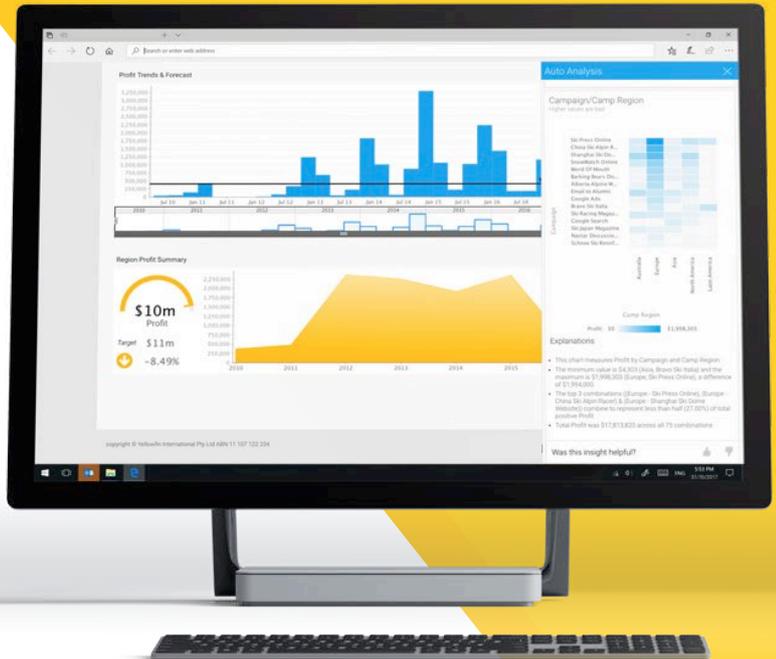


Release Notes

Yellowfin 7.4
OCTOBER 2017

Introducing Yellowfin 7.4:

Smart BI for faster,
better insights.



While most BI tools can tell you what happened,
Yellowfin now tells you why.

Yellowfin 7.4 delivers an end-to-end analytics platform with the complete BI stack – data transformation, automated insights, and market-leading collaboration tools – so customers have one product for analytics and data transformation. More importantly, with automated insights, Yellowfin 7.4 applies advanced algorithms to help data analysts respond quickly to business questions and to help business users answer the question “Why?” on their own.

“7.4 is a huge leap forward for Yellowfin. It is really bringing AI to BI and allowing our clients to get to the why faster.”

The Data Transformation module will benefit our customers by doing the heavy lifting in the data preparation phase. And the incorporation of R, H2O and PMML as transform steps will allow data science models to be productionised.

Our automated insights are going to help analysts to deliver great value to the business and allow business users to discover the why behind their numbers. In short this is an awesome release that we are all so proud of here at Yellowfin.”

- Glen Rabie, Yellowfin's Co-founder & CEO



The major enhancements:

- **Assisted Insights** answers why something happened by providing the most statistically relevant answers to a question, both for business users and for data analysts.
- **Data Transformation** gives users one solution for analytics and data transformation, integrated in a single platform, without locking them into proprietary databases.
- **Data Science Productionization** bridges the gap between data science and analytics teams and enables advanced analytics across the enterprise.

Assisted Insights

Automated Insights automatically provides immediate answers without the user having to dig through all their data searching for the elusive piece of insight. Users simply ask the question they're trying to answer, and Yellowfin finds the data to analyze, runs it through a series of steps to find the most statistically relevant results, and then presents them in easy-to-understand and best-practice visualizations and narratives.

The *Explain* option is ideal for understanding the data that drives changes in your content. The *Compare* option uncovers the differences between two data points. The resulting charts and their written explanations are sorted in the Auto Analysis panel in order of statistical relevance. Save these insights for later or to share with others.

Instant Insights

Allow Yellowfin 7.4 to automatically discover insights for the business users. Advanced algorithms instantly carry out the work of expert data analysts, providing users with automated insights based on the relevance of their data.

Business users will be able to use this functionality effortlessly on their charts with minimal effort. With the click of a button, they can choose to get a deeper explanation of the data they are seeing, or compare data on a chart to understand differences.

