



M E G A
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HOPEX V4

Release Notes

Product Ownership

Q3 2020

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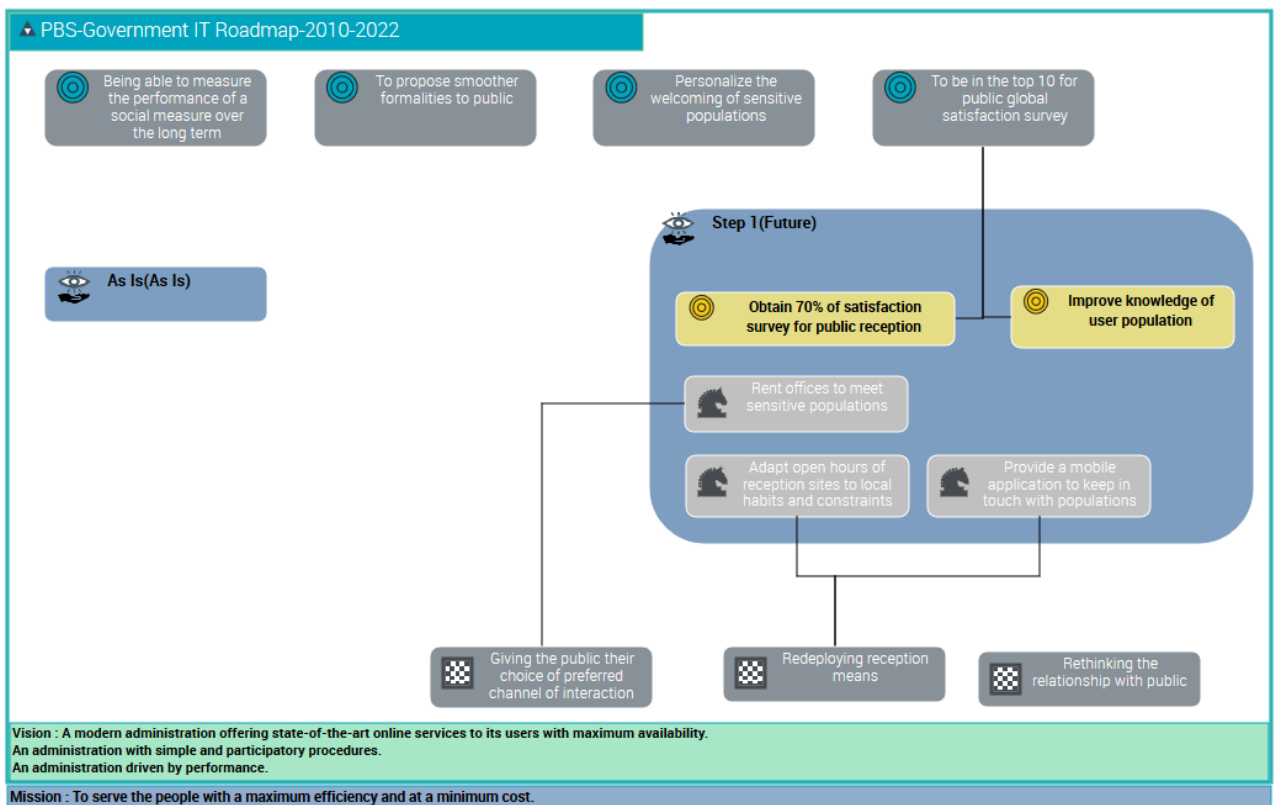
1. New Products

1.1.. HOPEX IT Business Management

A new solution which includes ITPM and complete it with Strategy Planning and Business Architecture modelling capabilities.

1.1.1. Strategy and Transformation Roadmap definition

- Simplification of Business Architecture/IT Strategy concepts and handling
 - o No more use of work environment, events, drivers and SWOT matrix
 - o No more distinction between Business and IT Stages: only Transformation Stage now
 - o A single Business Capability Map is defined for the whole enterprise and contextualized in stage via exhibited capabilities
 - o Mission and Vision are captured as different texts for Enterprise
 - o Goals and Strategies are limited to Enterprise (for global target definition)
 - o Objectives and Tactics are limited to Transformation Stage



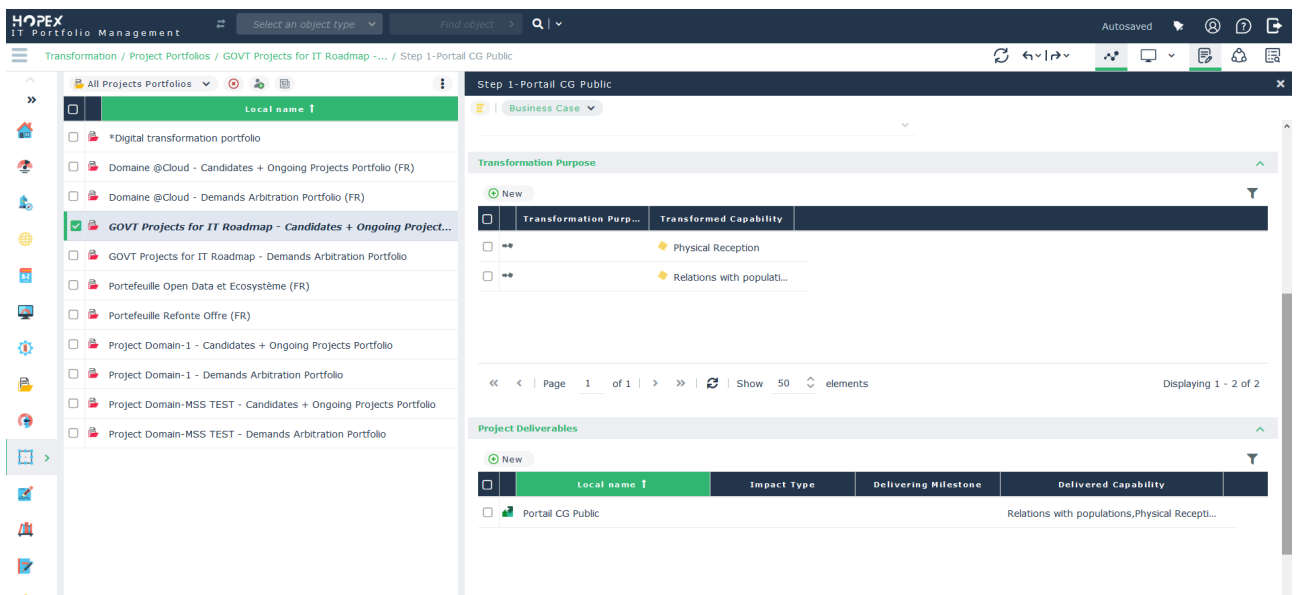
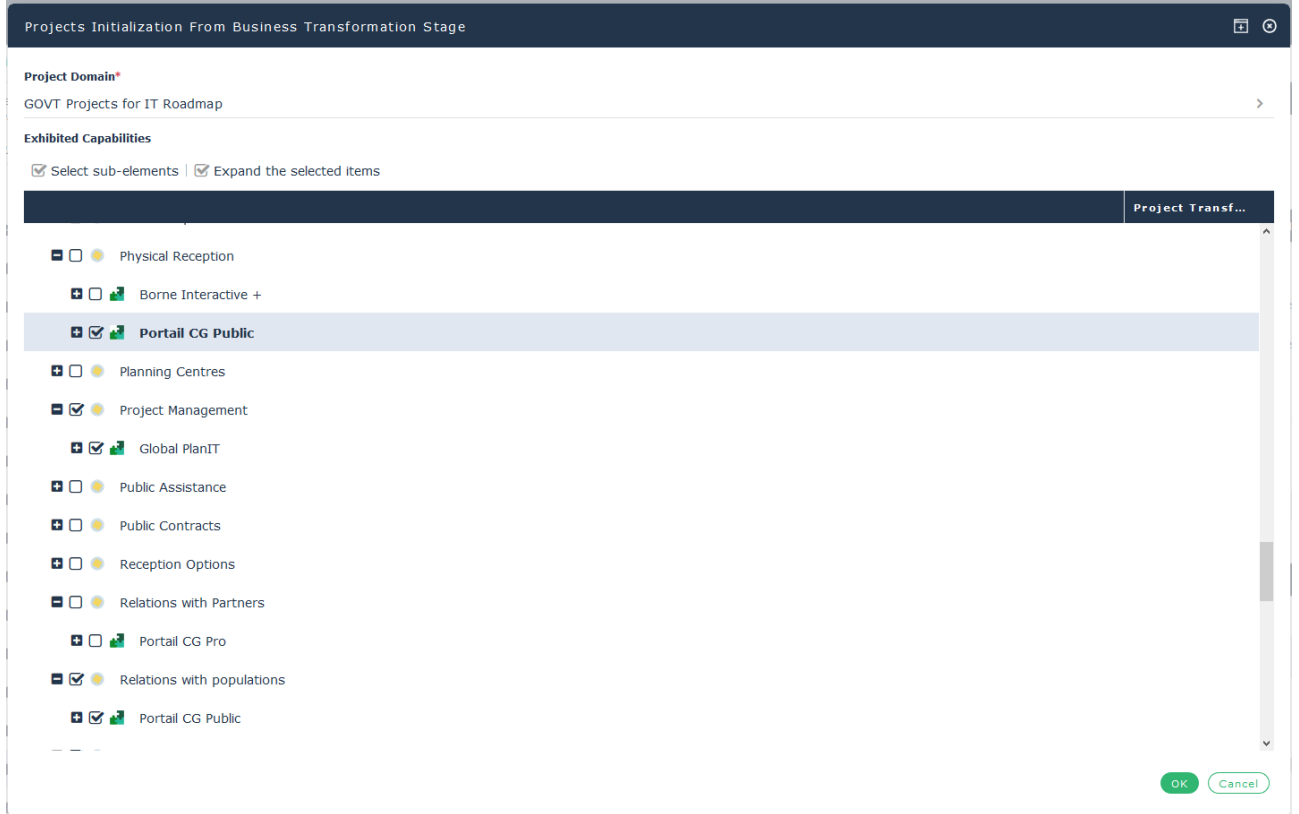
- Possibility to link a Business Capability fulfillment to a Transformation Stage (to indicate when an application is used to cover which business capability).
- New Report Data Set to compare content of Transformation Stages This allows to produce this kind of report:

	As Is	Step 1	Step 2
◆ Demand Management		HelpDesk IT	HelpDesk IT
◆ Enterprise Architecture		Hopex IT Architecture	Hopex IT Architecture
◆ Incident Management	HelpDesk IT	HelpDesk IT	HelpDesk IT
◆ IT Service Building		SoftwareFactory 3.2	SoftwareFactory 3.2
◆ IT Service Consumption Management		HelpDesk IT	HelpDesk IT
◆ IT Service Design		Hopex-UML Hopex IT Architecture	Hopex IT Architecture
◆ IT Service Portfolio Management		Hopex ITPM+	Hopex ITPM++
◆ IT Service Release	VulcanForge v4	VulcanForge v4	VulcanForge v4
◆ Physical Reception	Borne Interactive +	Portail CG Public	Portail CG Public
◆ Project Management	Global PlanIT	Global PlanIT	Global PlanIT
◆ Relations with Partners		Portail CG Pro	Portail CG Pro
◆ Relations with populations		Portail CG Public	Portail CG Public
◆ Relations with Providers		Portail CG Pro	Portail CG Pro
◆ Request management	HelpDesk IT	HelpDesk IT	HelpDesk IT
◆ Sustainable Growth			GovAll

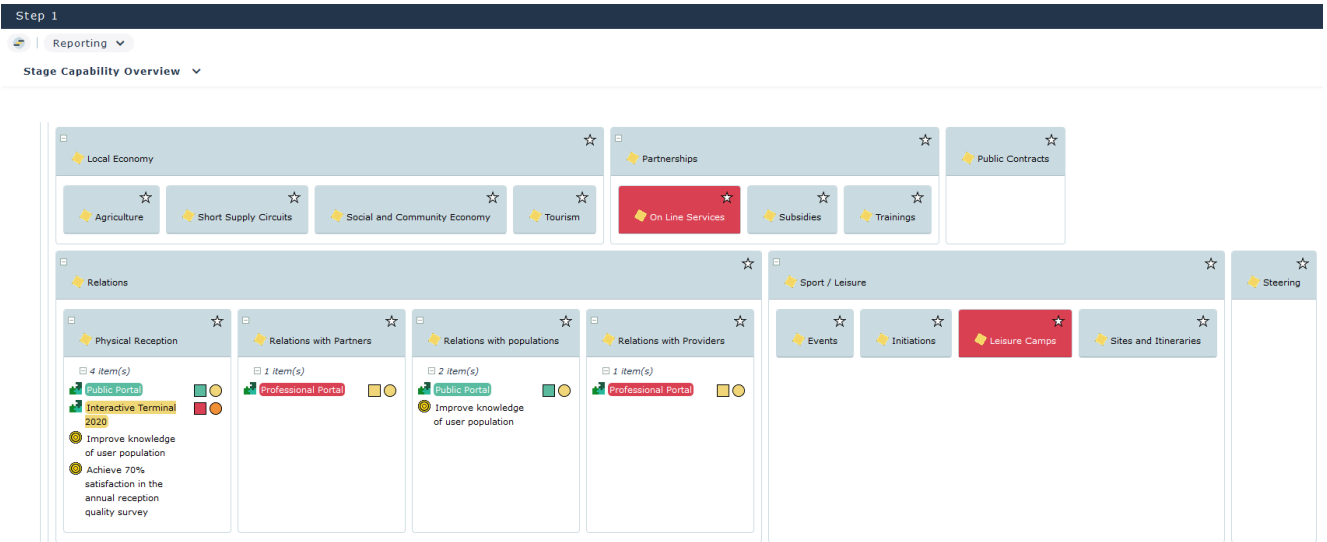
Or :

	As Is	Step 1	Step 2
◆ Borne Interactive +	Physical Reception		
◆ Global PlanIT	Project Management	Project Management	Project Management
◆ GovAll			Sustainable Growth
◆ HelpDesk IT	Request management Incident Management	Request management Incident Management Demand Management IT Service Consumption Management	Request management Incident Management Demand Management IT Service Consumption Management
◆ Hopex IT Architecture		Enterprise Architecture IT Service Design	Enterprise Architecture IT Service Design
◆ Hopex ITPM+		IT Service Portfolio Management	
◆ Hopex ITPM++			IT Service Portfolio Management
◆ Hopex-UML		IT Service Design	
◆ Portail CG Pro		Relations with Partners Relations with Providers	Relations with Partners Relations with Providers
◆ Portail CG Public		Relations with populations Physical Reception	Relations with populations Physical Reception
◆ SoftwareFactory 3.2		IT Service Building	IT Service Building
◆ VulcanForge v4	IT Service Release	IT Service Release	IT Service Release

- New wizard to initialize a Transformation Stage by duplication of an existing one (“from a baseline to target”)
- New wizard to initialize projects from a Transformation Stage (creation of projects linked to Transformation Stage with their deliverables and impacted Business Capabilities).

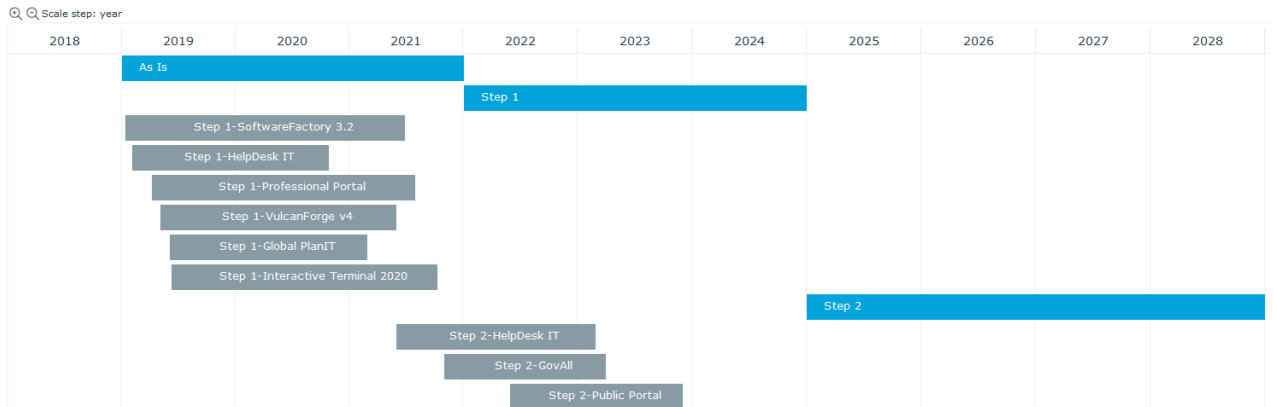


- New report to expose state of capabilities in a specific transformation stage (As Is, To Be or intermediary)



- New report for project deliverables alignment with Transformation Stage

GOVT- IT Transformation Projects Deliverables Planning and Impact



- Value Stream description inherits all improvements provided by HOPEX Business Process Analysis, especially the new diagram (see dedicated chapter).
- New report for Value Stream/Business Capability assessment synthesis

	Business Value	Capability Effectiveness	Capability Efficiency	Financial Impact
☐ ▶ Consumer Bank Loan				
└─☐ ▶ Attract Customer				
└─└─ ⚡ Operational Marketing		3 - Somewhat Effective	3 - Somewhat Efficient	3 - Moderate
└─└─ ⚡ Contact Management		1 - Extremely Effective	4 - Slightly Efficient	2 - Low
└─☐ ▶ Quick Rate Quote				
└─└─ ⚡ Offer Management		5 - Not Effective	2 - Very Efficient	5 - Very High
└─☐ ▶ Complete Loan Application				
└─└─ ⚡ Loan Management		2 - Very Effective	2 - Very Efficient	3 - Moderate
└─☐ ▶ Eligibility Decision and Underwriting				
└─└─ ⚡ Loan Management		2 - Very Effective	2 - Very Efficient	3 - Moderate
└─└─ ⚡ Regulatory Compliance		2 - Very Effective	2 - Very Efficient	3 - Moderate
└─☐ ▶ Award Loan				
└─└─ ⚡ Loan Management		2 - Very Effective	2 - Very Efficient	3 - Moderate
└─☐ ▶ Setup Payment Terms and Manage Repayment				
└─└─ ⚡ Bank Account Management		3 - Somewhat Effective	3 - Somewhat Efficient	4 - High
└─☐ ▶ Close Loan				
└─└─ ⚡ Loan Management		2 - Very Effective	2 - Very Efficient	3 - Moderate

1.1.2. Business Architecture

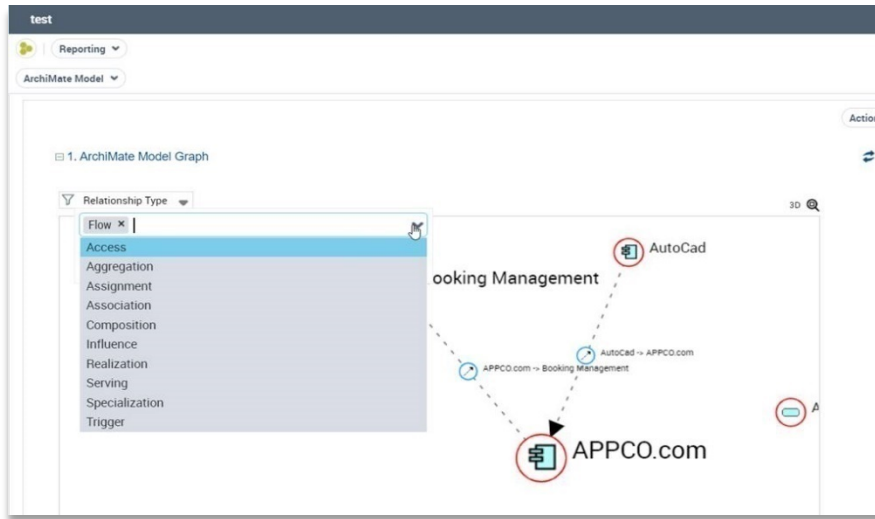
- Business Architecture concepts that are not implied in Strategy definition can be activated via an option. Activating this option allows to handle:
 - Business Architecture environment
 - Business Functional Area and Business Function
 - Business Partner Group and Business Partner

2. Product Improvements

2.1.. HOPEX for the ArchiMate® Framework

- New embedded graph impact analysis reports
 - At model level, displaying the whole model contents
 - At element level, displaying the incoming and outgoing relationships and neighboring elements

The displayed relationship types can be filtered



2.2.. HOPEX Business Architecture

HOPEX Business Architecture is now deprecated and superseded by HOPEX IT Business Management new offering.

2.2.1. “Box in Box” reports improvement

Breakdown as well as Assessment report templates have been redesigned to integrate the new 'box in box' renderer (see corresponding section in HOPEX Customizer>Reporting below); they now support:

- Multiple criteria rendering thanks to user-defined pictograms as well as color fill of boxes

Criteria		
Shape	Object Type	Criterion
circle	Business Capability	Business Value
triangle	Business Capability	IT Support

- Automated legend computation
- In-report depth of reporting selection
- In-report unfolding of all fulfilling solution building blocks

2.2.2. New diagrams

Existing DoDAF diagrams are made available in Business Architecture

- Org-chart Structured Diagram, for Org-units
- Business Capability (Map) Tree Decomposition Diagram, for Business Capability Map and Capability, enabling free depth diagramming of Business Capability Maps, when a specific layout and many levels of capability is desired

- Note: the legacy Capability Tree Diagram is protected by the legacy diagram option, and can be reactivated if necessary

2.2.3. New Reference Models

2.2.3.1. Business Architecture Guild Reference Models

The Capability Maps from the Business Architecture Guild

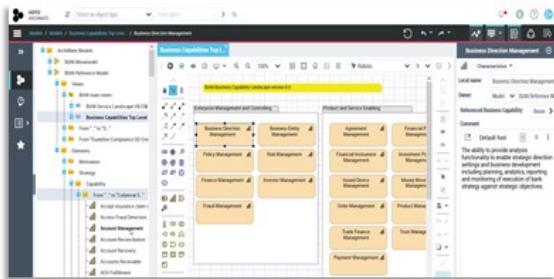
<https://www.businessarchitectureguild.org/> Reference Models are provided as solution pack on the HOPEX Store.

Note: to be able to install this solution pack, you'll need to be a Business Architecture Guild Member.

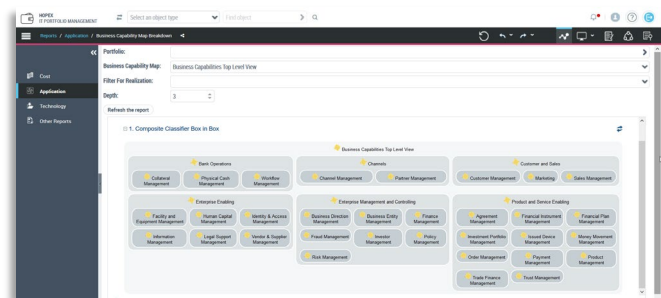
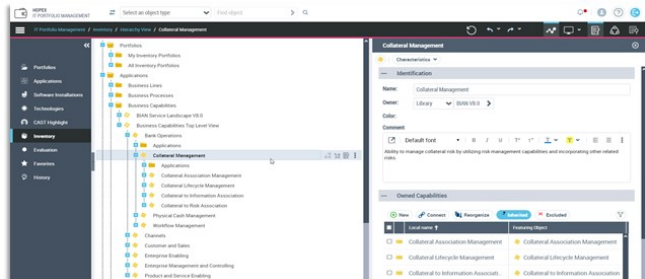
2.2.3.2. BIAN Capability Maps conversion toolkit

- A BIAN capability map conversion toolkit **has been made available on the HOPEX Store**, to help with the translation of BIAN Framework in ArchiMate format into the HOPEX Business Capability Map format, usable with HOPEX Business Architecture or IT Portfolio Management

BIAN Capability Maps in HOPEX for ArchiMate® Framework



BIAN Capability Maps in HOPEX IT Portfolio Management

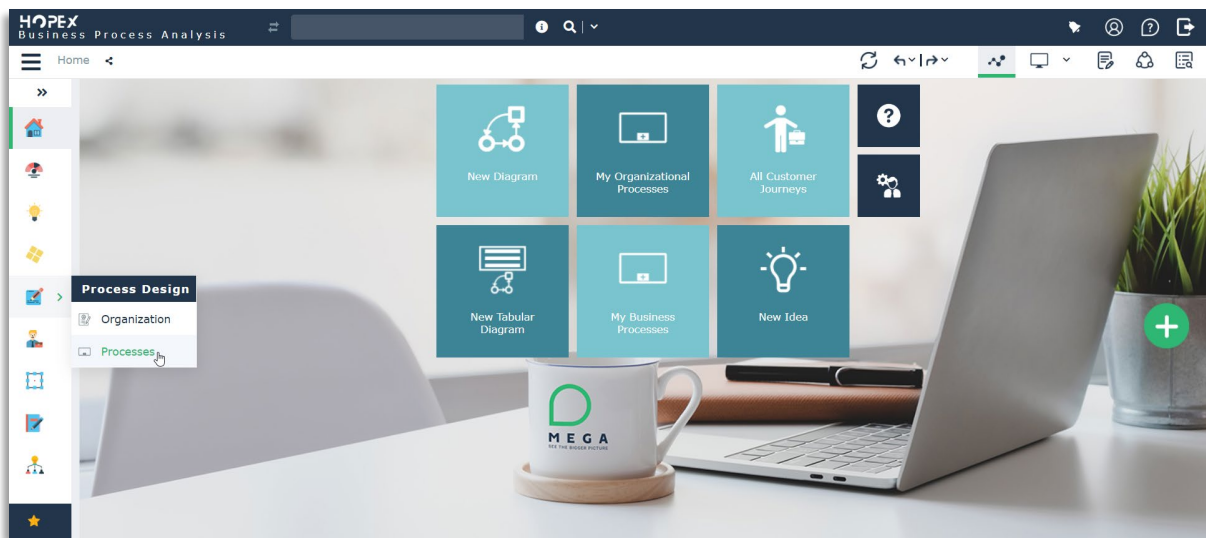


2.3.. HOPEX Business Process Analysis

Various improvements have been delivered in this update, as part of a simplification effort, aiming at an easier-to-use product, especially for new or casual users.

2.3.1. Updated BPA Desktop

- Non-explorer viewer and contributor legacy profiles have been removed, as well as process risk designer profile (merged into the "Process Manager" profile)
- The HOPEX Business Process Analysis Desktop is updated with latest stylesheet
 - The HOPEX Business Process Analysis Desktop has been migrated to the new UI/UX HOPEX standard with updated UI and icons.
 - New diagram / New tabular diagram tile enables 'one click' new process diagram creation
 - Less tiles on the desktop pointing to modernized lists with combo (e.g. 'all org process', 'my org process' merged into one tile and landing list-view)



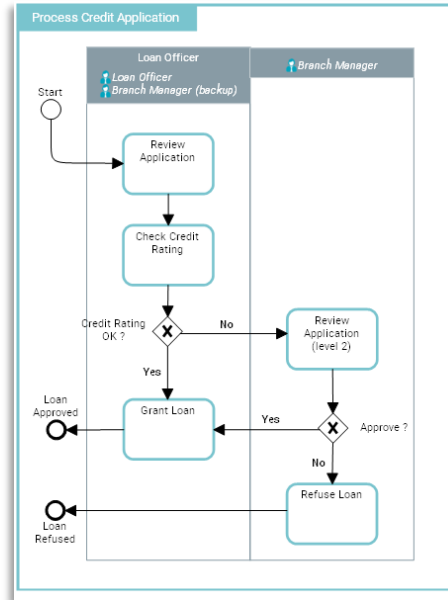
- Improved menus / options consistency
- Tree views have been converted to tree list views, so that the floating toolbar is now available on the standard tree views
- The BPA Property Pages have been updated to the latest UI/UX standard (e.g. buttons instead of drop boxes for low values lists, Multiple combo boxes controls for types instead of lists, etc.)

2.3.2. Diagramming Improvements

2.3.2.1. New Shapes & Icons

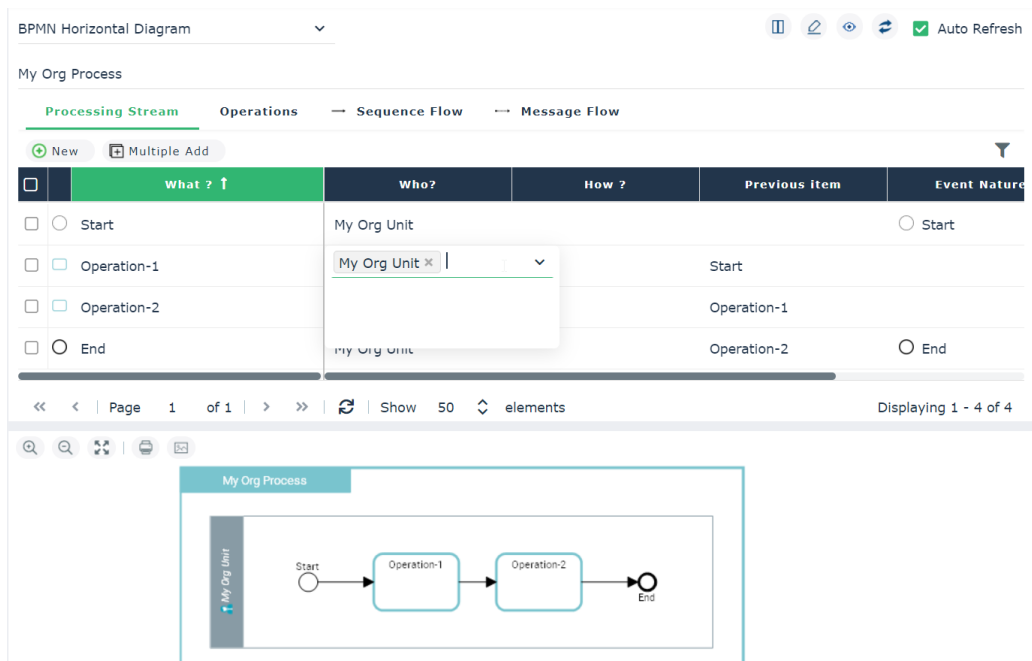
- The process diagram shapes set has been updated

- Lighter vs. V1R3 shapes
- Empty shape vs. full shapes
- Borders in color vs. borderless
- Black text vs. white text
- More readable



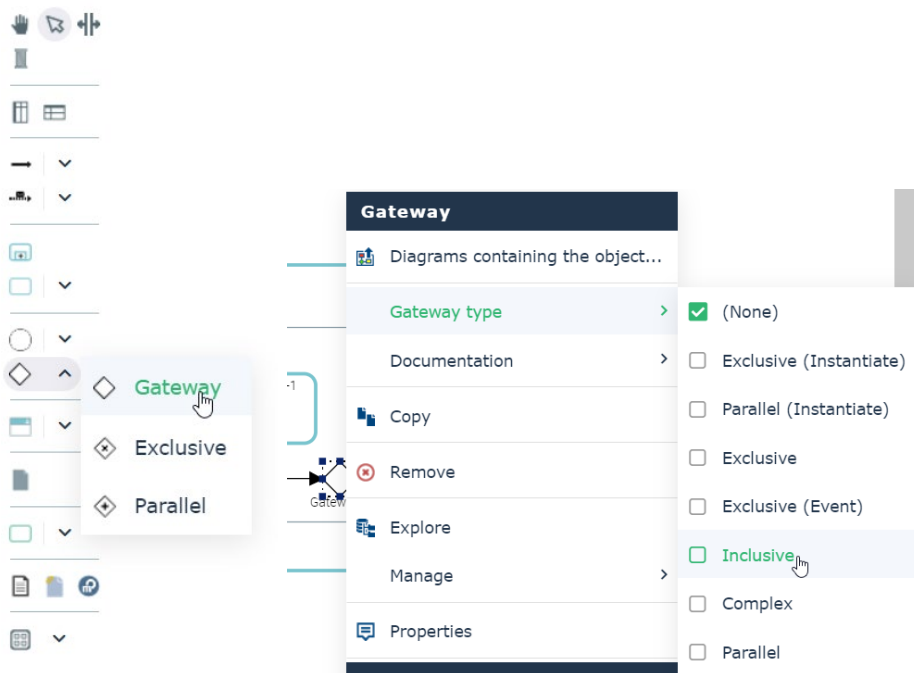
2.3.2.2. "Easy diagramming" tabular entry various improvements

- Simplified UI with a focus on the 'simple' use case
- Auto sequencing of objects (operations, gateways) when adding new objects
- Reviewed columns setup and header with more intuitive names (e.g. What ? Who ? How ?)
- The former "ad-hoc" picker to create or reuse objects has been replaced by more standard and leaner "multiple combo box" control with autocomplete

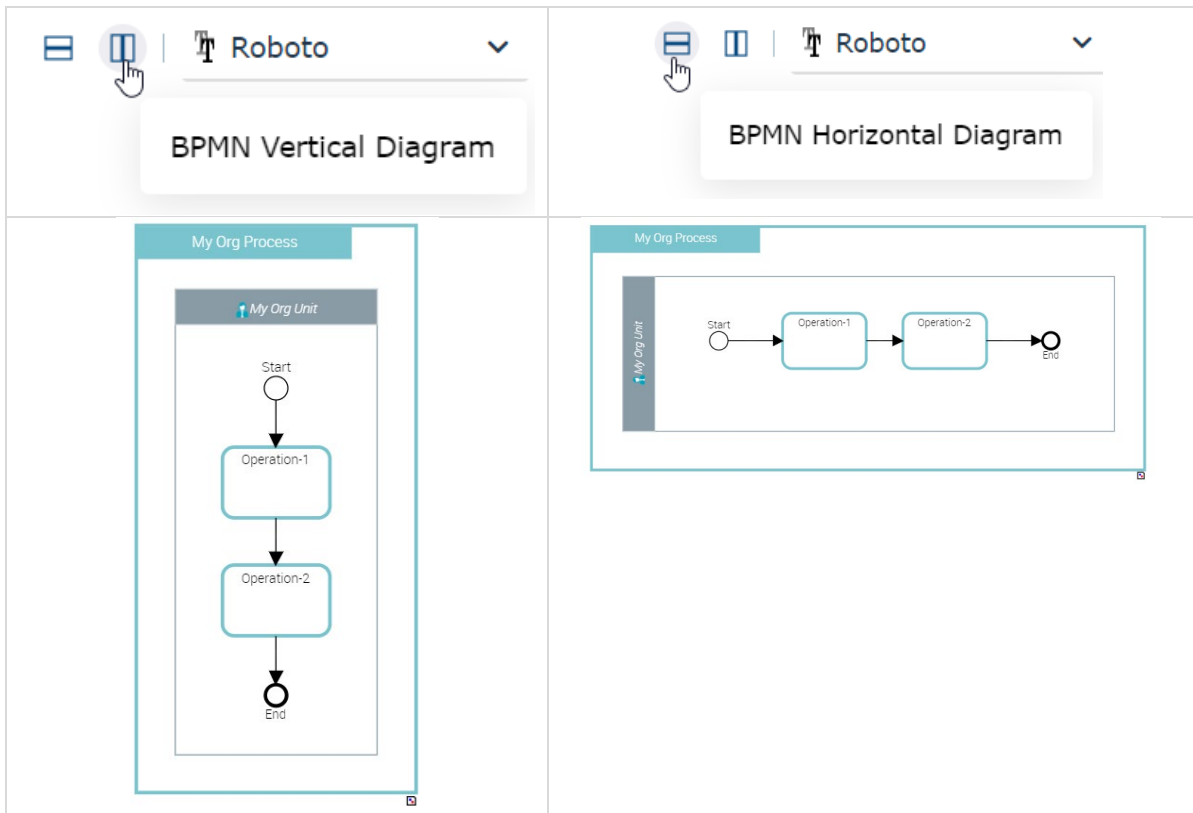


2.3.2.3. Graphical Editor Improvements

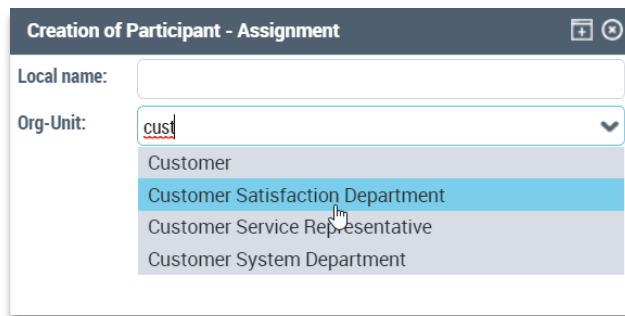
- Stretchable objects toolbar with multiple sections & columns now enable to have a lot of objects in the toolbar while keeping it manageable
- Simplified toolbar buttons
 - Focus on the most useful types for events, gateways and participants to lighten the UI
 - Additional means to quickly change the 'typing' in properties (events) or right click (gateways, participants), so that the more exotic types can be easily selected when needed



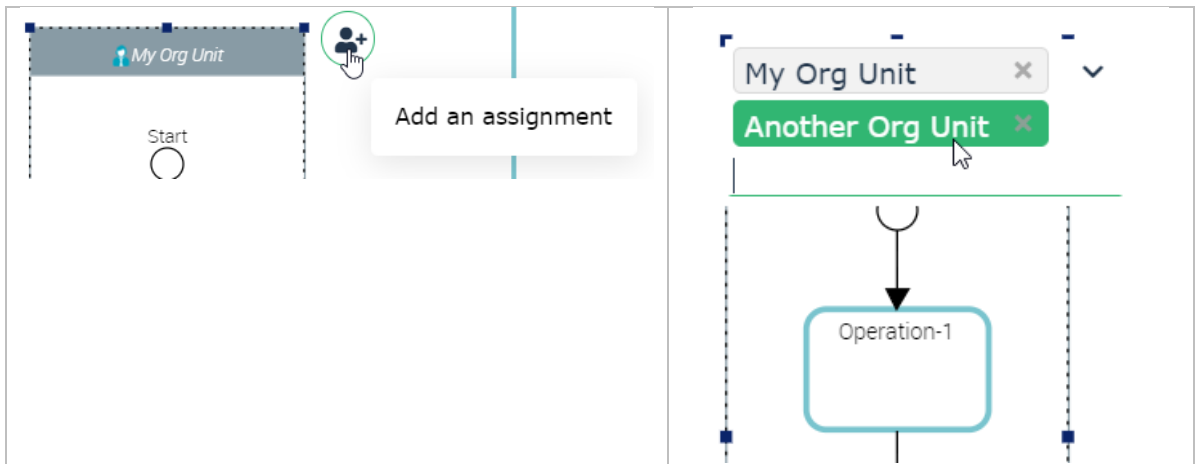
- Diagramming toolbar buttons (horizontal style / vertical style) allowing to reorganize drawing automatically, using the same layout algorithm as in tabular entry



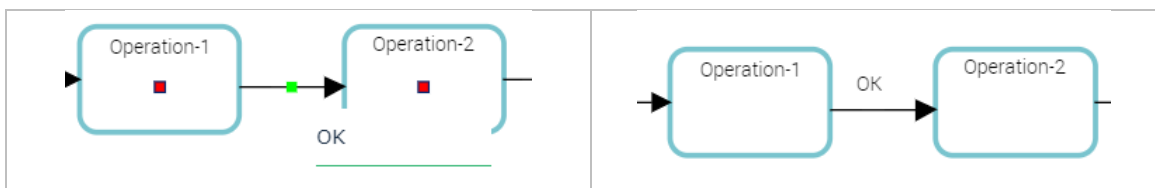
- Silent creation of objects as been activated where applicable (e.g. creation of operations), so as to ease intellibar usage and reduce number of clicks
- Autocomplete combo boxes in creation wizard, where applicable (e.g. Systems Used > Applications, Participants > Org-Units, Data Objects > Contents)



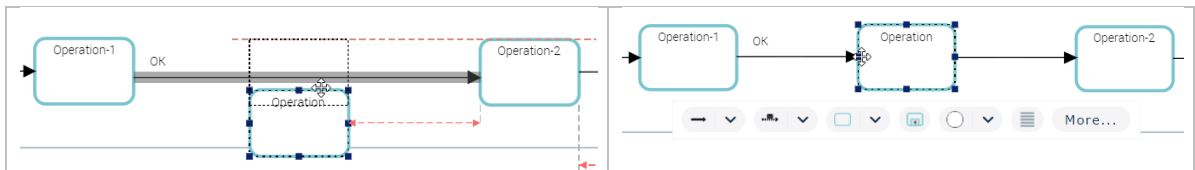
- In place edition
 - Of participants assignments to org -unit through the multi-combo box control, for quick reuse of org-units in inventory, directly from the diagram



- Of sequence flows predicates, for easy 'in diagram' definition of the processing stream



- Possibility to insert an activity within an existing sequence (see also dedicated UX improvement section)



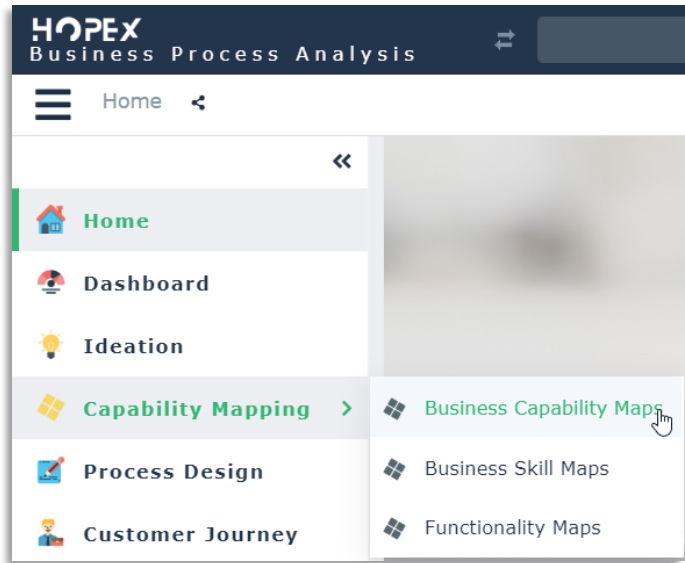
- "On-load" incremental update of the diagram consistent with repository updates, and associated diagram initialization update
 - Note: this can be deactivated via a compatibility option

2.3.3. Methodology simplification

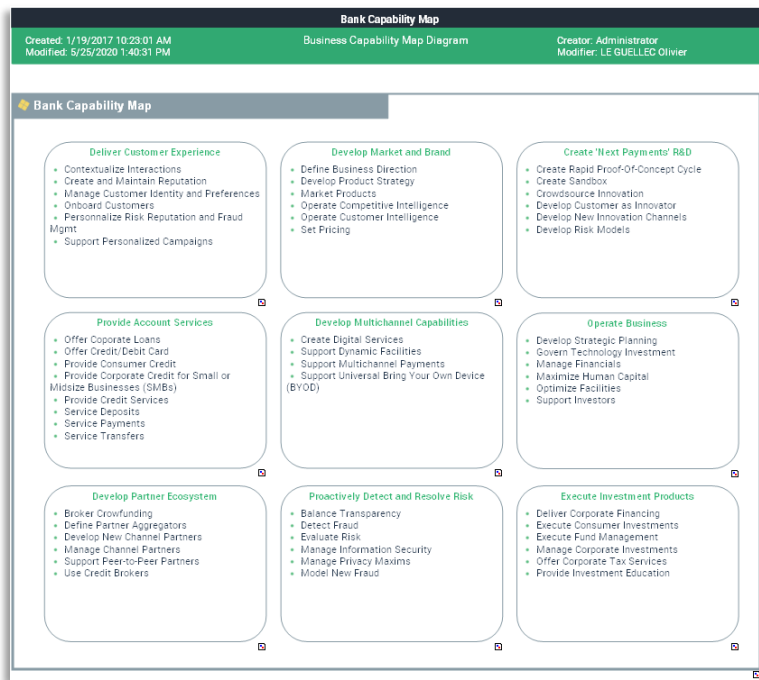
- Value Streams & System Processes are deactivated by default and can be activated by a user option
 - Note: System Processes now have their own menu entry (hidden by default according to the option)
- RACI feature is deactivated by default
- Enhanced cross product compatibility with HOPEX Information Architecture through a new 'Data Stores' implementation.
 - A compatibility option is defined for the legacy Data Store implementation.
 - This new Data Store implementation has been integrated to BPMN import / export

2.3.4. Business Capabilities Maps

- Business Capability Maps, Business Skills Maps and Functionality Maps are made available in HOPEX Business Process Analysis



- Business Capability Maps look-and-feel has been updated:

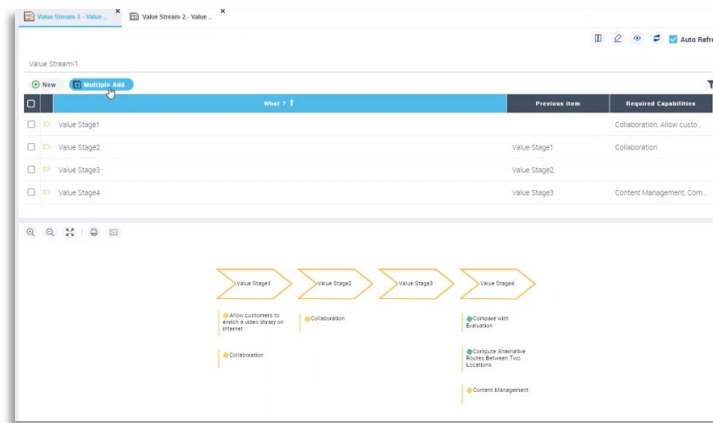


2.3.5. New Value Stream Diagram

- New simplified diagram Value Streams (BIZBOK style) with easy data entry and automated rendering



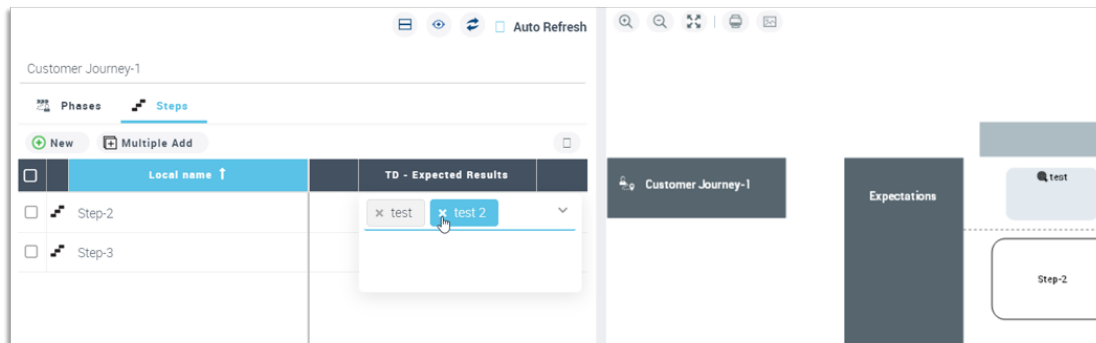
- Tabular entry ONLY and automated diagram generation



- Primarily targets Business Architects (in IT Business Management), but is also made available in HOPEX BPA since this is a popular entry point
- The more comprehensive BPMN Value Stream diagram remains available for more expert / detailed usage

2.3.6. Customer Journey Tabular Entry Improvement

- The Customer Journey tabular entry UI is updated to meet new standard with modern / standard controls (e.g. multiple combo box)



2.3.7. APQC Framework

The APQC <https://www.apqc.org/> Framework has been updated and is now available on the [HOPEX Store](#)

It provides the 19 APQC process frameworks (cross industry and industry specific frameworks)

- Level 1 and 2 APQC processes are available both as HOPEX Business Processes or Value Streams
- Indicators (metrics) are now also provided

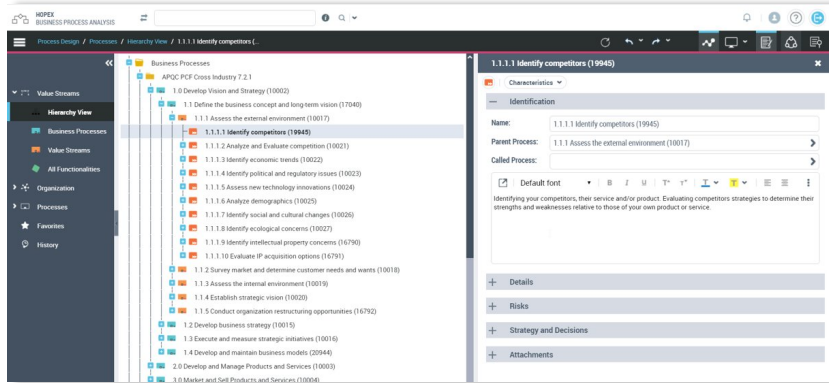


Figure 1 - APQC processes hierarchy in HOPEX BPA desktop

2.3.8. Reporting

- Minor improvements of existing reports (look and feel, consistency with methodology updates)

2.3.9. Import / export

- Various BPMN Import / Export improvements
- New excel import template, to bulk load inventory and description of org-processes
 - Similar-to the 'tabular entry' setup:

1	Organizational Process	Process Name	What	Type	Event Nature	Comment	Who	Previous Item	Previous Item Typ	Sequence Label	Sequence Type
3		My Org Process	Start	Event	Start						
4		My Org Process	Operation A	Operation		blah bla blah	Org Unit 1	Start	Event		
5		My Org Process	Operation B	Operation		bli bli bli	Org Unit 1	Operation A	Operation		
6		My Org Process	OK ?	Gateway			Org Unit 1	Operation B	Operation		default
7		My Org Process	Operation C	Operation			Org Unit 1	OK ?	Gateway	OK	
8		My Org Process	Operation D	Operation			Org Unit 2	OK ?	Gateway	NOK	
9		My Org Process	OR	Gateway			Org Unit 1	Operation C	Operation		conditioned
10		My Org Process	OR	Gateway			Org Unit 1	Operation D	Operation		
11		My Org Process	End	Event	End			OR	Gateway		
12		My Org Process 2	Start	Event	Start						
13		My Org Process 2	Operation 1	Operation			Org-unit 3	Start	Event		
14		My Org Process 2	Operation 2	Operation			Org-unit 3	Operation 1	Operation	next	default
15		My Org Process 2	Operation 3	Operation			Org-unit 3	Operation 2	Operation	next	
16		My Org Process 2	End	Event	End			Operation 3	Operation	next	

- Data can be bulk loaded and then diagrams completed using tabular entry

My Org Process

Processing Stream Operations Sequence Flow Message Flow

New Multiple Add

What ? ↑	Who ?	How ?	Previous item	Event
Start				Start
Operation A	Org Unit 1	blah bla blah	Start	
Operation B	Org Unit 1	bli bli bli	Operation A	
OK ?	Org Unit 1		Operation B	

2.3.10. Other Various Improvements

- Process Fulfillments links between Value Streams and Organizational Processes are now included in HOPEX Business Process Analysis and not only HOPEX Business Architecture / IT Business Management
 - They supersede the legacy “contextualization” concept, now available through a compatibility option

- Various usability improvements
- Removal of the following legacy reports :
 - Org-unit Job Description
 - Business Process Catalog
 - Business Process Exchange Balance
 - Business Process Functional Analysis
 - Organizational Process Exchange Balance
 - Impacts of IT Services on Business Processes
 - Business Process Automation
 - Geographical Process Support Map

- Process Support Map
- Site Analysis
- Org-Unit Risk Matrix
- Site Risk Matrix
- Activity exchange balance
- Business Function Exchange Compliance
- Functional Process Exchange Balance
- System Process Exchange Balance

2.4.. HOPEX Integrated Risk Management

2.4.1. Key Risk Indicators

Key Risk Indicators (KRI) are metrics used by organizations to provide an early warning of increasing risk exposures in various areas of the enterprise.

KRIs are managed through a dedicated meta-model, designed around the meta-class called “Key Indicator”. The functionalities developed around the KRIs are very flexible and can apply to different use cases, therefore the terminology “Key Indicators” is usually preferred to “Key Risk Indicators”. Other types of indicators that can be addressed using the functionalities described in this chapter are the Key Performance Indicators (KPIs) and the Key Control Indicators (KCIs).

2.4.1.1.Product License and Profiles Accessibility

To use KRIs functionalities one of the following product licenses is required:

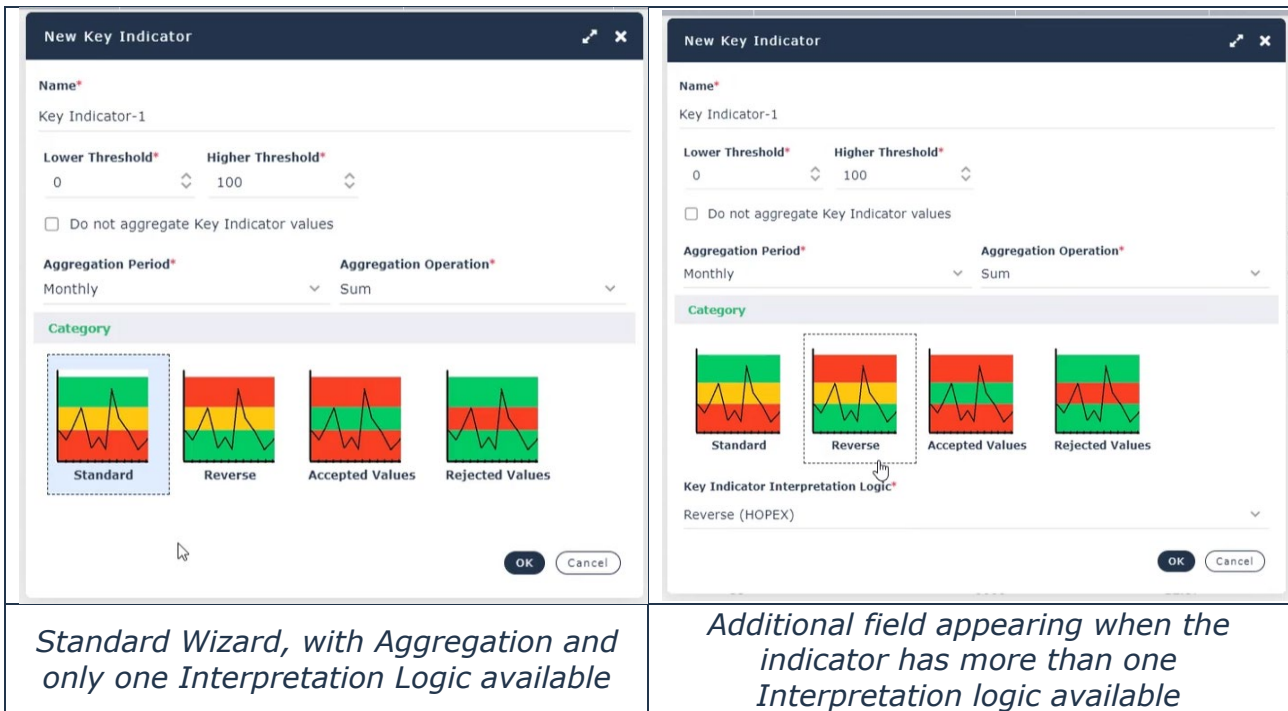
- ERM
- Internal Control

Every profile associated to either of the above-mentioned product licenses, will automatically have access to all KRIs in the environment.

In this first version every user has access to the full list of KRIs, i.e. no KRIs filtering mechanism has been implemented by default.

2.4.1.2.New Key Indicator Wizard

When creating a new Key Indicator, a wizard is displayed, as shown below.



The user is asked to provide the following information for the Key Indicator to be created:

- **Indicator name**
- **Lower Threshold**
- **Higher Threshold**
- **Do not aggregate Key Indicator values** – A checkbox selected by default, defines whether the indicator’s values should be interpreted as is, or if they have to be aggregated over a given timespan. If the user unselects it, two additional fields are displayed:
 - **Aggregation Period** – Defines the timespan of indicator’s values that are to be aggregated. Possible values: Yearly, Half Yearly, Quarterly, Monthly, Half Monthly, Weekly. “Monthly” selected by default.
 - **Aggregation Operation** – Defines the mathematical operation to be used when aggregating multiple indicator’s values. Possible values: Sum, Average. “Sum” selected by default.
- **Category** – Defines the way the indicator’s values are interpreted and holds the logic used to automatically compute the indicator’s status. Possible values: Standard, Reverse, Accepted Values, Rejected Values. “Standard” selected by default.
- **Key Indicator Interpretation Logic** – Every indicator category is associated by default to one single Key Indicator Interpretation Logic. This is an intermediate object which contains:
 - A macro to automatically compute the indicator’s status and
 - A set of pre-defined possible statuses the indicator can be in.

The user can freely extend the default behavior and create a new interpretation logic, which means a new indicator’s status computation macro. In this case, this field allows to select the interpretation logic to be used. If only one logic is available this field is hidden, and the standard one is used by default.

Every KRI has an associated "State" that can be either "Active" or "Inactive". The newly created KRI has an "Active" State by default.

Warning! The KRI category, aggregation period, aggregation operation and KRI interpretation logic cannot be changed once the KRI is created.

2.4.1.3.Key Indicator's Property Page

The property page of a Key Risk Indicator is made of four tabs:

1. **Characteristics** – It contains overview information about the indicator and it allows to edit some of its parameters
2. **Notifications** – It allows to setup and activate indicator's automatic notifications
3. **Values** – It contains the history of all the indicator's past measurements, and it also allows to add new ones
4. **Indicator Graph** – It displays the indicator measurements evolution over time via a line chart
5. **Remediation** – It allows to create/link action plans to the indicator

Details on the meta-attributes and meta-associations available in each tab are provided in the image below.

Tab	Section	Field	Mandatory	Type	Value Type	Default Val	Values	Rules
Characteristics								
Overview								
		Name	YES	Text	Manual			Initialized with "Key Risk Indicator - #", where # is an increasing number. Can be edited.
		Indicator Status	NO	Drop down	Auto		Unknown (grey), Operational (green), Warning (yellow), Unsatisfactory (orange), Critical (bright red), Failed (dark red)	Status automatically computed based on a macro
		Measurement Freshness	NO	Text	Auto			Time past since the last measured value (defined in terms of Days/Weeks or Months based on the KRI steering calendar)
		Time to Failure	NO	Text	Auto			Number of days (integer) before the forecasted KRI status is "Failed". If no available measurement, then it's "Unknown"
		Indicator State	YES	Drop down	Manual	Active	Active, Inactive	
		Current Value	NO	Value	Auto			If Aggregation Period is not defined, it is the last KRI value. Otherwise it considers the last completed aggregation period and its aggregated value.
		Measurement Unit	NO	Text	Manual			It is used as a label for the indicator graph y axis
		Details	NO	Text area	Manual			
Advanced								
		Category	YES	Drop down	Manual	Standard	Standard, Reverse, Accepted Values, Rejected Values	Cannot be edited after KRI creation
		Indicator Interpretation logic	YES	Drop down		Default interpr. Logic associated with category		Cannot be edited after KRI creation
		Aggregation Period	YES	Drop down	Manual	Monthly	Yearly, Half Yearly, Quarterly, Monthly, Half Monthly, Weekly	Cannot be edited after KRI creation
		Aggregation Operation	YES	Drop down	Manual	Sum	Sum, Average	Cannot be edited after KRI creation
		Lower Threshold	YES	Number	Manual			
		Higher Threshold	YES	Number	Manual			
		Nb of values used to compute Time to Failure	YES	Number	Manual	12		Number of past KRI aggregated values required to compute the Time to Failure
Scope								
		Entities	NO	Org (n)	Manual			
		Business Processes	NO	Business Process (n)	Manual			
		Org Processes	NO	Org Processes (n)	Manual			
		Applications	NO	Applications (n)	Manual			
Attachments								
		Documents	NO	Business Documents (n)	Manual			
		External Reference	NO	External Reference (n)	Manual			
Notifications								
		Indicator New Value Notification	NO	Boolean	Manual	FALSE		
		Indicator Responsible Person	NO	Person System	Manual	Indicator Creator		Initialized with the KRI creator. Can be edited
		Indicator Status Notification	NO	Boolean	Manual	FALSE		
		Indicator Status Notification Values	NO	Multi combo	Manual	Failed	Unknown, Operational, Warning, Unsatisfactory, Critical, Failed	KRI statuses for which a notification is sent
		Last Measurement Notification	NO	Boolean	Manual	FALSE		
		Last Measurement Notification Value	NO	Number	Manual	90		
		Notification Persons	NO	Person System	Manual			
Values								
Measurement Frequency								
		Measurement Frequency	NO	Steering Calendar	Manual	Monthly		Steering calendar used to trigger the notifications to be sent to the KRI owner in order to provide a new value for the KRI. Cannot be emptied.
Values								
		Date	YES	Date	Manual	Today's date		Initialized with the date when the value is created. Can be edited.
		Value	YES	Number	Manual			Can never be edited
		Details	NO	Text area	Manual			

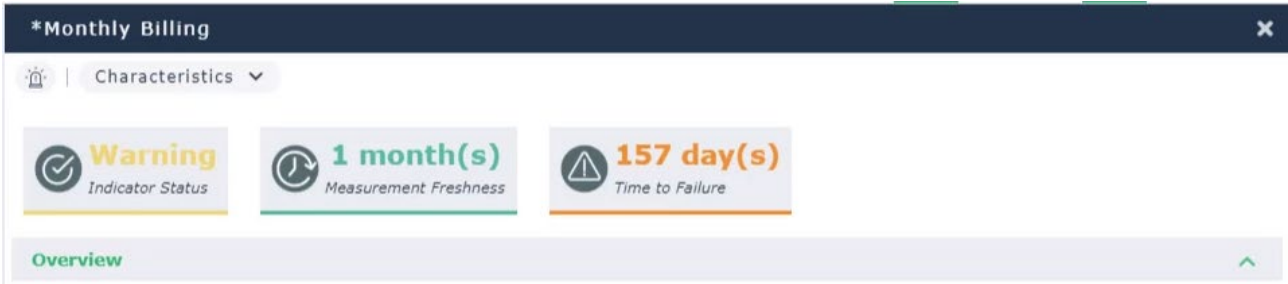
Figure 2 - KRI property page structure

2.4.1.4.Characteristics Tab

a) Key Indicator's Dashboard

Every Key Indicator has a dashboard which provides the following information:

- **Indicator Status** – Status automatically computed
- **Measurement Freshness** – How old the last indicator measurement is
- **Time to Failure** – Forecasted figure consisting in the number of days before the KRI fails



i. Indicator’s Status

The Indicator’s status is automatically computed considering the last KRI values, eventually applying the selected KRI “aggregation period” and “aggregation operation”.

The status computation is triggered in the following circumstances:

- New KRI value is added
- Existing KRI value is deleted
- KRI thresholds are edited
- The KRI state is changed

The table below provides a few practical examples to better understand how the indicator status computation works when a new measurement is added to the KRI.

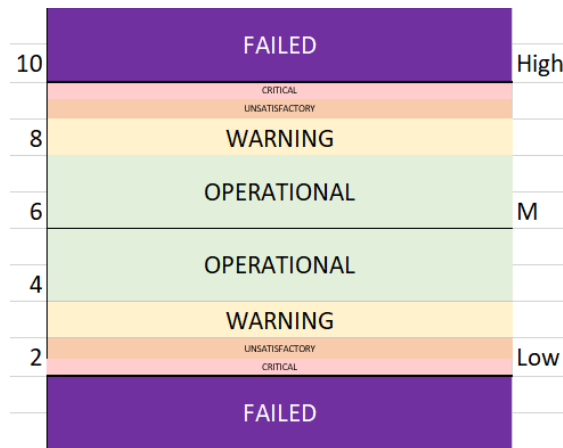
ID	Current KRI Status	Future KRI Status
01	<p>KRI goes in status failed if the sum of its values over a month is higher than 30. Otherwise it is operational.</p> <p><u>Existing Measures Current Month:</u> 12, 15 <u>Current value:</u> 12+15=27 <u>Current Status:</u> Operational</p>	<p><u>New Measure:</u> 10 the 20-03-2020 <u>New Current Value:</u> 27+10=37 <u>New Status:</u> Failed</p>
02	<p>KRI goes in status failed if the average of its active tickets over the month is higher than 10. Otherwise it is operational.</p> <p><u>Existing Measures Current Month:</u> 10, 8 <u>Current value:</u> (10+8)/2=9 <u>Current Status:</u> Operational</p>	<p><u>New Measure:</u> 15 the 20-03-2020 <u>New Current Value:</u> (10+8+15)/3=11 <u>New Status:</u> Failed</p>

The tables below provide the adopted logic based on the KRI category (in the formulas Low and High are respectively the Lower and Higher Thresholds, while M is High+Low/2).

KRI Category: Accepted Values

Status	Predefined Formula
Unknown	No available values OR No available thresholds
Failed	$KRI > High$ OR $KRI < Low$
Operational	$KRI \geq M - 0.5*(High-M)$ AND $KRI \leq M + 0.5*(High-M)$
Warning	$KRI > M + 0.5*(High-M)$ AND $KRI \leq M + 0.75*(High-M)$ OR $KRI < M - 0.5*(High-M)$ AND $KRI \geq M - 0.75*(High-M)$
Unsatisfactory	$KRI > M + 0.75*(High-M)$ AND $KRI < M + 0.9*(High-M)$ OR $KRI < M - 0.75*(High-M)$ AND $KRI > M - 0.9*(High-M)$
Critical	$KRI > M + 0.9*(High-M)$ AND $KRI \leq High$ OR $KRI < M - 0.9*(High-M)$ AND $KRI \geq Low$

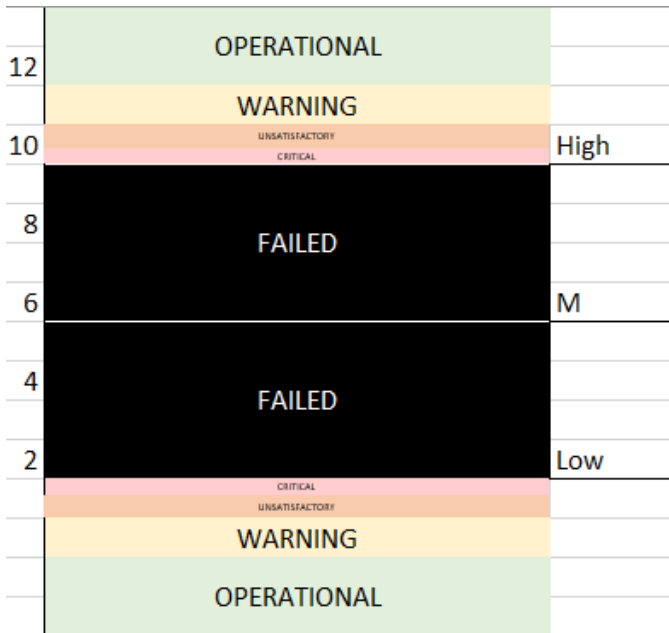
The image below shows an example of KRI of category "Accepted Values". In all the examples which follow, the High Threshold is set to 10, the Lower to 2, thus M is equal to 6.



KRI Category: Rejected Values

Status	Formula
Unknown	No available values OR No available thresholds
Failed	$KRI \leq High$ AND $KRI \geq Low$
Operational	$KRI < Low - 0.5*(High-M)$ OR $KRI \geq High + 0.5*(High-M)$
Warning	$KRI < High + 0.5*(High-M)$ AND $KRI \geq High + 0.25*(High-M)$ OR $KRI \geq Low - 0.5*(High-M)$ AND $KRI < Low - 0.25*(High-M)$
Unsatisfactory	$KRI < High + 0.25*(High-M)$ AND $KRI \geq High + 0.1*(High-M)$ OR $KRI \geq Low - 0.25*(High-M)$ AND $KRI < Low - 0.1*(High-M)$
Critical	$KRI > High$ AND $KRI < High + 0.1*(High-M)$ OR $KRI < Low$ AND $KRI \geq Low - 0.1*(High-M)$

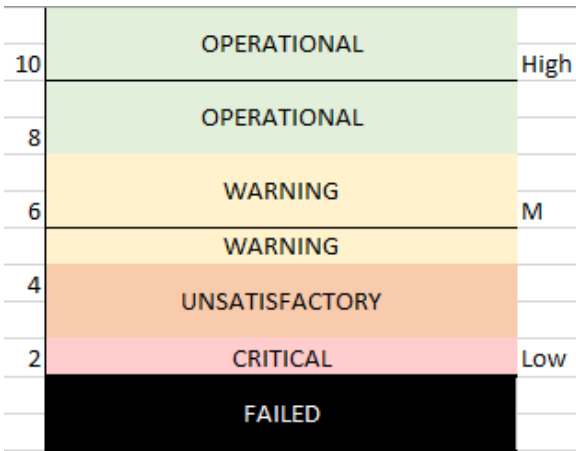
The image below shows a practical example of KRI with category “Rejected Values”.



KRI Category: Standard

Status	Formula
Unknown	No available values OR No available thresholds
Failed	$KRI < Low$
Operational	$KRI \geq Low + 1.5 * (High - M)$
Warning	$KRI < Low + 1.5 * (High - M)$ AND $KRI \geq Low + 0.75 * (High - M)$
Unsatisfactory	$KRI < Low + 0.75 * (High - M)$ AND $KRI \geq Low + 0.25 * (High - M)$
Critical	$KRI < Low + 0.25 * (High - M)$ AND $KRI \geq Low$

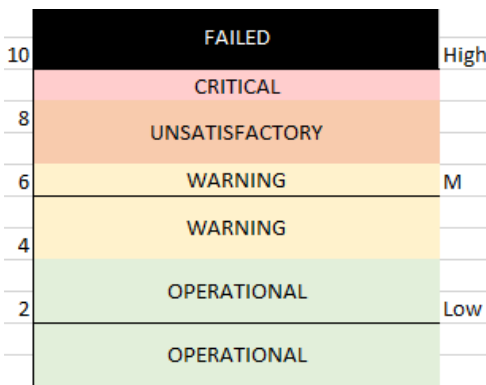
The image below shows a practical example of KRI with category “Standard”.



