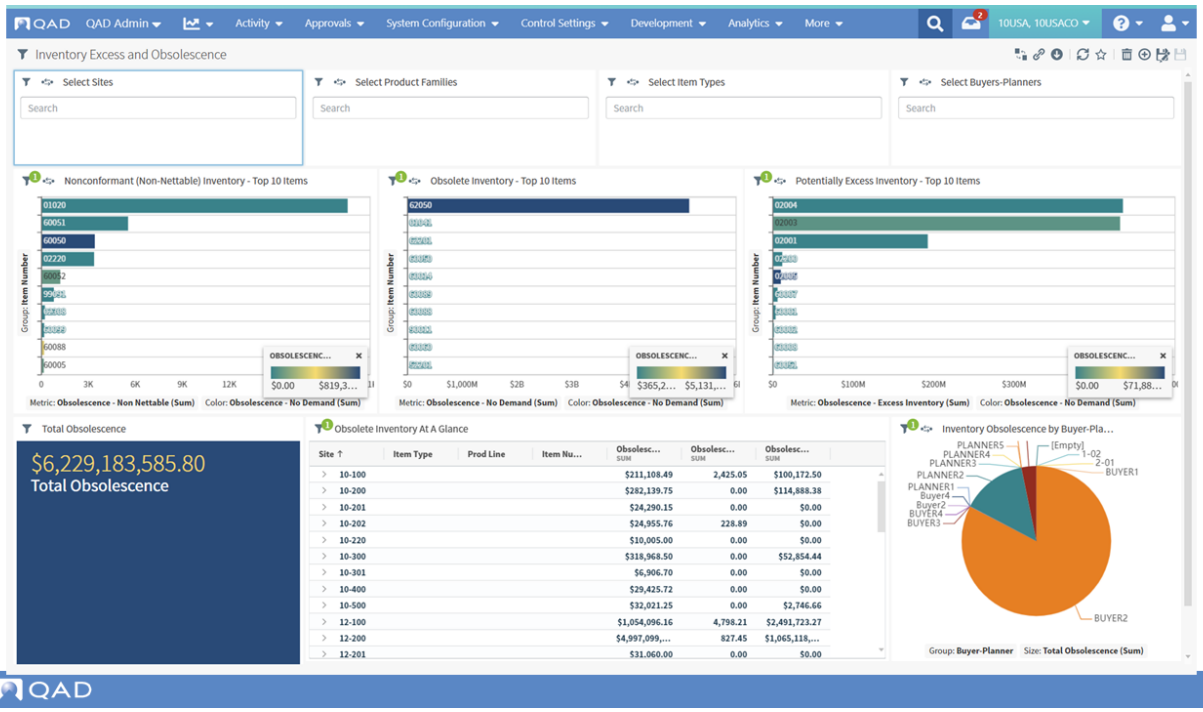
Inventory Days On Hand by Product Family

The Inventory Days On Hand by Product Family action center also monitors inventory levels with risks of stock-outs. Quick selections by product family and other dimensions are possible.



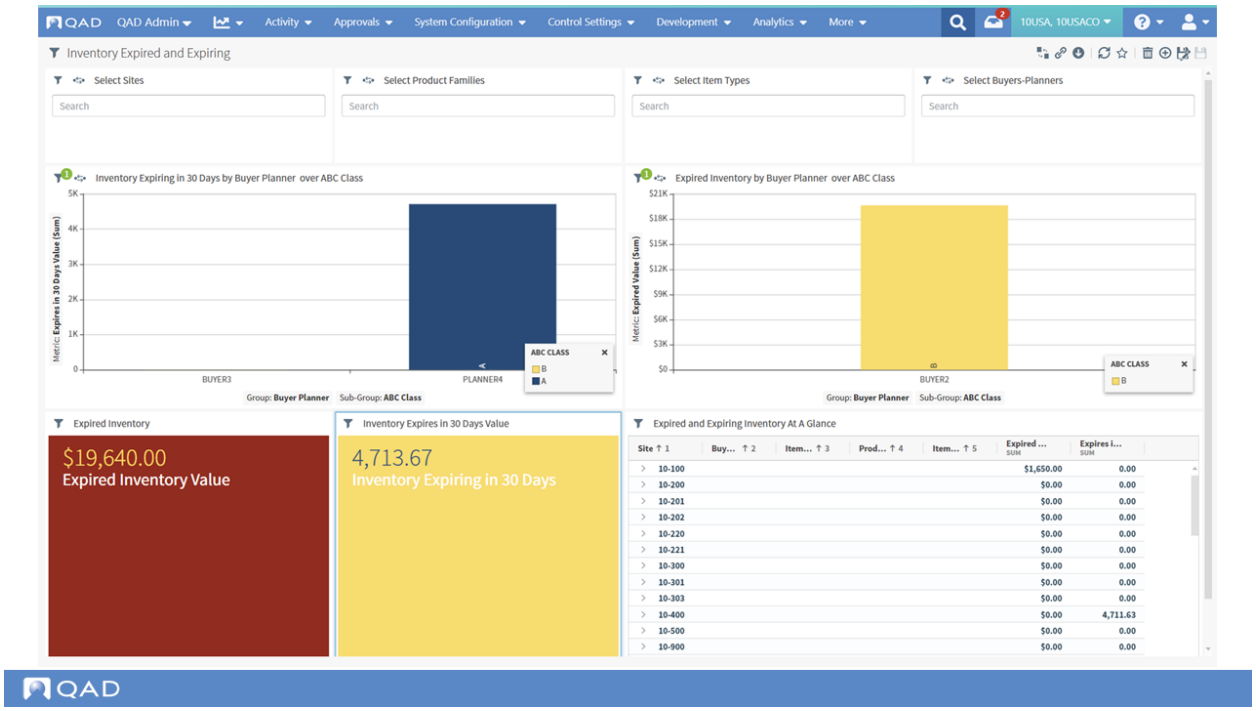
Inventory Excess and Obsolescence

The Inventory Excess and Obsolescence action center not only shows the inventory excess, but also the potential excess and non-nettable inventory. You can analyze by product family, by item type, and by item.



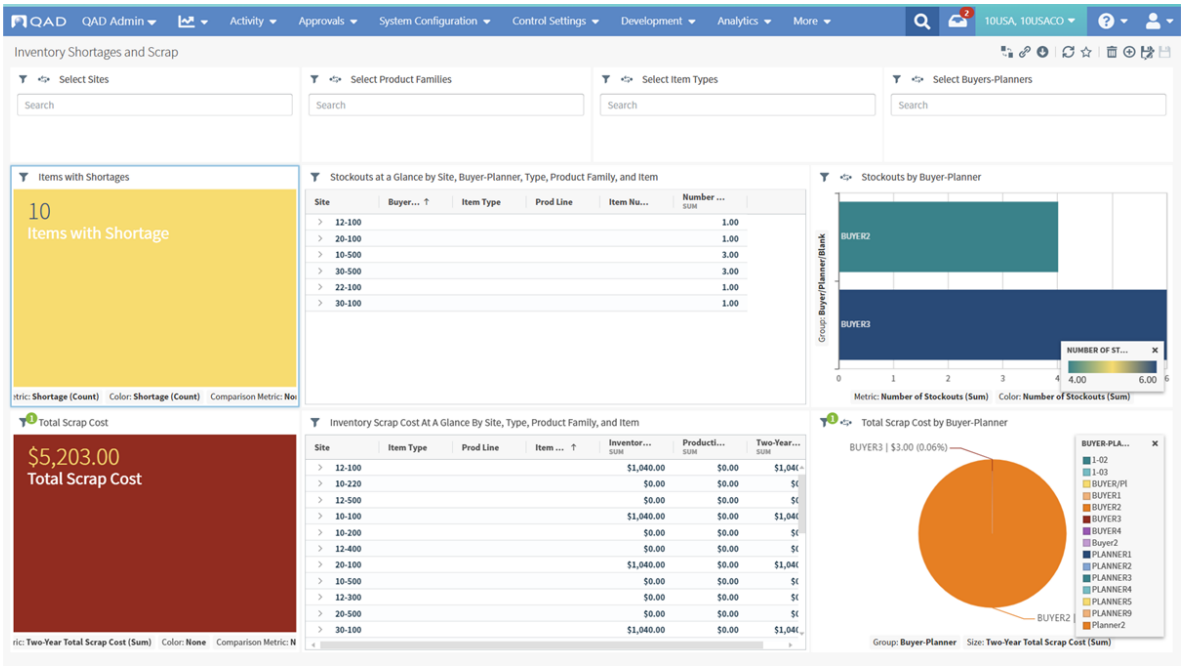
Inventory Expired and Expiring

The Inventory Expired and Expiring action center is useful if you store lots that have expiration dates. You get a view at a glance of what lots are about to expire or that have already expired.



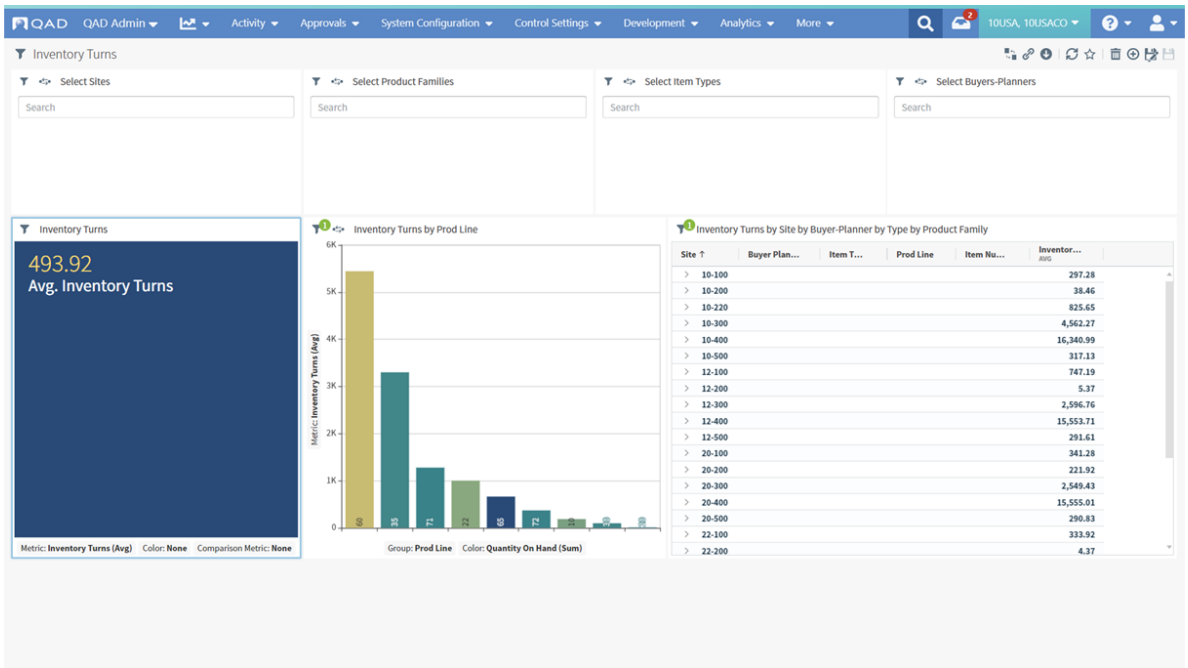
Inventory Shortages and Scrap

The Inventory Shortages and Scrap action center shows the stock-outs by buyer and by product family. This is useful for both inventory and purchasing managers.



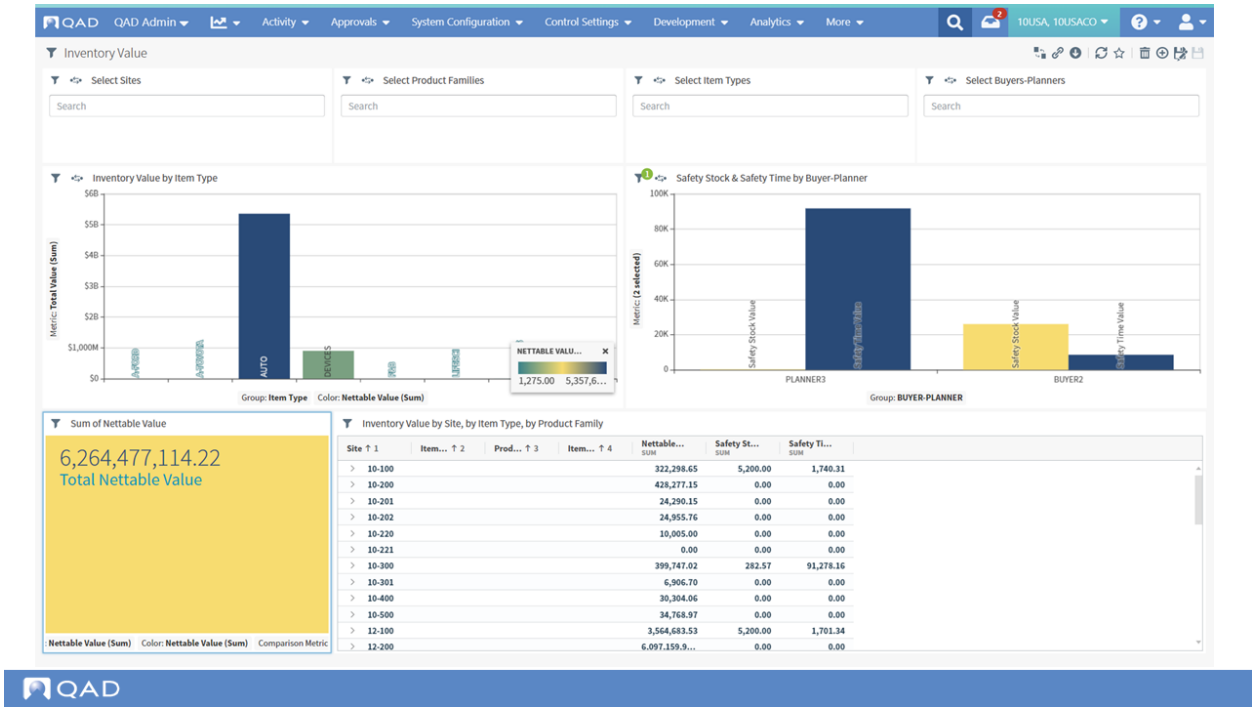
Inventory Turns

The Inventory Turns action center shows another aspect of inventory leveling by measuring the turnaround of items over time. Together with days on hand analysis, it gives visibility on which items stay too long in inventory or are falling short.



