

## RAID database system specification and features overview

Designed to provide a simple and cost-effective way of centralising risk management and reporting, riskHive quickly and effectively imports, consolidates, and maintains your existing risk registers in a portfolio database allowing you to start generating information and reports straight away by importing current excel risk registers.



riskHive ERM brings together and consolidates RAID data and information from everywhere your business operates, securely incorporating and amalgamating both your organisation and its supply chain, instantly creating your whole risk universe.

### ERM application System features

- Manage risks, opportunities, issues, assumptions, benefits and more...
- Hyper-configurable user interfaces with user/project maturity alignment
- Configurable to reflect ISO, AU/NZ and COSO standards
- Project > Programme > Portfolio aggregation system
- Multiple hierarchical data organisation structures
- Simultaneous multiple languages and currencies
- Qualitative and quantitative assessment and reporting
- NEC3 Trend (emerging risk) management process
- Fast and easy import / export of data and information
- Advanced interactive data graphics; bowties, word-clouds, map-views, radials, heatmaps and risk-radars
- Built-in Monte Carlo Simulation and Analysis for cost (CRA) and schedule (SRA) and combined cost & schedule analysis (JCSRA) – all at the click of a button, removing reliance on SMEs and making analysis accessible to all
- Linkable to BIM data and other third-party management systems

## ERM application Elemental diagram



## ERM System specification

- Industrial-strength professional database application
- 2048-bit data encryption and SSL TLS security
- Encryption of data at rest and in-transit
- Single sign-on (SSO) SAML2 multi-level and hybrid IP capability
- Super-secure cloud hosting or on-premises installation
- Browser-based application works with all platforms & browsers
- No client-side downloads, plug-ins or add-ins required
- High resilience, low data bandwidth, auto-archiving of data
- Triple-system deployment: Live, Staging and Training environments
- Supports 25 - 25,000 system users (<250 concurrent)
- Super-fast deployment: ready for configuration in <48 hours
- Application is 'white-labelled' and can be branded to client specification

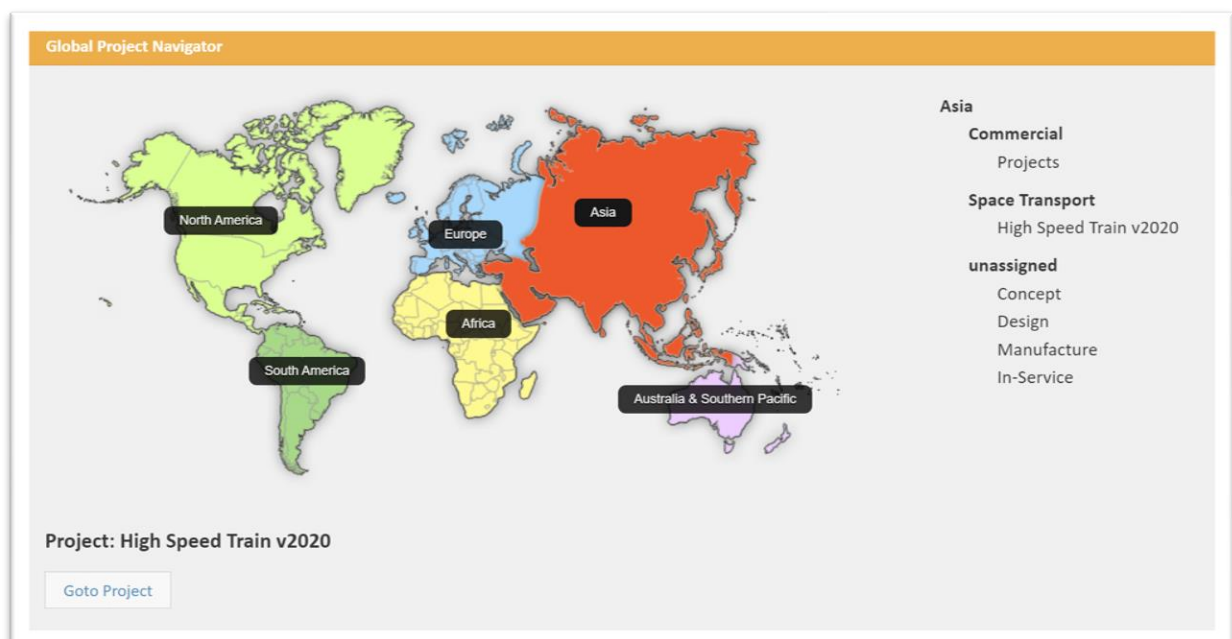
## ERM application Features diagram



## Global Navigator Map View

Displays projects overlaid onto their continental locations.

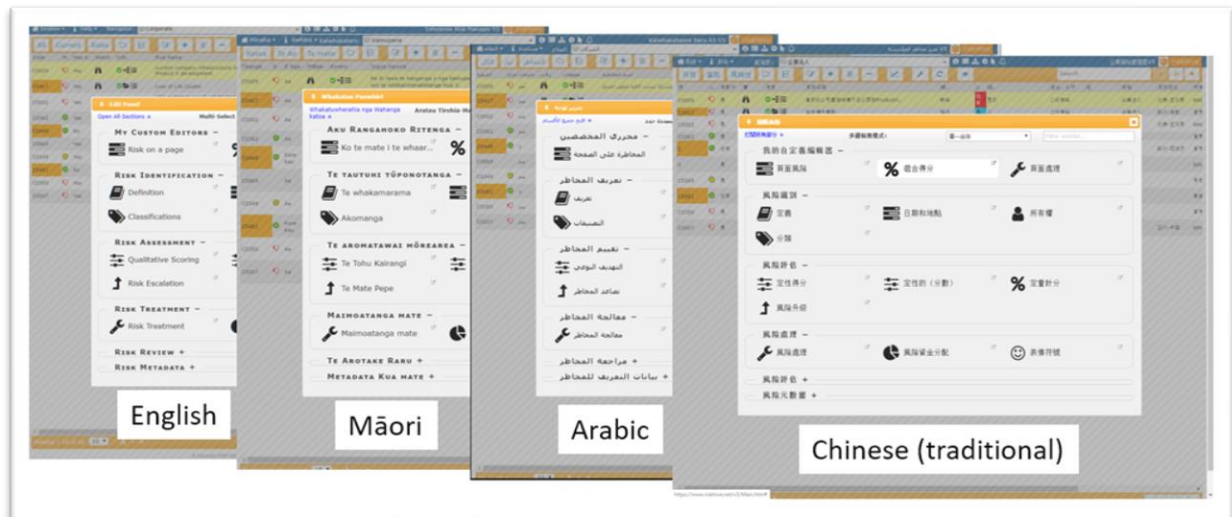
Click-through on continent to see projects by category and then select project to view in main system grid.