KRI category: Reverse

Status	Formula
Unknown	No available values OR No available thresholds
Failed	$KRI > High$
Operational	$KRI \leq High - 1.5 * (High - M)$
Warning	$KRI > High - 1.5 * (High - M)$ AND $KRI \leq High - 0.75 * (High - M)$
Unsatisfactory	$KRI > High - 0.75 * (High - M)$ AND $KRI \leq High - 0.25 * (High - M)$
Critical	$KRI > High - 0.25 * (High - M)$ AND $KRI \leq High$

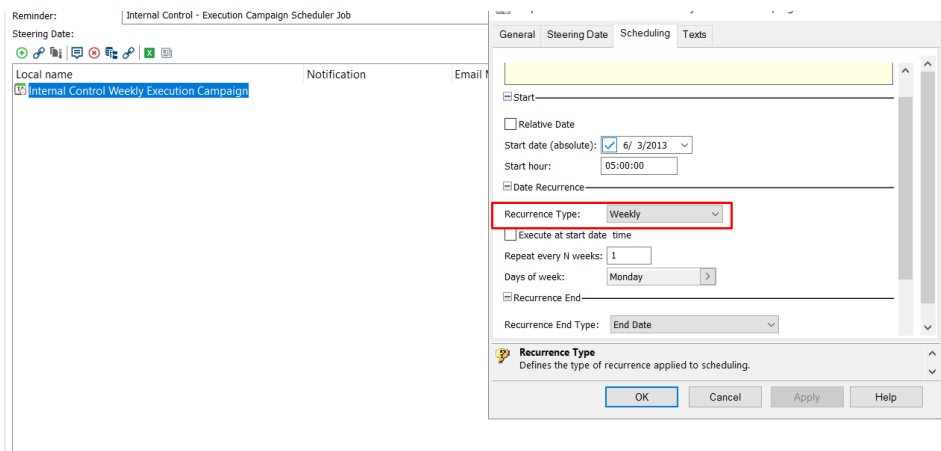
The image below shows a practical example of KRI with category “Reverse”.



ii. Measurement Freshness

It considers the time passed since the last KRI value was recorded, rounded to the closest integer. The attribute value is always computed in “days”, however the value displayed in the dashboard follows a logic based on the KRI measurements frequency.

The Measurement Frequency parameter is defined via a Steering Calendar. There are three possible pre-defined steering calendars (monthly, weekly and daily), each one of which has an associated Steering Date. The Steering Date has a parameter “Recurrence Type” whose possible values are: daily, weekly and monthly.



Based on the value of "Recurrence type" the Measurement Freshness' value will be presented in the KRI dashboard as follows:

- Count the days for "Daily" recurrence type (i.e. Daily Steering Calendar)
- Count the weeks for "Weekly" recurrence type (i.e. Weekly Steering Calendar) – The value is obtained dividing the number of days by 7
- Count the months for "Monthly" recurrence type (i.e. Monthly Steering Calendar) – The value is obtained dividing the number of days by 30

The following rules are applied to define the Measurement Freshness value and color coding:

- **No existing measurement** - Grey text "No Values"
- **Last value 0 to 3 units old** - Green text. Possible values are, "Today", "This Week" or "This Month", "1 Day/Week/Month", "2 Days/Weeks/Months", "3 Days/Weeks/Months".
- **Last value 4 to 6 units old** – Orange text.
- **Last value 7 or more units old** – Red text.

iii. Time to Failure

This value is an estimate computed by a linear interpolation algorithm. The algorithm takes into consideration previous KRI, eventually aggregated, values and it computes the time it would require for the KRI to move into the "Failed" status. The objective of such value is to provide an early warning in case of dangerous behavior of the KRI.

If the KRI is already in Failed status, this attribute value is "0 days".

The algorithm to compute the Time to Failure depends on the KRI category.

Possible values of Time to Failure are defined in the table below.

Dashboard Value	Numeric Value	Details
Unknown	Empty	If not enough data available
Unforeseen	9999	The algorithm computation shows that the KRI value is evolving in a way that makes it impossible to reach the Failed status
0 days	0	When the KRI status is Failed
# days	Number	When the algorithm estimates that the KRI will go into the Failed status after # days

The following rules are applied to define the Time to Failure value and color coding:

- **Unknown** - Grey
- **Unforeseen** - Green
- **# days** - Orange
- **0 days** – Red

b) Overview Section

The overview section contains the following attributes:

- **KRI name** – Name provided at KRI creation time
- **State** – It defines whether the KRI is active or inactive.
- **Value** – If no Aggregation Period is defined, is the last KRI value, otherwise it is the value obtained by applying the “Aggregation Period” and “Aggregation Operation” to the KRI values of the last completed aggregation period (e.g. for a KRI with monthly aggregation period, being in May, the indicator value is computed by aggregating all existing KRI values dated April)
- **Measurement Unit** – It is a free text field. It represents what is being monitored by the indicator. The value is also used as a label for the y-axis of the indicator graph.
- **Details** – An open text to further describe the KRI

- **Indicator State**

The indicator’s state is used to distinguish between indicators which are Active, thus evolving over time (i.e. for which users are still recording new values) and those which are Inactive, thus have reached their final stage and must only be kept in the archive, while they will no longer evolve.

The indicator’s state is initialized by default to “Active” at KRI creation phase. If the user changes its value to “Inactive” the following happens:

- A new computation of KRI value and status are triggered (according to notifications setting a notification can be sent as a consequence of a change in the KRI status)
- If the KRI has any pending jobs in the scheduler to send notifications these are deleted, and the notifications are also disabled
- It will be no longer possible to edit anything in the advanced, notifications and values sections

c) Advanced Section

This section allows to:

- Redefine KRI thresholds and the number of KRI values, eventually aggregated, used for the Time to Failure computation

It contains the following fields, all in read-only mode:

- **Indicator Category** – It is the category selected at indicator creation time
- **KRI Interpretation Logic** – It is the logic used to compute the KRI status, associated to the KRI category, selected at KRI creation time
- **More Info** – A button which allows to access to additional details in read-only mode about the indicator category and associated interpretation logic and available indicator’s statuses
- **Higher Threshold** – It is the higher threshold defined at indicator creation time
- **Lower Threshold** – It is the lower threshold defined at indicator creation time

- **Aggregation Period** – It is the indicator Aggregation Period selected at indicator creation time. If not defined, it is hidden.
- **Aggregation Operation** – It is the indicator Aggregation Operation selected at indicator creation time. If not defined, it is hidden.
- **Number of values used for Time to Failure computation** – Read only, set by default to 12. It is the number of KRI, eventually aggregated values, considered by the interpolation algorithm to compute the Time to Failure
- **Edit Parameters** – A button which allows to edit Higher and Lower Thresholds and the number of values used for Time to Failure computation.
- **Aggregation Period Interpretation**

Based on its value, the “Aggregation Period” parameter requires to aggregate multiple KRI values considering their date. In particular, the KRI values to be aggregated, based on the Aggregation Period are:

- **Yearly** – From Jan 1st to Dec 31st
- **Half Yearly** – From Jan 1st to June 30th, from July 1st to December 31st
- **Quarterly** – From Jan 1st to March 31st, from April 1st to June 30th, from July 1st to September 30th, from October 1st to December 31st
- **Monthly** – All days of each month
- **Half-Monthly** – From 1st to 15th included for all months but February for which we stop at the 14th, from 16th (15th for February) to the end of the month
- **Weekly** – From Monday to Sunday included

d) Scope Section

Standard Scope section, allowing to link Applications, Entities (Org-Units) and Processes (Business and Organizational).

2.4.1.5.Values Tab

a) Measurements Frequency Section

This section allows to specify a steering calendar which defines the frequency used to:

- Define the logic used by the KRI notifications, whenever activated
- Define the logic used to color code the Measurement Freshness parameter in the KRI dashboard

By default, this section is initialized with the Monthly steering calendar. The user can edit this field and select a different steering calendar (monthly, weekly and daily are available by default).

Upon modification of this field, if the KRI has pending jobs, these will be deleted and replaced with the new one.

b) Values Section

This section allows to:

- Add new measurements to the KRI and delete existing ones (edit is not allowed),

- Access to all past measurements

When clicking on the “New” button to add a new KRI value, a wizard with the following fields is displayed:

- Two mandatory fields
 - **Indicator Value**
 - **Measurement Date** – Initialized with today’s date
- One optional field
 - **Details** – To provide any useful information regarding the indicator measurement

2.4.1.6. Notifications Tab

This section allows to define what notifications should be enabled and on which conditions.

All notifications are disabled by default.

The following notifications can be enabled:

1. Periodic notification (specified by the attribute measurements frequency) to the user responsible for providing the indicator measurements (initialized with Key Indicator creator)
2. When an indicator moves in a given status
3. When Measurement Freshness is older than a given number of days

For notifications 2 and 3, a table allows to list the users the notifications should be sent to.

2.4.1.7. Indicator Graph Tab

This tab contains a line chart report displaying the indicator behavior over time.



The report takes as y-axis label the value of the field "Measurement Unit", if provided.

Lower and higher thresholds are colored based on the indicator category:

- **Standard** – Lower threshold red, higher threshold green
- **Reverse** – Lower threshold green, higher threshold red
- **Accepted values** – Lower and higher thresholds green
- **Rejected values** – Lower and higher thresholds red

2.4.1.8. Remediation Tab

This tab allows to create/link action plans to the key indicator.

2.4.1.9. Home Page Tiles

A new tile is available on the home page, called "All Key Indicators". It takes the user to the list of all existing indicators.

2.4.1.10. Menu Entries

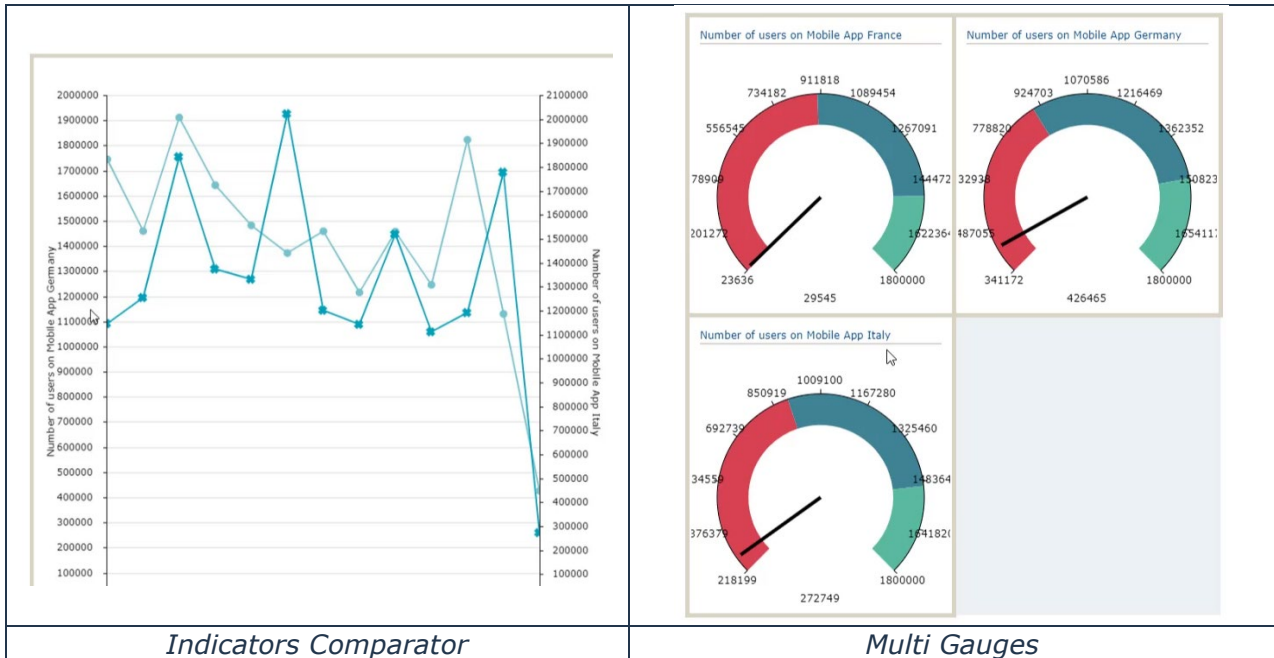
Three additional menu entries are available on the IRM desktop:

1. **Libraries -> Indicators** – It contains two tiles, one to access to a flat list of all existing KRIs, and a second to access to a three structure of org-units and linked KRIs
2. **Analysis -> Indicators** – It contains 3 pre-defined indicators report templates
3. **Administration -> Indicators** – Only available to admin users, it contains all elements required to customize the default behavior of Key Risk Indicators.

2.4.1.11. Reporting

The indicators have three predefined reports, accessible from the Analysis->Indicators section. These are:

1. **Indicator Comparator** – To be used to compare two indicators on the same line chart
2. **Multi Gauges** – To be used to display several comparators on several gauges
3. **Multiline Charts** – Like multi gauges but using line charts



2.4.1.12. Indicators Administration

A new section has been added to the administration menu, to let users customize the default rules and behavior of Key Indicators. From Administration->Indicators, users can:

- Define a new macro to compute the Time to Failure of a given KRI category
- Define new Aggregation Operations
- Define new Aggregation Periods
- Define new KRI statuses
- Define new KRI status computation rules

2.4.2. UCF integration

In order to respond to the IRM market demand and provide content as a starting point and reference to IRM users, a new importing wizard is made available to IRM customers with a valid UCF subscription.

A UCF subscription gives customers access to UCF’s Common Controls Hub which contains not only Regulatory Frameworks, complete with explicated legal obligations (or Regulation Articles), but also the Control Directives (or best practices to implement to achieve compliance as redacted by UCF). Users need to select the Regulatory Frameworks from UCF’s workspace prior to import into Hopex.

Hopex's UCF Importer is then set in motion to import the previously selected Regulatory Frameworks and its subsequent Regulation Articles and corresponding Control Directives.

UCF's Regulatory Frameworks, Regulation Articles and Control Directives are managed through a dedicated meta-model, designed around the meta-class called "Control Framework". Hopex's already existing Controls are then used to indicate their implementation of Control Directives.

NOTE: The already existing concepts of Regulation Framework and Requirements inherited from the deprecated Regulatory Compliance solution and currently in use in IRM are not to be confused with the new concepts imported from UCF.

2.4.2.1. Product License and Profiles Accessibility

To use the UCF importer and subsequent Concepts accommodating the imported content, the following product licenses is required:

- IRM
- Internal Control (at least)
- + UCF (as an option)

Every profile associated to both IRM/IC + UCF licences, will automatically have access to the UCF Importer and relevant concepts in the environment.

In this first version, once an import is completed, every user has access to the full list of imported Regulatory Frameworks, Regulation Articles and Control Directives.

2.4.2.2. New Metaclasses/Concepts

- Control Framework: englobes all of the regulatory concepts along with their association to Control Directives as they are defined by UCF.
- Regulatory Framework: corresponds to UCF's Authority Document, can also be described as regulations, principles, standards, guidelines, best practices, policies, and procedures.
- Regulation Section: corresponds to UCF's Citations, a passage or expression in an Authority Document that is quoted or cited BUT holds no legal obligation and subsequently has no Mandated Controls. These Citations are imported into Hopex as mere chapters grouping legally binding Regulation Articles/Citations.
- Regulation Article: corresponds to UCF's Citations, a passage or expression in an Authority Document that is quoted or cited AND to be enforced by at least one Mandated Control.
- Control Directive: corresponds to UCF's Common Controls, The specific steps or actions within a compliance mandate that must be met to fulfill a compliance

requirement. There 3 different enforcement levels to a Common Control/
Directive:

- Mandated: the Control Directive enforces at least one Citation/Regulation Article
- Implied: the Control Directive does not enforce a Citation/Regulation but has a parent relationship to a Mandated Control that supports it
- Implementation: the Control Directive does not enforce a Citation/Regulation directly but has a child relationship to a Mandated Control it supports.

INSERT CONCEPTUAL MODEL HERE

2.4.2.3.UCF Importer

a) User Options

All UCF specific Concepts and associations described in the section above as well as the following:

- their association to Implementing Controls (already existing in Hopex IRM)
- their association to elements subjected to Compliance (Business Process, Organizational Process, Entities)
- The new Menus & subsequent lists and treelists (Environment -> Control Framework, Libraries -> Control Framework)
- UCF Import wizard

Should be hidden with the relevant user option. The user option should only be available to users holding a UCF licence key.

INSERT SCREENSHOT HERE

b) UCF Authentication

OAuth authentication needs to be setup for the user from the User Options. Identification will be based on the Get.Account query provided by UCF. 2 fields need to be populated by the user to set up communication with UCF's Common Controls Hub:

- /cch-account/{account-id}/details where account-id is the user's account number with UCF
- API key: as generated by the users from their UCF account

INSERT SCREENSHOT HERE

c) UCF Importer

The Importer wizard should be available to IRM Manager/Control Director who hold a UCF licence AND have activated the aforementioned UCF User Options. Navigation path is Home ==> Environment ==> Regulations ==> Control Framework.

Users would have to search for and select the Shared Lists they have previously created in their UCF Workspace and enter the corresponding API key prior to import.

Hopex Importer will also remind the users if an Authority Document/Regulatory Framework was previously imported and compare the last import date to the UCF's last update date. This is to enable users to make an informed choice concerning the Regulatory Frameworks worth importing.

Upon completion fo the import, Users are encouraged to use the Control Framework tree to indicate which Regulation Articles the organization has to comply with.

	Relevant to organization?	Number of Regulatory Children	Number of Enforcing Directives	Number of Supporting Directives
Regulatory Framework	<input type="checkbox"/>	2		
Section	<input type="checkbox"/>	3		
Article	<input type="checkbox"/>	0	4	
Enforcing Directive	<input type="checkbox"/>			1
Supporting Directive	<input type="checkbox"/>			
Article	<input type="checkbox"/>	0	2	
Enforcing Directive	<input type="checkbox"/>			2
Supporting Directive	<input type="checkbox"/>			
Supporting Directive	<input type="checkbox"/>			
Article	<input type="checkbox"/>	3	6	
Section	<input type="checkbox"/>	5		

UCF Import - Introduction

You are about to import Regulatory Frameworks, complete with Regulation Sections, Articles and subsequent Mandated Control Directives from the UCF's Common Controls Hub.

2 pre-requisites to this import are:

- to have created at least one Shared List in your Common Controls Hub's workspace, and
- to hold its API key.

After setting up the Shared List, Hopex will present you with a list of Regulatory Frameworks contained therein. Based on UCF 'Last modified date' and the last import date into Hopex, you can select which Regulatory Frameworks to include in this import.

Once import starts, a progress status bar will be displayed.

You are encouraged to review the newly imported Regulatory Frameworks and indicate which Regulation Articles you deem relevant to your Organization after import.

	Relevant to organization?	Number of Regulatory Children	Number of Enforcing Directives	Number of Supporting Directives
Regulatory Framework	<input type="checkbox"/>	2		
Section	<input type="checkbox"/>	3		
Article	<input type="checkbox"/>	0	4	
Enforcing Directive	<input type="checkbox"/>			1
Supporting Directive	<input type="checkbox"/>			
Article	<input type="checkbox"/>	0	2	
Enforcing Directive	<input type="checkbox"/>			2
Supporting Directive	<input type="checkbox"/>			
Supporting Directive	<input type="checkbox"/>			
Article	<input type="checkbox"/>	3	6	
Section	<input type="checkbox"/>	5		

UCF Import - Shared List

Please select the Shared List from your Common Controls Hub containing the Regulatory Frameworks you wish to import.

Q search

Please enter the Shared List's API Key here.

Back Cancel Next

Control Framework

Import UCF Content

Select sub-elements

Expand the selected items

- Regulatory Framework
 - Section
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Article
 - Supporting Directive
 - Section

Directives	Number of Supporting Directives
0	4
0	2
3	6
5	
	1
	2

UCF Import - Shared List

Please select the Shared List from your Common Controls Hub containing the Regulatory Frameworks you wish to import.

Q search

Please enter the Shared List's API Key here.

Back Cancel Next

Control Framework

Import UCF Content

Select sub-elements

Expand the selected items

- Regulatory Framework
 - Section
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Article
 - Supporting Directive
 - Section

Selecting Shared List

Name

- Privacy List
- CyberSecurity List
- Accounting List

OK

Directives	Number of Supporting Directives
0	4
0	2
3	6
5	
	1
	2

UCF Import - Shared List

Please select the Shared List from your Common Controls Hub containing the Regulatory Frameworks you wish to import.

Privacy List

Please enter the Shared List's API Key here.

Back Cancel Next

Control Framework

Import UCF Content

Select sub-elements

Expand the selected items

- Regulatory Framework
 - Section
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Article
 - Supporting Directive
 - Section

Directives	Number of Supporting Directives
0	4
0	2
3	6
5	
	1
	2

UCF Import - Regulatory Frameworks

The Regulatory Frameworks contained in the previously selected Shared List are displayed below. Please select the Regulatory Framework(s) you wish to import into Hopex.

Common Name	Already Present in Hopex?	Last Imported Date	Last UCF Modification Date
GDPR	Y	23/05/2018	16/05/2020
IM Guidance Update: Cybersecurity Guidance	Y	17/03/2017	20/07/2020
ISO 27005 Information technology -- Security techniques	N		20/04/2020
AICPA/CICA Privacy Framework	Y	20/03/2019	30/07/2011

Buttons:

Control Framework

Select sub-elements |
 Expand the selected items

- Regulatory Framework
 - Section
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Supporting Directive
 - Article
 - Section

<input type="checkbox"/>	0	2	1
<input type="checkbox"/>			2
<input type="checkbox"/>	3	6	
<input type="checkbox"/>	5		

UCF Import - In progress

Importing Regulation Sections, Articles and Control Directives for the following Regulatory Frameworks:

Common Name	Already Present in Hopex?	Last Imported Date	Last UCF Modification Date
GDPR	Y	23/05/2018	16/05/2020
IM Guidance Update: Cybersecurity Guidance	Y	17/03/2017	20/07/2020
ISO 27005 Information technology -- Security techniques	N		20/04/2020

Buttons:

Control Framework

Select sub-elements |
 Expand the selected items

- Regulatory Framework
 - Section
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Supporting Directive
 - Article
 - Section

<input type="checkbox"/>	0	2	1
<input type="checkbox"/>			2
<input type="checkbox"/>	3	6	
<input type="checkbox"/>	5		

UCF Import - Completed

Import of the following Regulatory Frameworks is now complete.

Common Name	Already Present in Hopex?	Last Imported Date	Last UCF Modification Date
GDPR	Y	07/05/2020	16/05/2020
IM Guidance Update: Cybersecurity Guidance	Y	07/05/2020	20/07/2020
ISO 27005 Information technology -- Security techniques	Y	07/05/2020	20/04/2020

To review all corresponding Regulation Sections, Articles and Control Directives, please select OK to go back to the hierarchy of Regulatory Frameworks. You can then indicate which Regulation Articles are relevant to your Organization.

Buttons:

Control Framework

Select sub-elements |
 Expand the selected items

- Regulatory Framework
 - Section
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Article
 - Enforcing Directive
 - Supporting Directive
 - Supporting Directive
 - Article
 - Section

<input type="checkbox"/>	0	4	1
<input type="checkbox"/>	0	2	2
<input type="checkbox"/>	3	6	
<input type="checkbox"/>	5		

2.4.2.4. New Menus & Lists

a) Environment/Regulations/Control Framework

Displays all content imported from the UCF’s Common Controls Hub in a tree structured around the Organization’s Control Framework, starting with Regulatory Frameworks, their Regulation Articles and the Control Directives enforcing them.

The screenshot shows a 'Control Framework' interface. On the left is a tree view with a filter set to 'Regulatory Framework'. The tree includes 'Regulatory Framework', 'Section', 'Article', 'Enforcing Directive', and 'Supporting Directive'. On the right is a table with the following data:

Relevant to organization?	Number of Regulatory Children	Number of Enforcing Directives	Number of Supporting Directives
<input type="checkbox"/>	2		
<input type="checkbox"/>	3		
<input type="checkbox"/>	0	4	
<input type="checkbox"/>			1
<input type="checkbox"/>	0	2	
<input type="checkbox"/>			2
<input type="checkbox"/>	3	6	
<input type="checkbox"/>	5		

b) Libraries/Control Framework

iv. By Control Directives

Displays all Control Directives contributing to the enforcement of any Regulation Article your Organization has to comply to. Control Directives are presented in a tree based around their support structure.

Each implementing Control’s Execution Rate and Pass Levels are displayed to inform users of their perceived efficiency.

The screenshot shows a 'By Control Directives' interface. On the left is a tree view with a filter set to 'Root Control Directive'. The tree includes 'Root Control Directive', 'Supporting Control Directive', 'Supporting Control', and 'Implementing Control'. On the right is a table with the following data:

Enforcement Level	Number of Supporting Directives	Number of Implementing Control	Execution Rate	Control Pass Level
Implied	2			
Implied	2			
Implied	1			
Mandated		1		
Implied	1		67%	75%
Mandated		2		
			98%	100%
			91%	50%
Mandated	3	2		
Implied	4			

v. By Regulatory Frameworks

Displays all Regulation Articles your organization has to comply to in a tree starting from Regulatory Frameworks structured around the Control Directives enforcing them and their implementing Controls.

Each implementing Control’s Execution Rate and Pass Levels are displayed to inform users of their perceived efficiency.

By Regulatory Framework

Filter by: Regulatory Framework

Select sub-elements | Expand the selected items

	Guidance	Number of Implementing C	Control Execution Rate	Pass Control Level
<input checked="" type="checkbox"/> Regulatory Framework				
<input checked="" type="checkbox"/> Policy Code				
<input checked="" type="checkbox"/> Enforcing Directive	Blah Blah blah blah	0		
<input checked="" type="checkbox"/> Supporting Directive		2		
<input checked="" type="checkbox"/> Implementing Control			67%	75%
<input checked="" type="checkbox"/> Implementing Control			83%	50%
<input checked="" type="checkbox"/> Policy Code	Simon says you shouldn't do this			
<input checked="" type="checkbox"/> Policy Code	All work and no play makes you a very			

vi. By Regulatory Articles

Displays all Regulation Articles your organization ahs to comply to in 2 flat lists:

- One presenting Regulation Articles implemented by Controls, and

Policy Code	Guidance	Regulatory Framework	No of Control Directives	No of Implementing Controls	Worst Execution Rate	Worst Control Pass Level
FAF8A3F7-DDD7-4A6F-9FF0-008ACA67AA7A	Configure the VMSS (DisableIPSourceRouting) IP source routing protection level	ISO 27001	3	2	67%	75%

- The other where implementing Controls are absent.

Policy Code	Guidance	Regulatory Framework	Effective Date	No of Control Directives
FAF8A3F7-DDD7-4A6F-9FF0-008ACA67AA7A	Configure the VMSS (DisableIPSourceRouting) IP source routing protection level	ISO 27001	22/08/2017	3

2.4.2.5.Amended Hopex Concepts

a) Controls

Under a new Regulatory Enforcement section, the following 2 UCF concepts are available:

- Implemented Control Directives: as a direct association to UCF’s Control Directives
- Enforced Regulation Articles: as an indirect link to the Regulation Articles enforced by the aforementioned implemented Control Directives.

b) Entities, Business Process and Organizational Process

In order to reflect that they are subject to compliance, the Regulation Article concept will be added to the Scope sections of Entities, Business Process and Organizational Process properties pages.

2.4.3. Profiles cleanup

This release officially changes the name of HOPEX GRC into HOPEX IRM where IRM is the acronym for Integrated Risk Management.

According to this new name, the existing profiles "GRC Functional Administrator", "GRC Manager" and "GRC Contributor Lite" where renamed in:

- IRM Functional Administrator
- IRM Manager
- IRM Contributor

A certain number of existing profiles have been defined as Not Assignable* and Inactive** since the delivery of the new IRM desktop.

*makes the profile not available when trying to assign it to an existing user

** even if the profile has been assigned to a user, at connection time, it's not shown as an option to login

These are:

- Application Owner (GDPR) -> Introduced by HOPEX GDPR but no longer used
- Auditor (Not Leader) -> From now on a Lead Auditor is a user with profile "Auditor" which is assigned as leader for an audit mission. No need to have a specific profile
- Auditor/Controller -> Auditor with both Internal Audit and Internal Control license
- Auditor/Controller/Compliance Cor -> Auditor with Internal Audit and Internal Control licenses
- Business User - Compliance -> No longer existing
- Business User ERM -> IRM Contributor with ERM license
- Business User IC -> IRM Contributor with IC license
- Compliance Controller -> No longer existing or IRM Contributor with IC license
- Compliance Functional Administrat -> No longer existing
- Compliance IC and Audit Director -> IRM Manager with IC and Internal Audit license
- Compliance Manager -> No longer existing
- Compliance Tester -> No longer existing
- Control Executer -> IRM Manager with IC license

- Control Tester -> IRM Manager with IC license
- IC and Audit Director -> IRM Manager with IC and Internal Audit license
- IC and Audit Functional Administrator -> IRM Functional Admin with IC and Internal Audit license
- IC Audit and Compliance Functiona ->IRM Functional Admin with Audit license
- Incident Approver ->IRM Manager with LDC license
- Incident Declarer -> IRM Contributor with LDC license
- Local Risk Manager -> IRM Manager with ERM license
- Recommendation Correspondent -> IRM Contributor with IA license
- Recommendation Owner -> IRM Contributor with IA license
- Regulatory Manager -> No longer existing
- Requirement Assessor -> No longer existing
- Risk Functional Administrator -> IRM Functional Admin with ERM
- Risk Manager (light) -> IRM Manager with ERM license
- Risk Stakeholder -> IRM Contributor with ERM license

As a result of this cleanup, the profiles having access to the new IRM desktop are:

- Audit Director
- Auditor
- Incidents and Losses Administrator
- Internal Control Director
- Internal Controller
- IRM Functional Administrator
- IRM Manager
- Risk Manager

2.4.4. Data Access Rules Review

Existing data access rules were reviewed in order to consider the new broader profiles that can be used for several products (such as IRM Manager and IRM Functional Administrator). Functionality wise nothing was changed apart for the three existing DARs for plans that were merged into one.

2.4.5. IRM Functional Administrator – CRUD Policies

The IRM Functional Administrator inherits its CRUD policies from the other Functional Administrator profiles. As a result, it has full CRUD rights over all IRM meta-classes.

2.4.6. User Menu

The user menu has been simplified, filtering some of the existing options. The implemented visibility rights are as follows:

First Level menu	Second Level menu	IRM Functional Admin	All other profiles
Switch Profile		YES	YES
Save		YES	YES
Logout		YES	YES
Import	HOPEX File	YES	NO
	Excel	YES	YES
	Visio	NO	NO
	BPMN2	NO	NO
Export	HOPEX File	YES	NO
	Excel	YES	YES
	Visio	NO	NO
	BPMN2	NO	NO
Scheduling Management	Scheduling	YES	NO
Set Current Library		NO	NO
Advanced Query		YES	YES
Language		YES	YES
HOPEX Style		NO	NO
Settings	Modify Password	YES	YES
	Options	YES	YES
	Alerts Management	YES	YES
	Reinitialize personal parameters	YES	YES
	License information	YES	YES
	HOPEX System Web Report	YES	YES
	About HOPEX	YES	YES
Community		YES	YES

2.4.7. HOPEX IRM – Contributor

Following the modernization of the IRM products suite, there was the need to extend the perimeter of the existing GRC Contributor Lite profile, in order to account for the broader Integrated Risk Management use case. The result is a new comprehensive, powerful, yet light, profile, called IRM Contributor, providing all functionalities needed to contribute to the organization integrated risks management initiative.

Using the IRM Contributor profile, users can focus on their daily tasks without being overwhelmed by the full spectrum of information available in HOPEX, but nevertheless having full visibility on the risks' context and environment, made of organizations, business processes and IT applications.

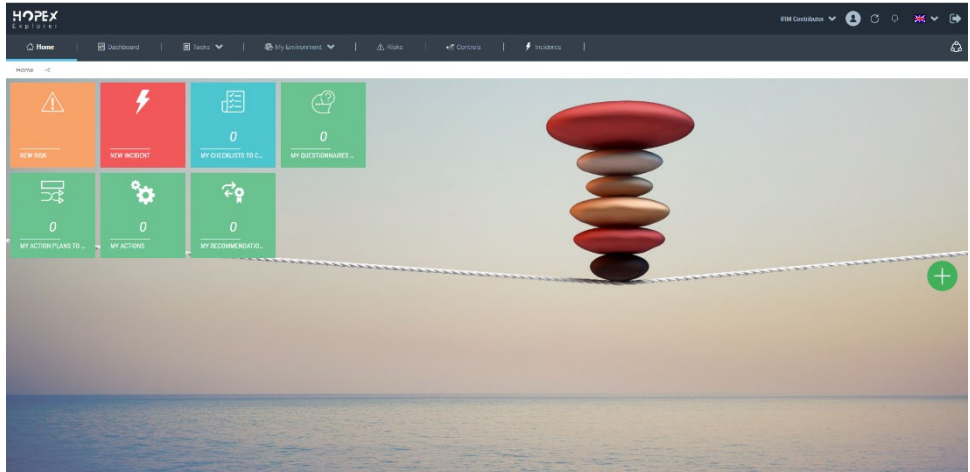
The main use cases that the new redesigned profile can address are:

- Creating risks
- Answering to risk assessment questionnaires
- Creating controls

- Answering to control assessment checklists
- Creating incidents
- Following-up on action plans and recommendations

2.4.7.1. Menu Structure

The menu of IRM Contributor has been completely revisited in order to provide multiple point of entries, addressing the multitude of use cases available.



The Contributor can now quickly access to a list of pending tasks, review his working environment, with the list of existing processes, organizations, applications and requirements, create and review risks, controls and incidents.

The new menu structure and the details of the different menu items are described in the table below.

In most of the menu entries (e.g. in the section "Tasks") the word "My" was deleted to shorten the text, but the content of the section is unchanged.

1 st Level Menu Item	2 nd Level Menu item	Description	Alternate List
Home			
Dashboard			
Tasks	Questionnaires	List of all questionnaires assigned to Contributor as Respondent or as Delegate Respondent.	1 - Questionnaires 2 - Delayed Questionnaires Same as Questionnaires but where Assessment Session planned end date is inferior to current date.
	Execution Checklists	List of all checklists assigned to Contributor as Respondent or as Delegate Respondent.	
	Action Plans	All Action Plans the Contributor is assigned to as Action Plan Owner.	1 – Action Plans 2 - Delayed Action Plans Same as Action Plans but where planned end date is inferior to current date.

	Recommendations	All Recommendations the Contributor is assigned to as Recommendation Owner.	1 - Recommendations 2 - Delayed Recommendations Same as Recommendations but where planned end date is inferior to current date.
	Actions	All Actions the Contributor is assigned to as Action Owner.	1 - Actions 2 - Delayed Actions Same as Actions but where planned end date is inferior to current date.
My Environment	Business Processes		
	Organizational Processes		
	Applications		
	Business Lines		
	Entities		
	Requirements	All Requirements constraining elements that the Contributor is Risk Assessor or Control Responsible for.	
Risks		Lists all Risks the Contributor is Risk Owner for.	1 - Risks 2 - Risks in my Scope List of all Risks the Contributor is Risk Assessor for at least one of the Risk Contexts.
Controls		List of all Controls the Contributor is Control Responsible for at least one of the Entities in the Context.	
Incidents		List of all Incidents declared by the Contributor	1 - Incidents 2 - Incidents in my Scope List of all Incidents reported against one of objects within the Contributor's scope.

2.4.7.2. Search

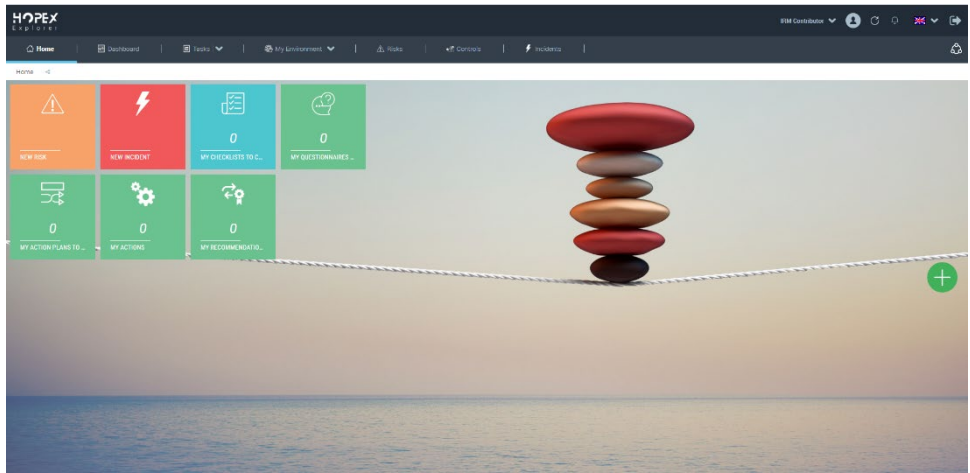
The full-text search and search by meta-class have been disabled for the IRM Contributor.

2.4.7.3. Collaboration

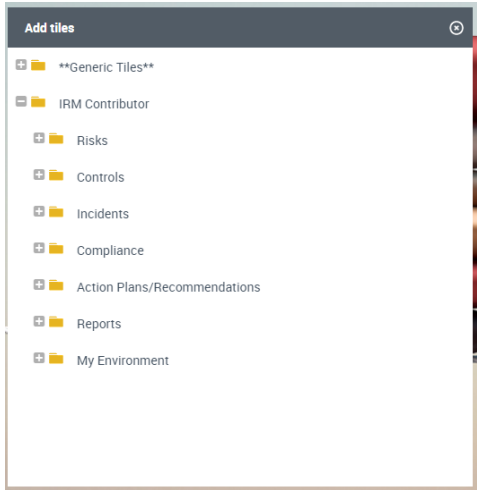
No collaboration section is available for IRM Contributors.

2.4.7.4. Home Page & Tiles

All available tiles have been reviewed and rearranged, grouping them by topic to provide better clarity and ease of access.



Tiles displayed by default were also reviewed in order to provide quick access to the most important and common actions, like creation of incidents and risks, execution of checklists and questionnaires and follow up of action plans.



2.4.7.5. Dashboard & Widgets

The list of available widgets has been enhanced and enriched, grouping them by topic to provide better clarity and ease of access.

The resulting structure is presented in the following table, which highlights the filtering by product license of the different folders and whether the widget was already existing or it's a new addition:

Folder	Licence	Widget	Description
Action Plans	ALL	Action Plan Priority (already existing)	Same report of Action Plan Priority chapter from the Action Plan Follow-up report. Restricted to the Action Plans owned by the Contributor only and in the following statuses: to be started, in progress.
		Action Plan Gantt (already existing)	Same report of Action Plan Gantt overall but limited in

			parameters to the Action Plans owned by the Contributor and in the following statuses: to be started, in progress.
		Action Plans Dashboard (NEW)	Distribution of Actions by delayed or in time for each Action Plan 'in Progress' and owned by the Contributor.
		Action Plan by Progress (already existing)	"Action Plans by Progress' chapter of Action Plan Follow-up Report. Distribution of Action Plans owned by the Contributor by the following progress: On time, Delayed, No Deadline, Arriving at due date within...Exclude other progress categories.
		Action Plan by Status (already existing)	Action Plans by Status chapter of Action plan Follow-up report. Distribution of Action Plans owned by the Contributor on a bar chart by their status. Only for statuses: To be Started, In progress, Completed
Recommendations	IA	Recommendations Dashboard (NEW)	Distribution of Actions by delayed or in time for each Recommendations 'in Progress' and owned by the Contributor.
		Recommendations and Actions per Recommendation Owner (already existing)	Table of Recommendations, owners, due date, Actions they own with Action owner and due date.
		Recommendations per status and audit (already existing)	Table of Recommendations, owners, due date, Actions they own with Action owner and due date.
		Recommendations per Status and Year (already existing)	Bar chart of all Recommendations distributed by year and colour coded by status.
Risks	ERM	Risks per status (already existing)	Same of the existing Risk per Status report but parameters limited to Risks owned by the Contributor.
Actions	ALL	Actions by Progress (NEW)	Distribution of Actions owned by the Contributor by the following status/time: Open/on time, Open/Delayed.

By default, the following widgets are shown on the dashboard:

- Action Plan by Progress

- Recommendations Dashboard
- Actions by Progress

2.4.7.6. Lists & Right-click Menu

All lists have been reviewed in order to highlight the most valuable information for the end user, removing technical columns, adding useful automatically computed attributes and reducing the available buttons when selecting objects.

The right-click menu was disabled on all lists.

Tasks – Questionnaires

It has a button to switch between questionnaires which are still on time and those which are late.

For questionnaires on time

Displayed columns are:

- Name
- Assessed Object
- Assessment Planned End Date
- Assessment Session
- Progression: if the questionnaire is partially filled, then 'Started'. If questionnaire does not contain any answer, then 'Not Started'.

Grouped by: Progression

Actions available on list items are:

- No item in the list selected: None
- When at least one item in the list is selected: Workflow

For delayed questionnaires

It displayed only questionnaires sent to user where current date is superior to Assessment Planned End Date and in one of the following statuses:

- To be Completed
- Delegated
- Transferred

Displayed columns are:

- Name
- Assessed Object
- Assessment Planned End Date
- Assessment Session

- Progression: if the questionnaire is partially filled, then 'Started'. If questionnaire does not contain any answer, then 'Not Started'.

Grouped by: Progression

Actions available on list items are:

- No item in the list selected: None
- When at least one item in the list is selected: Workflow

Tasks – Execution Checklists

It displays only execution checklists sent to the user and in one of the following statuses:

- To be Completed
- Delegated
- Transferred

Displayed columns are:

- Name
- Progression: if the checklist is partially filled, then 'Started'. If checklist does not contain any answer, then 'Not Started'.
- Planned Execution End Date

Grouped by: Progression

Actions available on list items are:

- No item selected: None
- When at least one item in the list is selected: Display Checklist, Workflow

2.4.7.7.Tasks – Action Plans

For (my) Action Plans

It only displays Action Plans where user is owner.

Displayed columns are:

- Name
- Priority
- Owner Entity
- Planned End Date
- Real Begin Date

Grouped by: Status

Actions available on list items are:

- No item in the list selected: None
- When at least one item in the list is selected: Workflow

For Delayed Action Plans

It only displays Action Plans where user is owner and current date is superior to planned end date.

Displayed columns are:

- Name
- Priority
- Owner Entity
- Planned End Date
- Real Begin Date

Grouped by: Status

Actions available on list items are:

- No item in the list selected: None
- When at least one item in the list is selected: Workflow

2.4.7.8.Tasks – Recommendations

Displayed columns are:

- Name
- Priority
- Due Date
- Audit
- Planned Closing Review

Grouped by: Status

Actions available on list items are:

- No item selected: None
- When at least one item in the list is selected: Workflow

For (my) recommendations

It only displays Recommendations where user is owner and status is one of the following:

- Action Plan to Be submitted
- In Progress
- Action Plan Progress Rate to Be Updated

- Action Plan Progress Rate Updated

For delayed recommendations

It only displays Recommendations where current date is superior to due date AND where user is owner AND status is one of the following:

- Action Plan to Be submitted
- In Progress
- Action Plan Progress Rate to Be Updated
- Action Plan Progress Rate Updated

2.4.7.9.Tasks – Actions

Displayed columns are:

- Name
- Status
- Priority
- Planned End Date
- Owner Action Plan
- Recommendation

Grouped by: Status

Actions available on list items are:

- No item selected: None
- When at least one item in the list is selected: Workflow

For (my) Actions

It only displays Actions (from Recommendations or Action Plans) where user is owner and status is 'Open/In progress'.

For Delayed Actions

It only displays Actions where the Planned End Date is overdue.

2.4.7.10. My Environment

Business & Organizational Processes

It displays all Business Processes that match either of the following conditions:

- All Processes having the Contributor assigned as Risk & Control Assessor
- All Processes being in the Context of an Assessment Node (assessing a Risk) associated to a Questionnaire assigned to the Contributor

Applications

It displays Applications being in the Context of an Assessment Node (assessing a Risk) associated to a Questionnaire assigned to the Contributor

Business Lines

It displays Business Lines being in the Context of an Assessment Node (assessing a Risk) associated to a Questionnaire assigned to the Contributor

Entities

It displays Entities that match either of the following conditions:

- All Entities where the Contributor is assigned as Risk & Control Assessor
- All Entities associated to a Control where the Contributor is Control Responsible
- All Entities being in the Context of an Assessment Node (assessing a Risk or Control) associated to a Questionnaire assigned to the Contributor

Requirements

Taking into account the objects displayed in the previous chapters (Business & Organizational Processes, Applications, Business Lines and Entities), it displays all requirements in the scope of those objects.

2.4.7.11. Risks

For (my) risks

It displays Risks owned by the user and in the following status:

- To be Submitted
- To be Validated
- Rejected
- Validated

Displayed columns are:

- Name
- Status
- Creation Date
- Validation Date
- Risk Assessor: query determining if Contributor is one of the Risk Assessment Respondents
- Questionnaire Awaiting: displays whether a questionnaire for Risk Assessment is awaiting action by the Contributor

Grouped by: Status

Actions available on list items are:

- No item selected: New
- When at least one item in the list is selected: Workflow, Instant Report, Excel

For risks in my scope

It displays the risks where user is responsible for at least one context element of the Risk (Contributor as respondent) and in the following status:

- Validated

Displayed columns are:

- Name
- Owner
- Validation Date
- Latest Assessment Date
- Questionnaire Awaiting

Actions available on list items are:

- No item selected: None
- When at least one item in the list is selected: Instant Report, Excel

2.4.7.12. Controls

It displays the list of Controls the Contributor is responsible for. There is no workflow for Controls.

Displayed columns are:

- Name
- Latest Execution Rate: only takes into account the execution or assessment performed on this Control by the Contributor
- Latest Execution Date: only takes into account the execution or assessment performed on this Control by the Contributor
- Next Planned Execution Date: only takes into account the next execution session end date for this Control if an execution checklist was sent to the Contributor
- Awaiting Execution Checklists: displays whether a questionnaire or checklist for Control is awaiting action by the Contributor as Control Responsible
- Latest Pass Control Level: only takes into account the execution or assessment performed on this Control by the Contributor
- Latest Assessment Date: only takes into account the execution or assessment performed on this Control by the Contributor
- Awaiting Assessment Questionnaires: displays whether a questionnaire or checklist for Control is awaiting action by the Contributor as Control Responsible

Actions available on list items are:

- No item selected: None
- When at least one item in the list is selected: Instant Report, Excel

2.4.7.13. Incidents

For (my) incidents

It displays Incidents declared by the user and in the following status:

- Draft/ To be Submitted
- To be Approved
- To be Validated
- Rejected
- Validated
- Closed

Displayed columns are:

- Name
- Declaration Date
- Impact
- Net Actual Loss
- Declarant's Entity
- Occurrence Date
- Last Transition By

Grouped by: Status

Actions available on list items are:

- No item selected: New
- When at least one item in the list is selected: Workflow, Instant Report, Excel

For incidents in my scope

It displays Incidents declared against one of the following objects:

- Business Processes
- Organizational Processes
- Business Lines
- Applications
- Entities

if object is within the Contributor’s scope and in the following status:

- Validated

Displayed columns are:

- Name
- Declaration Date
- Impact
- Net Actual Loss
- Declarant’s Entity
- Occurrence Date
- Number of Action Plans

Actions available on list items are:

- No item selected: None
- When at least one item in the list is selected: Instant Report, Excel

2.4.7.14. Available Report Templates

List of available report templates was cleaned up and filtered based on available product license key. These reports are available when using the tile “New Report” from the home page.

Details of the adopted filtering criteria are provided in the table below:

Report Template	License
Action Plan Gantt	ERM IC LDC
Action Plan Follow up	ERM IC LDC
Actions Gantt	ERM IC LDC
Risks per Status	ERM
Risk Context Synthesis	ERM LDC
Recommendations and Actions per Recommendation Owner	IA
Recommendations per Status and Audit	IA
Recommendations per Status and Year	IA

2.4.7.15. Questionnaires UX Improvement

Questionnaires UX has been improved adding pre-conditions and filtering criteria on the existing workflow transitions. Namely:

- Users can “Submit Answers” or “Close” a questionnaire only if at least one answer has been provided. Otherwise the workflow transitions are not available

- A warning message is displayed if the user is trying to finalize a questionnaire with pending questions, both mandatory and optional (this warning can be deactivated via an option in the Assessment folder “Enable warning message on assessment completion”).

Furthermore, in the questionnaires list, a new automatically computed attribute is now displayed, to show what questionnaires are in progress and which haven't yet started. A questionnaire is considered to be in progress if at least one question has been answered.

2.4.7.16. IRM Contributor CRUD policy

The IRM Contributor profile used to inherit all CRUD permission by several obsolete GRC profiles. This inheritance has been removed and CRUD policies have been reviewed as follows:

Meta-Class	CRUD Policy
Account	R
Action	CRUD
Action Plan	CRUD
Answer/Audit	R
Application	R
Assessment Aggregation	R
Audit	R
Audit Activity	R
Audit Theme	R
Business Line	R
Business Process	R
Compliance Activity	-
Compliance Test	-
Compliance Theme	-
Control	CRUD
Control System	R
Control Type	R
Database	-
Event	-
Expense (Mission)	-
Expense Sheet	-
External Reference	CRUD
Finding	R
Folder of Assessment Sessions	R
Folder of Business Lines	R
Folder of Objectives	R
Folder of Organizational Processes	R
Folder of Org-Units	R
Gain	CRUD
General Task	-
Gross Income	-
Incident	CRUD
Incident Type	R
Indicator	-
Issue	R
Library	R
Loss	CRUD

Macro Incident	R
Objective	R
Operation	R
Organizational Process	R
Org-Unit	R
Person (System)	R
Plan	R
Product	R
Progress	CRUD
Provision	CRUD
Question/Audit	R
Recommendation	RU
Recovery	CRUD
Regulation Framework	R
Report	CRUD
Report (MS Word)	CRUD
Requirement	R
Requirement Type	R
Risk	CRUD
Risk Consequence	R
Risk Factor	R
Risk Type	R
Server	-
Site	-
Skill	-
Skill Level Value	-
Skill Type	-
Test	-
Test Activity	-
Test Item	-
Test Sheet	-
Test Theme	-
Time Sheet	-
Vacation	-
Work Paper	R

2.4.7.17. Filters by Product License

Based on the available product license, the IRM Contributor will have a limited visibility over the existing menu items. The implemented rules are resumed in the table below.

Level 1	Level 2	ERM	IC	LDC	Audit
Home		X	X	X	X
Dashboard		X	X	X	X
Tasks	Questionnaires	X	X		
	Execution Checklists		X		
	Action Plans	X	X	X	
	Recommendations				X
My Environment	Business Processes	X	X	X	X
	Organizational Processes	X	X	X	X
	Applications	X	X	X	X
	Business Lines	X	X	X	X
	Entities	X	X	X	X
	Requirements	X	X	X	X
Risks		X			

Controls			X		
Incidents				X	

2.4.8. HOPEX IRM – Internal Audit

The Internal Audit module is now integrated in the Integrated Risk Management desktop so that users with a valid license can seamlessly carry out audit missions, managing risks and implementing controls from one single place.

2.4.8.1. Profiles

Among the existing profiles having access to the Internal Audit Module only two were kept:

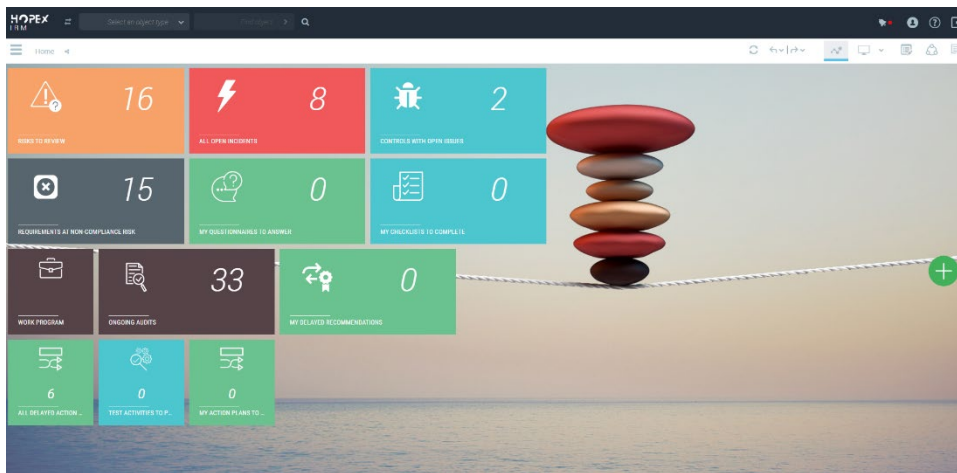
- Audit Director
- Auditor

The existing administrator profile, Internal Audit Functional Administrator, was replaced with the general IRM Functional Administrator, available for all IRM products based on the available license.

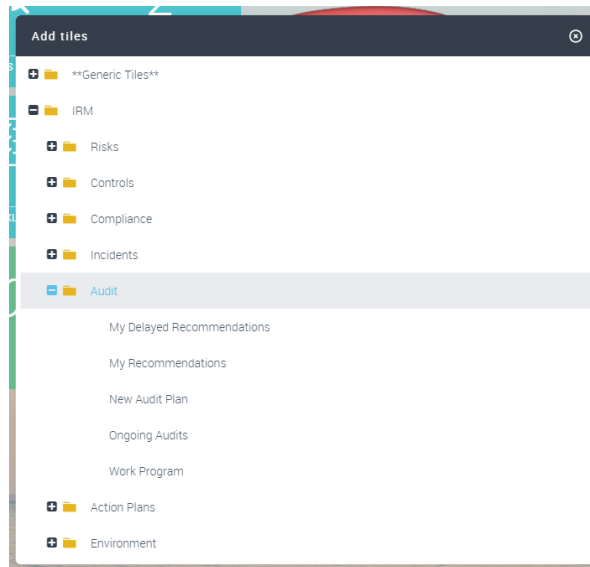
2.4.8.2. Home Page & Tiles

The IRM home page now includes also pre-defined tiles for Internal Audit, such as:

- Work Program
- Ongoing Audits
- Recommendations



All available tiles are grouped under the folder "Audit".



The table below provides details on new and existing tiles.

Tile	Status	Description
Ongoing Audits	NEW	Takes the user to Audit->Execution-> Ongoing Audits
My Recommendations	Existing	Takes the user to Task -> Action Plans -> Recommendations to Implement
My Delayed Recommendations	NEW	Takes the user to Task->Action Plans->Delayed Recommendations
New Audit Plan	NEW	Creates new audit plan and opens its property page
Work Program	NEW	Takes the user to Task->Audit which contains global work program, my work program and past audits as alternate lists

2.4.8.3. Menu Structure & Filters

Following the integration of Internal Audit in the new IRM desktop, the menu now contains new sections to account for the audit module. The table below provides the full list of menu items that are accessible using an Internal Audit product license, also documenting visibility rights for the different profiles:

Level 1	Level 2	Level 3	IRM FA	Audit Director	Auditor
Home			X	X	X
Dashboard			X	X	X
My Tasks	Audit		X	X	X
	Time & Expenses	Vacation Requests	X	X	X
		Timesheets	X	X	X
		Expenses	X	X	X
		Vacation Requests to Review	X	X	
		Expenses to Review	X	X	
	Action Plans	Recommendations to Implement	X	X	X
		Delayed Recommendations	X	X	X
Environment	My Organization	Entities	X	X	X
		Processes	X	X	X
		Business Lines	X	X	X
		Applications	X	X	X
	Financial	All Accounts	X	X	

		Products	X	X	
		Gross Incomes	X	X	
	Strategy		X	X	
	Regulations		X	X	
	Documents	All Documents	X	X	X
		By Document Categories	X	X	X
Libraries	HOPEX Libraries		X	X	
Audit	Audit Plans		X	X	
	Preparation	Decisional Reports	X	X	
		Vacation Requests	X	X	
		Template Question Groups	X	X	
		General Tasks	X	X	
	Execution	Ongoing Audits	X	X	
		Others	X	X	
	Follow up		X	X	
	Remediation	Potential Recommendations	X	X	
		Ongoing Recommendations	X	X	
		Other Recommendations	X	X	
		Delayed Recommendations	X	X	
		Recommendation Reports	X	X	X
		Actions by Recommendation	X	X	X
	Other	Reports based on Datasets	X	X	X
		DataSets	X	X	X
Admin	User Management		X		
	Skill Management	All Skills	X		
		All Skill Types	X		
		Manage Skills with Users	X		
		Audits by Auditor	X		
	Calendars		X		
	Tools		X		

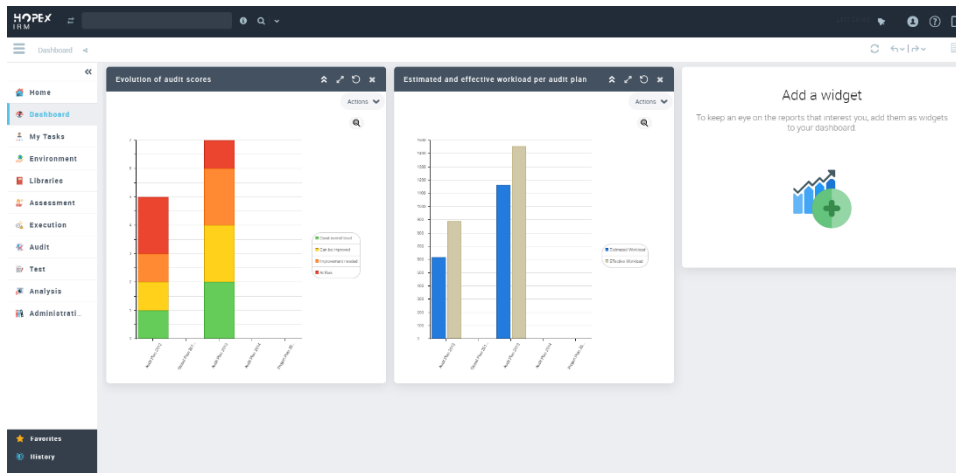
2.4.8.4. Dashboard

All existing Internal Audit widgets have been migrated into the new desktop. These are:

- Estimated and effective workload per audit plan
- Evolution of audit breakdown by category
- Evolution of audit scores
- Number of auditors per year
- Number of audits per audit plan

By default, the following widgets are displayed in the dashboard:

- Evolution of audit scores
- Estimated and effective workload per audit plan



2.4.8.5. My Tasks

The My Tasks section was slightly reorganized to account for the new entries coming from the Internal Audit module.

The newly introduced “Time & Expenses” menu aggregates all items regarding timesheets, vacations and expenses management that were previously in the “Test” section.

The true new addition is the “Audit” section which includes most of what an Auditor needs.

Audit Section

This menu item contains one single section with a button to switch between 3 views:

- My Work Program
- Global Work Program
- Past Audits

For the work programs, two columns have been added to display the following info:

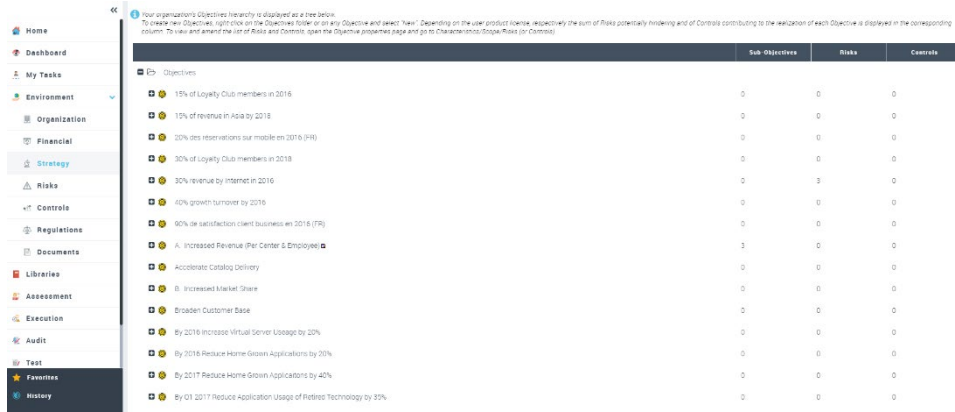
- Status – The audit status
- Activities – The number of audit activities

2.4.8.6. Environment

Also the Environment section was slightly reorganized to account for the new entries coming from the Internal Audit module.

The newly introduced “Financial” section contains three items: the previously existing “Accounts” and “Gross Incomes” and the new one “Products”, coming from Internal Audit.

Another new section has been introduced, called “Strategy”, whose content is coming from the old “Objectives”, previously replicated in Risks and Controls.



Your organization's Objectives hierarchy is displayed as a tree below. To create new Objectives, click on the Objectives folder or on any Objective and select "New". Depending on the user product role, respectively the sum of Risks potentially hindering and of Controls contributing to the realization of each Objective is displayed in the corresponding column. To view and amend the list of Risks and Controls, open the Objective properties page and go to Characteristics/Scope/Risks (or Controls).

Objectives	Sub-Objectives	Risks	Controls
15% of Loyalty Club members in 2016	0	0	0
15% of revenue in Asia by 2018	0	0	0
30% des interventions sur mobile en 2016 (P4)	0	0	0
30% of Loyalty Club members in 2018	0	0	0
30% revenue by internet in 2016	0	3	0
40% growth turnover by 2016	0	0	0
60% de satisfaction client business en 2016 (T5)	0	0	0
A. Increased Revenue (Per Center & Employee)	3	0	0
Accelerate Catalog Delivery	0	0	0
B. Increased Market Share	0	0	0
Broaden Customer Base	0	0	0
By 2016 Increase Virtual Server Usage by 20%	0	0	0
By 2016 Reduce Home Grown Applications by 20%	0	0	0
By 2017 Reduce Home Grown Applications by 40%	0	0	0
By Q1 2017 Reduce Application usage of Redire Technology by 50%	0	0	0

2.4.8.7. Libraries

In the Libraries menu a new section “HOPEX Libraries” was added to provide a list of all existing libraries.

2.4.8.8. Audit

This section is the most important and includes all the functionalities required by an Audit Director. The structure of this menu was defined following the same approach used for the other modules (for ex. risks and controls).

Audit Plans

It displays a tree structure with all existing plans of type Audit and Mixed (both Audit and Test). The following columns provide additional info which improve the navigation:

- Status
- Begin & End Date - For both Audit Plan and Audit (planned dates)
- Audits – Number of audits included in the plan
- Activities – Number of activities included in the audit

In order to create a new Audit Plan, the user must right-click on the “Audit Plans” folder and select “New”. Audits, instead, should be created directly within the relative Audit Plan, in the Audits tab.

Audit plans open on full screen mode in order to provide a better user experience and allow to open audits in the right panel at the same time.

Resources Assignment

From within an audit plan, the section to assign resources to an audit and define the audit leader was improved to make it much easier to assign and unassign auditors to a given audit mission.

The three existing buttons have been removed and replaced by ad hoc columns with checkboxes allowing to define the audit leader and assign or unassign auditors.

Assignments

Audit ↑	Estim. Resources	Curren
Audit-2		0

Name ↑	Leader	Assign/Unassign
ABAINAGH Radouane	<input type="checkbox"/>	<input type="checkbox"/>
AIT MOUSSA Mohamed	<input type="checkbox"/>	<input type="checkbox"/>
AIT MY LAHBIB Youssef	<input type="checkbox"/>	<input type="checkbox"/>
AQUIMAR Mustapha	<input type="checkbox"/>	<input type="checkbox"/>
AZOUGHARH Youness	<input type="checkbox"/>	<input type="checkbox"/>

Page 1 of 3 | Show 50 elem

Preparation

This section provides all info required to build an action plan and decide what audit missions are needed. It contains 4 tiles, as shown in the screenshot below.

Preparation

DECISIONAL REPORTS

Displays all reports you need to have a clear vision on what audits should be planned.

GENERAL TASKS

Displays all General Tasks to be performed by auditors but not specific to a particular Audit.

VACATION REQUESTS

Displays all Vacation Requests in a list. Vacation Requests can be created and managed from here.

QUESTION GROUP TEMPLATES

Displays the existing templates for Question Groups. New templates can be created from here.

The content of each section hasn't changed with respect to what was provided in the homonymous ones of the old Internal Audit desktop.

Execution

This section lists all existing audits, grouping them into two tiles:

- Ongoing audits – Displays all audits which are either in preparation, in progress, potential, published or to be validated
- Other audits – Displays all audits which are not ongoing: this includes audits which have been cancelled, closed, completed or rejected, plus all audit templates

Execution

ONGOING AUDITS

Displays all ongoing audits, which are those either in preparation, in progress, potential, published or to be validated.

OTHER AUDITS

Displays all past audits which are not ongoing. These are the audits which have been cancelled, closed, completed or rejected and the audit templates.

Follow-up

This section displays the same content of the dual section for testers (which is in Test->Follow Up->TimeSheet Reports) but personalized for auditors.

Remediation

This section displays all existing recommendations, distributed in several tiles, following the logic documented in the table below.

Title	Description
Potential Recommendations	Displays all recommendations which are yet to be validated. These are the recommendations with statuses: <ol style="list-style-type: none"> 1. To be submitted (TBS), 2. Action plan to be submitted (PTBS), 3. Action plan to be reviewed (PTBR), 4. Action plan to be validated (PTBV)
Ongoing Recommendations	Displays all recommendations which have been validated and are in progress. These are the recommendations with status: <ol style="list-style-type: none"> 1. In Progress (PROG) 2. Action plan progress rate to be updated (PRTU) 3. Action plan progress rate updated (PRU)
Other Recommendations	Displays all recommendations which have been closed or cancelled. These are the recommendations with status: <ol style="list-style-type: none"> 1. Closed (CLO) 2. Cancelled (CAN)
Delayed Recommendations	Displays all recommendations where the Due Date is overdue.

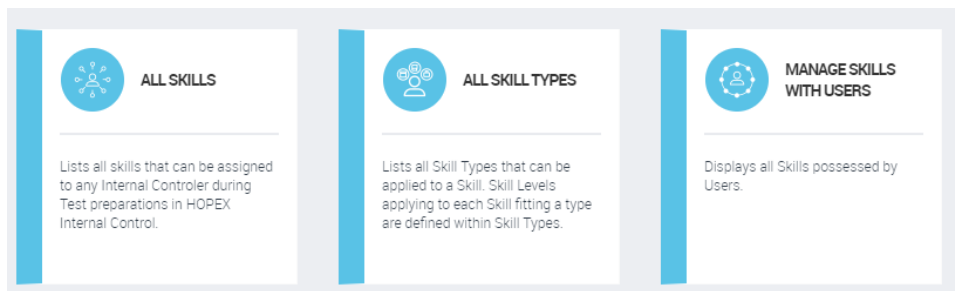
2.4.8.9. Analysis

In this menu two sections were added, within the "Action Plans" item, to report on recommendations and actions, both already existing in the old Internal Audit desktop. These are:

- Recommendation Reports – Allows to build reports based on three pre-defined templates: "Recommendations Report", "Recommendations by Status and Audit" and "Recommendations by Status and Year"
- Actions by Recommendation

2.4.8.10. Administration

The most important addition to this menu was the "Skills Management" section which was integrally migrated from the old Internal Audit desktop.



Furthermore, the Calendars item, originally replicated in several places, was moved in this menu.

2.4.8.11. Review Notes

Thanks to the new desktop, it's now possible to add review notes to the main Audit objects, such as:

- Audit
- Audit theme
- Audit Activity
- Work Paper
- Finding
- Recommendation
- Action plan

2.4.9. Stored Risk Attributes

The following calculated Risk Attributes were re-calculated every time they were included in a list of Risks, leading to a drain in performance when displaying lists of Risks or Controls. These are now stored at the end of an assessment session and do not require recalculation for the entire list.

- Impact
- Likelihood
- Inherent Risk
- Control Level
- Net Risk
- Forecast Risk

2.4.10. MS Excel Import/Export Template

An Excel import template is provided to facilitate the initialization of IRM repository

It includes :

- Context and Taxonomy objects:
 - Entities
 - Business Processes
 - Organizational Processes

- Applications
- Action Plans
- Risk Types
- Control Types
- IRM objects
 - Risks
 - Controls
 - Incidents

It is available for download on the HOPEX Store.

2.5.. New Questionnaire Builder

Starting from version 4, HOPEX provides a brand new module with a completely renovated user experience to build and answer questionnaires. All HOPEX products will benefit from the new module's advanced and powerful functionalities.

The module is based on a JavaScript component called "SurveyJS". To see the component in action outside of HOPEX it is possible to visit [the following link](#).

After integration within HOPEX, the SurveyJS component has been readapted and enriched with standard HOPEX functionalities.

2.5.1.1. Create a new Questionnaire Template

From within HOPEX IRM, in order to create a new questionnaire template using the new builder, the user must go to the section Assessment -> Preparation -> Questionnaire Templates, and click on the "New" button.

