



SPACE

The Future

More integrated, connected and automated.

Information is shared. Decision making is agile, shared, transparent.

Information with guidance and reasoning.

Historical data is common and available.

Connected apps that are excellent in what they offer as part of the whole

Decision based planning – reasoning.

AI moved from proof of concept to transform our business.

The Intelligent organization combines humans and technology.

Autonomous or self-driving projects is still into the future.

We are still discussing ethics related to technology.

Projects still fail (unfortunately).

Will technology replace our jobs?

Yes, of course. What else did you expect?

60% of the workforce is employed in jobs that didn't exist in 1940

85% of new jobs is in trades that did not exist in 1940



SPACE

What does PM look like in 2030?


Workshopped Outputs and Outcomes


Empower people to make better informed decisions faster


- More available to more people – Democratise (Not just for “data-scientists”)
- More accurate – Options offered with believable reasons (context rich options)
- Prompt for decision-making to pro-actively occur (decisions acknowledged & testable)
- Decision-based/delivery-based planning
- Transparency across an invited supply-chain /partners/stakeholders
- Decisions can be retrospectively tracked (their effectiveness measured objectively)
- With any dependency of decision-makers made plainly obvious to others
- Competent schedule checker
- Experience & knowledge-base that actually provide narratives (story contexts)
- SP+ flexible planning methods e.g. CPM / Takt / Critical-Chain / Kanban / “Last Planner” (+ assisted migration)
- Formalised Decision-Making process (that is also configurable)





 Decision Assistant & Collaboration Coach
"White Board"


 Schedule Intelligence, Assurance Checker, Progress & Autodetect Changes, Schedule Analytics