Assisted Discovery

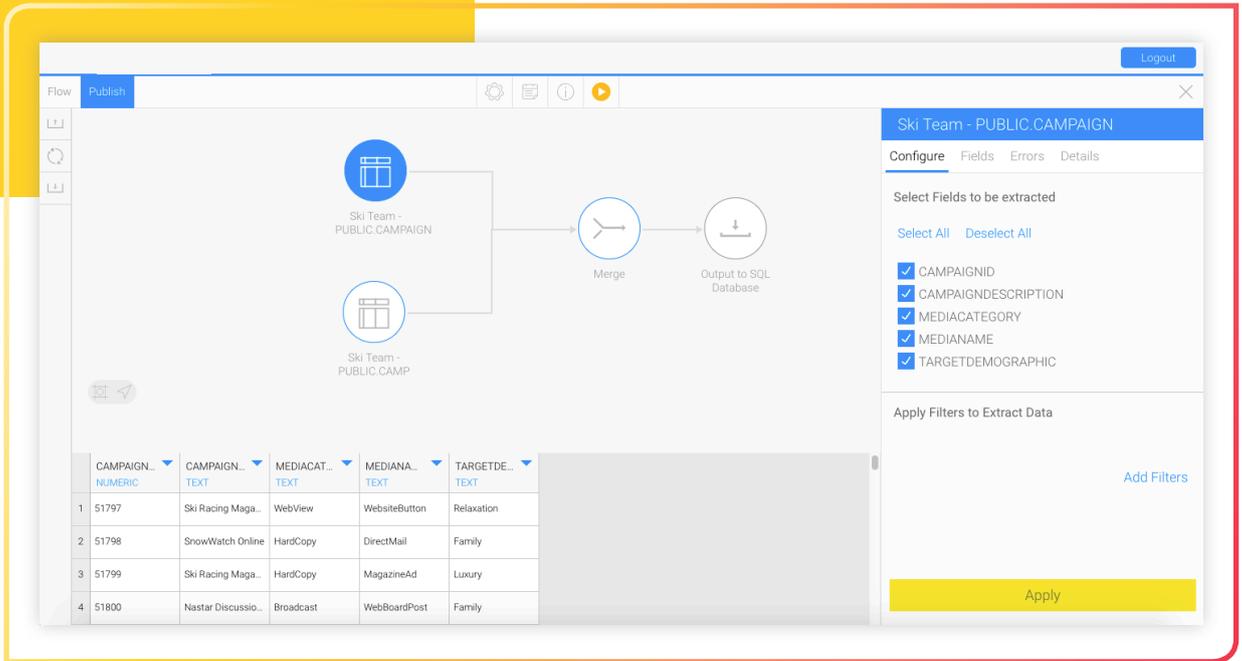
While previously data analysts would need to carry out a multitude of steps for manual data discovery, this is now done instantly through Yellowfin's Report Builder. Revamped to provide auto-analysis to content writers, the report builder now includes a Smart Analysis button, that's simple to use. Just drag the data that requires analysis and click on it.

Tell the Insight Wizard what you want to see and then let Yellowfin work its magic. The system will automatically perform data analysis by running a series of algorithms before displaying results that are most relevant to your data. These are presented as visual and narrative "insights", starting with single all the way through to multi-dimension analysis.