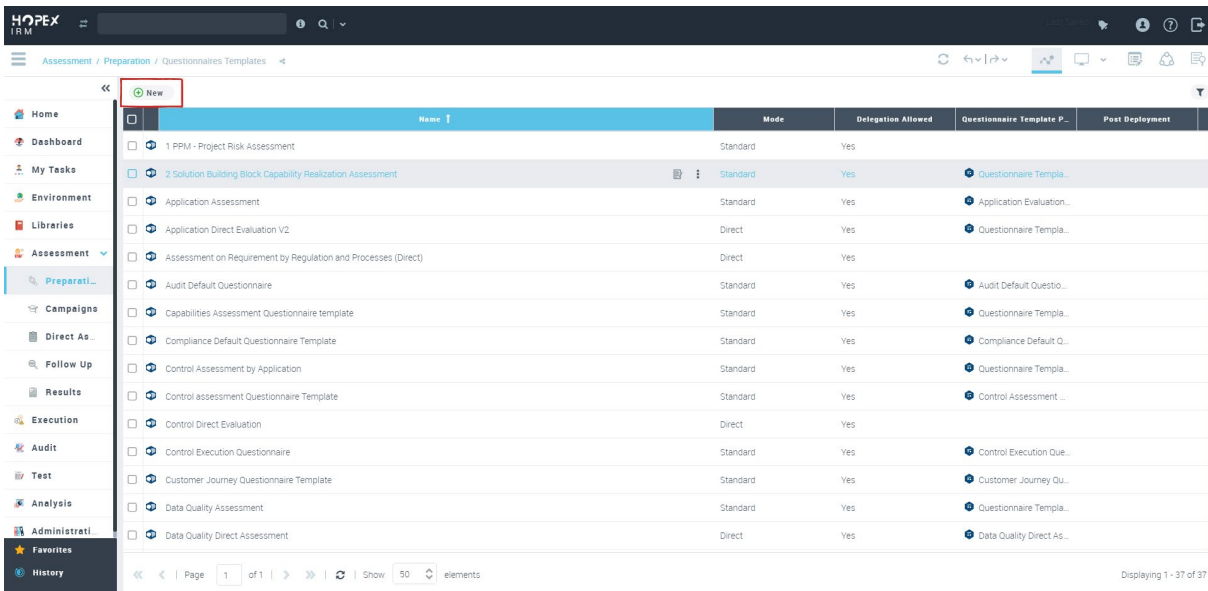
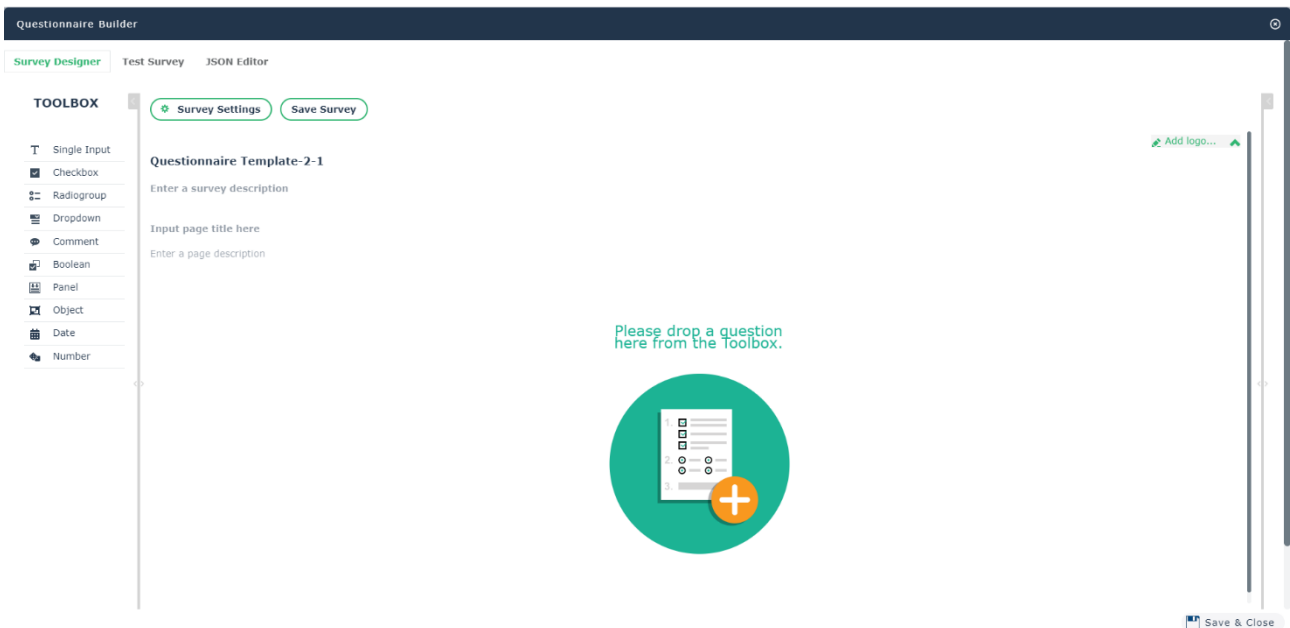


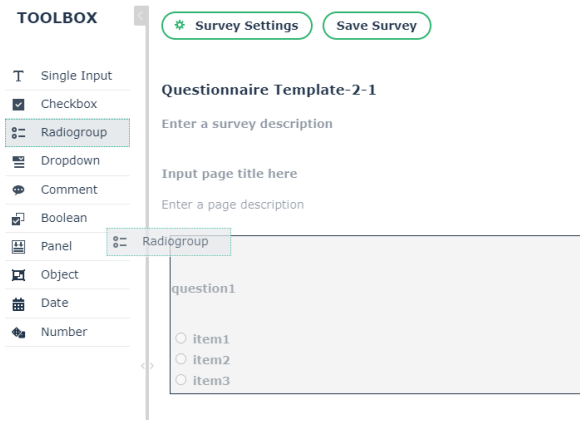
Figure 3 - Create a new Questionnaire Template

After clicking on the new button, the user is presented with a wizard where he can provide the questionnaire title before the new questionnaire builder opens in full screen mode.



The new questionnaire builder adopts a WYSIWYG (What You See Is What You Get) interface.

Building the overall questionnaire's structure is easily done via drag-and-drop of the questions from a toolbox on the left, which lists all available question types.



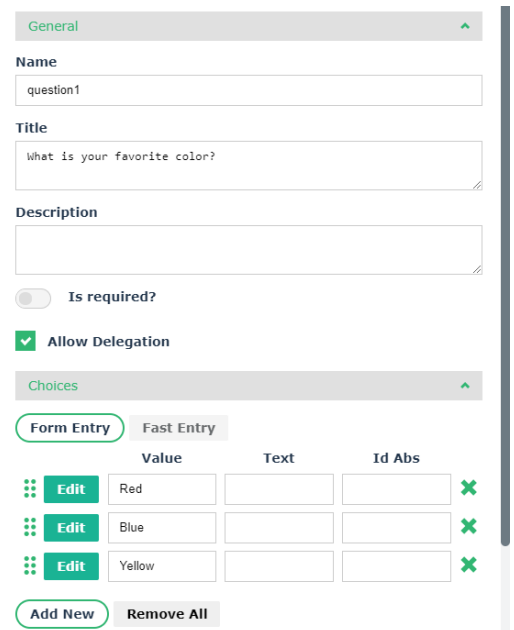
The new WYSIWIG interface allows to directly edit questions' content via a simple click of a button and quickly rearrange questions via drag-and-drop.

2.5.2. Questionnaire and Questions' Properties

Every element of the questionnaire has a set of properties which are accessible via a property pane, on the right-hand side of the questionnaire builder.

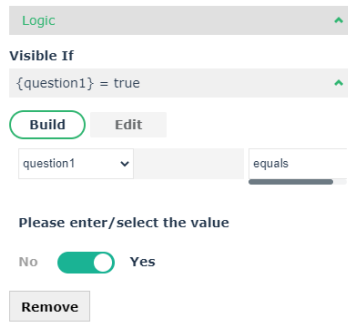
From the property page of a question it is possible to define things such as:

- Question unique name (used when defining any type of logic and validation rules)
- The question text itself
- An optional question description
- Whether the question is mandatory and/or can be delegated
- All the possible answers in case of questions of type checkbox, radiogroup and dropdown
- The logic to make the question mandatory and/or visible based on predefined conditions
- Any validation rule to be executed when the question is answered



2.5.2.1. Questions Logic and Validation

With the new Questionnaire Builder, it is now much easier to write the logic to conditionally make a question visible and/or mandatory, since it is no longer required to use complex meta-tests. Instead a dedicated section in the question's properties, help the user write the required logic with a few simple clicks.



It is also very easy to build any type of validation expression to ensure questionnaire respondents follow a business defined logic when answering the questionnaire.

2.5.3. Answering a Questionnaire

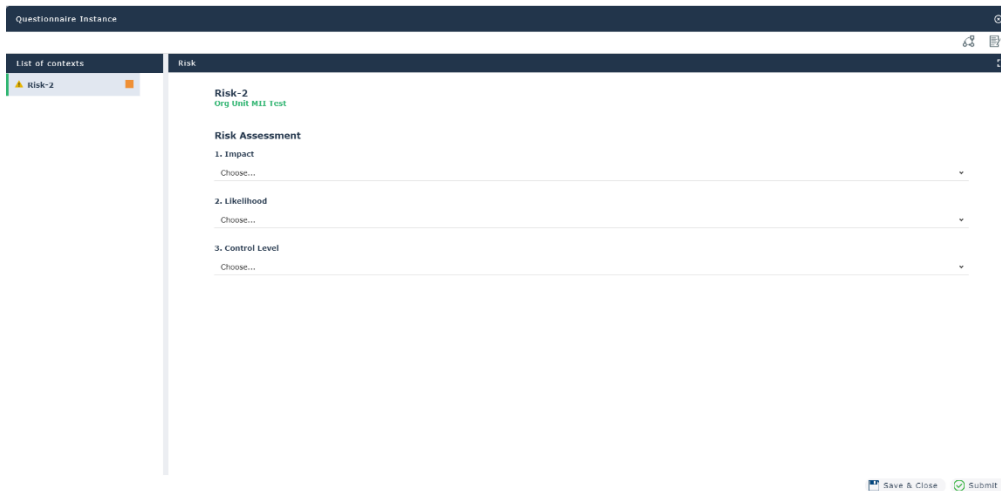
The new module provides a renovated and improved layout when answering questionnaires.

There are two types of questionnaires:

- Standard
- Direct

2.5.3.1. Standard Questionnaires

With standard questionnaires, the floating toolbar allows to open the questionnaire via a dedicated icon. The questionnaire opens in full screen mode in order to provide the best user experience for the responder.



The new layout is characterized by the following sections:

- A **left sidebar** which lists the elements to be assessed or upon which the questionnaire is based. Every element is followed by a colored icon which represents the status of the single questionnaire instance. Orange means that the questionnaire was never opened. Red means that the questionnaire is invalid, which is the case, for example, when the user opens the questionnaire, but he/she does not answer one or more mandatory questions. Green is when the

questionnaire is valid, which is the case when all mandatory questions have been answered.

- The **main pane** which displays the questionnaire instance related to the element selected in the left sidebar.
- The **header menu buttons** which allow to access further details of the element currently being selected in the left sidebar. In particular, the user can:
 - Browse the property page
 - Display the associated diagram.
- The **buttons** in the footer, which allow to:
 - Save all modifications done to the questionnaire and close it, in order to finish it at a later stage (button "Save & Close").
 - Launch the questionnaire workflow to either submit, delegate or transfer the questionnaire (button "Submit")

When the user tries to submit the questionnaire, a validation algorithm goes through all the elements in the sidebar, ensuring that all existing validation rules are satisfied (e.g. mandatory questions and validation expressions).

If this is the case, all elements in the sidebar will have a green squared icon and the questionnaire workflow wizard will be presented to let the user choose what transition to trigger.

Otherwise a red icon will be displayed next to the elements which are not valid. The user will have to go through these elements to respect the validation requirements (e.g. answer to mandatory questions being left unanswered, respect existing validation expressions).

The interface properly highlights in every questionnaire the elements where a validation problem was raised, helping the user to quickly identify the concerned question(s).

2.5.3.2. Direct Questionnaires

Direct questionnaires are, as usual, fully integrated in the property pages of the object to assess. The only change with respect to the old questionnaire module is the renovated layout.

Measure Date*

5/27/2020



Change management overload

Risk Assessment

1. Impact

Choose...

2. Likelihood

Choose...

3. Control Level

Choose...

2.5.4. Existing Clients & Data Conversion

2.5.4.1. Data Mapping HOPEX to SurveyJS and vice-versa

An automatic data mapping mechanism has been put in place for existing HOPEX users, in order to map the old HOPEX question types to the new ones.

The following tables provide a summary of the mapping, from HOPEX to SurveyJS and vice-versa. The mapping from HOPEX to SurveyJS is 1to1, while vice-versa is at times 1toN, which means that some parameters of the SurveyJS question are used to uniquely identify which HOPEX question the SurveyJS type maps to.

HOPEX to SurveyJS

HOPEX Question Type	SurveyJS Question Type
Text	Comment
Vertical Radio	Radiogroup
ComboList	Dropdown
Multiple Answer Type	Depending on content*
Date	NEW (Date)
Number	NEW (Number)
Boolean	Boolean
Multiple Values	NEW (Objects)
Short	NEW (Number)
Duration	Single Input
Object	NEW (Objects)
OK/NO/NA	Dropdown
Percent	Single Input
Signed Number	Single Input
String	Single Input
Question Group	Panel

SurveyJS to HOPEX

SurveyJS Question Type	HOPEX Question Type
Single Input	Duration, Percent, Signed Number, String
Checkbox	NEW
Diagram	Presentation Tool
Radiogroup	Vertical Radio
Dropdown	ComboList, OK/NO/NA
Comment	Text
Boolean	Boolean
File	Object
Panel	Question Group

* HOPEX questions of type "Multiple Answer Type" allowed to group under one single question multiple types of possible answers. This type of questions after conversion are broken down into elementary questions, one per element defined in the original Multiple Answer Type object.

2.5.4.2. Questioning Motives

The Questioning Motive was a concept used in HOPEX to tag questions defined on specific objects, like Controls, so that they could automatically and dynamically feed a questionnaire template when the given control was in the questionnaire scope.

With respect to the controls, for example, two questioning motives allowed to define questions to be used as either Control Steps or Test Steps.

To create these types of questions now the procedure is identical to creating a new questionnaire template.

For existing clients, for example, controls with existing control steps, will now present a questionnaire template through which users will be able to edit and manage all the control steps.

2.5.5. Unsupported Features & Manual Data Conversion

A dedicate report has been implemented in order to provide existing clients with details about the impacts of the new questionnaire builder with respect to existing data.

This report can be launched in two ways:

- On the entire environment data, via the user menu, under Settings->New Questionnaire Builder Report
- On a single questionnaire template, via the right-click menu, selecting "Convert"

If the user tries to open an old questionnaire template, containing no longer supported features, via the new questionnaire builder, these elements will simply be neglected.

2.5.5.1. Questionnaire Presentation

There is now only one layout used to display questionnaires, which is applied by default for every questionnaire template.

2.5.5.2. Presentation Tool

With the new questionnaire builder it is no longer possible to define questionnaire elements of type presentation tool. Nevertheless, for diagrams, the new questionnaire layout now automatically integrates them in the interface, as described in the chapter Standard Questionnaires.

2.5.5.3. Meta-tests

All meta-tests used to manage whether a question had to be visible and/or mandatory will have to be rewritten using the new dedicated section in the concerned question property page.

2.5.5.4. Computed Questions

All computed questions must be re-created in the new builder.

2.5.5.5. Questions with Link Answered Object

Questions with Link Answered Object are no longer supported.

2.5.5.6. Question Groups populated by query

Question Groups populated via a query are no longer supported.

2.5.6. How to install the new module

The new questionnaire builder is a module which is automatically installed at HOPEX installation time.

First time clients will automatically benefit from the new module, while existing ones have the option to activate it at a later stage. This is to minimize impacts and potential disruption that might occur due to existing questionnaire templates that will require some adaptations to seamlessly work in the new builder.

2.6.. HOPEX Privacy Management

The new release includes three major features improvements:

1. Action Plans
2. Regulation Frameworks
3. Search results

Also, various UX improvements were addressed to better display the information in existing property pages and wizards.

2.6.1. DPIA & Reusable Risks

A new powerful functionality has been added to this new version of HOPEX Privacy Management which allows to reuse privacy risks across Data Protection Impact Assessments (DPIAs), thus helping organizations to build a centralized privacy risks register.

This functional improvement also allows to import in the organization environment a list of predefined privacy risks through a ready-to-use Excel template, so that whoever carries out a DPIA can identify applicable risks looking at the risks register.

Privacy risks are categorized into 5 types

1. Illegitimate Access
2. Data Loss
3. Data Integrity
4. Data Unavailability
5. Unlawful Processing

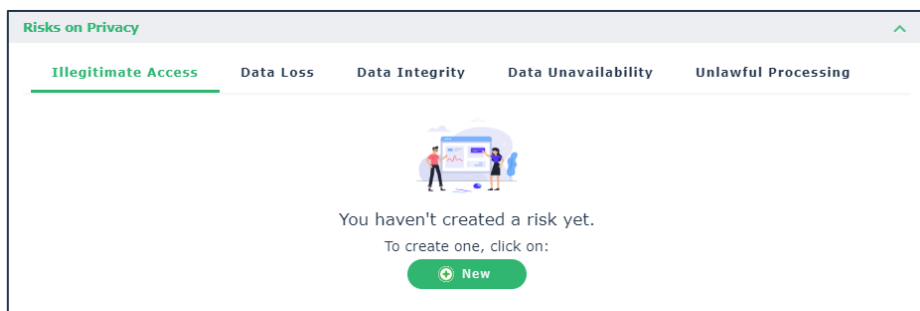


Figure 4 - DPIA risk types

Every risk created via the DPIA is assigned to one of the 5 possible types and will become automatically available to any other user carrying out a DPIA.

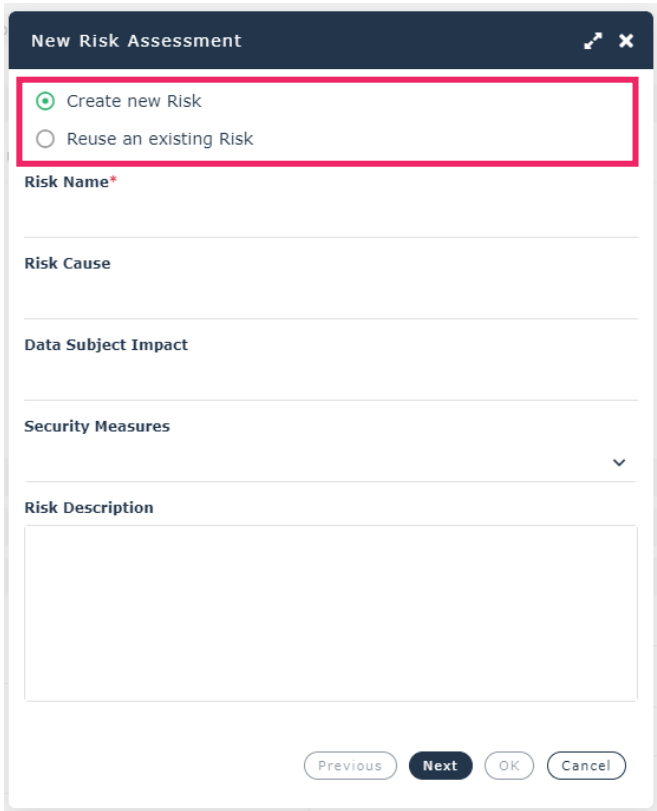


Figure 6 - DPIA: wizard to create or reuse risks

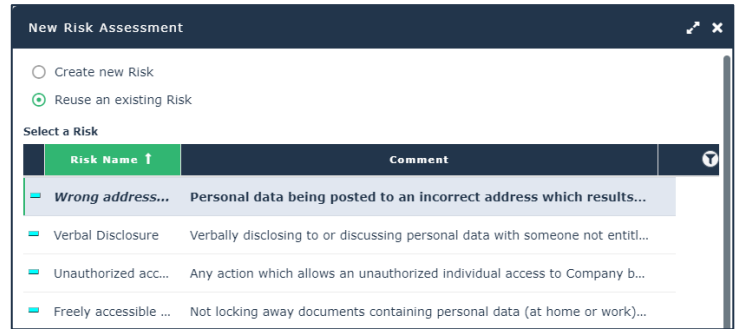


Figure 5 - Reuse existing risks

2.6.2. Updated Record of Processing & DPIA Word Reports

Both the record of processing activities and the DPIA Word reports have been updated to include some additional info about the processing activities.

2.6.3. GDPR Acronym Cleanup

With this release the product officially changes its name from HOPEX GDPR to HOPEX Privacy Management. In order to account for this new product name, the user interface went through a thorough cleanup to remove the GDPR acronym.

The cleanup of the GDPR acronym from the application involved several items. Based on the circumstances, the cleanup consisted in either deleting the acronym "GDPR" or replacing it with "Privacy", "Data Protection" or "Privacy Management".

The renaming involved mainly:

- User profiles
- Meta-classes
- Meta-attributes
- Widgets

- User options “GDPR” folder

2.6.4. User Profiles – New Names

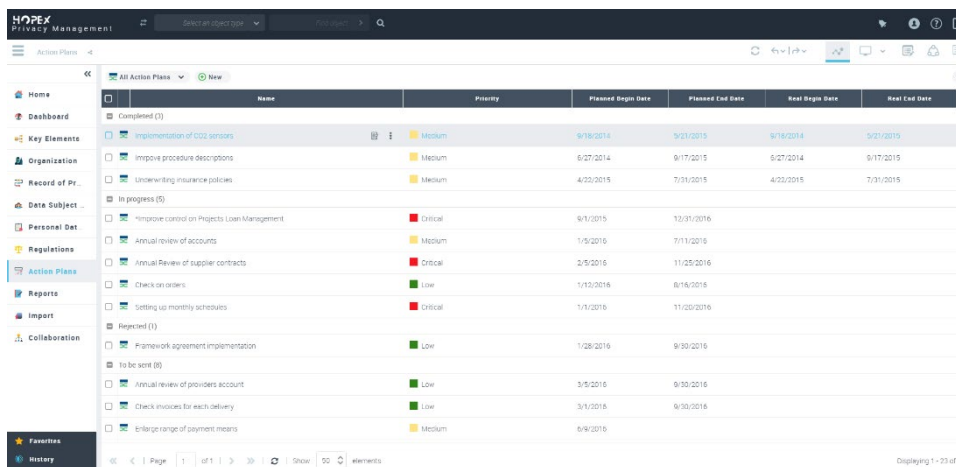
The existing user profiles have been renamed according to the new product name, thus the acronym GDPR was removed by all existing profiles. No functional modifications were applied.

Consequently, the new profile names are:

- Chief Privacy Officer
- Data Protection Officer (DPO)
- DPO Correspondent
- Privacy Team
- Activity Owner
- Privacy Functional Administrator

2.6.5. Action Plans

HOPEX Privacy Management now includes Action Plans. A new section has been added to the burger menu to centrally manage all action plans originated from the privacy compliance initiative.



Name	Priority	Planned Begin Date	Planned End Date	Real Begin Date	Real End Date
Implementation of DPO persona	Medium	9/18/2014	9/21/2015	9/18/2014	9/21/2015
Improve procedure descriptions	Medium	6/27/2014	9/17/2015	6/27/2014	9/17/2015
Underwriting insurance policies	Medium	4/23/2015	7/31/2015	4/23/2015	7/31/2015
In progress (5)					
Improve control on Projects Loan-Management	Critical	9/1/2015	10/31/2016		
Annual review of accounts	Medium	1/5/2016	7/11/2016		
Annual Review of supplier contracts	Critical	2/5/2016	11/25/2016		
Check on orders	Low	1/13/2016	8/16/2016		
Setting up monthly schedules	Critical	1/1/2016	11/20/2016		
Rejected (1)					
Framework agreement implementation	Low	1/28/2016	9/30/2016		
To be sent (8)					
Annual review of providers account	Low	3/5/2016	9/30/2016		
Check invoices for each delivery	Low	3/1/2016	9/30/2016		
Enlarge range of payment means	Medium	6/9/2016			

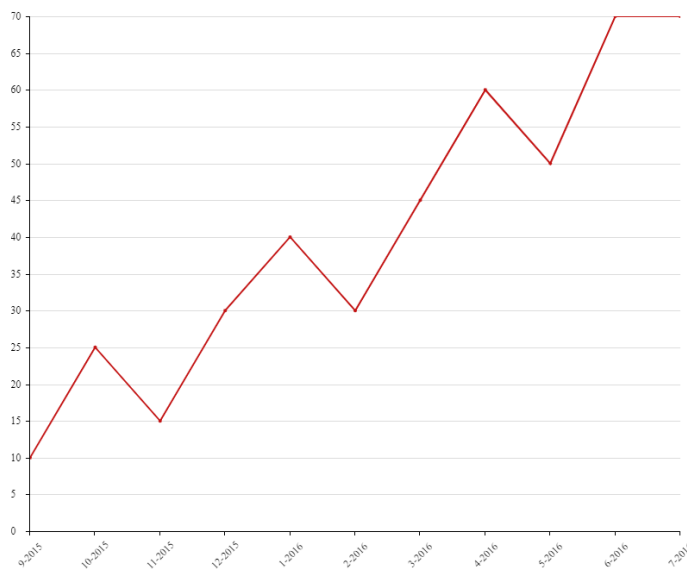
Three use cases are addressed:

1. **Follow-up on Data Protection Impact Assessment results** and implement remediation actions to address the various regulatory gaps and implement required security measures
2. **Manage a data breach**, ensuring an efficient collaboration among all involved stakeholders to address all regulatory requirements within the pre-defined timeframe
3. **Manage a data subject request**, enabling communication between affected departments and ensuring a prompt response, within the regulatory timeframe.

Within an action plan it's possible to specify:

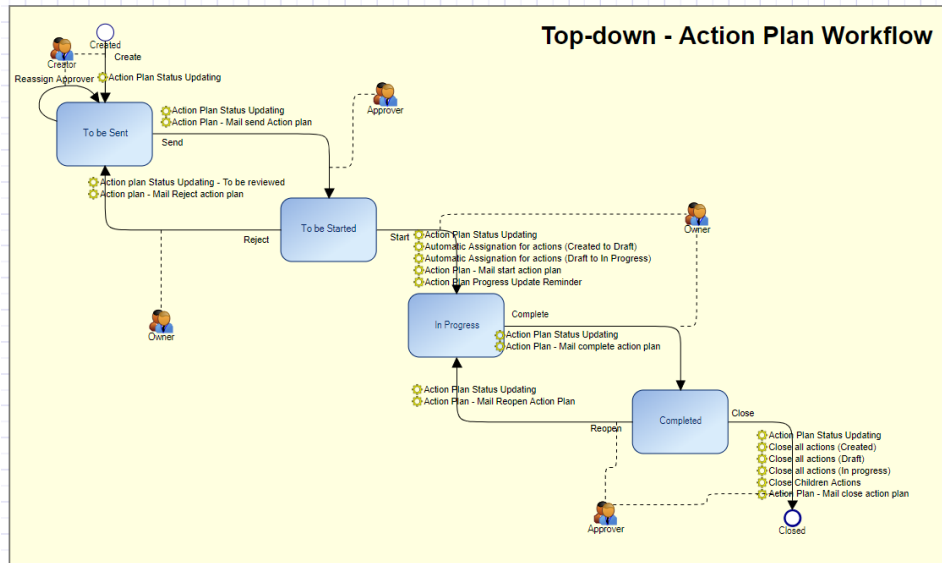
- **RACI matrix**, to highlight responsibilities of the various stakeholders
- **Financial impact** of the plan
- **Success factors**, to document KPIs and track the result of the plan
- **Scope**, to link existing processing activities and document which ones are impacted by the plan
- **Actions**, to break down the plan in elementary items which can be assigned to different stakeholders and can be monitored during their implementation thanks to the existing pre-defined workflows

Predefined reports allow to monitor the action plan activities' status and a summary view of the plan progress.



2.6.5.1. Workflows

Action Plans come with predefined workflows to follow the progress of the plan and assign the various activities to responsible stakeholders who will be guided towards the completion of their assigned task.



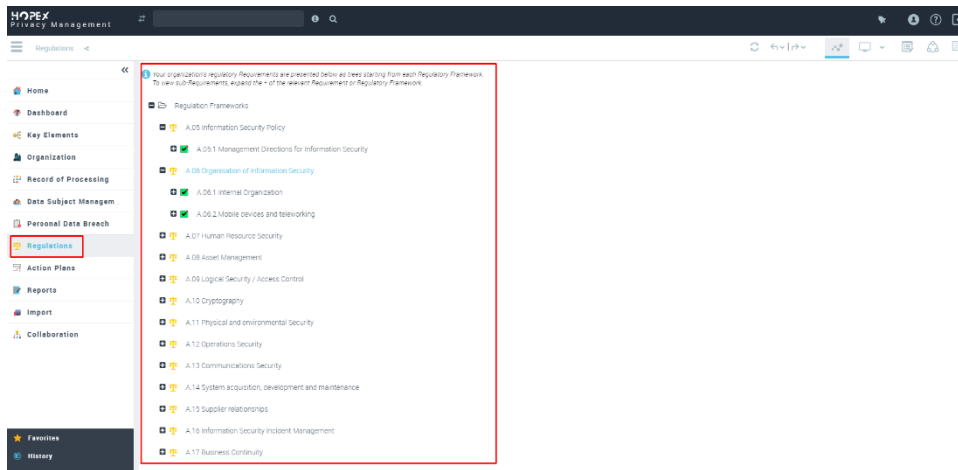
Three pre-defined workflows are available:

- **Top-down Action Plan Workflow** – To help the management follow the progress of an action plan
- **Bottom-up Action Plan Workflow** – To ensure involved stakeholders follow pre-defined validation steps for the existing action plans
- **Action Workflow** – To help the management follow the progress of every single action of a plan

2.6.6. Worldwide Regulations and Regulatory Requirements

It is now possible to document regulatory requirements and track their impact on the existing processing activities.

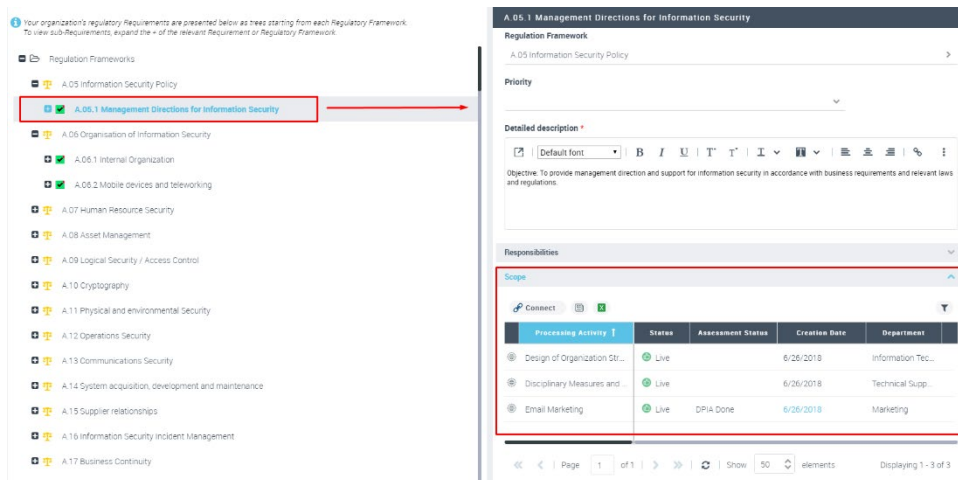
A new section has been added, allowing the user to document regulations and their requirements.



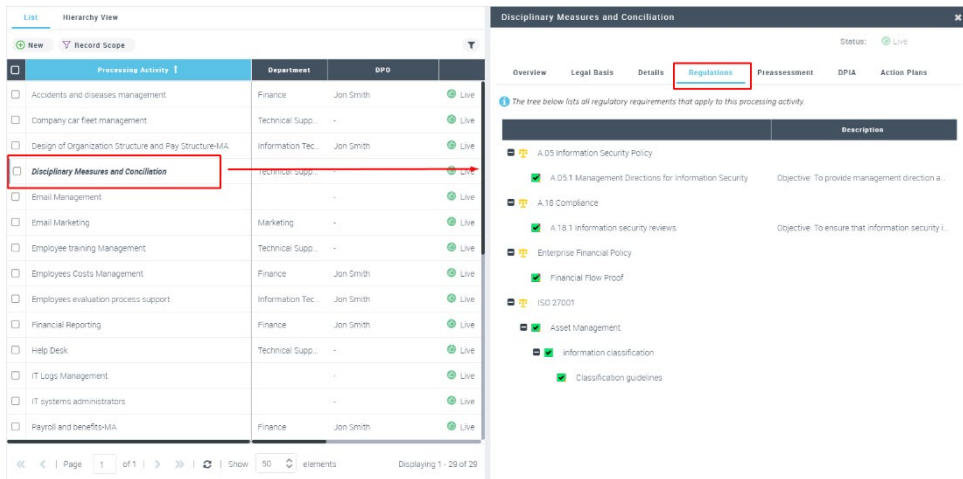
For every regulation it's possible to provide the following details:

- **Application date** and a detailed description
- **RACI matrix**, to highlight responsibilities of the different stakeholders. The same can be done at the requirement level.
- **Scope**, to link existing processing activities impacted by the regulation. The same can be done at the requirement level
- **Requirements**, to break down the regulation in elementary items and have a better granularity over the impacts of the regulation

Every requirement can be organized in sub-requirements if necessary.

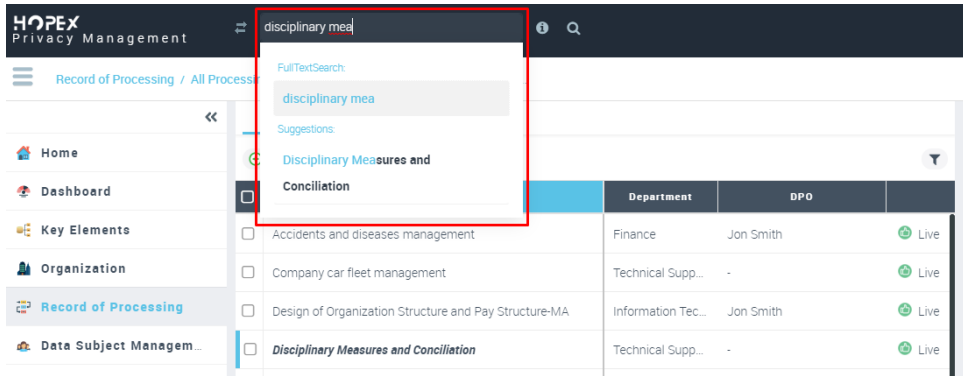


HOPEX Privacy Management now helps you monitor how regulations and requirements impact your processing activities. A new section has been added to the processing activity, listing regulations and requirements applying to it. This information is particularly valuable when carrying out a Data Protection Impact Assessment, since it highlights what are the practical impacts of existing worldwide regulations.



2.6.7. Search Results

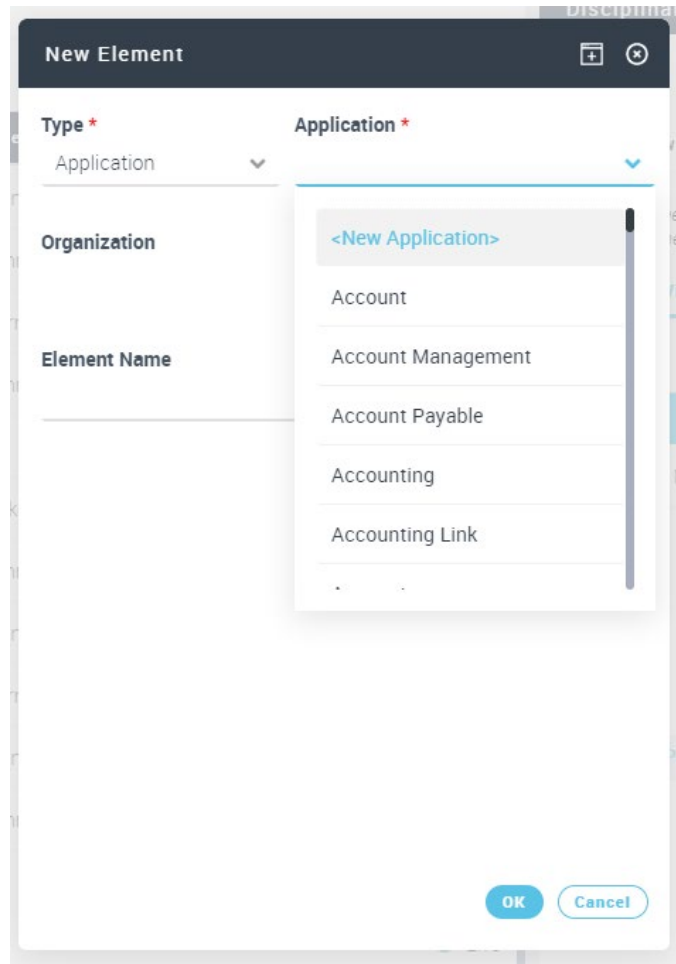
All objects created in HOPEX Privacy Management can now be searched through the full text search. It's now much easier to access a given processing activity, a data breach or a data subject's request simply typing a keyword in the search bar.



2.6.8. Other Minor Improvements and Modifications

2.6.8.1. Add Applications to a Processing Activity

The wizard to add an application to a processing activity was enhanced so that now users have a simple dropdown field, through which they can quickly search for existing applications to be linked to the processing activity, and eventually create a new application using the dedicated option in the dropdown list.



2.6.8.2. Learning Materials & Templates removed from burger menu

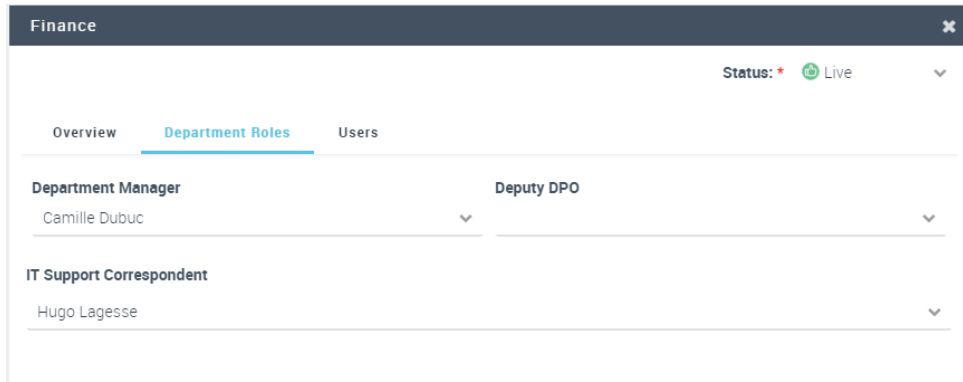
In order to avoid having too many items in the burger menu (after the addition of "Regulations" and "Action Plans") the entry "Learning Materials & Templates" was removed. To access it there's still the ad hoc tile on the home page.

2.6.8.3. Creation wizards layout improvement

Following the latest CSS improvements, some of the wizards used in the application could benefit from a rearrangement of their fields, avoiding displaying them in one single column. Also, a review of mandatory fields was carried out, for example to avoid the creation of objects without a name.

Departments

The wizard layout to create departments was improved. The same was done with the property page where, additionally, a new tab was created, called "Department Roles" where all fields such as "Department Manager", "Deputy DPO" and "IT Support Correspondent" were moved.



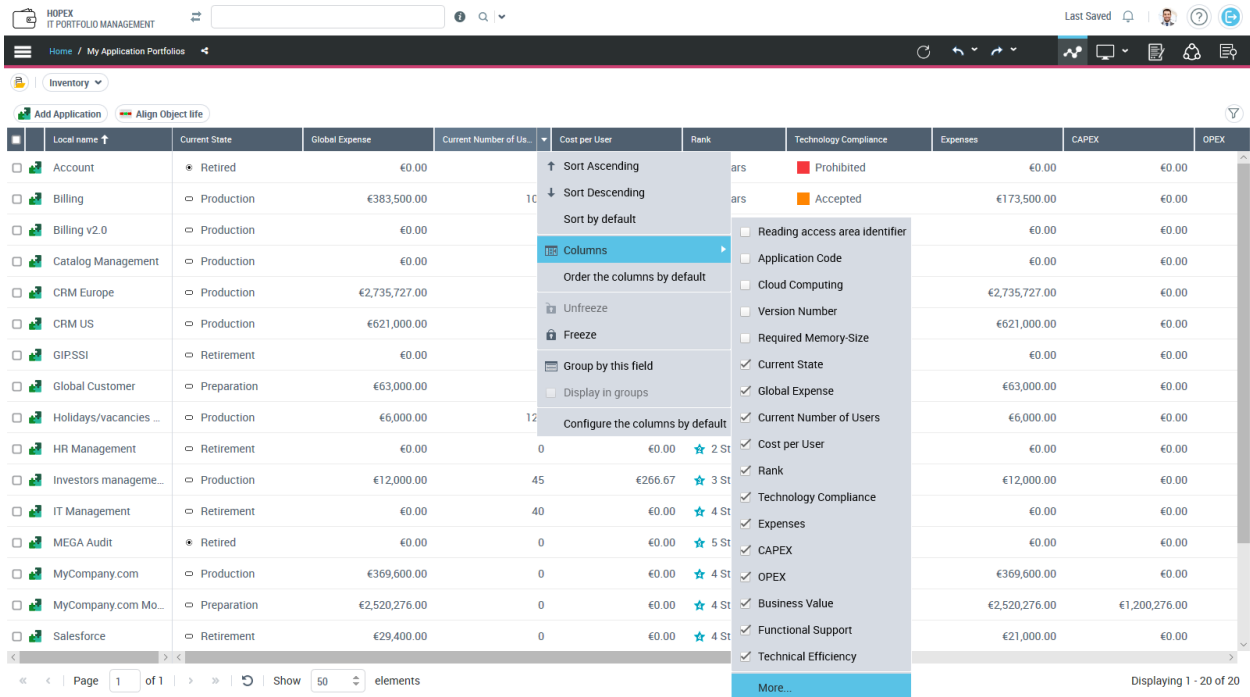
2.7.. HOPEX IT Strategy

HOPEX IT Strategy is now deprecated and superseded by HOPEX IT Business Management new offering.

2.8.. HOPEX IT Portfolio Management

2.8.1. UX Improvement

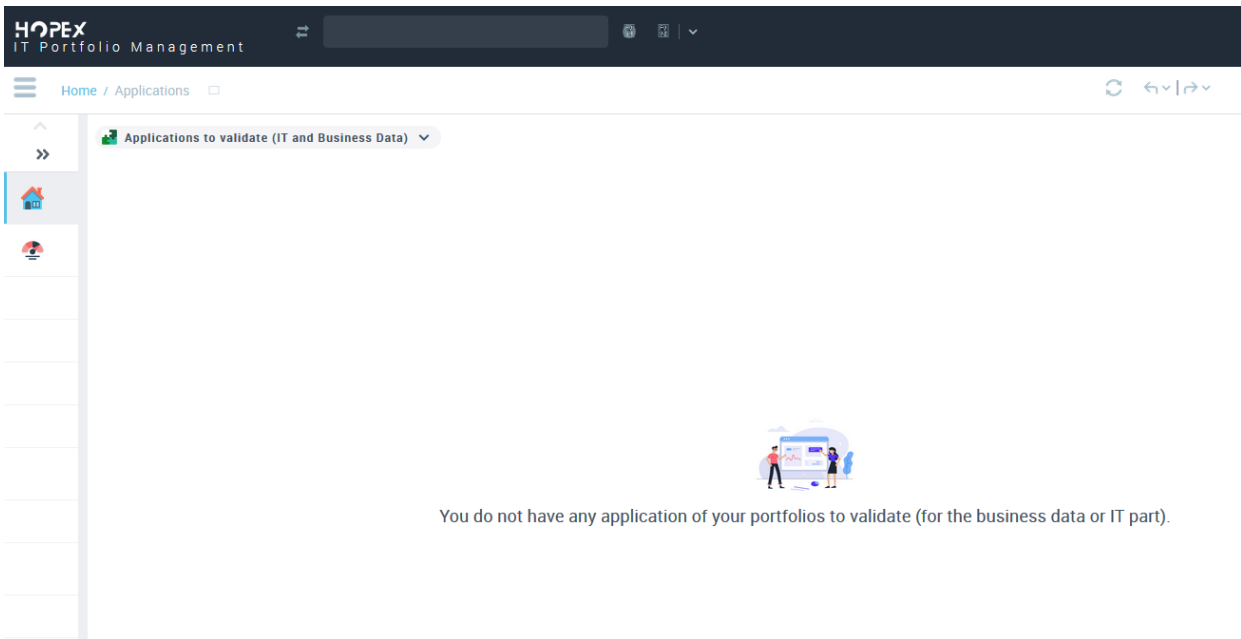
Portfolios inventory page has been redesigning to allow portfolio manager to add any attribute of application or technology as column of the inventory page.



Shift to new desktop (icons)

Separation of Version and Installation tabs in Software Technology Property Page

Personalization of messages for empty lists (except for property page lists)



2.8.2. Technical Functionality Tree

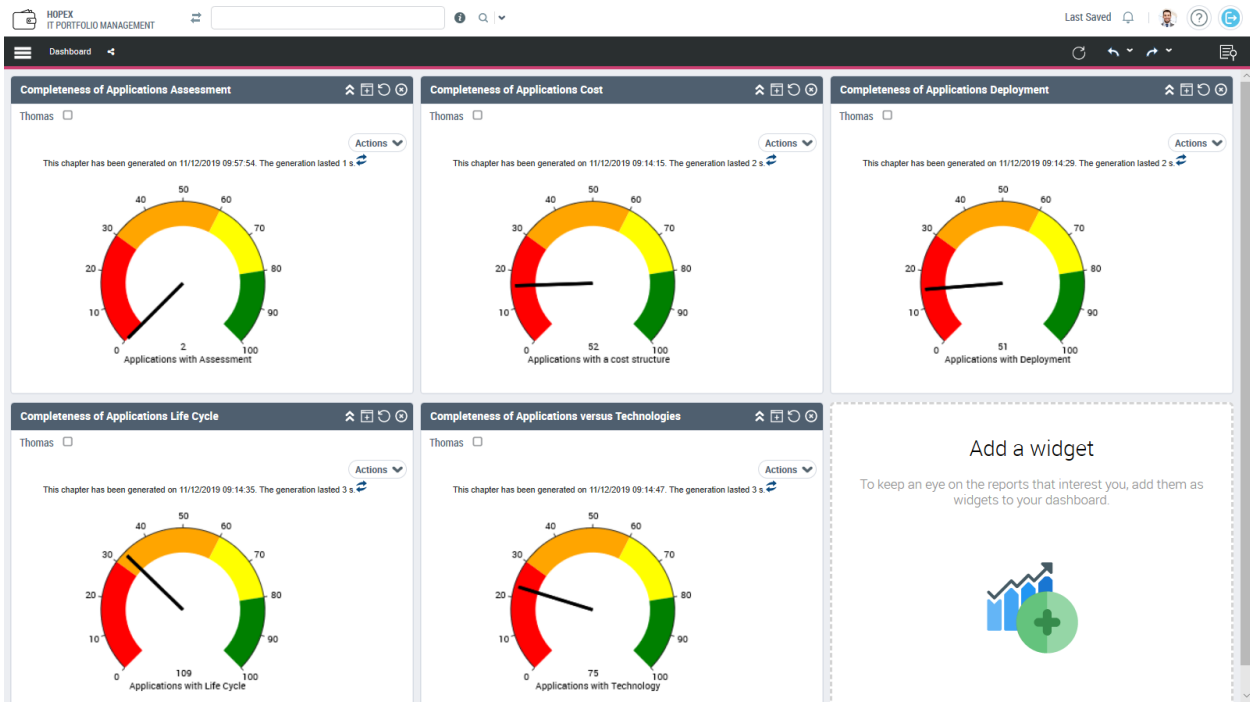
Supply of Technical Functionality Map and Technical Functionalities.

2.8.3. Completeness Dashboard

The repository completion dashboard has been renewed to individual widget made with HOPEX studio

They indicate the completeness of the repository or the completeness of the asset manage by the connected user regarding one of the aspects of the assets.

- Completeness of Application Assessment : the gauge represents the percent of all evaluated applications.
- Completeness of Application Live Cycle : the gauge represents the percent of applications with object life.
- Completeness of Application Deployment : the gauge represents the percent of applications with deployment.
- Completeness of Application Cost : the gauge represents the percent of applications with at least one cost line.
- Completeness of Application Technology : the gauge represents the percent of applications with at least one technology or one technology stack.
- Completeness of Technology Live Cycle : the gauge represents the percent of Technologies with object life.



2.8.4. Business Capability Breakdown

The UX of the Business Capability Breakdown has changed, to be more readable and adaptative to the space available for the report. It is now possible to visualize on the same report 6 properties of the application.

2.8.5. Timed Business Capability Breakdown

The UX review of the Time Business Capability Breakdown has changed, to be more readable and adaptative to the space available for the report.

2.8.6. Functionality Breakdown

The UX of the Functionality Breakdown has changed, to be more readable and adaptative to the space available for the report. It is now possible to visualize on the same report 6 properties of the application.

2.8.7. Application Graph

Graph of the ITPM Solution has been re-engineered to use HOPEX Studio Graph Set definition. Impacted reports are :

- Exchange between application
- Application Environment graph
- Application System Environment graph

2.8.9. Functionality Treemap

HOPEX provide a report to visualize quantitative data of application over the functionality hierarchy.

1. Business Capability Treemap

Number of displayed levels: 3 | Display criterion: Number of components

PBS-FuncMap (FR)			PBS-F-003 (FR)		PBS-F-004 (FR)		PBS-F-006 (FR)	PBS-F-007 (FR)			
PBS-F-001 (FR)			PBS-F-016 (FR)	PBS-F-017 (FR)	PBS-F-021 (FR)	PBS-F-022 (FR)	PBS-F-025 (FR)	PBS-F-027 (FR)	PBS-F-028 (FR)	PBS-F-029 (FR)	
PBS-F-035 (FR)	PBS-F-060 (FR)	PBS-F-037 (FR)	PBS-F-041 (FR)	PBS-F-042 (FR)	PBS-F-046 (FR)	PBS-F-047 (FR)	PBS-F-051 (FR)	PBS-F-052 (FR)	PBS-F-053 (FR)	PBS-F-054 (FR)	
PBS-F-011 (FR)			PBS-F-066 (FR)	PBS-F-067 (FR)	PBS-F-071 (FR)	PBS-F-072 (FR)	PBS-F-076 (FR)	PBS-F-077 (FR)	PBS-F-078 (FR)	PBS-F-079 (FR)	
PBS-F-036 (FR)	PBS-F-061 (FR)	PBS-F-062 (FR)			PBS-F-005 (FR)						
			PBS-F-018 (FR)	PBS-F-019 (FR)	PBS-F-023 (FR)	PBS-F-024 (FR)	PBS-F-008 (FR)		PBS-F-009 (FR)		
PBS-F-002 (FR)			PBS-F-043 (FR)	PBS-F-044 (FR)	PBS-F-048 (FR)	PBS-F-049 (FR)	PBS-F-030 (FR)	PBS-F-032 (FR)	PBS-F-033 (FR)		
PBS-F-013 (FR)		PBS-F-015 (FR)					PBS-F-055 (FR)	PBS-F-080 (FR)	PBS-F-057 (FR)	PBS-F-058 (FR)	PBS-F-083 (FR)
PBS-F-038 (FR)	PBS-F-063 (FR)	PBS-F-040 (FR)	PBS-F-068 (FR)	PBS-F-069 (FR)	PBS-F-073 (FR)	PBS-F-074 (FR)	PBS-F-031 (FR)		PBS-F-034 (FR)		
PBS-F-014 (FR)			PBS-F-020 (FR)		PBS-F-025 (FR)						
PBS-F-039 (FR)	PBS-F-064 (FR)	PBS-F-065 (FR)	PBS-F-045 (FR)	PBS-F-070 (FR)	PBS-F-050 (FR)	PBS-F-075 (FR)	PBS-F-056 (FR)	PBS-F-081 (FR)	PBS-F-082 (FR)	PBS-F-059 (FR)	PBS-F-084 (FR)

2.8.10. Excel Import Template

An Excel import template is provided to facilitate the initialization of ITPM repository.

It includes :

- Basic Environment Inventory data (Org-unit, Sites, Business Processes)
- IT inventory data
 - Applications, Software pieces, Servers
 - Their capabilities: Business Capabilities, Functionalities
 - Application Flows
- Portfolio and responsibility data

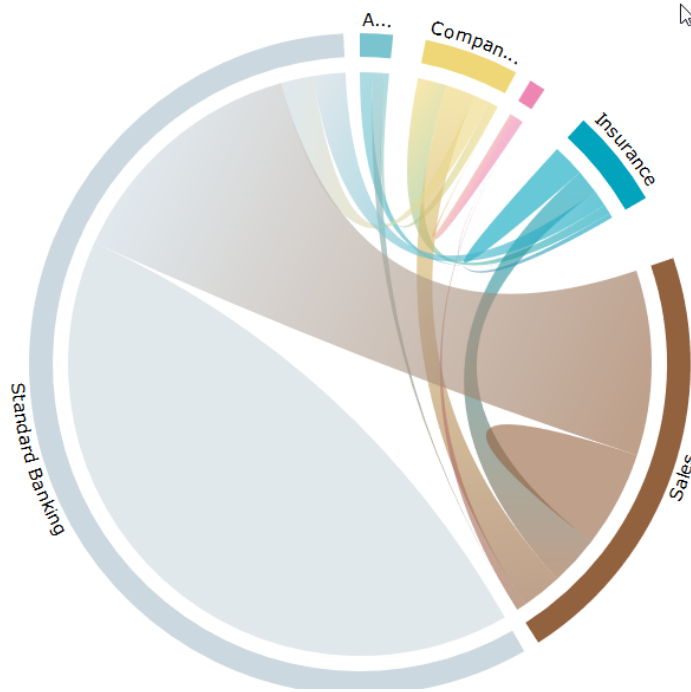
It is available for download on the [HOPEX Store](#).

2.8.11. New reports based on chord diagram

- A report allows to analyze dependency between Business Capabilities by analyzing flows between their fulfilling agents (applications). The report takes in account decompositions of capabilities and their fulfilling agents.
- A report allows to analyze dependency between Agents by analyzing their exchanged flows. The report takes in account decompositions of agents.
- The two reports allow to drill down a chord to explain it.

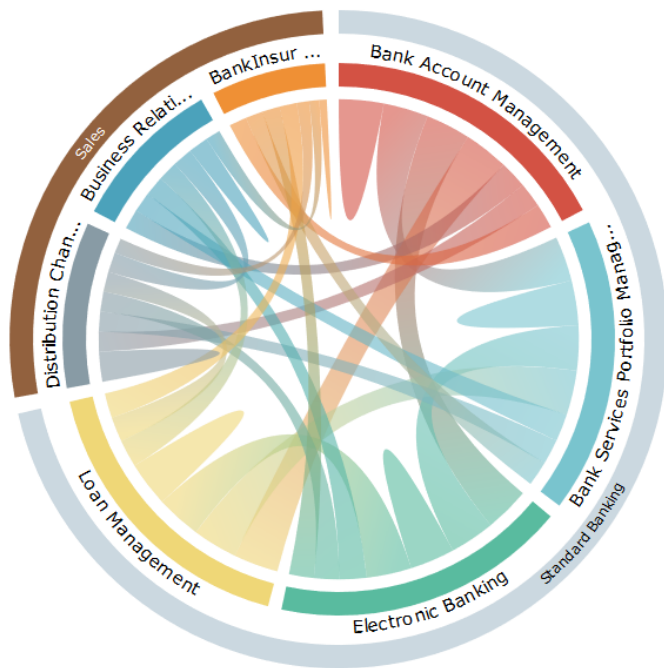
BankInsur-Capability dependency chord diagram

BankInsur-Capability dependency chord diagram



BankInsur-Capability dependency chord diagram

BankInsur-Capability dependency chord diagram

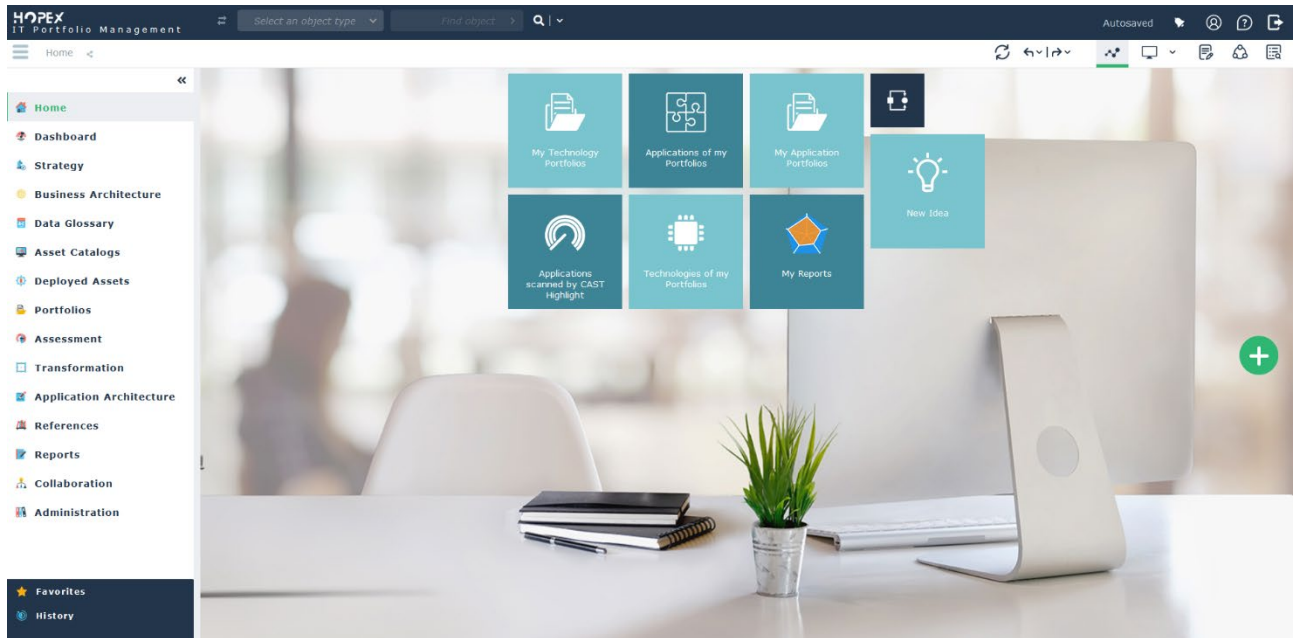


2.8.12. Colors review

- Colors used in user interfaces and reports have been reviewed to be compliant with new HOPEX color palette

2.8.13. Menus and desktop

- The HOPEX IT Business Management/IT Portfolio Management desktops are updated with latest stylesheet



- Menus have been reorganized for rationalization
- Selection and positioning of default tiles have been reviewed for each ITPM profiles

HOPEX
 IT Portfolio Management

Home <

<<

- Home
- Dashboard
- Strategy
- Business Architecture
- Data Glossary
- Asset Catalogs
- Deployed Assets
- Portfolios
- Assessment
- Transformation
- Application Architecture
- References
- Reports
- Collaboration
- Administration

- ★ Favorites
- 🕒 History

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- Business Architecture
- Data Glossary
- Asset Catalogs

Business Architecture >

- Business Architecture Environments
- Business Functions
- Business Partners

Data Glossary >

- Term Definitions
- Business Dictionaries
- Data Dictionaries
- Glossary Report

Asset Catalogs >

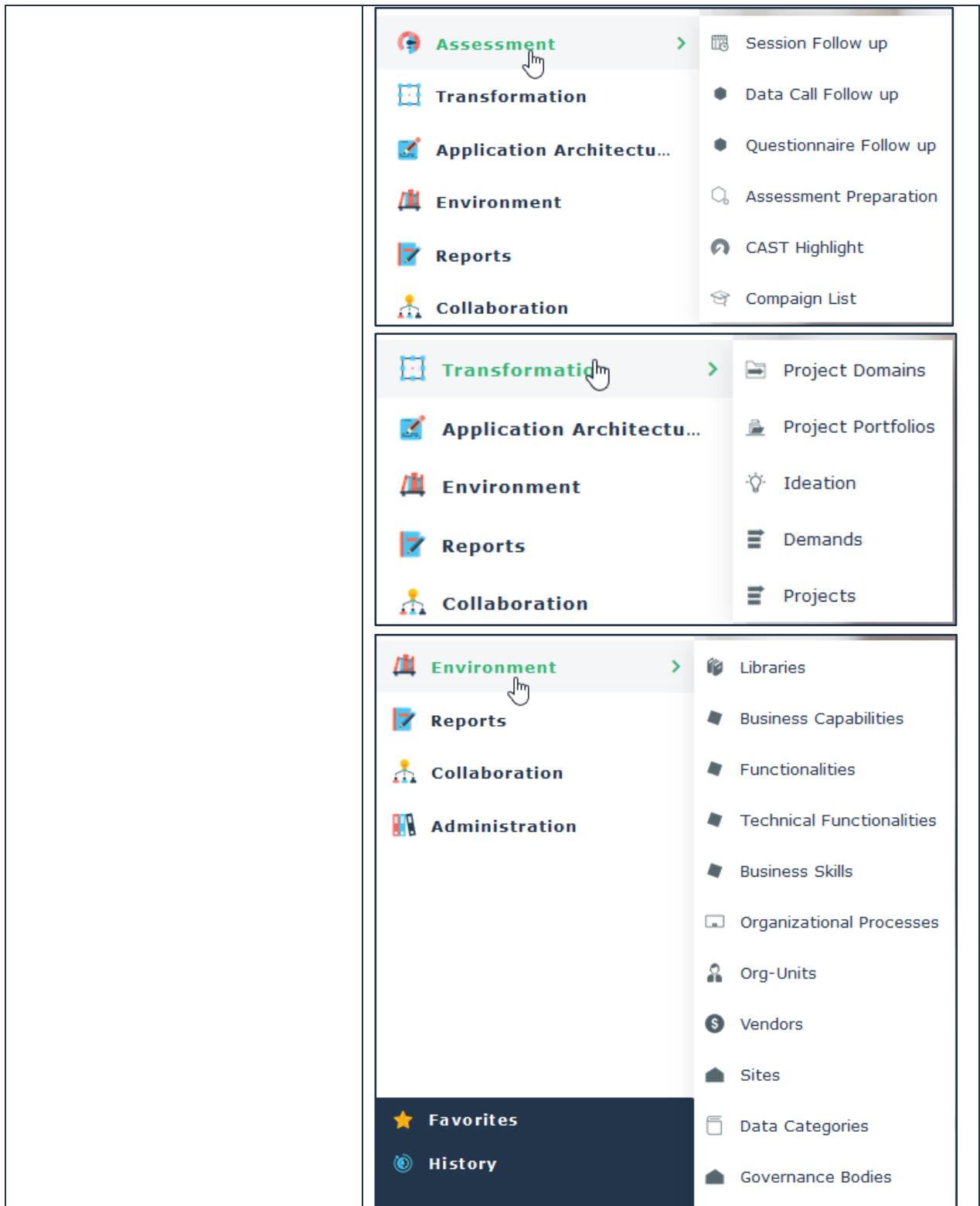
- Hierarchy View
- Applications
- Technologies
- Technology Stacks
- IT Servers
- BDNA

Deployed Assets >

- Hierarchy View
- Deployed Servers
- Software Installations

Portfolios >

- Application Portfolios
- Technology Portfolios



2.8.14. Improvement of lifecycle handling

- Automatic calculation of lifecycle states duration has been reviewed. It is now possible to define a fix or proportional duration for each state composing a lifecycle.

2.8.15. Change MetaAttribute calculation process

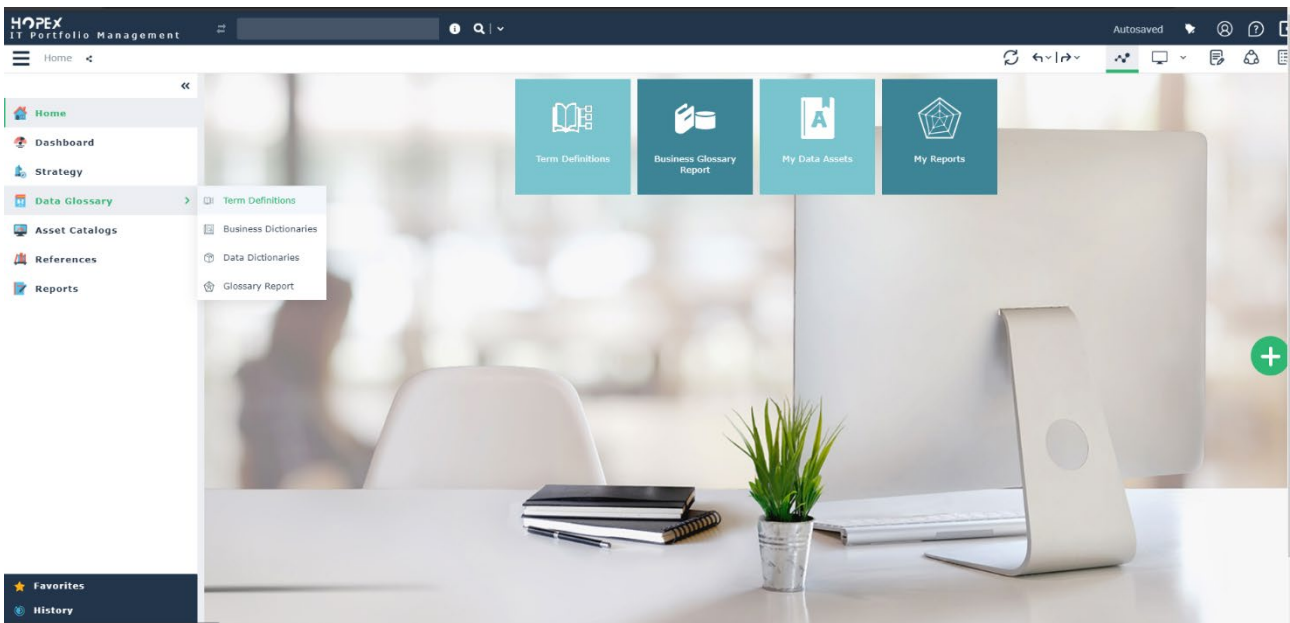
- Calculated MetaAttributes are now stored and automatically recalculated each time a member of the calculation changes.

2.8.16. Data Glossary

Data Glossary is a menu to access to Data Asset Description in ITPM / ITBM. New features are added and some existing are improved.

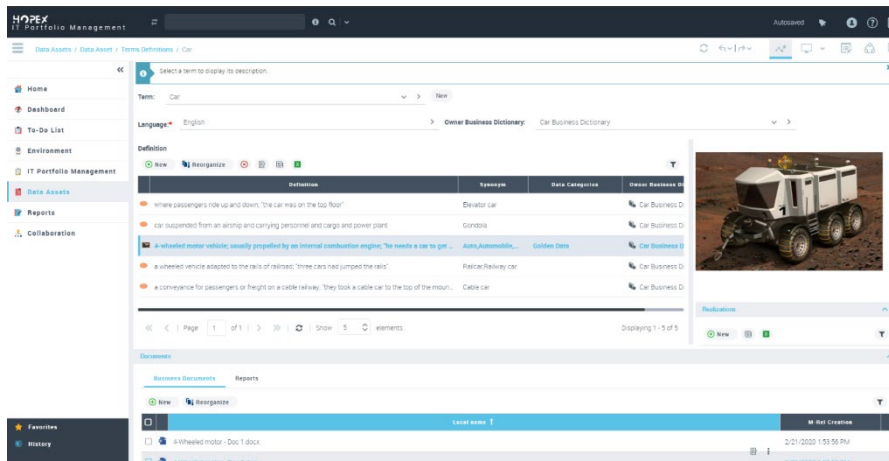
2.8.16.1. Data Asset Manager profile

Data Architect can use Data Asset Manager profile to define Data in the ITPM/ITBM Desktop.



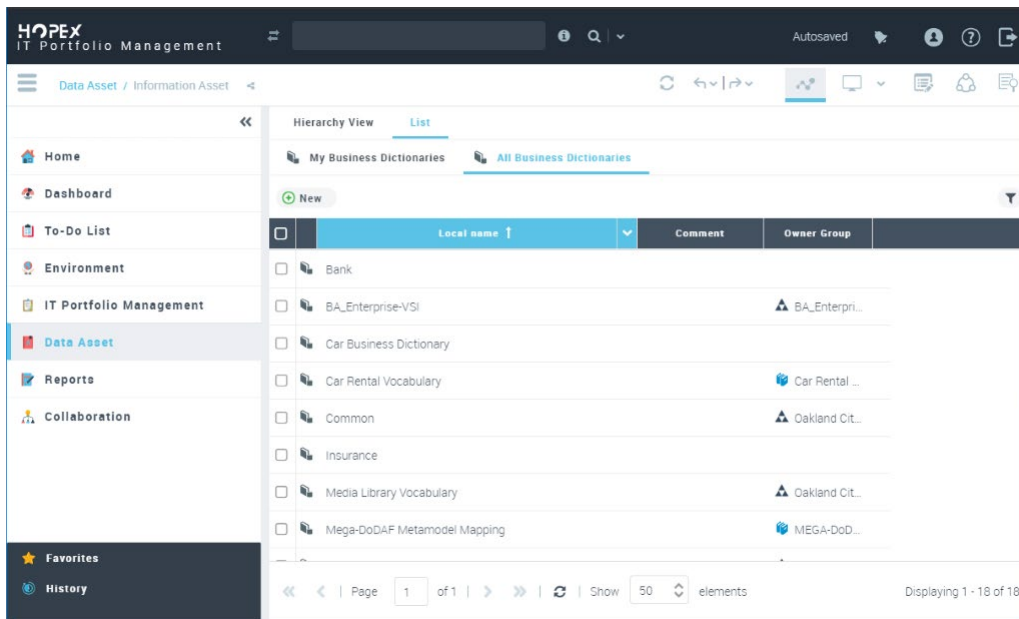
2.8.16.2. “Browse Term Definition”

The Business User can use “Browse Term Definitions” tool to locate definitions, and to create a new one. Definitions can be described by Term synonyms, illustrated by pictures, and attached some reports or documents.

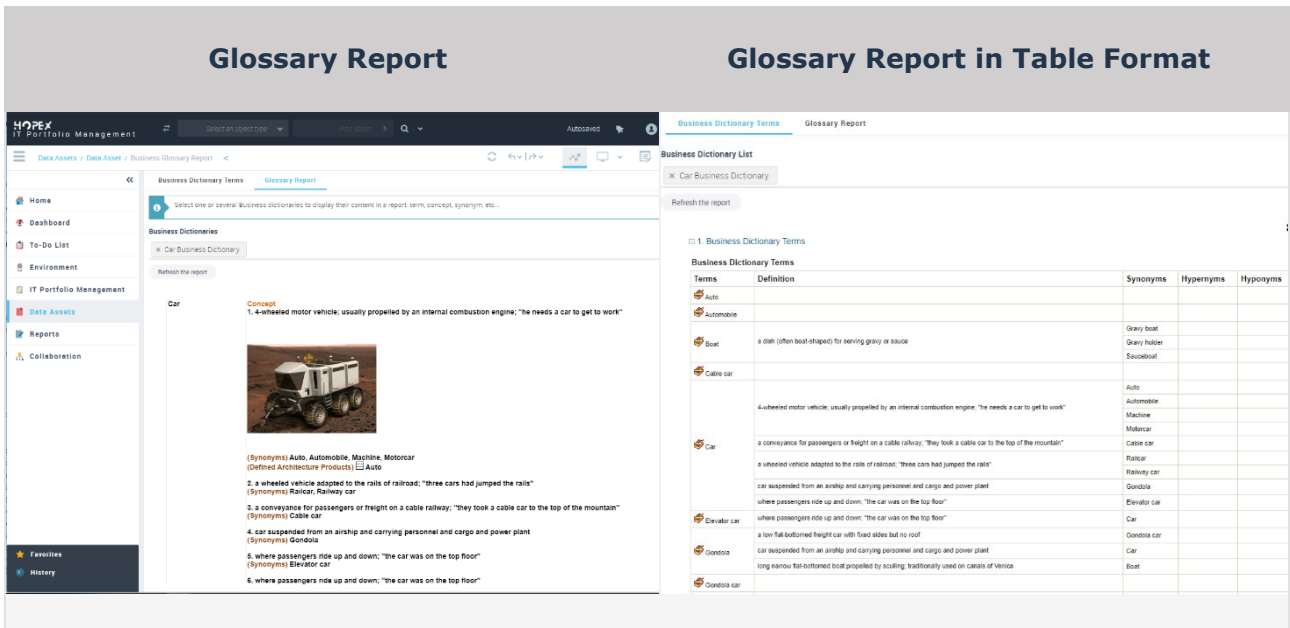


2.8.16.3. Business Dictionary

Definitions of Terms are “concepts”. All this Business information can be organized by Business Dictionaries. The Business Dictionaries Inventory are available in list view or mode or hierarchy view.