 Predictive
Alternative Schedule Visualizer






 Viewer
AR / VR - Digital Twin B.I.M. Integrator




 Memory
Decision Performance & Quality

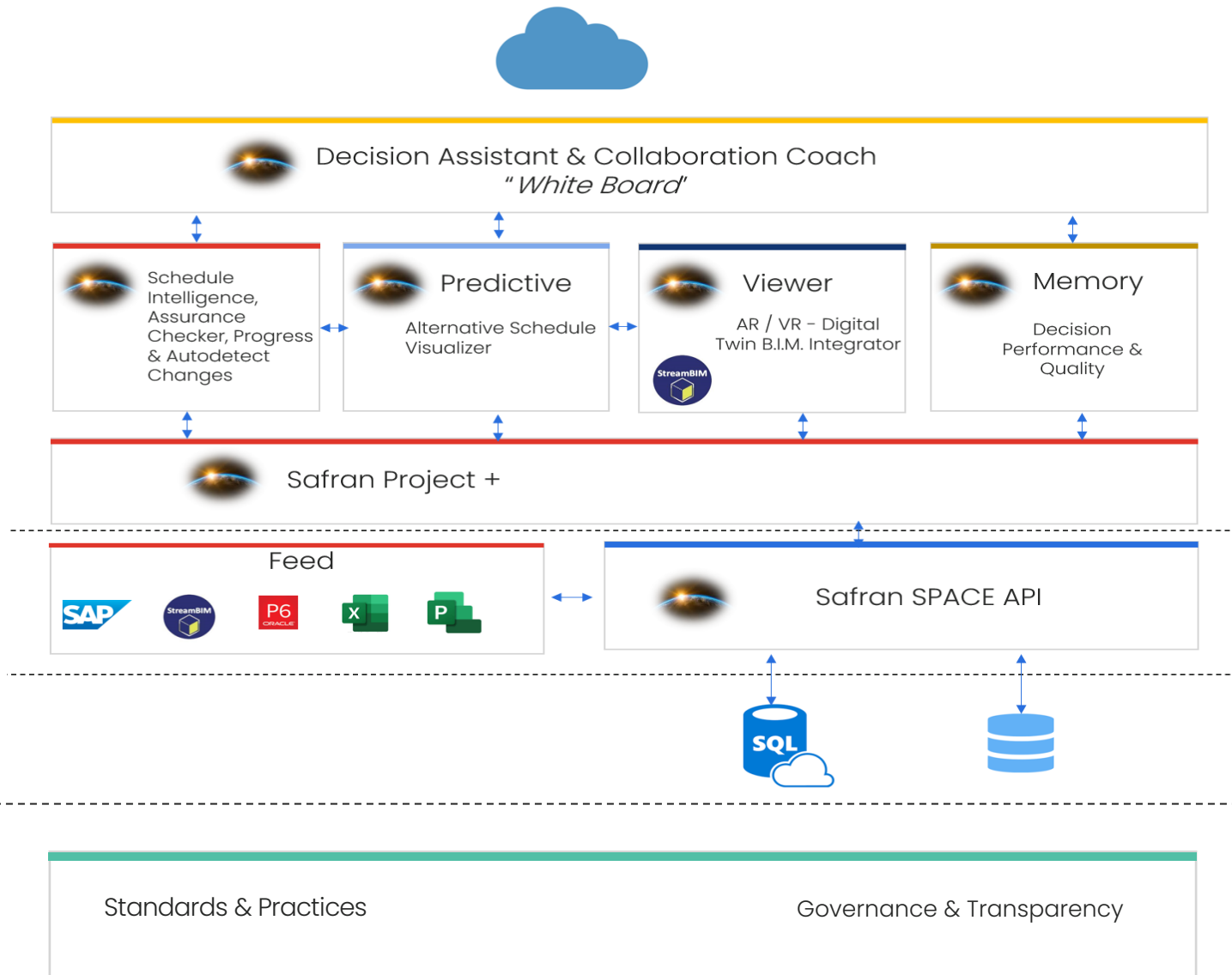
 Safran Project +

Feed



 Safran SPACE API



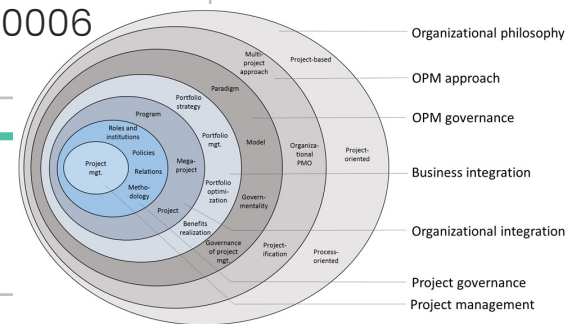


Standards, Excellence and best practices

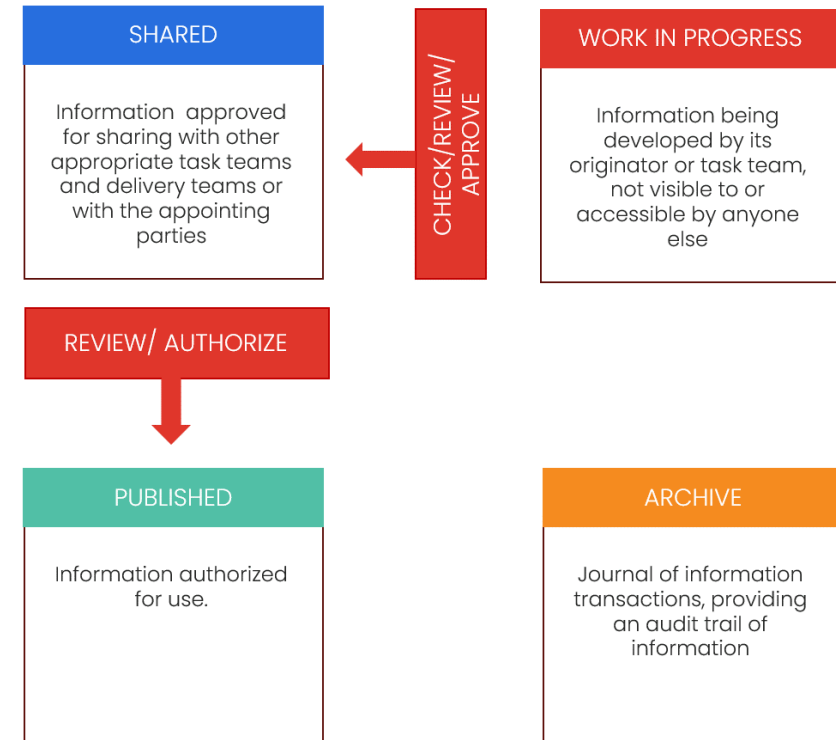
De facto standards
International Standards
Special standards
Regional Standard
Maturity Models
Corporate execution models
Governance Models
Recommended practices