## User Interface in over 70 National Languages & currencies

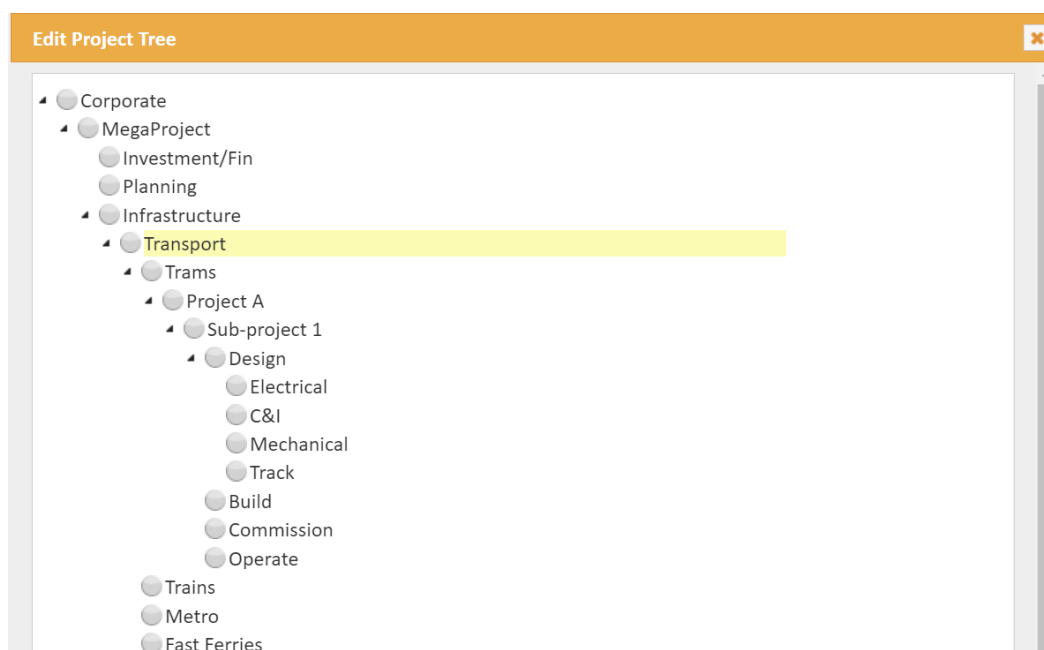
Designed to work with Google Translate extension, the application can be viewed in any one of 109 different languages (and counting). Trans-national users can view the same screen at the same time in their own national language and any local currency.

Both the application controls and text-entry information are translated in real-time. Central management teams can view the whole portfolio in any currency of choice.



## Instant hierarchical risk portfolio aggralytics

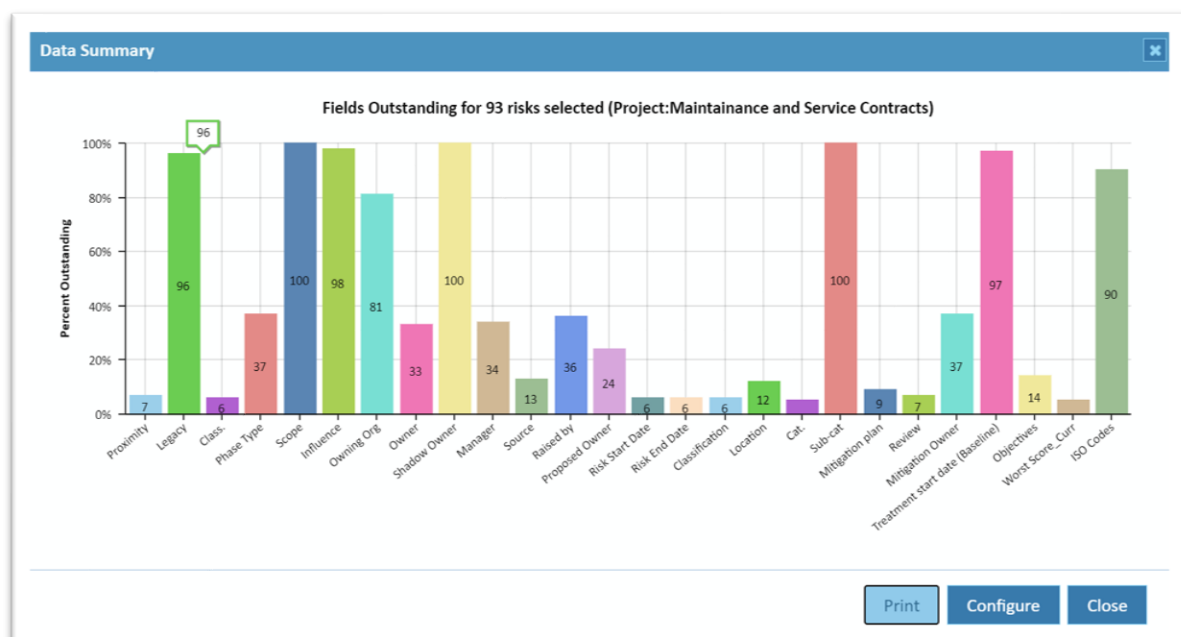
Even with different risk register formats, currencies and scoring mechanisms being used across the organisation, ERM can homogenise and aggregate data and information into an instant portfolio – displaying your whole ‘risk universe’ at the click of a button. Search, filter and report in a live and agile way like never before and say goodbye to Excel®.





## Data Field Complete/Missing Identification

These reports generate histograms displaying mandated field titles and their degree of completeness or, conversely, the extent of missing data across the portfolio.





## Risk Review Mode - made to make risk reviews easy

ERM supports workflow for interactive risk reviews. Using a split-screen approach, a list of risks - whether contained in a single project or a subset or superset from the whole portfolio - can be systematically reviewed, amended (with logs) and checked-off one-by-one. A configurable data panel displays detail with click-through to access data fields.

System Help Navigator Corporate Maintenance and Service Contracts Enterprise Risk Manager (IB)

All Current Risks

Code Owner Risk

JPN TWB 0328 Risk Manager 37 There is a risk that Life time estimated.

Arg BAS 0383 Risk Manager 28 There is a risk that subway terrorism

UK LU 0336 Contractor A There is a risk that Severe v by tracks over 4 months

UK LU 1063 Contractor A There is a risk that Severe v by tracks over 4 months

NZ CSWT 0353 Risk Manager 19 There is a risk that Train tra

Aus SFF 0375 Risk Manager 23 There is a risk that expensive components on ferries

Aus SFF 0356 Risk Manager 22 There is a risk that New ves sabotage

Aus SFF 0348 Risk Manager 24 There is a risk that smaller t alongside large vessels

CHI BEB 0333 Risk Manager 31 There is a risk that New val may not be suitable

JPN TWB 0338 Risk Manager 39 There is a risk that Buses m landing platforms

DMK MOBT 0366 There is a risk that Unusual the carriage paint to peel m metal elements to rust

SPN MM 0390 There is a risk that Metro st

ITL RSE 0395 There is a risk that older dri the new high-speed scoote

UK LU 0010 Contractor A There is a risk that Mainten misaligned between Custor

UK LU 1061 Contractor A There is a risk that Mainten misaligned between Custor

NZ CSWT 0012 Risk Manager 17 There is a risk that 25 trains which are due to retire bet

M&S Contracts 0332 RM05 There is a risk that Mainten financially viable.

M&S Contracts 0281 Risk Manager 16 There is a risk of unaccepta exchange rates

UK LU 0326 Risk Manager 12 There is a risk that Terrorist impact smooth running of t

UK LU 0337 Risk Manager 13 There is a risk that Train dai elements

UK LU 1057 Risk Manager 12 There is a risk that Terrorist impact smooth running of t

UK LU 1059 Risk Manager 12 There is a risk that Train dai elements

USA CT 0355 RM10 There is a risk that Trams m environmental regulations.

USA CT 0321 RM10 There is a risk that the lead delay production of tram

USA CT 0319 RM04 There is a risk that strike ac personnel could be conduct

NZ CSWT 0014 Risk Manager 19 There is a risk that mechani requirements standards

NZ CSWT 0352 Risk Manager 15 There is a risk that Trains m environmental requirement

Aus SFF 0374 Risk Manager 24 There is a risk that Roads be transport large ferries across

Aus SFF 0372 Risk Manager 23 There is a risk that Navigati some routes

Arg BAS 0335 Risk Manager 25 There is a risk that Electro T greatly effective.