One or more Business Dictionaries can be used to generate the target Business Glossary in standard or table reports.

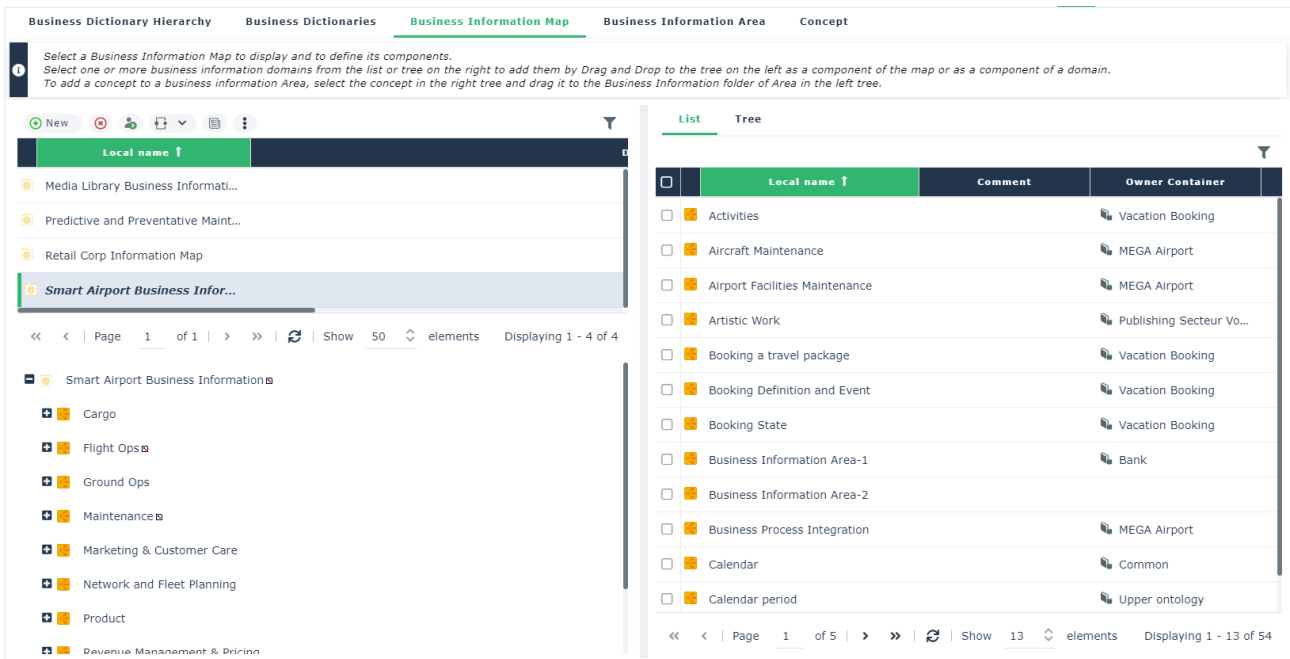


2.8.16.4. Data Domain Map

From now, it is possible to define Data Domain Map and describe its Data Domains and their Data. This map is available at the conceptual Level.

On each Data Domain (Business Information Area) it is possible to define which information are used and if this Domain is the functional Owner of this Data.

A new tool is provided to define easy Data Domain map and its Domains by Drag and Drop Domains from right List or Right Tree to the left Data Domain Map tree.



The right hierarchy view enables to navigates on Data Domains Area and concepts from Business dictionaries and drag and drop them the Data Map or Data Domain in the left tree.

Select a Business Information Map to display and to define its components.
 Select one or more business information domains from the list or tree on the right to add them by Drag and Drop to the tree on the left as a component of the map or as a component of a domain.
 To add a concept to a business information Area, select the concept in the right tree and drag it to the Business Information folder of Area in the left tree.

2.8.16.5. Data Usage

a) Used Data in application

An Application Owner, or an Application Portfolio Manager can connect Data on their applications.

In the Data group from an application they can specify the set of Data that are used by the Application. All these data can be already defined by Data Asset Manager in the data inventory.

	Local name ↑	Create	Read	Update	Delete	Data Access	Categories
<input type="checkbox"/>	Customer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CRUD	Golden Data
<input type="checkbox"/>	Direct Customer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CRUD	
<input type="checkbox"/>	Insurance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CRUD	Golden Data
<input type="checkbox"/>	Van	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CRUD	

Golden Source
 Golden Copy

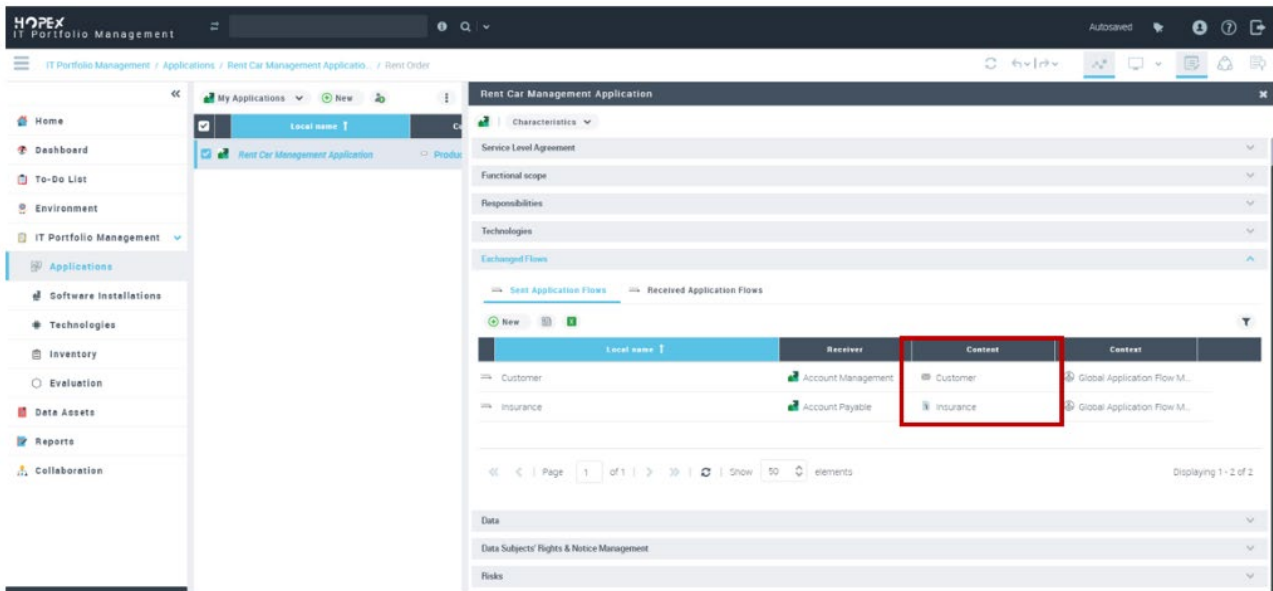
The used Data list reminds on each item, its data categories, column in read only mode.

The application can be declared as **Golden Source** (or single version of truth) of its data. This means the reference to which data users can turn when they want to ensure that they have the correct version of a piece of information.

The application can be considered as **Golden Copy** of its Data. *The 'golden copy' is the official, master version of a record. There can only be one golden copy of each record. A golden copy exists from the point of creation of a record not just once the record is no longer used. It is important to remember that the golden copy of a record exists for all stages of its development.*

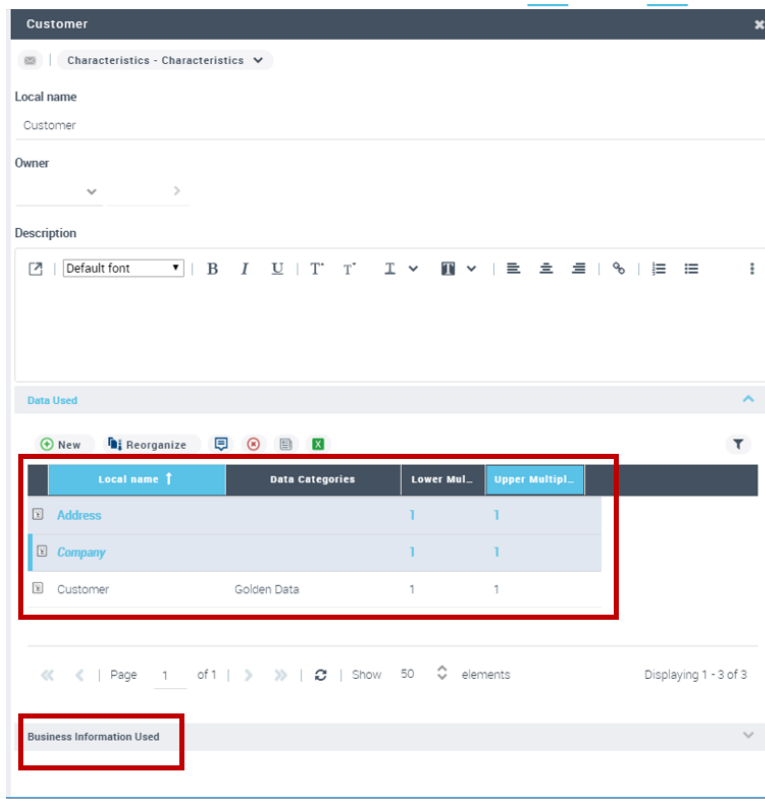
b) Used Data in exchanged Flows

Data are exchanged between applications through sent and received flows and their contents.



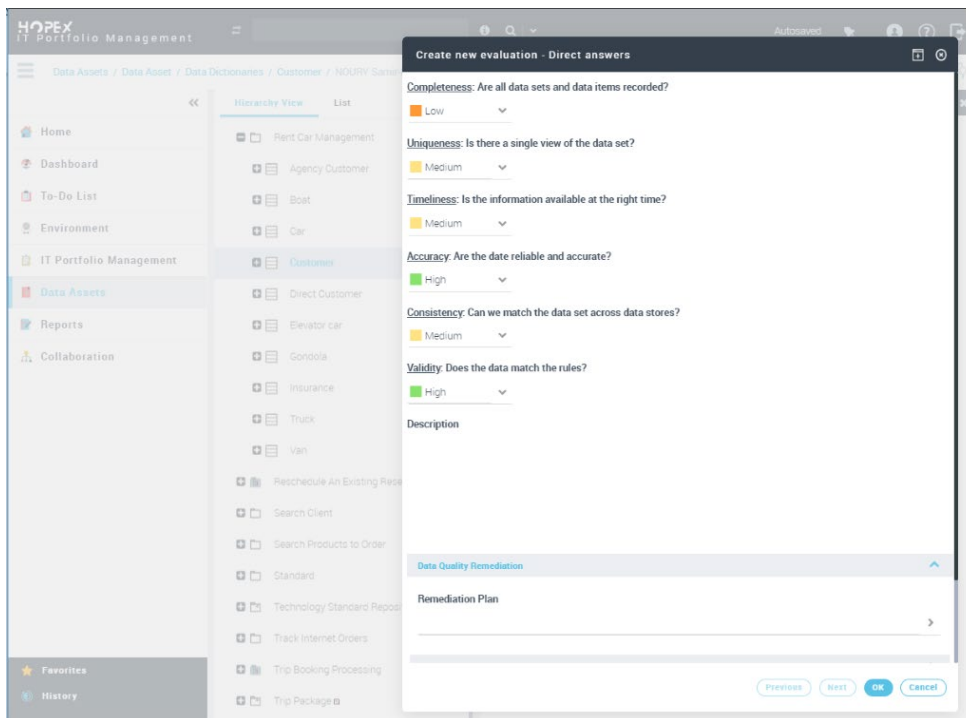
Local name	Receiver	Content	Context
Customer	Account Management	Customer	Global Application Flow M...
Insurance	Account Payable	Insurance	Global Application Flow M...

Application Owner will be able to use defined Data from Data Dictionaries Business Dictionaries and describe the details of "Content" in flow between applications.



c) Data Quality

To follow-up the Data Quality, it is possible to evaluation each data on data quality dimensions: Completeness, Uniqueness, Timeliness, Accuracy, Consistency and Validity



Assessment Mode	Evaluation date	Completeness	Usefulness	Timeliness	Validity	Accuracy	Consistency
Customer (Class)	1/23/2020	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Customer (Class)	2/25/2020	Very Low	Low	Very Low	Low	Very Low	Low
Customer (Class)	2/25/2020	Low	Medium	Medium	High	High	Medium

2.8.16.6. Application Impact

The application Impact report is available from an application and focuses on its Data used. From the context of this application, it summarizes information on used data regarding their CRUD, their Data Owner, their categories, their quality and their source of truth or Golden Source.

In the case of the application retirement for example, this report will help to manage the impact of the applications on their data that are using.

The report is presented as a dashboard with six tiles that resumes information. To see the detail, the user can click on each tile.

a) Data

Display the number and the details of Data that are defined in the store of the application, their CRUD, categories, and owners.

Data	Data Category	Data Store	CRUD	Data Owner
Car	Golden Data	Rent Car Management Application	CRD	Richard
Customer	Golden Data, Sensitive	Rent Car Management Application	CRU	Anne
Direct Customer		Rent Car Management Application	RU	Theo
Insurance	Golden Data	Rent Car Management Application	CRU	Bill
Van		Rent Car Management Application	CRD	Asher

b) Exchanged Data

Display the number and the details of Data that are exchanged in the application flows, their categories, owners and Application Sender and Receiver of flows.

Content	Data	Data Category	Data Owner	Receiver	Sender
Content-1	Customer		NOURY Samir	CDE Application	APPCO mobile
	Order	Golden Data		CDE Application	APPCO mobile

c) Golden Source

Display all Data for which the application is Golden Source.

Data Store	Data	CRUD	Description	Data Category	Data Owner
Rent Car Management Application	Car	CRD		Golden Data	Richard
	Customer	CRU		Golden Data, Sensitive	Anne
	Direct Customer	RU			Thao
	Insurance	CRU		Golden Data	Bit
	Loan	CRD			Apner

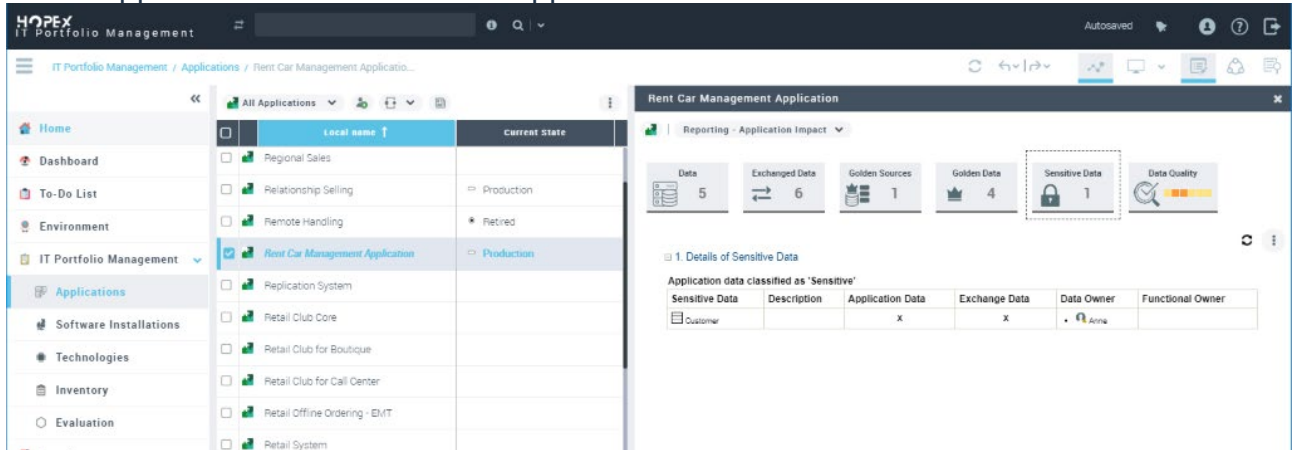
d) Golden Data

Display all Data that are specified *Golden and Data reference* their owners and if these data are define in the application store or used in application flows.

Golden Data	Description	Application Data	Exchange Data	Data Owner	Functional Owner
Car		X	X	Richard	
Contract			X	NOURY Samir	
Customer		X	X	Anne	
Insurance		X	X	Bit	

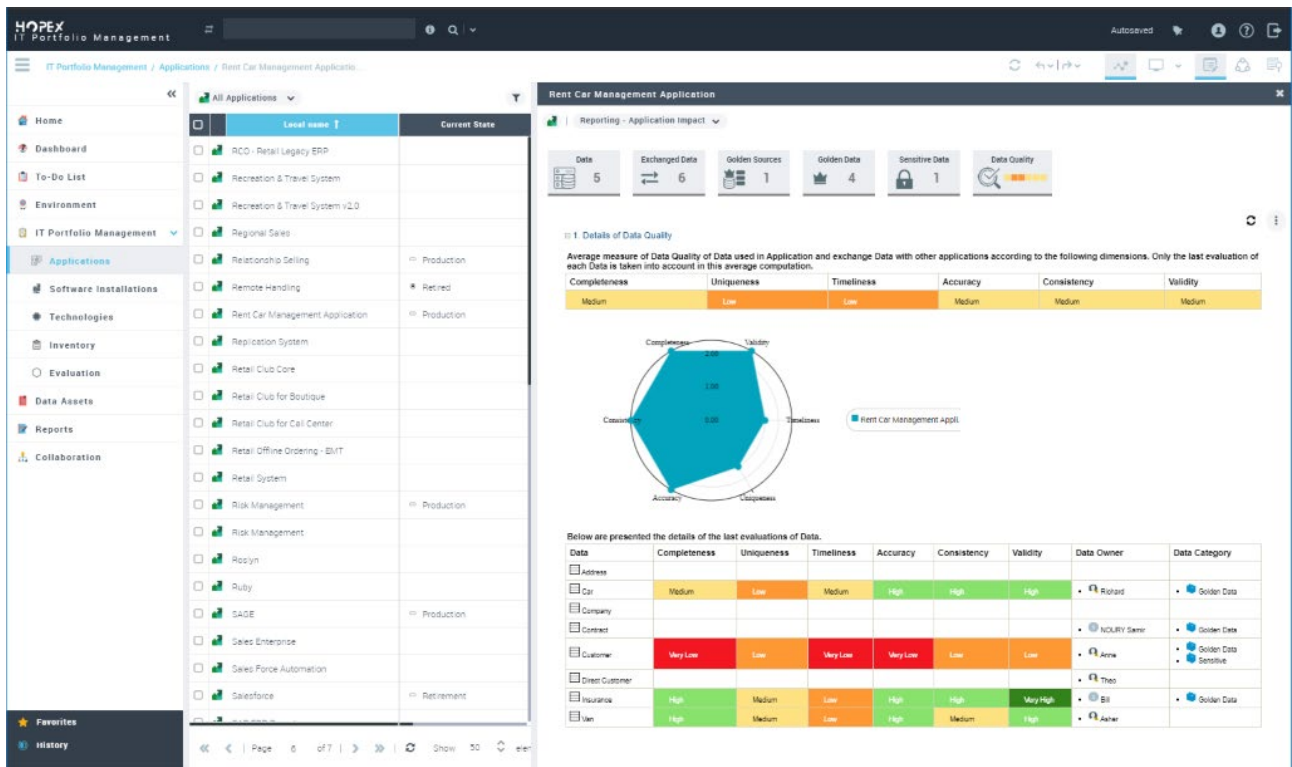
e) Sensitive Data

Display all Data that are specified *Sensitive*, their owners and if these data are define in the application store or used in application flows.



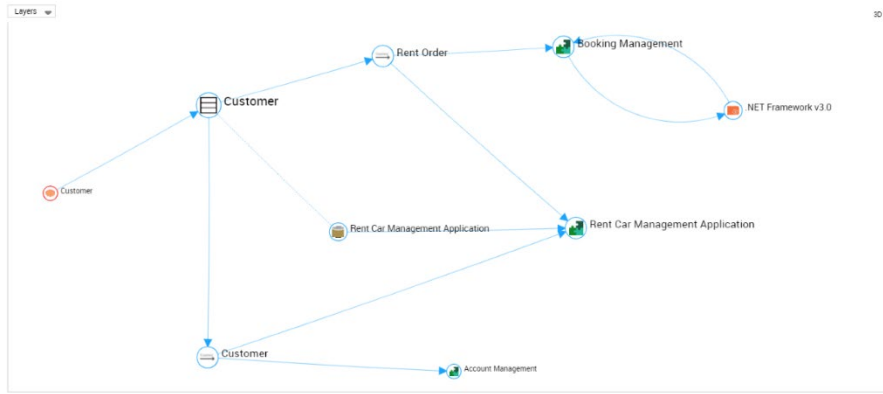
f) Data Quality

Display the assessment of Data Quality dimensions of Data used by the application. The radar chart visualizes the average values of the last assessment of all data that are used by the application.



2.8.16.7. Data flows graph Report

From a conceptual data, it is possible to display where the corresponding data is stored, and which flows exchanged between applications are using it.



2.8.16.8. Data Domains Map reports

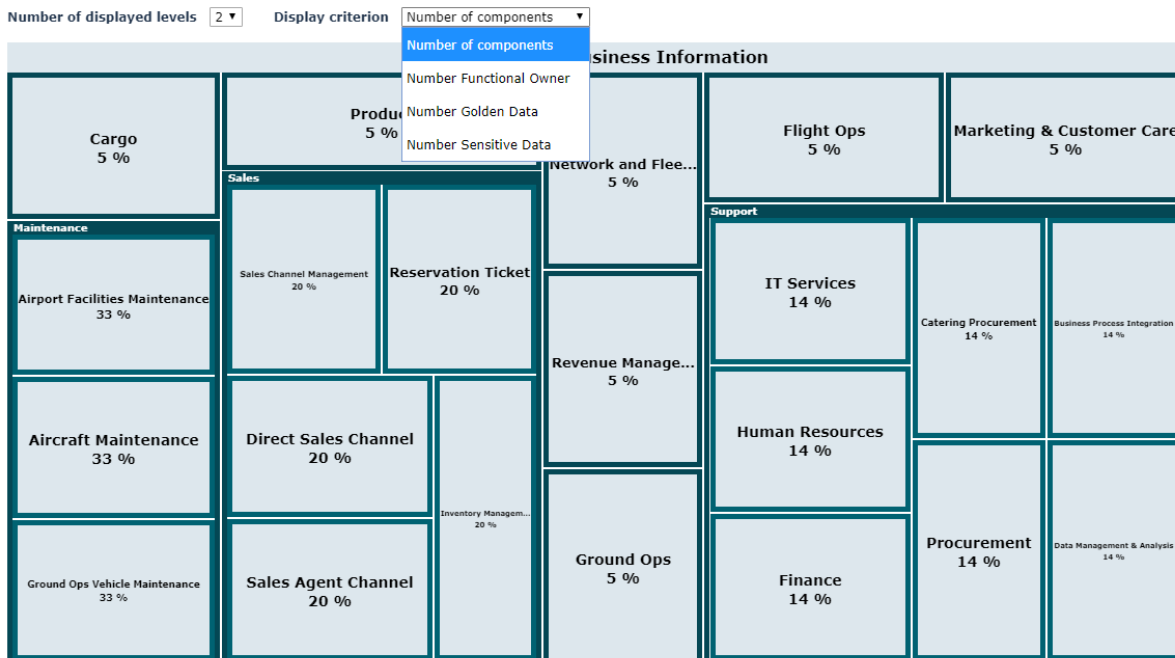
a) Tree map Report

A new report Data Domain Tree map is available in the "Reporting" properties page of Business Information Map object.

Filters can be used to display the report according the number of components, number of Golden or Sensitive Data and number of owned Functionally data in Data Domains

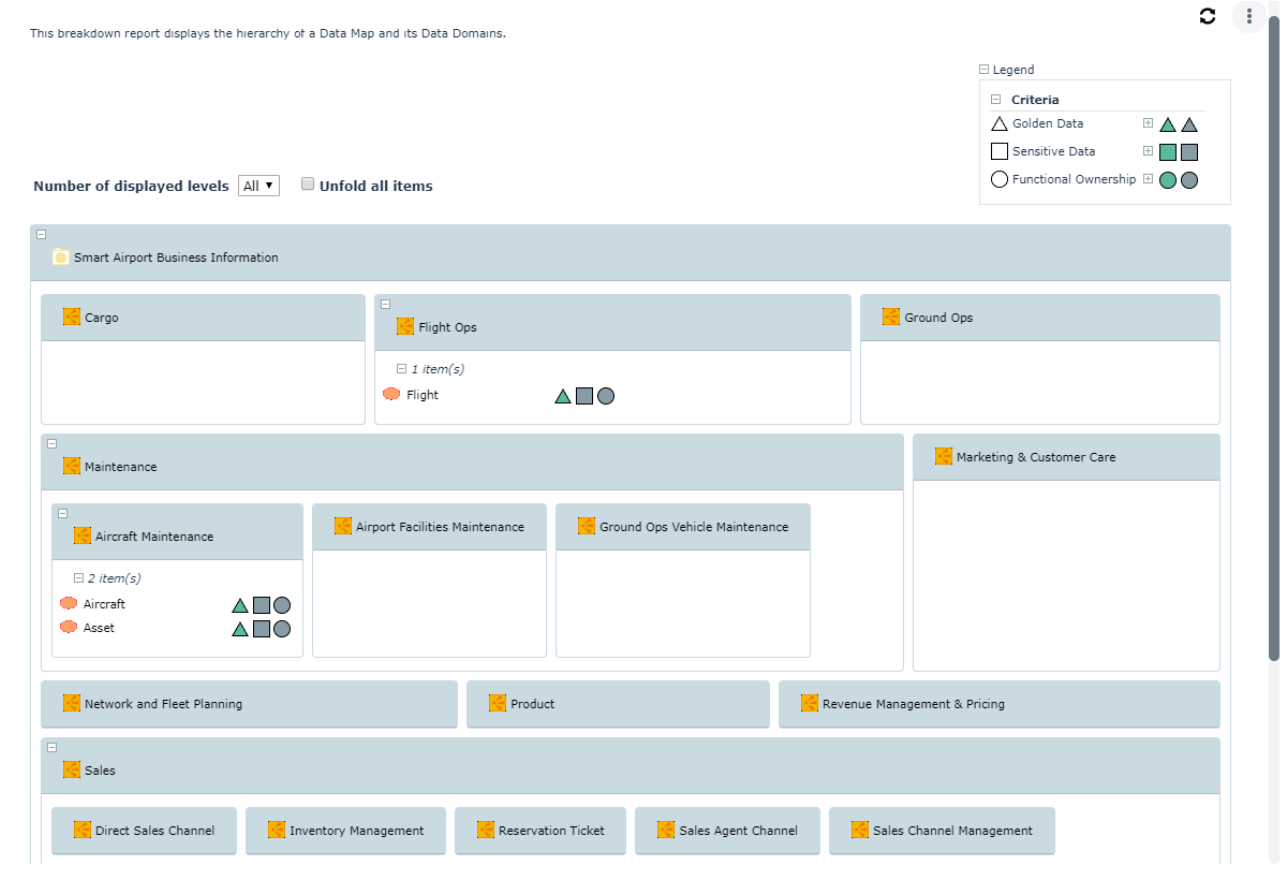
1. Data Domain Tree Map

This report shows the hierarchy of the data domain map. Filters can be used to display the number of components in each domain, the number of reference data and the number of data declared as sensitive.



b) Data Map Breakdown report

A new breakdown report is provided for Data Domain Map description with criteria that can be used to display Data with Categories sensitive and Golden or the Functional Domain Owner.



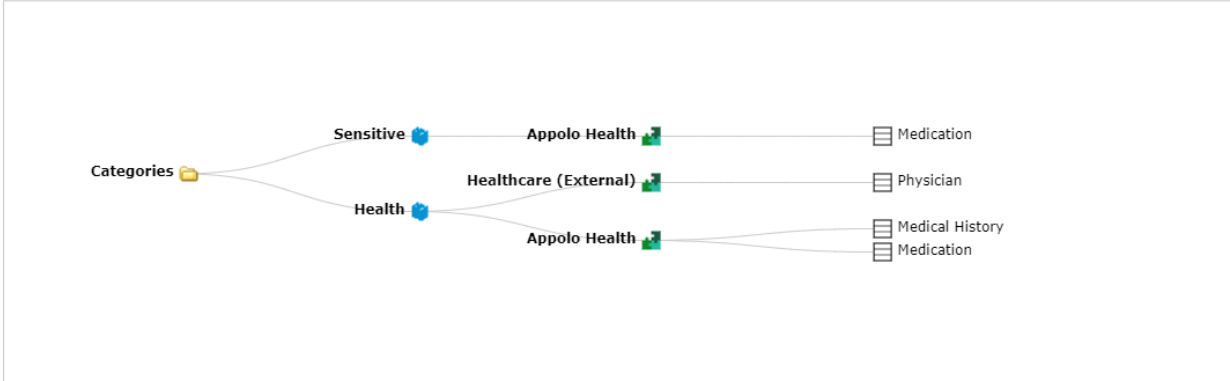
2.8.16.9. Data Category Dendrogram report

A new Dendrogram report is provided to display where some categorized data are used and consumed. The input parameter of the report can one or more Data Categories. The objective of this report is to help users to locate quickly where data of these categories are used for example in the applications inventory.

Select Data Categories to display its data.

Health
 Sensitive

Refresh the report



2.8.16.10. Data Category of Portfolio Dendrogram report

A new Dendrogram report is provided to display where some categorized data are used and consumed by Application of an Application Portfolio.

The input parameter of the report is an Applications portfolio. Only Data that are categorized are displayed in the report. They are grouped per data category and applications that use this Data.

2.8.16.11. Data Quality Assessment report

A new report is provided to display progression of data quality assessment of Data. It is available directly from Direct Data Quality Assessment tool:

Vehicle
✕

● | Assessment ▾

+ Evaluate
⌵

	Assessment	A...	Evaluation Date	Completeness	Uniqueness	Timeliness	Validity	Accuracy	Consistency
<input type="checkbox"/>	Asses...	N...	4/6/2020	Very Low	Low	Medium	Low	Low	Very Low
<input type="checkbox"/>	Asses...	N...	5/31/2020	Medium	High	Low	High	High	Very High
<input type="checkbox"/>	Asses...	N...	5/29/2020	Low	Medium	Medium	Medium	Low	High

⏪ < | Page 1 of 1 | > ⏩ | 🔄 | Show 50 ⬇ elements Displaying 1 - 3 of 3

Data Quality Progression ⬆

Refresh the report

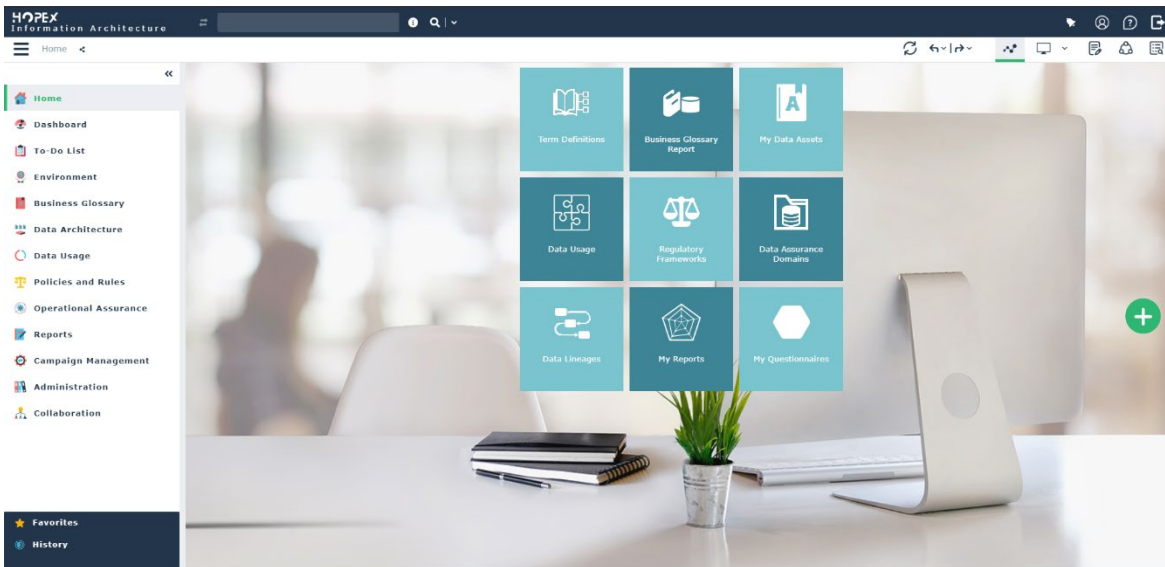
- Consistency
- Uniqueness
- Validity
- Accuracy
- Timeliness
- Completeness

2.9.. HOPEX Information Architecture

To address Data Governance dimension, the HOPEX Information Architecture Product, provides solution to data architects and Business Operational to improve Data Design, Data Quality and Data usage.

2.9.1. Desktop Improvement

Several new features are implemented for this version. Therefore, a new desktop has been set up for this purpose. The focus is on the most important features that contribute to the Data Governance processes. The desktop and tiles are also updated according to the new style sheet.



2.9.2. Business Roles

New roles are provided to define a person responsibility on Data Asset (Conceptual, Logical or Physical). Here the following list of roles:

Business Roles	Definitions
Data Designer	The Data Designer is responsible for defining, describing and classifying information system data. It enriches and maintains the dictionary and reference data models. It accompanies the definition of the business needs concerning the description and the use of the data.
Data Owner	A Data Owner is the authority to decide on the access to, and usage of, the data. The data owner could be the original producer of the data, one of its consumers, or a third party.
Data Steward	The Data Steward is the lead manager in a data governance project. He plays a key role in its realization. He has the knowledge of the data and their metadata. He appropriates them and works with the business teams to define the objectives of the data governance project.
Data Scientist	The Data Scientist is responsible for bringing together the data designer (business and logical data) and the managers of the processes who use this data.

Data Quality Manager	The Data Quality Manager is responsible for the "quality" of the data. It must ensure the relevance and usefulness of a given data for all data of the company. It must therefore set up procedures for controlling incoming data but also carry out a check of all the data of the organization upon arrival.
Data Chief Officer	The Chief Data Officer (CDO) is a Data Manager, who is in charge of the entire Data Strategy of the company. It is he who will optimize the collection of data, their storage, the reliability and quality of the latter and optimize their valuation.
Database Administrator	Database administrators (DBAs) use specialized software to store and organize data. The role may include capacity planning, installation, configuration, database design, migration, performance monitoring, security, troubleshooting, as well as backup and data recovery.
Data Engineer	The Data Engineer defines, develops, implements and maintains the appropriate tools and infrastructures for data analysis by Data Scientist teams. He is careful to create a solution allowing the processing of large volumes of data while guaranteeing their security.

The Data scientist and Data Designer Roles were already provided in the previous version.

All Data Roles are used to share information of Data Creation, Design, Update, and their validation. This Design progression can be conduct by using a Workflow Data Scientist profile is renamed to Data Contributor.

2.9.3. Business Glossary

It gives access to the definition and sharing of business information, their definitions, and their relationship

2.9.3.1. Browse Term Definition

The "**Browse term definition**" is a new tool to enable Users to define quickly and easily definitions of a Term and to connect picture to definition to show how it looks.

Select a term to display its description.

Term: New

Term Language: English Owner Business Dictionary: Rent Car Business Dictionary

Definition

Definition	Designation	Synonym	Data Categories	Owner Busines...
Vehicule is defined as any car, van or truck ren...	Vehicule			Rent Car B...

Picture Fulfillments Values Domain

Name
Aston Martin
Maserati Alfieri
Audi e-tron Sportback concept

Page 1 of 1 | Show 5 elements | Displaying 1 - 1 of 1

Documents

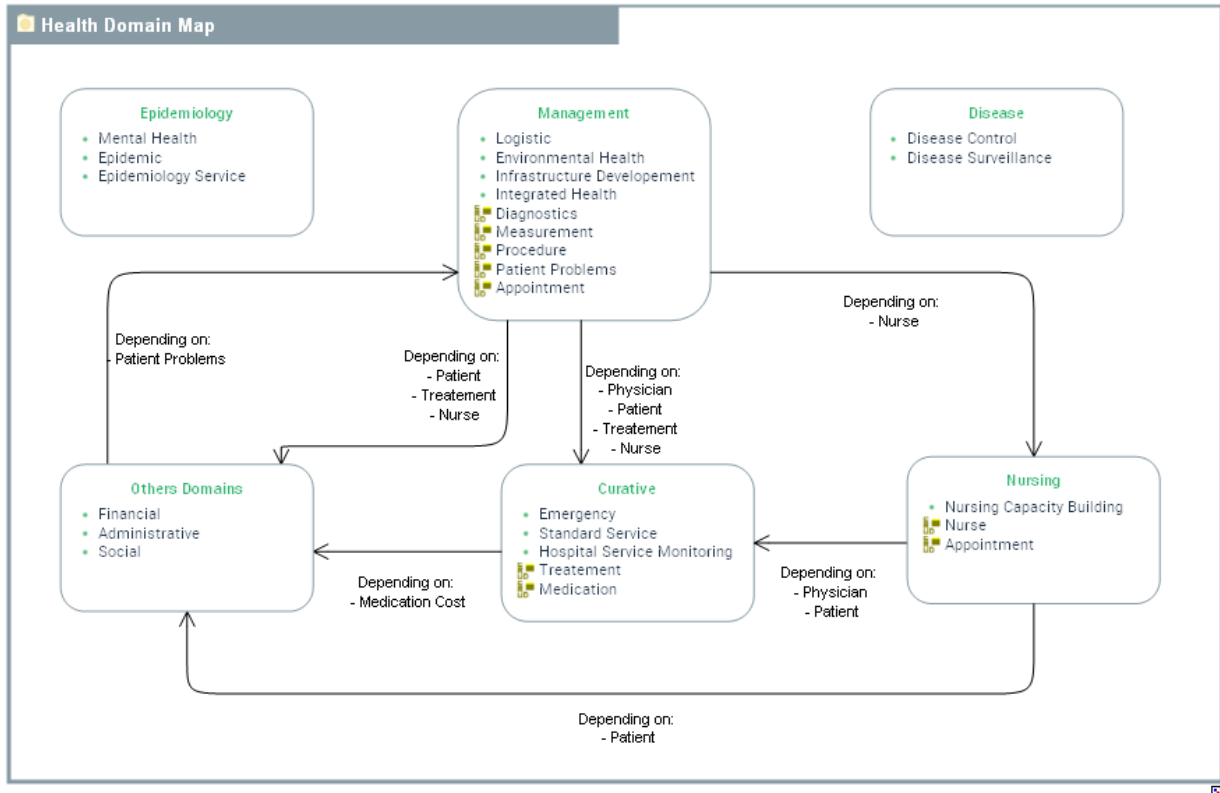
Business Documents Reports

Local name ↑	M-Rel Creation
Vehicule description	5/27/2020 5:40:25 PM

- Button to upload and removed picture are available directly from toolbar of definition list view.
- A new list of value domain is available. It allows to add individual objects as sample for each selected definition (concept, ...). This helps to illustrate Term definition by generating samples in the Business Glossary.

2.9.3.2.Data Map Domain

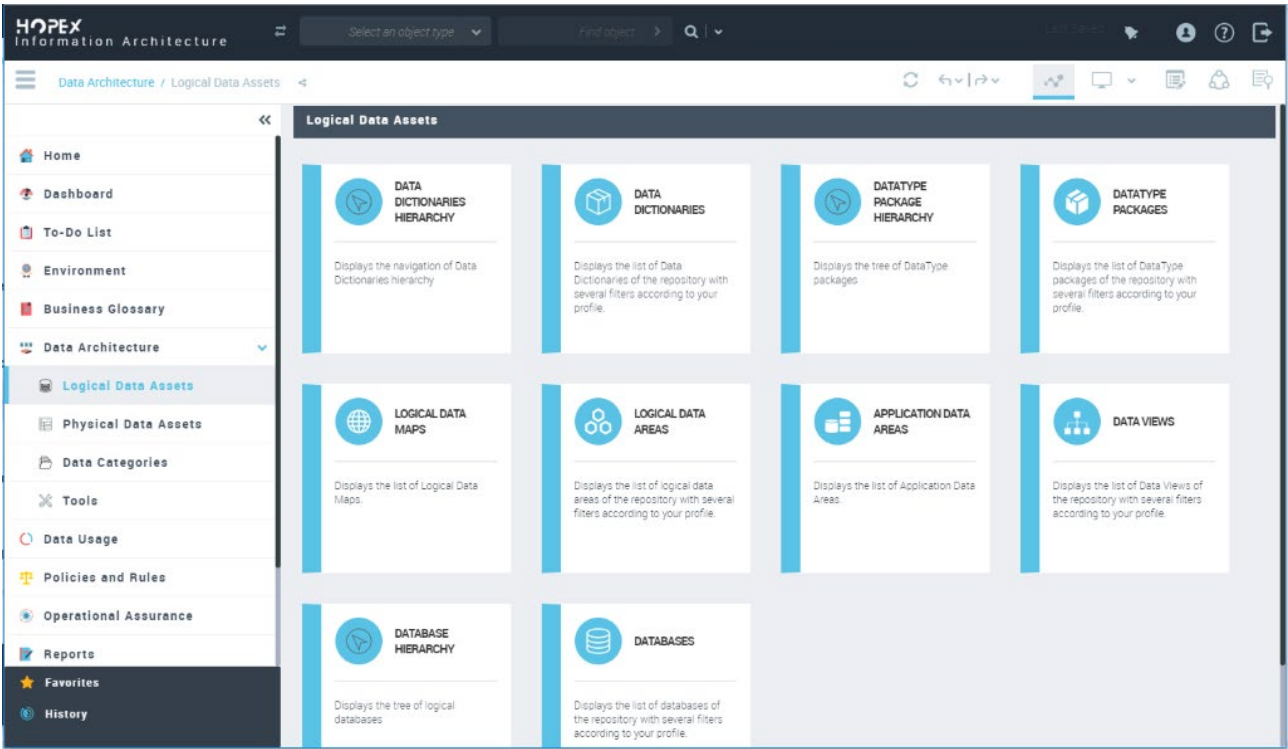
The look of Business Information Map, Data Map and Physical Data Map has been updated.



In Business Information Map Diagram, the external area component is hidden by default in the diagram toolbar. This is made to simplify the usage of internal information Area component in the map.

2.9.4. Data Architecture

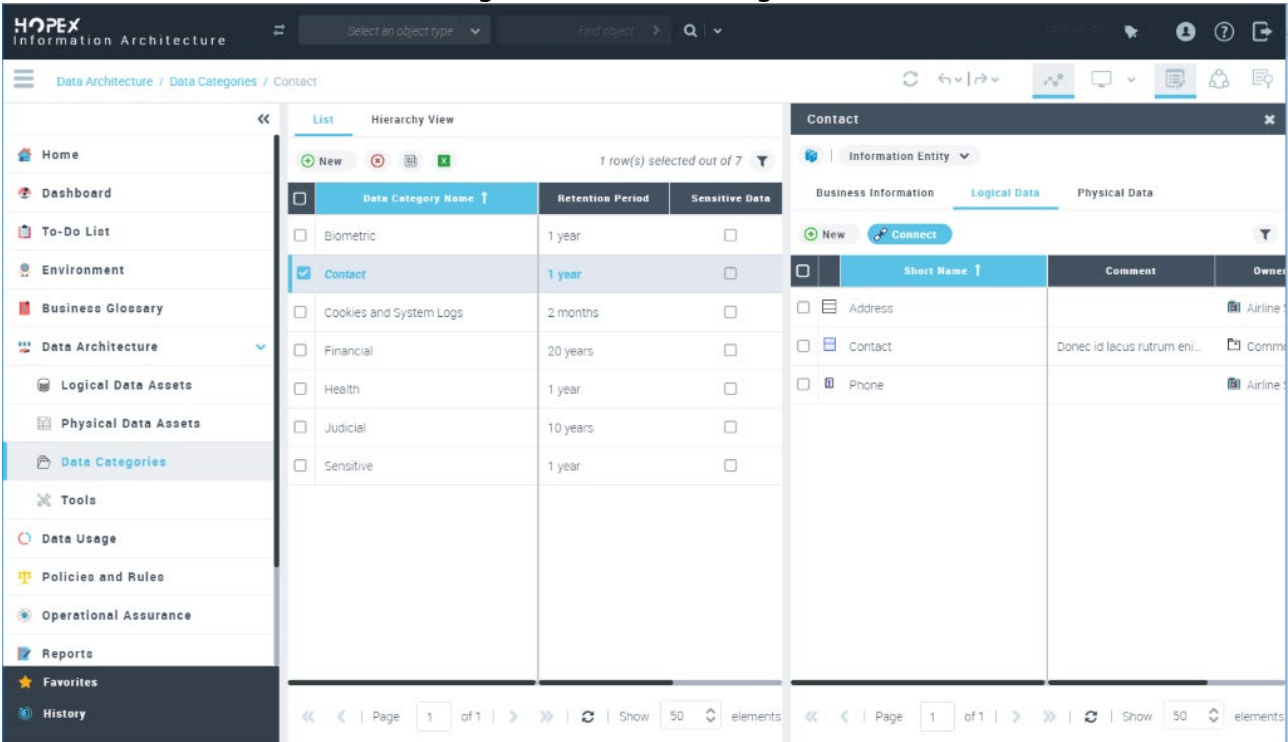
Data Architecture provides access to design and data modeling at the logical and physical level. It introduces the definition and sharing of information, their definitions, and their relationship.



2.9.4.1. Data Categories

Data categories are provided to classify Data Asset (Concept, Class, Table...). This is a connection between HOPEX Privacy Management and HOPOX Information Architecture productions.

The user can describe Data categories and subcategories.



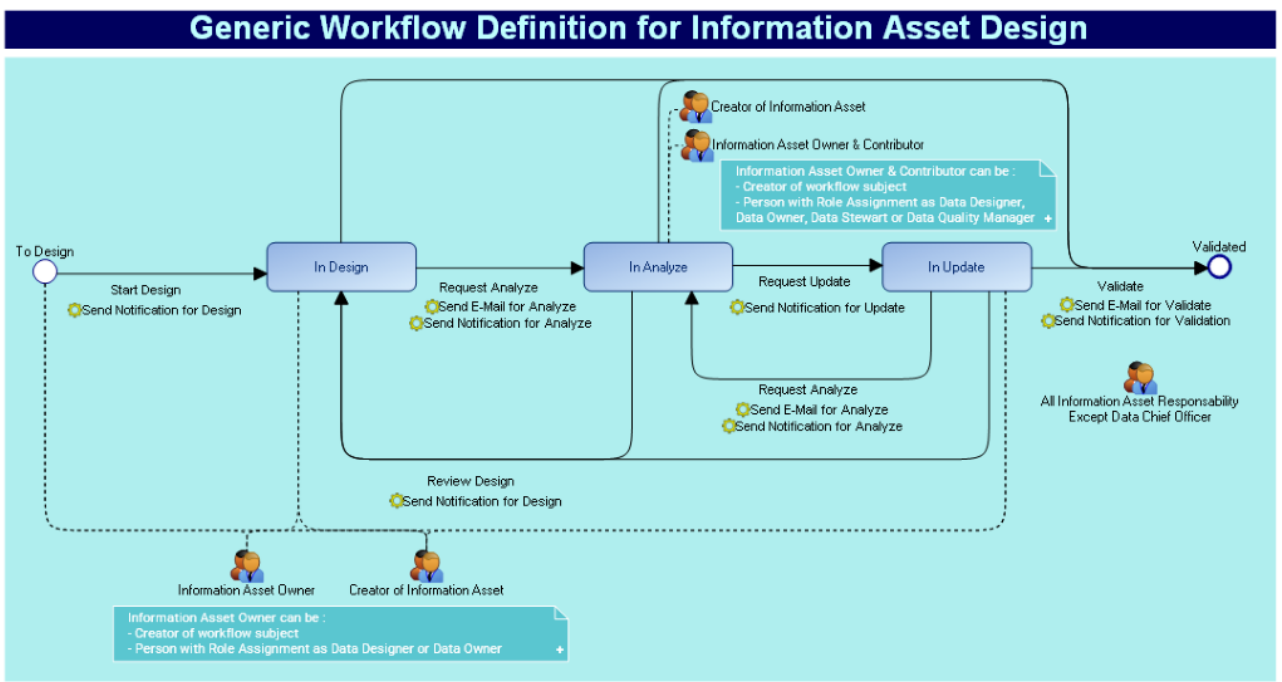
Golden Data is a new Data Category provided in the standard solution Pack to classify reference Data.

2.9.4.2.Data Asset Workflow

HOPEX Information Architecture includes the HOPEX workflow engine, allowing users to define their own workflows, follow predefined Design and validation steps and automatically notify the different stakeholders.

A standard workflow has been developed to manage the progression of a Design activity of a Data Asset from its creation to the completion of its validation. The workflow definition is provided by default for Data Lineage, Information Area, Information Map and for all their layer Business, logical and Physical. The workflow can be extended for other kind of Information Asset.

By default, the instantiation of this workflow is optional and not automatic. The user can select and decide on which object he wishes to create a workflow instance.



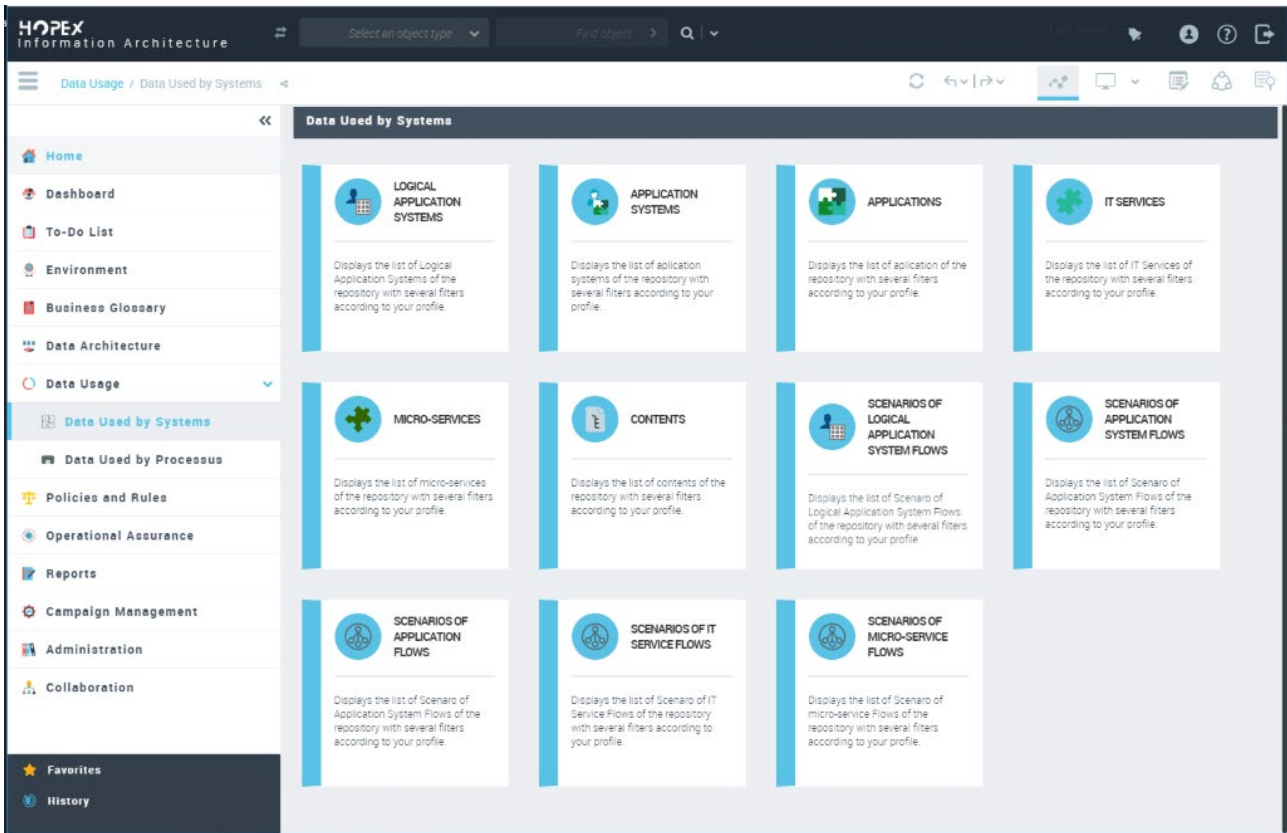
The instantiation of the workflow can be done by the assigned Data Designer or Data Owner of the object. In addition, all others assigned persons as Data scientist, Data Stewart, Data quality Manager and Data Chef Officer can use "Data Contributor" profile to connect to HOPEX Information and trigger the validations steps. For each triggered transition, a notification or email is sent to assigned person on the workflow subject.

2.9.4.3.Data Usage

a) Data Usage in the context of System

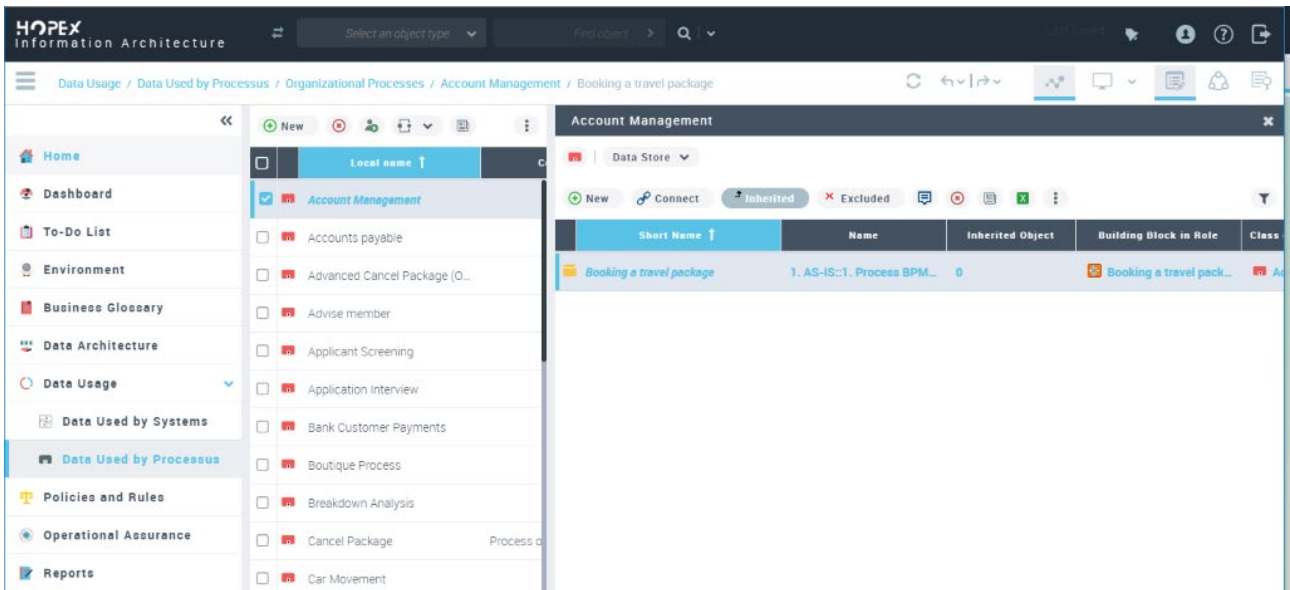
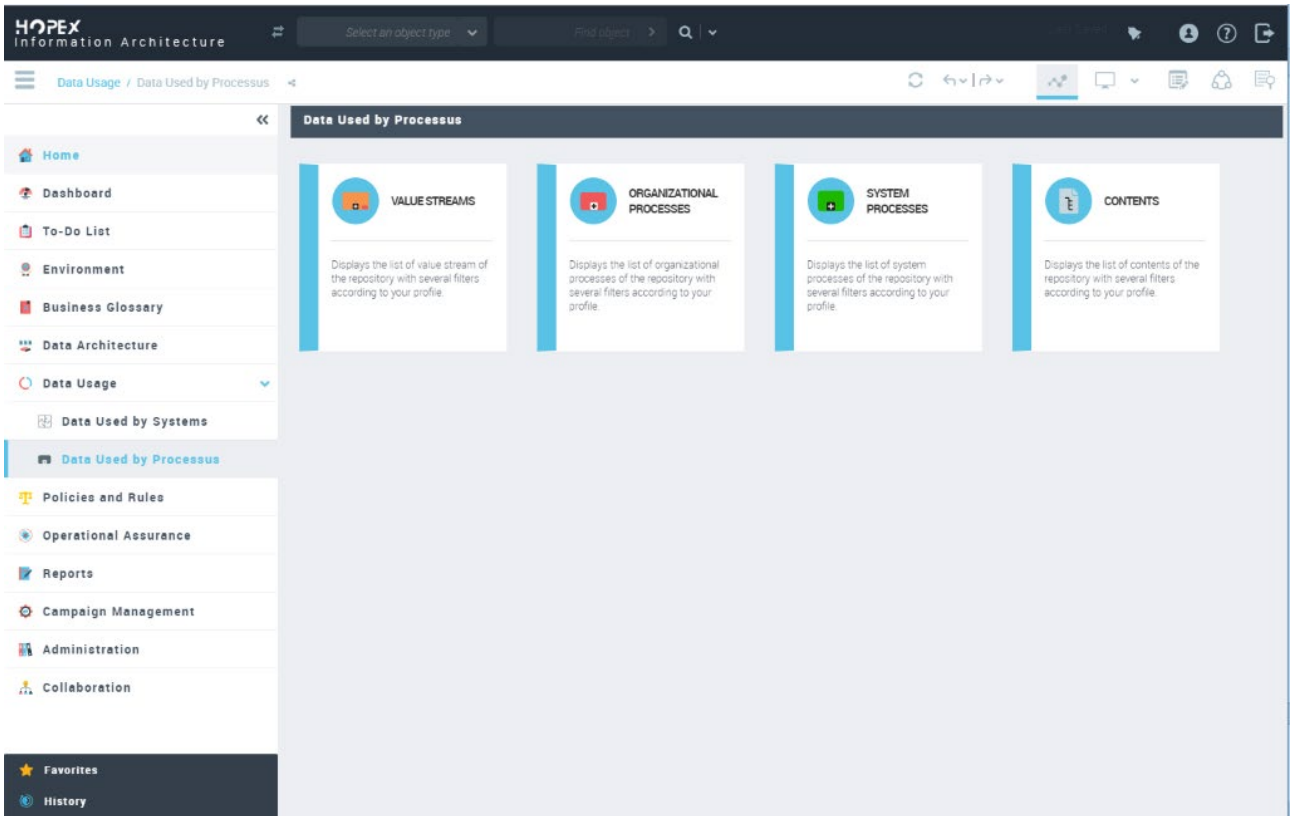
The Data Usage description has been extended to Scenario of Logical Application System Flows, Scenario of Application System Flows, Scenario of Application Flows, Scenario of IT Service Flows and Scenario of Micro Service Flows.

The IA Functional Administrator can all these software scenarios and the Data Architect will be able to define where some Data Area are referenced.



b) HOPEX BPA Integration

The IA Functional Administrator can also define an inventory of Value Streams, Organizational Processes or System Processes within HOPEX Information Architecture. The Data Architect can describe which processes Data store are using and referencing Information Area.



The concept, concept view in Business Information Area can be used in the Value Stream Data Store description.

The Organizational process describes stores by using a Business Information Area or Data Area of Class, Data view.

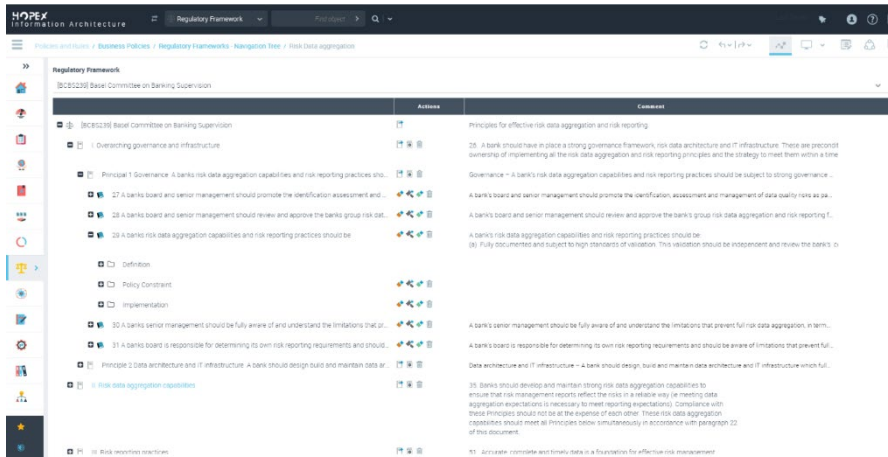
The System process describe Stores by using the logical Data Area or physical Data Area.

2.9.5. Policies and Rules

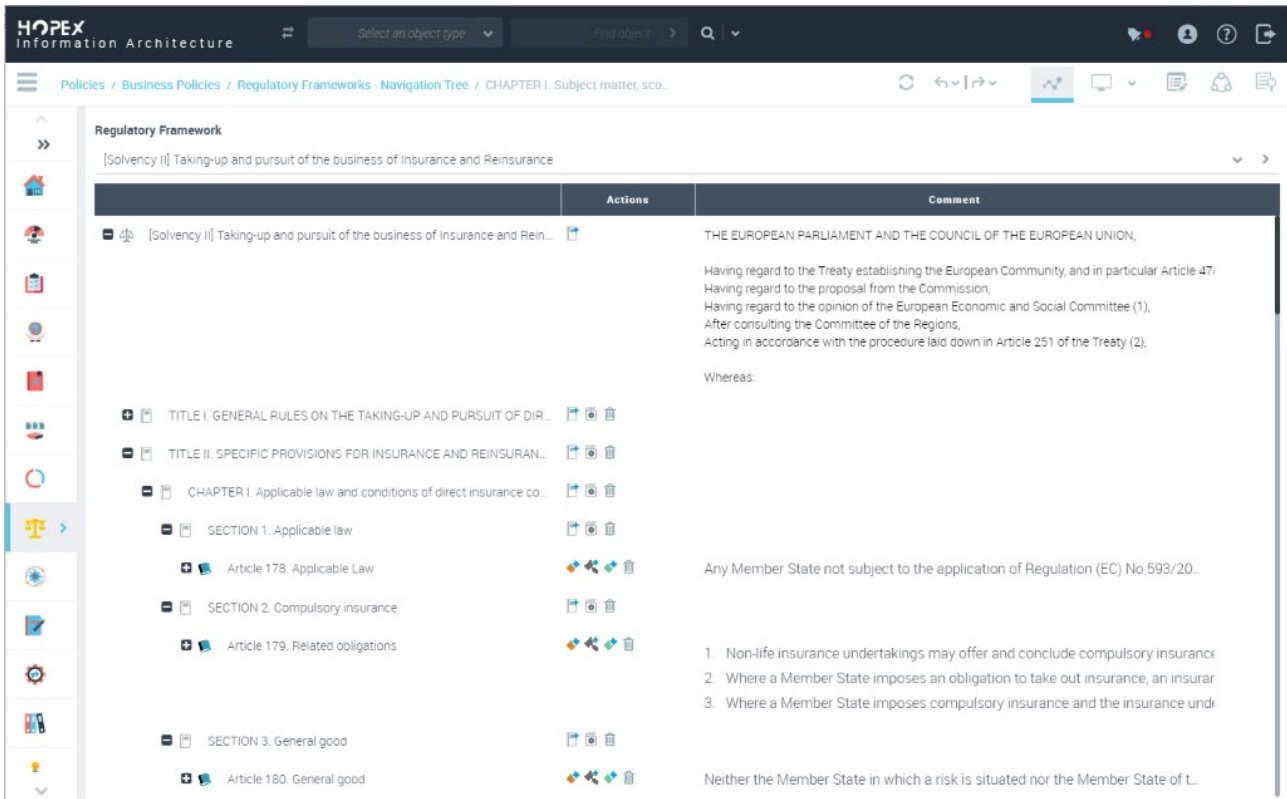
Policies and rules allow the company to establish, report and communicate basic requirements for overall structure, format, identity, ownership, use and access for all company information.

They help with standards compliance, risk reduction, and are delivered and implemented through the establishment of business rules and applications.

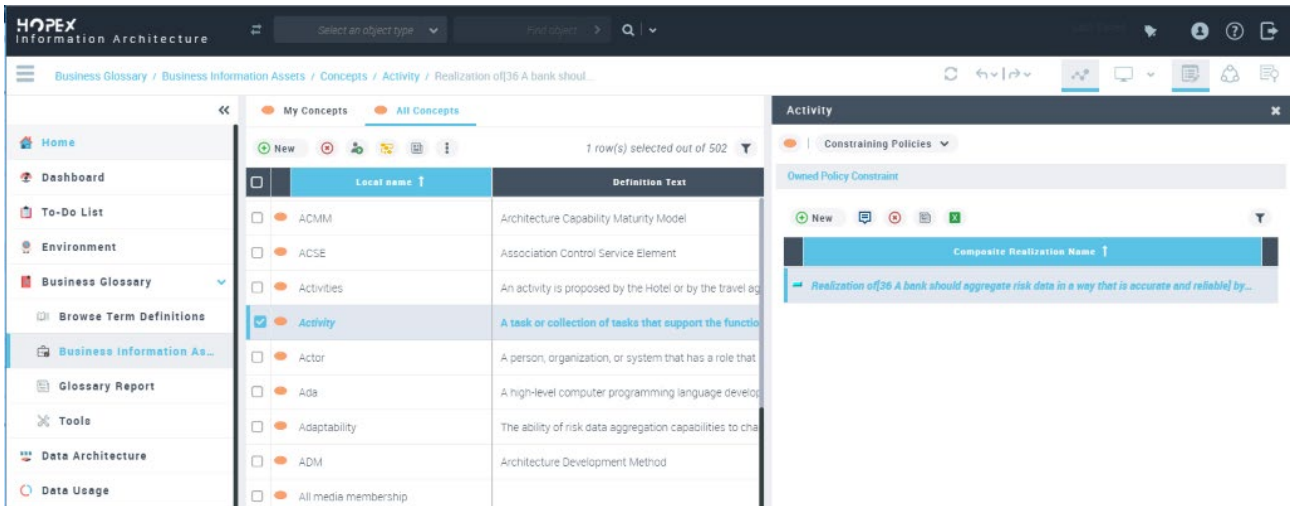
Basel Committee on Banking Supervision (BCBS239)



Solvency II



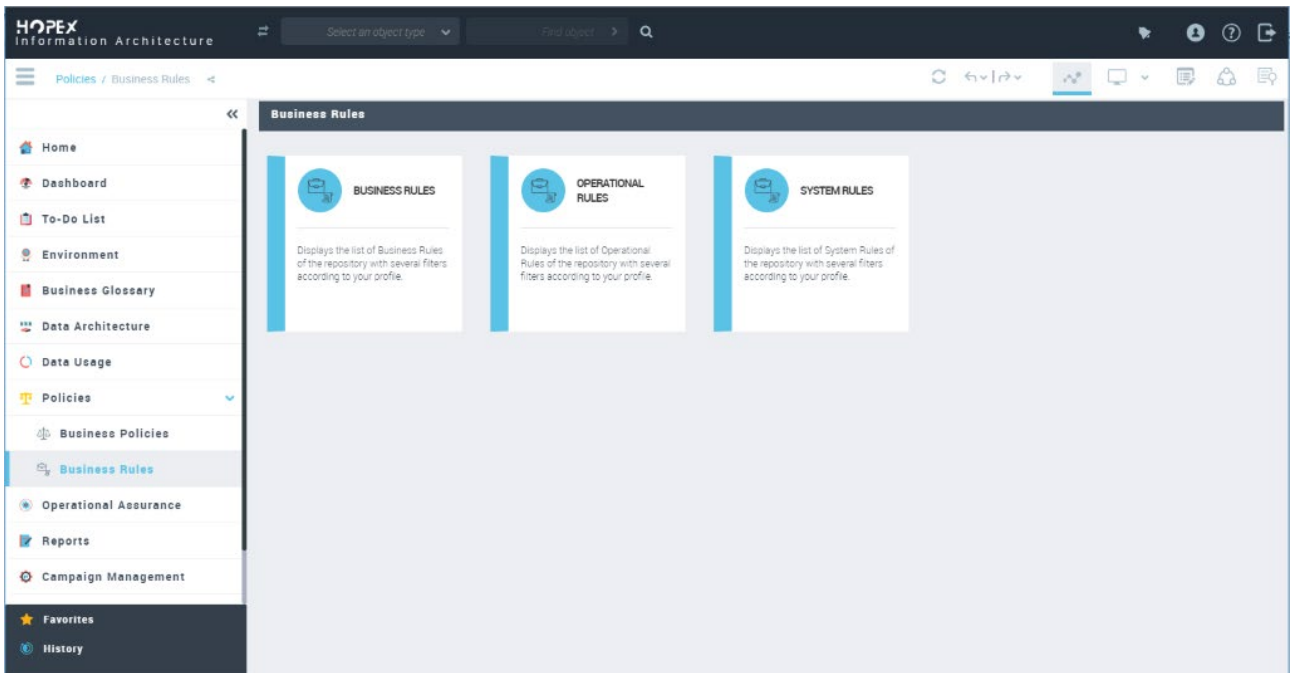
Data Asset can be connected to constraining Polices of multiple regulatory and Directive.