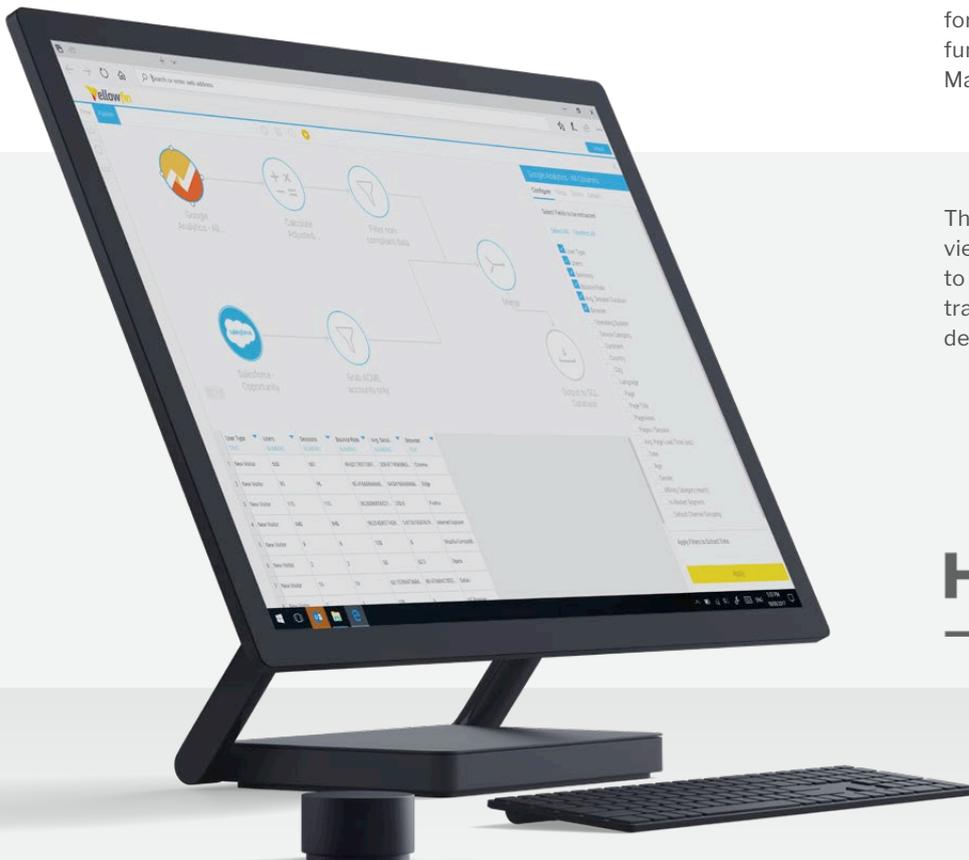
Sum Invoiced Amount	Sum Invoice Estimate	Athlete Region
\$31,291	\$34,012	Sub-Saharan Africa
\$4,116,867	\$240,189	Latin America
\$12,458,090	\$1,415,808	Australia
\$125,655,771	\$10,088,580	Asia
\$133,294,112	\$14,133,586	North America
\$195,179,208	\$23,802,754	Europe

Data Transformation

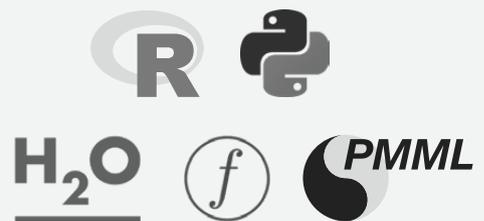
Yellowfin 7.4 includes a data transformation module that is completely integrated within the platform. This means it will work with all our existing security features, so your data steward can deliver more trustworthy data faster.



The drag-and-drop interface of the new transformation flow builder makes for easy data transformation. Configure data sources for extraction, transform data using built-in functions or by downloading widgets from our Marketplace, and then write it to your database.