Arg BAS 0376 Risk Manager 27 There is a risk that Parts of safe for the English Royal Vi

CHI BEB 0358 Risk Manager 33 There is a risk that manufact available on time

JPN TWB 0330 Risk Manager 36 There is a risk that Current meet quality standards

Review Record

Last reviewed today by manager: ①

Definition

Code Risk

UK LU 0336 Severe weather damage sustained by tracks over 4 months

Summary

Severe weather damage

Causes

- Electric boxes and tracks damaged due to lightning, frost and extremely low temperatures

Effects

- Trains may need to be adapted for future severe weather
- Ballast issues

Responsibility, Classification & Timeline

Owner Risk Manager 3

Manager RM05

Classification Operational

Category Safety

Location Europe - London

Proximity -1730

Start Date 13.07.16

End Date 01.04.17

Scenarios & Impacts

Impact	Pre-mitigated				Current				Target			
	Level	Min	Exp	Max	Level	Min	Exp	Max	Level	Min	Exp	Max
Prob	Very High		85%		High		62%		Low		42%	
Cost	High	£7,094,694	£17,736,733	£28,378,777	Medium	£709,469		£7,094,694	Low	£709,469		£7,094,694
Time	High	32.0d	60.0d	90.0d	Low	4.0d	7.0d	10.0d	Medium	11.0d	25.0d	31.0d
Performance	Medium				Medium				Low			
Reputation	Medium				Low				Low			
Health And Safety	Medium				Low				Low			
Legal					Low							
Group Cost												

Treatment & Actions

Primary Treatment Objective

Develop new processes or technology to safe guard equipment.

Primary Type Treat

Owner RM06

Primary Effectiveness Improvement required (25-60% successful)

Primary Status Live

Actions

Code	Name	Description	Owner	Instance	Finish ...	Progress	Act Stat...	Current...
A0768	Redesign trains	Redesign trains		Response		0	Not-Approved: Effective	0
A0338	Have a supply of ballast			Fallback		0	Not-Approved: Ineffective	0
A0096	Agree way forward with Customer	Work with customer to understand the findings and how the current maintenance contract can cope. If not, how the contract can be updated to address extra costs.	Risk Manager 13	Control	01.03.17	100	Complete: Effective	0
A0095	Gather information on	Identify critical or single point parts that may be damaged. Understand the suppliers, lead times, costs and potential	RM06	Control	01.12.16	100	Complete: Effective	0

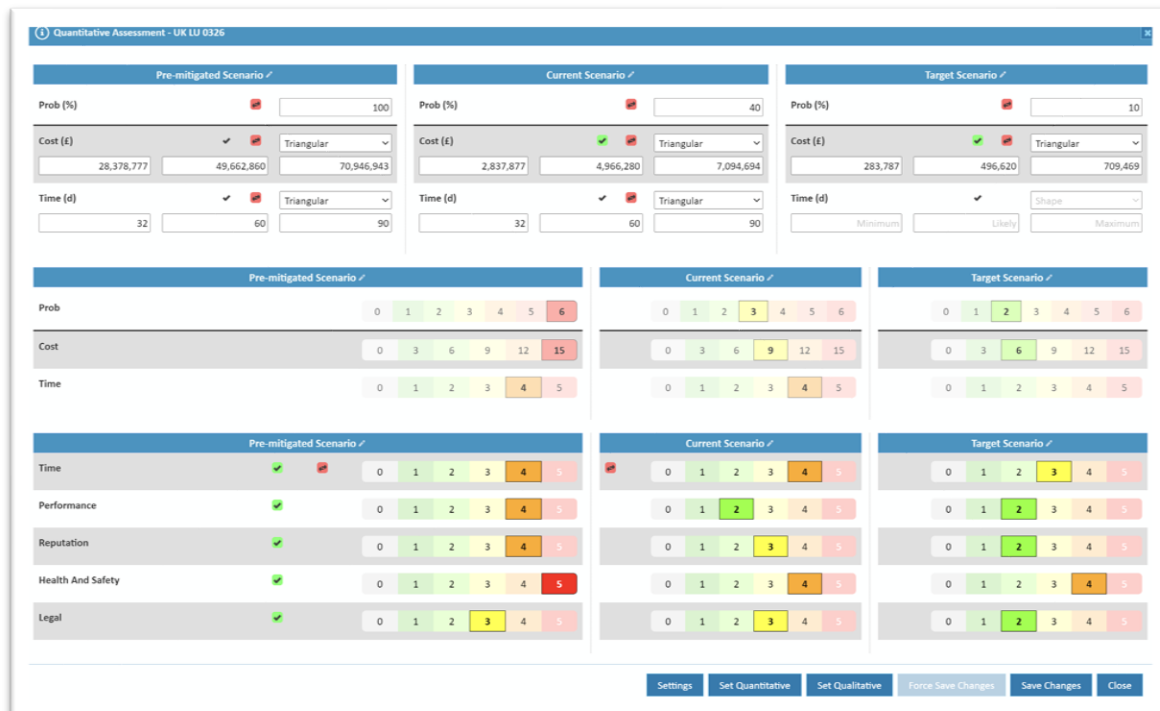
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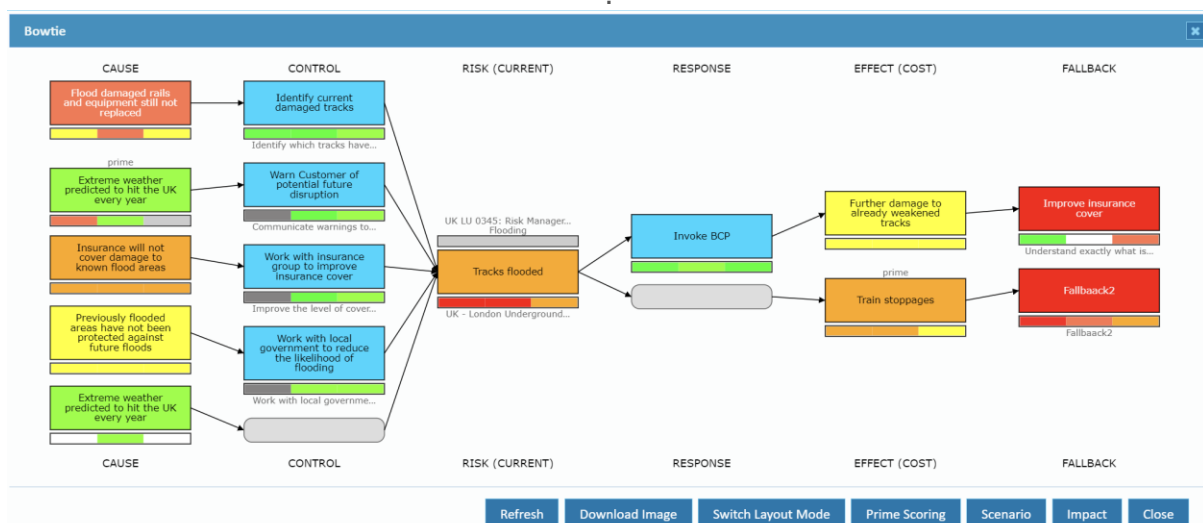
## Custom Hybrid scoring mode

Facilitates a combination of quantitative and qualitative scoring on one screen. Enforce the use of quantitative data input where appropriate – the system automatically calculates the qualitative equivalent score so all the heatmaps still work.



## Bow-Tie Graphical Interface

The interactive graphics of our Bowtie visualiser allow the user to define the threat-space more effectively by describing not just risk line items but multiple causes and effects, active controls, and fallback actions. The risk information in the database can be edited and added to using the graphical interface with all changes being committed back to the system database. Bowties can also be generated from multiple risks or word-searches.