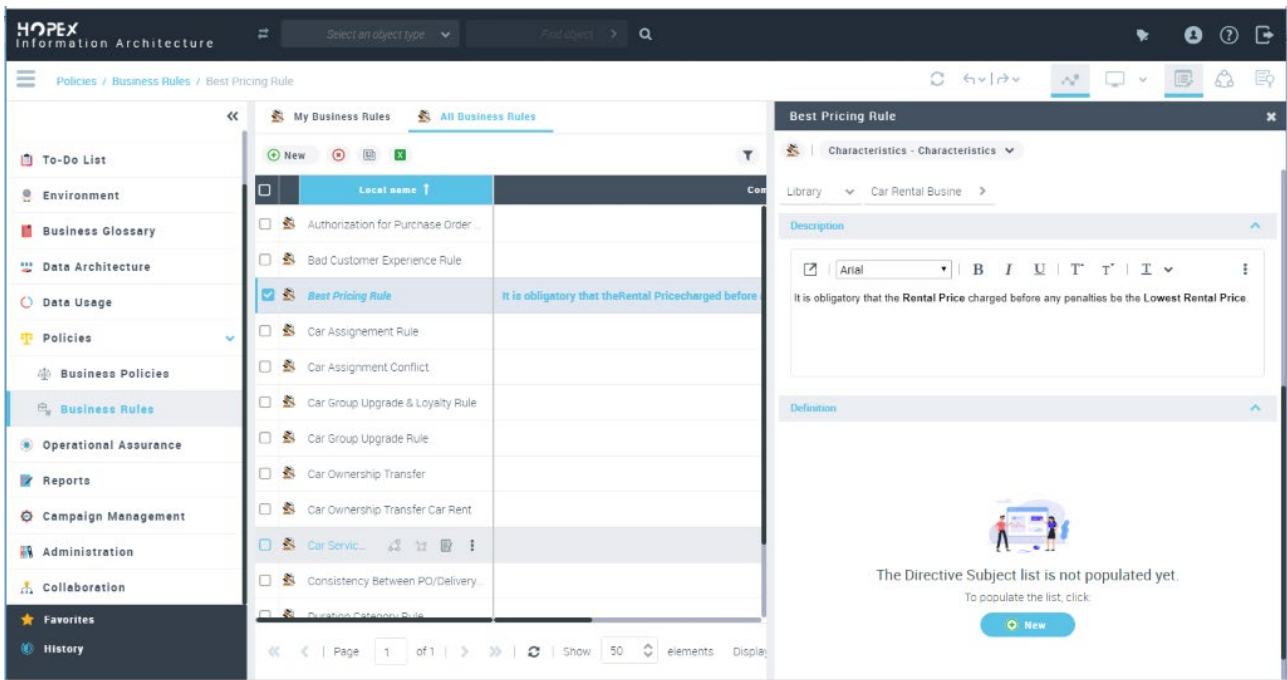


2.9.5.1. Business Rules

A business rule defines or constrains some aspect of business and always resolves to either true or false. It specifically involves terms, facts and rules. Business rules are intended to assert business structure or to control or influence the behavior of the business. Business rules describe the operations, definitions and constraints that apply to an organization. Business rules can apply to people, processes, corporate behavior and computing systems in an organization, and are put in place to help the organization achieve its goals.

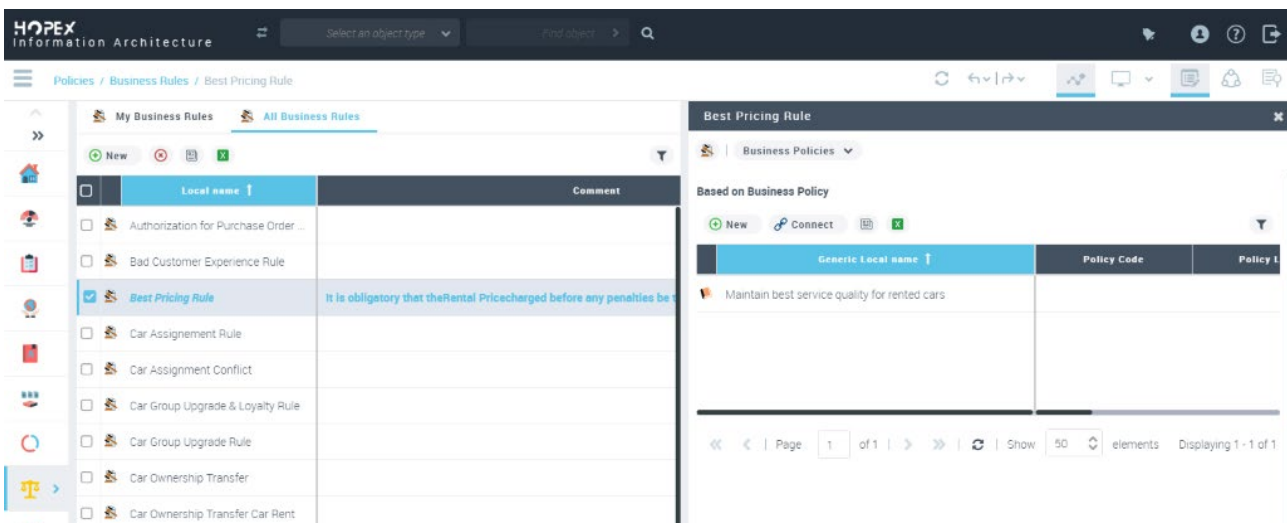
Information Architecture provides Business Rule and for more details the operational and System Rules. The Data Architect can connect them to policies for which they are defined, and on which processes they are implemented.





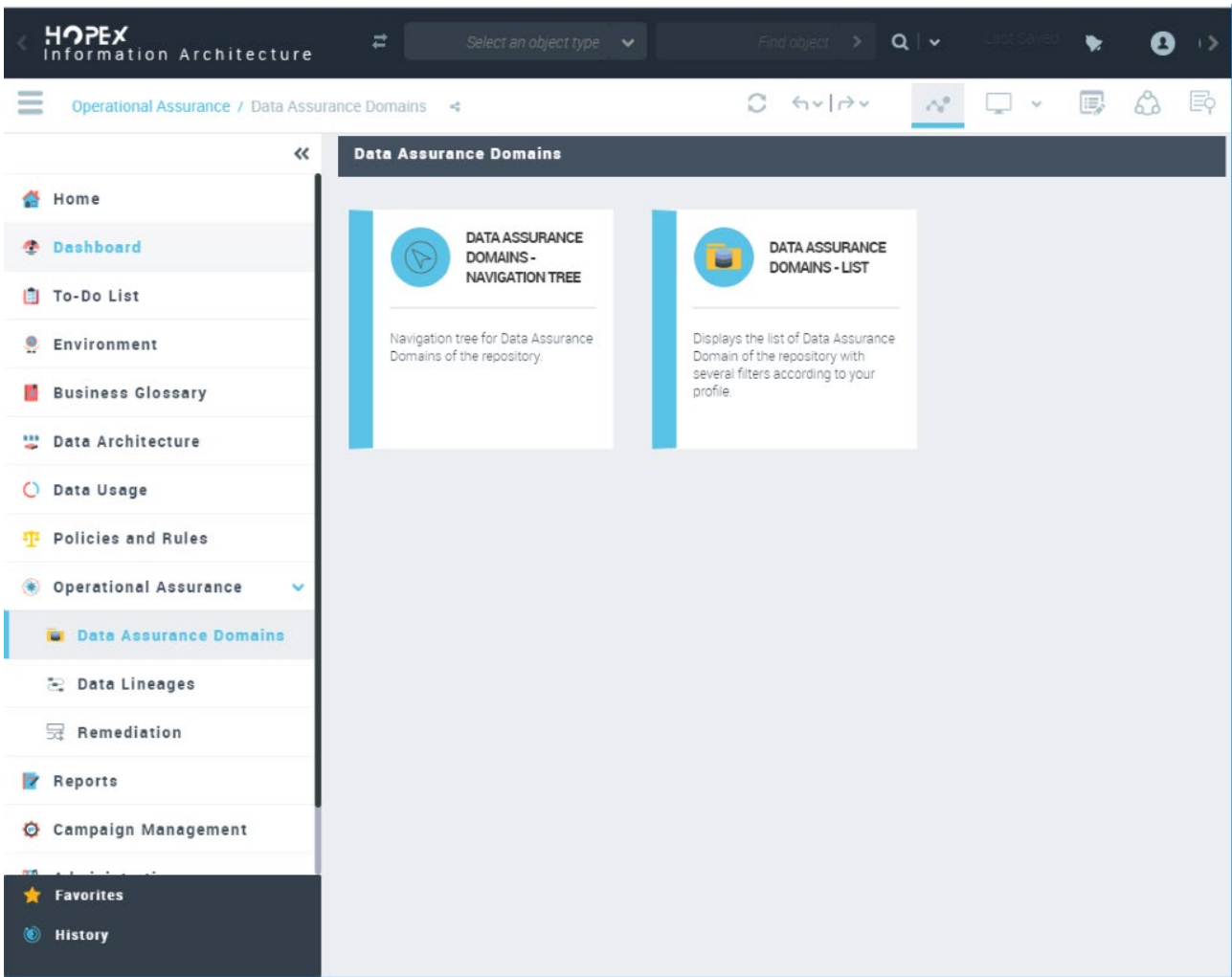
2.9.5.2. Business Policies

On each Rule object, the user can connect the list of concerning Policies.



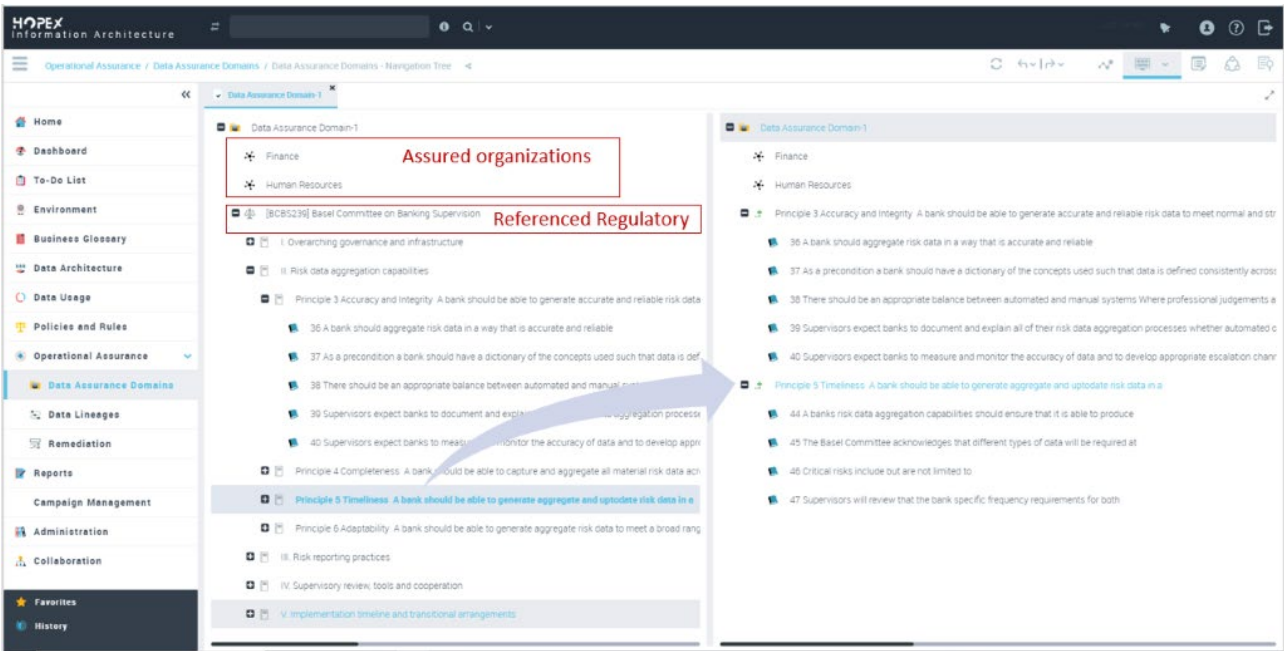
2.9.6. Operational Assurance

Operational Assurance is a set of functionalities allowing to follow the quality of the data, their levels of conformity with respect to the directives and regulations to be respected.



2.9.6.1.Data Assurance Domain

Data architect defines one or more Data Assurance Domains where he refers to the targeted regulation (s) and indicates the concerned organizations. He can use the Data Domain wizard to specifically the articles sections to be focused by Drag and Drop All articles and policies can connect to constrained Data in order to better follow their qualities and their performances.



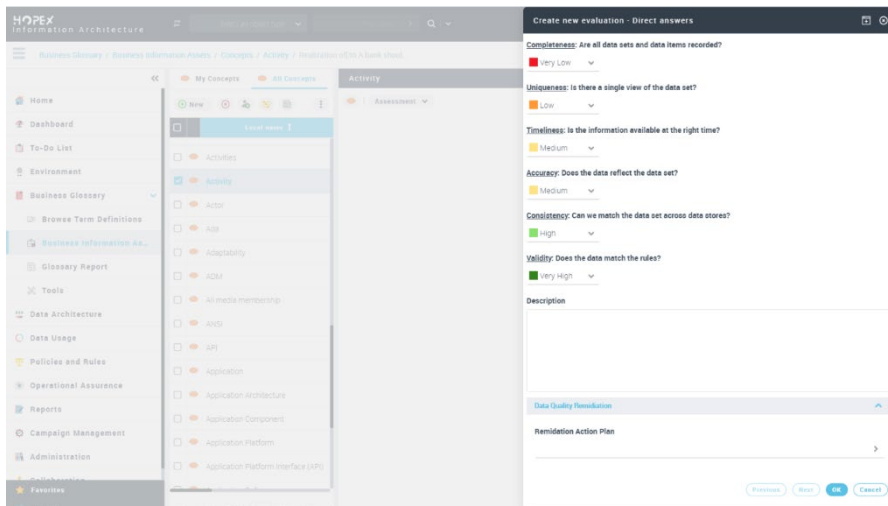
A report can be generated from Data Assurance Domain, see Report chapter for more detail.

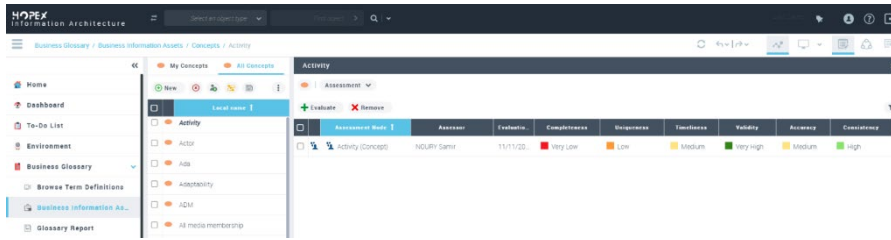
2.9.6.2.Data Quality & Data Assessment

A new Data Quality Assessment Template are provided to evaluation Data Asset on different Quality Dimension: Completeness, Uniqueness, Timeliness, Consistency, Validation and Accuracy.

This Assessment of the Data Quality can be memorized in HOPEX Repository and some action plan can be defined for remediation to improve this Data Quality. It can be done directly on each Data Asset by the Assessment Expert that can be Data Steward, Data Scientist, Data Quality Manager for example.

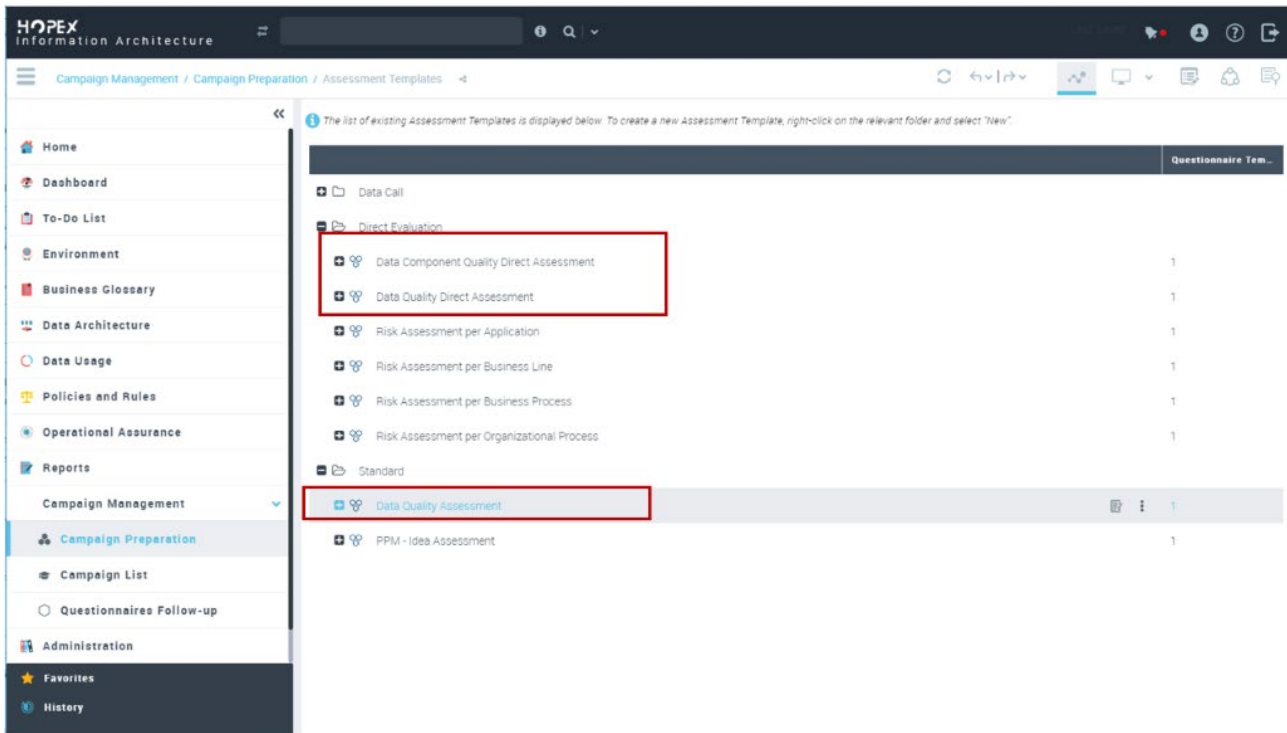
Also, it is possible to start an Assessment Campaign with multiple Sessions with questionnaire to evaluate Data Asset on the same Data Quality Dimensions.





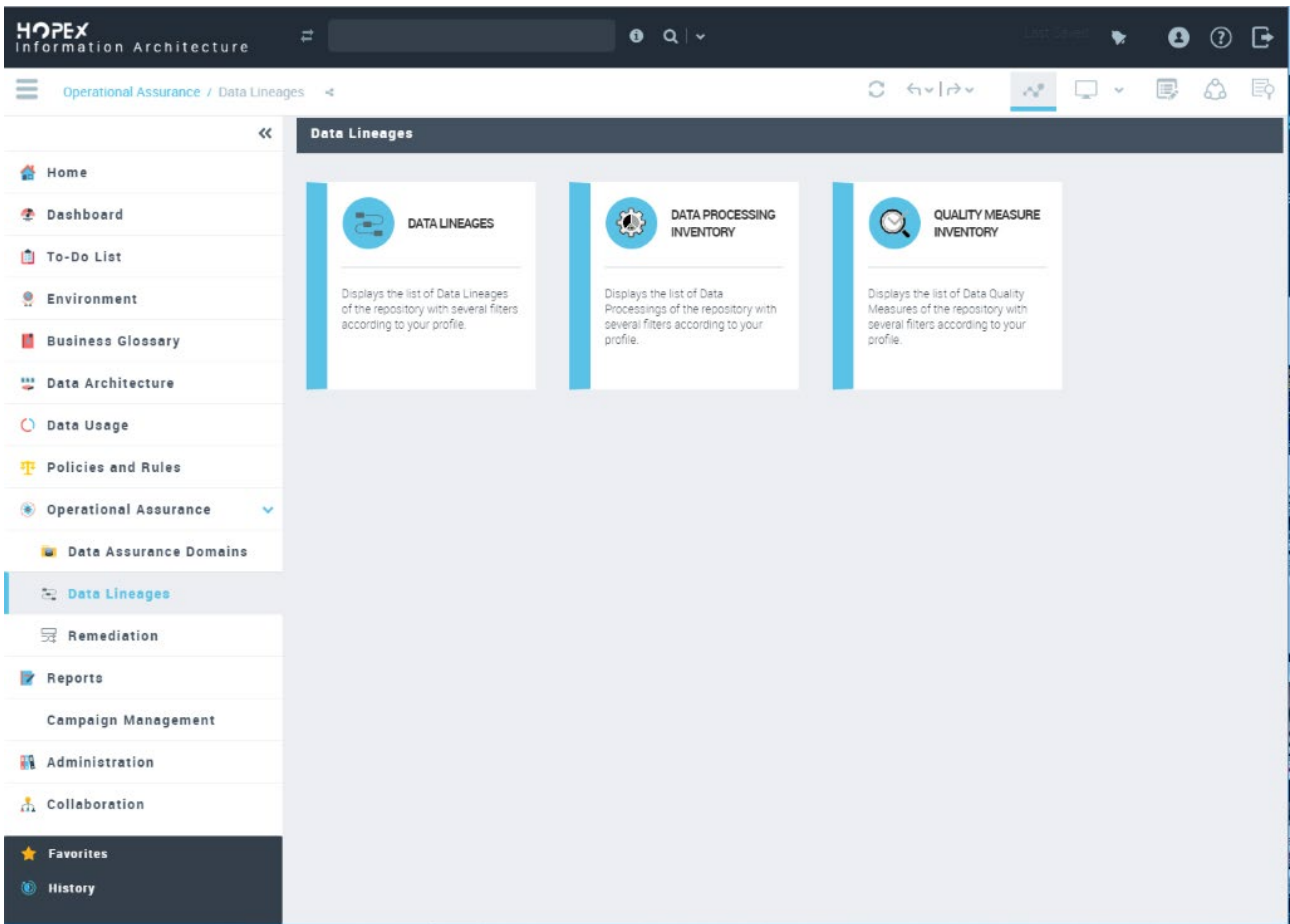
2.9.6.3. Assessment Template

Here the list of Assessment Template provided for Data Quality evaluation on Information Asset (Business, logical and Physical).



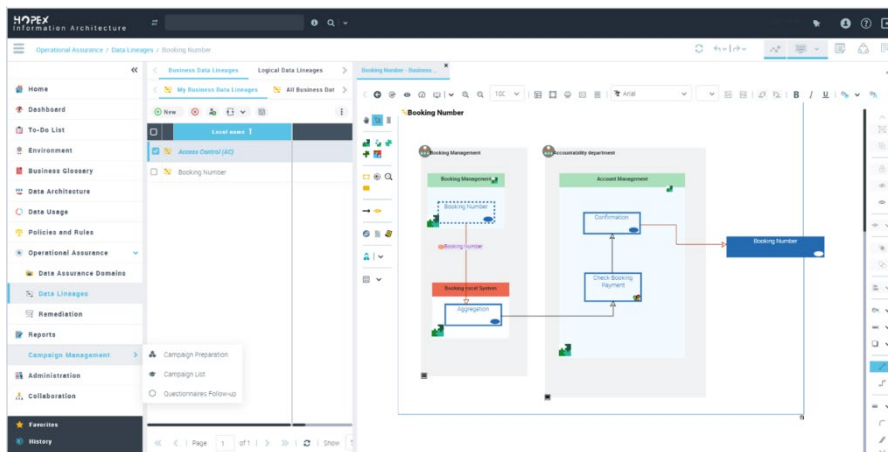
2.9.6.4. Data Lineage definition and Initialization

Data lineage includes the data origin, what happens to it and where it moves over time.

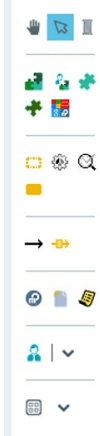


It can be defined for multiple objects at Business, logical or physical level. Data lineage subject can Concept, concept view, Class, Data view, table, physical view but also Attribute or column.

Business Data Lineages		Logical Data Lineages	Physical Data Lineages
My Business Data Lineages		All Business Data lineages	
New			
<input type="checkbox"/>	Local name ↑	Comment	Subject
<input type="checkbox"/>	Access Control (AC)		Access Control (AC)
<input type="checkbox"/>	Booking Number		Booking Number



a) Data Lineage Objects



Software Systems: can be Applications System, Application, IT Service or Micro Service. But also, some technologies for an External system. The System designates where data processing is done.

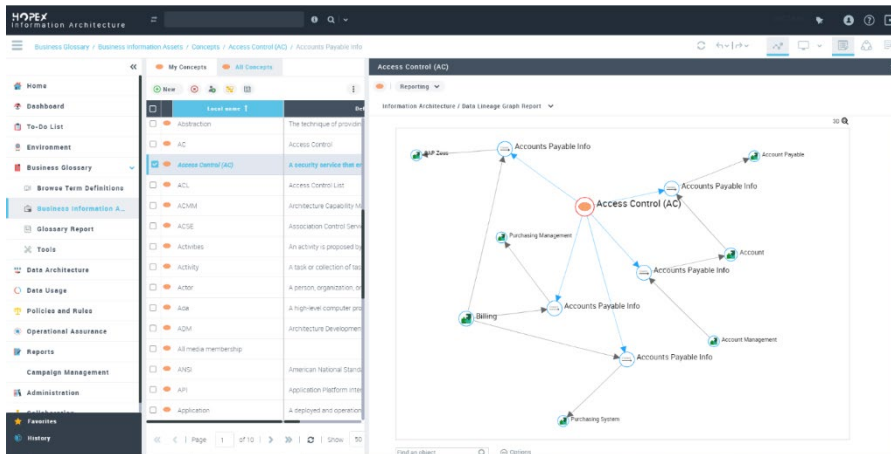
Different step of Data lineage can be defined: the origin, the processing, the control measurement, and the subject.

Different flows between Steps are possible: standard flows and Data Flow. The Data flow is defined when some new Data appear.

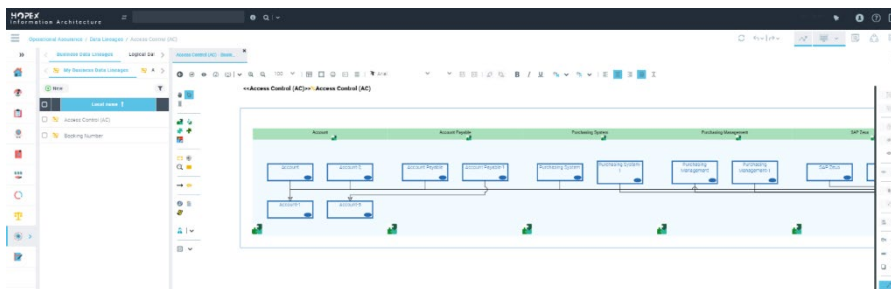
Organizations or position Type can be added to define where Systems (applications...) are used and by who.

b) Data Lineage Initialization

Data Lineage graph report is provided on all Data Asset to visualize where this data is used in content definition in the content of Scenario of systems.

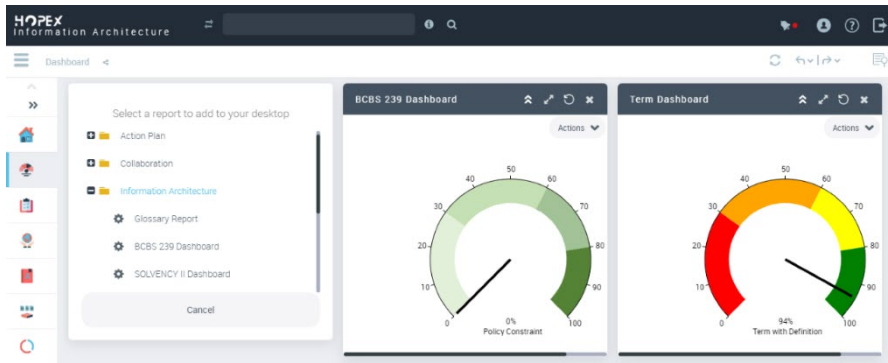
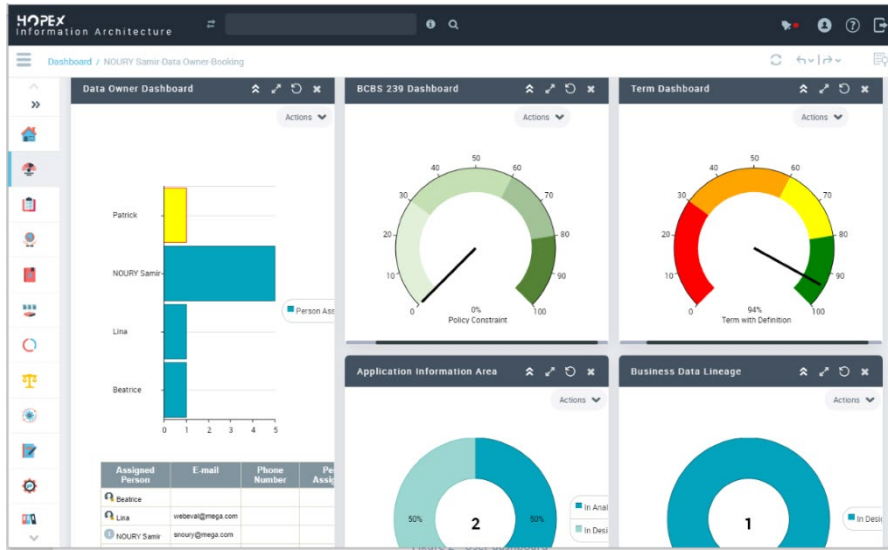


This report can be used to confirm the Data Lineage diagram initialization or not.



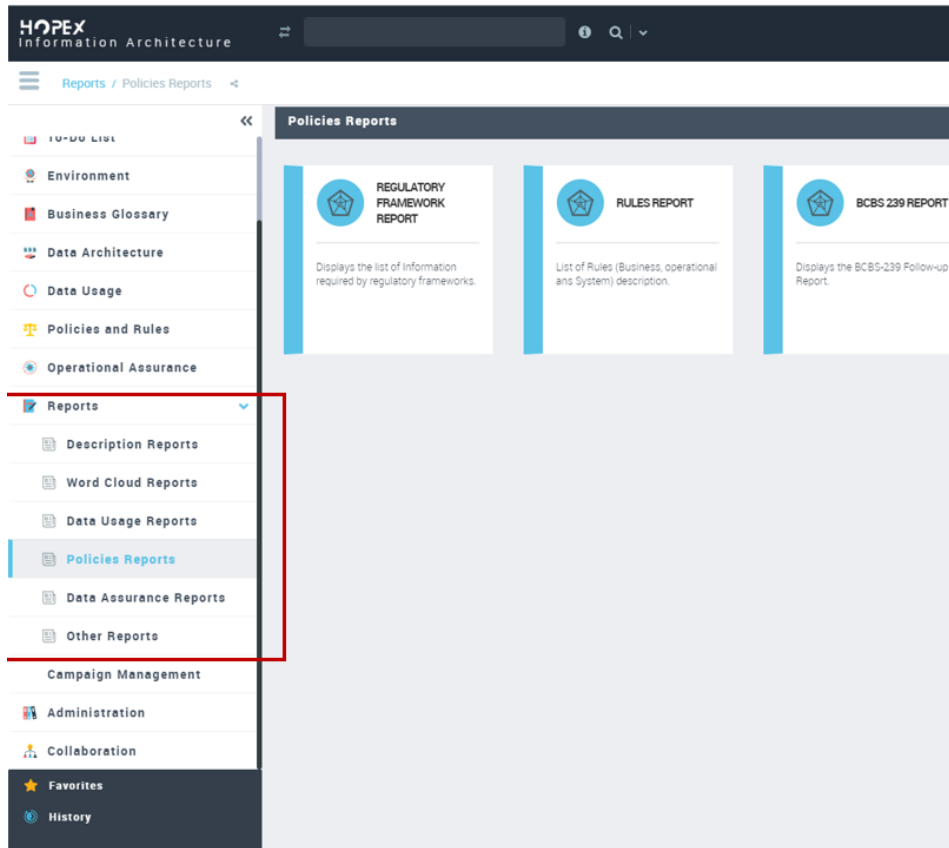
2.9.7. Dashboard

HOPEX Information Architecture provides a predefined dashboard that the user can customize, adding ready to use reports or building his own ones.



2.9.8. Reports

Multiples new Reports are defined and available from specific sub menus.

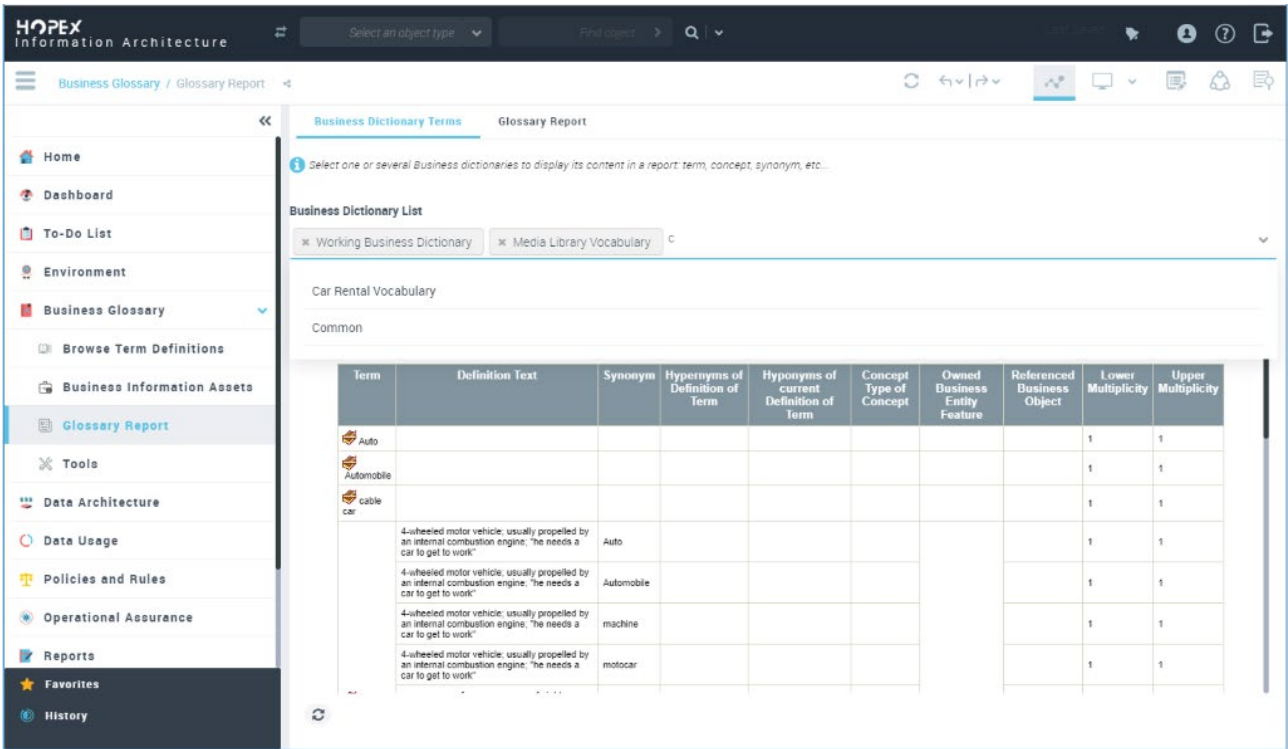


2.9.8.1. Glossary Report

A new report for Business Glossary is provided. It is based on Data set with Table format and available quickly from a menu Glossary Report.

It is possible to select one or multiple Business Dictionaries and to display all their term defined in the current language.

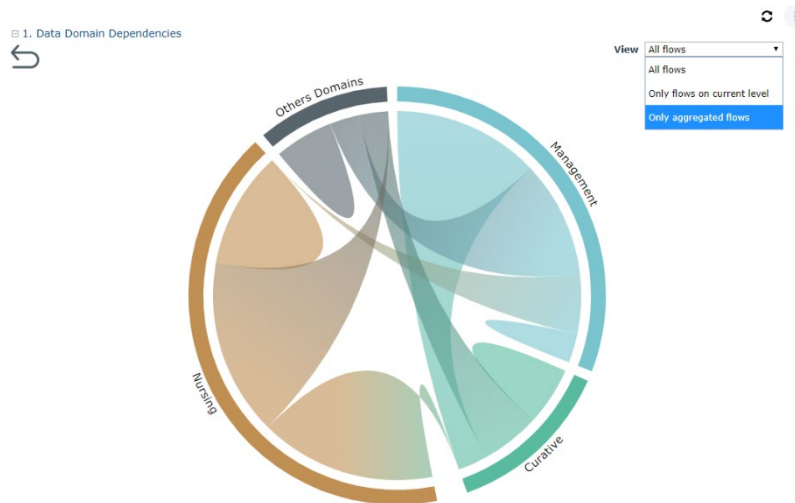
This report can be exported as Excel, RTF document.



The previous glossary report is still available.

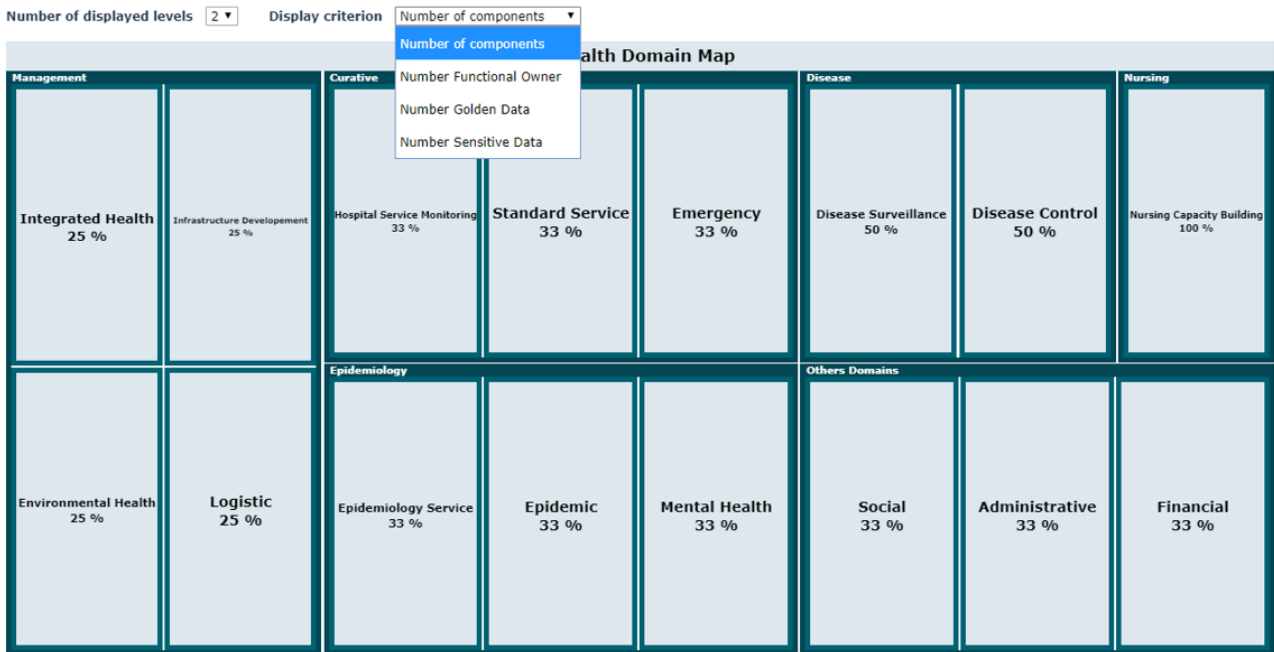
2.9.8.2.Chord Report

This report displays the Business Information Area dependencies in Business information Map.



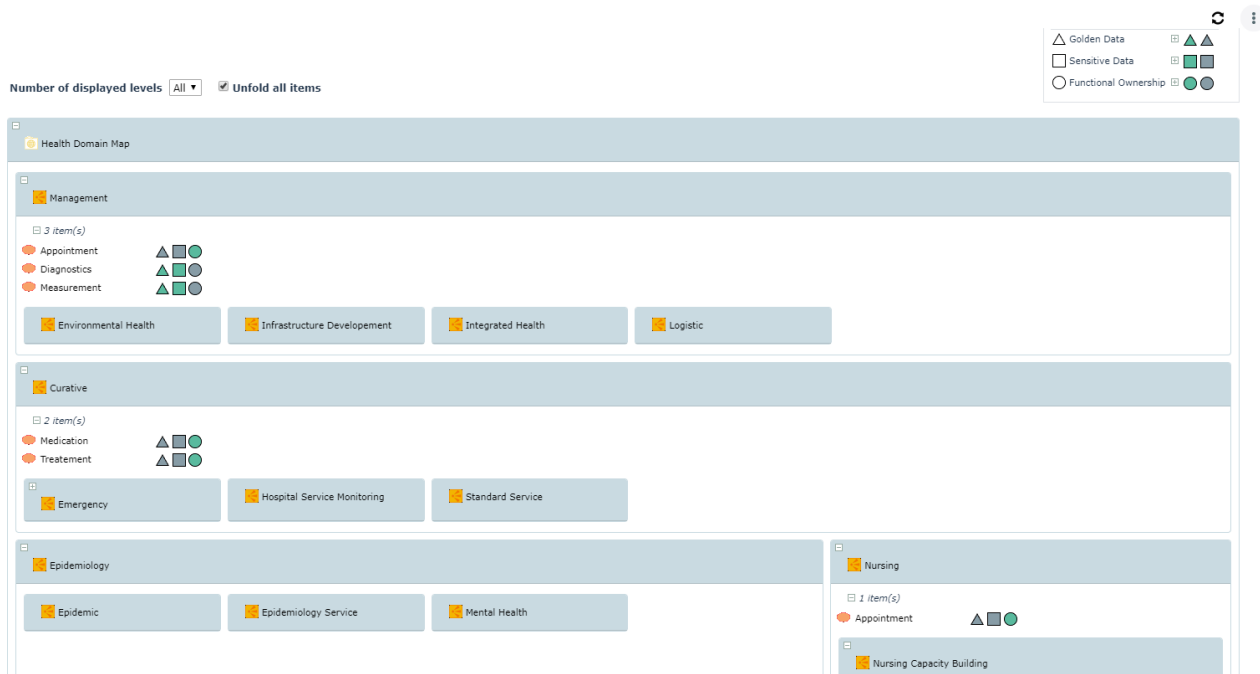
2.9.8.3.Data Domain Tree map

This report displays Data Domain map hierarchy based on Business Information map object. Filters are provided to display the map according the number of Functional Owner, and categories of Data as Sensitive Data or Golden Data.



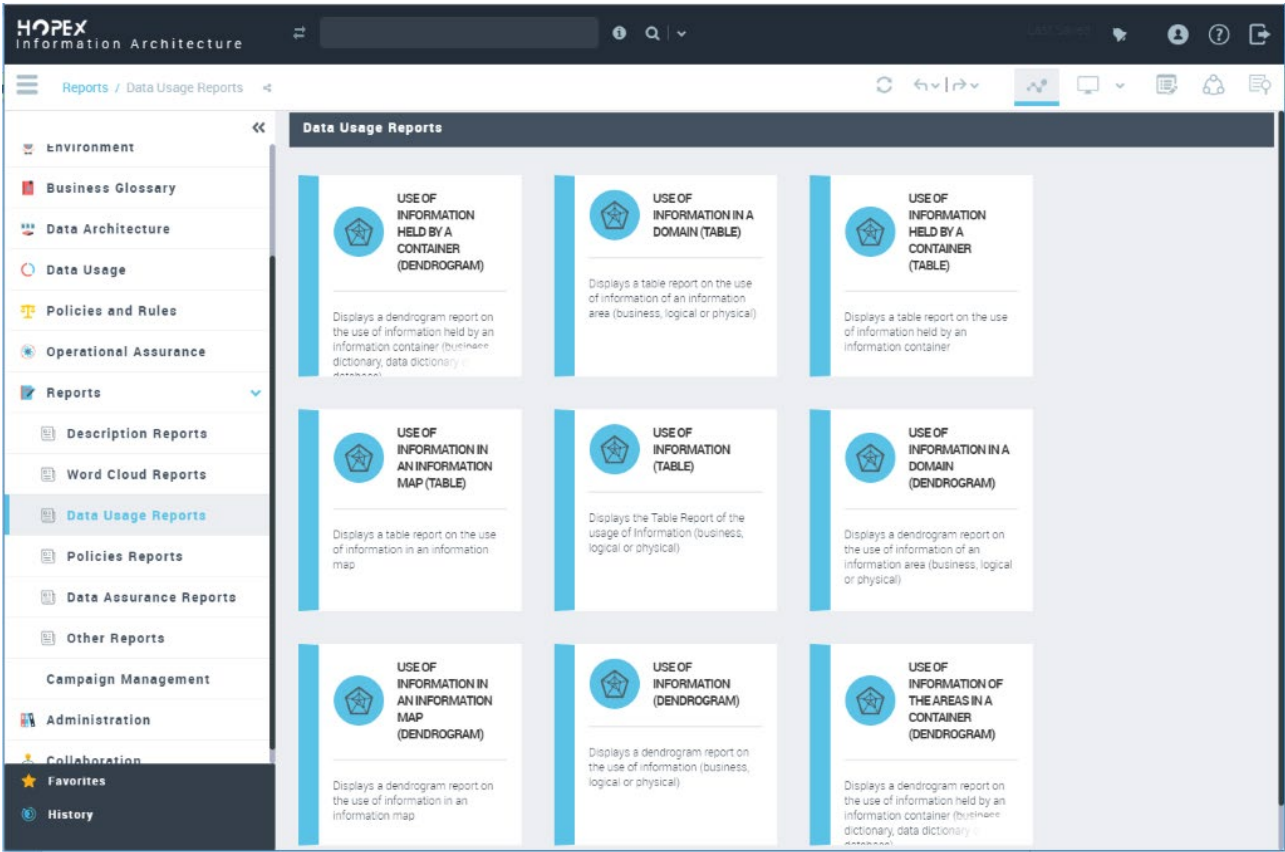
2.9.8.4.Data Map breakdown

This breakdown report displays the hierarchy of its Data Domains. Criteria are available to present Data according the Functional Ownership, sensitive and Golden Categories.

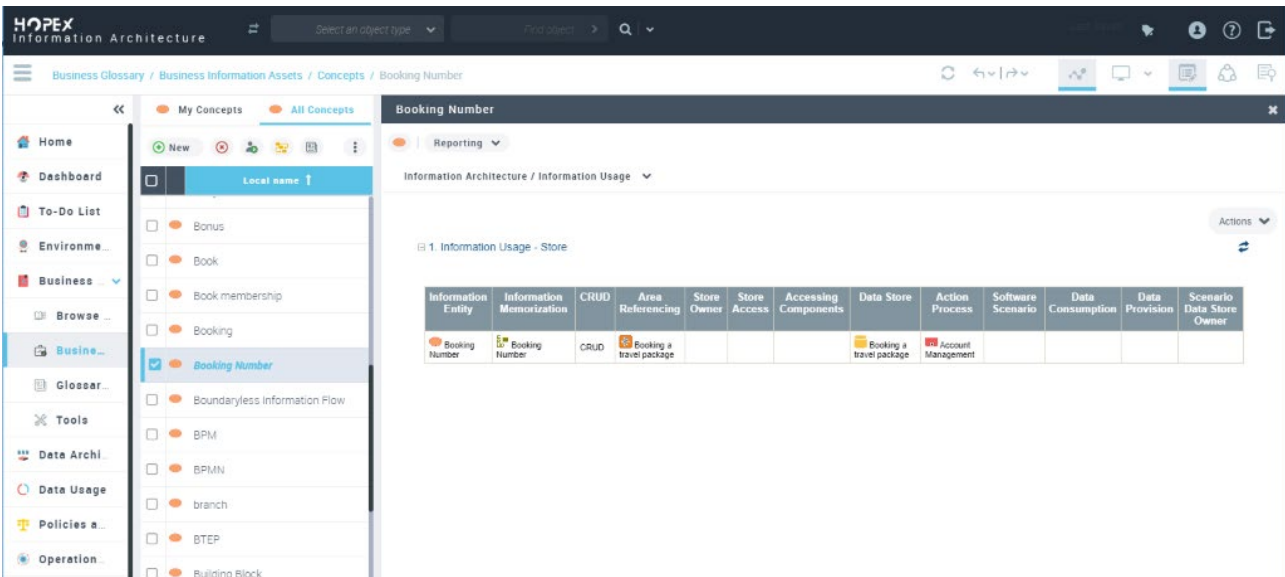


2.9.8.1.Data Usage Report

All Data Usage Reports are updated to take account Data usage in scenario of software and Processes.

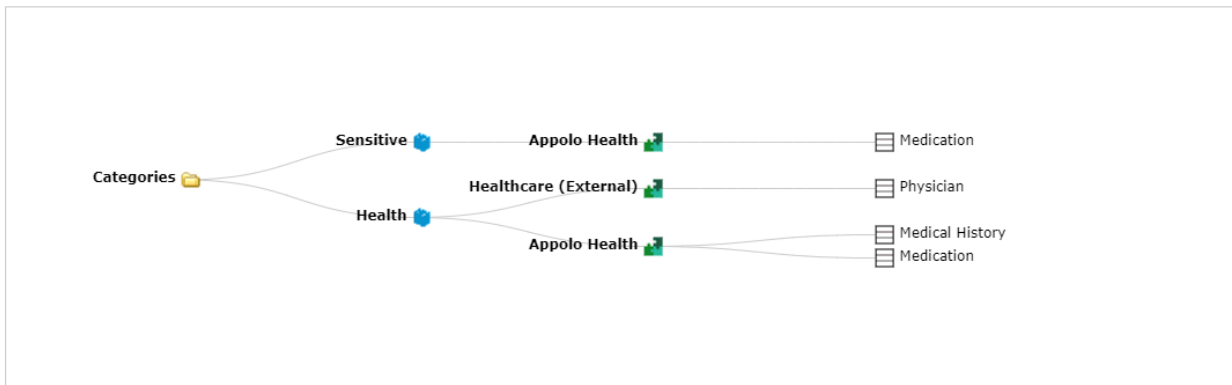
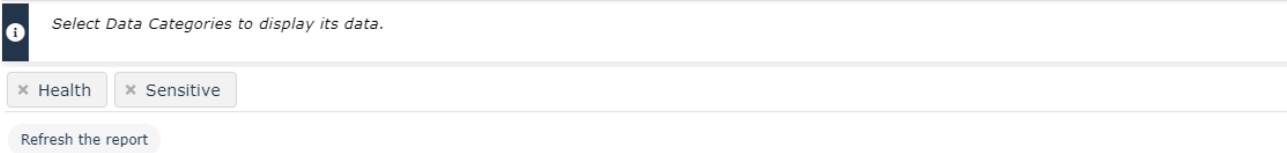


For example, below the concept “Booking Number” is used in the “Booking a travel package” Business information Area that is referenced in Account Management Organizational Process.



2.9.8.1.Data Category Dendrogram report

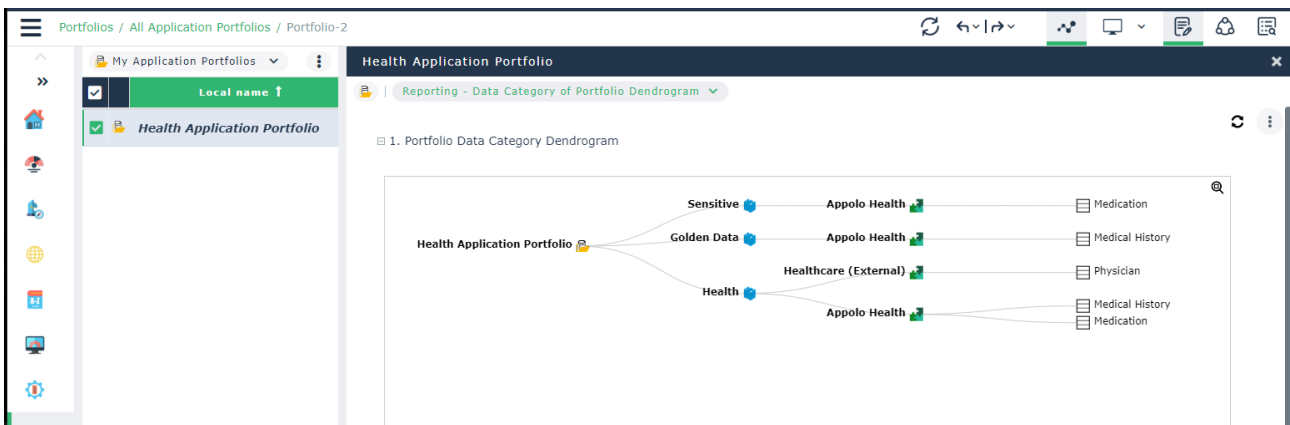
A new Dendrogram report is provided to display where some categorized data are used and consumed. The input parameter of the report can one or more Data Categories. The objective of this report is to help users to locate quickly where data of these categories are used for example in the applications inventory.



2.9.8.2.Data Category of Portfolio Dendrogram report

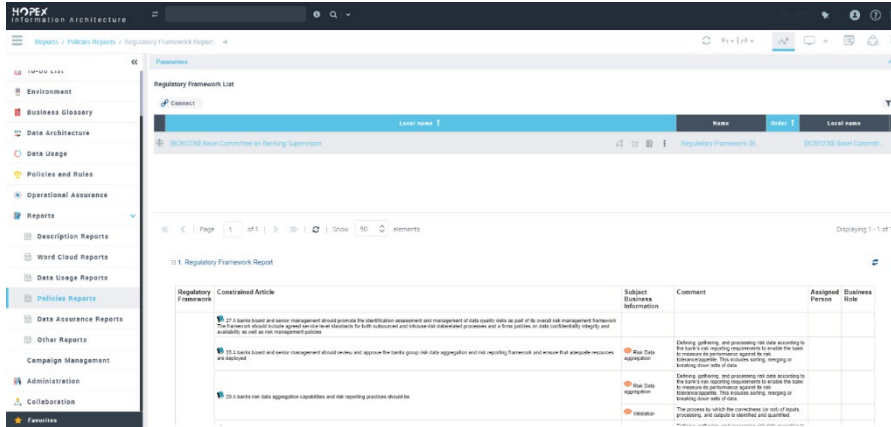
A new Dendrogram report is provided to display where some categorized data are used and consumed by Application of an Application Portfolio.

The input parameter of the report is an Applications portfolio. Only Data that are categorized are displayed in the report. They are grouped per data category and applications that use this Data.



2.9.8.3.Regulatory Report

This Report displays all policies of specific regulatory and policies, the list of Data Asset that are constrained, the data responsibility and their role.



a) BCBS 239 and Solvency II Reports

These reports are visible when the corresponding regulatory are imported from solution Pack. They allow to describe the details of the regulation and to show which sections are constrained the data.

BCBS 239 Chapter

Titles	Chapters	Chapter Articles	Chapter Articles Description
I. Overarching governance and infrastructure	Principle 1 Governance A bank's risk data aggregation capabilities and risk reporting practices should be subject to strong governance arrangements consistent with other principles and guidance established by the Basel Committee.	27 A bank's board and senior management should promote the identification, assessment and management of data quality risks as part of its overall risk management framework. The framework should include agreed service level standards for both outsourced and in-house risk data-related processes and a firm's policies on data confidentiality, integrity and availability as well as risk management policies.	A bank's board and senior management should promote the identification, assessment and management of data quality risks as part of its overall risk management framework. The framework should include agreed service level standards for both outsourced and in-house risk data-related processes, and a firm's policies on data confidentiality, integrity and availability, as well as risk management policies.
		28 A bank's board and senior management should review and approve the bank's group risk data aggregation and risk reporting framework and ensure that adequate resources are deployed.	A bank's board and senior management should review and approve the bank's group risk data aggregation and risk reporting framework and ensure that adequate resources are deployed.
		29 A bank's risk data aggregation capabilities and risk reporting practices should be:	A bank's risk data aggregation capabilities and risk reporting practices should be: (a) Fully documented and subject to high standards of validation. The validation should be independent and review the bank's compliance with the Principles in this document. The primary purpose of the independent validation is to ensure that a bank's risk data aggregation and reporting processes are functioning as intended and are appropriate for the bank's risk profile. Independent validation activities should be aligned and integrated with the other independent review activities within the bank's risk management program, and encompass all components of the bank's risk data aggregation and reporting processes. Common practices suggest that the independent validation of risk data aggregation and risk reporting practices 14 should be conducted using staff with specific IT, data and reporting expertise. (b) Considered as part of any new initiatives, including acquisitions and/or divestitures, new product development, as well as broader process and IT change initiatives. When considering a material acquisition, a bank's due diligence process should assess the risk data aggregation capabilities and risk reporting practices of the acquired entity, as well as the impact on its own risk data aggregation capabilities and risk reporting practices. The impact on risk data aggregation should be considered explicitly by the board and inform the decision to proceed. The bank should establish a timeframe to integrate and align the acquired risk data aggregation capabilities and risk reporting practices within its own framework. (c) Unaffected by the bank's group structure. The group structure should not hinder risk data aggregation capabilities at a consolidated level or at any relevant level within the organisation (eg sub-consolidated level, jurisdiction of operation level). In particular, risk data aggregation capabilities should be independent from the choices 15 a bank makes regarding its legal organisation and geographical presence.
		30 A bank's senior management should be fully aware of and understand the limitations that prevent full risk data aggregation in terms of coverage (eg risks not captured or subsidiaries not included in technical terms eg model performance indicators or degree of reliance on manual processes or in legal terms legal impediments to data sharing across jurisdictions). Senior management should ensure that the bank's IT strategy includes ways to improve risk data aggregation capabilities and risk reporting practices and to remedy any shortcomings against the Principles set forth in this document, taking into account the evolving needs of the business. 5a	A bank's senior management should be fully aware of and understand the limitations that prevent full risk data aggregation, in terms of coverage (eg risks not captured or subsidiaries not included), in technical terms (eg model performance indicators or degree of reliance on manual processes) or in legal terms (legal impediments to data sharing across jurisdictions). Senior management should ensure that the bank's IT strategy includes ways to improve risk data aggregation capabilities and risk reporting practices and to remedy any shortcomings against the Principles set forth in this document, taking into account the evolving needs of the business. Senior management should also identify data critical to risk data aggregation and IT infrastructure initiatives through its strategic IT planning process, and support these initiatives through the allocation of appropriate levels of financial and human resources.
		31 A bank's board is responsible for determining its own risk reporting requirements and should be aware of limitations that prevent full risk data aggregation in the reports it receives. The board should also be aware of the bank's implementation of and ongoing compliance with the Principles set out in this document.	A bank's board is responsible for determining its own risk reporting requirements and should be aware of limitations that prevent full risk data aggregation in the reports it receives. The board should also be aware of the bank's implementation of, and ongoing compliance with the Principles set out in this document.
		32 Risk data aggregation capabilities and risk reporting practices should be given direct consideration as part of a bank's business continuity planning processes and be subject to a business impact analysis.	Risk data aggregation capabilities and risk reporting practices should be given direct consideration as part of a bank's business continuity planning processes and be subject to a business impact analysis.
		33 A bank should establish integrated data taxonomies and architecture across the banking group which includes information on the characteristics of the data metadata as	A bank should establish integrated data taxonomies and architecture across the banking group, which includes information on the characteristics of the data (metadata), as well as use of single identifiers and/or unified naming conventions for data including legal entities, counterparties, customers and accounts.
		34 Roles and responsibilities should be established as they relate to the ownership and quality of risk data and information for	Roles and responsibilities should be established as they relate to the ownership and quality of risk data and information for

2.9.8.4.Rules Report

This report displays Rules description, the corresponding Business Policies, and the Rule Enforcement information.

Rule Building Block List

Connect



Local name ↑	Name	Order ↑	Subscribe	Get a link	Variation
Assignment Rule	1. AS-IS:0. Business Strat...		<input type="checkbox"/>	http://800-000-int5370.fr...	
Authorization for Purchase Order ...	World@Hand::Core Busine...		<input type="checkbox"/>	http://800-000-int5370.fr...	
Bad Customer Experience Rule	World@Hand::Core Busine...		<input type="checkbox"/>	http://800-000-int5370.fr...	
Best Pricing Rule	World@Hand::Core Busine...		<input type="checkbox"/>	http://800-000-int5370.fr...	

Page 1 of 1 | Show 50 elements

Displaying 1 - 4 of 4

Actions

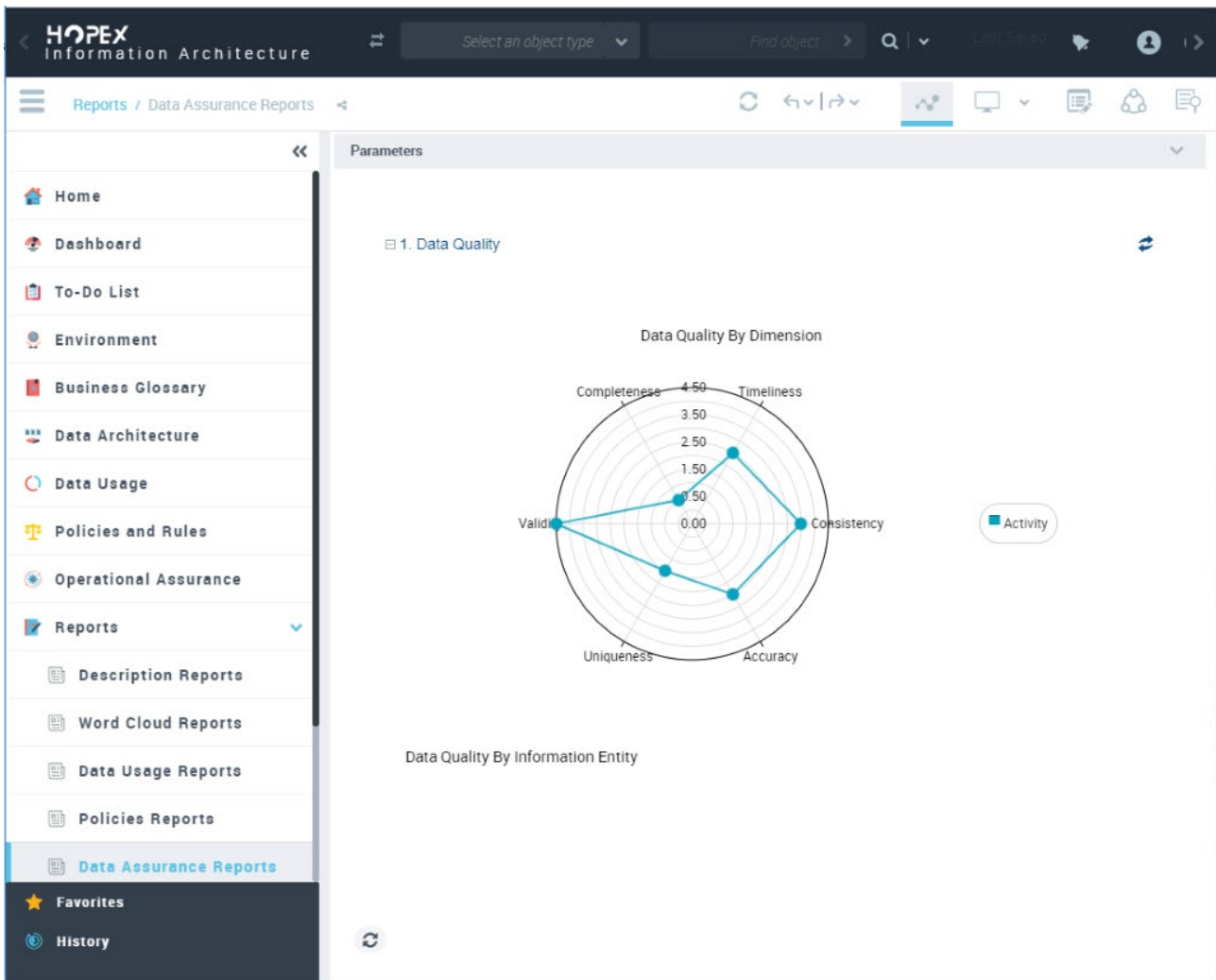
1. Rules Description Chapter



Rule Building Block	Rule Description	Derived Regulation Block	Business Policy Schema	Enforcing Process	Guide Activity
Assignment Rule					
Authorization for Purchase Order Over 5000 Dollars					
Bad Customer Experience Rule					
Best Pricing Rule					

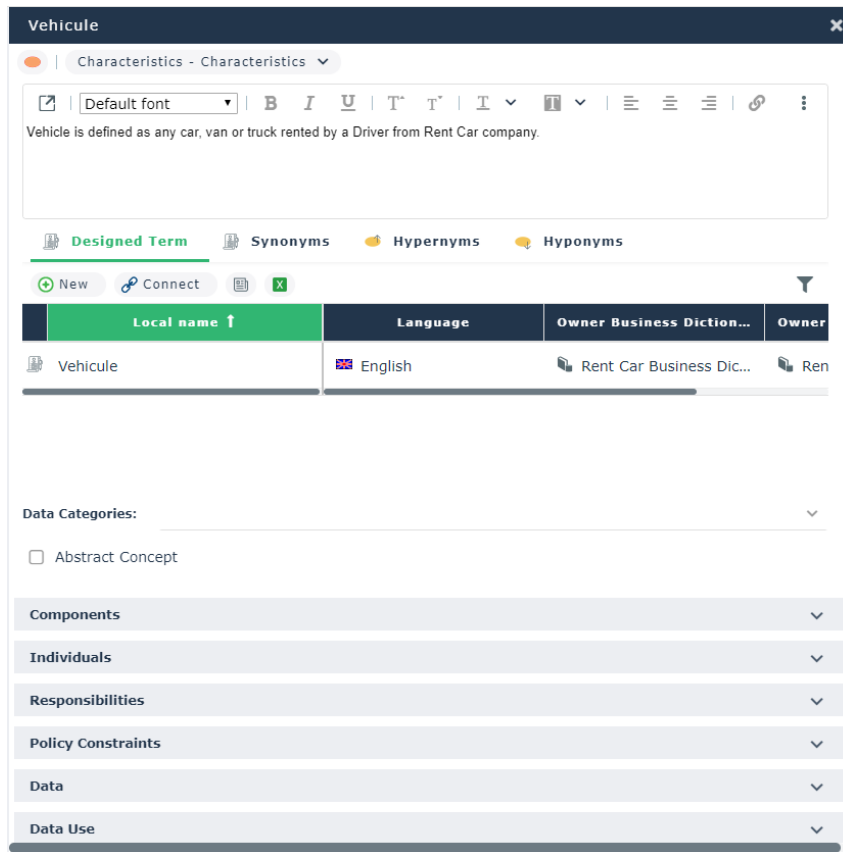
2.9.8.1.Data Quality Report

Data Quality Report can be generated from Information Area that use Data Asset. The Data Quality report displays the last Assessment of Data Asset on the different Data Quality Dimension.



2.9.9. UX Improvement

Property Pages of Business Information Objects are improved by reducing the number of property pages and declaring them as properties group in the Characteristics Page of concept, Concept Type, ...



2.9.10. Utilities

2.9.10.1. Renaming

Object type	Old name	New name
Profile	Data contributor	Data Assessment Manager
Meta Class	Representation Type	Information Item
Meta Class	Representation Type Rule	Information Item Rule
Meta Class	Representation Type Rule Output Parameter	Information Item Rule Output Parameter
Meta Class	Representation Type Rule Input Parameter	Information Item Rule Input Parameter

2.9.10.2. MS Excel import template

a) Term and definitions Initialization

“Concept Excel Template” is an Excel Template provided to initialize a Business Information in HOPEX repository when terms and their definitions are already existing.

Term	Term_Name	Term_Ident	Business Dictionary	Language	Text Definition
EC16EED442800E33C680CA115C93126B	0000000400000053	98089FF5C947952	C890CA055C931225	C690C9445C9311DC	869F9ABB5CA43A1E
	Car	Term_Car	Car Business Dictionary	EN	
	Auto	Term_Auto	Car Business Dictionary	EN	
	Automobile	Term_Automobile	Car Business Dictionary	EN	
	Machine	Term_Machine	Car Business Dictionary	EN	
	Motorcar	Term_Motorcar	Car Business Dictionary	EN	
	Railcar	Term_Railcar	Car Business Dictionary	EN	
	Railway car	Term_Railway car	Car Business Dictionary	EN	
	Railroad car	Term_Railroad car	Car Business Dictionary	EN	
	Cable car	Term_Cable car	Car Business Dictionary	EN	
	Gondola	Term_Gondola	Car Business Dictionary	EN	
	Elevator car	Term_Elevator car	Car Business Dictionary	EN	
	Gondola car	Term_Gondola car	Car Business Dictionary	EN	
	Boat	Term_Boat	Car Business Dictionary	EN	
	Gravy boat	Term_Gravy boat	Car Business Dictionary	EN	
	Gravy holder	Term_Gravy holder	Car Business Dictionary	EN	
	Sauceboat	Term_Sauceboat	Car Business Dictionary	EN	

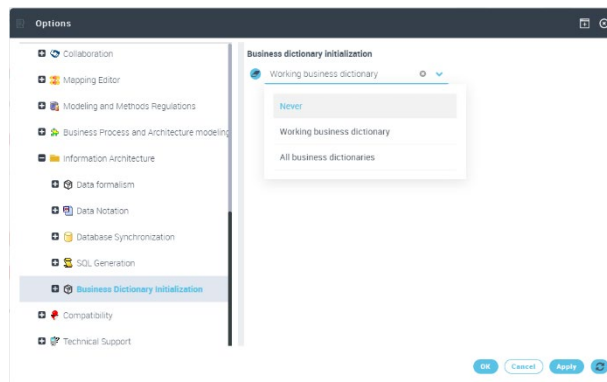
The Concept Template enables end User to simply import Terms and their definitions or a rich definition of Terms by specifying concepts with their definitions, synonyms, Data categories composition, states, Hyponyms, ...

b) Data Excel Template

A new Excel Template is available to initialize Logical Data as Classes, Attributes, relationships, generalizations, Data types, Data Dictionaries and Data Categories.