Inventory Value

Inventory Value is an important KPI because the value is an asset in the balance sheet but can become a liability when you have too much inventory with a capital cost to purchase, a cost to store, and a risk of expiration or obsolescence. This action center allows you to analyze inventory value by product family and by item type.

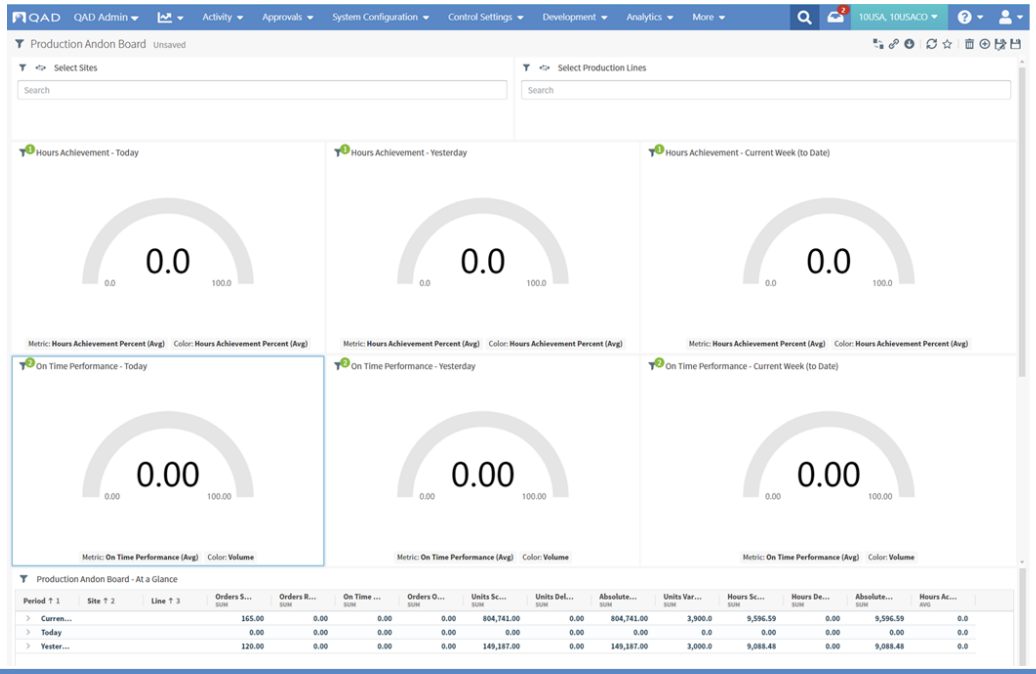


Push Production App

In the Production area, there are eleven action centers

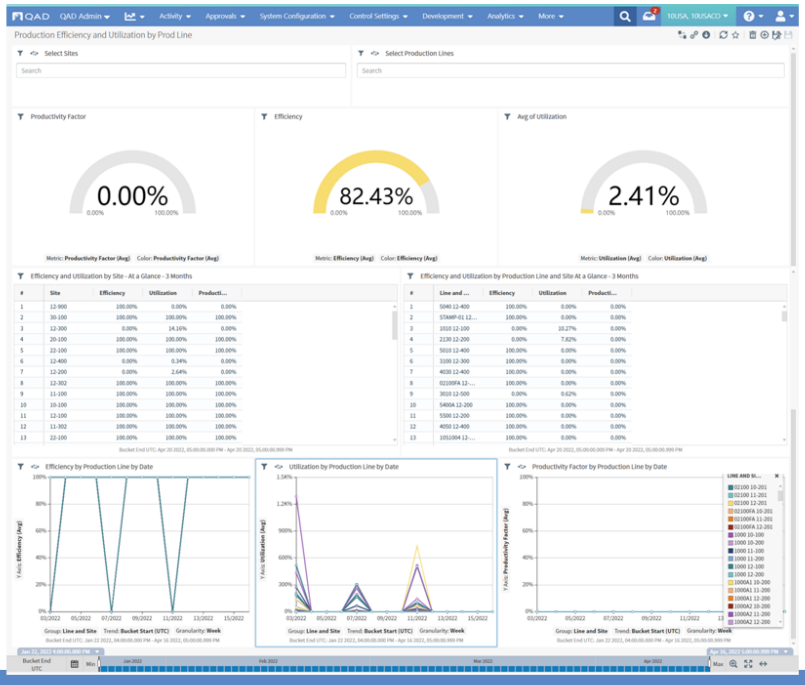
Production Andon Board

The Production Andon Board action center measures the numbers of production orders processed over time, and indicates if those were OTIF.



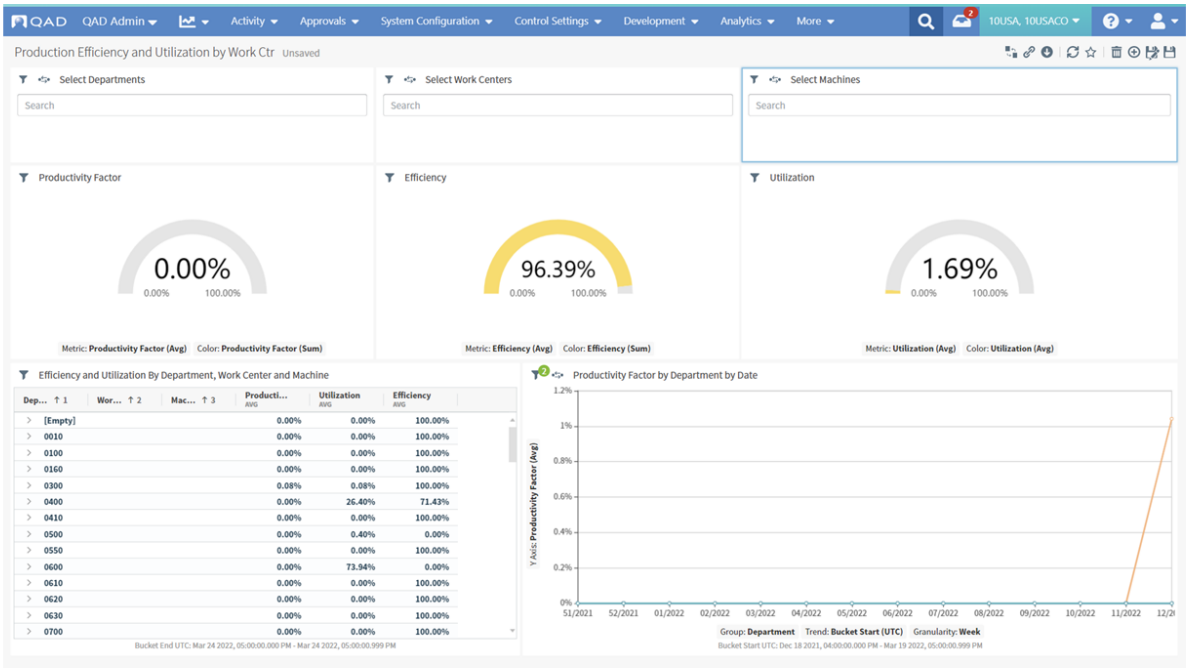
Production Efficiency and Utilization by Prod Line

Production Efficiency and Utilization is measured here as an average ratio by site and by production line.



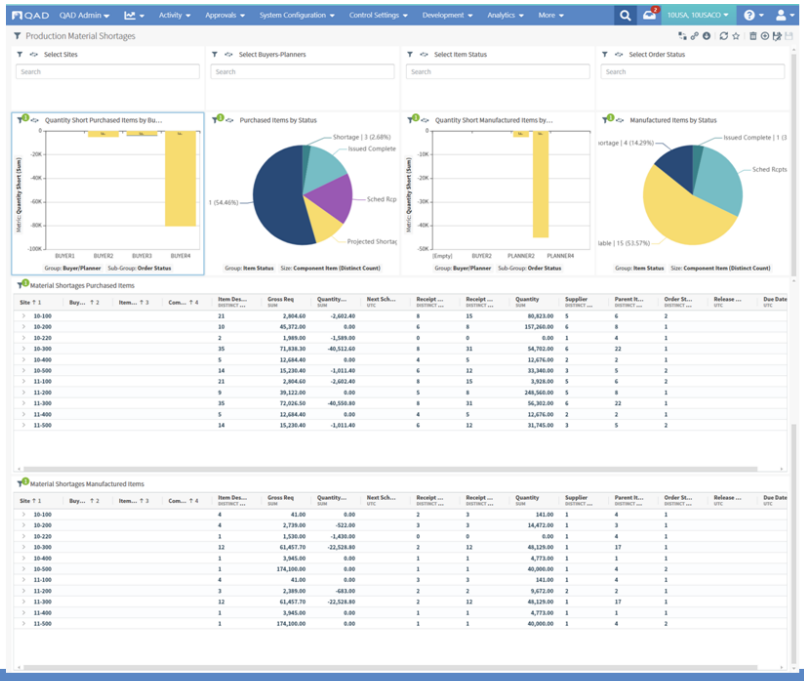
Production Efficiency and Utilization by Work Ctr

Production Efficiency and Utilization is also measured by department, work center (ctr), or machine.



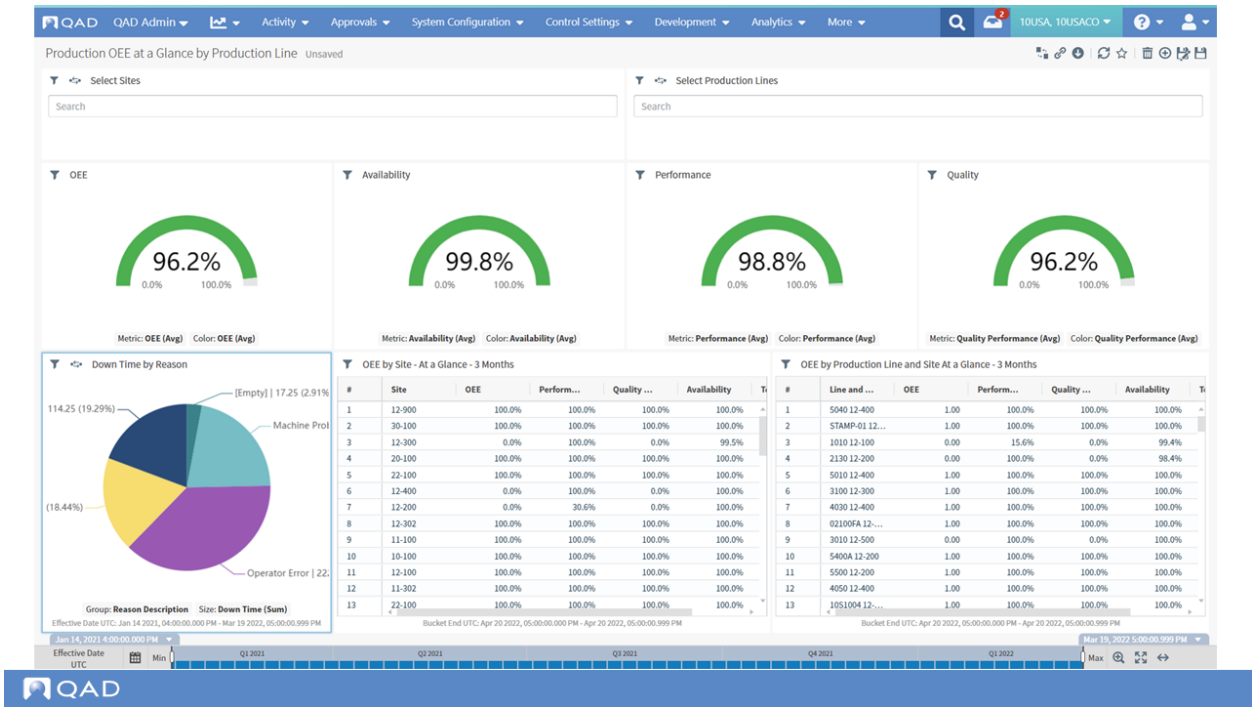
Production Material Shortages

Production Material Shortages can seriously endanger your production efficiency and, therefore, need to be measured accurately.