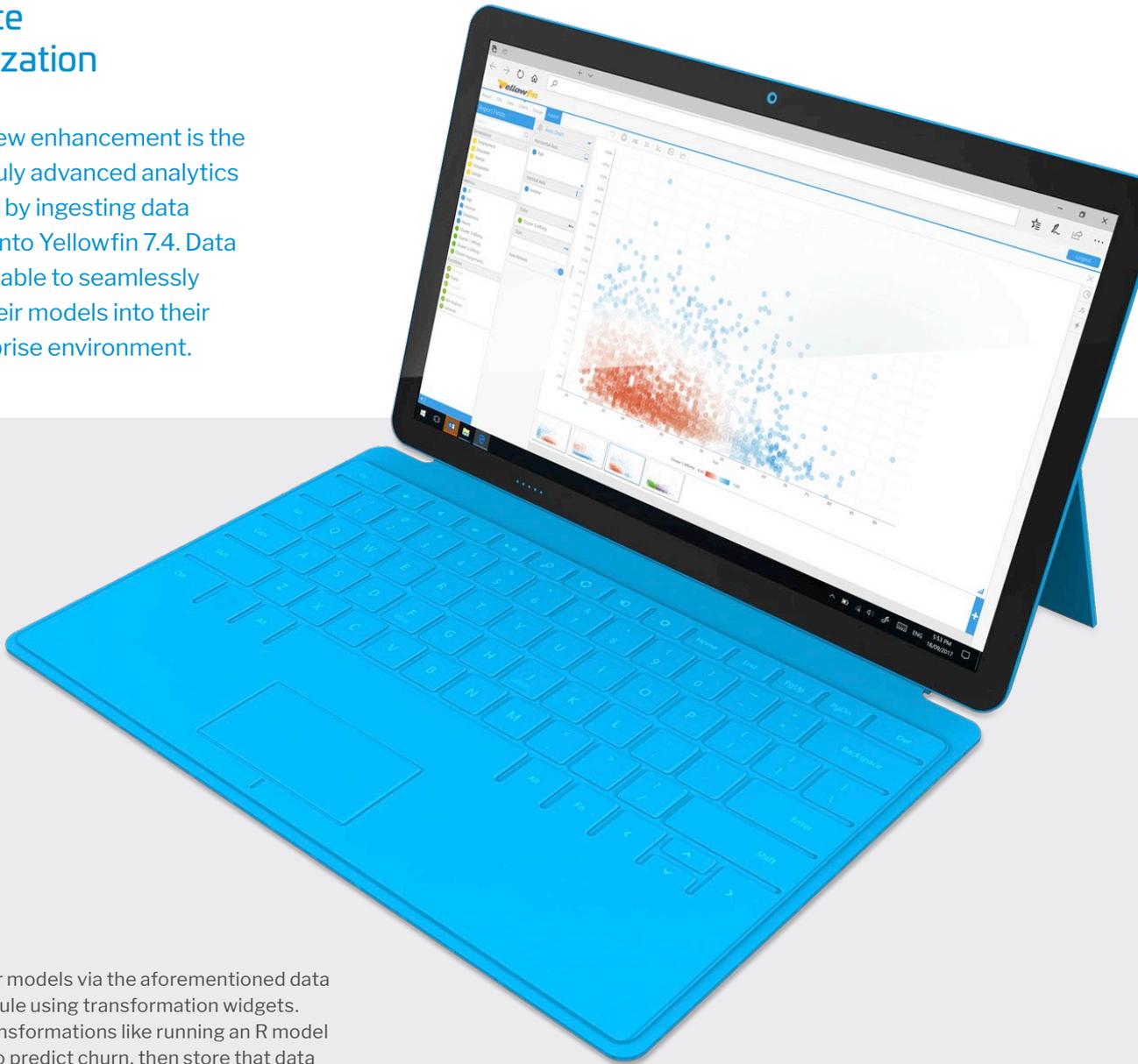


The transformed data can be executed and viewed in real time or scheduled for batches to be run at regular intervals. Yellowfin's transformation module also has complete error detection across your flows.



Data Science Productionization

Another major new enhancement is the ability to bring truly advanced analytics into the platform by ingesting data science models into Yellowfin 7.4. Data scientists will be able to seamlessly productionize their models into their corporate enterprise environment.



You can bring in your models via the aforementioned data transformation module using transformation widgets. You can perform transformations like running an R model against client data to predict churn, then store that data in a database format to report on. So your models can come to life in your enterprise BI environment.

Advanced Metrics

Advanced Function | Data Conversion

Save Cancel

Age at Camp (Numeric) Σ # #! + % - ○ ○ ○ ○ ● ○ ○ Display only in charts

Select Function: Plugins

Search

PMML Model (Numeric)

PMML Model (Numeric)
Select a PMML Model and click Load. This will return a numeric result.

Attribute	Setting	User Prompt
PMML File	<input type="text"/>	Complete path or URL for PMML file
Load PMML	<input checked="" type="radio"/> Reset <input type="radio"/> Load	

Step 1: Use "PMML Model (Numeric)" to convert to Numeric



Another way to integrate models is through Advanced Functions in the report builder. Plugins for PMML, PFA, H2O.ai and R (which can be downloaded from our Marketplace) can be loaded directly into Yellowfin.

With this approach, your models are available across your enterprise via either post query processing or transformation. So you can go from data to dashboards in one platform.

