

Democratisation of Risk



Safran Risk™

Or... How to Change the way you think about Risk...

Presenter



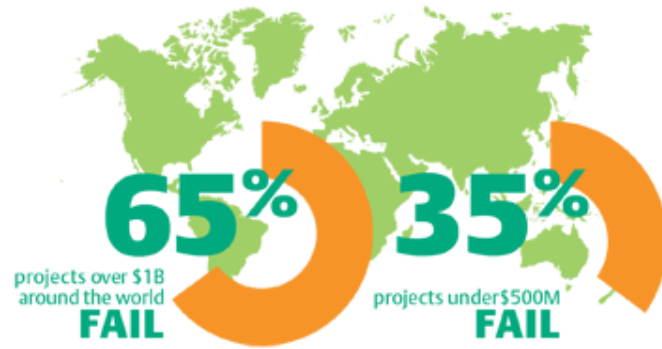
RICHARD WOOD / VP INTERNATIONAL SALES

Agenda

- ❖ **Why is managing risk so much more important all of a sudden??**
- ❖ The benefits of doing it right
- ❖ Some examples
- ❖ What does Democratisation look like?
- ❖ Conclusions

5 TRENDS IN RISK MANAGEMENT





Source: Industrial Megaprojects by Edward W. Merrow



Current Trends in Capital Projects



Accenture's «Ten Current Trends in Capital Projects»

DR McNatty: 5 TRENDS IN RISK MANAGEMENT

1. Project Controls is not just about cost, resource, and schedule anymore. It's about risk as well.
2. Executive level involvement is increasing
3. Higher frequency of reviews
4. Growing Demand for portfolio level risk assessment
5. New risk practices are emerging, and require new technologies to execute.



What does this mean?

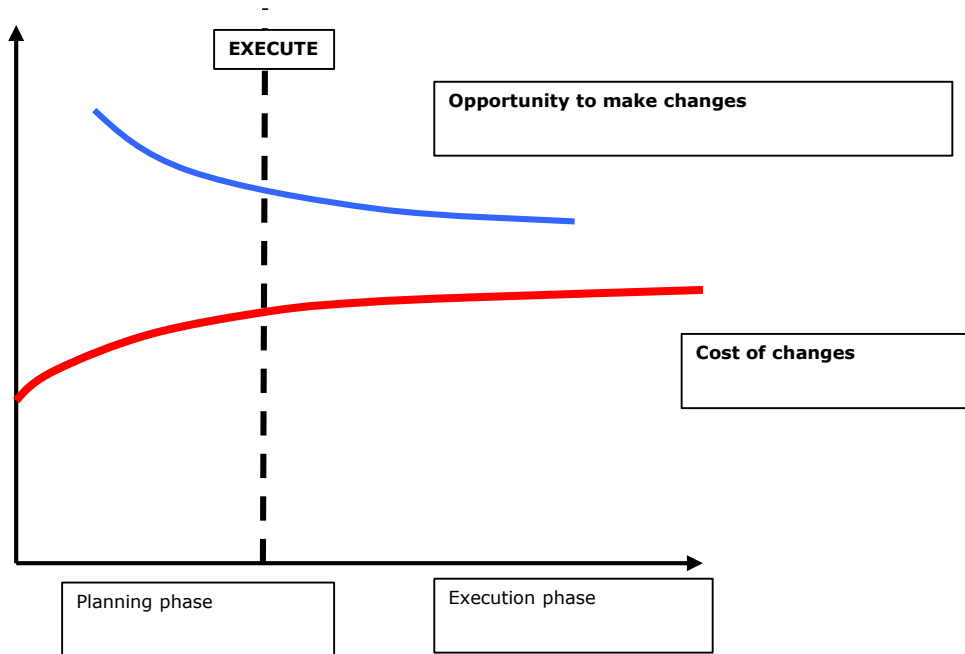
- Risk is becoming increasingly important to an organization's success and this trend will accelerate.
- Frequent reviews and portfolio level assessment are the driving force behind a shift in how organizations are handling risk.
- Dedicated resources specifically focused on risk analysis and mitigation will gain greater importance within organizations.



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Risk: Influence on cost and schedule



The importance of early recognition and mitigation

Risking the entire Portfolio

For a top 5 Energy company...

80% of projects

- Are budgeted < \$50m
- Contribute 20% by portfolio value

20% of projects

- \$50m are risk adjusted
- Contribute 80% by value

- And... 80% are late and/or over budget....