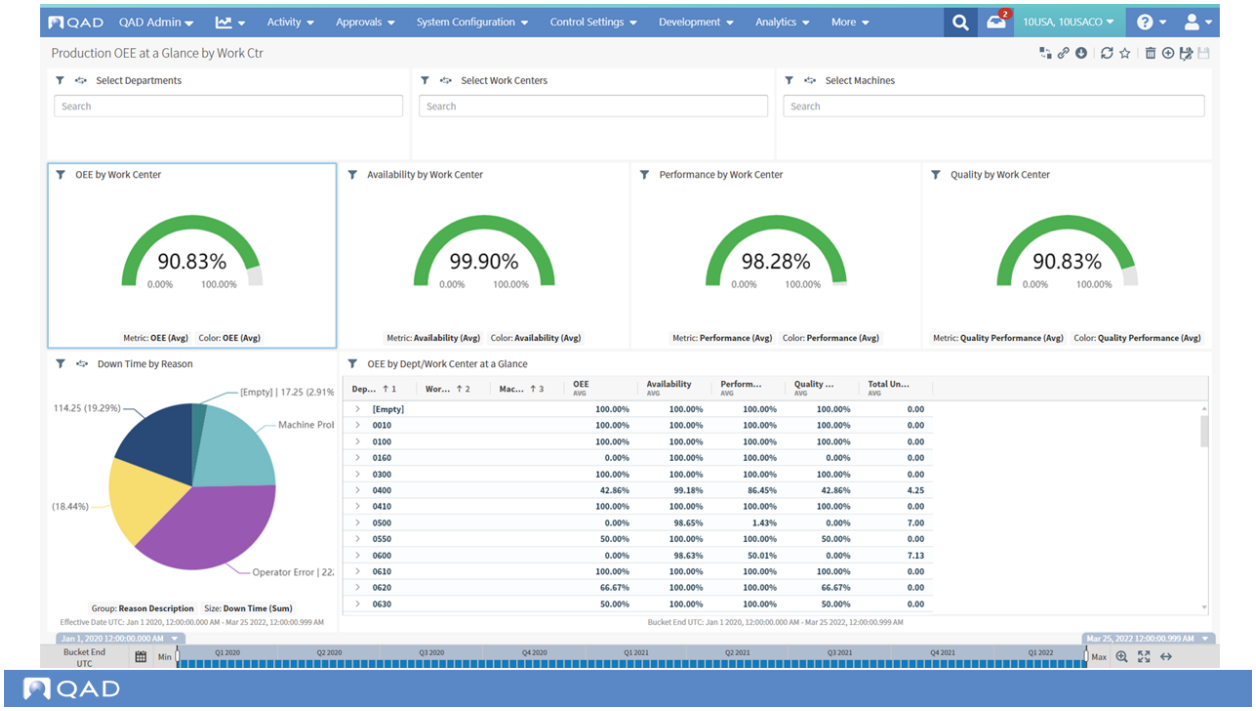
Production OEE at a Glance by Production Line

Production Overall Equipment Effectiveness (OEE) is one of the most important manufacturing KPIs. Here, it is measured as an average by site and by production line over the last three months.



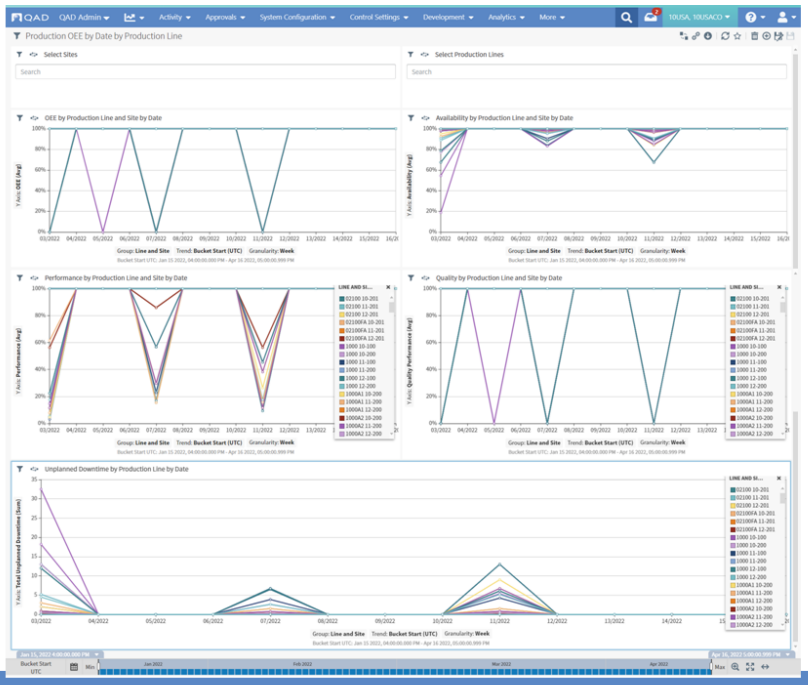
Production OEE at a Glance by Work Ctr

OEE is also measured as an average by department, work center, or machine.



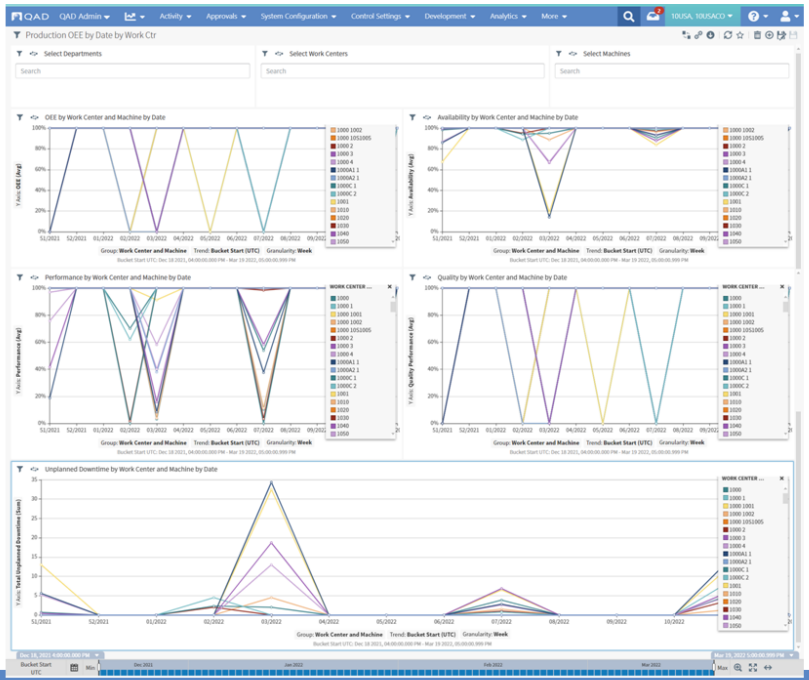
Production OEE by Date by Production Line

This action center measures the Production OEE by production line and is more granular—by week.



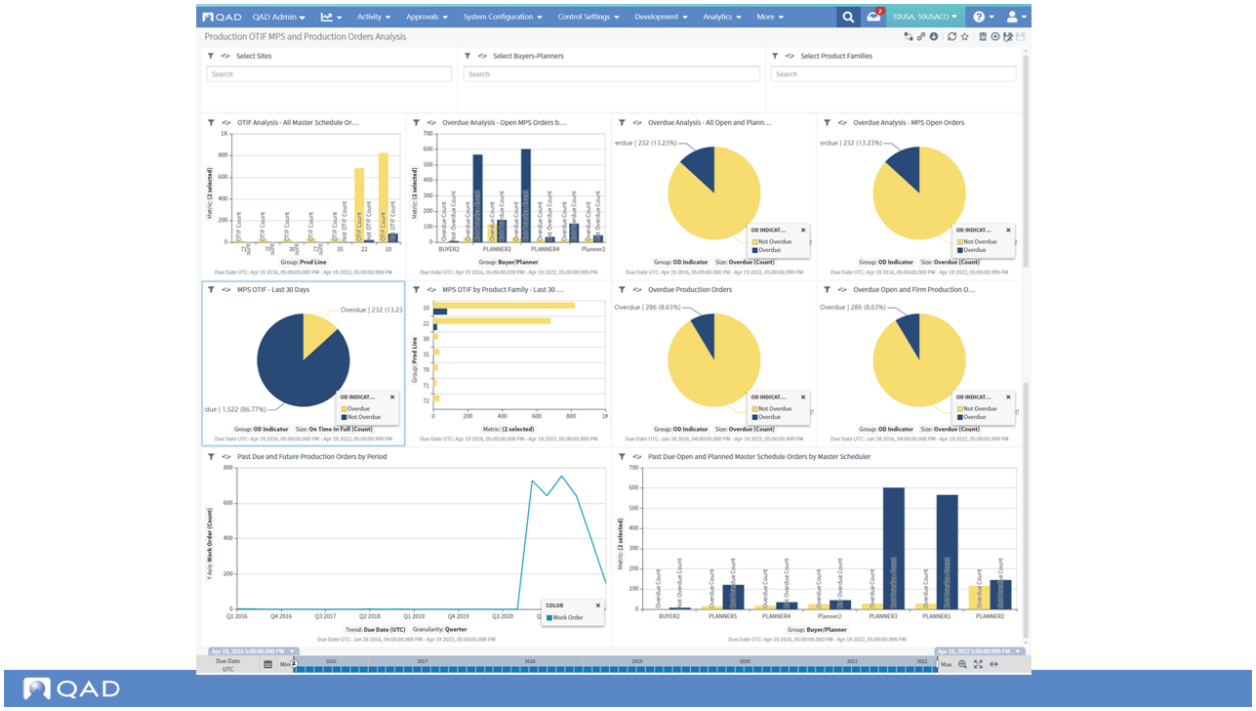
Production OEE by Date by Work Ctr

This action center measures the Production OEE by work center and is more granular—by week, also.



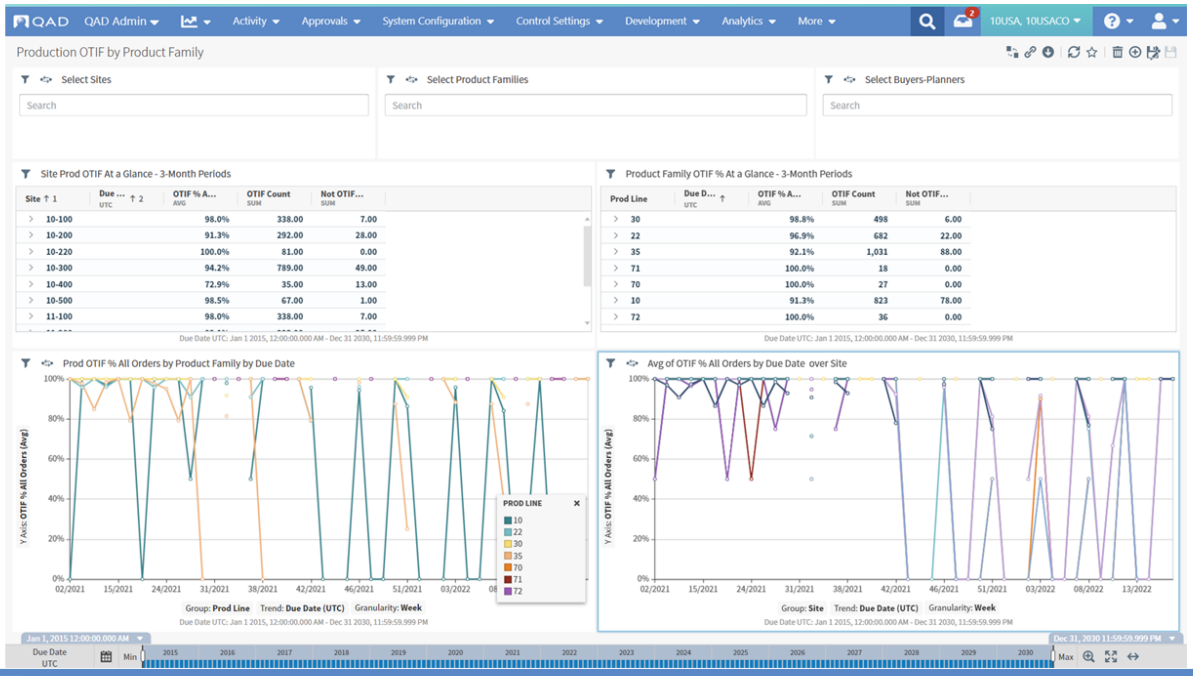
Production OTIF MPS and Production Orders Analysis

Production On Time and In Full (OTIF) also drives the sales order delivery OTIF. So, it is important to see the delays early in the production phase. This action center shows the OTIF on the level of the master production schedule (MPS).