Class	Class Short Name	Class ID	Data Dictionary Name	Data Dictionary ID	Data Categories	Comment
7DB8824033340504#E93E5535E1F4860	0000000400000053	5C14B2AD5E31303C	27E32F805E276411	E49A05885E347999	80BDCF8C5E256D5C	0000000400000029
	Car		Rent Car Management		Golden Data	
	Elevator car		Rent Car Management			
	Gondola		Rent Car Management			
	Boat		Rent Car Management			
	Truck		Rent Car Management			
	Van		Rent Car Management			
	Customer		Rent Car Management		Golden Data	
	Insurance		Rent Car Management		Golden Data	
	Direct Customer		Rent Car Management			
	Agency Customer		Rent Car Management			
	Contract				Golden Data	

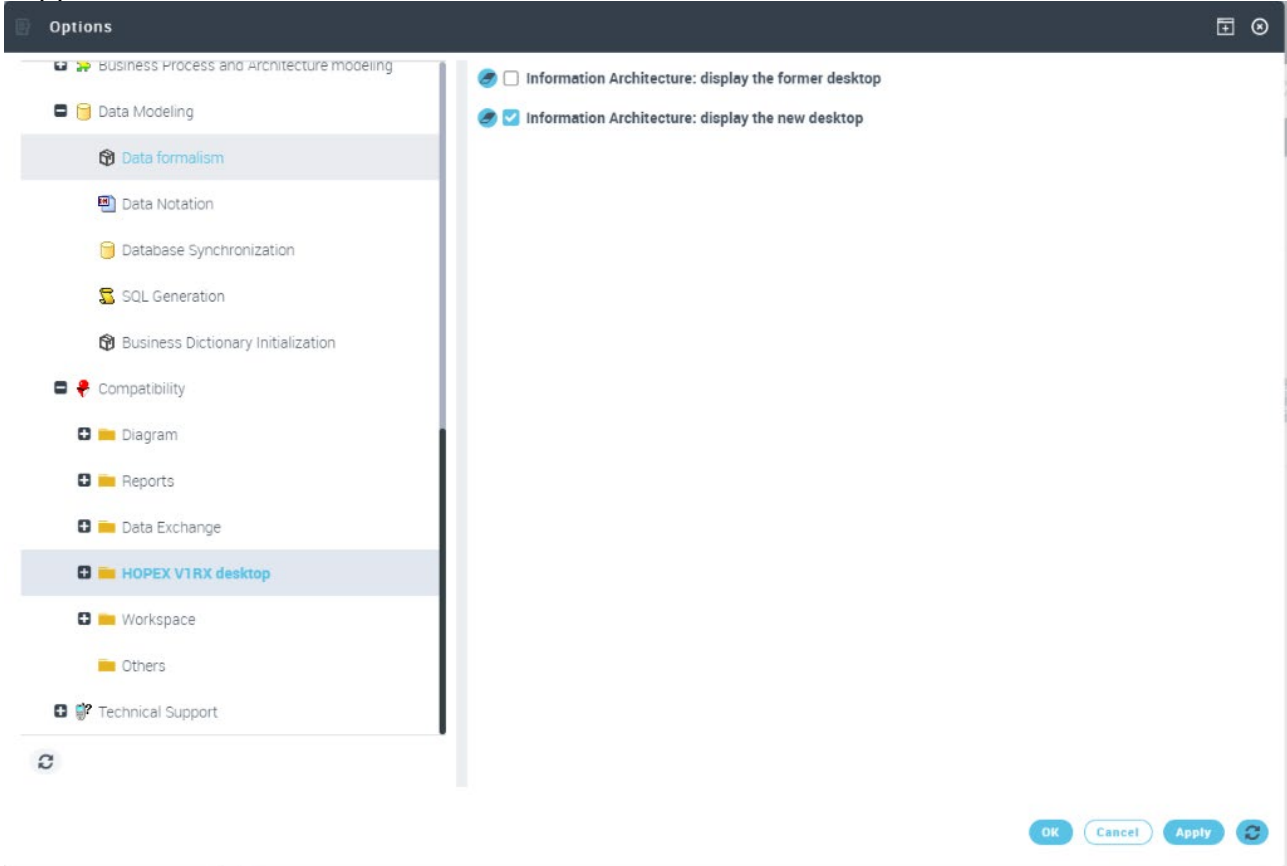
The import of classes can invoke the creation of concepts or its connection if they exist with the same names. Thus, the two business and logical data are automatically linked. This mechanism helps to initialize the business dictionary. It can be configured using the "Business Dictionary Initialization" option.



2.9.10.3. Options

A compatibility option has been defined to allow in some cases for old customers to find the menus Business, Logic and Physical menus of the Old Information Architecture desktop.

This option is temporary because the old Information Architecture desktop will not be supported soon.



2.9.10.4. Solution Pack

HOPEX Information Architecture provides new content of Data Categories provided as Solution Pack.

2.9.10.1. HOPEX Store

HOPEX Information Architecture provides regulatory as BCBS239 and Solvency II content description in HOPEX Store.

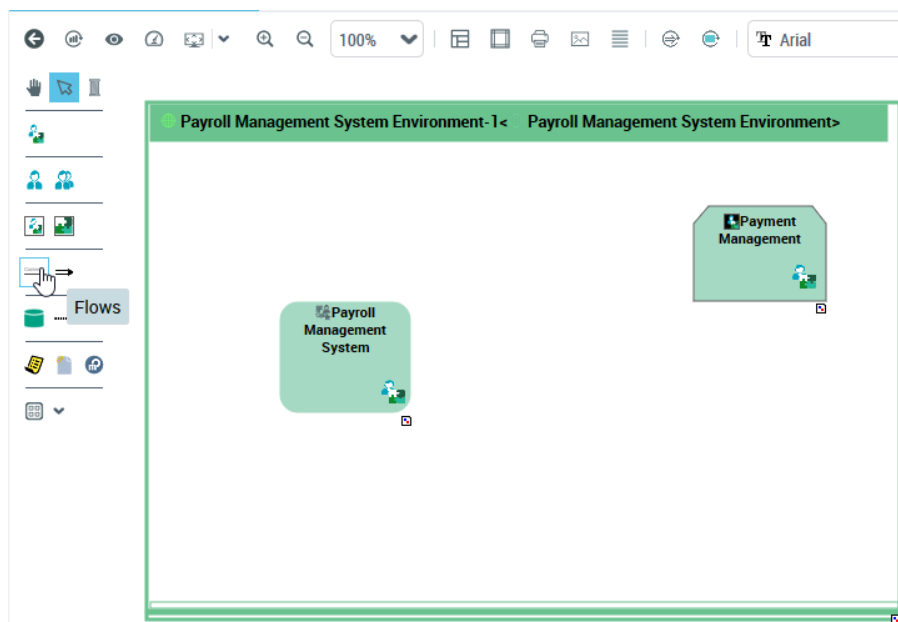
2.10.. HOPEX Application Design

- HOPEX Application Design is now deprecated. But UML notation, User Interface and Job/Batch modeling tools are now integrated in HOPEX IT Architecture v2.

2.11.. HOPEX IT Architecture

2.11.1. Diagramming Improvement

- Standardization of icons and shapes for partner objects in environment diagrams.
- Definition of groups of icons
- Addition of an icon for Application Flow (instead of link tool)



- Creation of Input/output Gates : content proposal based on owned contents
- Creation of Application Flow : content proposal based on owned contents
- Creation of Application Flow "from Input Gate" or "to Output Gate" : blind creation by reusing gate content
- Improvements on diagram initialization for scenario flows diagrams

2.11.2. Modeling Capability

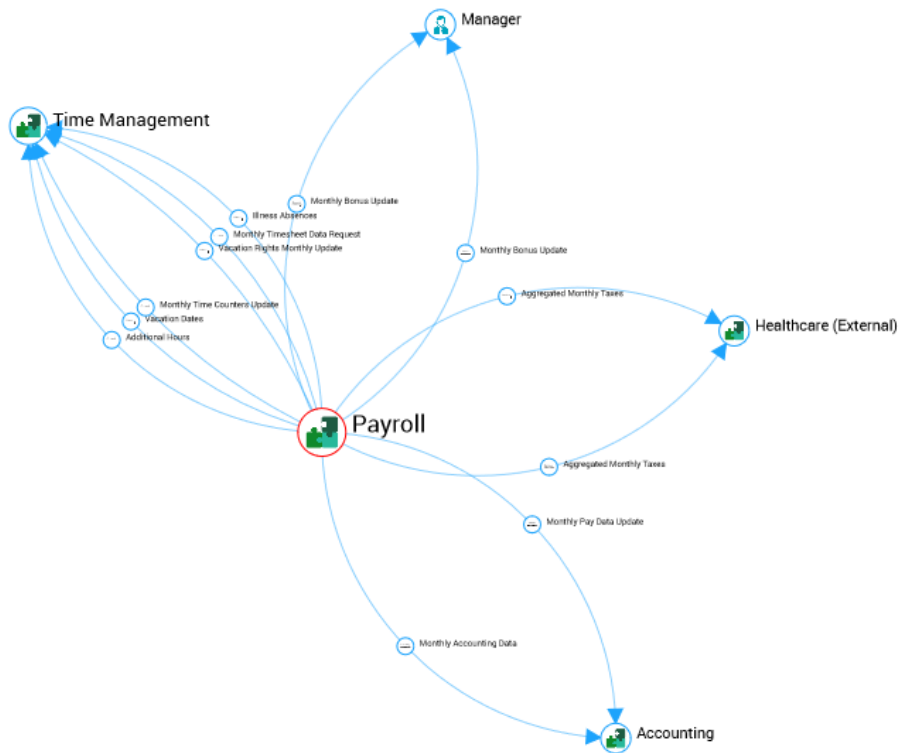
- Addition of flow scenario diagram on Logical Architecture (Logical Application System Environment and Logical Application System)
- Capability to link sub-scenarios to a scenario participant (to declare relevant sub-scenario according to the context for drill down)

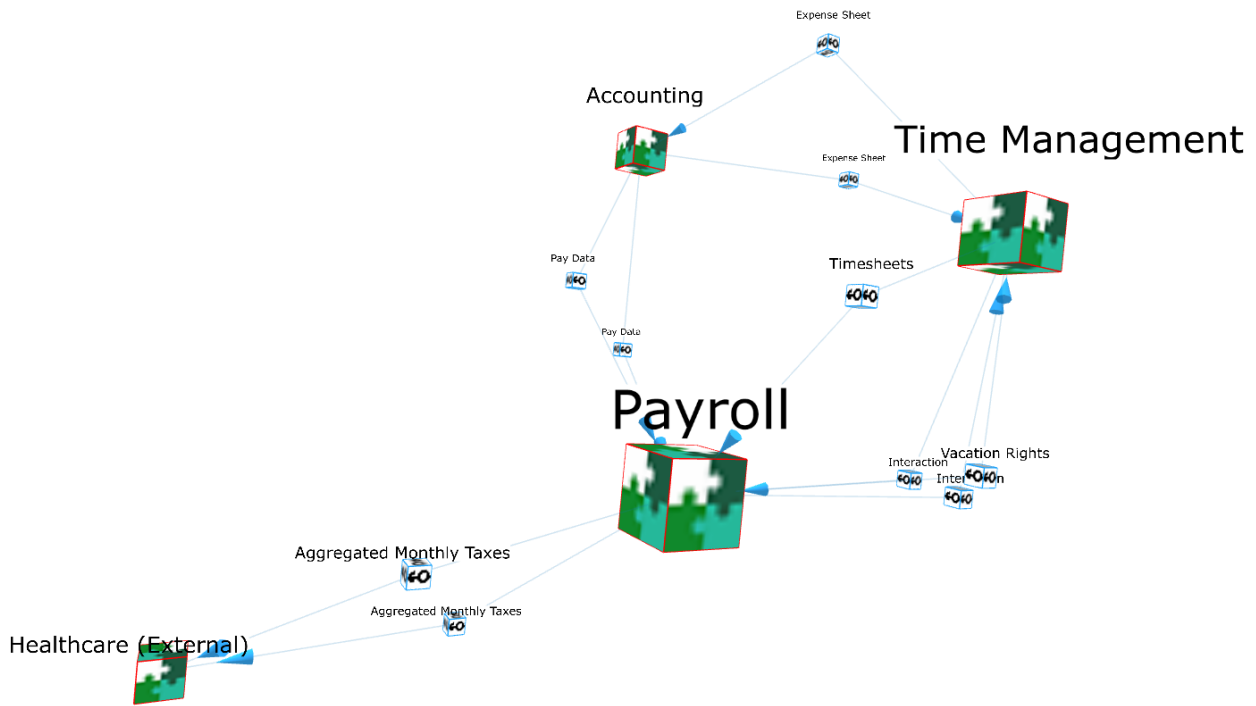
2.11.3. Property Pages

- New page for System Process
- New page for Software Technology

2.11.4. Reporting

- New graph report on scenario flows of an Agent (Application System, Application, IT Service etc.). This report is embedded in property page.
- New graph report on interactions of an Agent (Application System, Application, IT Service etc.). This report is embedded in property page.
- New graph report on scenario flows between Agents
- New graph report on interactions between Agents





2.11.5. Profiles

- Application Architect profile can't create process anymore (business or organizational)

2.11.6. Business Capability Diagram

Supply of Business Capability Tree diagram in HITA. Allows to draw diagram with nested Business Capabilities as it was possible with city planning area diagram.

2.11.7. Technical Architecture

Improvement of technical communications description (standard port number for application protocol, transport protocol, link technical ports to service/request point)

Supply of standard transport protocols with their standard port number.

New tile for Application System Technical Architecture

Improvement of Application Property Page to handle technical architecture and technical areas

2.11.8. Migration of Application Design features in IT Architecture

- HOPEX IT Architecture v2 contains now the UML notation, User Interface and Job/Batch modeling tools.

2.11.9. Removal of "Business Person"

- "Business Person" and responsibilities are migrated to Person (System) and assignment.

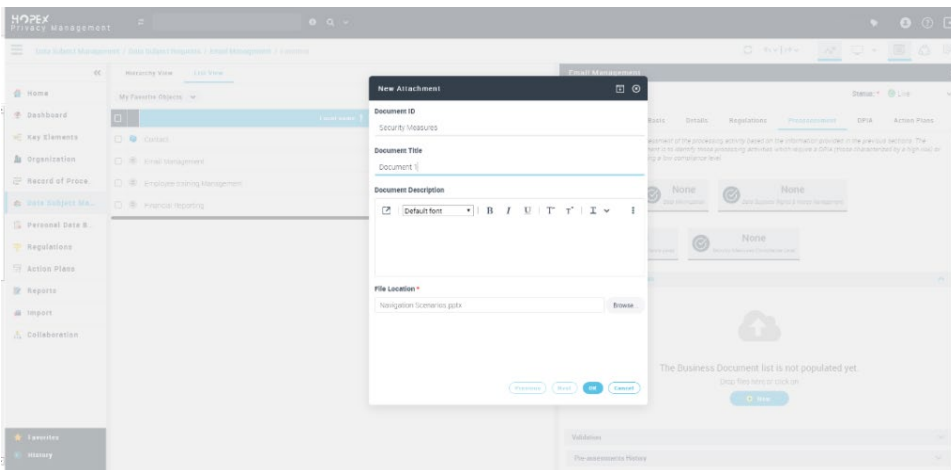
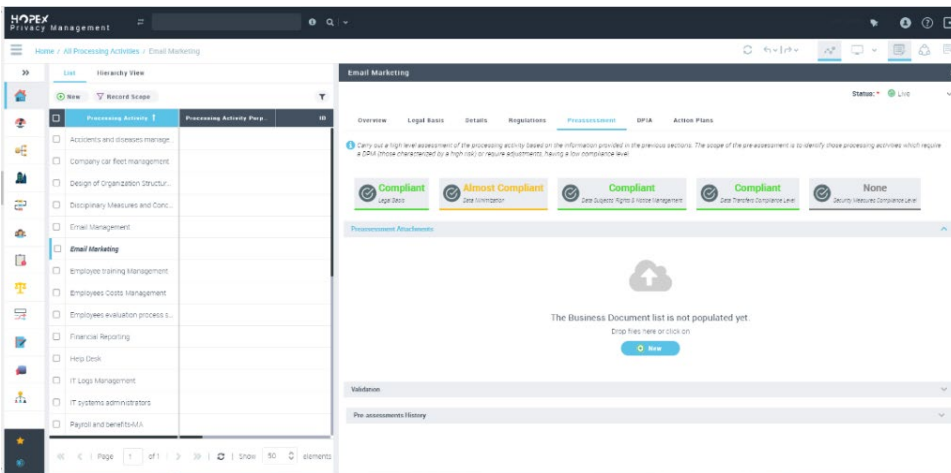
3. UX Improvements

3.1.. Drag & drop Multiple Business document

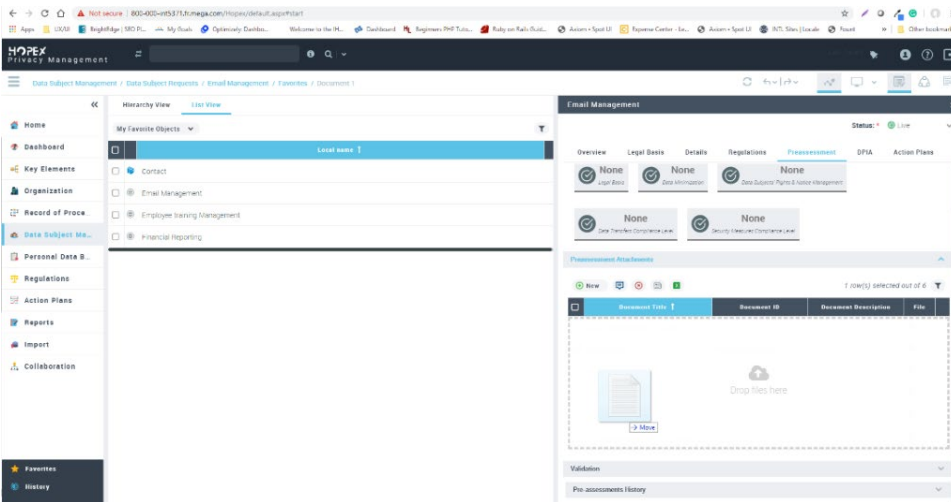
Currently in Hopex, if you want to add a file, the classical way is to go to attachment section of the item & then add files by clicking new.

We made this feature easier & faster. You can now add files by dragging & dropping from your PC into Hopex. Just select the files you want to attach & then drag them to attachment section.

If there is no data yet, an upload prompt underneath the table will allow the user to select files from their computer or drag a file into the application to begin the upload process.



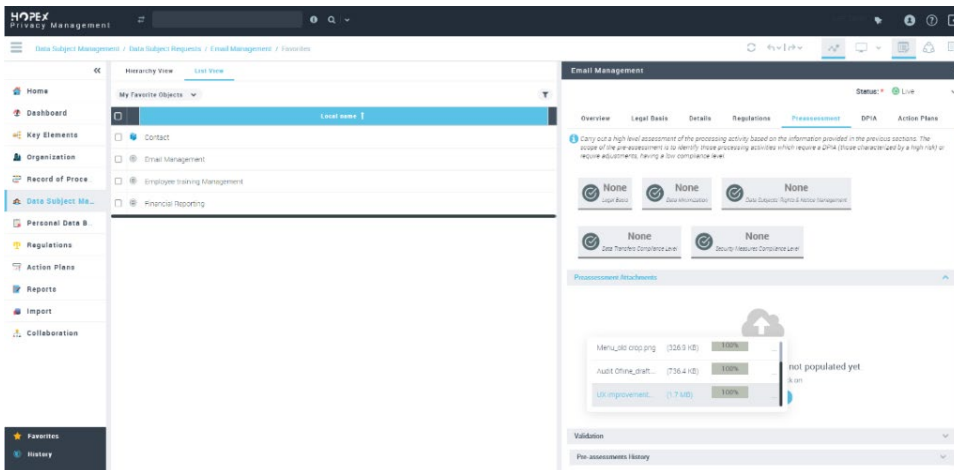
Horizontal insertion indicator and highlighting is used to show where content will reside when dropped.

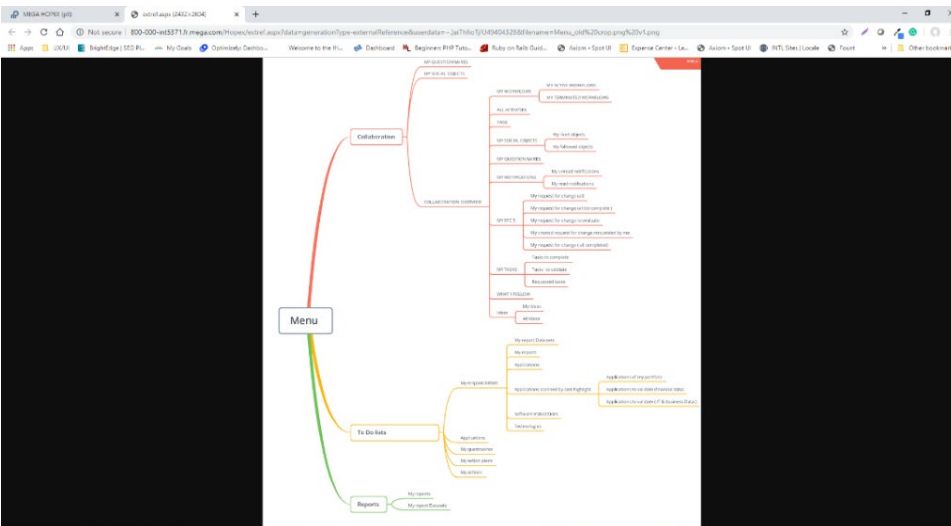
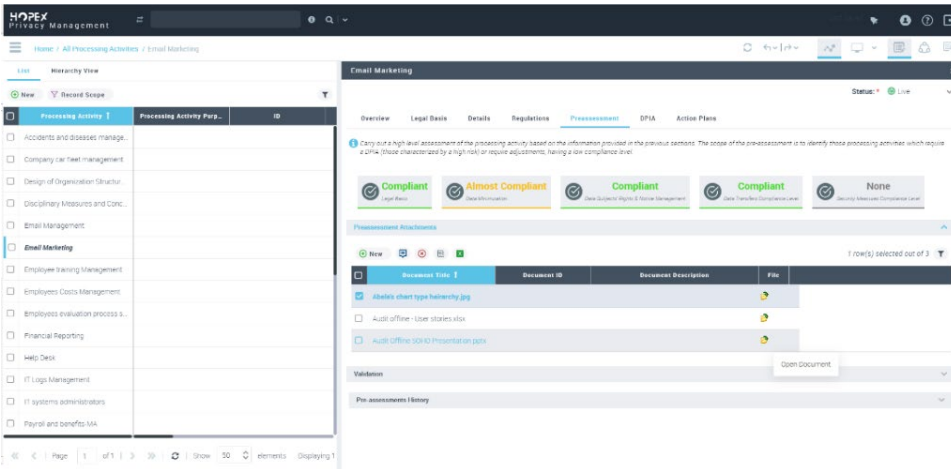
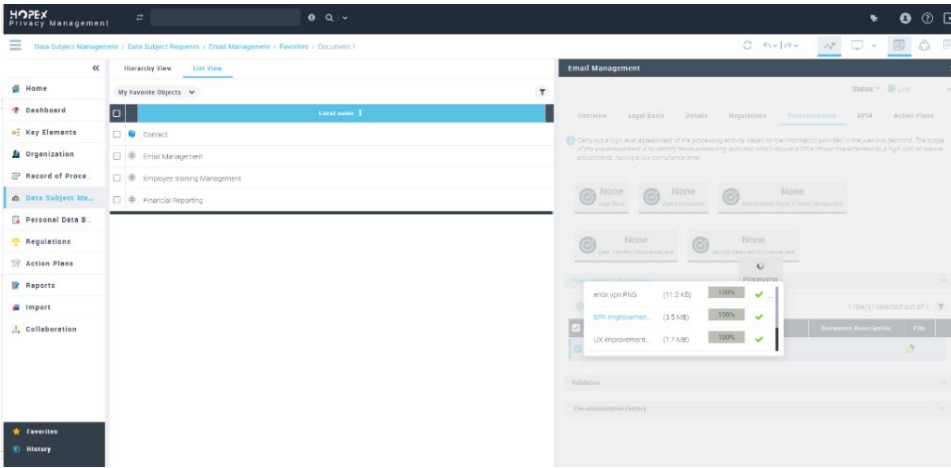


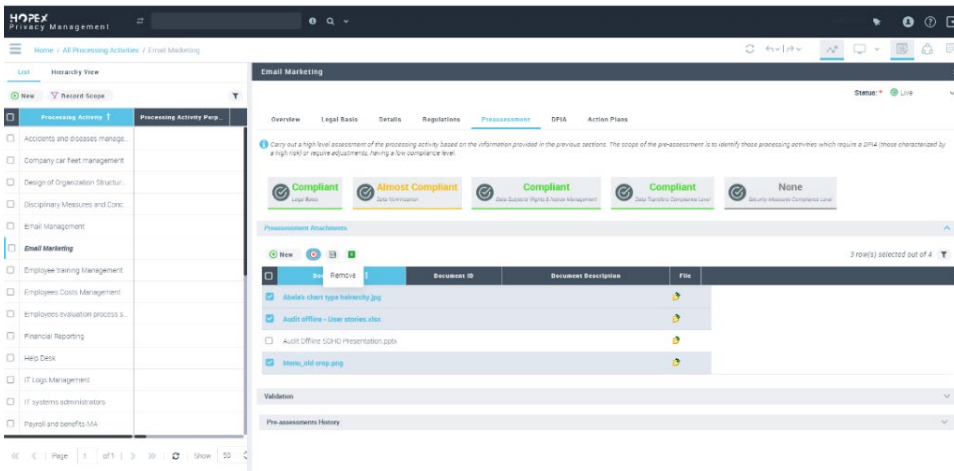
You can drop many files at a time & when the file starts uploading, then users will see the progression of the file & eventually you can cancel the upload if you decide to upload another file.

The completion status of the uploading file is shown with the percentage & green check mark appears on each file as soon as it is uploaded.

Once all the files are attached inside the section the popup disappears and all the files are shown a list allowing the user to open or delete the document if it is no more needed.

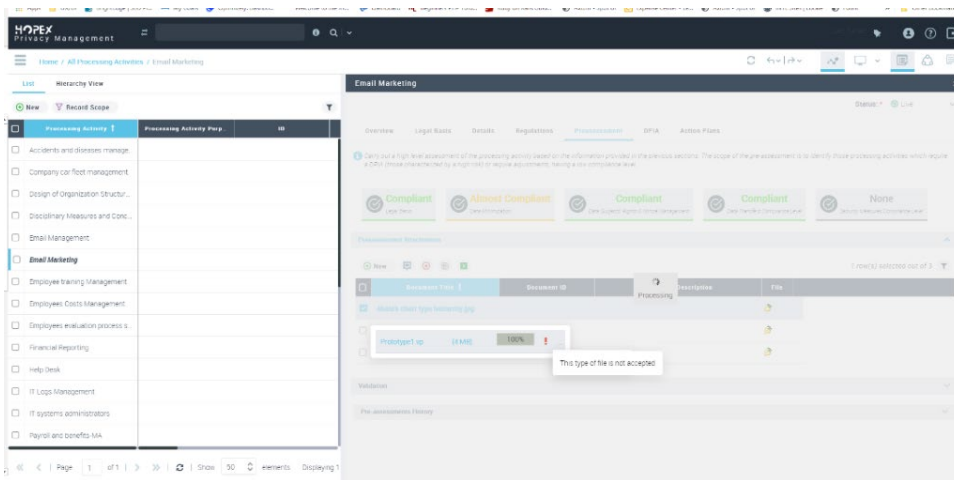




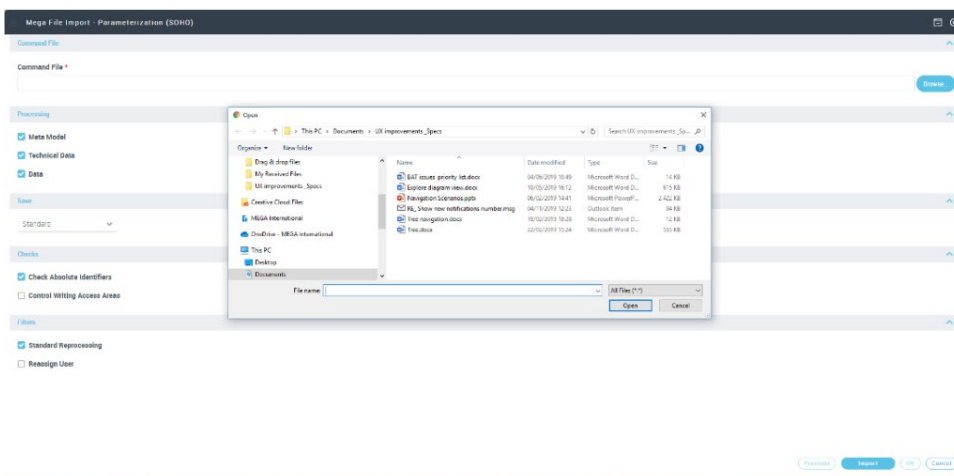


All the attachment sections where you can add business documents will now benefit from this feature.

The accepted type of file is specified on list level so that only those types of files are accepted when dropped on specific lists.



Uploading a file is simplified in overall platform by opening the system files directly without many popups.



3.2.. Full text search to refine your search results

Full search is now equipped with faceted search capabilities. HOPEX will now use faceted search navigation to add multiple filters to the result set.

Faceted search is a technique which involves augmenting traditional search techniques with a faceted navigation system, allowing users to narrow down search results by applying multiple filters based on faceted classification of the items. It is also called as “guided navigation”.

The new full search comes up with the ability to choose on which pane you want to display your search results.

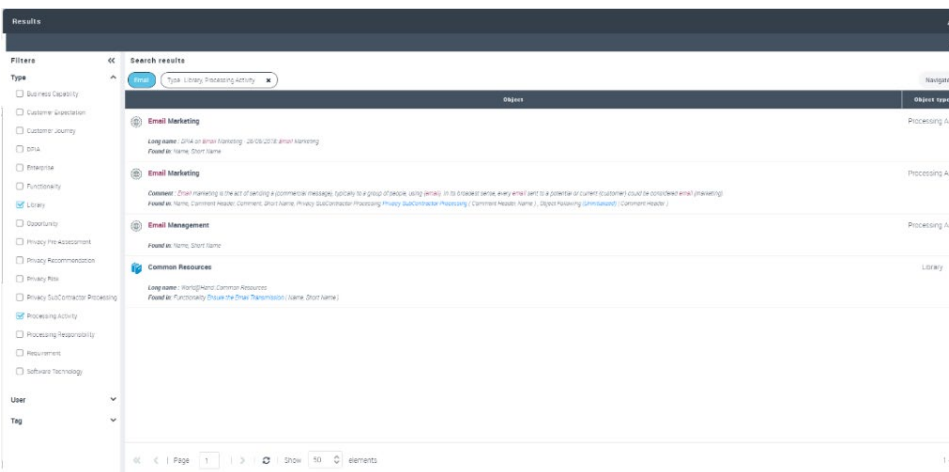
The two options to view results are:

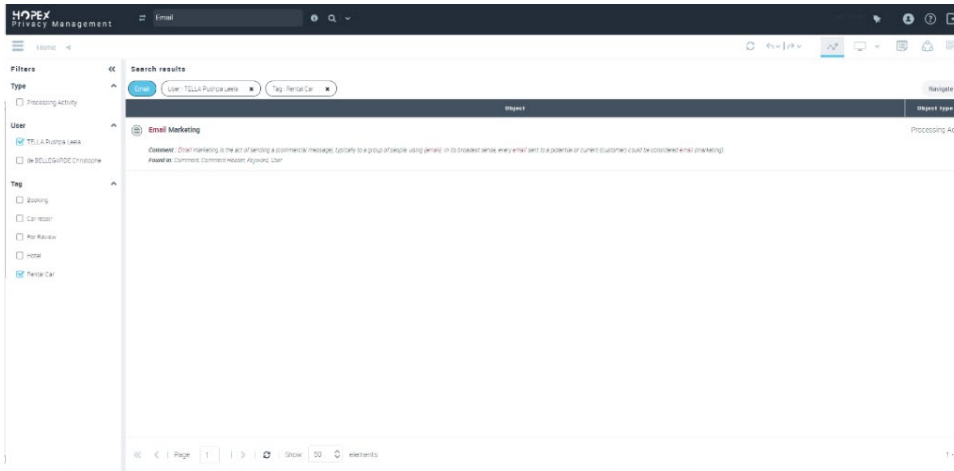
- Navigation pane
- Bottom pane

By default, bottom pane is selected, and users can select navigation pane if they want to replace their current navigation with the search results. Showing the search results on bottom pane will allow the user not to lose his current navigation & help them to use drag & drop items into the browse or properties panel. After refining your search results by using filters, if the user decides to navigate, he can click on “navigate” button on top of the lists and from there he can navigate to see the properties or use collaboration features.

You can minimize or maximize the search results page according to your need & the system saves the last option you selected.

For the basic user, who just wants to see search results and navigate from the results page, he can just select view pane as “browse” which will allow him to navigate right from the search results.



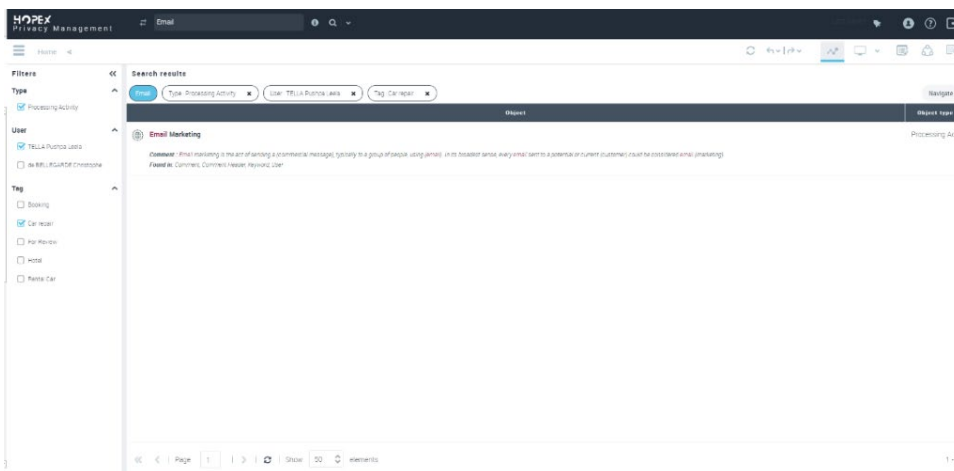


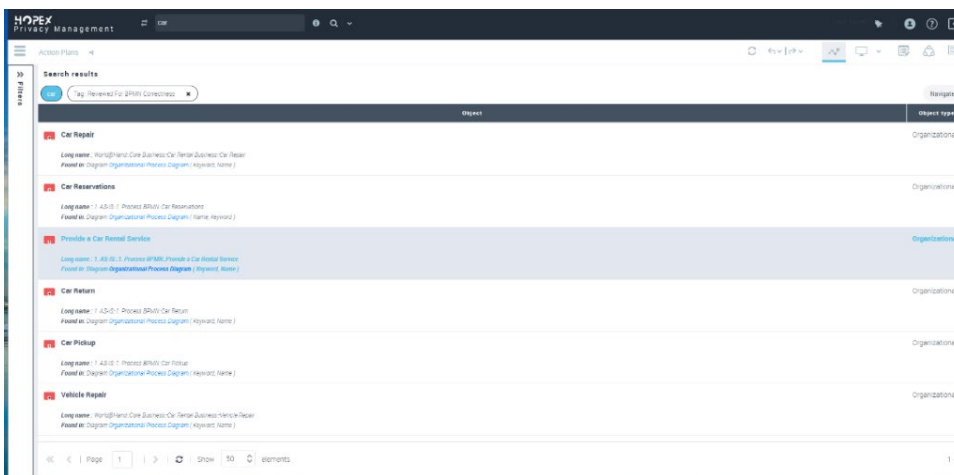
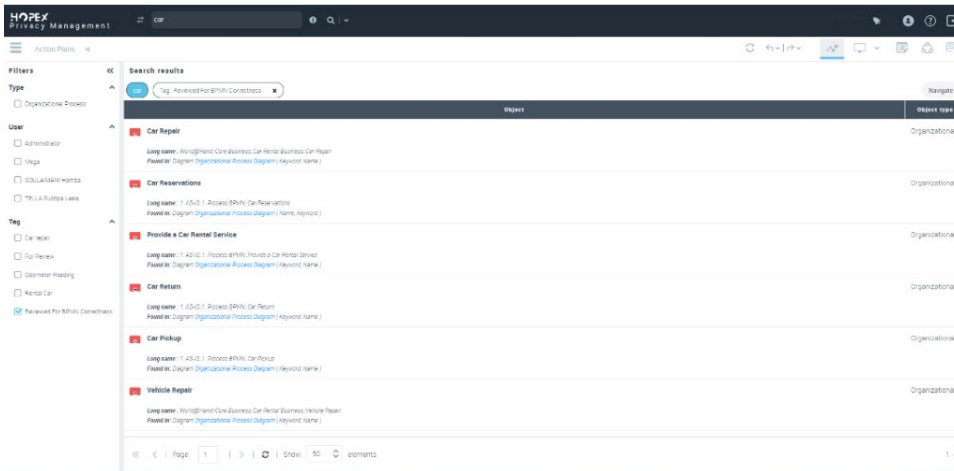
The filter panel on full search results will display dynamic list of facets which means that as soon as the user searches using a keyword, only the filters related to that keyword are shown.

Visibility rule followed:

Filters with non-zero results will be displayed to the end user.

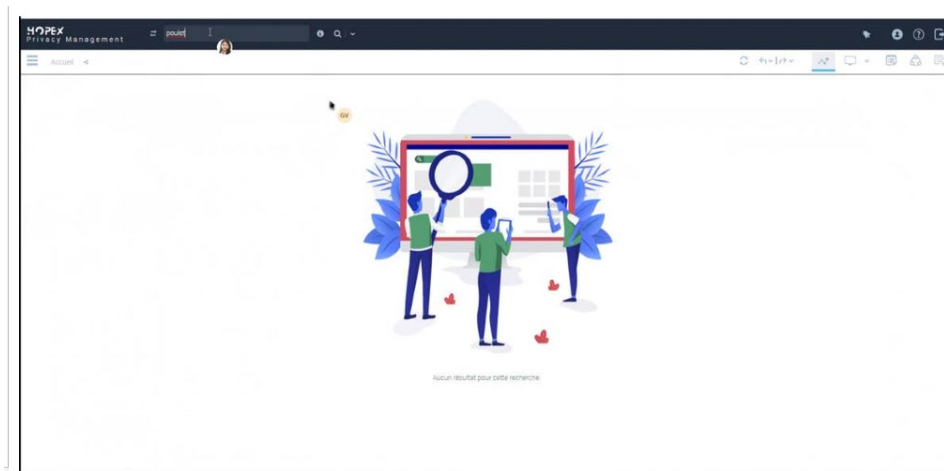
All the filters selected by the user are shown on top of the results page as tags allowing him to remove them easily from the results page.





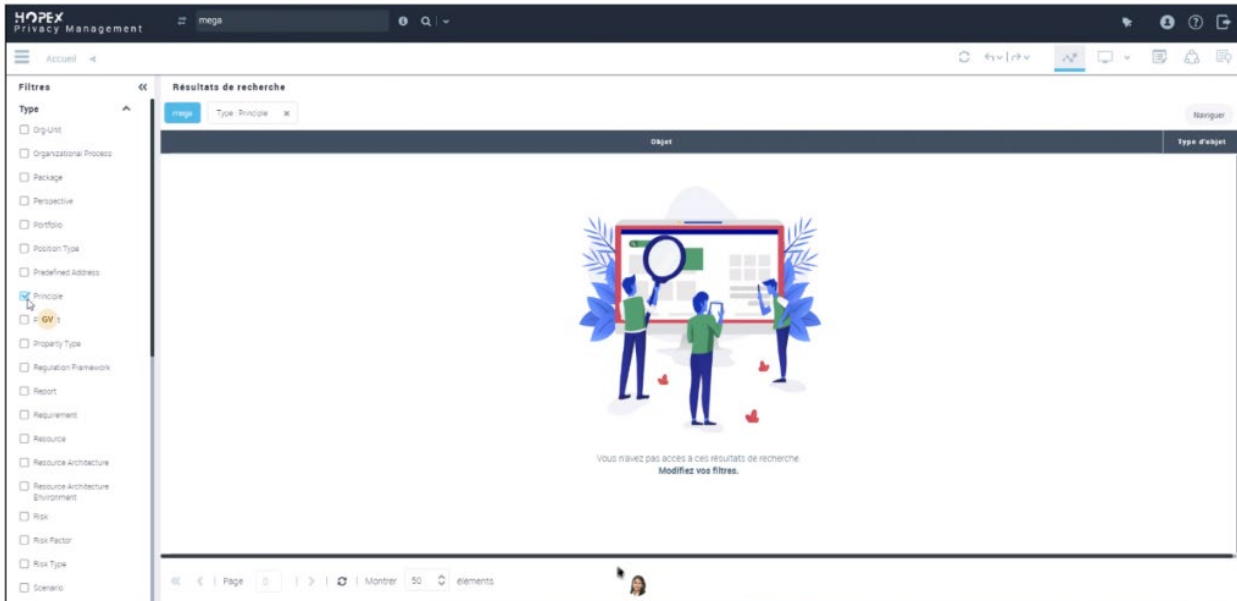
Currently you can see predefined Filter groups that are Object Type, User & Tags for a list of search results but in the next update we will be considering some other important filters which will be displayed according to the search keyword that you entered.

Added an image whenever you have zero results page to let the user know that the keyword entered is not available.



Handling access rights

If the user doesn't have access to certain objects, then a message is displayed to the user to let him refine his search as he doesn't have access to see the selected filter objects.



3.2.1. Full search with dynamic filters

The full search will now have more search filters according to the keyword the user entered. When the user doesn't have access rights to view the object or if the search results end up with zero results then appropriate image is displayed to end users in order to guide them in their search journey.

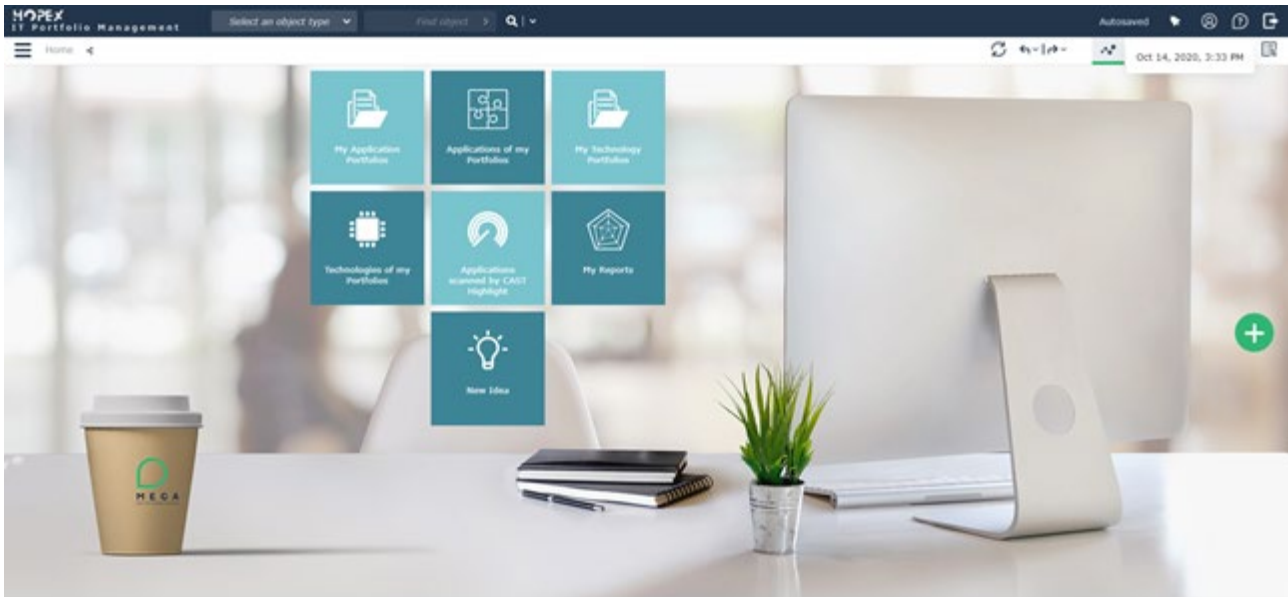


Technical info: We now have an ability to add other attributes either standard or custom as search filters by just making them as indexable attributes.

3.3.. Autosaved Indicator

When you are in public workspace where the system saves your modifications without obliging you to save, we will have an indicator on the top toolbar to let you know when the system saves your modifications.

This indicator will be displayed on top toolbar to indicate when it was last saved. This will allow them to assure that their modifications are not lost & the systems saves their changes.



3.4.. Diagramming improvements

3.4.1. Ability to maximize/Minimize diagram panel

We will now have the feature to maximize or minimize diagram panels, if you ever want to view or edit the diagram in full screen mode without distracting with other panels.

This feature is also available when you are in mutli view mode with many diagrams opened as tabs in middle diagram panel.

MEGA Business Process Analytics

Technical Architecture Diagram

Location	Current Date	Order Date	Current Number of Us...
Account	Retired		60.00
Account Management	Production		647,600.00
Account Payable			60.00
Accounting	Production		60.00
Accounting Link	Retirement		60.00
Accounts	Production		60.00
Accounts v2.0	Production		60.00
Advisor Client			60.00
Algorithmic Trading			60.00
Analytic Dashboard			60.00
APPICO.com			60.00
Application SCM			60.00
Application Support			60.00
Archived Manager			60.00
Assembly Manager			60.00
Asset Management			60.00
Asset Operations			60.00

Perroll:Accounting:Application Technical Architecture [Application Technical Architecture]

MEGA Business Process Analytics

Organizational Process Diagram

Location	Code	Status	Type	Business Process
Deliver Vacation Package (Reusable)				
Deliver Vacation Package (Standard)				
Deliver Vacation Package - Europe				
Deliver Vacation Package - Europe	P-TSA-01-01			Provide Vac...
Deliver Vacation Package - Europe1				
Deliver Vacation Package - US	P-TSA-01-02			Provide Vac...
Develop and implement human resources...	S-HR-01-02			Develop an...
Develop competency management models	S-HR-01-04			Develop an...
Develop human resources strategy	S-HR-01-01			Develop an...
Enroll from employer web...				
Enrollment				Master File...
Ensure Compliance With Legal Obligations				
Evaluate Selected Supplier				
Feedback Process				
Finalize & Issue Purchase Order	S-FO-02-03-02			
Find & Negotiate Airline Packages				
Find & Negotiate Hotel Packages				

L-AS-02-1: Process BPMN:Finalize & Issue Purchase Order [Organizational Process]

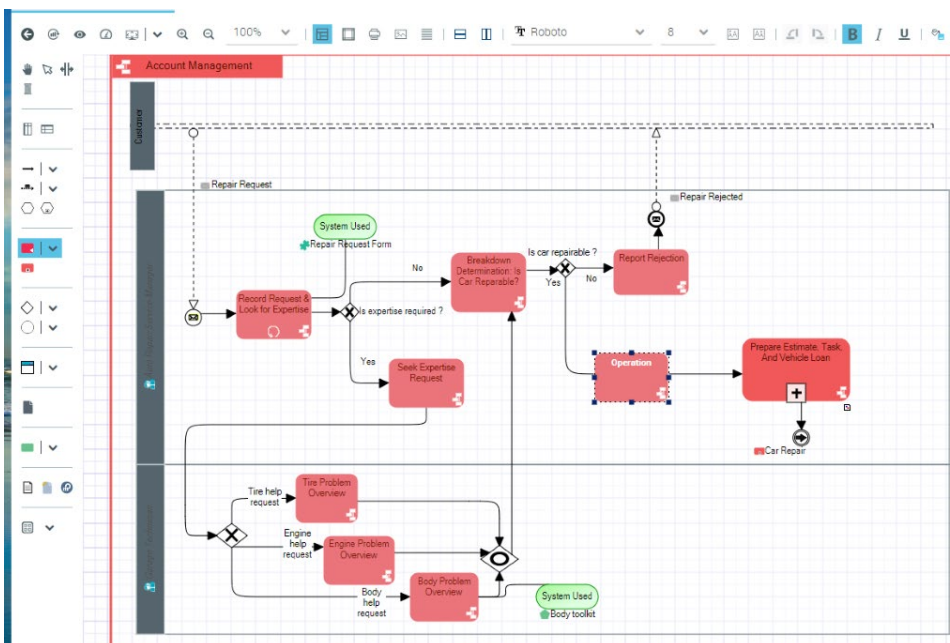
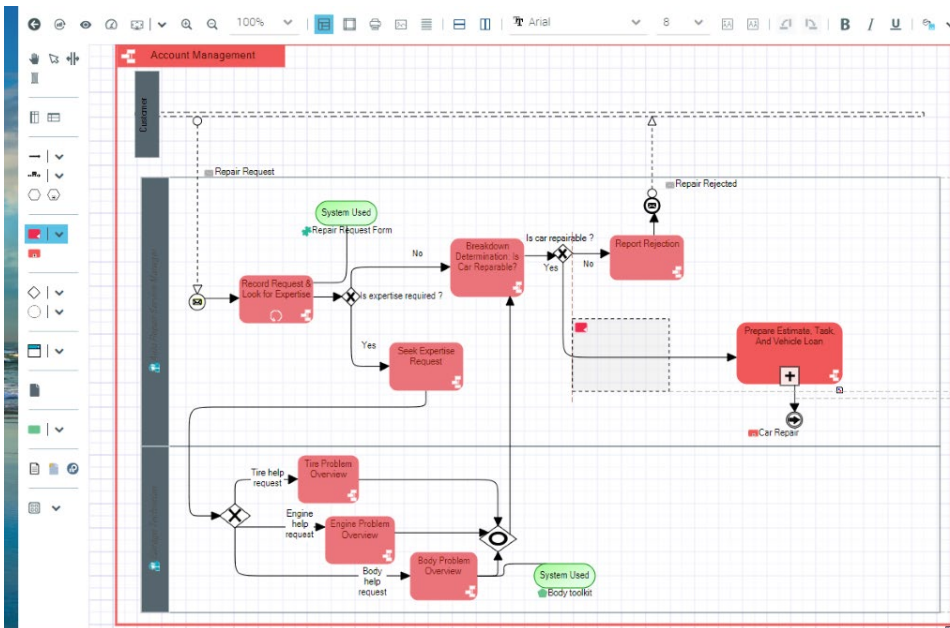
Organizational Process Diagram

L-AS-02-1: Process BPMN:Car Pickup [Organizational Process]

Car Pickup (1-AS-02-1: Process BPMN) - Organizational Process Diagram

3.4.2. Ability to insert a new activity within a sequence

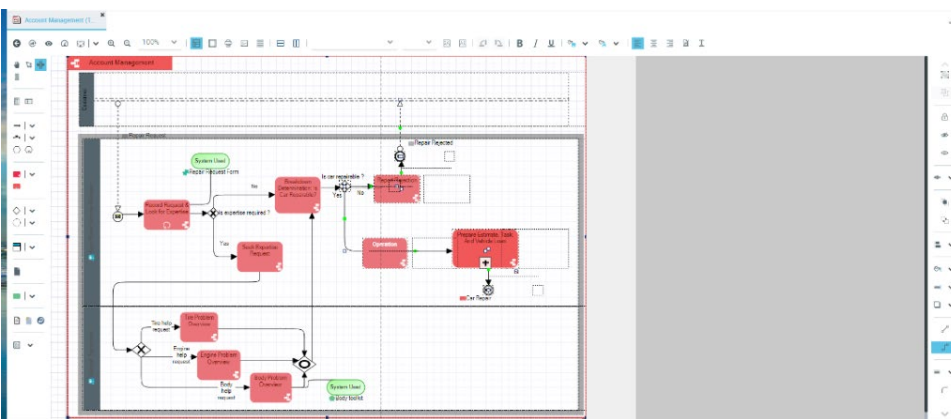
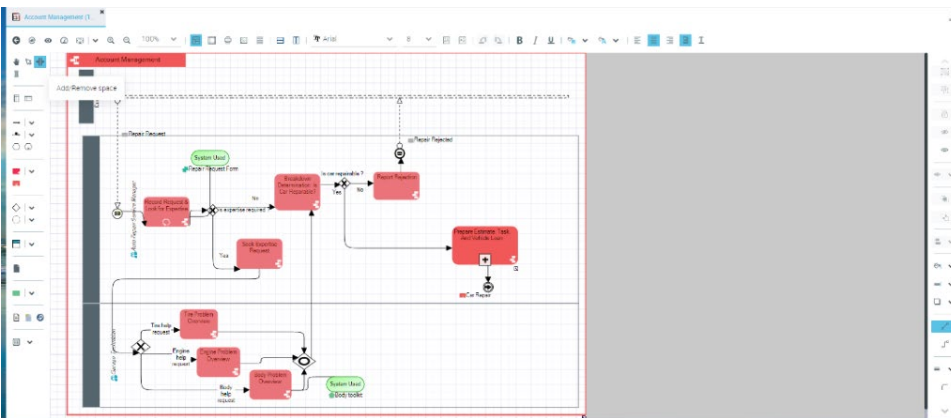
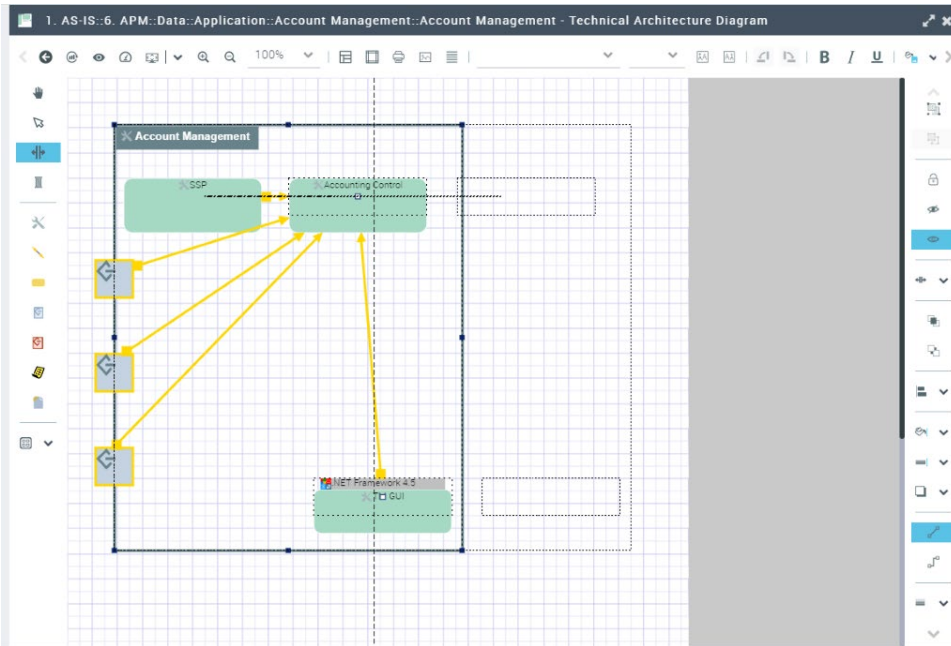
You can now add an operation in a sequence flow then it is added automatically. You can either place a new activity on top of the sequence flow or you can replace the existing activity to make connections automatically.



3.4.3. Add or remove empty space in the Diagram

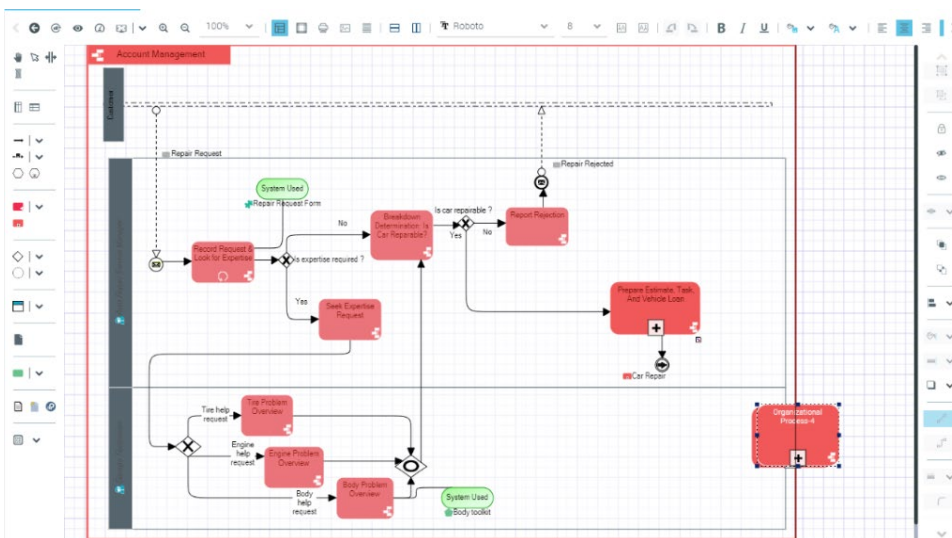
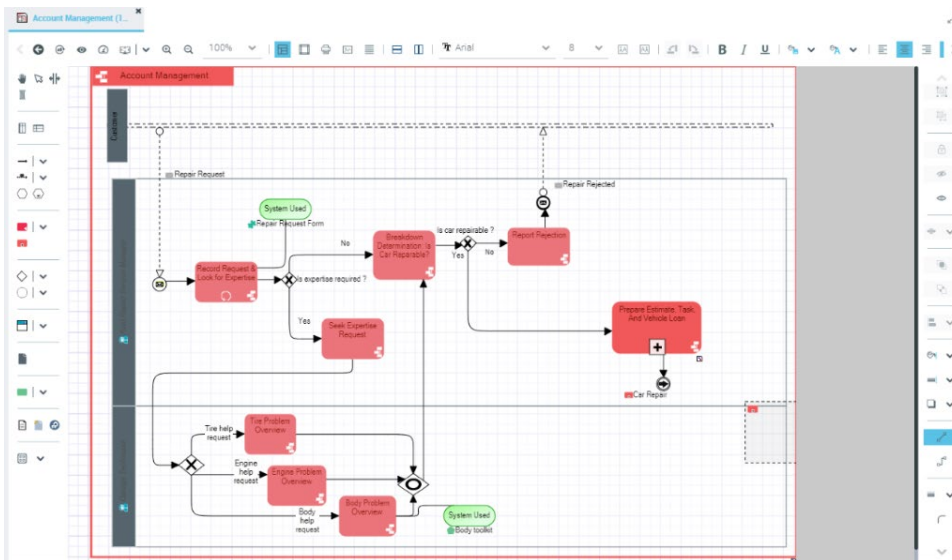
We now have new functionality to Push objects in a quadrant to make some space to new objects while modifying an existing diagram. This feature will allow the end user

to edit their diagrams faster by just making the space in between objects without moving one by one.



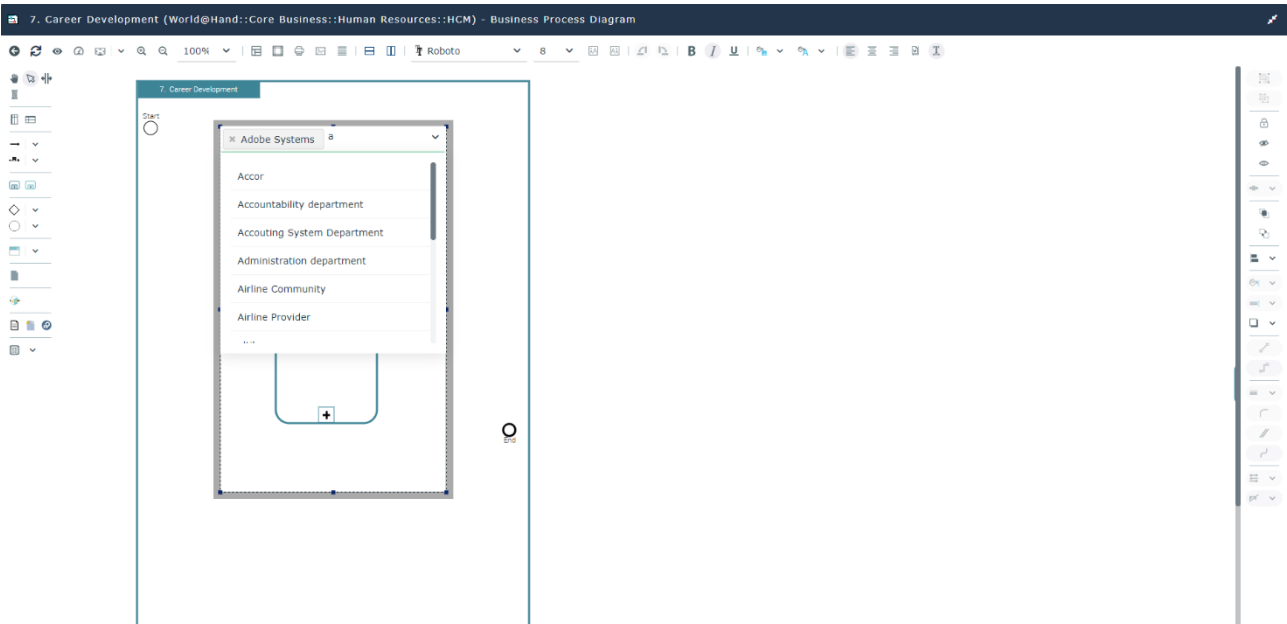
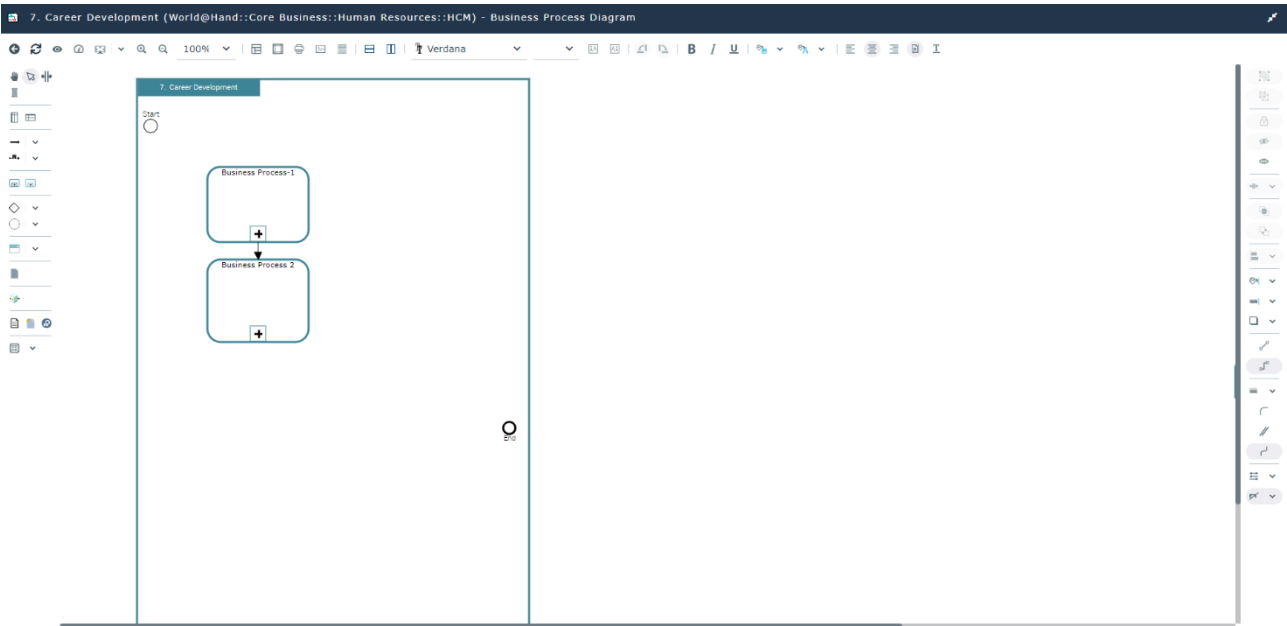
3.4.4. Automatic Page Add

when you place objects out of the page limits then the page is automatically added without asking the user to add page while modeling. The system will display preview of adding a new page when you place an object outside the current page limit. As soon as you leave the object, the new page is created.



3.4.5. In place edit on diagramming objects

The edition of diagramming objects is simplified by removing the long clicks and just double clicking on the text will take you to edition mode. When new object added to the diagram, the cursor is placed directed inside the cell to let the user edit the name instead of loading them with couple of popups to enter the name.



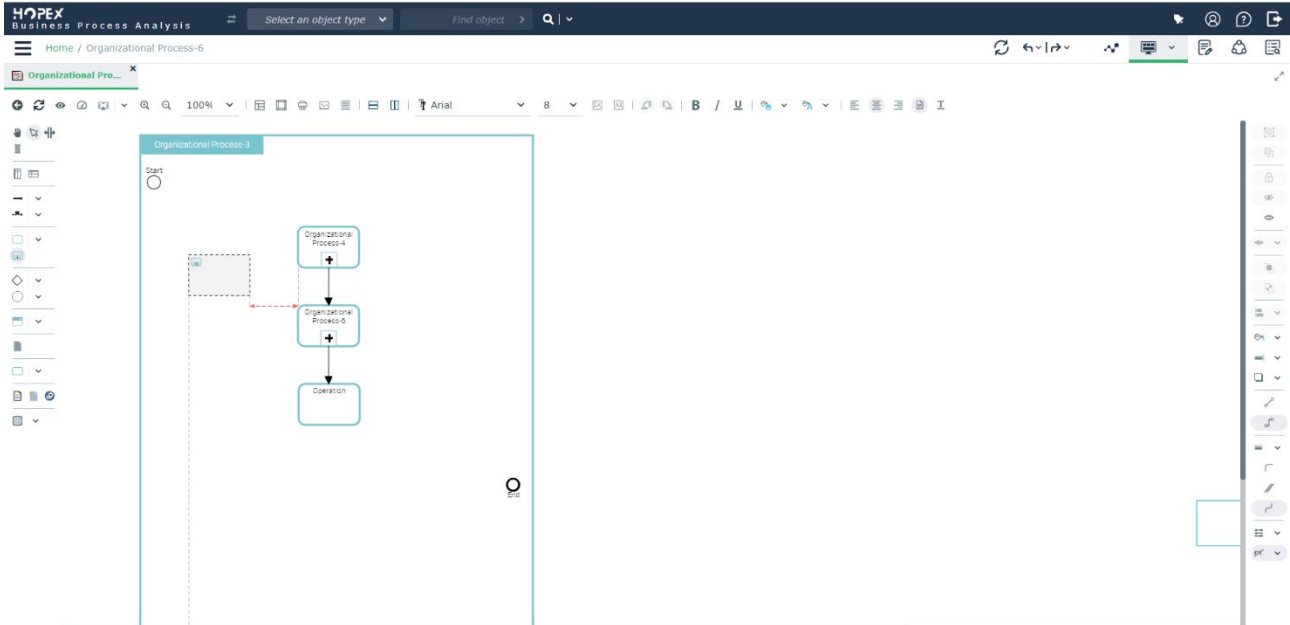
3.4.6. Drag & drop objects from the toolbar

The diagram creation is simplified but adding a new feature where user can now drag & drop objects & shapes from diagram toolbar inside diagram edition tool to create objects. This will reduce number of clicks and simplify user interface.

When you create objects without any wizard proposition then as soon as you drop objects your cursor is pointed inside the object created to edit the text (Example,

create business process or organizational process). The same behavior applies for objects dropped from the drop-down menu in the toolbar.

For the objects where the user should enter more than one mandatory field, then the in-place edition is not proposed but instead a popup appears where user should fill the fields which are required to create the object.

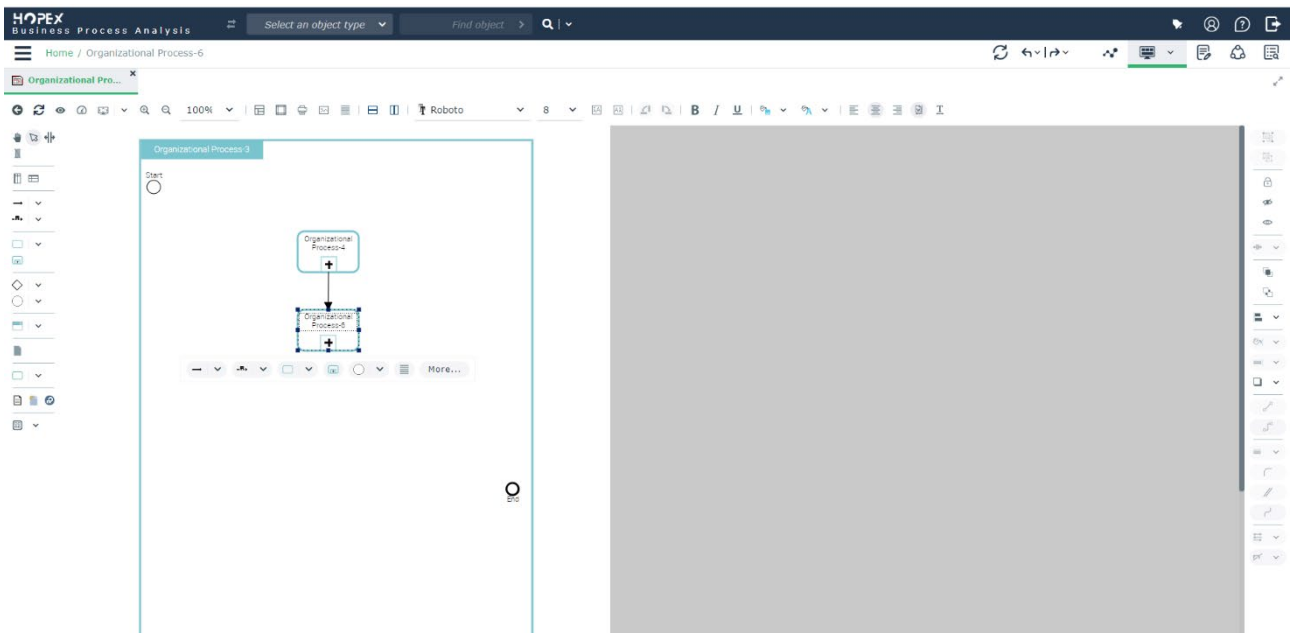


3.4.7. Select link popup is only shown after dropping an object

The Select link popup will be proposed only after dropping the graphical element, if users do not select the link after dropping then the “sequence flow “should be selected by default.

Add screenshots

Before, when an organizational process is selected from intellibar, the link selection popup will not allow you to add an organizational process. If users do not select the link after dropping, then the “sequence flow “should be selected by default.