Integrating Risk into the Community....

- Driven by a simple embedded business process for all
- From initial schedule planning through to complex risk analytics
- Provides Risk Ready schedules
- Process driven - guarantees healthy analytics
- Allows modelling of composite risks
- Allows easy communication of risk impacts
for decision making – at all levels of project
- Enterprise data ensures availability of 'lessons learnt' for risk mitigation
- Allows you to create future scenarios based on optimising projects and on risk mitigation activities



Selected Mega Projects

Statoil Gudrun Platform



AHUS Hospital



Meyer Turku Shipbuilding



Oslo Airport - Terminal 2



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About Safran

We provide world-class enterprise project & risk management software, with over 20 years of successful project delivery experience in some of the most demanding markets. Our solutions are proven & trusted by thousands of project management professionals around the world.



Sample Customer List



Shaping the future.

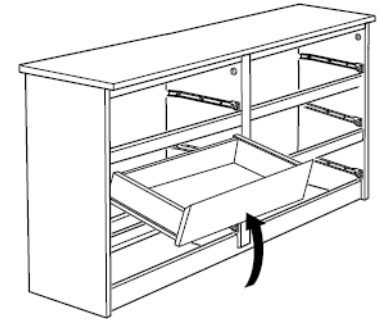
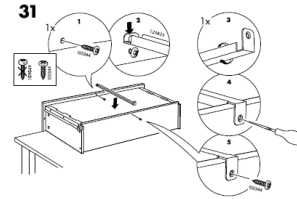
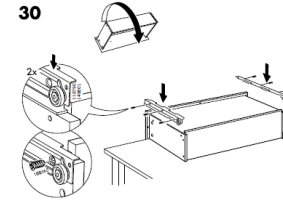
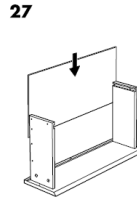
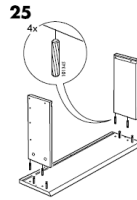
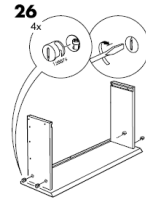
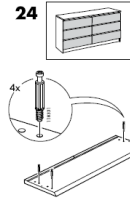
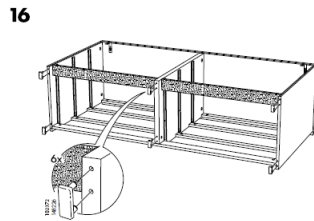
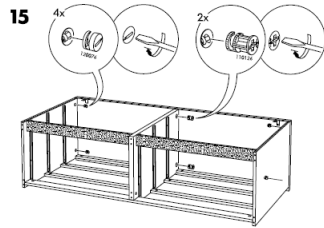
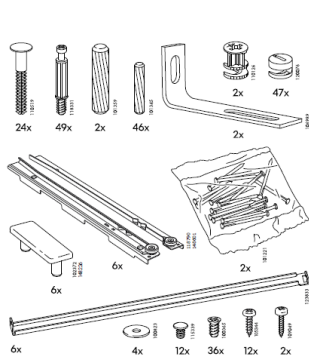


Uncertainty vs Risk

- How long does it take me to drive home from work?



Estimating activity durations



Uncertainty vs risk

Duration uncertainty

- It takes me 20 min, but actually anything between 15 and 35 minutes is most likely. If i have an appointment I always add an extra 10 minutes.

Risk

- If an accident occur it is likely to delay me by..
- If I start late from work is likely that I will use 25 min more than normal.
- If I start even later, I will cut travelling time by 5 minutes



Uncertainty vs Risk

Duration uncertainty

We are not certain that we will be able to cover all planned topics and demos within the allocated 30 minutes for this slot or if we have planned enough topics to fill the slot.

Risk

If the start of this presentation is delayed due to the audience arriving late (risk) we may not be able to accelerate to finish on time.

If there are many questions raised from the audience, (that's always a risk) it will take longer time and we need to either extend or cancel something.

If we have a power failure....

If the computer shuts down....

Parallel Product Positioning

The Best of Both Worlds.....



Plan, manage, and control complex projects with additional schedule risk analysis and fully-integrated reporting.

Safran Project™



Coming soon: Comprehensive Risk Analysis functionality for Risk Managers.