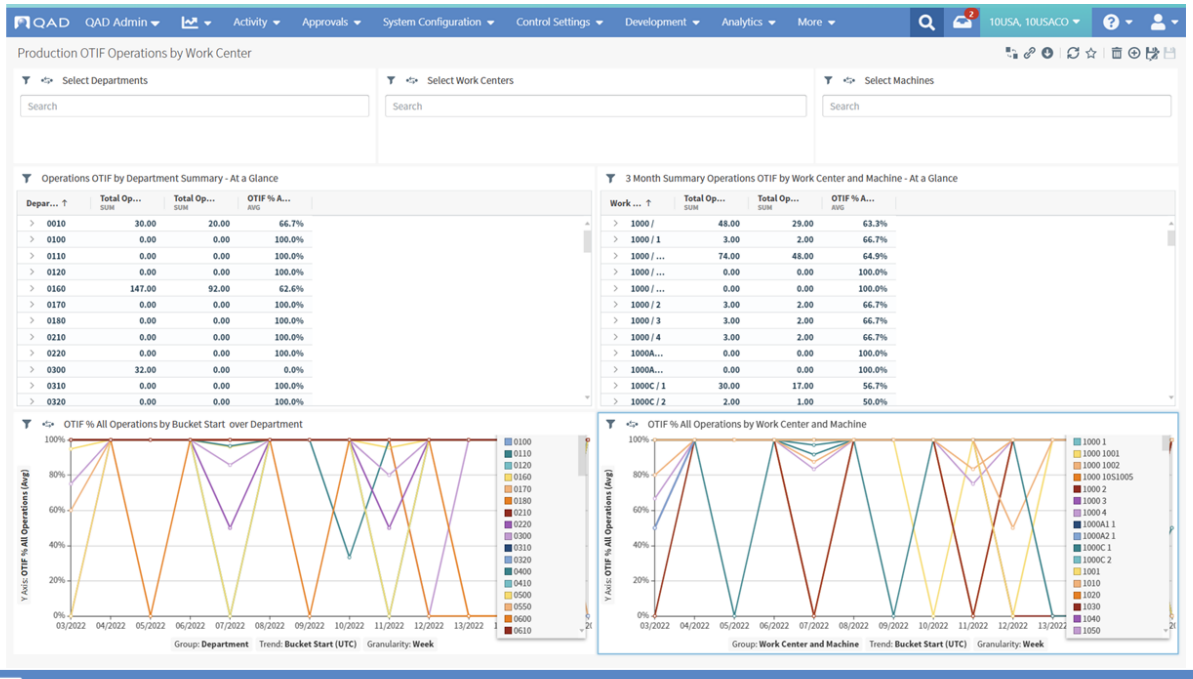
Production OTIF by Product Family

This action center measures the Production OTIF by product family.



Production OTIF Operations by Work Center

This action center measures the Production OTIF by work center.

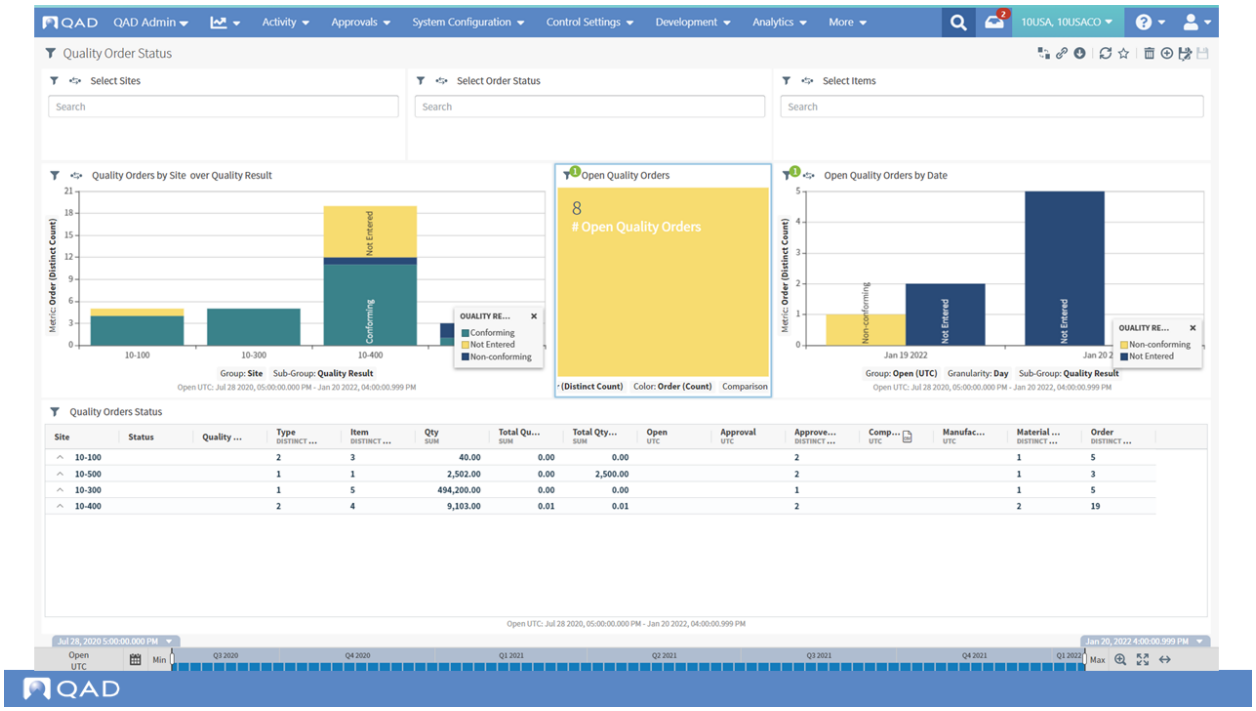


Quality App

The Quality app has one action center.

Quality Order Status

The quality order status action center gives a very high-level overview of the quality orders backlog and the results of quality control.

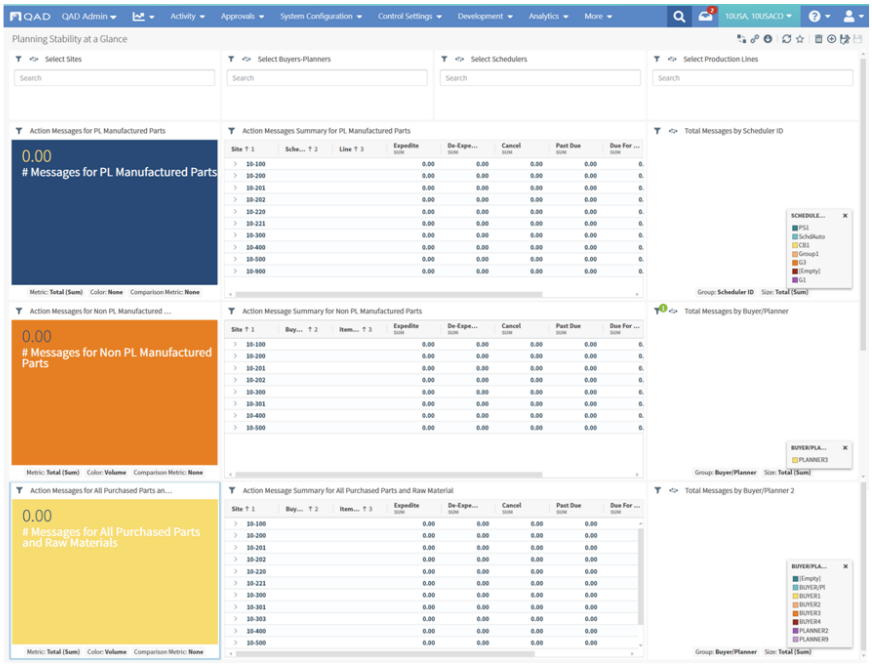


Planning App

The production Planning app has two action centers.

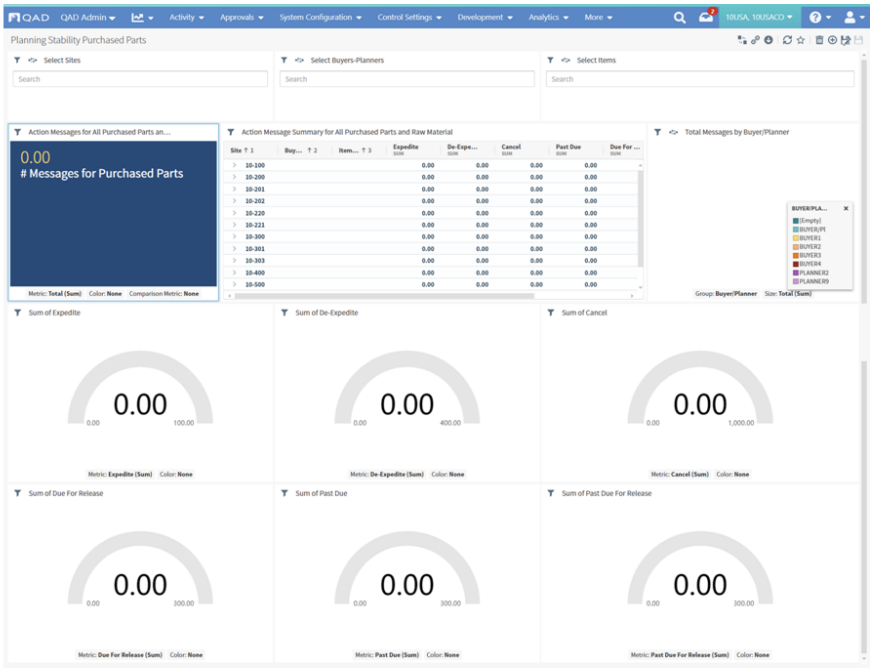
Planning Stability at a Glance

With the Planning Stability at a Glance action center, you can monitor the action messages about expedited and past due production orders. It shows how well you are performing against the plan.



Planning Stability Purchased Parts

The same KPIs can be analyzed for purchased parts.

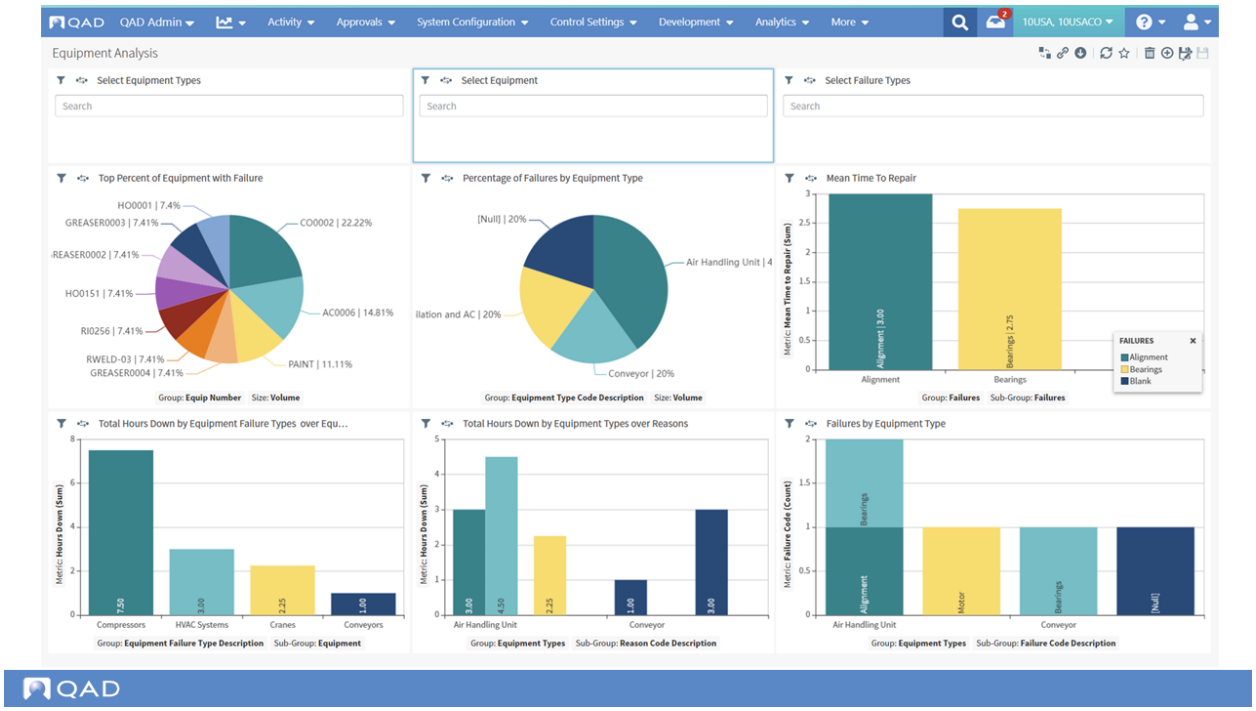


Asset Management App

Asset managers are responsible for the major investments in machines and equipment in the factory. There are seven action centers that can help them to do their jobs.

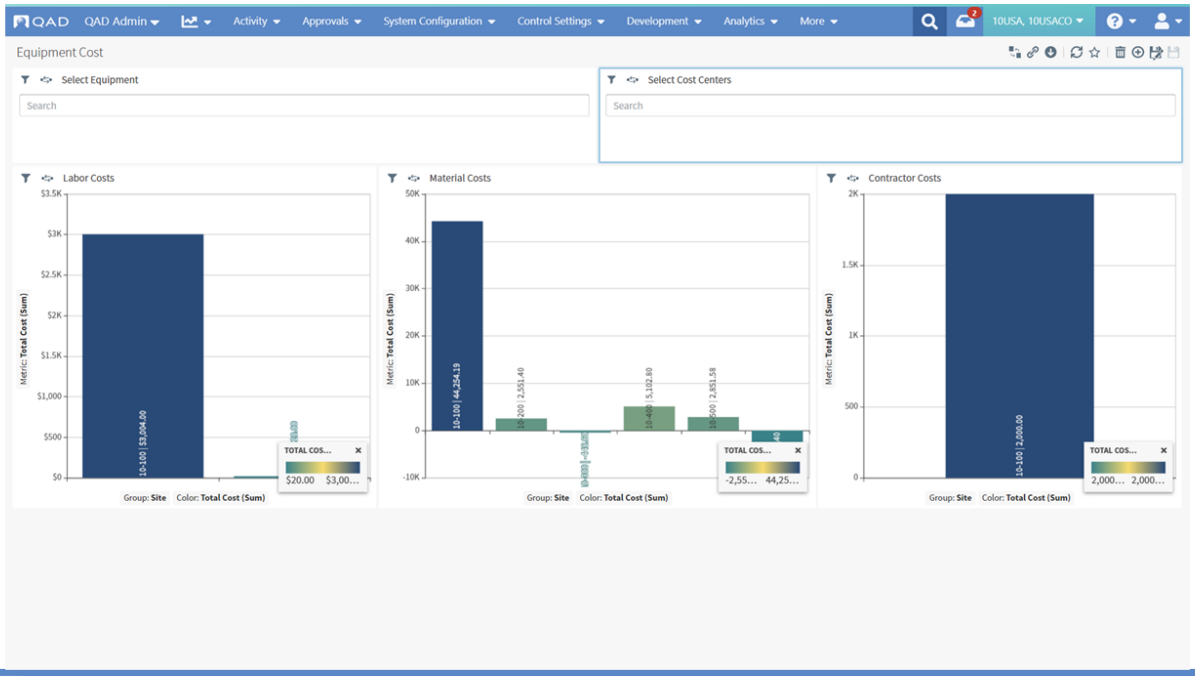
Equipment Analysis

The Equipment Analysis action center shows failures and downtimes of equipment with analysis by equipment ID, by type, by reason, and by type of failure.