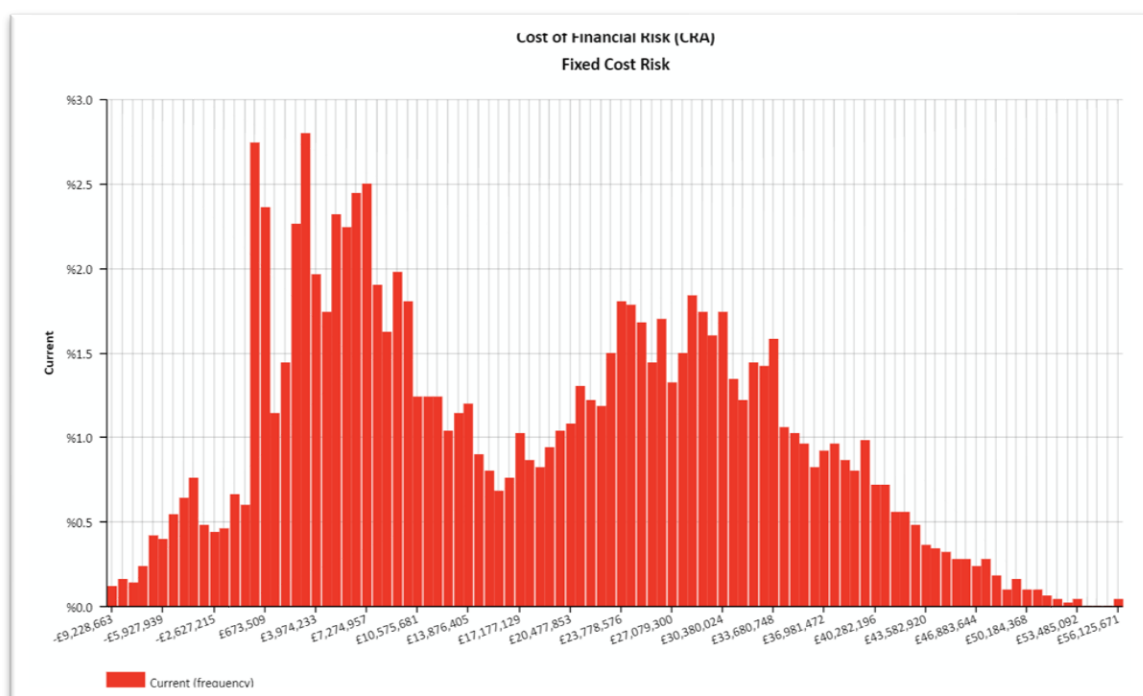
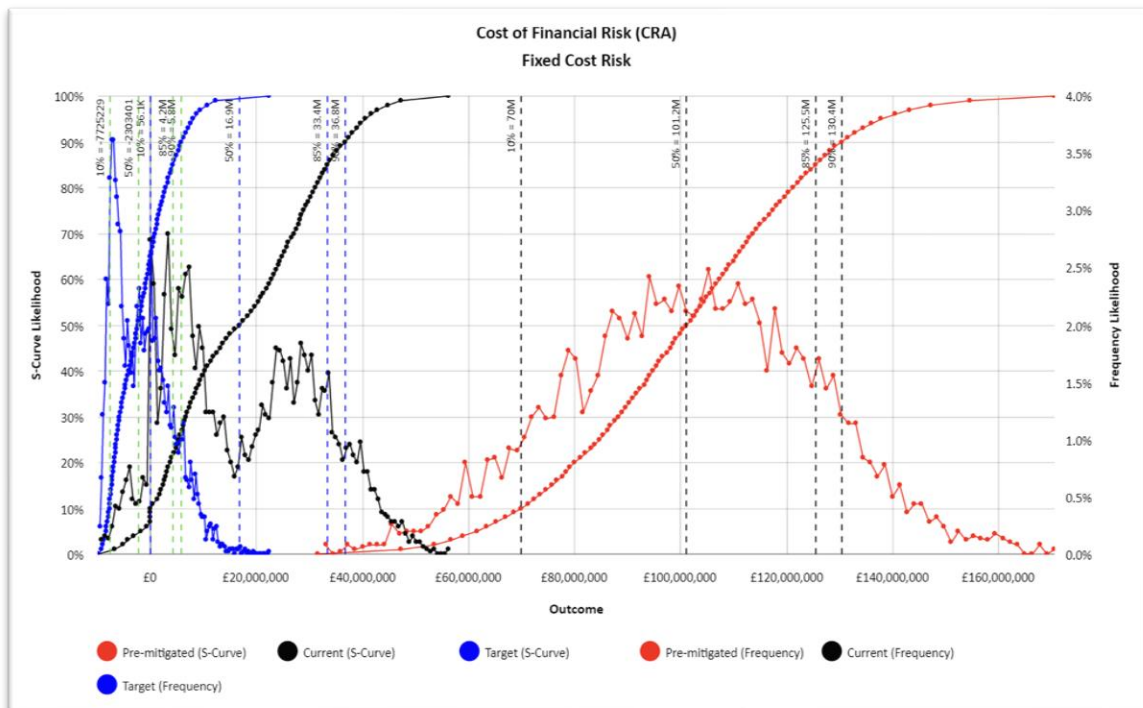


## True Monte Carlo Simulation for Cost (CRA)

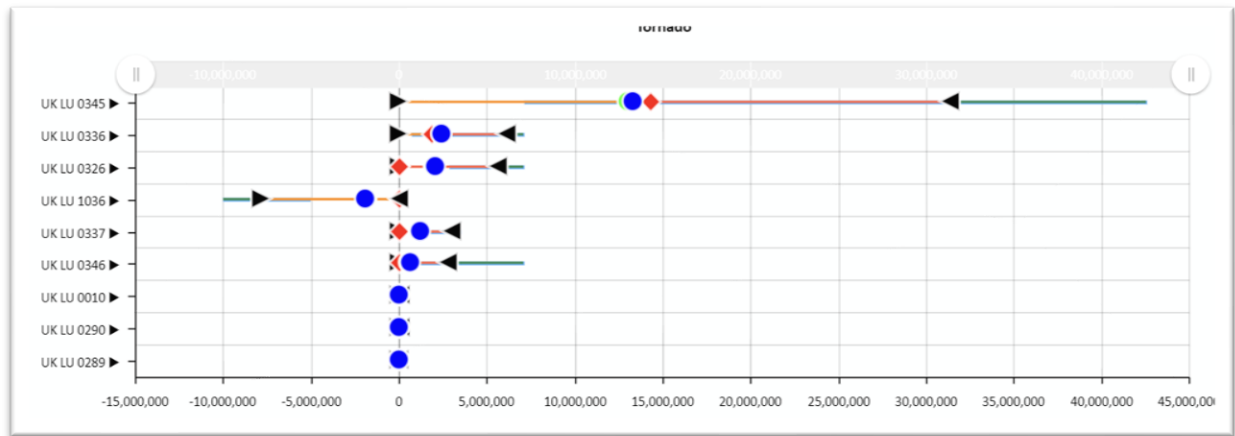
Online risk analysis of cost based on filtered and sorted data is as simple as clicking a mouse. Multiple scenarios such as Pre, Current and Post mitigation can be run simultaneously and compared side by side on a single graph or chart which is drillable.

Standard outputs such as S-curves, histograms and cost-risk tornadoes are all easily produced for no additional effort and all data can be exported to Excel files. Analysis can even be aggregated through the hierarchical tree structure which gives statistically correct views at project, programme and portfolio level.

All simulations and results are archived and can be easily retrieved.