Safran Risk™

Core functions for Risk management by Operations teams
Seamlessly included within Safran Project for fast processing
Aimed at Project Managers and delivery teams
Single User Interface for ease of use
Integrated analysis and reporting

Industrial strength Risk Management
Stand alone dedicated application
For dedicated Risk Managers
Fullest Functionality available
Seamless integration to P6; Safran Project



Safran Integrated Risk; SRA

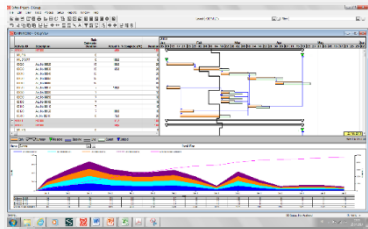
- All schedules are “risk-ready” before any analysis takes place.
- By combining schedule, costs, discrete risks and risk factors powerful and meaningful models can be built very quickly.
- Risk reporting is integral and simple to understand and produce, providing communication and collaboration around the risk management process in near and real time.



“Embedded Risk”



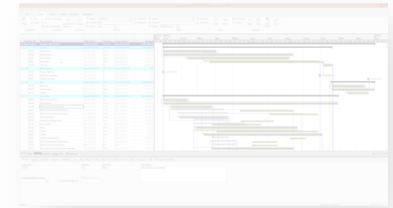
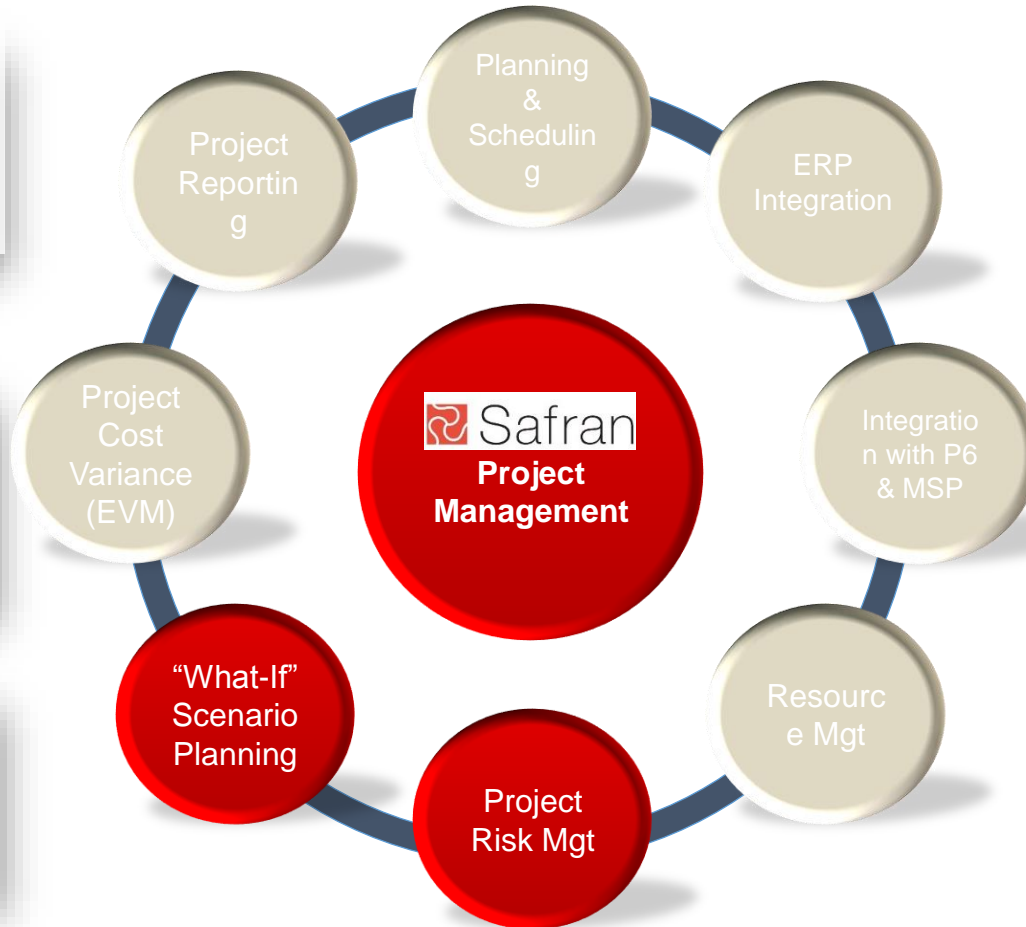
Project Cost Variance (EVM)