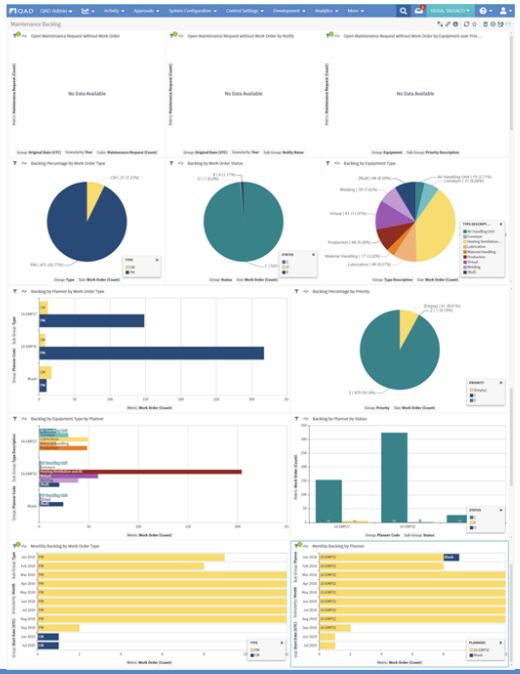
Equipment Cost

The Equipment Cost action center shows the cost of maintaining and repairing the equipment. Analysis is possible by cost center and by equipment ID.



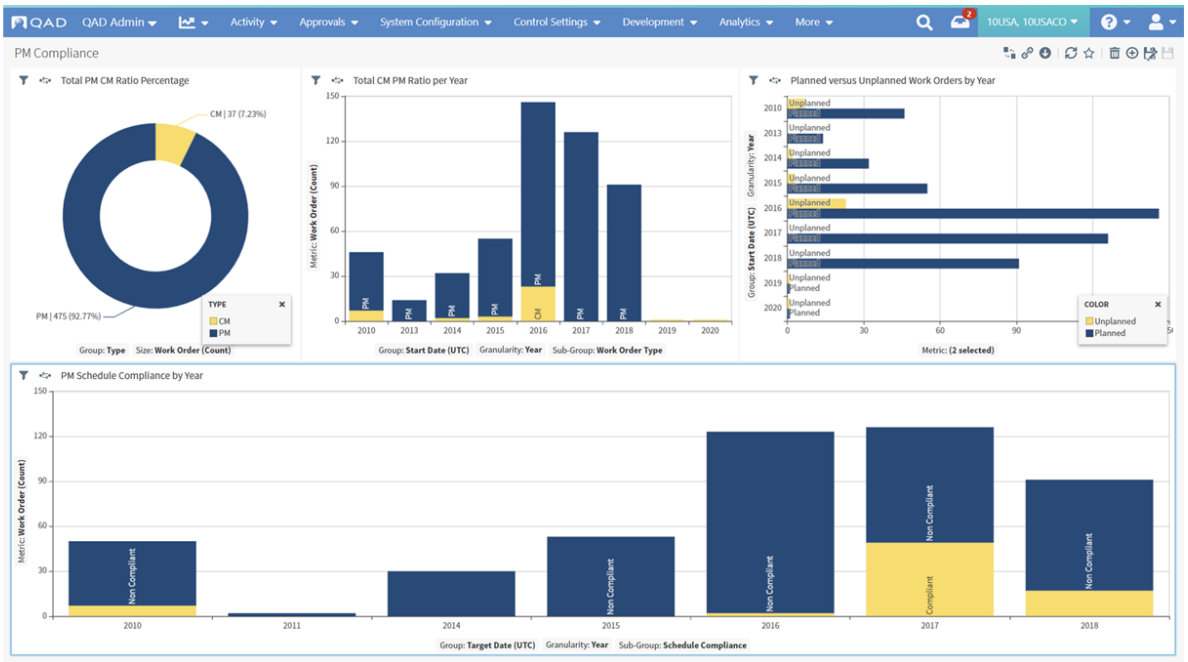
Maintenance Backlog

The Maintenance Backlog action center gives visibility of unfulfilled maintenance requests by work order type, status, planner, and priority.



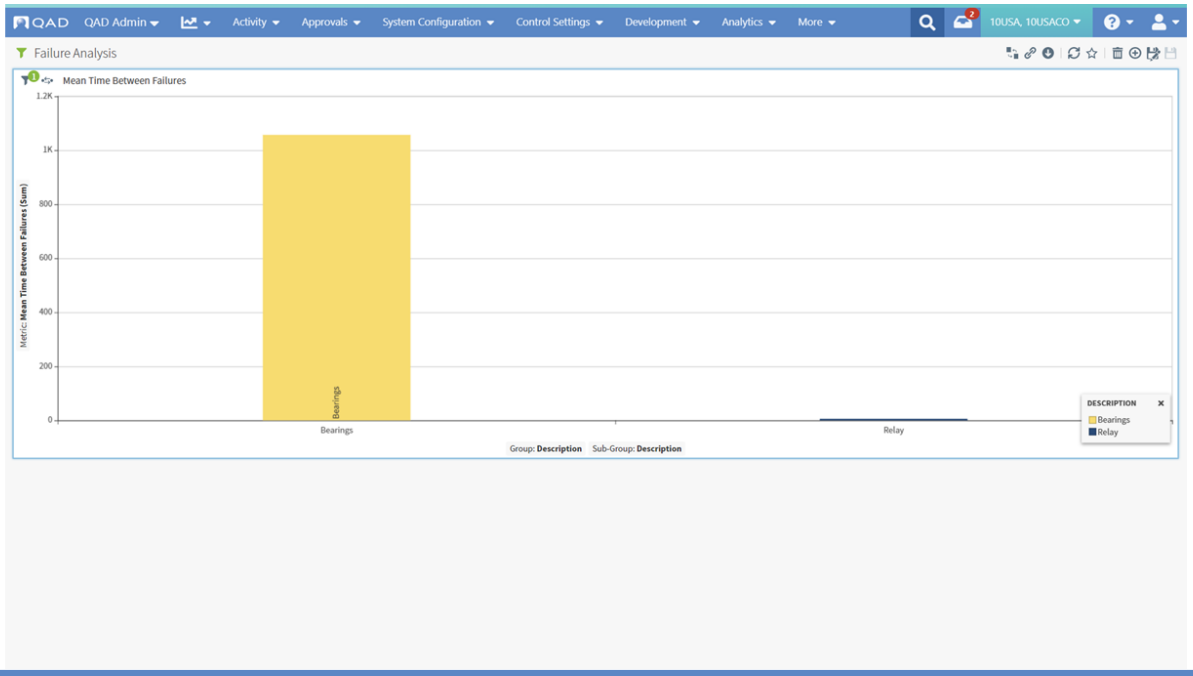
PM Compliance

The PM Compliance action center tells you if the planned maintenance schedules are followed and how many interventions were corrective—not planned.



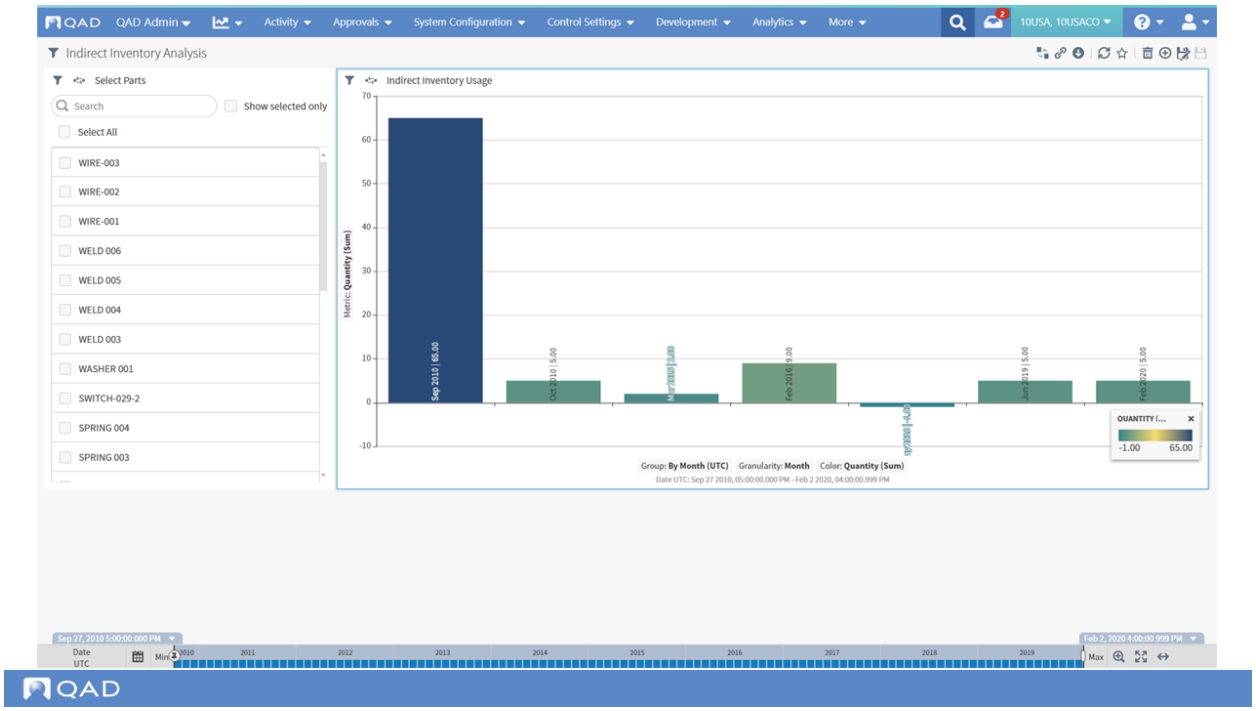
Failure Analysis

The Failure Analysis action center shows the mean time between failures and the type of failure.



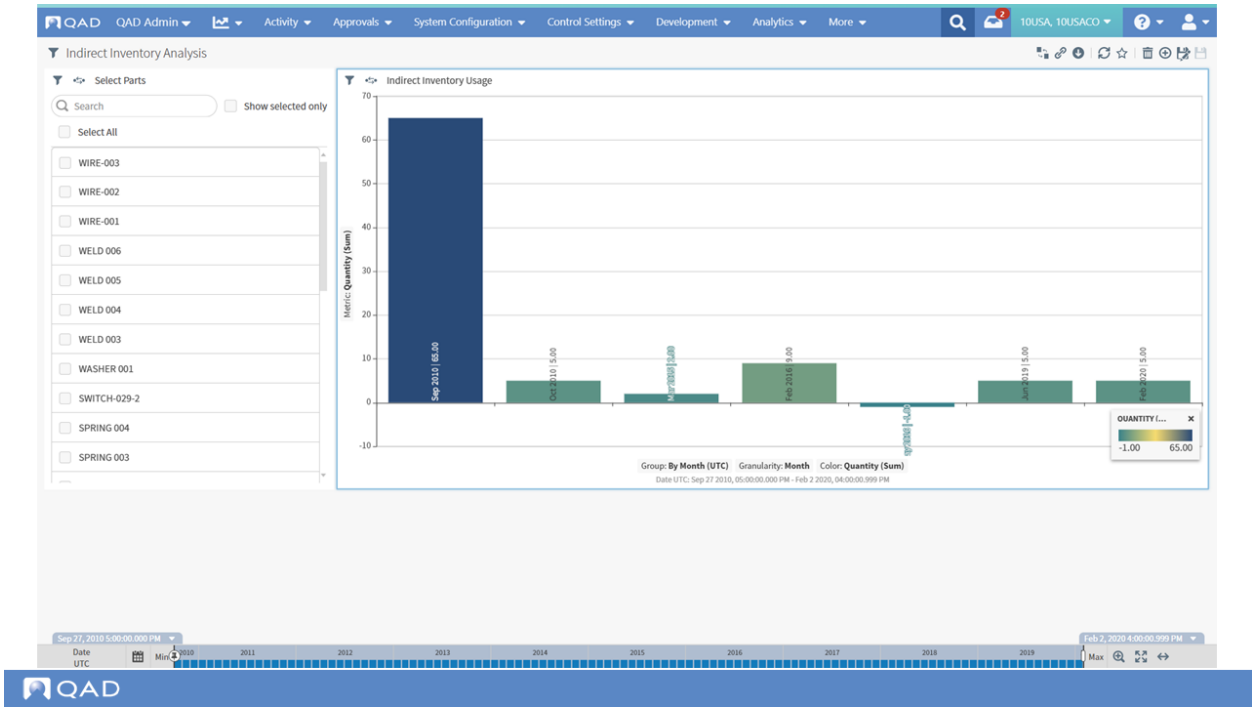
Indirect Inventory Analysis

Indirect Inventory is the inventory that you keep for maintenance activities. This KPI gives you the inventory levels for that.