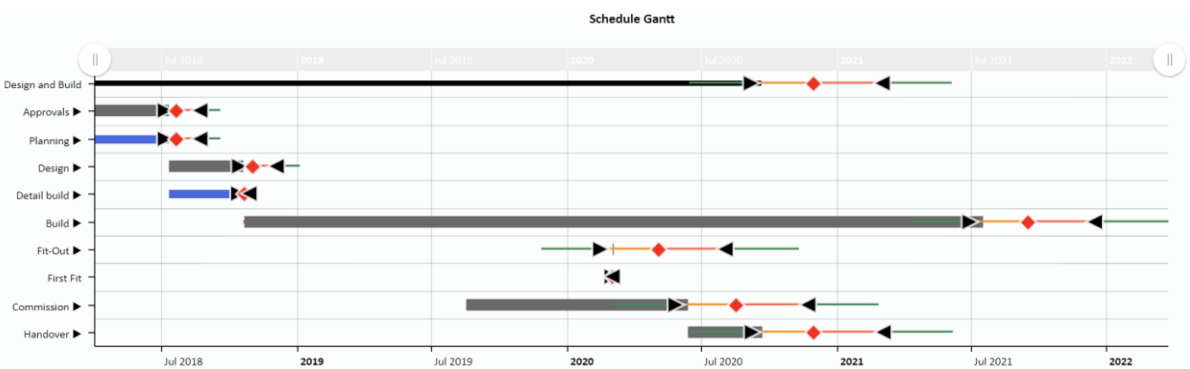
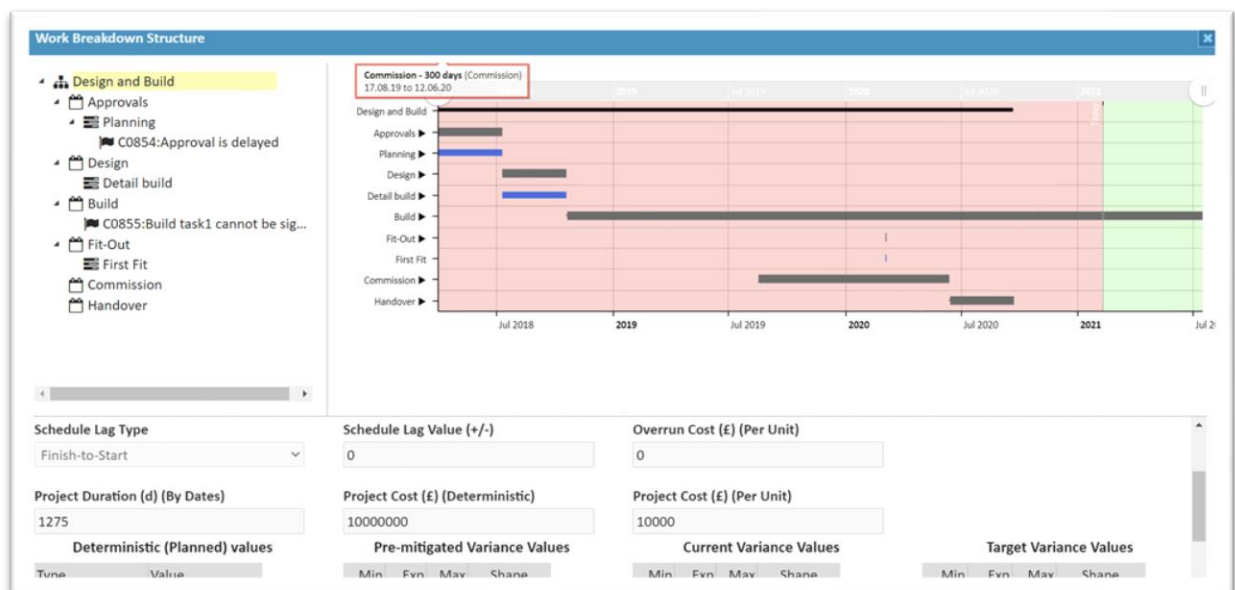




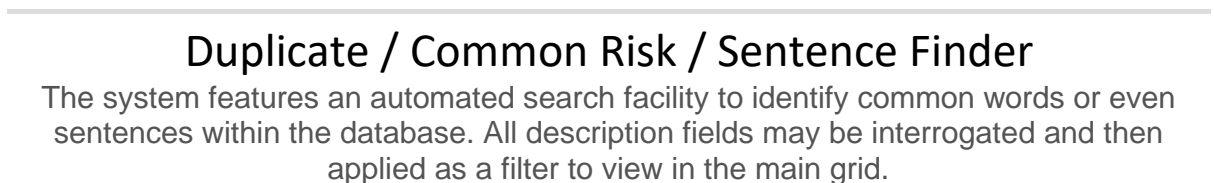


## Schedule Risk Analysis (SRA) including Cost (JCSRA)

Our built-in scheduler can be used to create nested schedules using the simple online interface without the need for external plans from P6 or Project if they do not exist, although they can be imported using simple file translation. Risks can be associated with tasks or phases and monte carlo analysis calculates the combined effect on cost from both cost and schedule extension perspectives, as well as durations and finish dates. S-curves, tornadoes and risk-adjusted Gantt charts advise the risk or project manager.



Word clouds expose common themes and subjects by displaying the most frequently occurring words in the database. These can be filtered individually and composed of tile, cause, effect, or all description fields.



All	Current	Risks	Text Analysis			
Code	Owner	Risk	Risk Count	↓ Word	Risks	Search?
Aus SFF 0374	Risk Manager 24	There trans	14	damage	Aus SFF 0348, Aus SFF 0374, Aus SFF 0375, CHI BEB 0333, IRE DT 0403, IRE DT 0405, SPN MM 0386, UK LU 0336, UK LU 0337, UK LU 0345, UK LU 1055, UK LU 1059, UK LU 1063, USA CT 0370	X
Aus SFF 0372	Risk Manager 23	There on so	14	delays	CHI BEB 0359, CHI BEB 0360, DMK MOBT 0378, IRE DT 0401, IRE DT 0402, IRE DT 0404, IRE DT 0405, NZ CSWT 0352, NZ CSWT 0353, UK LU 0290, UK LU 1056, USA CT 0280, USA CT 0319, USA CT 0321	X
Arg BAS 0335	Risk Manager 25	There be gr	12	Customers	Aus SFF 0373, CHI BEB 0333, CHI BEB 0347, DMK MOBT 0367, IRL RSE 0400, JPN TWB 0338, M&S Contracts 0281, M&S Contracts 0443, SPN MM 0388, SPN MM 0389, UK LU 0346, UK LU 1062	X
CHI BEB 0358	Risk Manager 33	There be av	12	trains	DMK MOBT 0368, DMK MOBT 0378, DMK MOBT 0380, NZ CSWT 0011, NZ CSWT 0012, NZ CSWT 0352, UK LU 0010, UK LU 0326, UK LU 0336, UK LU 1057, UK LU 1061, UK LU 1063	X
JPN TWB 0330	Risk Manager 36	There meet	10	maintenance	Arg BAS 0376, DMK MOBT 0367, DMK MOBT 0368, JPN TWB 0331, M&S Contracts 0320, M&S Contracts 0332, NZ CSWT 0011, UK LU 0010, UK LU 1061, USA CT 0319	X
JPN TWB 0339	Risk Manager 36	There	10	train	Arg BAS 0382, Arg BAS 0383, DMK MOBT 0367, DMK MOBT 0368, DMK MOBT 0379, NZ CSWT 0353, UK LU 0337, UK LU 0345, UK LU 1055, UK LU 1059	X
JPN TWB 0331	Risk Manager 38	There Buse	Sentences			
DMK MOBT 0380		There could Swed				
IRE DT 0404		There wast				
IRE DT 0401		There track				
M&S Contracts 0320	RM10	There addit				
M&S Contracts 0996	Risk Owner 1	There deple				

## User Access Logging & Activity Reports

The system keeps track of users logging-in and logging-out and also records what they have done so activity can be viewed over time. This makes it simple to identify users with the most and least data update activity.