In addition to the inclusion of so many major additions in the new release, Yellowfin has also made some great enhancements to existing features. Here are some of these being introduced with Yellowfin 7.4:

New Charting Configurations

Experience more control in the way you present your data with new settings added to a number of charting components.

A range of new features have been added to Yellowfin's Chart Builder that allow for increased chart configurations and improved data visualizations. Time series charts have had improvements made to them, including the ability to display data according to specific time blocks with the introduction of Discrete Time Series. This gives you more flexibility in presenting your business and discovering trends.

The update allows for increased efficiency in how the user performs advanced charting functions by adding enhancements to display variance in multiple ways and the ability to create data sets directly.

Add Variance

Variance Name

Variance Between

Custom Set

Female Athlete Actual Cost [Delete](#) [Edit](#)

Custom Set

Female Athlete Estimate Cost [Delete](#) [Edit](#)

Display Variance as

Value % of Total Variance

% Percentage % Change in Relative Proportion

$((v1 - v2) / \text{Sum}(v1 - v2))$

[Submit](#)

End Date

- End Date
- Settings
- Units
- Time Data
 - ✓ Continuous
 - Discrete

Activity Stream

With the interactive new activity stream, we have focused our efforts on improving navigation to your content activity, by including a brand new animated button on your dashboard, storyboard and report screens. To provide added usability, a notification indicator atop your activity button will alert you to the number of new comments since your last access, so you can be confident you haven't missed anything new.

The new interface makes it increasingly simple to collaborate by adding comments, attaching files, managing tasks, and sending secure messages. And now only the most applicable activities and comments will be displayed in a rich and meaningful way.

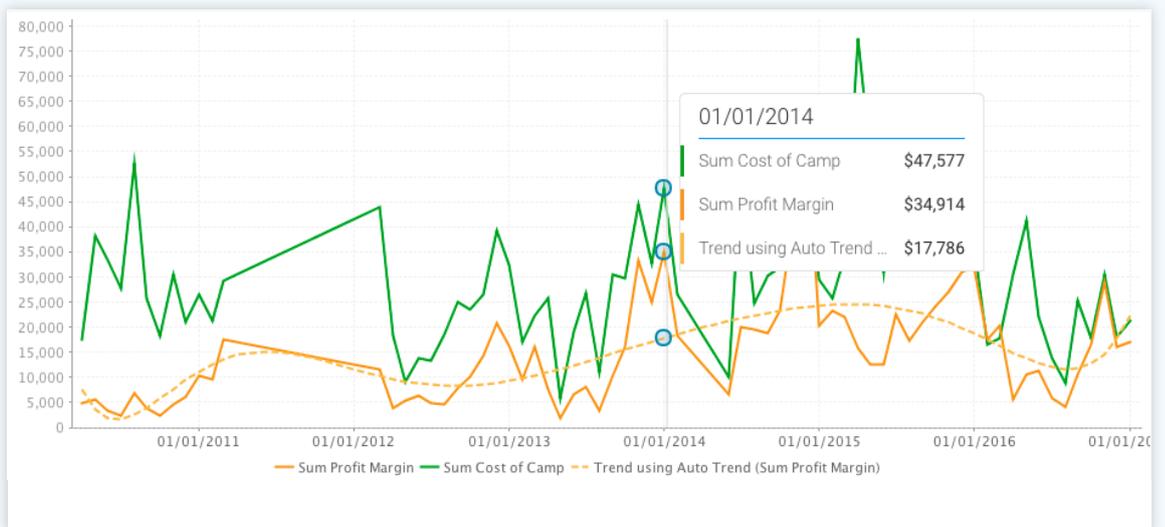
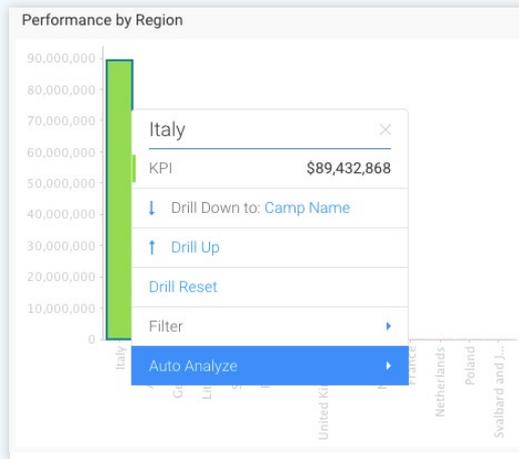
The screenshot displays a comprehensive dashboard for Sales Performance. At the top, there's a search bar and a 'Logout' button. The main content area is divided into several sections:

- Invoice Summary:** Shows 'Invoiced' at \$471m against a 'Target' of \$49.7m.
- Demographic:** A donut chart showing segments for Luxury, Adventure, and Other.
- Gender:** A donut chart showing segments for Female and Male.
- Region:** A donut chart showing segments for Athlete Region (Asia, Europe, NA) and Other.
- Line Chart:** A time-series chart showing 'Invoiced' amounts from July 2010 to January 2016.
- Region Revenue by Year:** A table with columns for Year, Camp Region, Invoiced, and % Max Invoiced.

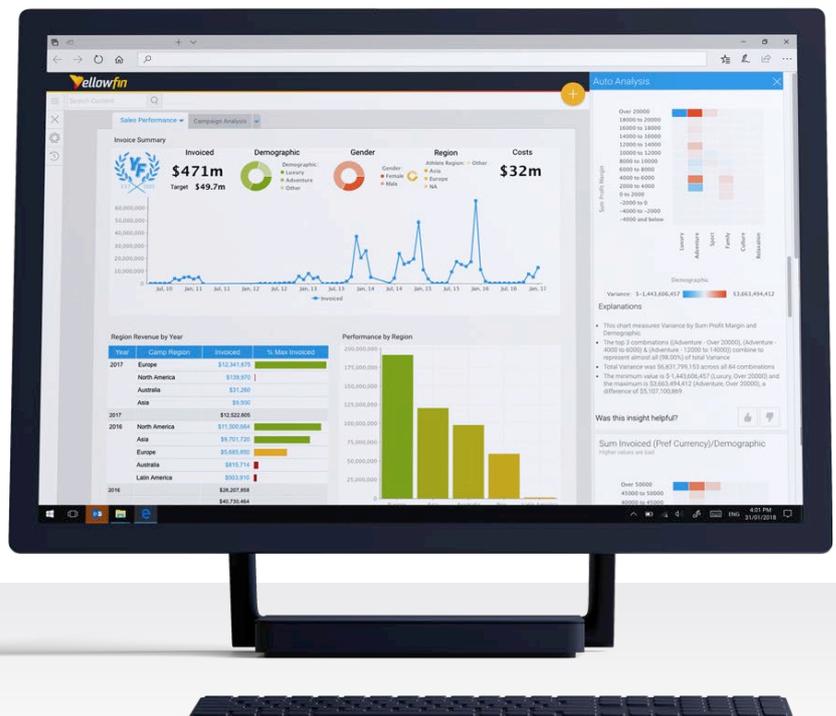
Year	Camp Region	Invoiced	% Max Invoiced
2017	Europe	\$12,341,875	
	North America	\$139,970	
	Australia	\$31,260	
	Asia	\$9,500	
2017		\$12,522,605	
2016	North America	\$11,500,664	
	Asia	\$9,701,720	
	Europe	\$5,685,850	
	Australia	\$815,714	
	Latin America	\$503,910	
- Performance by Region:** A bar chart showing performance across different regions.
- Activity Stream:** A vertical list of recent activities and comments, including user avatars and timestamps.

Tooltips

We've taken our tooltip functionality and remodeled it to not only share more information, but also provide more interactivity. This feature now brings precise content information and options to allow you to perform different actions right there on your chart. Enhancements to its interface allow data to be distinguished easily with the help of colour-codes and icons. Interactive features such as data drilling, filtering and auto analysis can now be done directly using the revamped tooltip. Get to the answers you need even quicker, with fewer steps.



Any BI can tell you what happened.
Yellowfin tells you Why. Faster.