Project Analysis

For investment projects, you can measure the actual spending against the authorized spending.

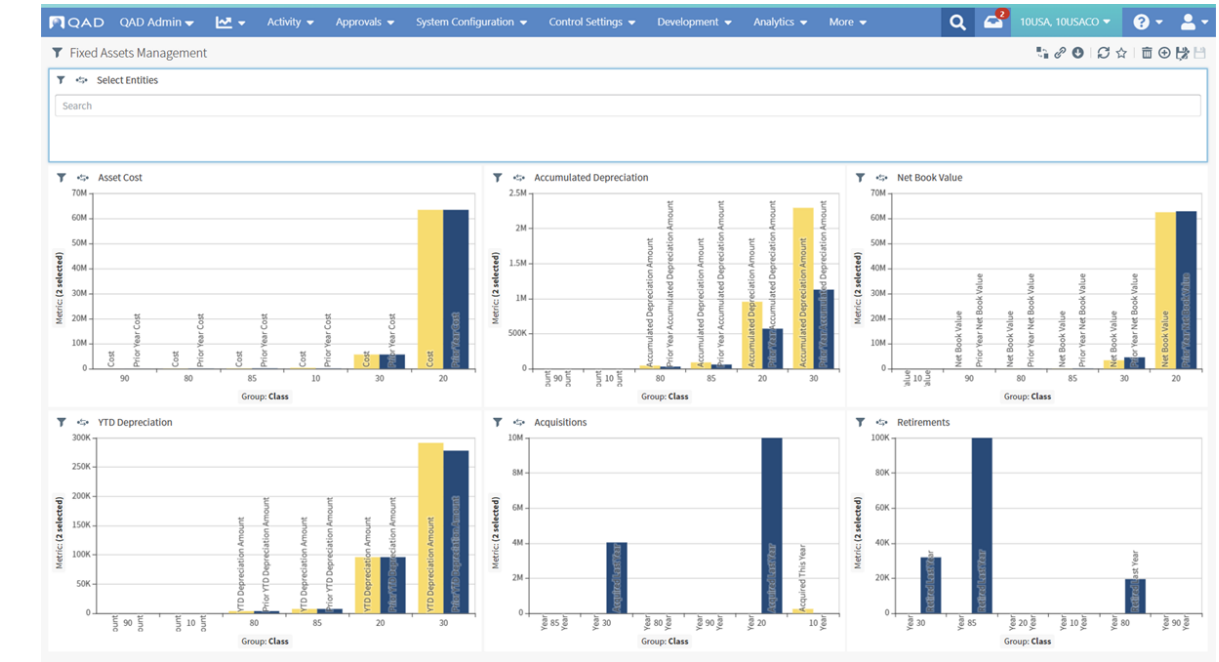


Fixed Assets App

The financial side of the company assets is managed in the Fixed Assets app.

Fixed Asset Management

The Fixed Assets Management action center shows investments, depreciation, and other value adjustments over time and by asset class.



Financials App

The Chief Finance Officer (CFO) and accounting managers have two action centers to give them actionable insights in the Financials KPIs.

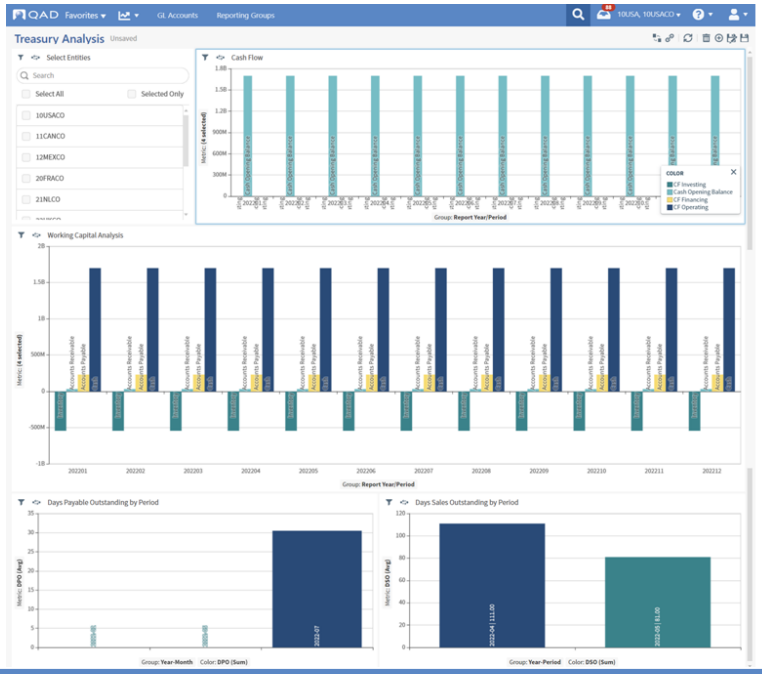
Revenue & Margin Analysis

The Revenue & Margin Analysis action center is a summary of all important income statement-related KPIs. You can see the global gross and net revenue and net profit margins over time. The data is retrieved from the company's financial reporting cubes created with Financial Report Writer.



Treasury Management

The Treasury Management action center is a summary of all important balance sheet KPIs like Cash Flow, Working Capital, Days Sales Outstanding, and Days Payable Outstanding.

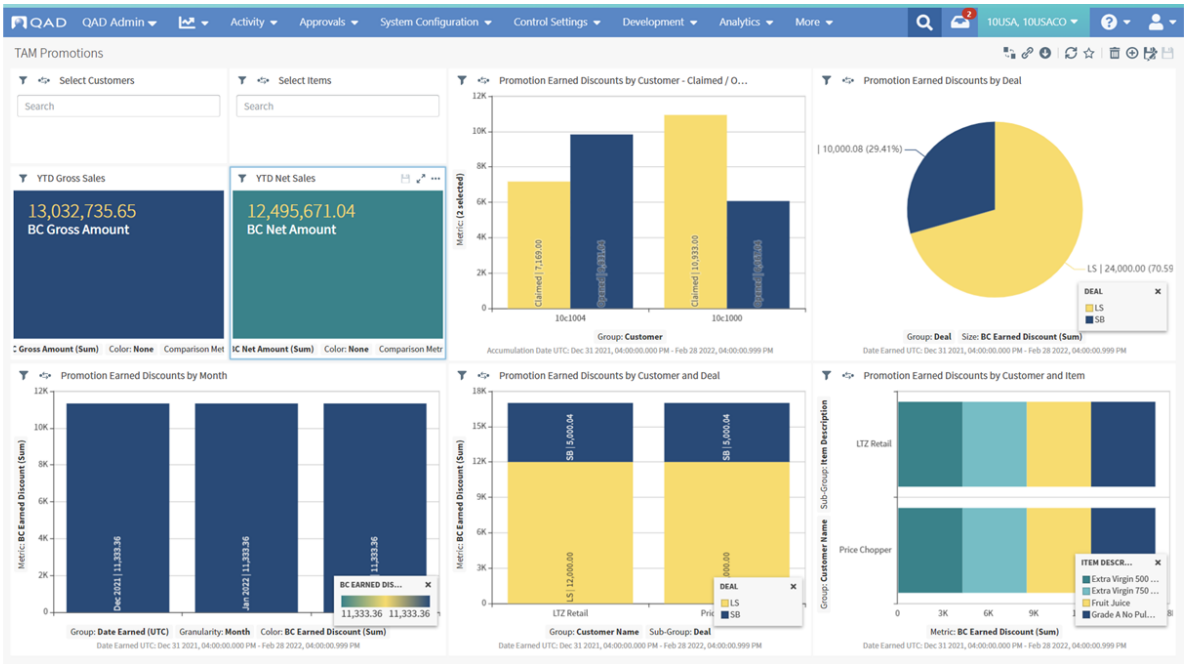


Trade Activity Management App

For companies that work with the Trade Activity Management (TAM) app, there are two action centers to follow up on their trade promotions and contracts.

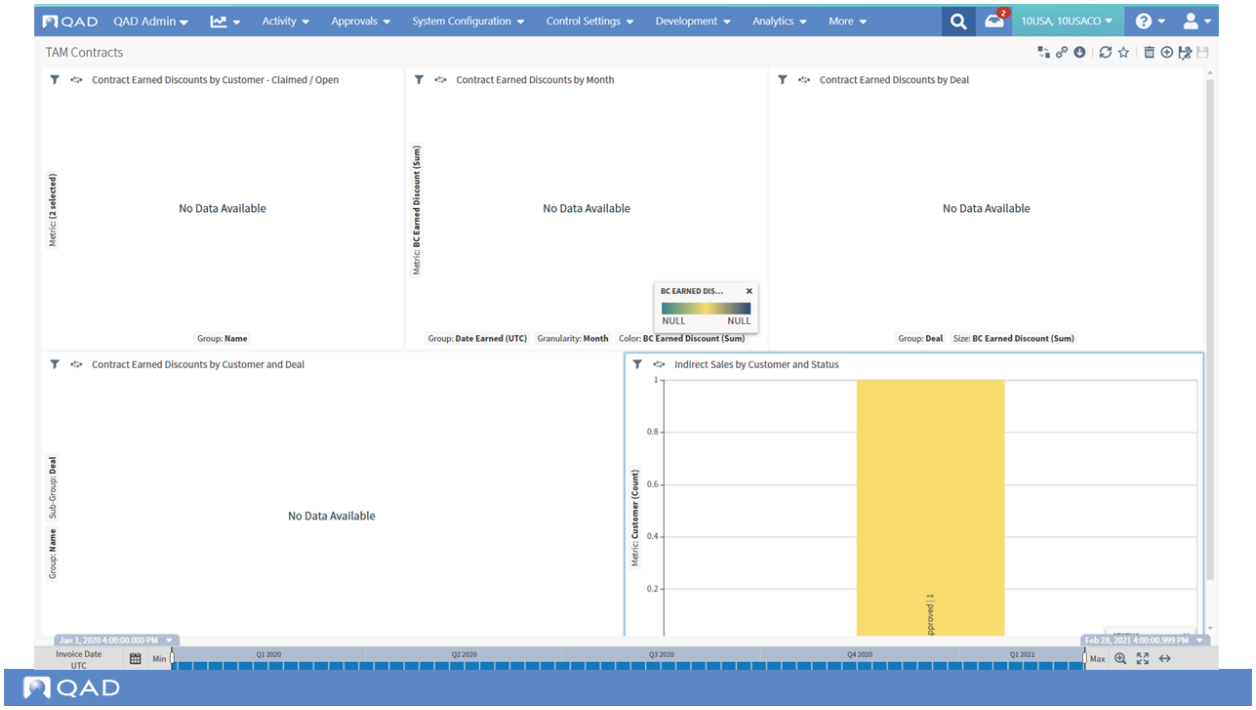
TAM Promotions

The impact of TAM Promotions can be analyzed with earned discounts by customer, by item, and over time.



TAM Contracts

The TAM Contracts action center shows the earned discounts for running promotion contracts with customers.



With this action center, we come to the end of the overview of predefined QAD action centers.

It is important to note that these predefined action centers are just a starting point for your work with action centers. You will get even more value out of action centers when you tailor them, make a selection of KPIs that matter to your business in your own personalized action center, tailor those by changing the chart types, the grouping of data, and the filtering. Then, make it complete with new KPIs that you create based on the many browses in the system.

Action Center Permissions (Video 11)

Action Center User Categories

Action Center User Categories

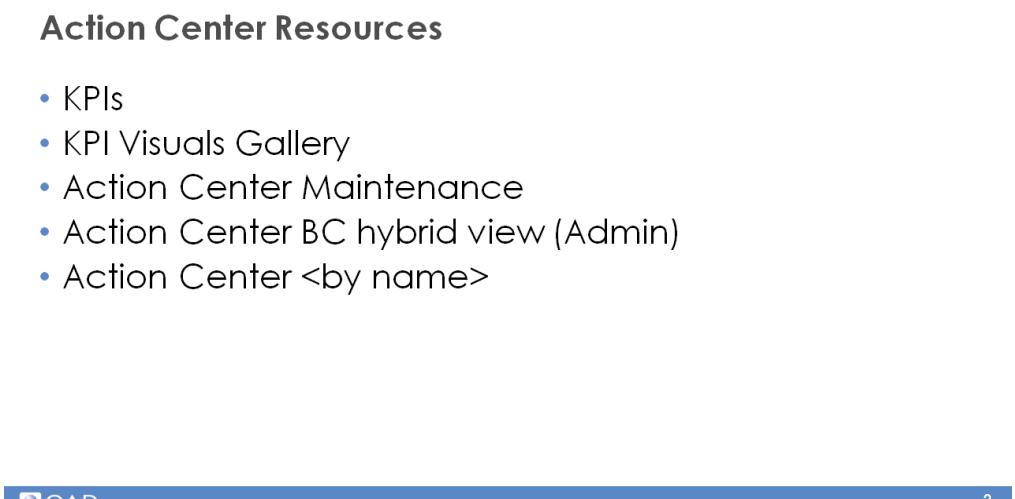
- Authors of visuals and KPIs
- Authors of action centers
- Consumers
- Administrators

QAD 2

There are four categories of users of action centers.