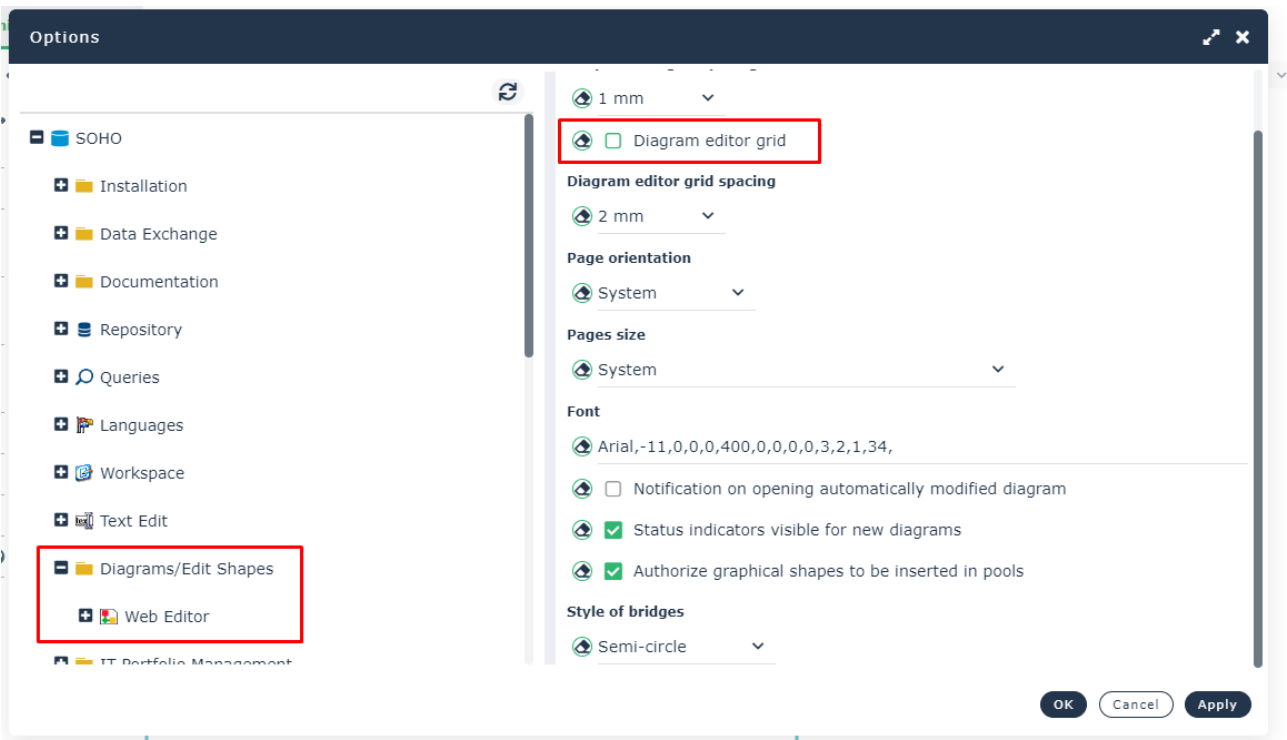
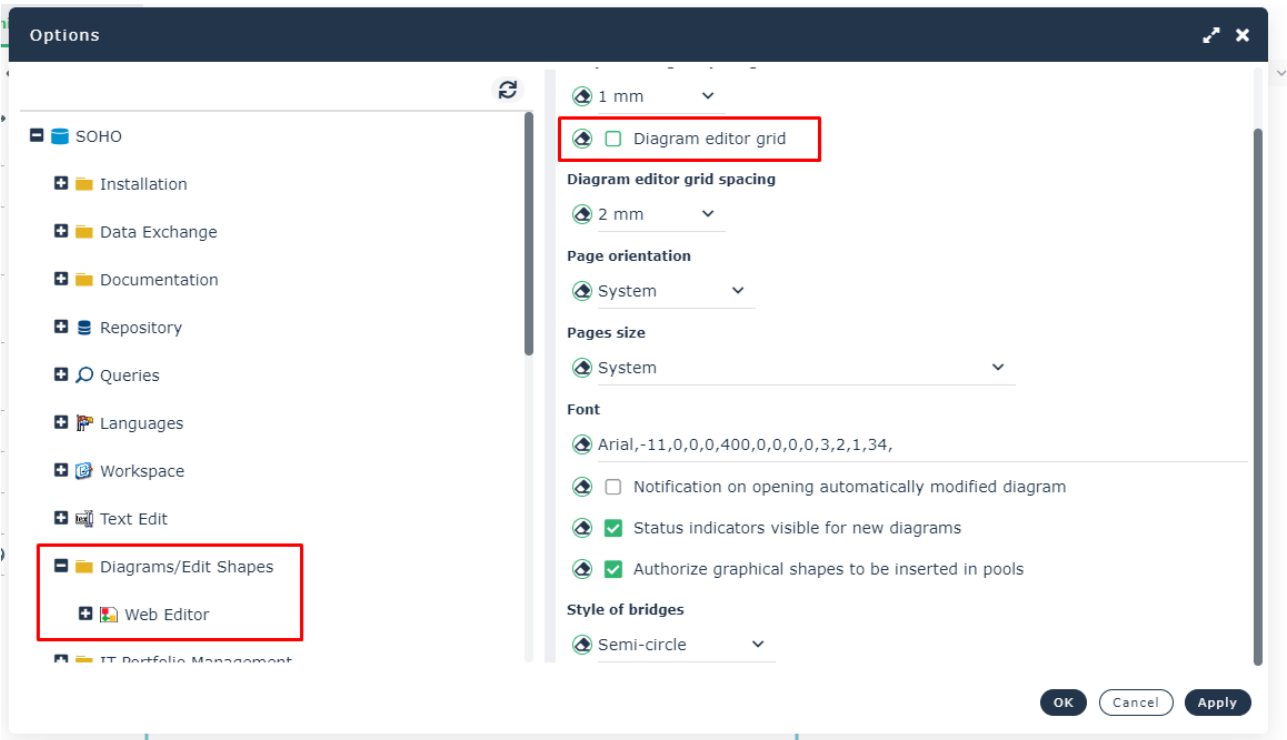


Available option :

Activer le choix du lien lors d'une création via l'IntelliBar

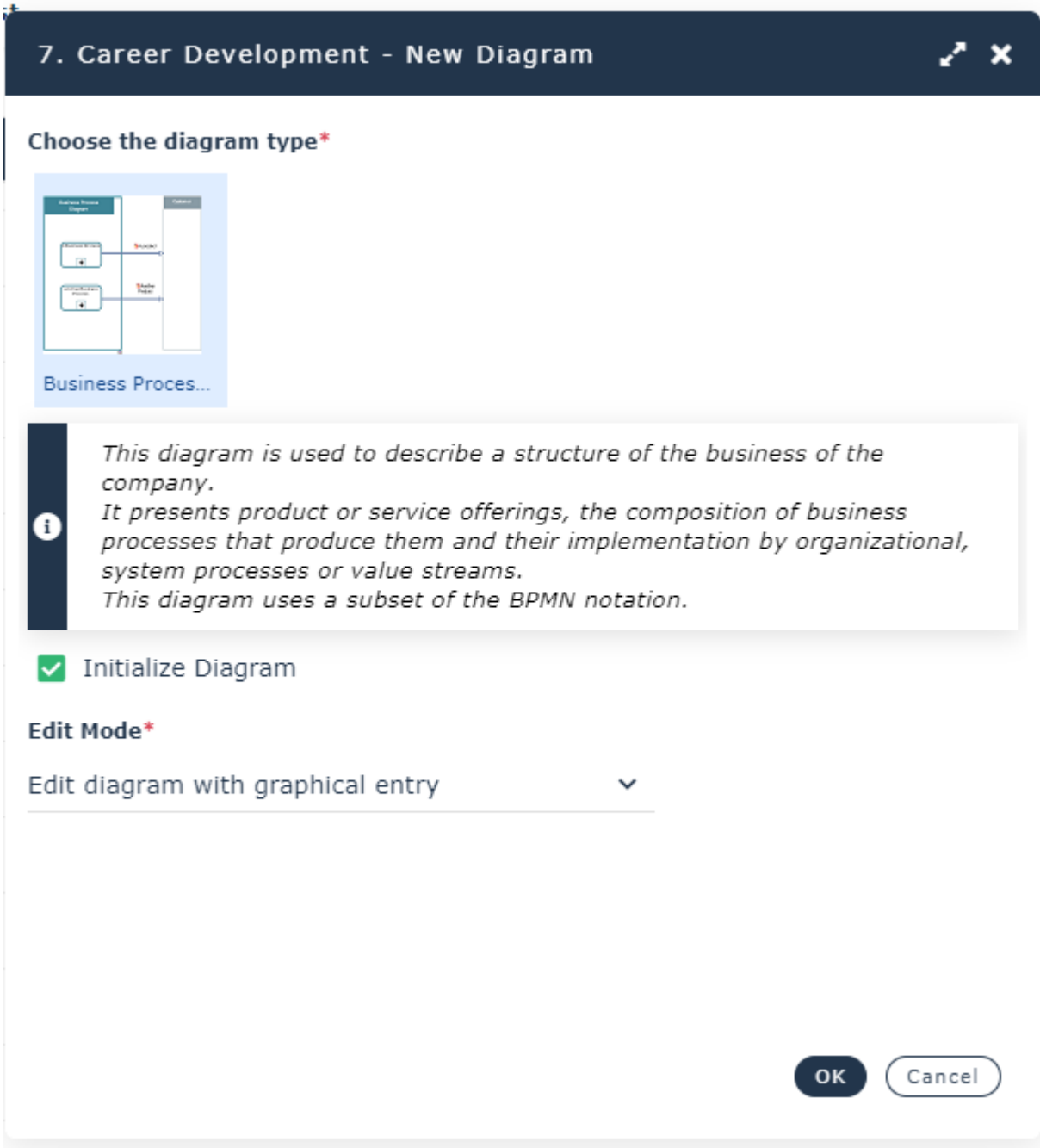
3.4.8. Diagram grid

The grid on the diagram is not visible by default to make the diagram editor clean & readable but the user can always add grids on the diagram editor if needed.



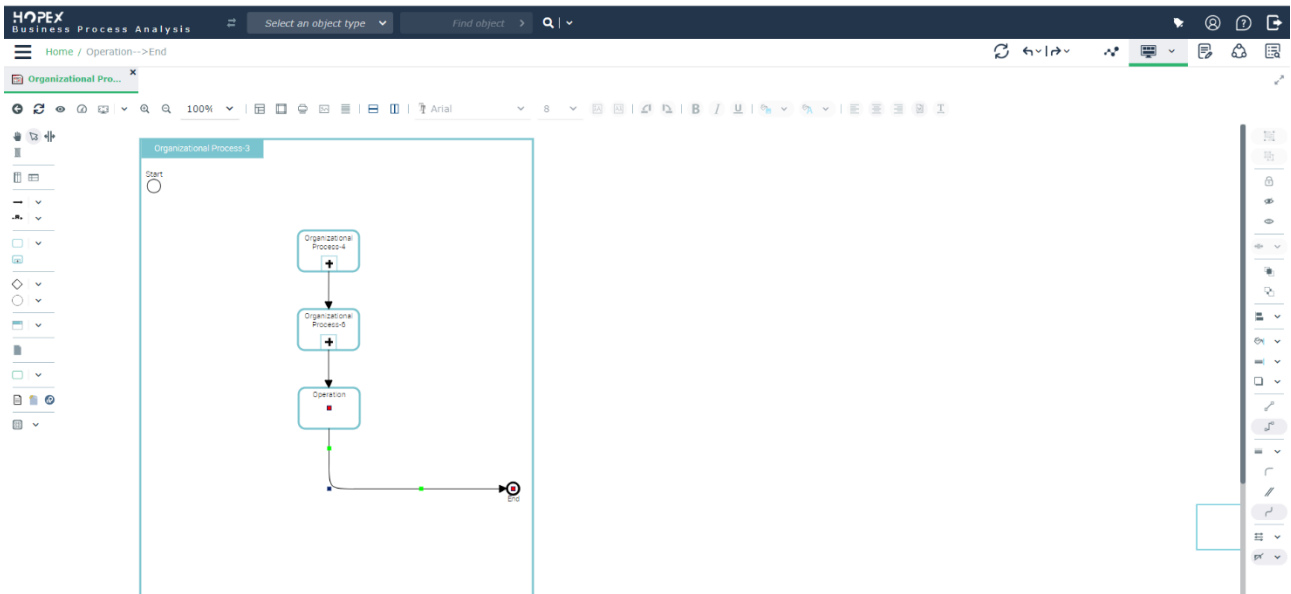
3.4.9. Diagram creation wizard

When there is only one diagram type then it will be selected by default without asking the user to select it in the diagram creation wizard.



3.4.10. Intelibar on links are simplified

We made orthogonal as default link and hidden the intellibar on links so that it doesn't hide other objects in the diagram. There is an option if the client really wants to see the intellibar on links. By default, this option is not activated.



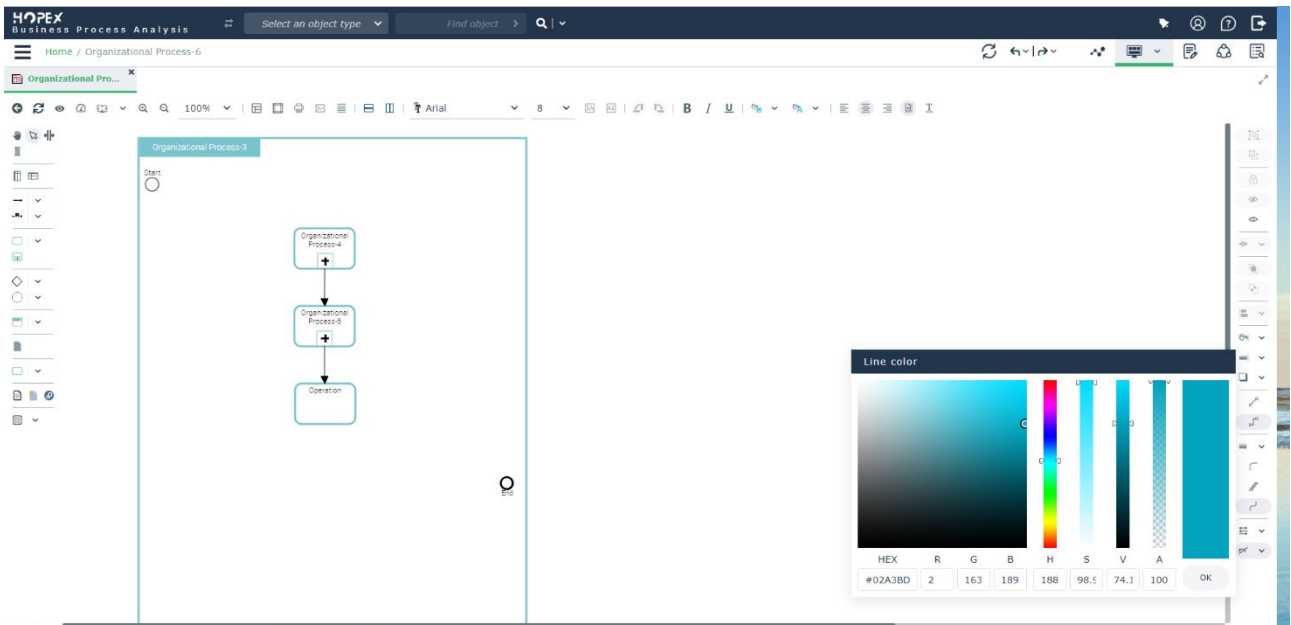
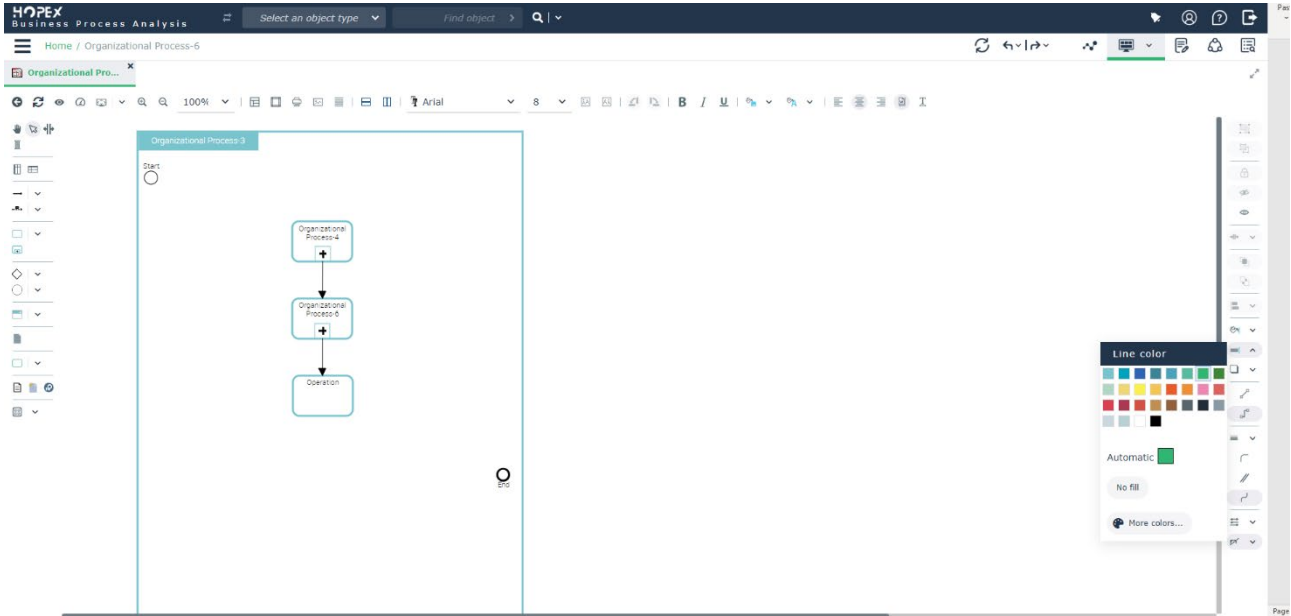
3.4.11. Gateway predicate on diagram edition mode.

To have a zone sensible to add predicate directly in the diagram. Added an indicator and on double click will place the user’s cursor inside so that he can enter the text.

With this improvement you can edit the predicate text directly in the diagram rather than going into the property page.

3.4.12. Color selection of diagramming objects is simplified.

We simplified the color selection in diagram edition by proposing the standard color palette colors and then there would be "more colors" where user can either enter hex or RGB code if he has them on hand or just choose the color he wants to use on the shapes from the colour palette.



3.5.. Floating toolbar icons

The diagram concerning icons in the floating toolbar will now only shown when the type of items has diagrams. If the items never have diagrams, then the icons will not be shown.

Processing Activity	Processing Activity Purpose	ID	Legal Entity	Department	Data Protection
Accidents and diseases management		HQ-PH-1	HCorp HQ	Finance	Data Control
Company car fleet management		OH-TS-1	HCorp China	Technical Supp...	Data Control
Disciplinary Measures and Conciliation		OH-TS-2	HCorp China	Technical Supp...	Data Control
Email Management		HQ-ES-1	HCorp HQ	Information Tec...	Data Control
Event Marketing		CS-MK-1	HCorp De/Berna	Marketing	Data Control
Employee Training Management		OH-TS-3	HCorp China	Technical Supp...	Data Control
Employee Costs Management		HQ-MH-2	HCorp HQ	Finance	Data Control
Employee evaluation process support		HQ-IT-2	HCorp HQ	Information Tec...	Data Control
Financial Reporting		HQ-FIN-3	HCorp HQ	Finance	Data Control
Help Desk		OH-TS-4	HCorp China	Technical Supp...	Data Control
IT Logo Management		HQ-IT-3	HCorp HQ	Information Tec...	Data Control
IT systems administrators		HQ-IT-4	HCorp HQ	Information Tec...	Data Control
Payroll Management		HQ-PH-4	HCorp HQ	Finance	Data Control
Pay slips and fees preparation		HQ-MH-1	HCorp HQ	Human Resourc...	Data Control

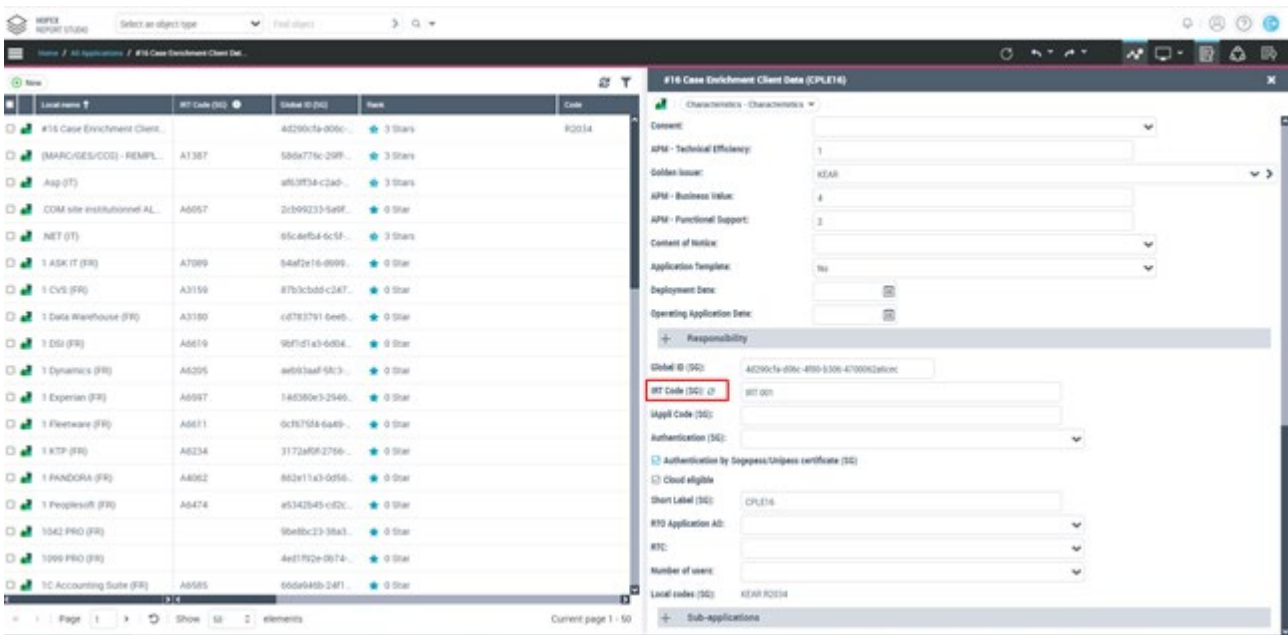
3.6.. Calculated attributes UI

3.6.1. Columns with calculated attributes in Lists

	Local name ↑	Project Manager	Planned (Hours) ●	Worked (Hours) ●	Remaining (Hours) ●	Budget	Status	Remaining (Days) ●	Worked (Days) ●	Planned (Days) ●	Planned Project Nature
<input type="checkbox"/>	0-Internal Projects	CEDARD Christo...	664	4483	539		Opened	68	561	83	Root
<input type="checkbox"/>	Functional projects	CEDARD Christo...	2390	2696	0		Opened	0	337	299	Root
<input type="checkbox"/>	Industrial projects	GARNIER Pierre	96	0	96		Opened	12	0	12	Root
<input type="checkbox"/>	Platform projects	CEDARD Christo...	8898	8078	1208		Opened	151	1010	1113	Root
<input type="checkbox"/>	V4 - Training	CUILLERIER Fra...	0	0	0		Opened	0	0	0	Documentation (Doc)
<input type="checkbox"/>	V4 - Doc	CUILLERIER Fra...	1788	945	911		Opened	114	119	224	Documentation (Doc)

	Local name ↑	Project Manager	Planned (Hours)	Worked (Hours)	Remaining (Hours)	Budget	Status	Remaining (Days)	Worked (Days)	Planned (Days)	Planned Project Nature
<input type="checkbox"/>	x V3.0 - Doc	CUILLERIER Fra...									
<input type="checkbox"/>	x V3.0 - Training	CUILLERIER Fra...									
<input type="checkbox"/>	WEB API	GIBELIN Laurent									

3.6.2. Property page with calculated attributes



3.7.. New centralized color palette

We introduced different types of palettes in HOPEX interface so that all the solutions are homogenous in all solutions and the reports will be beautiful & readable.

By this improvement, it is easier to update color palette on different areas in HOPEX.

Below are 7 type of palettes introduced

1. Desktop Palette
2. Report Palette
3. Indicator Palette
4. Gradient Palette
5. Frequency Palette
6. Ranking Palette
7. Home page Tiles Palette

The palette used in the desktop is the standard color palette that has been used wherever we have color picker in the application. In V4, desktop & reporting palettes are both same.

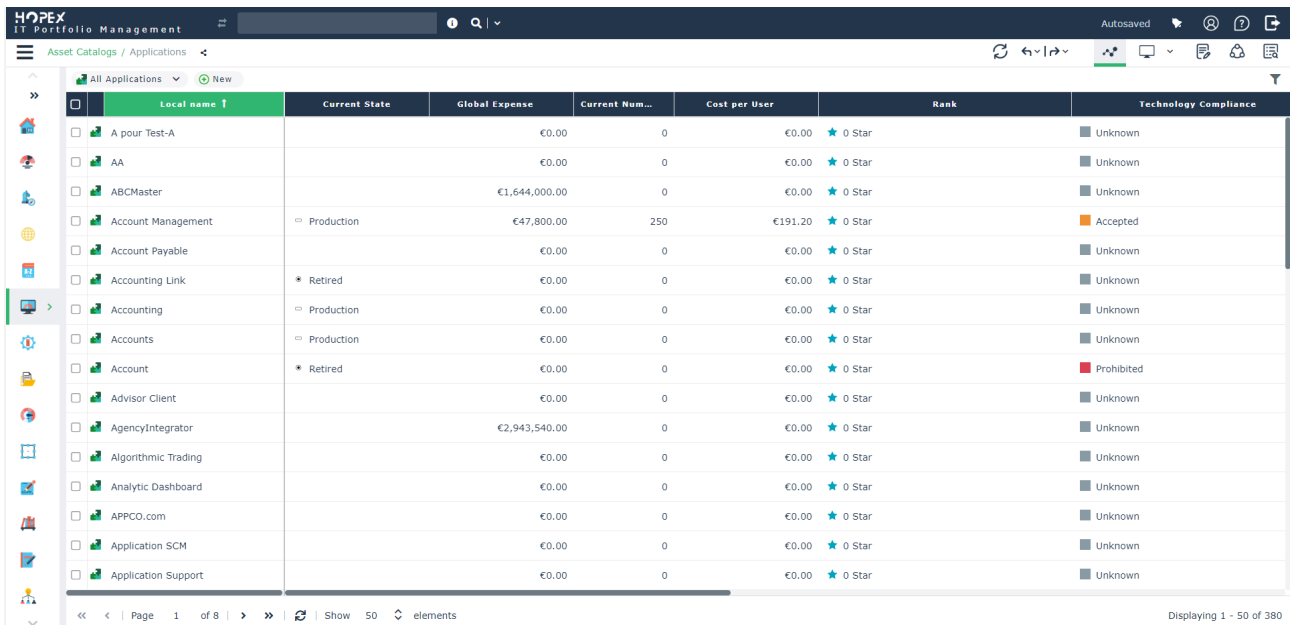
The palette Indicator, Frequency, Ranking & Gradient are normally attributes where the colors are proposed to indicate a value.

We introduced new field called as "Palette color identifier" which will list you to choose different types of palettes available according to the need.

This improvement will allow us to change the color palette easily and all the attributes which use the palette concern will be automatically updated without much effort.

3.7.1. Updated color palette of the desktop

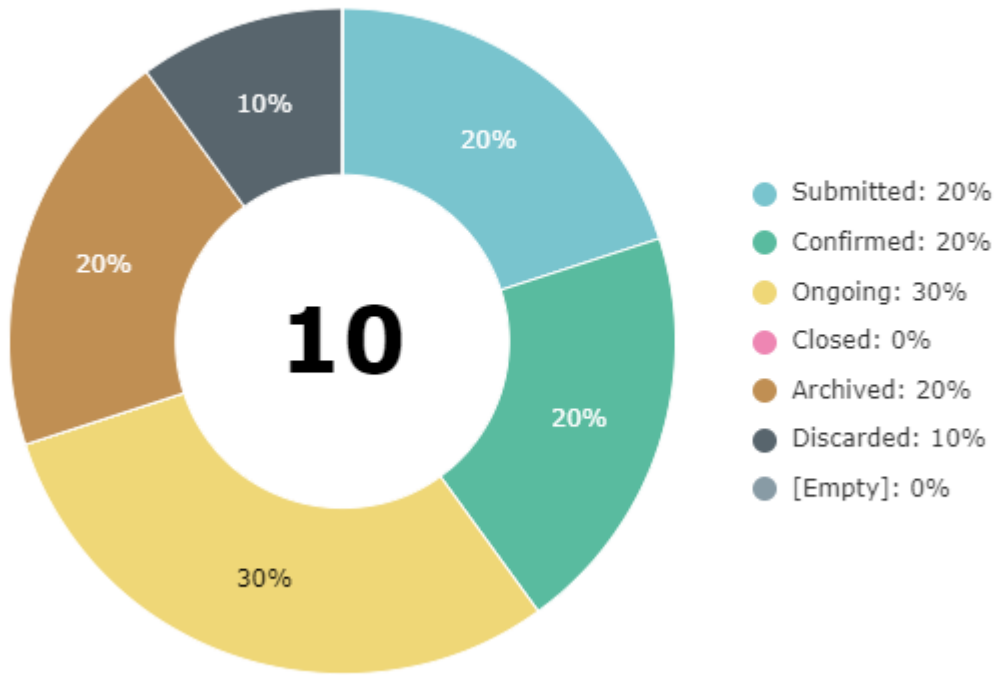
Universal desktop V2 is updated with new color palette colors which includes, text color, buttons, headers etc will now aligned with reports & attribute colors.

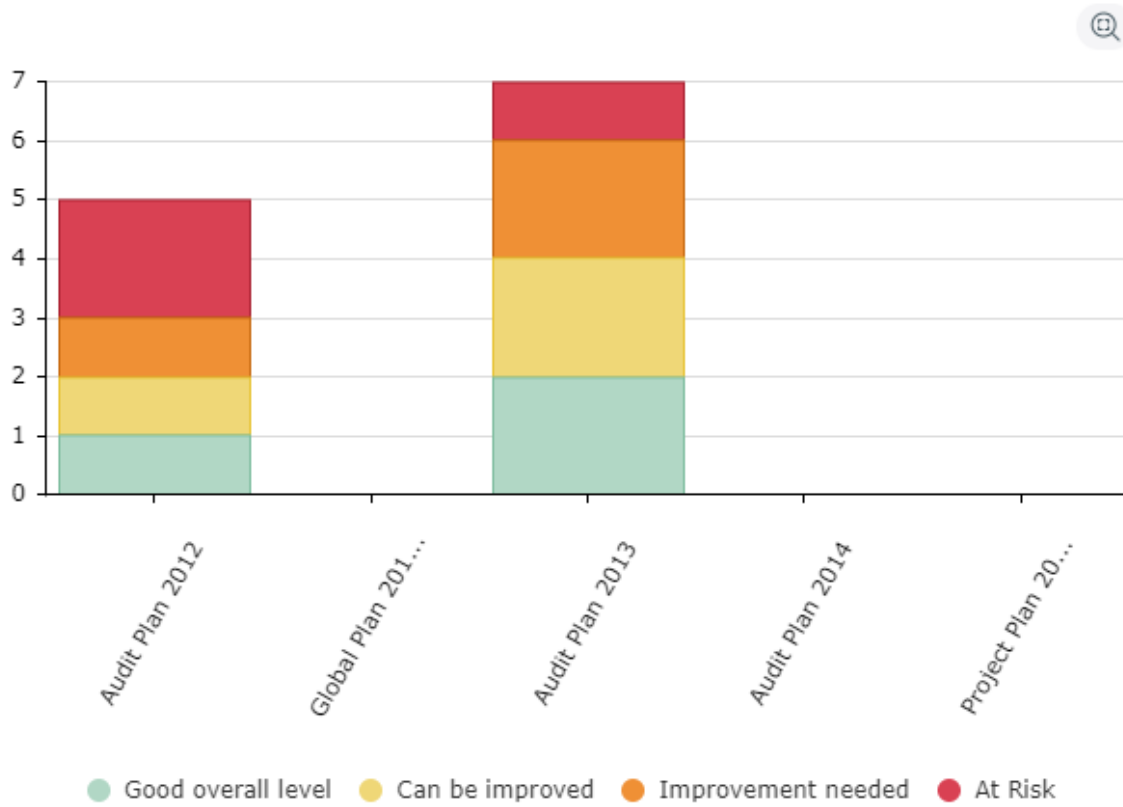


Local name ↑	Current State	Global Expense	Current Num...	Cost per User	Rank	Technology Compliance
A pour Test-A		€0.00	0	€0.00	★ 0 Star	Unknown
AA		€0.00	0	€0.00	★ 0 Star	Unknown
ABCMaster		€1,644,000.00	0	€0.00	★ 0 Star	Unknown
Account Management	Production	€47,800.00	250	€191.20	★ 0 Star	Accepted
Account Payable		€0.00	0	€0.00	★ 0 Star	Unknown
Accounting Link	* Retired	€0.00	0	€0.00	★ 0 Star	Unknown
Accounting	Production	€0.00	0	€0.00	★ 0 Star	Unknown
Accounts	Production	€0.00	0	€0.00	★ 0 Star	Unknown
Account	* Retired	€0.00	0	€0.00	★ 0 Star	Prohibited
Advisor Client		€0.00	0	€0.00	★ 0 Star	Unknown
AgencyIntegrator		€2,943,540.00	0	€0.00	★ 0 Star	Unknown
Algorithmic Trading		€0.00	0	€0.00	★ 0 Star	Unknown
Analytic Dashboard		€0.00	0	€0.00	★ 0 Star	Unknown
APPCO.com		€0.00	0	€0.00	★ 0 Star	Unknown
Application SCM		€0.00	0	€0.00	★ 0 Star	Unknown
Application Support		€0.00	0	€0.00	★ 0 Star	Unknown

3.7.2. Updated color palette of reports

Pie Chart Data





Impact/Likelihood

	Rare	Possible	Likely	Probable	Certain	Sum
Very High	0	0	0	0	0	0
High	0	0	0	0	0	0
Medium	0	0	0	0	0	0
Low	0	0	0	0	0	0
Very Low	0	0	0	0	0	0
Sum	0	0	0	0	0	0

3.7.3. Indicator type colour palette

All attributes which are type indicators will now have same colors making the colors homogenous.

Company Standard

■ Prohibited ▼

■ Approved

■ Accepted

■ Prohibited

■ Unknown

Priority

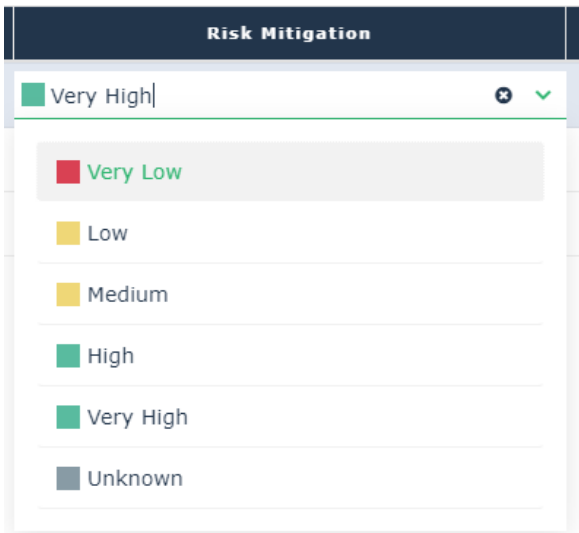
■ Medium ✕ ▼

■ Critical

■ High

■ Medium

■ Low



3.7.4. Automatic Conversions

All Meta attributes type indicators are now converted to use new color palette of type indicator. Approximately 1200 attributes are converted.

3.8.. Home page tiles improvement

Home page tiles UI is improved on all our solutions. Revisited default tiles shown on each profile.

By default, tiles would be shown in medium size & always center aligned. When user tries to add new tile from add menu, then the tile will in one colour but after refreshing or revisiting the home page again, the tiles are automatically calculated to alternate colours.

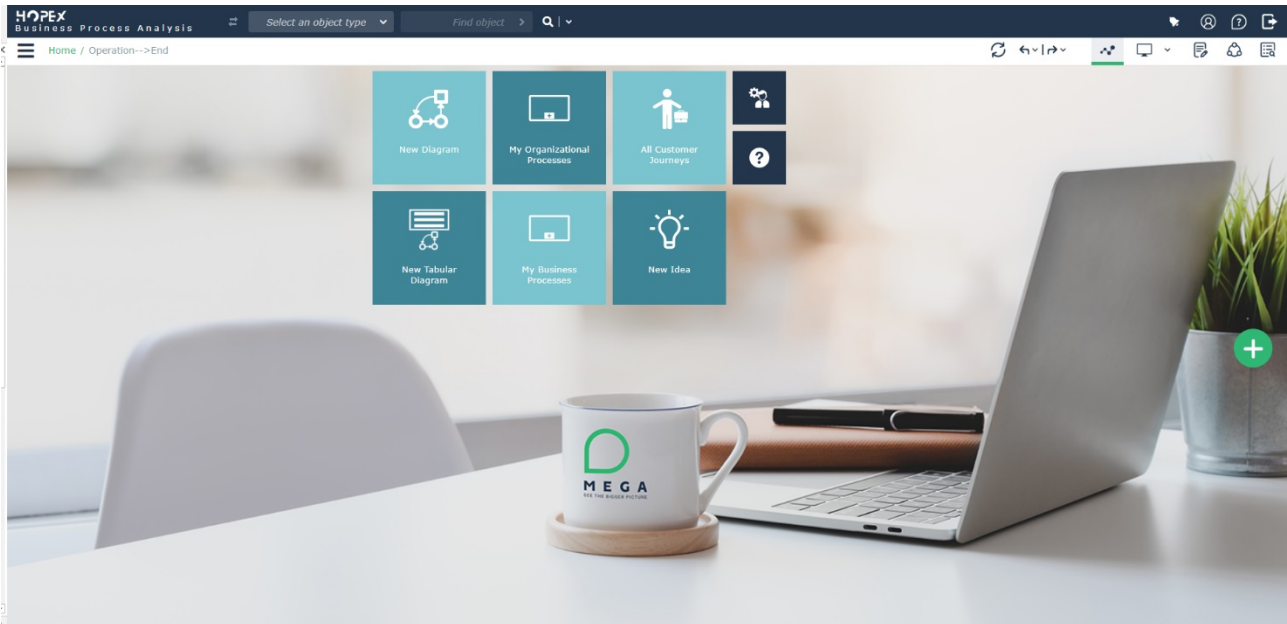
The functionality of small tiles is different compared to medium & wide tiles so, from V4, the standard small tiles will always be shown in different colour.

- Below is the default size of the tiles delivered by the solutions in HOPEX customizer. We made all the list tiles by default to Medium, so this way there is no need to modify the default size to medium by each solution.

Tile type	Default size
List	Medium
HTML Formator	Large
Standalone	Small

- Below are the default size of the tiles when the user adds objects to their home page

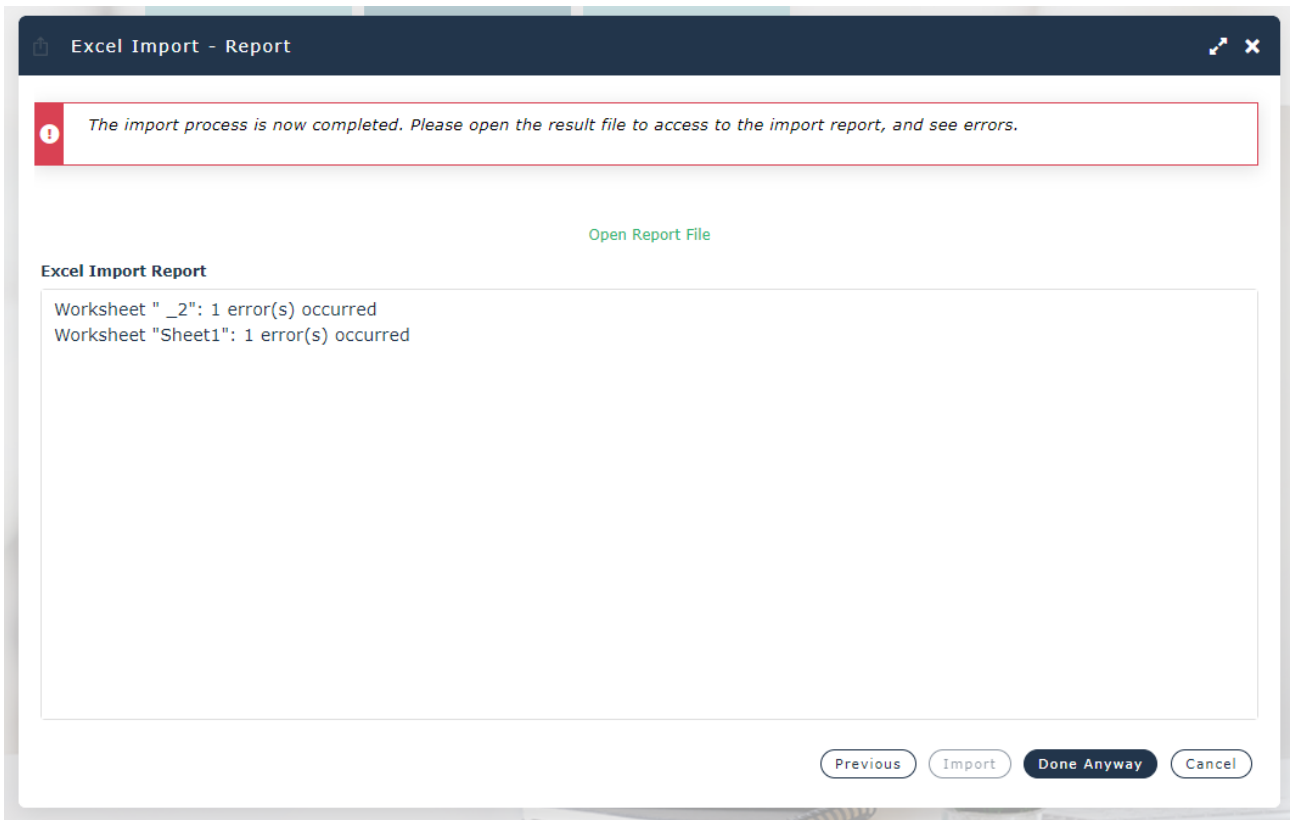
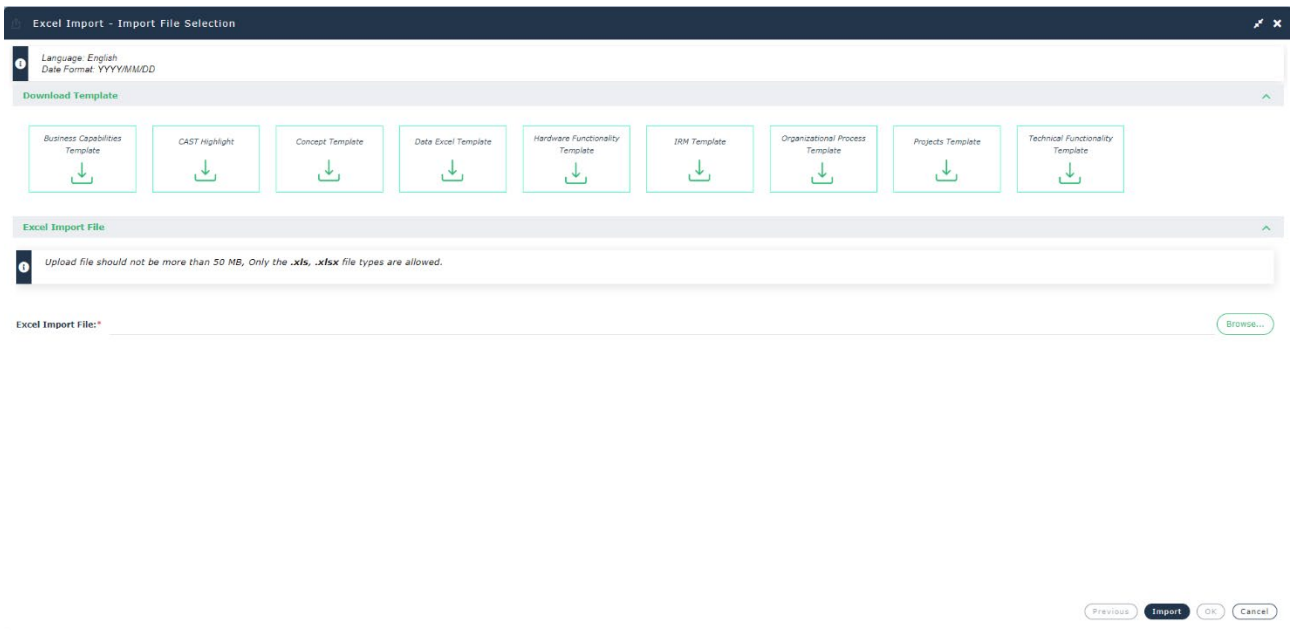
Tile Type	Default size	Action
Document	Medium	Click to open the document
Generic Object	Medium	Click to open the object
Diagram	Large	Click to open the diagram
Create a new object	Medium	Click to create new object
Report	Large	Click to open the document



3.9.. Simplified Excel Import UI

Excel import will now propose available templates to the user, so that he can download them & then upload the file in single click.

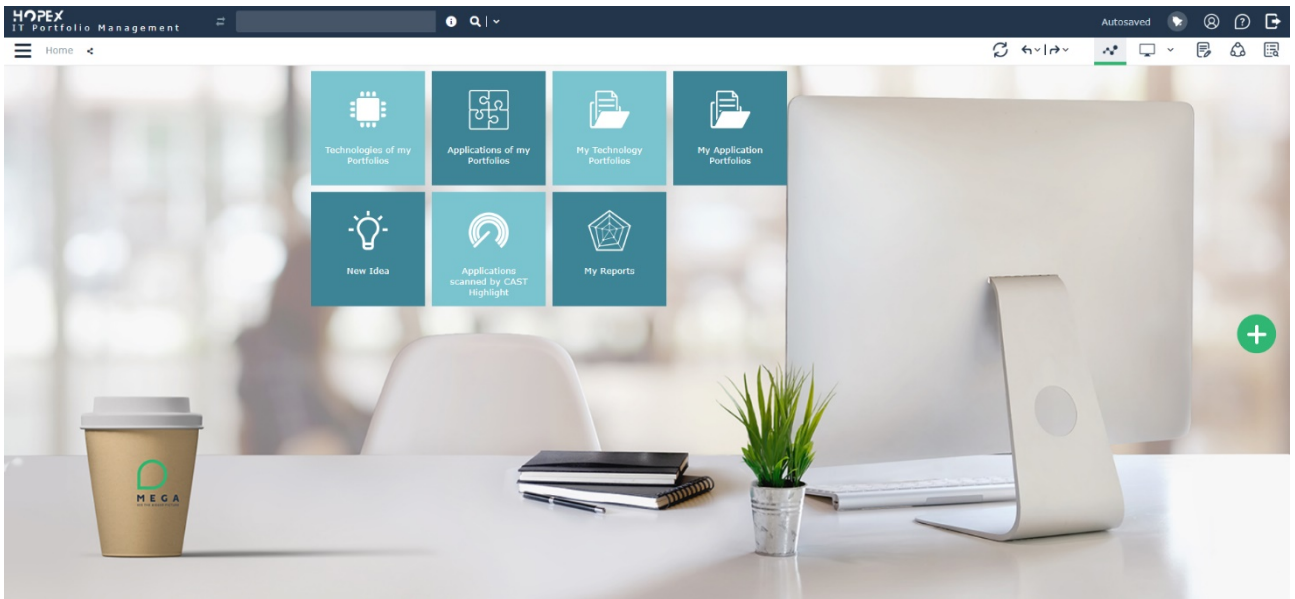
If the user encounter errors after importing, then the errors would be displayed



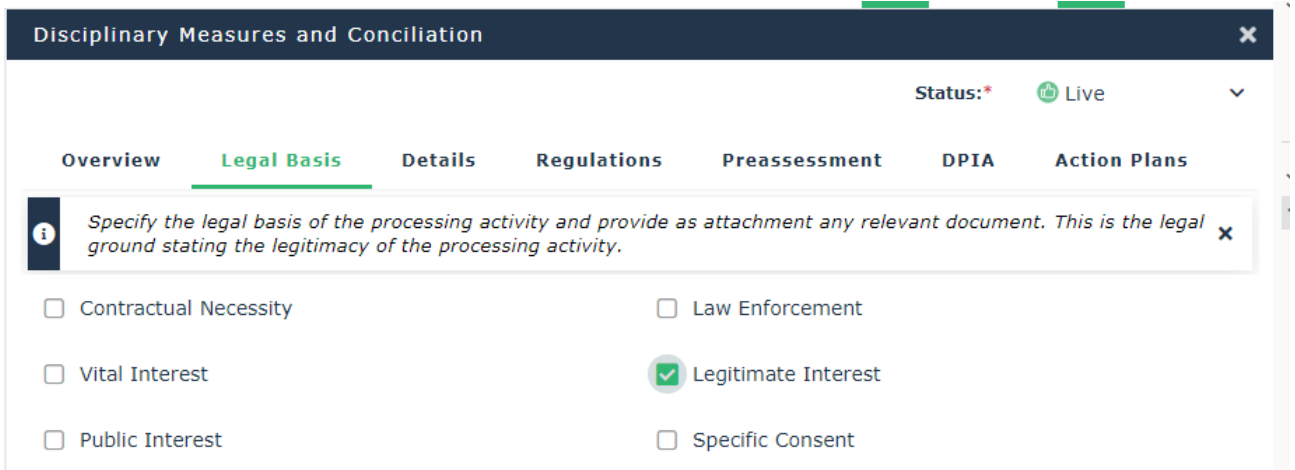
3.10.. Universal desktop stylesheet with New UI

- Added states to visually communicate the status of the component& these states are applied consistently across the platform components to increase the usability.

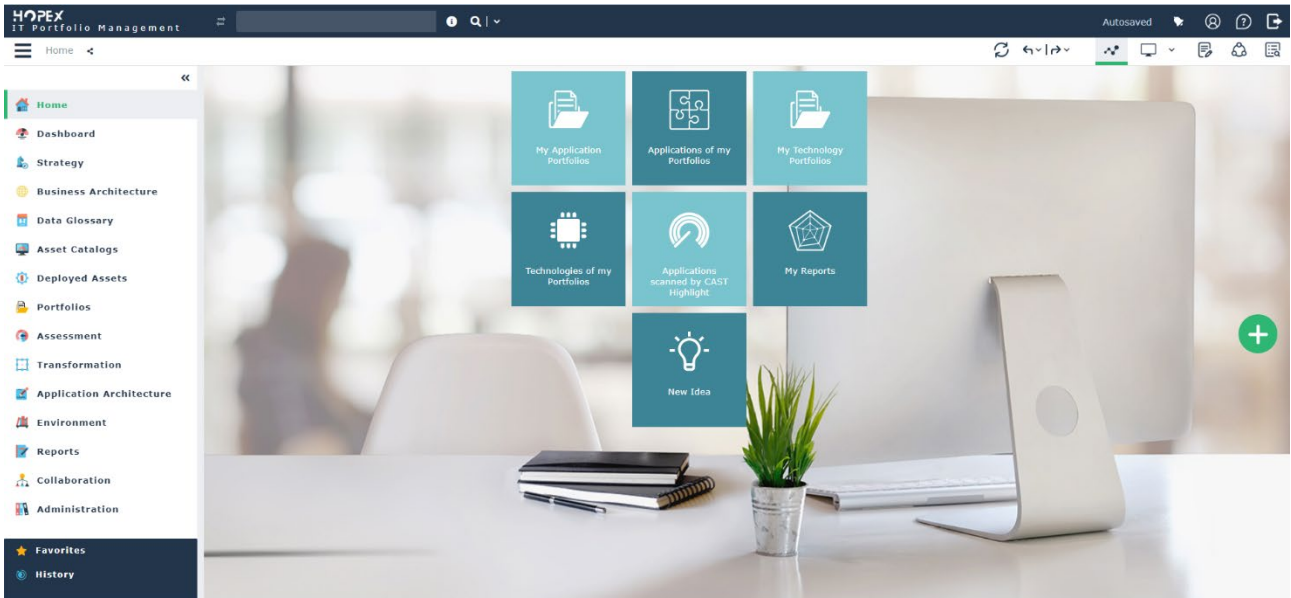
we will now have clear state to indicate different status. Example, when the user place his cursor above an interactive element, then the element is shown differently.



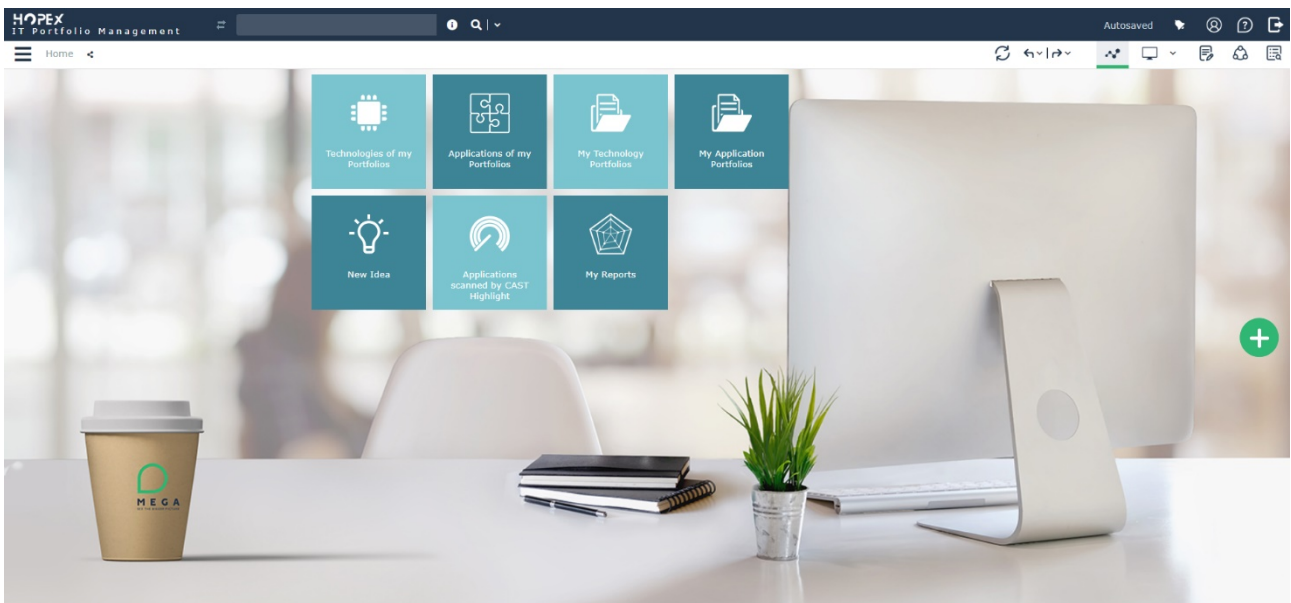
- Selected and activated states are also implemented to communicate well to the user.



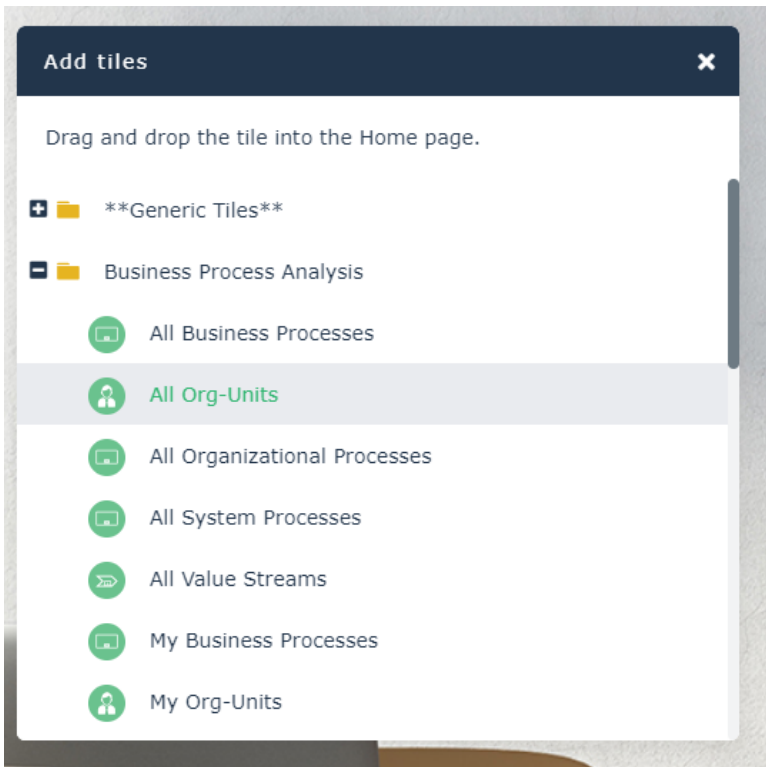
- Hamburger menu: Removed lines between each menu item & increased the size of the icon when hamburger menu is expanded. Fixed text alignment issues.



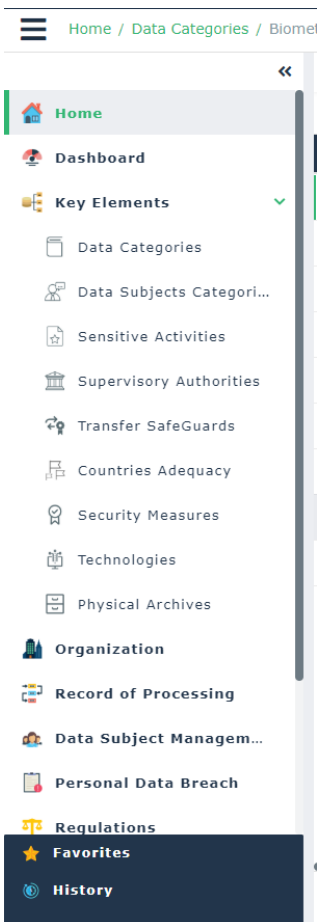
- Top toolbar width is decreased to make room for lists in the panel



- Enhanced the Ui on Add tiles menu to show white icons



- Scrollbar width is increased so improve usability & the scroolbar will be shown on focused panel.



HOPEX Privacy Management

Home / Data Categories / Biometric

List Hierarchy View

Data Category Name ↑	Retention Period	Risk Scale	Sensitive Data	Description
<input type="checkbox"/> Biometric		High	<input type="checkbox"/>	Data derived from somatic or behavioral characteristics of the person (eg graphometric
<input type="checkbox"/> Contact	1 year	Medium	<input type="checkbox"/>	Data allowing direct identification, such as personal data (for example: first and last na
<input type="checkbox"/> Cookies and System Logs	2 months	Medium	<input type="checkbox"/>	Data automatically generated when browsing websites and using IT systems.
<input type="checkbox"/> Data Category-1			<input type="checkbox"/>	
<input type="checkbox"/> Financial	20 years	High	<input type="checkbox"/>	Financial data such as salary, bank account details, credit card number and similar
<input type="checkbox"/> Golden Data	1 year	Medium	<input type="checkbox"/>	Strategic data that participates in the definition of "master" data (reference or legacy c
<input type="checkbox"/> Health	1 year	High	<input type="checkbox"/>	Data generated by devices or applications used to gather a data subject's state of heal
<input checked="" type="checkbox"/> Judicial	10 years	High	<input checked="" type="checkbox"/>	Data that may reveal the existence of certain judicial measures subject to registration i
<input type="checkbox"/> Sensitive	1 year	High	<input type="checkbox"/>	Data that can reveal racial and ethnic origin, religious or philosophical beliefs, political

Page 1 of 1 | Show 50 elements | Displaying 1 - 9 of 9

- Third level menu UI where we fixed the alignment & made the tiles height auto sizable. This will allow to fit the long texts to improve readability.

HOPEX IT Portfolio Management

Transformation / Project Portfolios

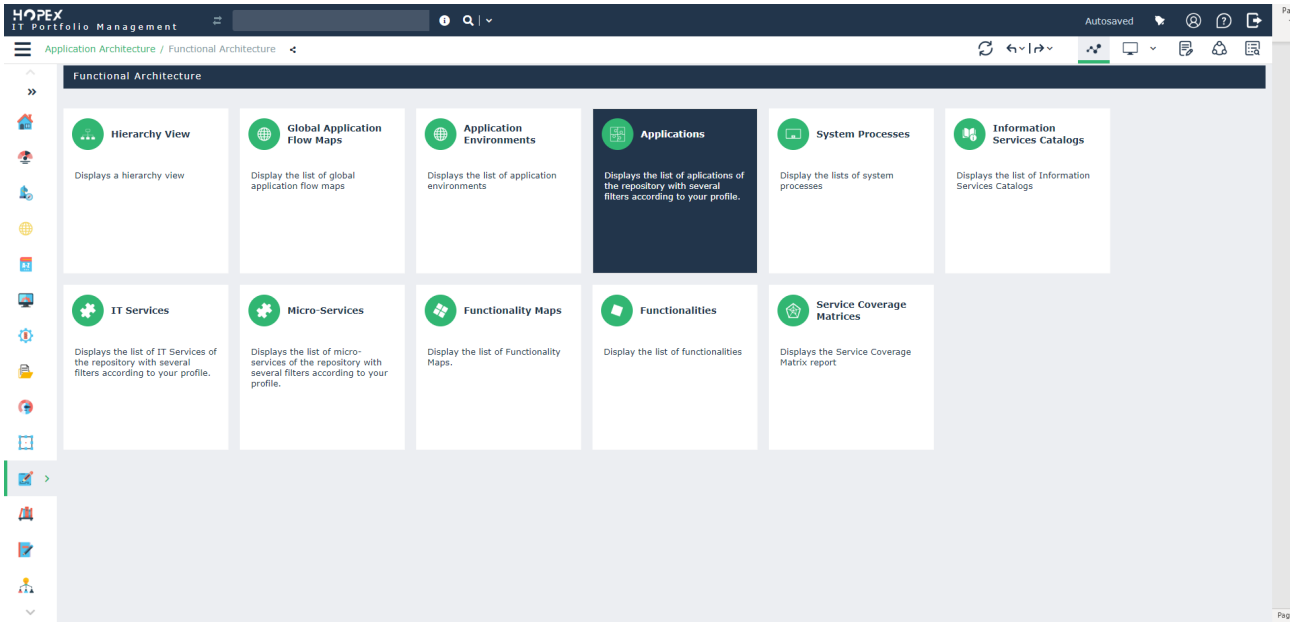
Project Portfolios

Project Portfolios

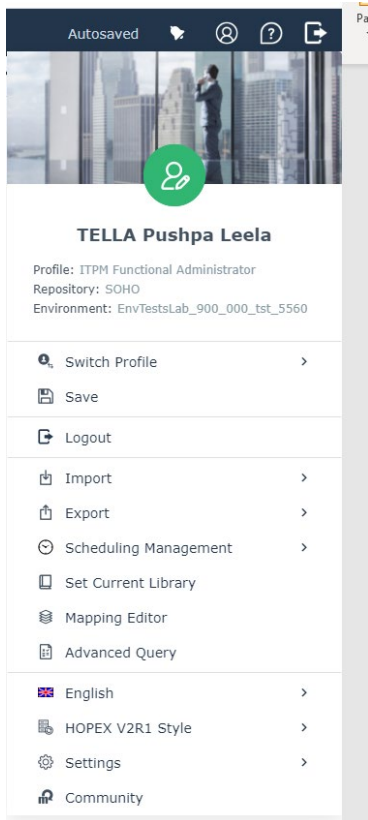
Transformation Portfolios
Displays the list of Project Portfolios

My Analysis Portfolios

Displays the list of My Analysis Portfolios.



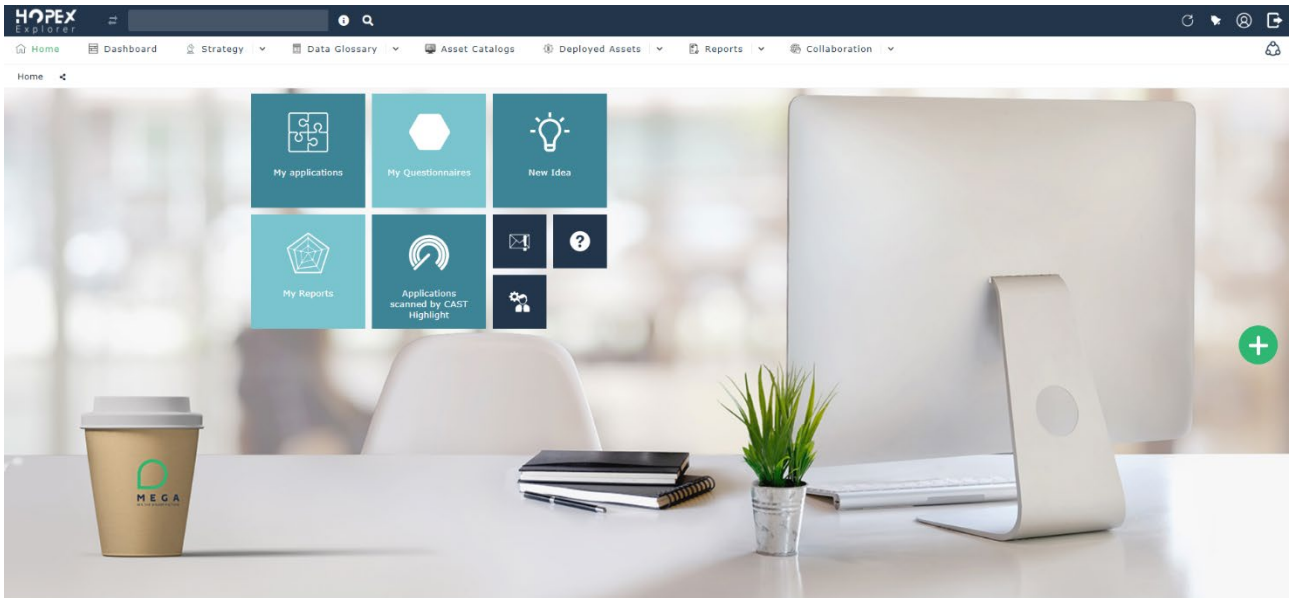
- Font is changed to Verdana all over the interface including diagramming & reports
- User info menu padding is decreased & the background image has been modified.



- Treelists design improvements
- Background images are changed on all solutions..etc

3.11.. Explorer desktop is now inherited from V4 desktop

The look & feel of the explorer desktop is changed as of the universal desktop of V4. This will allow us to have only one global desktop & all other desktops inherit from the parent desktop.



3.12.. Display filters on top of the lists by default

You will now have an option to display filters on top of the lists. By default, this option is not selected. But if the user wants to have filters on top of lists, he can choose this option.

HOPEX IT Portfolio Management

Asset Catalogs / Applications / Accounting

Local name ↑	Current State	Global Expense	Current Num...	Cost per User	Rank	Technology Compliance
A pour Test-A		€0.00	0	€0.00	0 Star	Unknown
AA		€0.00	0	€0.00	0 Star	Unknown
ABCMaster		€1,644,000.00	0	€0.00	0 Star	Unknown
Account Management	Production	€47,800.00	250	€191.20	0 Star	Accepted
Account Payable		€0.00	0	€0.00	0 Star	Unknown
Accounting Link	Retired	€0.00	0	€0.00	0 Star	Unknown
Accounting	Production	€0.00	0	€0.00	0 Star	Unknown
Accounts v2.0	Production	€0.00	0	€0.00	0 Star	Unknown
Accounts	Production	€0.00	0	€0.00	0 Star	Unknown
Account	Retired	€0.00	0	€0.00	0 Star	Prohibited
Advisor Client		€0.00	0	€0.00	0 Star	Unknown
AgencyIntegrator		€2,943,540.00	0	€0.00	0 Star	Unknown
Algorithmic Trading		€0.00	0	€0.00	0 Star	Unknown
Analytic Dashboard		€0.00	0	€0.00	0 Star	Unknown
APPCO.com		€0.00	0	€0.00	0 Star	Unknown

Page 1 of 8 | Show 50 elements | Displaying 1 - 50 of 380

Options

- Silent workdesk termination
- Always open diagrams in new window
- Display a warning message when opening an uneditable diagram.
- Activate Explorer

List fill mode presented by the explorer

- Standard Mode
- Display of button indicating default values
- Activate Graphic Improvements

Triggering threshold for encyclopedic classification in the navigator

- 200

Number of elements by encyclopedic volume

- 200
- Make the creation of predefined folders for external references mandatory.
- Activation of "Undo/Redo"

Display method by default in simple or multiple mode

- Simple view
- Display filters in the list header by default

Number of objects displayed per page in the lists

- 50
- Display stereotype of UML objects in navigator

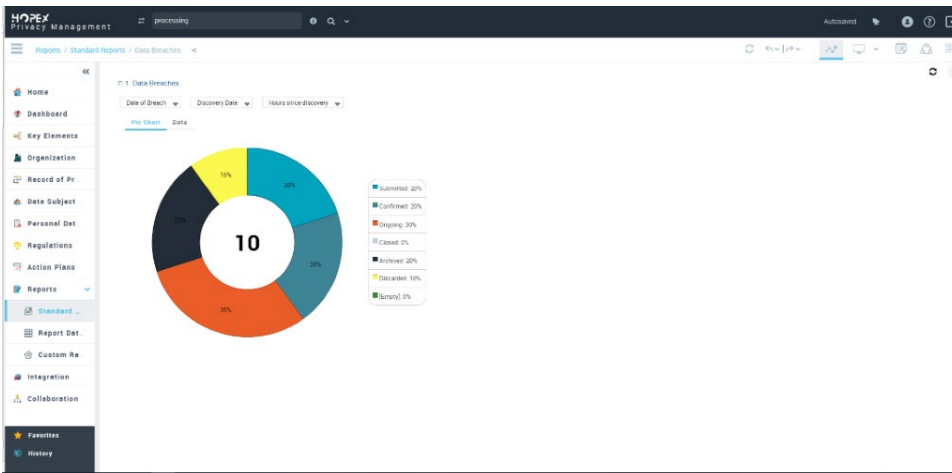
Display of texts when exporting to Excel

- Entire text mode
- Activate libraries

3.13.. Other improvements

3.13.1. Reports

Multiple borders around the reports are now removed & new UI on refresh, actions buttons



3.13.2. Autosaved Message

To assure the user that the system is saving their changes automatically, we now display AutoSaved message on top toolbar & on hover you will see the last saved time stamp.