Scenario Planning



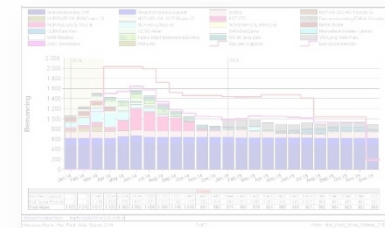
Integrated Risk Mgt



Planning & Scheduling



Integration



Scheduling & Resource Mgt

- Quick Risk Review
- Risk adjustment
- Elevated Confidence

FILE HOME DATA VIEW PROJECT REPORTS

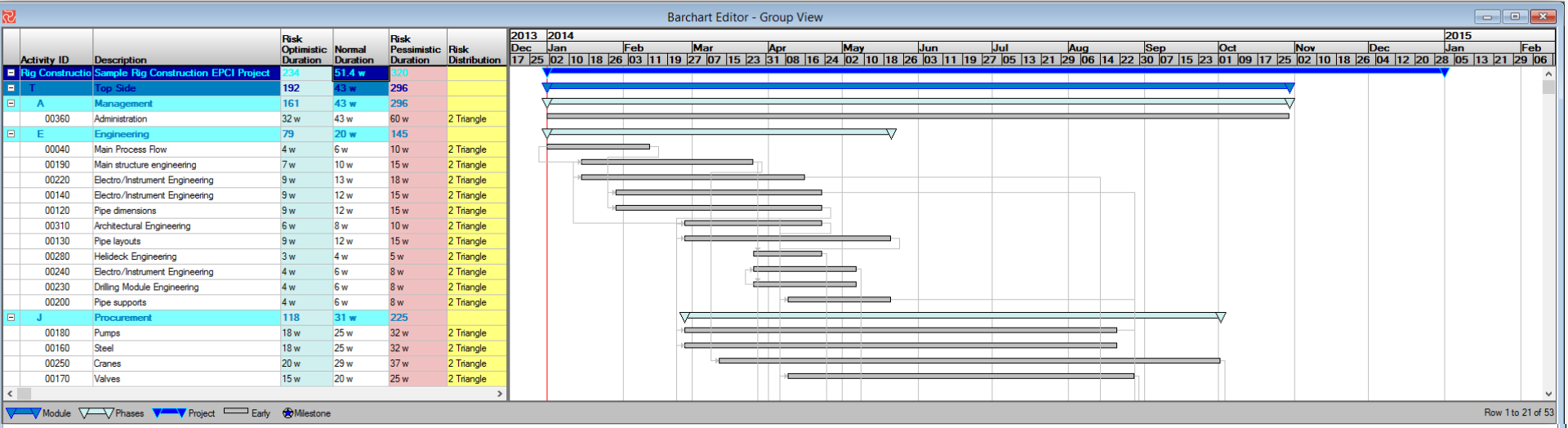
Clipboard: Cut, Copy, Paste, ID Renumbering, Risk, Date Calculator, Calculation Options, Columns

Name: <DEFAULT> Limit List
 Owner: dba Options-
 Users: User Layouts

Name: Limit List
 Owner: Options-
 Users: Project Users Filters

Fill Down, A Fonts, Break, Sort, Auto Filter, Find

Insert, Delete, Rows, Editing



Schedule Risk

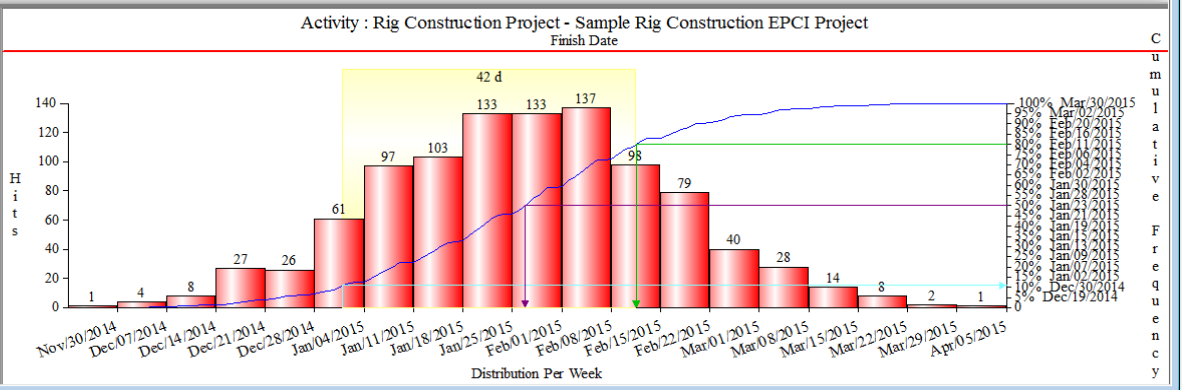
Input Durations
 Optimistic: 234 Deterministic: 51.4 w Pessimistic: 320 Distribution: [dropdown]