- The first group are the authors of KPIs and visuals. They can be administrators or trained business users. They are the business experts who know what data is needed for KPIs and know which browses in the ERP system can provide that data.
- The second group are the authors of action centers. They can be the same people from the first group, but can also be end users who build their own action centers.
- The third group, the consumers, are typically managers or other responsible people who have access to action centers to analyze KPIs and underlying data. Often, the consumers are also allowed to build their own action centers. In that case, they are both consumers and authors of action centers.
- The last group, the administrators, are typically given access to all functionality. This does not necessarily mean that they have access to all data in the system. As we will see, data security can be set independently from the functional access permissions that are described here.

Action Center Resources



Resources are the elements in the Role Permissions setup where you can set access permissions like Create, Read, Write (Update), and Delete (also referred to as CRUD permissions). There are five components of action centers resources:

- The first resource, KPIs, is the view where you create and maintain the KPIs.
- The second resource, KPI Visuals Gallery, controls access to both the visual builder and the KPI Visuals Gallery view.
- The third resource, Action Center Maintenance, controls access to the action centers from the drop-down list of action centers. You require at least read access to this resource to see the action centers listed, and other permissions to create, update, or delete action centers.
- The fourth resource, the Action Centers business component view, is a separate maintenance function for the administrator, where the administrator can set the visibility of action centers on the menu. The administrator can open any action center directly from this screen. Also, the permissions for specific action centers can be set from this screen.
- The fifth resource type is access. Access to each individual action center can be controlled, based on user roles. To open an action center, a user must, at a minimum, have both Read access to the general Action Center Maintenance resource—the third resource—and Read access to the specific action center.

Action Center Permission Matrix

Action Center Permission Matrix

User Category	KPIs	KPI Visual Gallery	Action Center Maintenance	Action Center <by name>	Action Center BC hybrid view
Author of KPIs	CRUD	CRUD			
Author of Action Centers	RU	CRU	CRUD	RUD	
Consumer	R	R	R	R	
Administrator	CRUD	CRUD	CRUD	CRUD	RU

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If we combine the user categories with the resource types, then this results in a matrix where we can indicate the type of CRUD permissions that need to be set in Role Permissions.

As mentioned earlier, users can have a combination of permissions.

A common combination is to combine the KPIs Author permissions in row 1 and Action Center Author permissions in row 2 for the same role.

Another example relates to Consumers who are also allowed to create and maintain their own action centers, so they also fall in the category of Author of Action Centers. For this case, you can combine the permissions on row 2 and row 3 of the table into a single role.

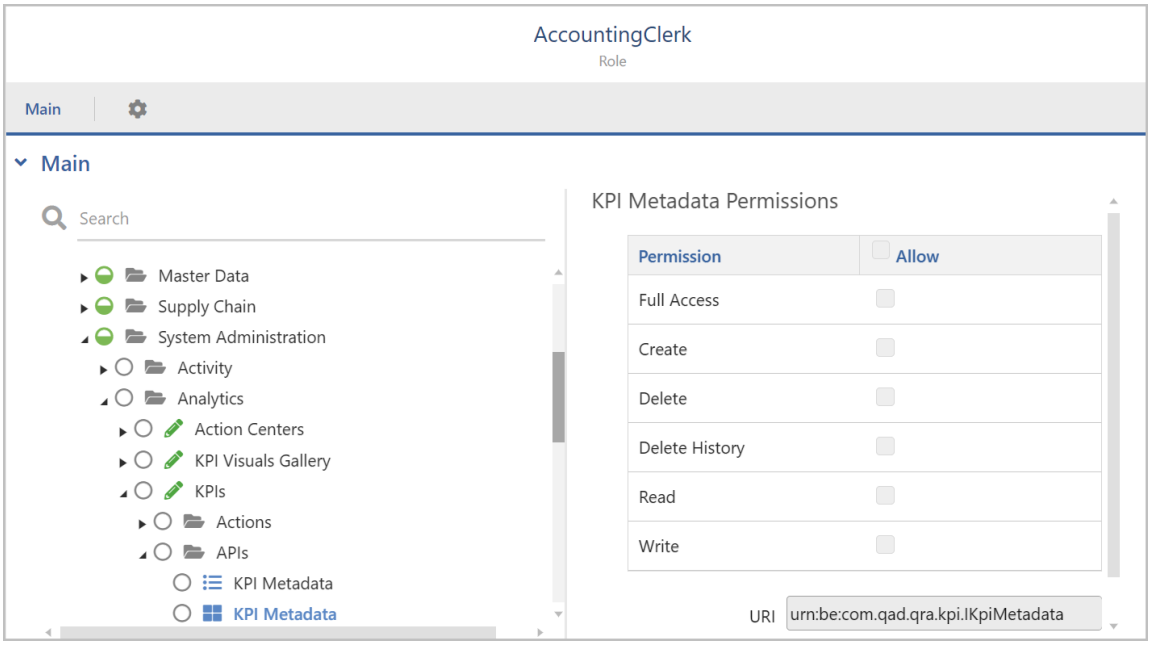
You do not necessarily have to create new roles to grant those permissions. The categories are only described to make it easier to understand the required CRUD permissions. You can add those permissions to existing roles OR you can create separate roles for them. It depends on the size and complexity of your organization.

- In a smaller organization, it is easier to combine more permissions in a smaller number of roles.
- In a large organization with many roles, it could be easier to add a few more roles that only grant action center permissions.

Before starting the actual permissions setup, it is recommended that you create a new matrix, like the one on the slide, with your organization's roles as rows.

Set permissions on the **Role Permissions** screen.

KPIs View Permission

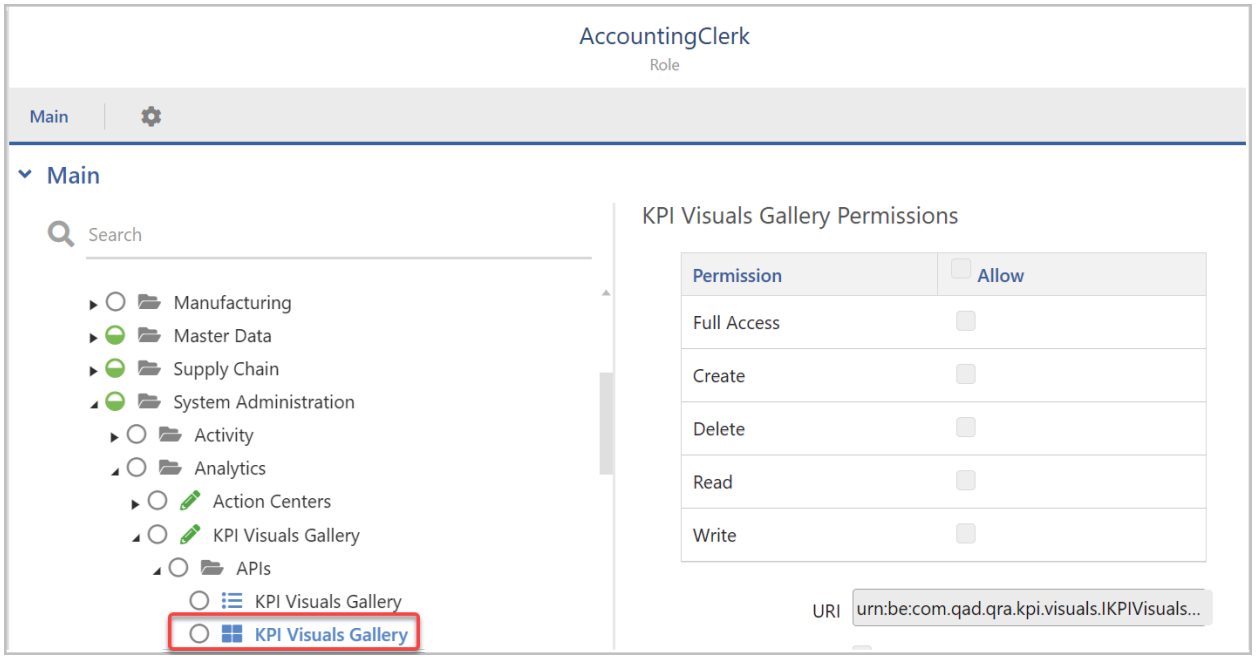


The KPIs view resource is part of the KPI Metadata group under the QRA Core section (All Resources > Menu > System Administration > Analytics > KPIs > APIs.)

For each role, you can set the required CRUD permissions.

Anyone using action centers must at least have Read permissions for this resource.

KPI Visuals Gallery Permissions



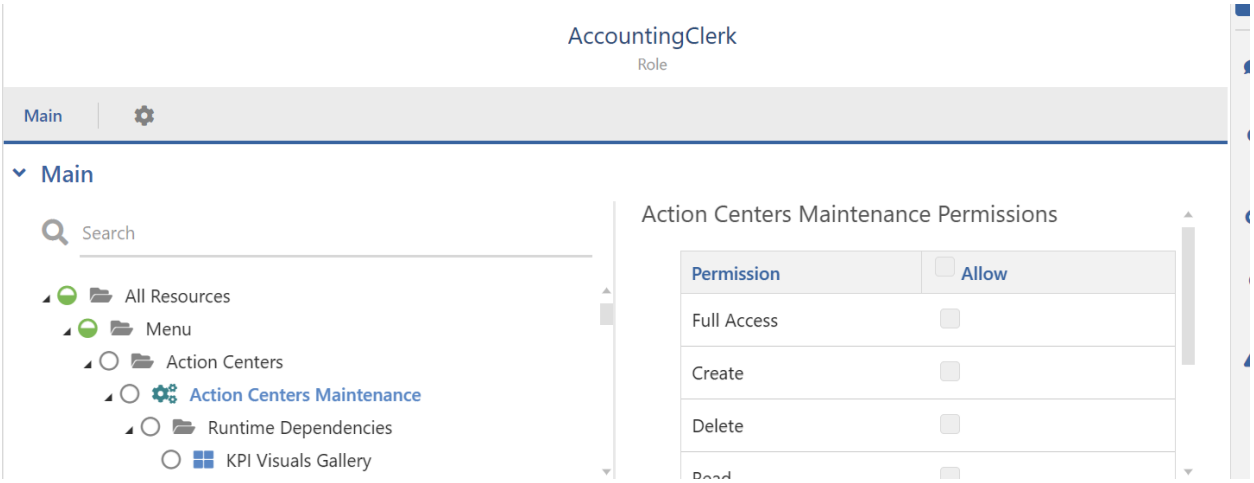
The KPI Visuals Gallery permissions are located in All Resources > Menu > System Administration > Analytics > KPI Visuals Gallery > APIs > KPI Visuals Gallery.

You can, for example, give full CRUD access to the KPI Visuals Gallery component, but only Read (or RU) access to the other parts of the group.

Then, the role can create new visuals, but not create or update KPIs.

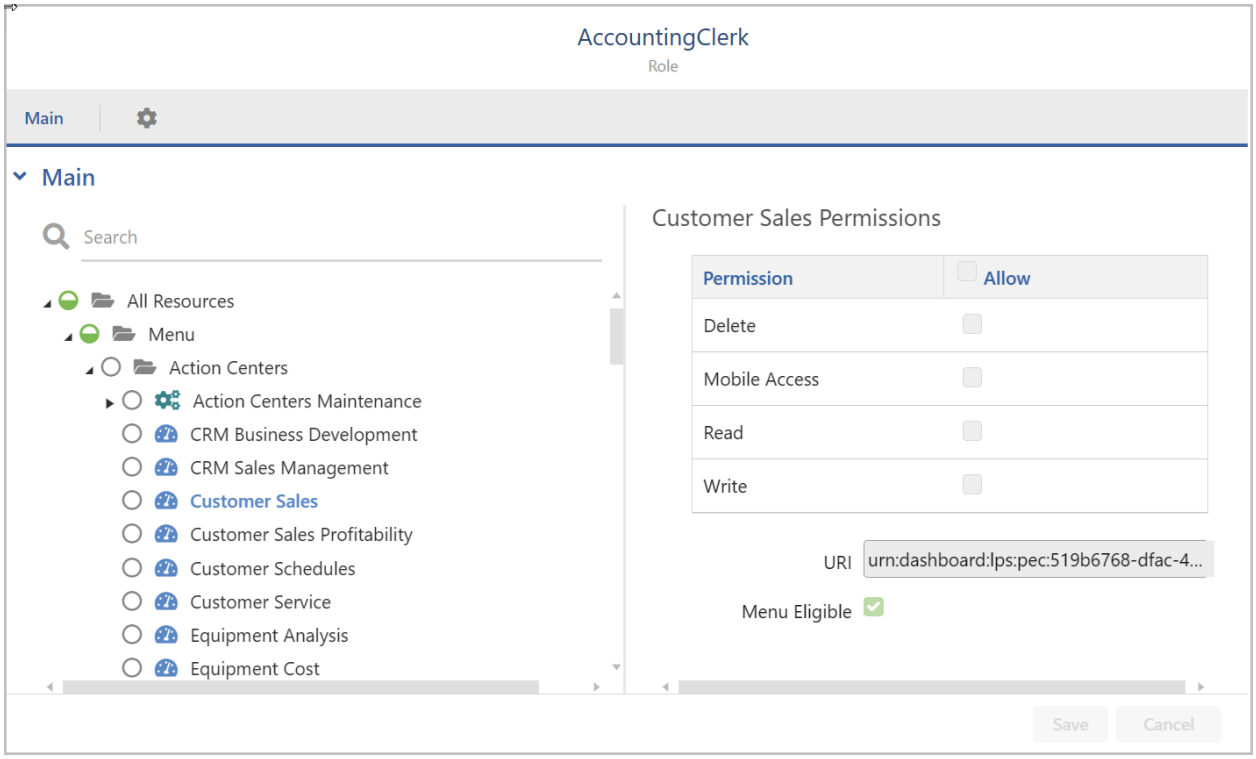
Anyone using action centers must at least have Read permissions for the KPI Visuals Gallery resource.