Examples of standards and practices

ISO 21500	ISO 31000	ISO 27001	DIN 69900	ISO 19650
IPMA PEM	PMI PMBook	PRINCE2	ISO 15962-13	ISO 8601
ISO 21511	ISO 16739	ISO10303 STEP	ISO10006	
	ISO 9001			



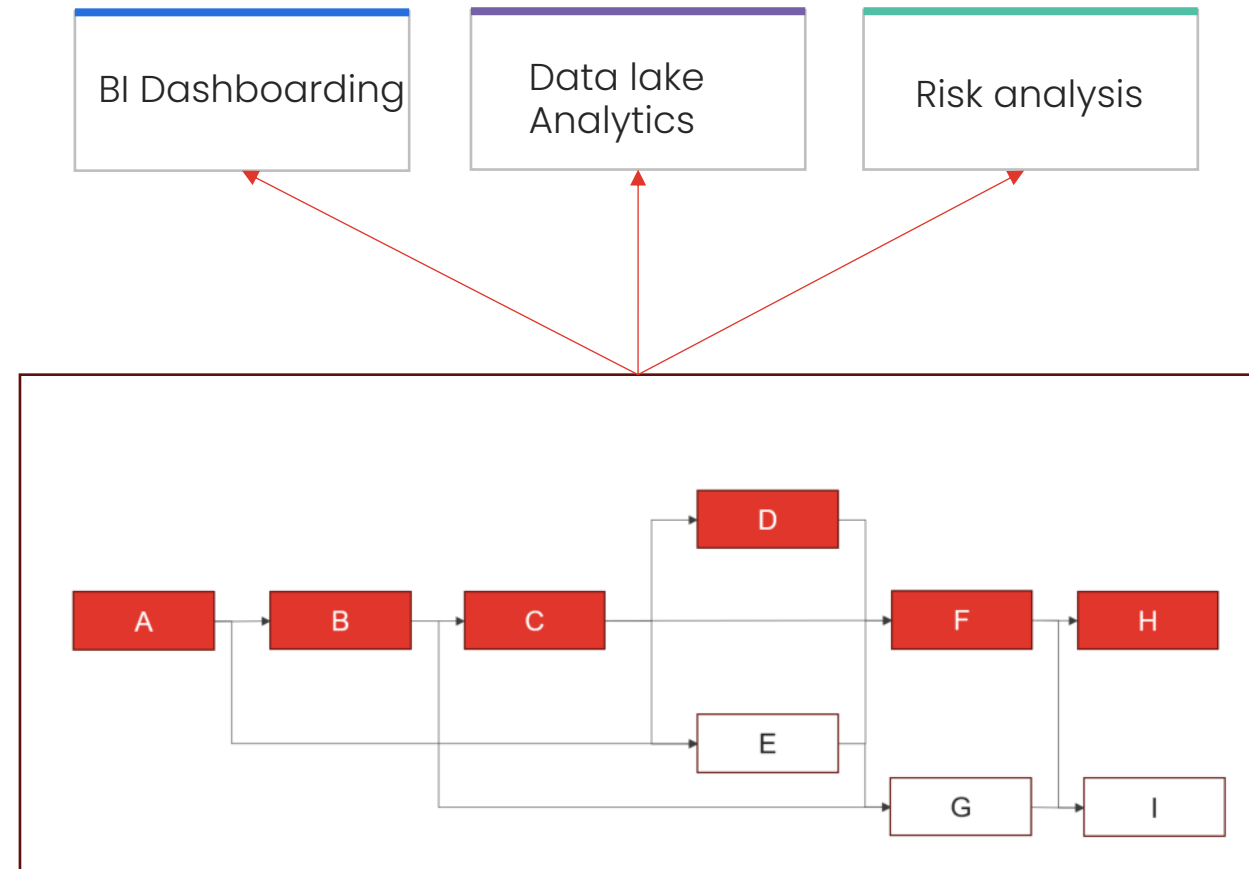
In a world of data sharing, integrations and automation, understanding information states is important