Enhancements & Improvements

The below table contains a complete overview of all product enhancements and additions included in Yellowfin 7.4:

Automated Insights	
Overview	A new Automated Insights feature has been introduced. This enables users to perform automated insight discovery with the help of advanced algorithms.
Smart analysis	A new Smart Analysis button has been included in the report builder. This allows users to perform assisted data discovery with the help of a new Insight Wizard. Users tell the wizard what they want to see and get results in the form of auto-generated visual charts with clear explanations.
Auto analyze	A new Auto Analyze option has been added to the tooltips, to enable users to get machine generated instant insights. It further consists of two options: “Explain” and “Compare”. The Explain option generates visual and narrative explanations of a single data point; whereas the Compare option generates charts and narratives based on comparison between two data points.
Insight wizard	As part of the report builder a new Insight Wizard has been introduced. This is used to automatically generate visualizations and narratives. Options include Understand Metric, Compare Metric, Compare Dates, and Compare Dimensions.
Auto analysis panel	A new Auto Analysis panel has been included to show the results of the insight wizard. This displays the insights as visualizations and natural language explanations. Insights can also be saved and shared using this panel.
Data Transformation	
Overview	A new Data Transformation module has been included within the platform. This allows for data to be extracted from a data source, transformed, and then written into a database.
Transformation flow	<p>A new builder has been added to create transformation flows. These flows define how data will be transformed, by extracting the data, configuring its transformation and saving it to a writable datasource.</p> <p>It consists of various components such as a canvas, input steps, transformation steps, output steps, configuration panel, and data preview panel.</p>
Input steps	An input step button has been added to this module to extract data to be transformed. A range of data sources are supported: delimited file, Freehand SQL, report, single database table, or a single third-party connector.
Transformation steps	<p>With the inclusion of the new transformation step button, data can be transformed through basic functions, as well as advanced analytics.</p> <p>The basic transformations include these options: Aggregate, Calculated Field, Filter, Merge, and Split.</p> <p>The advanced analytics transformations enable the use of data models, and include these options: PMML, PFA, H2O.ai, and R.</p>
Output steps	A new output step button has also been included to allow data to be written into a writable data source. This includes an option for SQL database.
Configuration panel	<p>A new configuration panel has been added to the transformation flow builder. This enables configuring the input, transformation, and output steps, as well as the overall transformation flow.</p> <p>It also shows details such as field mapping, any transformations made, and errors and warnings.</p>

Data preview panel	During the transformation, the extracted data can be viewed in a new data preview panel. The impact of every transformation performed can be viewed on the data in real time. Functions such as field transformations, data type conversions, and column renaming can also be carried out here.
Transformation flow canvas	This builder's canvas is used to create transformation flows by dragging steps onto it, and creating connections between them.
Canvas positioner	Toggles to reposition the canvas view have also been included.
Advanced Analytics	
Overview	New functionality has been introduced to productionize data science models. This enables users to integrate their models with the platform. This can be done using Yellowfin advanced functions, or with the use of widgets in the new Data Transformation module.
Outputs available	The following outputs will be supported on release: PMML, PFA, H2O.ai, and R.
Advanced function	The advanced function feature in the report builder has been enhanced to allow data science models exported in PMML and PFA formats to be executed, or calls can be made directly to external data science platforms such as H2O.ai. Plugins for these are made available in the Marketplace.
Transformation steps	Along with basic transformations, data science models can be utilized in the new data transformation module with the help of widgets available on Yellowfin's Marketplace (https://portal.yellowfinbi.com/YFWebsite-Marketplace-77991). App integrations that are supported include R and H2O.ai. Models exported from modelling tools in PMML and PFA formats can also be executed from within a transformation flow.
Report Builder	
Advanced function	Enhancements have been made to the advanced function, to enable users to load their data models into the platform and use them (as mentioned in the Advanced Analytics section).
Smart analysis	A smart analysis button has been added to allow users to perform assisted discovery (as mentioned in the Automated Insights section).
Chart Builder	
Discrete time series	A new time series type called discrete time series has been introduced. This enables chart data to be viewed according to discrete time junctions, rather than a continuous flow.
Enhanced variance function	The Variance chart function has been updated to include two more formulas that calculate variances in data (<i>percentage of total variance</i> and <i>percentage change in relative proportion</i>). Set Analysis fields can now also be directly created from within this feature.
Date format for time series	Changing the date format has been made available for discrete time series charts. This provides more options for displaying date units, such as the longer date format or a shorter variation.
Sorting by group order	Functionality to sort chart content according to the group order has now been included.
Series sort on heat grid	Enhancements have been made to sort the heat grid by series. Previously this type of sorting was available for other charts but not the heat grid.
Applying basic chart functions to the advanced ones	Now one of the four basic functions (average, trend, forecast, and accumulation) can be applied directly to the more advanced functions, like set analysis and variance.
Customized axis titles	The auto-chart functionality has been updated to allow horizontal or vertical axis titles to be customized.