Remaining Optimistic: [] Rem. Determ. [] Remaining Pessimistic: []

Output
 Earliest: 01/01/14 Mean: 01/01/14 Latest: 11/25/14
 Start: 01/01/14 Mean Dur.: 278 Criticality Index: 1.0
 Finish: 01/01/14 01/27/15 Min. Float: 0
 Sensitivity Max. Float: 0
 Schedule: 0.7

Userdefined

	Start	Finish	Rem. Duration
P50:	01/01/14	01/23/15	276
P80:	01/01/14	02/11/15	288



Home

Schedule

Schedule Warnings 2

Project Risks

Correlations

Risk Mapping

Analyze

Results Summary

Distribution Graph

Drivers

Sensitivity Analysis

Scatter Plot

Distribution Comparison

Critical Path Map



Welcome to Safran Risk

Start

[Create New Project...](#)[Open Project...](#)[Import Safran Project file...](#)[Import XER file...](#)[Import Microsoft Project XML file...](#)[Close Project](#)[Save As...](#)

Globals

[Edit Global Risks...](#)[Edit Global Risk Calendars...](#)

Recent Projects

Forum UAV Prototype

Hammock

FPSO sample

UAV Prototype

Upstream Offshore Development

UAV Prototype Warnings

New Project Risk Delete Project Risk
 Global Risks:
Include in Project Copy Paste Import Export

Project Risks

Name	Description	Risk Type	Probability	Color
C1 - Poor Flying Conditio	Unable to test due to poor weather conditions	Calendar	100%	
F1 - Constr. Prod.	Construction workforce productivity	Standard	100%	
F2 - Fab. Prod.	Fabrication workforce productivity	Standard	100%	
F3 - Design complexity	Design more complex than expected.	Standard	100%	
F4 - Merger or Acquisitio	Organizational changes following merger or acquisitior	Standard	10%	
R1 - Design	Design specification change	Standard	30%	
R2- Construction Supervi	Construction Supervision is scarce	Standard	50%	
R3 - Test Fails	Test fails with requires modifications	Standard	10%	
R4 - Governance	Changes to legal governance	Standard	5%	
R5 - Assembly Breakage	Breakage during assembly of UAV	Standard	20%	
R6 - Contractor Liquidati	Subcontractor enters liquidation	Standard	10%	
R7 - Procurement Delays	Procurement process delayed	Standard	35%	
U1 - Low Uncertainty	Low estimating uncertainty	Estimate Uncer	100%	
U2 - Medium Uncertainty	Medium estimating uncertainty	Estimate Uncer	100%	
U3 - High Uncertainty	High estimating uncertainty	Estimate Uncer	100%	