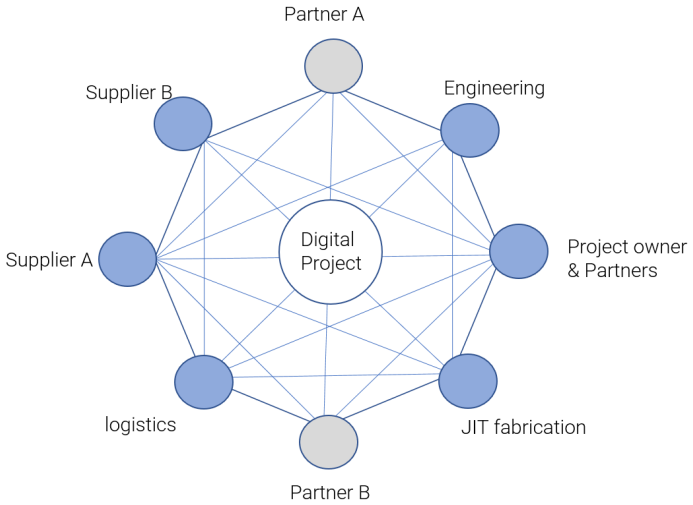
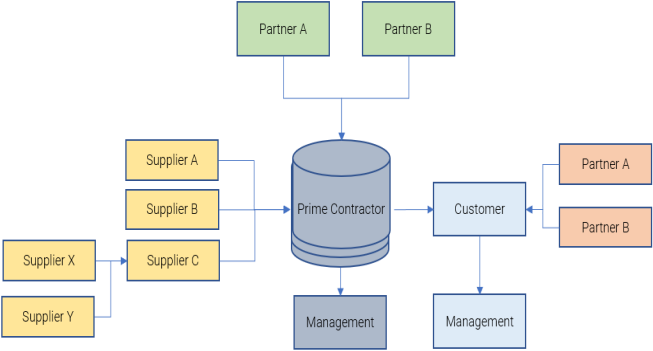
Model: simplified after CDE concept as demonstrated in ISO 19650-1
Source: Information management according to BS EN ISO 19650 Guidance Part 2: Processes for Project Delivery Edition 4, published by UK BIM Framework

Work in Progress

Unknow state

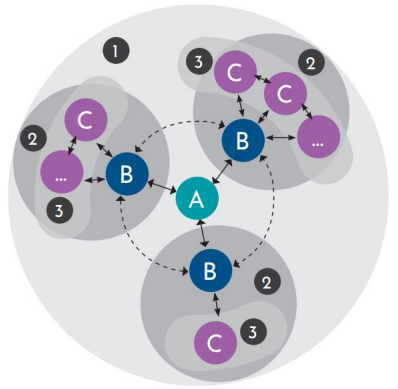


Good quality data available through a connected supply chain



If more people can be self-sufficient with data earlier in the value chain, anomalies can be detected earlier, and problems solved sooner.