User Activity Dashboard

User Activity (From '08.03.21' To: '08.04.21')

Timestamp	Event Type	User	Session Type	IP Address
08/04/2021 17:19:39	Login	manager	Internal	77.99.163.98
08/04/2021 11:53:08	Session Timeout	manager	Internal	77.99.163.98
08/04/2021 10:52:52	Login	manager	Internal	77.99.163.98
06/04/2021 16:07:22	Session Timeout	manager	Internal	77.99.163.98
06/04/2021 15:06:00	Login	manager	Internal	77.99.163.98
24/03/2021 16:21:42	Session Timeout	support	Internal	77.97.236.17
24/03/2021 15:21:02	Login	support	Internal	77.97.236.17
24/03/2021 15:20:36	Session Timeout	support	Internal	77.97.236.17
24/03/2021 15:19:40	Login	support	Internal	77.97.236.17
18/03/2021 10:47:48	Session Timeout	manager	Internal	77.99.163.98
18/03/2021 09:09:41	Login	manager	Internal	77.99.163.98

Print Configure Close

User Risk Activity (From '08.03.21' To: '08.04.21')

Risk	Name	Total Risk ...	Create	Update	Delete	Other
	A. User	196	1	195	0	0

Viewing 1-1 of 1 5

Print Configure Close

## AAR Compliance (UK Single Source Pricing Regulation)

The system provides a facility for capturing AAR justification data for each risk (Appropriate, Attributable and Reasonable) and checkbox compliance status.

System Help Navigator Test1 Enterprise Risk Manager

All Current Ris

Code	App	Att	Rea
C0009			
C1020	Y	Y	N
C0007	Y	N	N
C1017	Y	Y	Y

SSPR - C1020

Summary

Failure to maintain strong liquidity position

Sentence

There is an uncertainty that Maintaining a strong liquidity position to y gestión de flujo de caja i because Inadequate credit control and cash flow management which will result in a failure to meet our financial obligations.

Full Description, Background and Assumptions

AAR Compliance::

☒ Appropriate Guidance
 ☒ Attributable Guidance
 ☒ Reasonable Guidance

AAR Justification:

The risk would not occur if the contract were not in place.

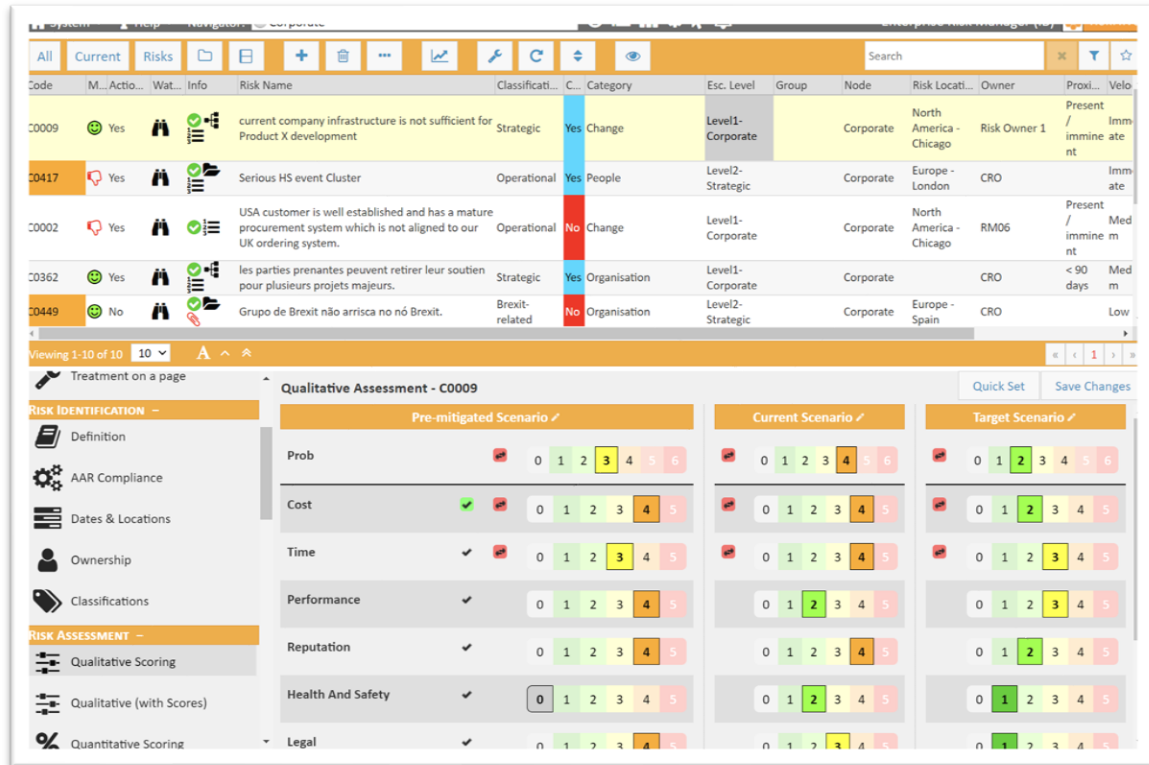
Cost will Be Incurred In The Conduct Of Delivering The Qualifying Defence Contract Or Qualifying Sub-Contract In Question.

Reasonable If By Its Nature It Does Not Exceed What Might Be Expected

Save Changes Close

## Inline risk editor

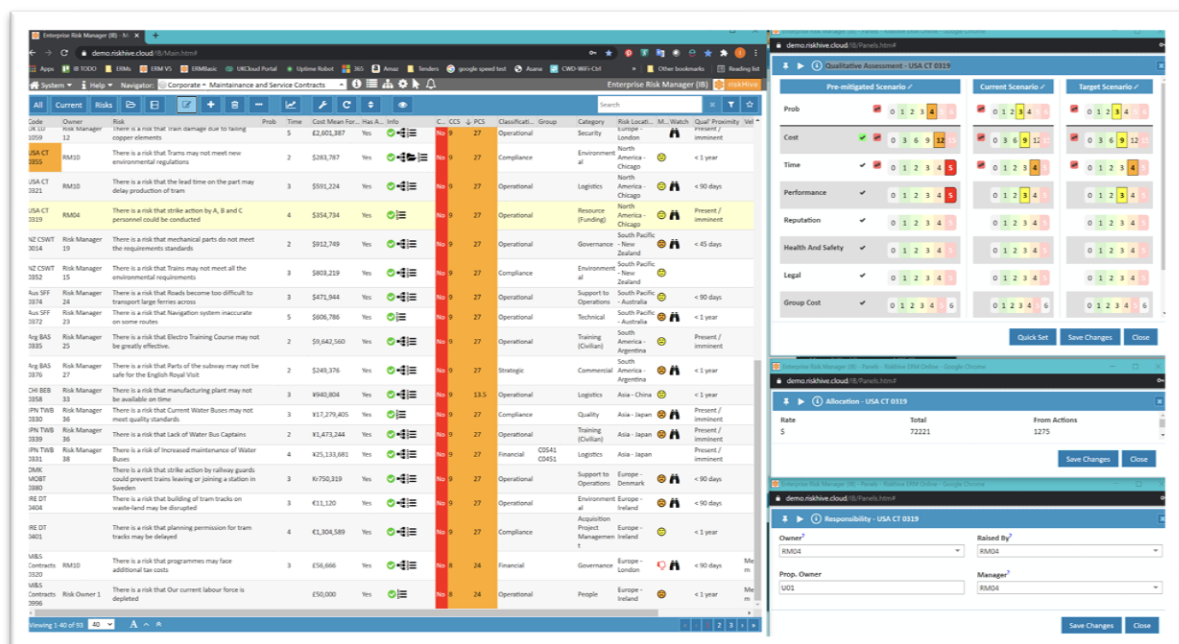
An inline editor function allows data entry and update of single or multiple risks at once. This interface also facilitates the side-by-side comparison of metadata for up to 5 risks at any one time – useful when comparing similar risks across the breadth of a risk portfolio.