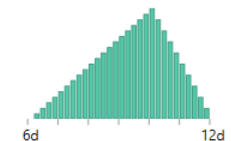
Impacts of R1 - Design

Impact activities independently

Pre-Mitigated Position

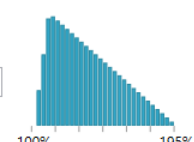
Schedule Impact

Type: Absolute Distribution: Triangle Min: 6d Likely: 10d Max: 12d



Cost Impact

Type: Relative Distribution: Triangle Min: 100% Likely: 110% Max: 195%



Post-Mitigated Position

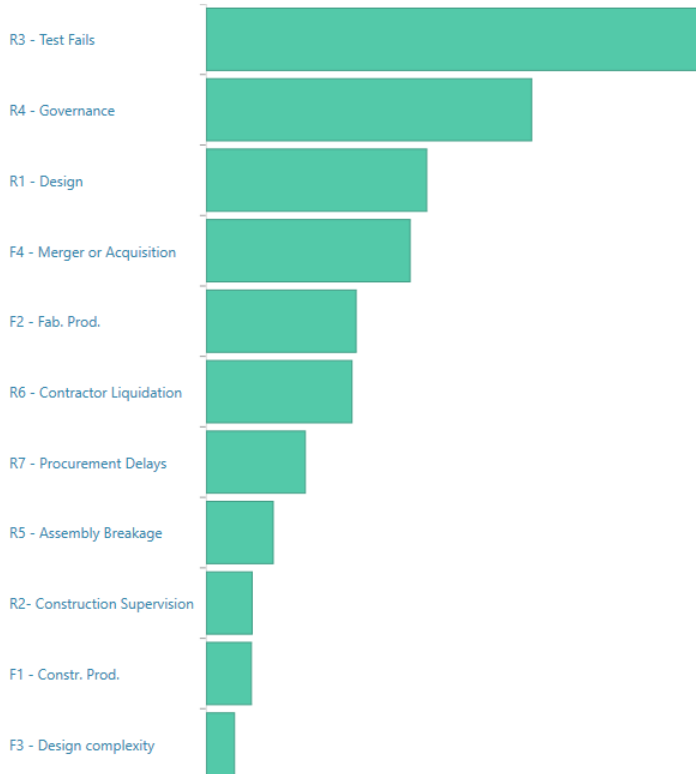
Notes



Export Risk Graph Export Activity Graph Copy Risk Graph Copy Activity Graph

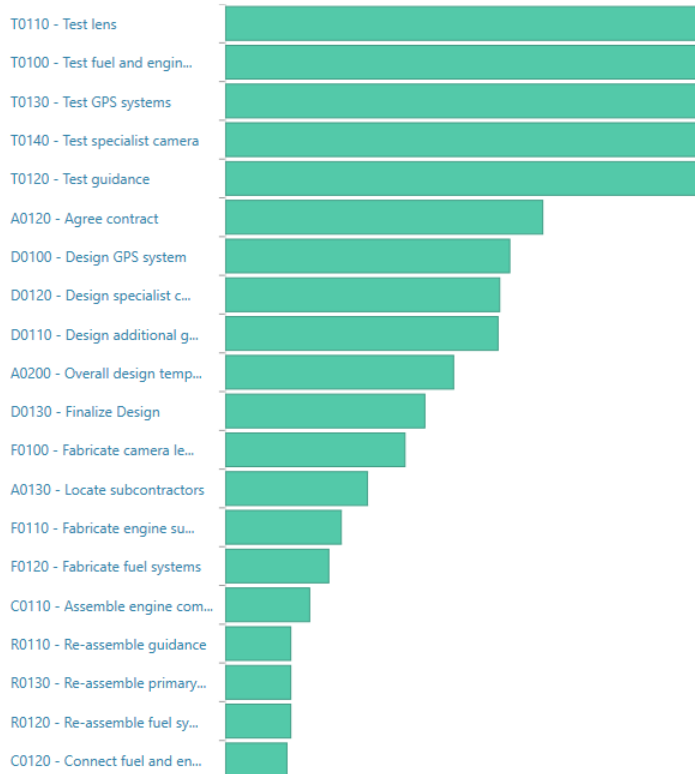
Options

Risks driving finish date of Project



Finish Date Cost

Activities driving finish date of Project



Finish Date Cost

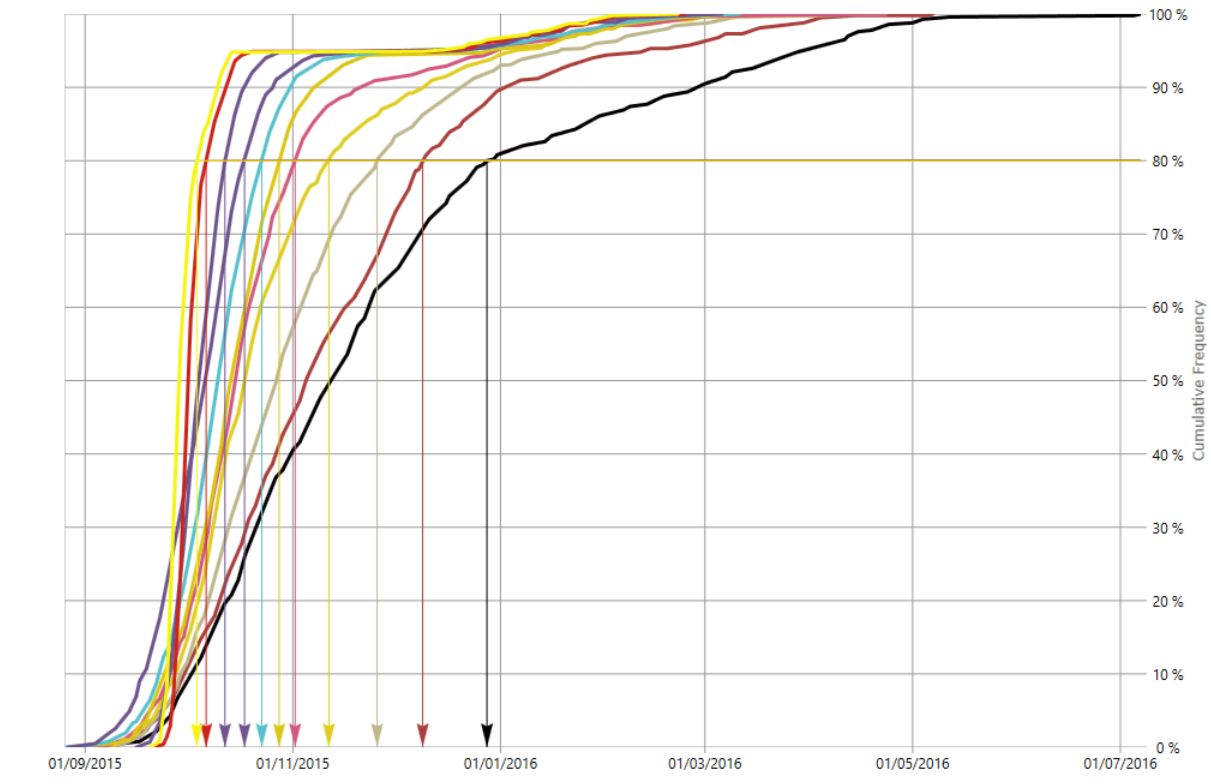
Impacts

View Impact on:

At Percentile:

<input checked="" type="checkbox"/>	Excluded Risk	Schedule Impact	Cost Impact
<input checked="" type="checkbox"/>	R3 - Test Fails	-18d	-43 000
<input checked="" type="checkbox"/>	C1 - Poor Flying Conditions	-14d	6 000
<input checked="" type="checkbox"/>	R1 - Design	-14d	-95 000
<input checked="" type="checkbox"/>	R6 - Contractor Liquidation	-10d	-22 000
<input checked="" type="checkbox"/>	U3 - High Uncertainty	-6d	0
<input checked="" type="checkbox"/>	F4 - Merger or Acquisition	-5d	-8 000
<input checked="" type="checkbox"/>	R7 - Procurement Delays	-5d	0
<input checked="" type="checkbox"/>	F3 - Design complexity	-5d	-30 000
<input checked="" type="checkbox"/>	F2 - Fab. Prod.	-5d	-3 000
<input checked="" type="checkbox"/>	U1 - Low Uncertainty	-3d	-13 000
<input checked="" type="checkbox"/>	None	-0d	0