- Key:**
- A Appointing Party
 - B Lead Appointed Party
 - C Appointed Party
 - 1 Project Team
 - 2 Delivery Team
 - 3 Task Team(s)

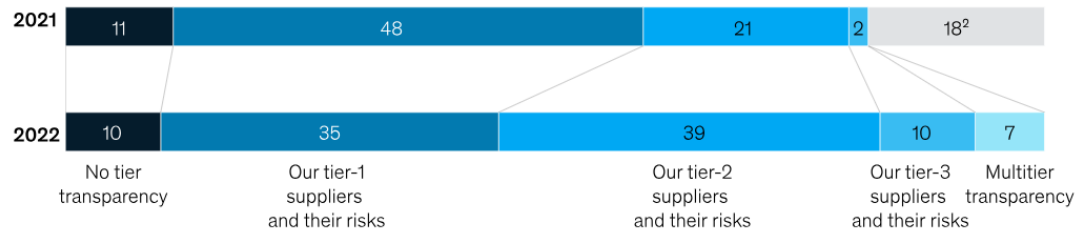


Simplified version of ISO 19650-2 Figure 2
Image reproduced with permission from BSI

McKinsey on Supply chain

Despite some progress over the past 12 months, most companies still have limited visibility into deeper supply chain tiers.

Global supply chain leaders' visibility into supply chain tiers,¹ % of respondents (n = 113)



¹Question: In 2021, "To what extent are you pushing for multitier transparency as a consequence of the COVID-19 crisis?" In 2022, "To what extent are you pushing for multitier transparency as a consequence of the crises of the past 2 years?"

²The remaining 18% did not answer this question.

Source: McKinsey survey of global supply chain leaders, Mar 28–Apr 19, 2022

McKinsey
& Company

“Understanding the status of complex, multitier supply chains is still proving extremely challenging. Forty-five percent of respondents tell us that they either have no visibility into their upstream supply chain or that they can see only as far as their first-tier suppliers.”

Competent, intelligent Schedule Checker

How do we assure that our schedule is built according to the best practices and standards?