3.13.3. Filters on lists

Filters on lists will now have a new option to search items that doesn't contain with the keyword entered in the search filters.

The screenshot shows a list of processing activities in the HOPEX Privacy Management application. The list includes columns for Processing Activity, ID, Legal Entity, Department, Data Protection Role, Activity Owner, DPO, Status, Creation Date, Assessment Date, and Assessment Status. A search filter is applied to the 'ID' column, showing options like 'Contains', 'Does not contain', 'Show empty values only', and 'Show non empty values only'.

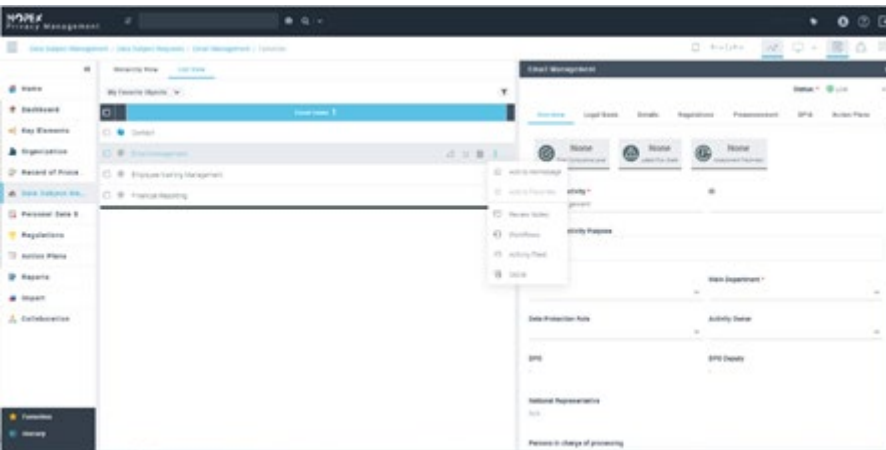
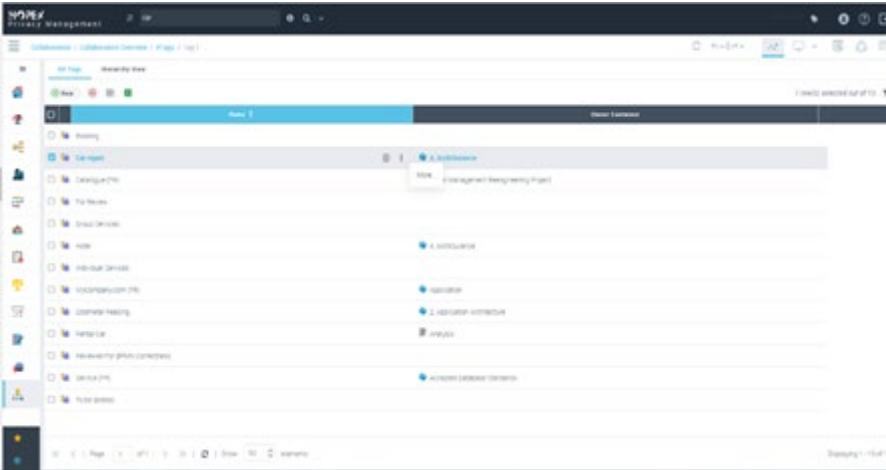
Processing Activity	ID	Legal Entity	Department	Data Protection Role	Activity Owner	DPO	Status	Creation Date	Assessment Date	Assessment Status
Accidents and diseases management	Contains	Corp HQ	Finance	Data Controller	Henry	Jon Smith	Live	6/26/2018	11/28/2019	Pre-Assessment
Company car fleet management	Does not contain	Corp China	Technical Supp.	Data Controller	Austin	Emma Clos	Live	6/26/2018	11/28/2019	Pre-Assessment
Disciplinary Measures and Conciliation	Show empty values only	Corp China	Technical Supp.	Data Controller	Audrey	Emma Clos	Live	6/26/2018	11/28/2019	DPIA Done
Email Management	Show non empty values only	Corp HQ	Information Tec.	Data Controller	Elizabeth	Jon Smith	Live	6/26/2018		
Email Marketing	CA-MK-1	XCorp California	Marketing	Data Controller	Emily	Camille Dubuc	Live	6/26/2018	6/26/2018	DPIA Done
Employee training Management	CH-TS-3	XCorp China	Technical Supp.	Data Controller	Edouard	Emma Clos	Live	6/26/2018		
Employee Costs Management	HQ-FN-2	XCorp HQ	Finance	Data Controller	Henry	Jon Smith	Live	6/26/2018		
Employee evaluation process support	HQ-IT-2	XCorp HQ	Information Tec.	Data Controller	Victoria	Jon Smith	Live	6/26/2018		
Financial Reporting	HQ-FN-3	XCorp HQ	Finance	Data Controller	Yannick	Jon Smith	Live	6/26/2018		
Help Desk	CH-TS-4	XCorp China	Technical Supp.	Data Controller	Stella	Emma Clos	Obsolete	6/26/2018		
IT Logs Management	HQ-IT-3	XCorp HQ	Information Tec.	Data Controller	Sarah	Jon Smith	Live	6/26/2018		
IT systems administrators	HQ-IT-4	XCorp HQ	Information Tec.	Data Controller	Lina	Jon Smith	Live	6/26/2018		
Payroll Management	HQ-FN-4	XCorp HQ	Finance	Data Controller	Josephine	Jon Smith	Live	6/26/2018		

3.13.4. Ungroup default groups on lists

Possibility to the end user to group & ungroup columns on lists though the solution delivers group by default

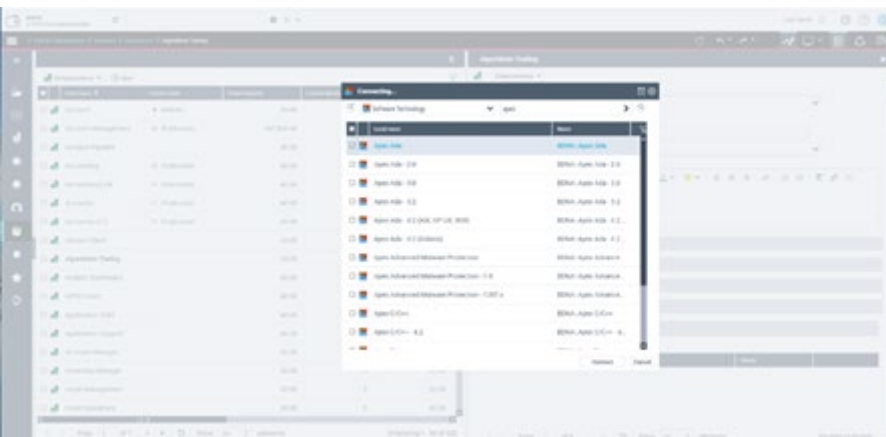
3.13.5. Tags & Favorites list view

Tags & favorites are now displayed as list view to simplify the navigation and readability.

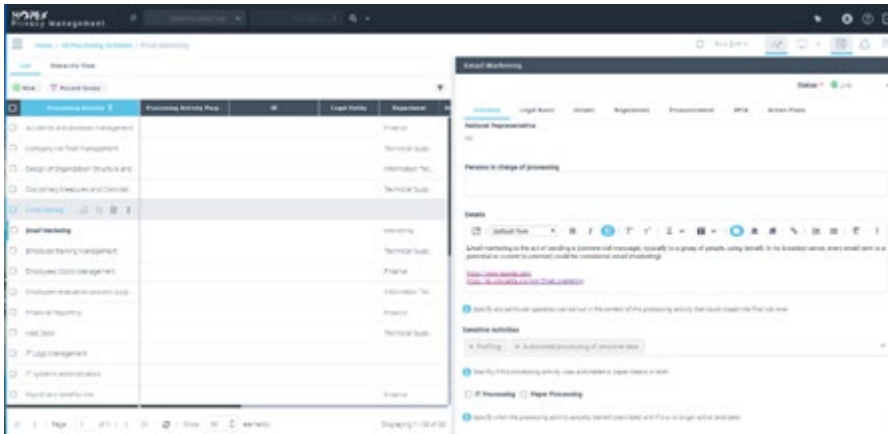


3.13.6. Minor platform improvements

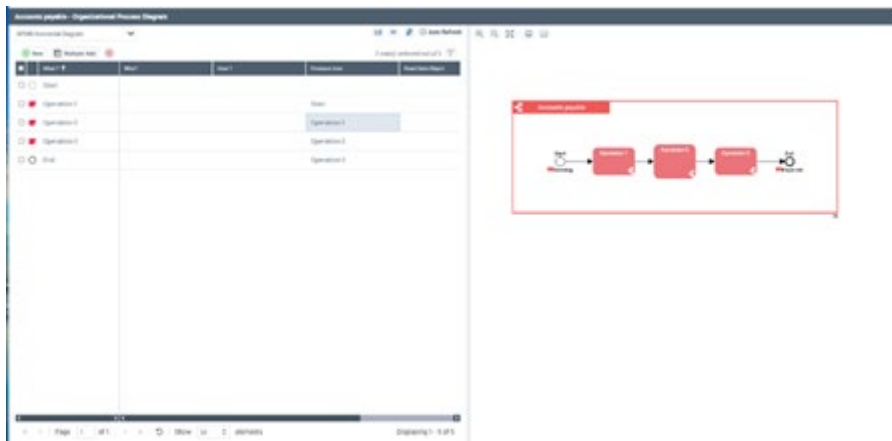
- Enter key on connect wizards are now activated so that the user is not forced to click on search button as soon as he enters a keyword in the search box.



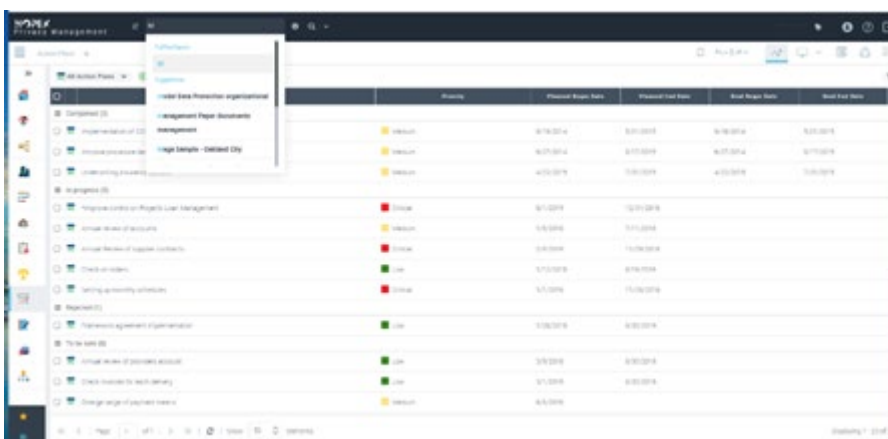
- Hyperlink when an URL is added to the text editor



- Removed "navigate/ Edit "Button on table entry of the Diagram when you are connected with process contributor or Process Viewer

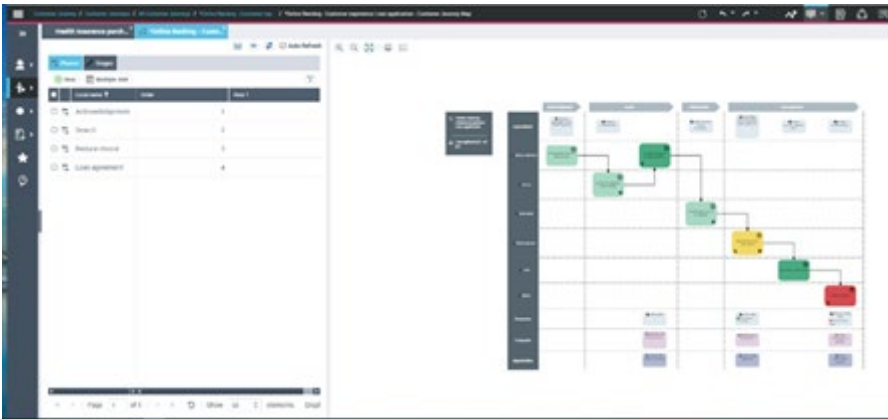


- Full text search suggestions will now be shown after one character

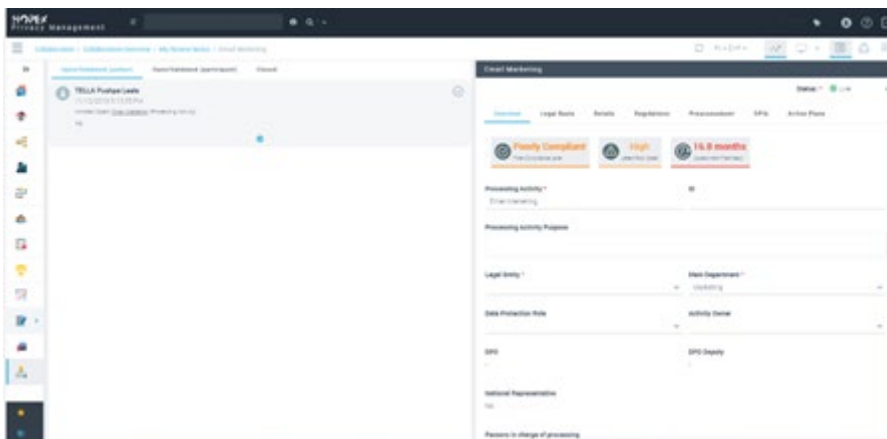


- Save automatically the last order of the columns that user changed
- Migrated to extjs 6.7

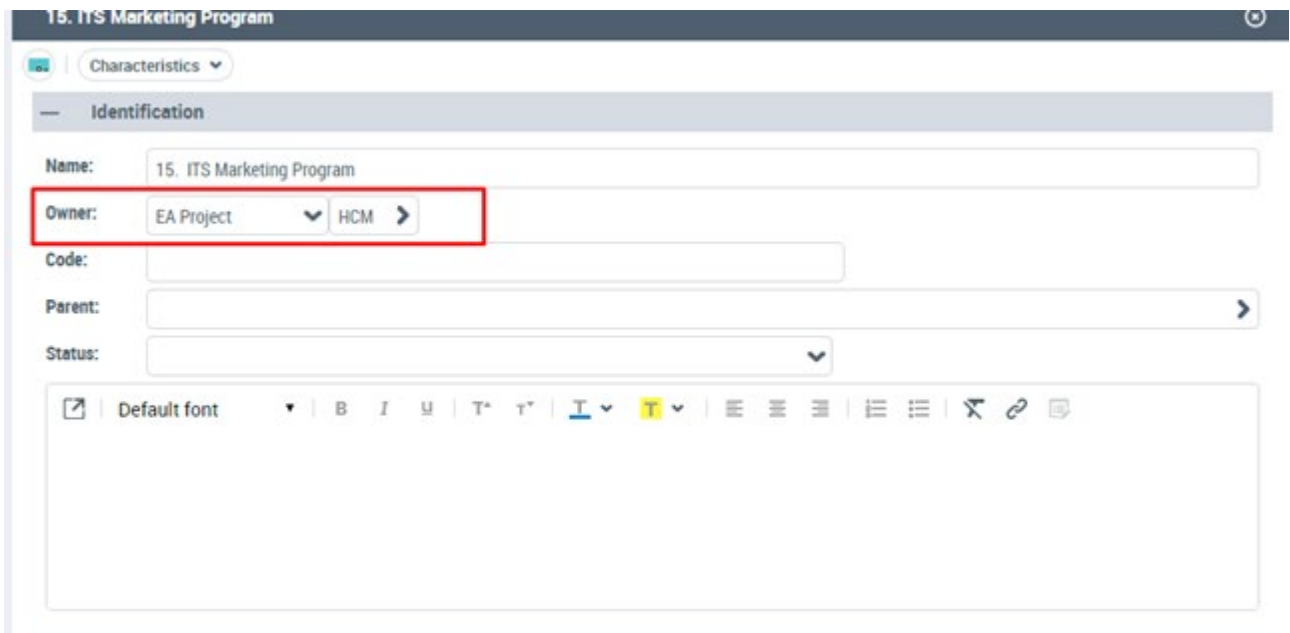
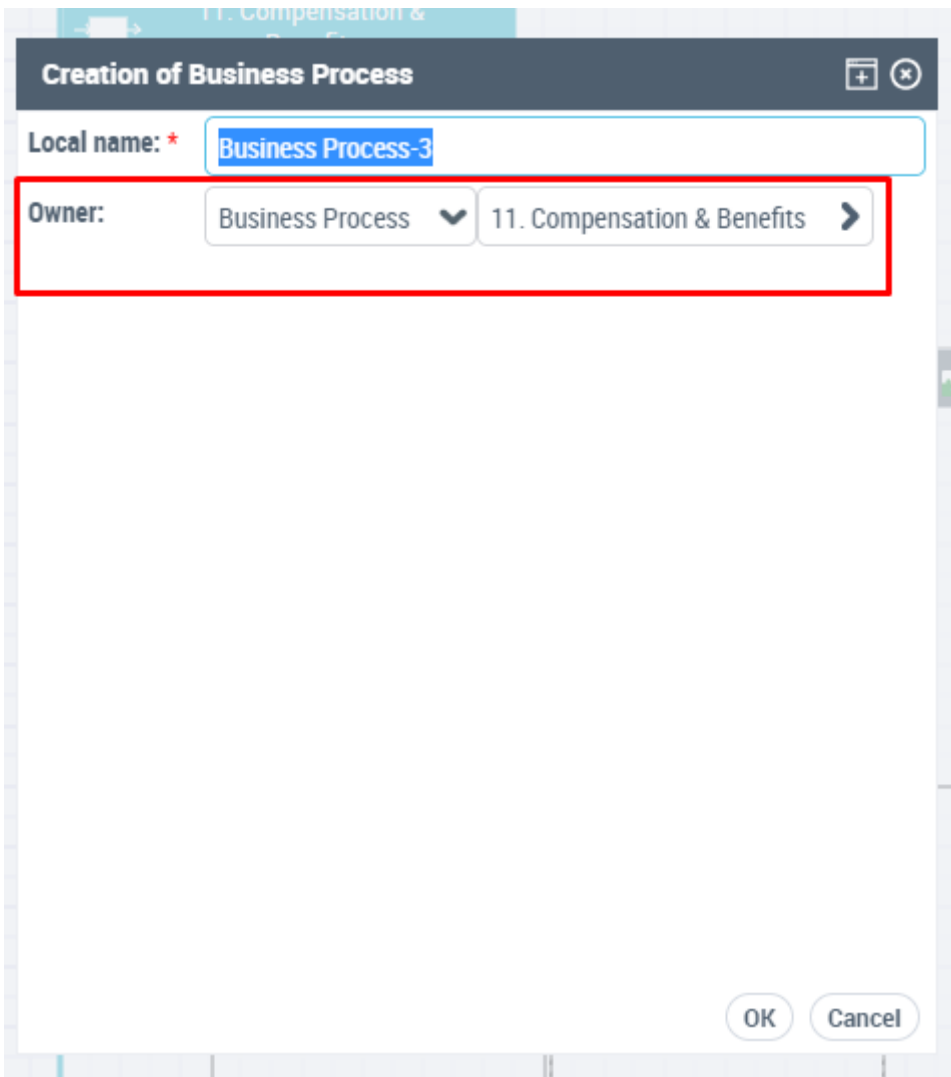
- Customer journey map will only propose tabular entry & graphical entry will be hidden to the end user to make it easier to the basic user.



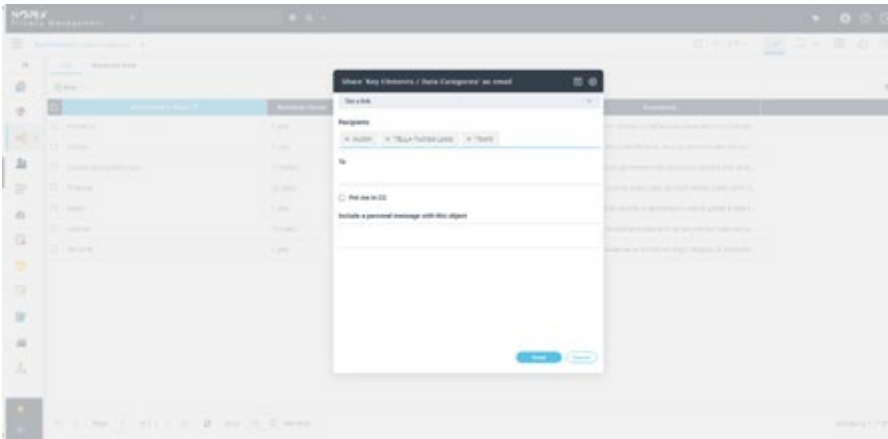
- Default action buttons should be shown after unselecting an object in the list systematically.
- Collaboration menu items which are less than 5 items are now shown as tabs instead of dropdown lists to make it visible to the user.



- If library & owner fields are not used in a solution, we will now have an option to hide them to end user. This should be possible to hide on Desktop level.



- Activated autocompletion in share wizard when you share an object to others



4. Reports Improvements

4.1.. Default colors

Default colors of all reports have been changed according to the new report palette. Some adjustments have been made to improve the readability of the reports

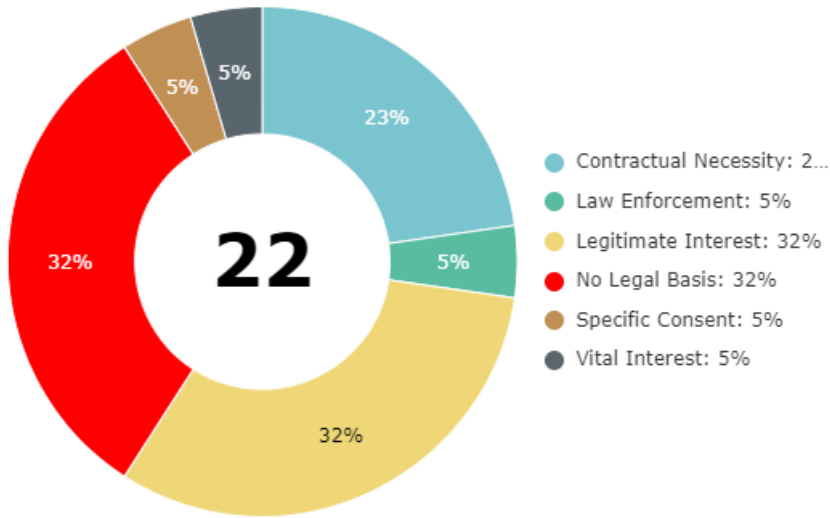
4.2.. Pie Chart

The default appearance of pie charts is changed allowing the display of the number of elements represented on the chart

Minimum and Maximum size have been fixed. Text color is automatic depending on the pie color.

Department ▼

Legal Entity ▼



4.3.. Tables and Matrices

1. Active Third-Parties

Third-Party Name	Processing Activity	Raw Risk	Compliance Level	Last Assessment Date
Deloitte	Disciplinary Measures and Conciliation	⚠️ Very High	🟡 Almost Compliant	11/28/2019
Salesforce	Accidents and diseases management	⚠️ High	🔴 Poorly Compliant	11/28/2019

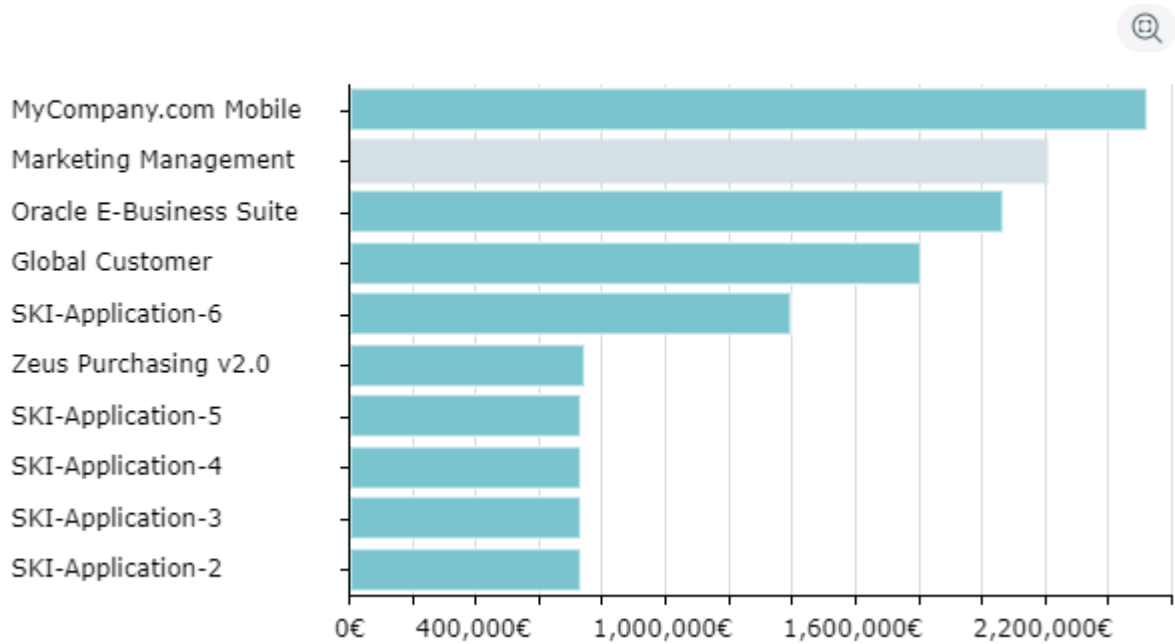
1. Data Subjects' Rights

	Access	Deletion	Objection	Portability	Rectification	Restriction	To be forgotten
Accidents and diseases management	●	●	●	●	●	●	●
Company car fleet management	●	●	●	●	●	●	●
Disciplinary Measures and Conciliation	●	●	●	●	●	●	●
Email Management	●	●	●	●	●	●	●
Email Marketing	●	●	●	●	●	●	●
Employee training Management	●	●	●	●	●	●	●
Employees Costs Management	●	●	●	●	●	●	●
Employees evaluation process support	●	●	●	●	●	●	●
Financial Reporting	●	●	●	●	●	●	●
Help Desk	●	●	●	●	●	●	●
IT Logs Management	●	●	●	●	●	●	●
IT systems administrators	●	●	●	●	●	●	●
Payroll Management	●	●	●	●	●	●	●
Payslips and fees preparation	●	●	●	●	●	●	●
Performance Management Process	●	●	●	●	●	●	●
Performance Management	●	●	●	●	●	●	●
Physical Security and Video-surveillance	●	●	●	●	●	●	●
R&D Planning	●	●	●	●	●	●	●
Recruit Employees	●	●	●	●	●	●	●
Recruitment and employment management	●	●	●	●	●	●	●
Recruitment and staff selection	●	●	●	●	●	●	●
Support Process	●	●	●	●	●	●	●

4.4.. Bar Charts

Direction of the grid lines has been changed according to the bar direction

1. Top 10 most expensive applications



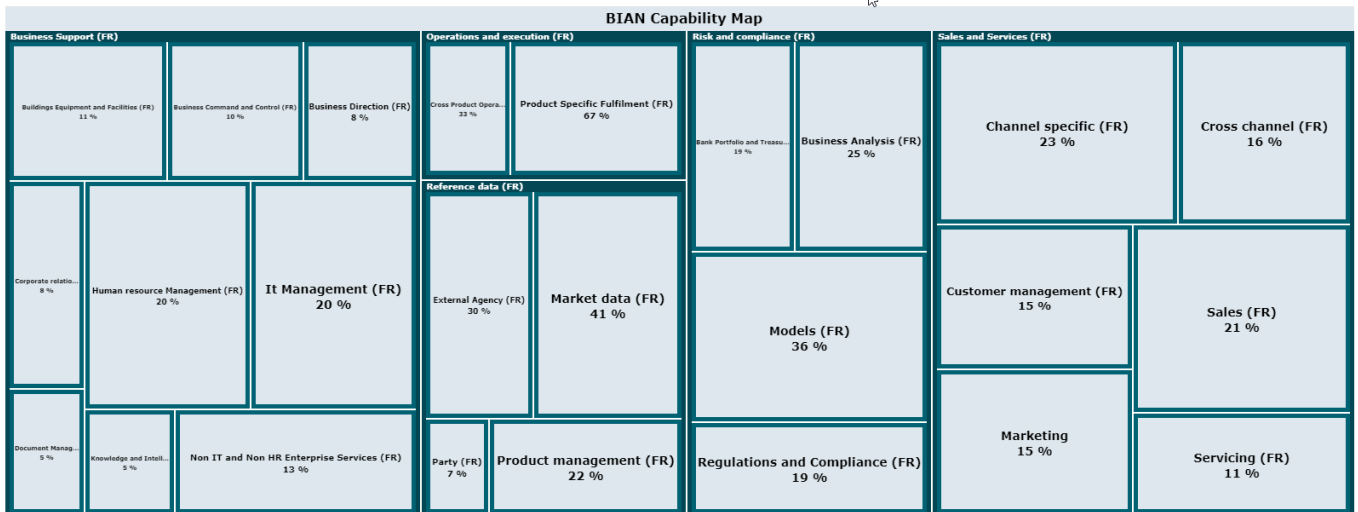
4.5.. TreeMap

Size is displayed in % in all cells

Text Size is proportional to the Cell size

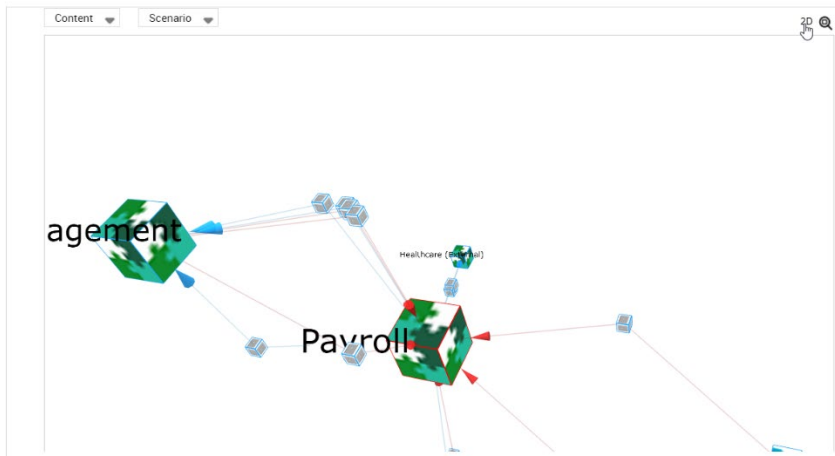
Report run on 6/2/2020 18:24 (4 s)

Number of displayed levels: 2 | Display criterion: Number of components

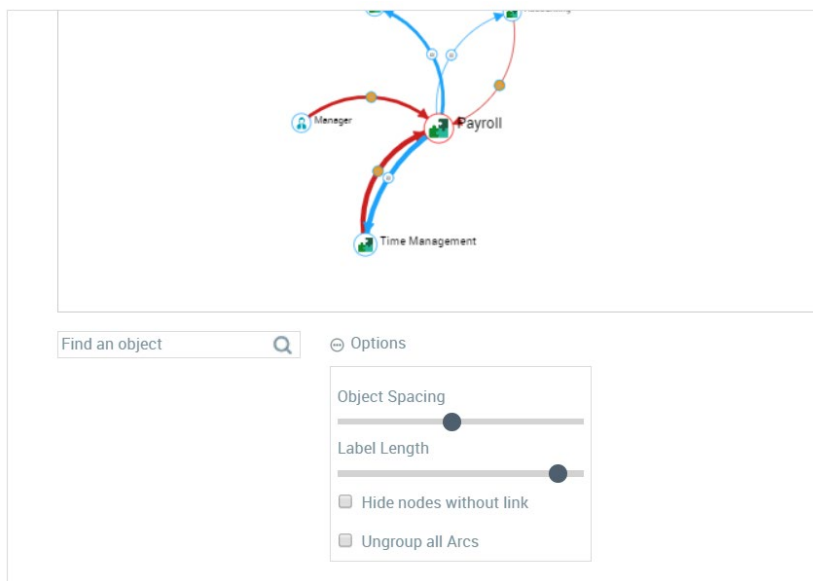


4.6.. Graphs

Can be displayed in 2D or 3D

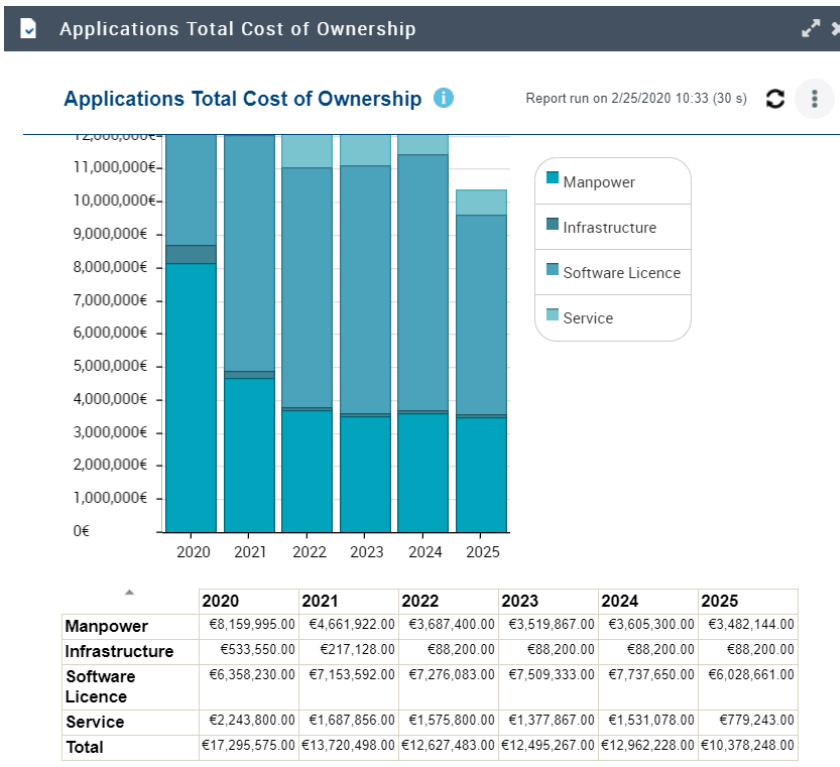


New option to ungroup all arcs



4.7.. Sticky Header

The report header always remains available so that actions on the report are always accessible.

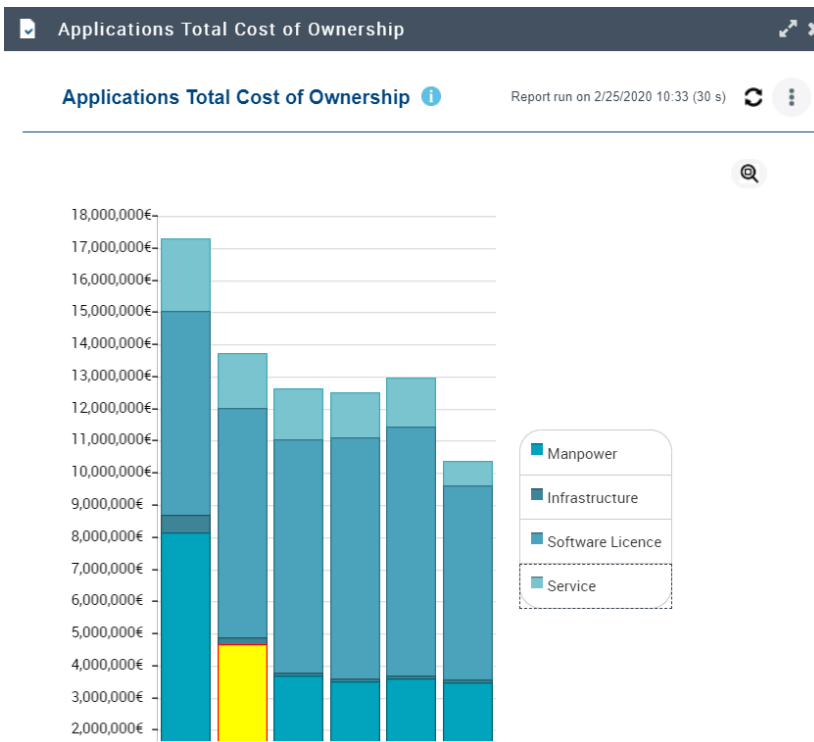


4.8.. One Button "Refresh"

The ability to refresh each chapter of the report independently is no longer offered. The entire report can be refreshed with a single button.

4.9.. One Chapter Report

The display of a report with only one chapter is simplified, as the chapter title no longer appear.



4.10.. Empty Reports

The appearance of empty reports changes in the same spirit as empty lists to provide a clear visual to the user.

Parameters

Refresh the report

1. Information Usage - Store



The report is empty.

There are no data to display because the dataset is empty !

4.11.. Instant Report Table

The column content is now grouped by default given that this is the most frequent need:

Table Columns

- Application
- Rating
- Technologies
- Vendor
- Cost
- Number of users

Name: Application
 Sort: Ascending
 Sort Priority: 1
 Group: Yes
 Value Computation:
 Data Source Item: Application

Limit the table to the first 50 rows

Report

Generate

Technologies

Application	Rating	Technologies	Vendor	Cost	Number of users
Account	★ 0 Star	.NET Framework 3.5 SP1	Microsoft	€0.00	0
		DB2 v9.7	IBM	€0.00	0
		Office 2003	Microsoft	€0.00	0
		VB7	Microsoft	€0.00	0

4.12.. RTF Export

Chapter comments are now included in the result file

5. HOPEX Customizer

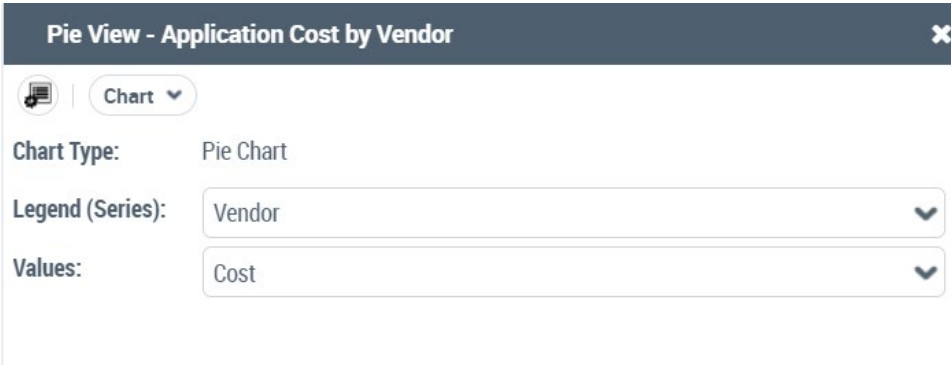
5.1.. Report Studio Desktop

5.1.1. Central Container

The complex objects such as Report DataSet Definition, GraphSet Definition are now open in the central container to give better access on component objects property pages.

5.1.2. View Property Pages

The set of property pages on the report view has been reduced to only one page that presents the chart settings:



5.1.3. Report DataSet, GraphSet, TreeSet Characteristics

The vocabulary used in Characteristics pages has been unified

Report DataSet

Application Data Details ✕

Characteristics

Owner:

Name*:

User In Charge:

Source MetaClass:

Keep last generated result

Parameters

Collection Parameters

Local name ↑	Type	Populated RDS Collection	_GUIName
Application Or Application S...	Application Or Ap...	Application Or App...	Application Or

Property Parameters

Local name ↑	Type	Format	Length	P

Root Populating Query

Name ↑	Query Parameters Name

Preset Queries

Local name ↑	Set Name

GraphSet

Data Lineage Software I...^x
↕

Characteristics ▾

Name:*

Parameters

Collection Parameters

Local name ↑	Type	Multiplicity	_GUIName
Software Parameter	Class of Enterpris...	N	

Property Parameters

Local name ↑	Type	Length	Format	P

Root Populating Queries

Local name ↑	Query Parameters Name	Target MetaClass

TreeSet

The screenshot shows the configuration interface for a report named "Data Lineage Software Impact Report". At the top, there are two tabs: "Data Lineage Software I..." and "ITBM - Enterprise Strat...". Below the tabs, there is a "Characteristics" dropdown menu and a "Name:" field containing the report name. The interface is divided into three main sections: "Parameters", "Collection Parameters", and "Property Parameters".

Parameters

Collection Parameters

Local name ↑	Type	Multiplicity	_GUIName
Software Parameter	Class of Enterpris...	N	

Property Parameters

Local name ↑	Type	Length	Format

Root Populating Queries

Local name ↑	Query Parameters Name	Target MetaClass

5.1.4. Folder of Report DataSet are available

The screenshot shows the HOPEX REPORT STUDIO interface. The top bar includes the logo, the text "HOPEX REPORT STUDIO", and a search bar. The main area is titled "Studio / Report DataSet Definition". On the left, there is a navigation menu with options: "Report DataSet Definit...", "GraphSet Definition", "TreeSet Definition", "Report Template Defini...", "Web Site", and "Studio Reports". The main workspace displays a tree view of folders under "Report DataSet Definition":

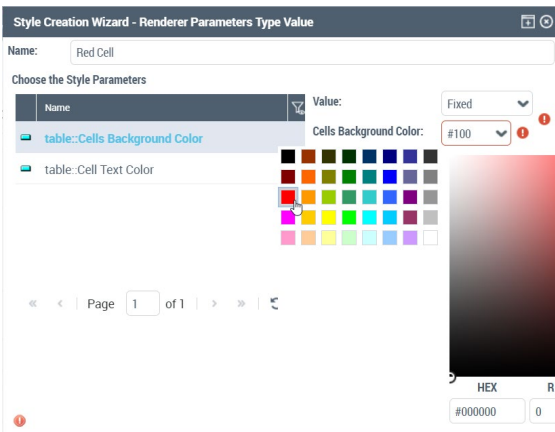
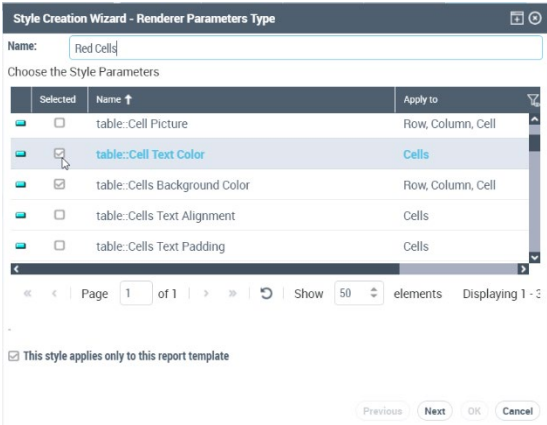
- Report DataSet Definition
 - Report DataSet Definition
 - Information Architecture
 - Application Data Details
 - Golden Data Details
 - Golden Sources
 - Sensitive Data Details
 - IT Business Management
 - All Applications With Deployment
 - All Applications With Cost Line

5.2.. Report Styles

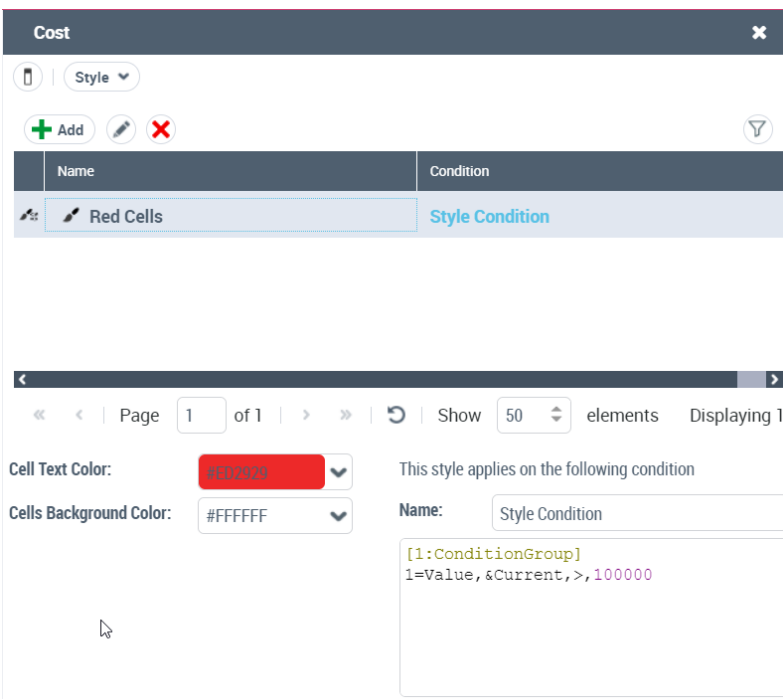
5.2.1. Styles

Definition of styles has been improved with new dedicated wizard:

The style creation / modification wizard allows to define the set of parameters associated to the style and their values.



Then the values or the condition can be changed directly in the style property page



5.2.2. Conditional Styles




Styles can now be fixed by a value or given by any of the report field:

Example: color can be given by a multivalued field, width by a numeric field ...

Style Creation Wizard - Renderer Parameters Type Value

Name:

Choose the Style Parameters


Name	Value:
 table::Cells Background Color	Cells Background Color: <input type="text" value="Fixed"/> 
 table::Cell Text Color	

5.3.. Report Parameters

5.3.1. Use Tree for Parameter Input

The report parameter default values definition allows to define a metatree instead of a query for values proposition.

Business processes



 | Default values ▾

Value


Value definition:

Abstract Candidates depend on:

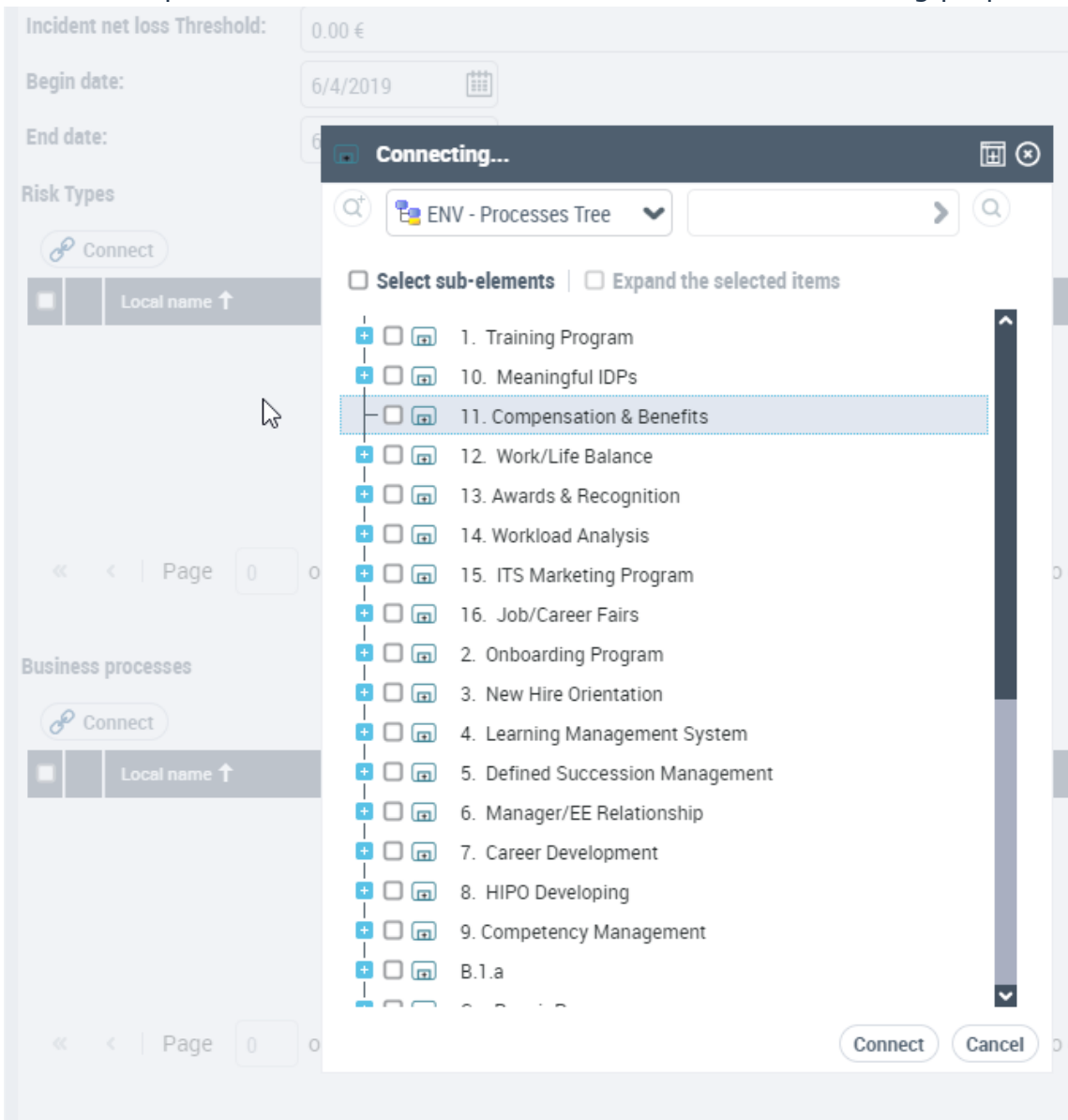
Value Proposition

Short Name ↑

 ENV - Processes Tree

Then the report user will then be able to benefit from the following proposal :



5.3.2. Limits of the Reports are fixed

Limits of data handled by GraphSet and TreeSet has been fixed to avoid performances issues. When the limit is reached an alert is displayed in the supervision console and the data is truncated. The user is warned that his report is not complete. A set of options in the "Documentation/Reports" section documents the current limits and allow them to be bypassed:

- Fix the limit for GraphSet Nodes:
- Fix the limit for GraphSet Arcs:
- Fix the limit for TreeSet properties:
- Fix the limit for TreeSet Nodes:

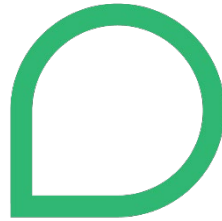
5.4.. Graphs

Conditional Styles can be used for any renderer including the graph with specific conditions.

5.4.1. Graph

Define graph populated by a

The creation wizard allows to populate the entry points of elements (nodes, automatically created.



M E G A
SEE THE BIGGER PICTURE

Report

Query

define a query that will the graph. All the necessary parameters) will be

Creation of GraphSet Definition - TemplateSet Definition Creation

Name: Exchanges between application

— Root

Collection is populated by: Query

MetaClass: Application

Populating Query: APM - Business Capability and Sub Business Capabilities Applications

OK Cancel

5.4.2. More Styles

Renderer	Parameter
Graph	<input type="checkbox"/> Width
	<input type="checkbox"/> Node Border Color
	<input type="checkbox"/> Node Fill Color
	<input type="checkbox"/> Node Size
	<input type="checkbox"/> Label Color
	<input type="checkbox"/> Arc Color
	<input type="checkbox"/> Arc Thickness
	<input type="checkbox"/> Node Border Thickness
	<input type="checkbox"/> Background Color
	<input type="checkbox"/> Node Size depends on Node Connections
	<input type="checkbox"/> Arc Line Curvature
	<input type="checkbox"/> Arc Line Style
	<input type="checkbox"/> Arc Start
	<input type="checkbox"/> Arc End
	<input type="checkbox"/> Entry Point Coloring

5.4.3. Conditional Style is available

Styles can be defined by using a field value. Example the "Node Border color" is set using the "Business Value" of the application:

Style Creation Wizard - Renderer Parameters Type Value

Name: Node Border Color

Choose the Style Parameters

Name	Value:
Graph::Node Border Color	Field: Business Value

Condition can be more complex using a text as in conditional styling in Tables Reports:

This style applies on the following condition

Name:

```
[1:ConditionGroup]
1=Value,ApplicationCost,>,ApplicationHighCost
```

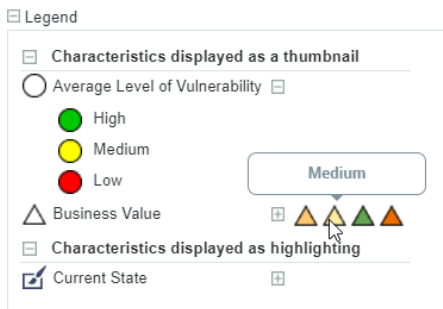
The conditions can apply to any node fields.

5.5.. Box-In-Box

This renderer is available for any Java Reports based on hierarchical Structure. This renderer replaces the previous specifics Box-in-Box implementations and offers the same data visualization features. It shows a data hierarchy with optionally a collection of items at any levels. Colors and pictograms are giving more specific information to the user.

5.5.1. Interactivity

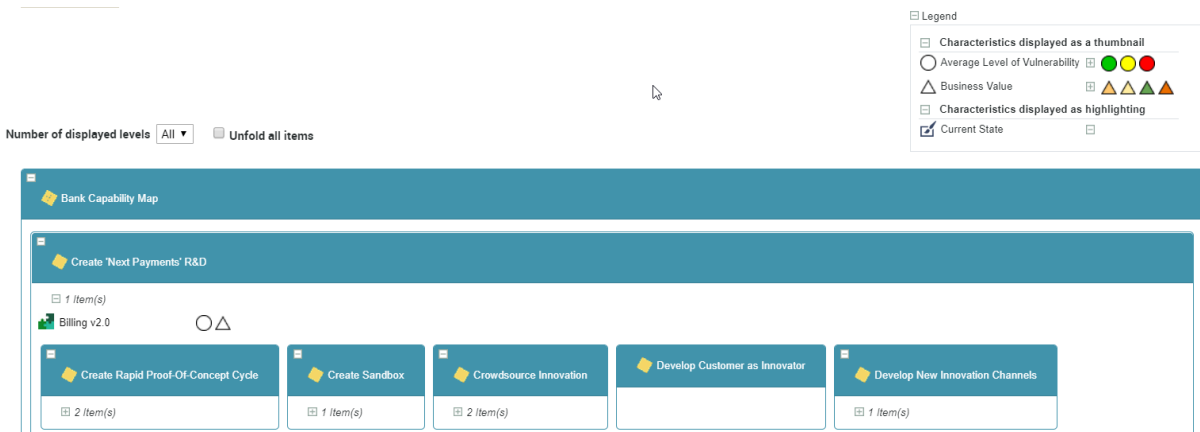
- Unfold any number of levels
- Access to object properties, object menu
- Fold/unfold legend, see color details



5.5.2. Features

- Automatic size and number of columns
- Default Box color is fixed
- Number of unfolded levels at opening
- Box color fixed or based on an attribute
- Display of 0-5 pictogram on the boxes
- Display of 0-5 pictogram on items
- Choice of any shapes and color for the pictogram
- Items background color

- Legend



5.6.. TreeMap

This renderer is available for any Java Reports based on hierarchical Structure. It shows a data hierarchy with areas size based on a numeric value at lower level of the hierarchy.

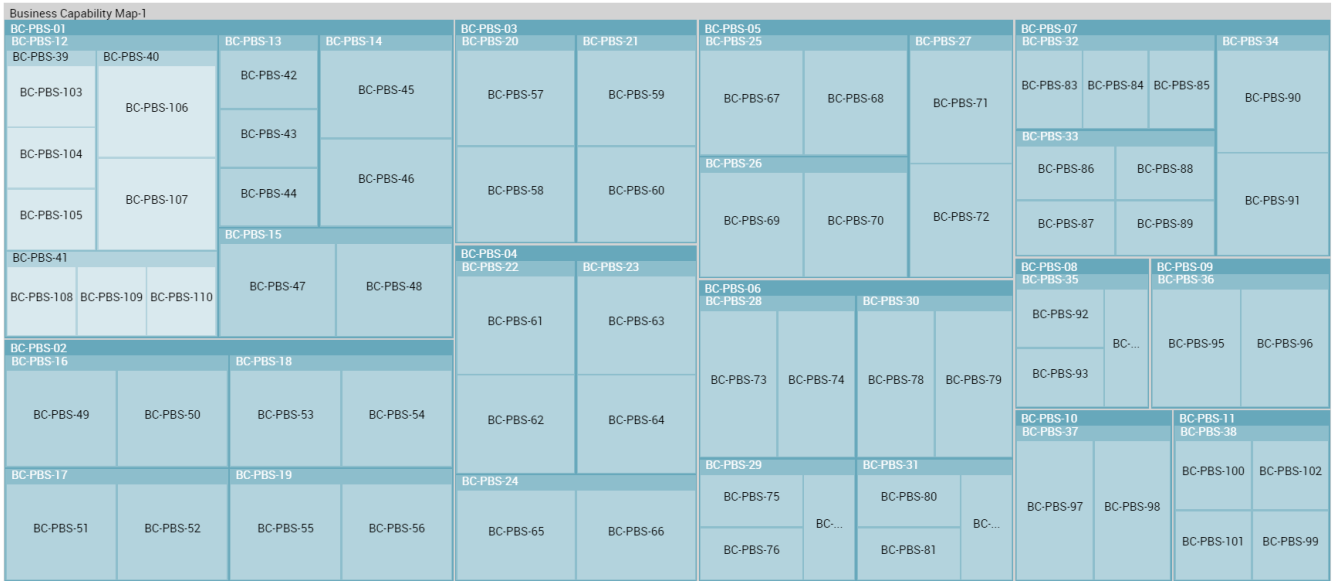
5.6.1. Interactivity

- Unfold any number of levels
- Zoom-in, Zoom-out
- Access to object properties, object menu
- Change the numeric data represented

5.6.2. Features

- Automatic size and number of columns
- Number of unfolded levels at opening
- Area color fixed or based on an attribute
- Automatic gradient colors
- Multiple numeric data to compute the area

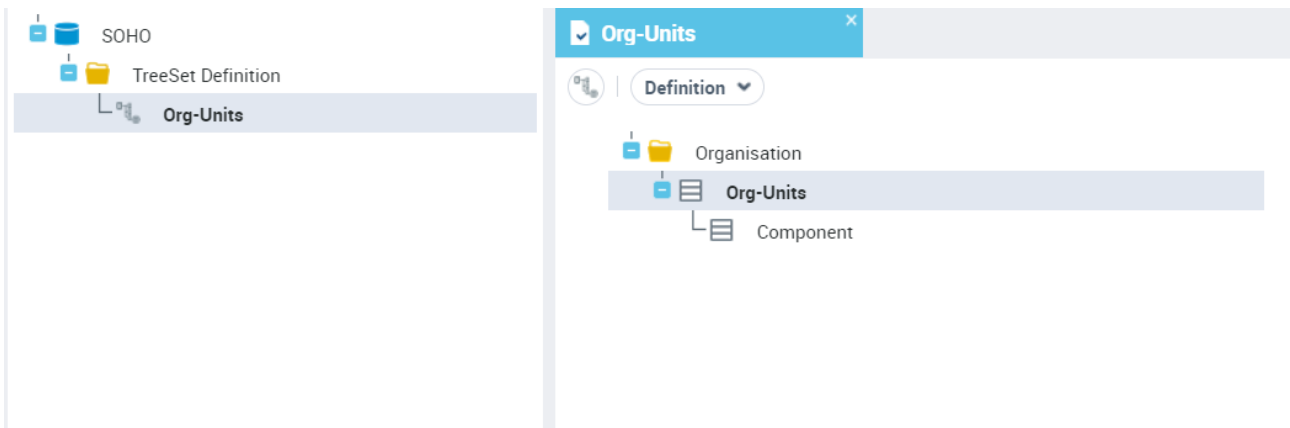
Visible levels 4 Display Number of components



5.6.3. Building Tree Reports: Dendrogram, TreeMap, TreeTable

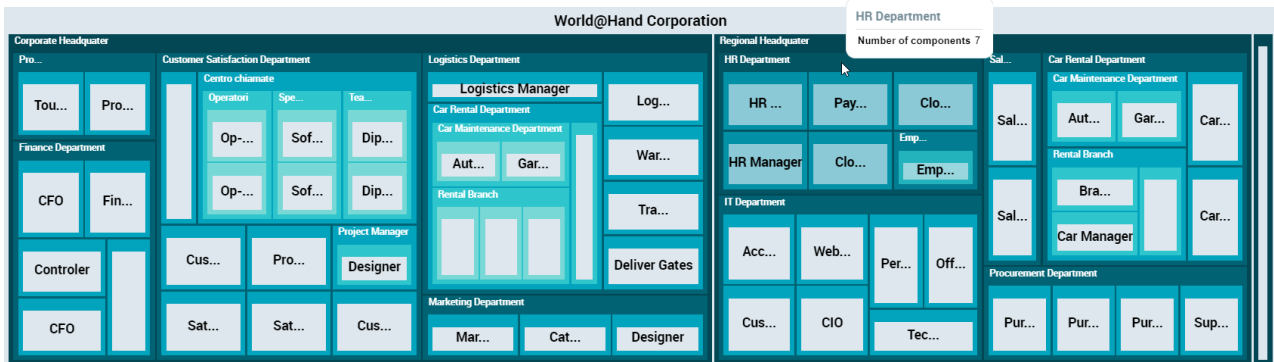
A new Data Structure is available in order to build tree reports. This structure called TreeSet allow to build hierarchical report including recursive definitions (example business capability decomposition tree)

TreeSet Definition in Studio Desktop



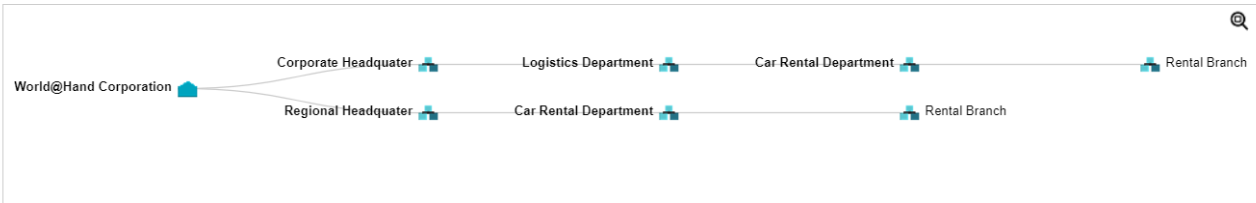
The studio offers the capability to define treemap, Dendrogram or TreeTable Report on any hierarchy of objects.

Number of displayed levels 5 Display criterion Number of components



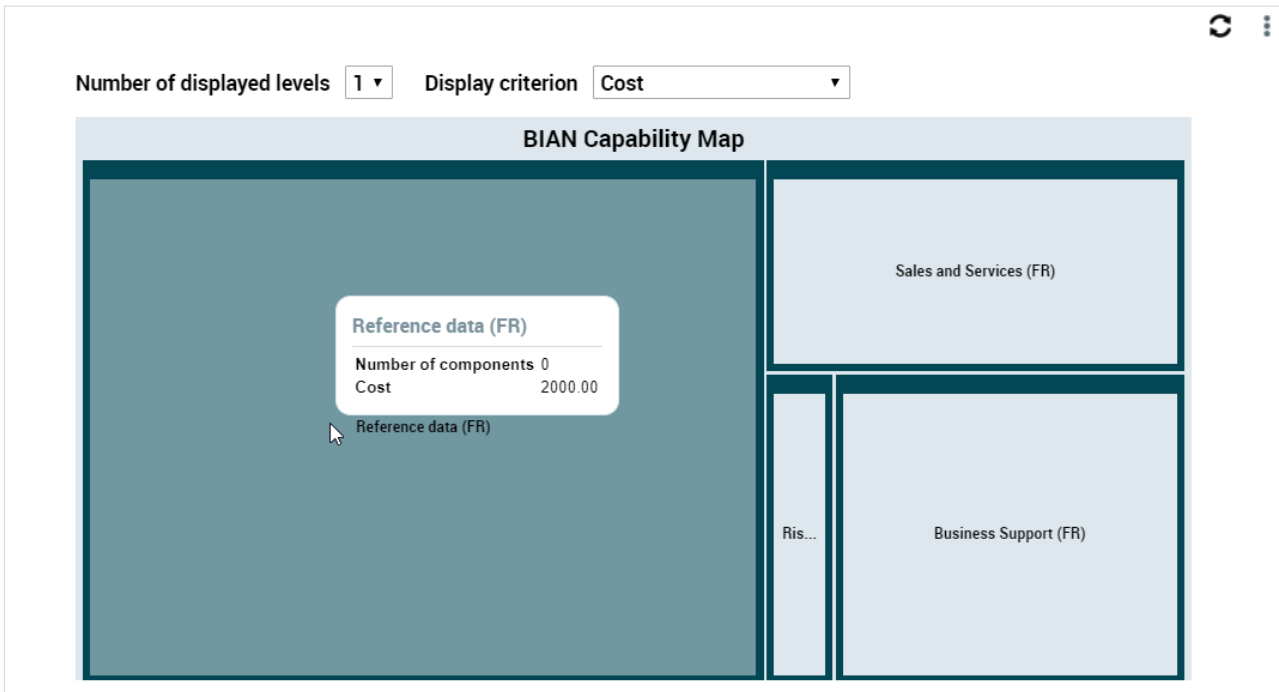
Any objects or properties defined in the treeSet definition can be used as filter in the report.

Org-Unit



TreeMap Report

All numeric TreeSet properties are used as TreeMap size



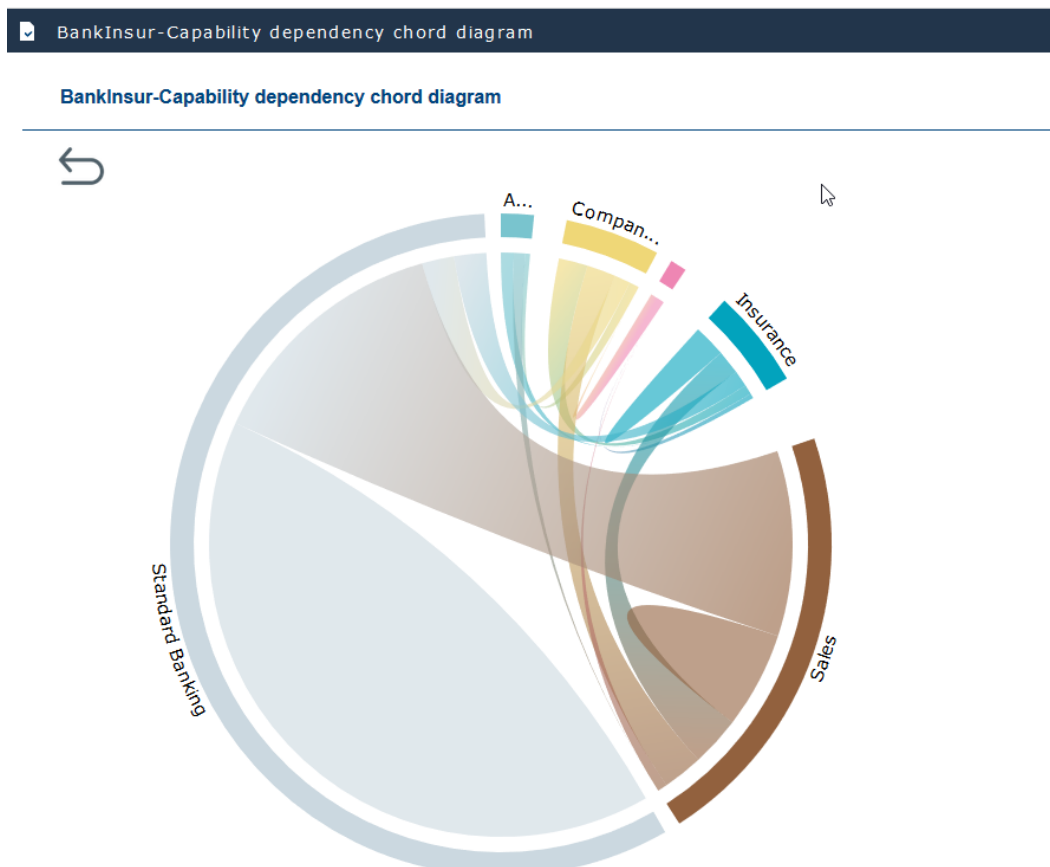
TreeTable Report

All TreeSet Properties are displayed as columns of the TreeTable.

5.7.. Chord Diagram

5.7.1. Renderer Chord Diagram

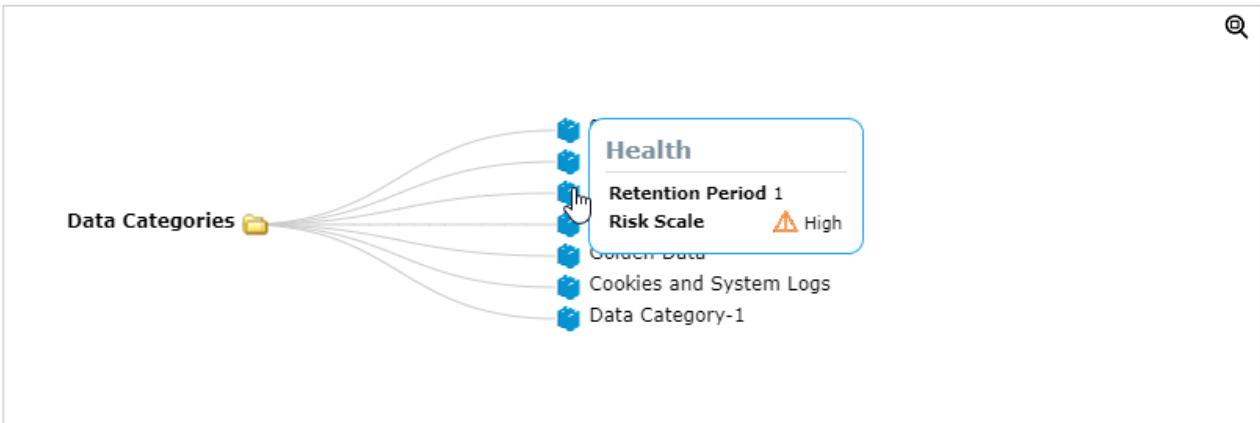
This new renderer is available for java reports



Excel Export is available

5.7.2. Tree Reports in Studio

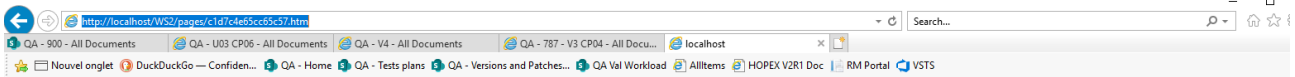
Display any Properties in tooltips



5.8.. Static Website

5.8.1. Dynamic Reports available in Static WebSite

All dynamic renderings such as Graph, Treemap, Chord diagrams etc... work when they are included in the generation of a static website.



1. Graph Set Application Technologies 'a'