Updated axis style settings	A number of new setting features have been added to the style settings of the horizontal and vertical axis. These include toggle buttons, such as Show Tick Marks, Axis Style, and Show Tick Labels.
Updated legend style settings	Style settings for chart legends have also been updated to include features, such as Prefix Field Name, Legend Limit, Legend Item Shape, Show Trends in Legend, Variance Field Names, and Colour Range Values.
Colour field enabled for Time series charts	New functionality has been added to assign colours based on the range of numeric values in a time series charts.
Tooltip	
Overview	<p>The tooltip has been updated to display more information, and be more interactive. Now exact values, and in case of multiple data, the total sum can be seen instantly. Values are also colour-coded to allow easier identification of multiple data, and icons have been added to display the chart type.</p> <p>The interactive features include performing auto analysis, filtering content, and data drilling.</p>
Tooltips - Filter	An advanced filter option has now been included in the tooltip. Selected chart data can be filtered using options like <i>Exclude</i> , <i>Keep</i> , and <i>Reset</i> .
Tooltips - Data drilling	Data drilling can now be done directly through the enhanced tooltip. The hierarchy level of data can be seen in the tooltip.
Tooltips - Auto Analyze	The new Auto Analyze feature has been included to perform Automated Insights on charts. The <i>Explain</i> option is used on a single data point, and the <i>Compare</i> option on two points. Both of these lead to automated data analysis with results shown in the form of charts and narratives.
Activity Stream	
Overview	An advanced new activity stream has been included. Dashboards, storyboards, and reports will now include an activity stream button directly on them. It has also been updated to show only relevant information - report edits and updates are no longer mentioned. The button displays a notification counter when there are any new comments.
Activity stream comments	A new, cleaner look has been made to the comment panel.
Activity stream tasks	The task panel has also been changed to provide an improved look.
Secure messages	It has been made easier to add secure or private messages, by directly tagging the user(s) or group(s) they're intended for.
Security Access Functions	
Data transformation	A new security access function for data transformations has been added, to enable users to access the Data Transformation module.
Assisted discovery	This is one of the security access functions added for Automated Insights. It enables users to view the Smart Analysis button in the report builder, to be able to perform assisted data discovery.
Instant insight	This new security access function has been added to allow users to use the Auto Analyze option on charts.
Instant insight settings	This security access function grants permission to configure the automated insight settings through the view builder.

Browse page	
Transformation flow menu option	A transformation flow option has been included in the Browse section in the left navigation menu, that leads to the Browse page only displaying transformation flows.
Transformation thumbnails	The browse page now includes thumbnails for each transformation. The following actions can be carried out on the transformation flows using these: Edit, Transformation Summary, Make a Copy, Run Transformation, and Delete.
Search bar	The search bar on the browse page has been updated to include a filter for transformation flows.
Transformation summary	Users will now be able to see a summary of a selected transformation, just as they could for any other type of content.
Transformation summary - history	A new History tab has been included in the transformation summary panel (Transformation Summary > Details > More > History). This consists of the following tabs: Run Logs, Step Status, and Errors.
User Interface	
Create button	The create button menu has been updated to include a transformation flow option, that leads to the creation of a new flow.

This is the next generation of analytics.

Introducing Yellowfin 7.4:

Smart BI for faster, better insights.

There are a lot of analytics tools in the market today that provide good dashboards, but they're not very good at explaining what caused those results.

To arrive at that insight, a business user either asks a data analyst what happened or do their own self-service analysis.

Fortunately, Yellowfin now provides automated help so the whole business gets to the Why faster.

Find out more
www.yellowfinbi.com