The screenshot displays the riskHive Enterprise Risk Manager interface. At the top, there's a navigation bar with tabs for 'All', 'Current', 'Risks', and 'Info'. Below this is a search bar and a list of risks. The list includes columns for Code, M...Actio..., Wat..., Info, Risk Name, Classificati..., C... Category, Esc. Level, Group, Node, Risk Locati..., Owner, Proxi..., and Velo. The risks listed are C0009, C0417, C0002, C0362, and C0449. Below the list, there's a section for 'Qualitative Assessment - C0009'. This section is divided into three columns: 'Pre-mitigated Scenario', 'Current Scenario', and 'Target Scenario'. Each column contains a grid of risk factors (Prob, Cost, Time, Performance, Reputation, Health And Safety, Legal) and their corresponding scores (0-5). The 'Pre-mitigated Scenario' column shows scores for each factor, while the 'Current Scenario' and 'Target Scenario' columns show the current and target scores respectively. The interface also includes a sidebar with 'Risk IDENTIFICATION' and 'RISK ASSESSMENT' sections, and a 'Quick Set' button.

## Synchronous Multiple edit windows

Synchronised multiple windows allow an array of data entry and update screens to be viewed simultaneously, where you want to see multiple aspects of each risk all at once.

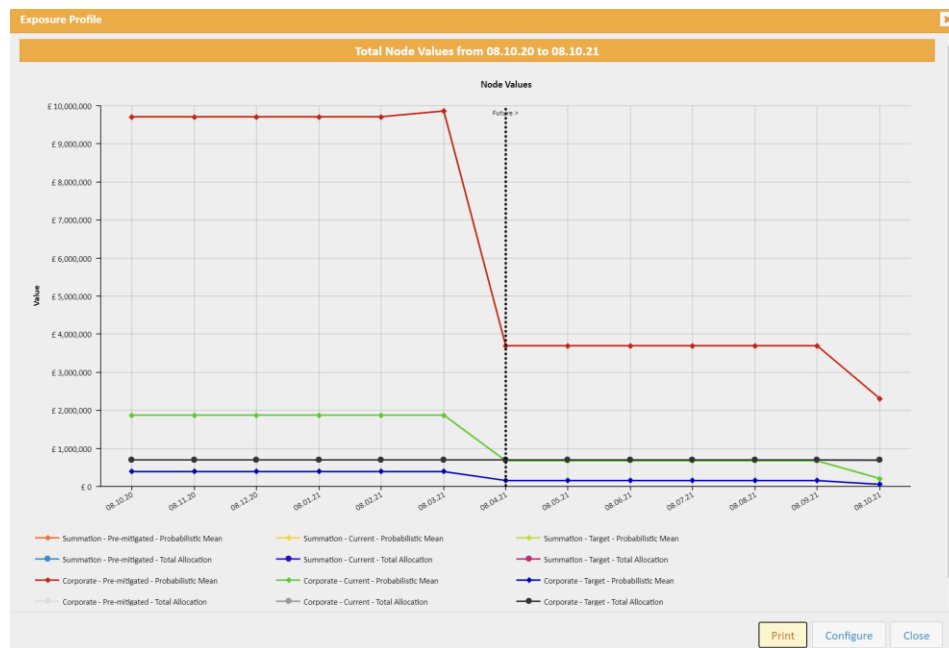


The screenshot shows the riskHive Enterprise Risk Manager interface with multiple windows open. The main window displays a list of risks, including C0009, C0417, C0002, C0362, and C0449. To the right, there's a 'Qualitative Assessment' window for risk C0009, showing a grid of risk factors and their scores. Below this, there's a 'Responsibility' window for risk C0009, showing the 'Owner' and 'Prop. Owner' fields. The interface also includes a sidebar with 'Risk IDENTIFICATION' and 'RISK ASSESSMENT' sections, and a 'Quick Set' button.

## ERM Dashboards and reports

### Risk Exposure Waterfall Chart

A fully user-configurable chart showing quantitative exposure and mitigation spend for all scenarios and levels within the nodal hierarchy, including node aggregation. Rebuild the chart on the fly with live-edit functionality.



### Risk Summary Dashboard

A graphical view of the profile of risk by status, scoring level and classification with lists of Top 'n' risks by fiscal impact and by closest proximity to being active. Can aggregate from node and descendant nodes.





Risks and their associated actions are displayed in gantt format on a timeline that includes project or business phases and milestones, showing graphically when risk exposure and mitigation planning is active. The chart is interactive and clickable to edit risk or action dates or assessment parameters. Can be built from a whole portfolio.