Provide context rich options

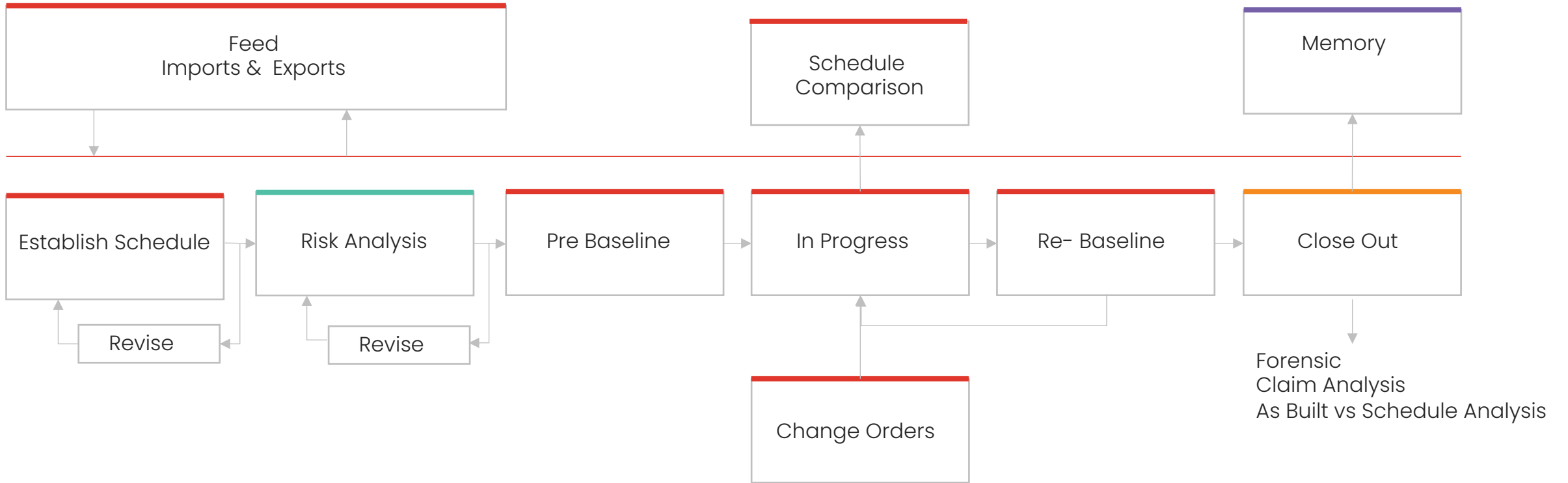
Provide relevance

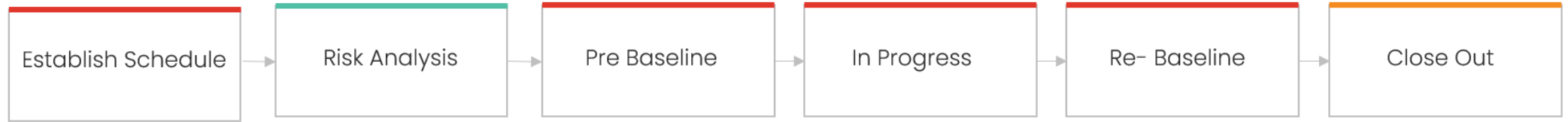
Offer guidance and thresholds

Scoring

Should it be tracked historically to offer trending on key performance indicators or scoring?

We also look at portfolio reporting and trending on key information





Test A	X	X	X			
Test B	X	X	X			
Test C		X	X		X	
Test D		X	X		X	
Test E		X	X		X	
Test F						
Test G		X	X	X	X	
Test H	X	X	X			
Test I				X		
Test J			X		X	X

Guides, practices and references

DCMA
14-point
assessment

GAO

NASA STAT

Tripwire

NDIA

Other CA
Solutions

DCMA
DEC metrics

AACE

APM

DOE

NAVAIR

More people need access to planning and scheduling information and data. Either to review, read, use, update or enrich.

Flexible Planning

Kan Ban

Wall Chart's

Hanging Gardens

Takt tools

Grids

Time Location
Charts

Work packaging

Status update
And predictions

AI

AI will Transform Project Management

Project management need tools that will increase the project success rate to 95%.



“I don’t need a talking fridge!”

“I have started talking to stuff that doesn’t even talk ”

Hype, myth or facts

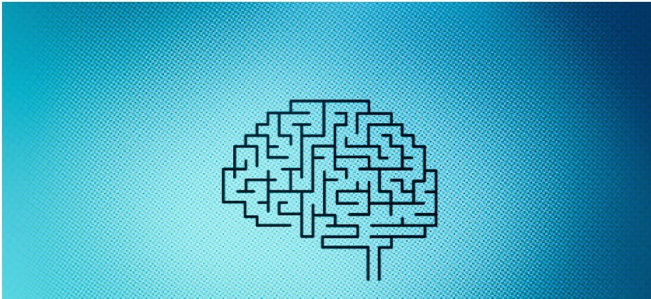
- Whatever the question is, AI is the answer.
- AI will transform how we do project management.
- AI will transform your business – jump now and lead.
- Using AI, we will get fully automated and autonomous projects.
- AI will remove project planners and schedulers.
- You need to buy AI to solve your problems.
- There will never be another AI winter.
- AI technologies will dominate the project management space.
- AI will not get accepted as it can't give any reasoning.
- AI is a threat to our jobs.
- By 2030 80% of project management tasks will be run by AI.
- AI will bring large disruptions to Project Management.
- AI will power automation in project management processes removing all manual work.
- AI will radically change how you manage projects.
- AI will remove human errors and bias.
- AI enables easier analyses of project status.
- AI will remove the old, out-of- date status reports completely.
- Robots will steal our jobs.
- AI smart algorithms will outperform expert judgement.
- AI systems are sexist, rude, unfair, biased, racist.
- AI systems that train themselves will be biased towards last dataset.
- AI will improve data quality.
- AI can make independent decisions.
- AI is for large business only.
- AI puts our data at risk.
- AI cannot think ethically.
- More data makes AI better.
- AI will deliver optimized and streamlined projects.
- AI will use historical (past period projects) to create schedules with higher hit rate.
- AI is just a new buzzword (remember the .net)
- AI can simplify and streamline communication.
- AI cannot replace human communication.
- AI will replace human judgement.
- It will go away, once more.
- Project managers, discipline leads, and other stakeholder will spend time on trying to understand the reasoning behind AI.
- We have little insight into how critical decisions are made with AI.
- AI will push the profession to develop new methodology.