Action Center Maintenance Permissions



The general Action Center Maintenance permission is located in All Resources > Menu > Action Centers > Action Centers Maintenance. The authors of action centers must have full CRUD permissions for this resource.

Named Action Center Permissions

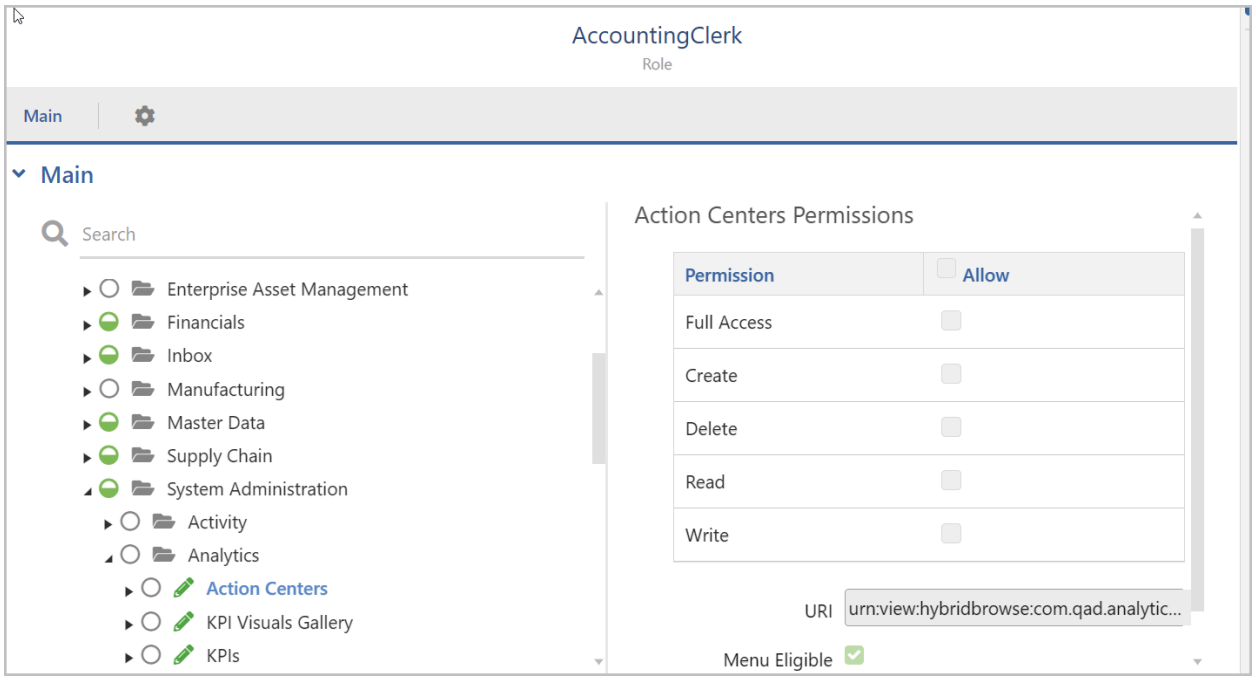


To use any action center, you also must have permission to access that specific named action center.

Here is an example of the access permissions settings for a named action center for a given role.

Action centers are listed under All Resources > Menu > Action Centers. The creator of an action center automatically has full CRUD permissions for that action center.

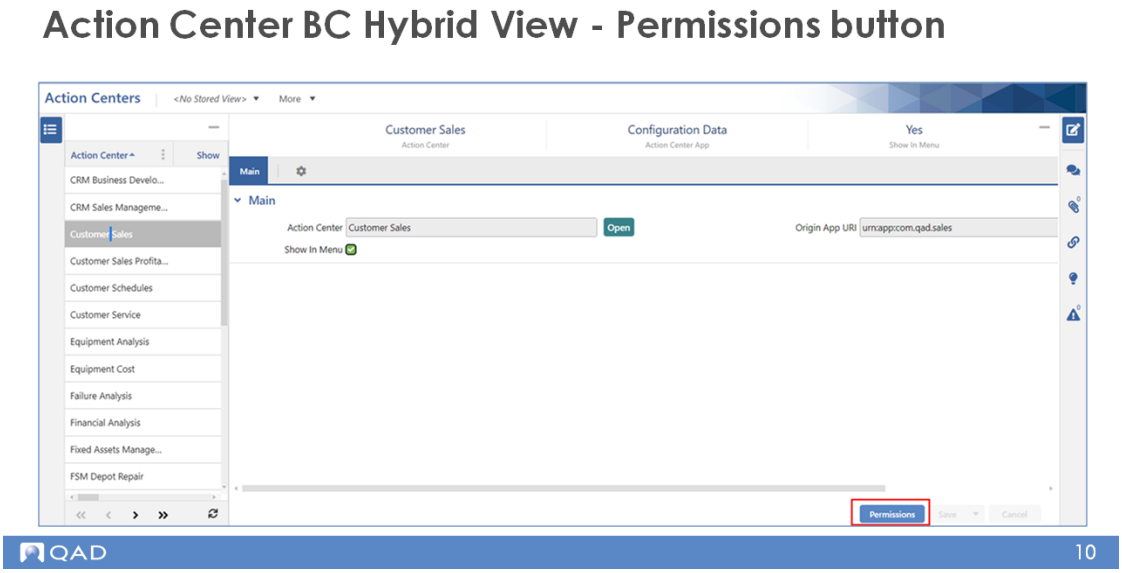
Action Centers BC Hybrid View



Here is an example of the Action Centers business component hybrid view permission, which is typically only needed for the administrator to manage visibility of action centers from the hybrid view.

The Action Centers business component hybrid view resource is listed under All Resources > Menu > System Administration > Analytics > Action Centers.

Action Center BC Hybrid View - Permissions button



When you select an action center in the Action Centers view, there is a button at the bottom of the screen, allowing the administrator to open the role permissions settings for that specific named action center.

It is a shortcut for accessing the named action center permissions that were explained in the previous sections.

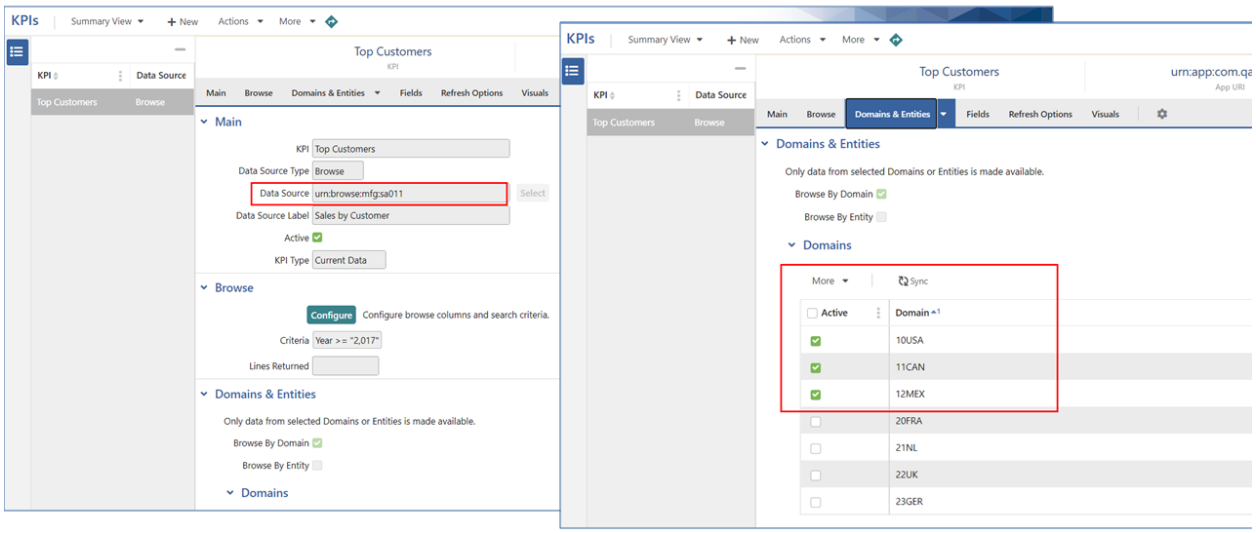
KPI Data Permissions



The data that you are allowed to see is one of the most important aspects of action center permissions.

The rule for this is simple: every KPI and visual has a browse as a data source, and browses are secured in the ERP system, based on user roles, by domain, entity, or site. For example, the Accounting Manager role has Read access to the Customer Invoices browse. A user, John, has the Accounting Manager role in the 10USA domain, but does not have that role in the 11CAN domain. John can only run the Customer Invoices browse in the 10USA domain. If John is now looking at a KPI in an action center that shows customer invoices across domains, then John only sees customer invoices from the 10USA domain. If a user views a KPI on an action center, but has no access to the underlying browse in none of the selected domains, then a No Access message shows where a chart is normally displayed.

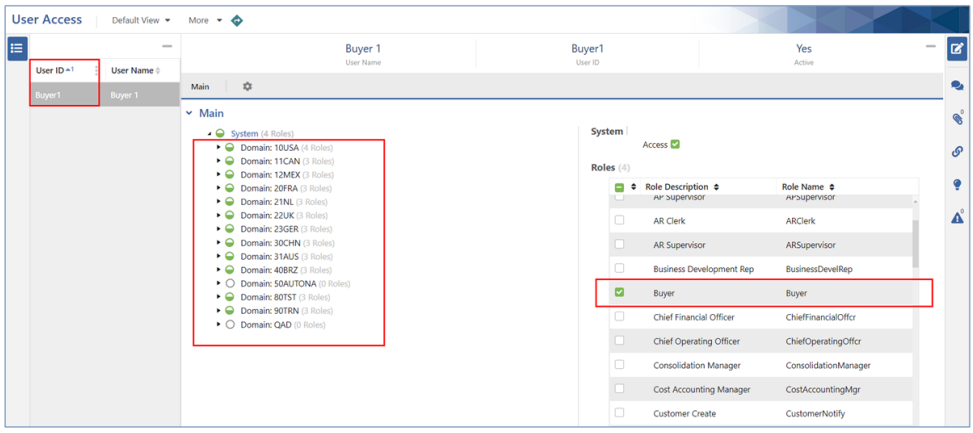
KPI Data Permissions



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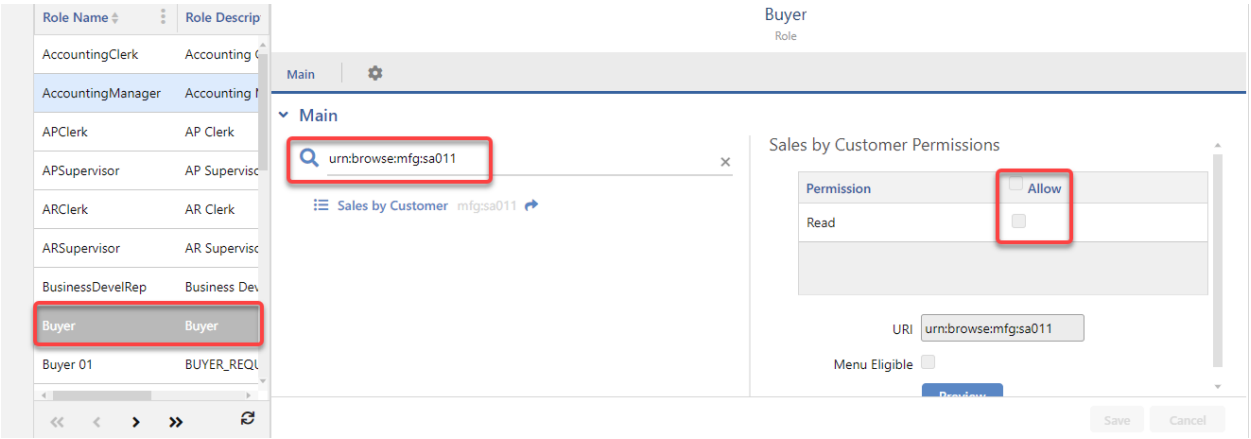
When this happens, the first things that the administrator must check are the role permissions of the browse used as the data source for the KPI. You need to know the browse URI—visible in the KPIs screen—and the domains that the KPI reads data from—also in the KPIs screen.

KPI Data Permissions



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Then, check the domains and entities that the user has access to, and the roles that the user has in the domains and entities on the User Access screen.



Then, in Role Permissions, select the roles for the user and, in the permissions tree, search the browse using the URI. The role must have read access to the browse and the user must have that role in at least one of the domains selected in the KPI.

Congratulations! You have completed the Actionable Insights and KPIs course. Thank you for watching!