Compare impact of Risks on Project



Finish Date Cost



Filter



Focus Activities



Export Graph



Copy Graph



Options

X Axis Y Axis

Result Type: Finish Date

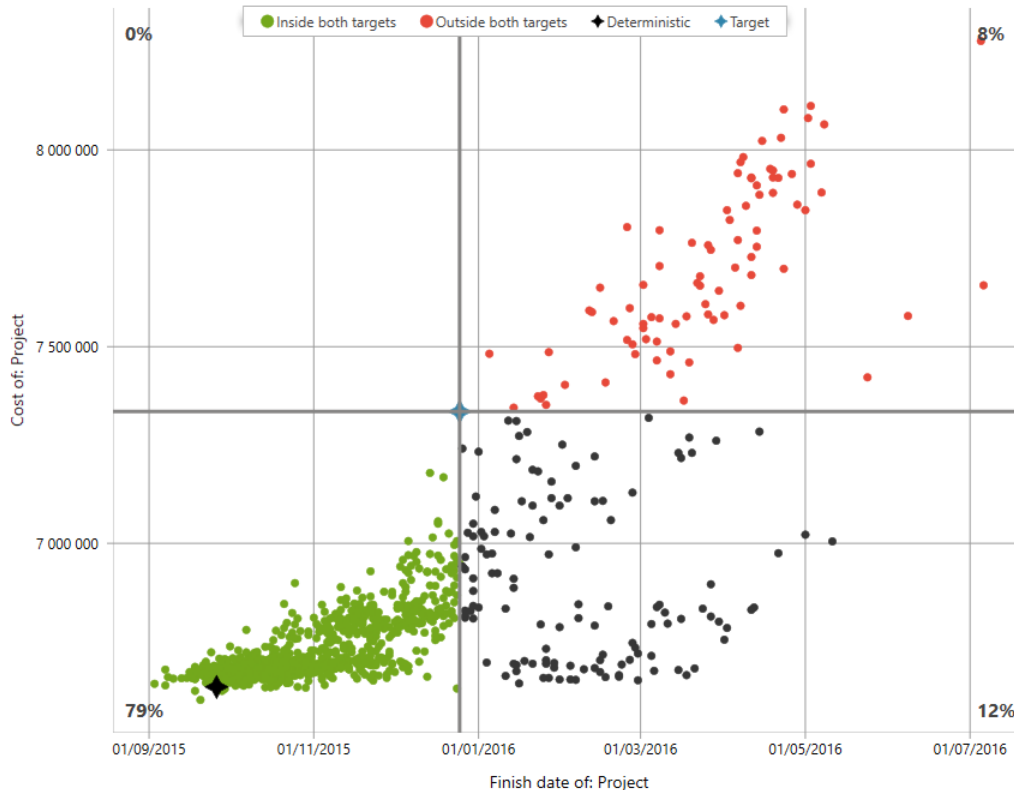
Target Value: 25/12/2015

Use Deterministic as Target

Project Part:

Id	Description
Entire Project	
UAV	UAV Prototype
◆ A0100	Project Start
◆ A0140	Project Completion
UAV.01 PRELIM	Preliminaries
A0110	Prepare contract
A0120	Agree contract
A0130	Locate subcontractors
UAV.02 DESIGN	Design
A0200	Overall design template
D0100	Design GPS system
D0110	Design additional guidance sys
D0120	Design specialist camera lens
D0130	Finalize Design
UAV.03 FAB	Fabrication
F0100	Fabricate camera lens frame
F0120	Fabricate fuel systems
F0110	Fabricate engine subframe
UAV.04 CONST	Construction
C0100	Assemble fuel system

Finish date of: Project - Cost of: Project



Information

Analysis	
Project	Forum UAV Prototype
Time	11/11/2016 10:19
Iterations	1000
Activities	27
Risks	15
Distributions:	
Finish date of: Project	
Deterministic	26/09/2015
Minimum	03/09/2015
Maximum	06/07/2016
Standard Deviation	56d
Cost of: Project	
Deterministic	6 635 000
Minimum	6 602 000
Maximum	8 277 000
Standard Deviation	292 830
Results	
Pearson's Correlation	79%
Spearman's Correlation	76%
Deterministic ICI	0%

Chart Settings

Coloring Scheme: Target values

Show Cross Hairs

SRA vs Safran Risk

SRA

- Optional Integrated part of Safran Project
- Target audience is Planner and schedulers
- Focus is uncertainty on activity duration estimates
- 3 point estimates on duration only
- Monte Carlo Simulation on possible durations
- Key output is duration distribution, probability and criticality index.

Safran Risk

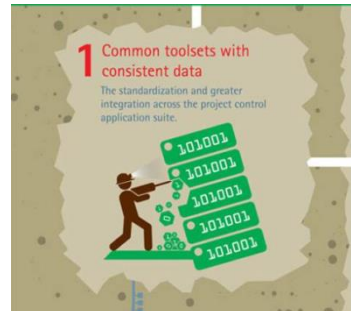
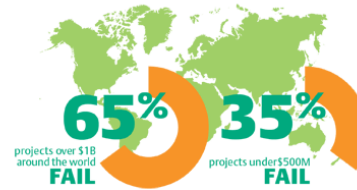
- Enterprise Quantitative Risk Application
- Target Audience is Risk Professionals
- Estimate uncertainty + Risk events that influence activity durations and cost
- Correlation between Risks
- Advanced reporting and analysis
- Risk drivers
- Exclude Risk from analysis
- Weather modelling/Risk calendars
- Risk trending over time
- Combined confidence level of both

Agenda

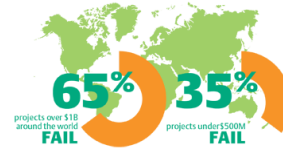
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Accenture, DR McNatty, McKinsey and Merrow

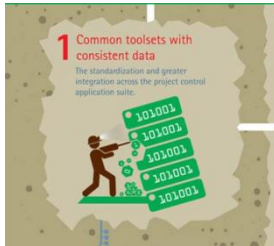
They can't all be wrong....



Unlock the benefits of Risk in your Community



Democratise!



Questions?

Comments?