Let's take one step back...

How AI Will Transform Project Management

by Antonio Nieto-Rodriguez and Ricardo Viana Vargas

February 02, 2023



One reason we have found why project success rates are so poor is the **low level of maturity of technologies available for managing them. Most organizations and project leaders are still using spreadsheets, slides, and other applications that haven't evolved much over the past few decades.** These are adequate when you are measuring project success by deliverables and deadlines met, but they fall short in an environment where projects and initiatives are always adapting — and continuously changing the business. There has been improvement in project portfolio management applications, but planning and team collaboration capabilities, automation and “intelligent” features are still lacking.

98 % of megaprojects Fail!

How to build megaprojects better

Through our analysis of more than \$1 trillion worth of capital projects over the past five years, we have found that improving “basic” project-management skills offers the most potential to improving site performance.

Ninety-eight percent of megaprojects face cost overruns or delays.

Capital-expenditure overrun
(% of original quoted capital expenditure)

● Mining ■ Oil and gas ◆ Infrastructure



- 98% of projects incur cost overruns or delays.
- The average cost increase is 80% of original value.
- The average slippage is 20 months behind original schedule.



It's not only a question about the technology. It's about identifying a business problem not an IT problem, and then selecting the best technology available to solve the problem

Automation – end of routine work

Quality – error free, self correcting

Security – Intelligent self defense

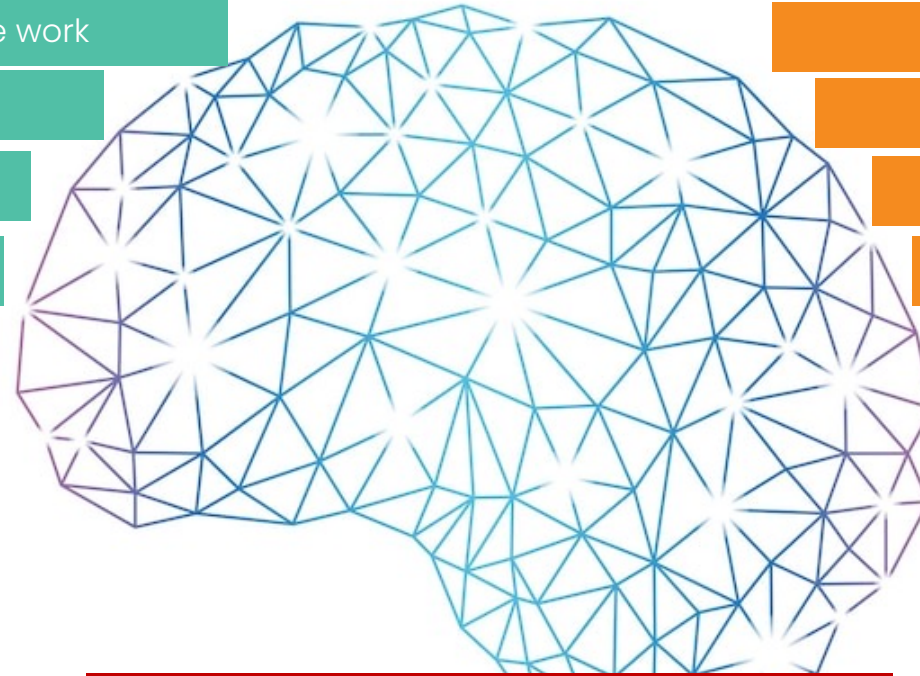
100% Efficiency and quality

User orientation on steroids

Intelligent personalization

Always available

Effortless interaction



Supporting Human Assessment

Improved problem solving

Decisions based on data/information