**Risk Landscape**

**Risk Landscape for Total 93 risks (Project 'Maintenance and Service Contracts') Date: 08 April 2021 18:20:09**

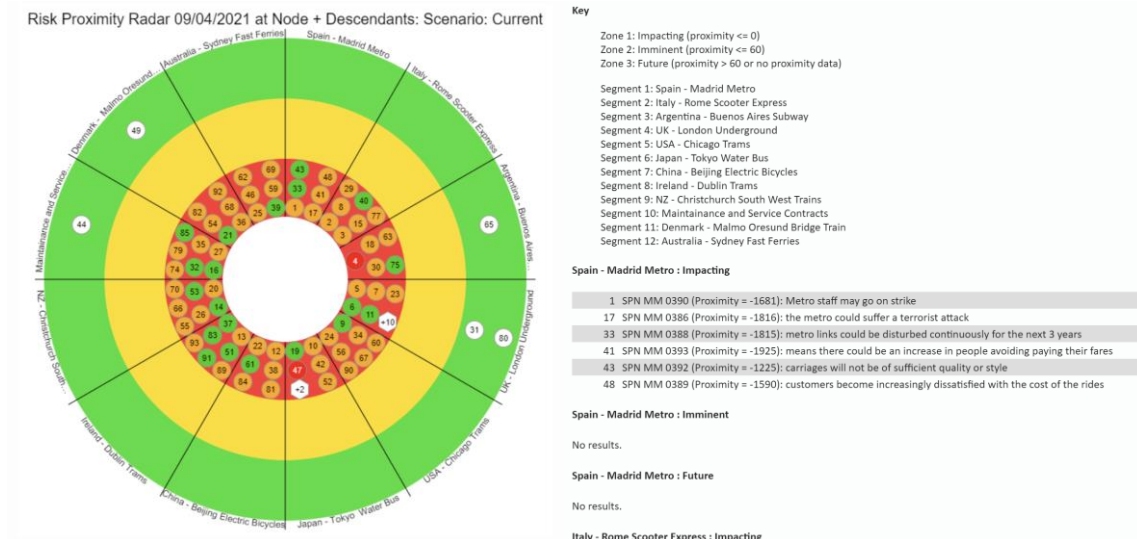
Sort: **Default Unsorted**

**Risk Values as a percentage of Node Values**

**Risk Values on top of Node Values**

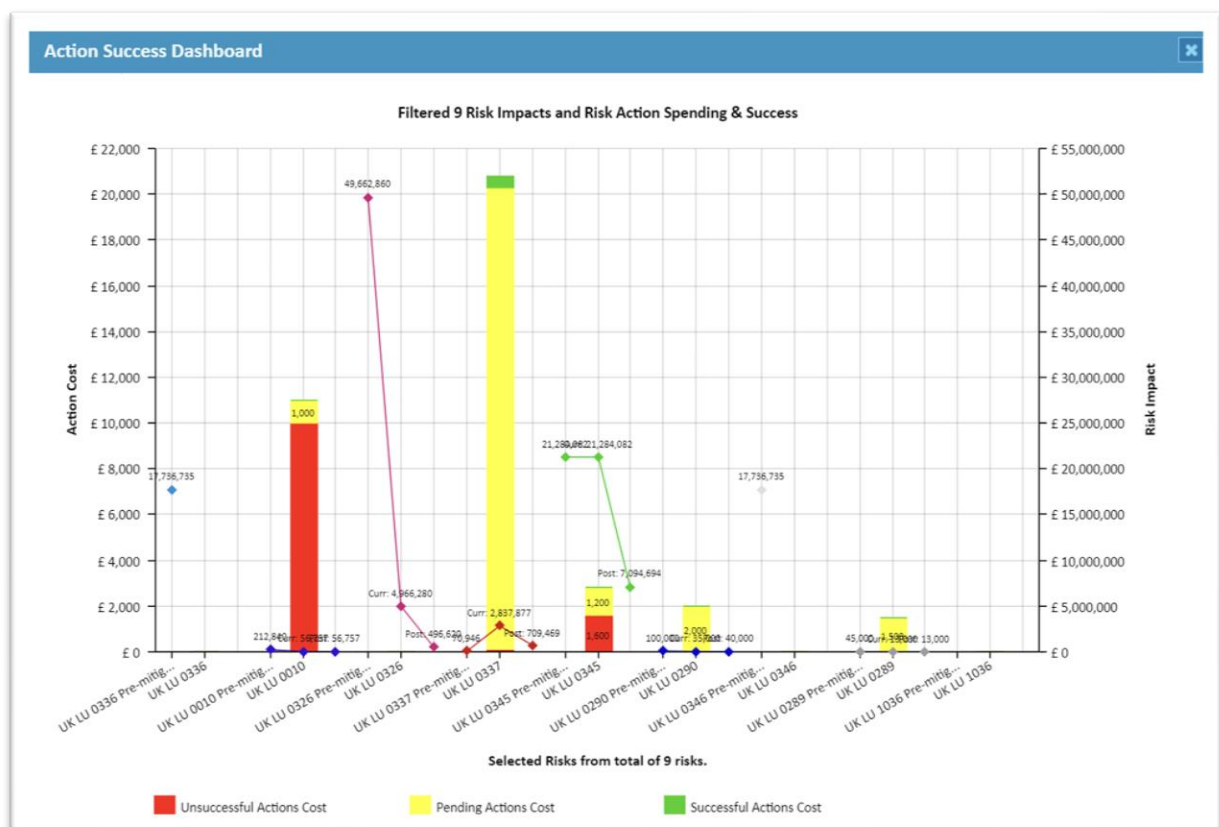
## Risk Radar Radial Chart

Risks or project nodes displayed on a clickable radial 'bullseye' chart helps focus on the significant risks. Configurable using risk parameter selections.



## Control Action Effectiveness Chart

Displays how much has been spent on actions that have been either successful or unsuccessful and indicates how much is left to spend on pending actions.

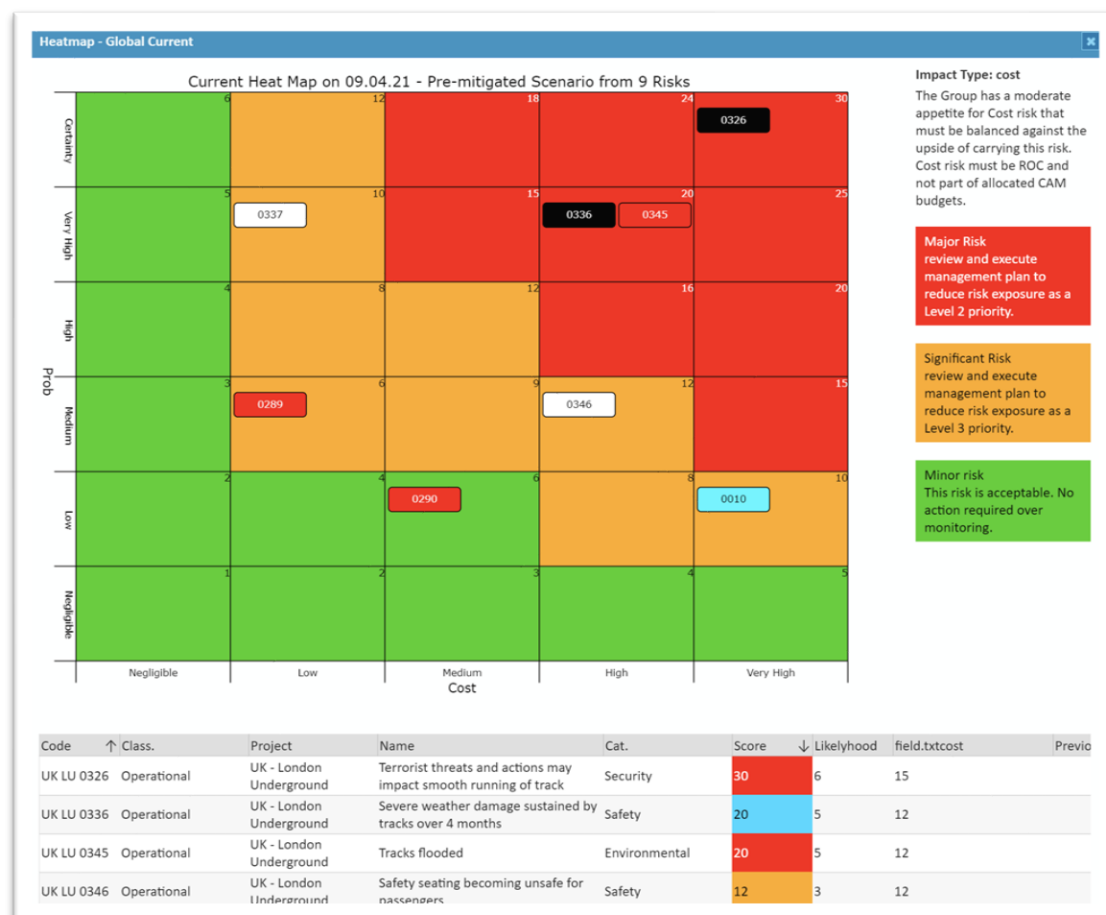


## Risk Appetite Summary Heatmaps

Display all PID heatmaps with their independent appetite articulation colours and scoring and drill-down to each individual heatmap to access any perspective and any risk.



Click-through to generate familiar PID heatmaps for any scored impact type for any mitigation scenario. Another click-through takes you straight to the risk detail.



Understand the nature and distribution of risk types that your business is exposed to. This chart provides a summary of risks and a histogram of number of risks in each category plus the quantitative risk exposure for each category.



Strategic Risk																				
Code	Name	Risk Severity Assessment (P = Pre-mitigated, C = Current, T = Target)															Risk Management			
		Major Risk							Significant Risk				Minor risk				Owner	Manager		
		30	25	24	20	18	16	15	12	10	9	8	6	5	4	3	2	1		
C0009	current company infrastructure is not sufficien....						C	P							T				Risk Owner 1	RM06
C0417	Serious HS event Cluster						P					C					T		CRO	
C0002	USA customer is well established and has a mature...				P			C							T				RM06	RM10
C0362	les parties prenanates peuvent retirer leur soutien pour plus...				P			C								T			CRO	Contractor A
C0449	Grupo de Brexit não arrisca no nó Brexit.					P		C							T				CRO	RM02
C0451	Weather Cluster								P			C					T		Admin User 3	Contractor A
C0869	buildings damage									P	C								Risk Owner 2	
C0349	Nya handelslagar kan påverka projekt i länder utanför EU								P			C				T			Contractor A	Contractor A
C0007	Several core suppliers could struggle to produce key prod...							P					C				T		RM06	Risk Manager 30
C0350	Die politischen Spannungen steigen zwischen Land C und ...								P			C					T		CRO	RM05

## RIC-ROC Chart

The UK MoD developed and uses a means of assessing and reporting fiscal risk which relies on the categorisation of risk being either inside or outside planned cost provision. Aside from the ability to improve risk allocation planning capability the balance of RIC (Risk Inside Cost) and ROC (Risk Outside Cost) is a good indicator of the degree of effectiveness of the overall risk management strategy and actions plan.