Unlimited creativity

The intelligent organization

To trust technology, we need to understand it

Replacing human with intelligent technology does not make the organization more intelligent, but more productive

Adding intelligence, Human or machine increases the intelligence in the organization

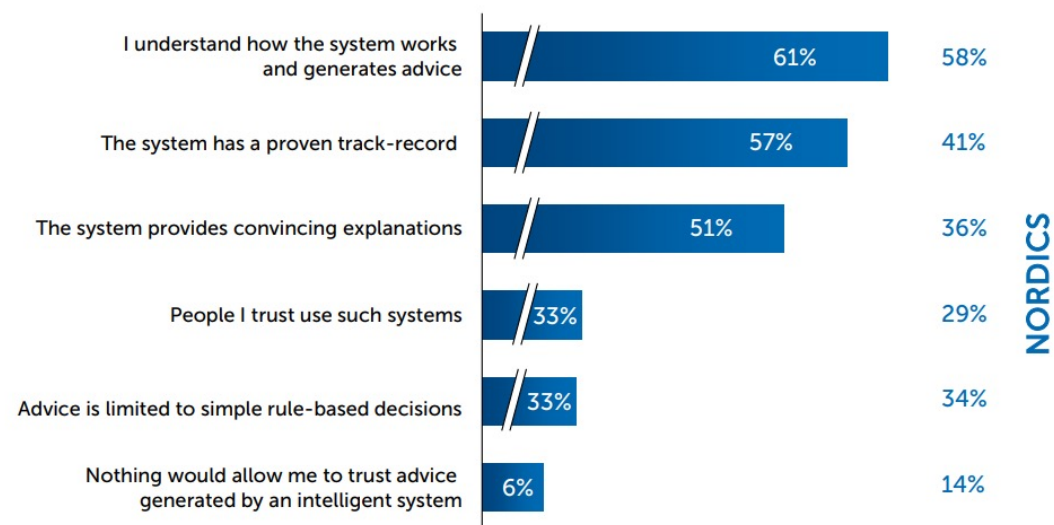
Intelligence, human or machine, must be relevant to the task

Increasing the diversity of intelligent actors, such as hiring people with different skills, backgrounds and mindsets and use different types artificial intelligence, increases an organization's ability to solve complex problems and adapt

Organizational intelligence requires interaction skills from both human and digital actors

To trust technology we need to understand it.

What would allow you to trust advice generated by an intelligent system? (Choose up to three)*



Kolbjørnsrud, Amico, Thomas (2017)
* Utvalg: 1770 ledere fra 14 land og 17 bransjer/sektorer





Scenario analysis

Tender/Scope/RFP
analysis

Chat Bot assistance

Guidance

Automation

Risk Management

Week Signals

Guidance and
explanations

Personalized user
Interfaces

Natural Language
Interface
With guided
reporting

Predictive Analytics

Autonomous Project
Management

Summary of Work in Progress

- Improved support for Azure – required step towards vision
- 4D – Visualisation, Working together with Rendra
- API – planned tech update for the API, Timestamps added to tables, first step towards event driven, messaging, subscription and microservices.
- Lean tools flexible planning – Specifications ready, plan for development
- Competent Schedule Checker – checks specified, development started,
- R&D continues into DNA Assessment and progress and change autodetection
- Discussions on Project performance trending (CII 10-10)
- Is supply chain integration solvable?
- Further R&D into memory, historical data and explainable options for decision making and decision quality.



Thank you very much for your
patience