

Reimagining assurance with AI and advance data analytics

Speaker Name: Andy Muray

Executive Director, Major Projects Association





Context



Assurance challenges



AI/Data Opportunities



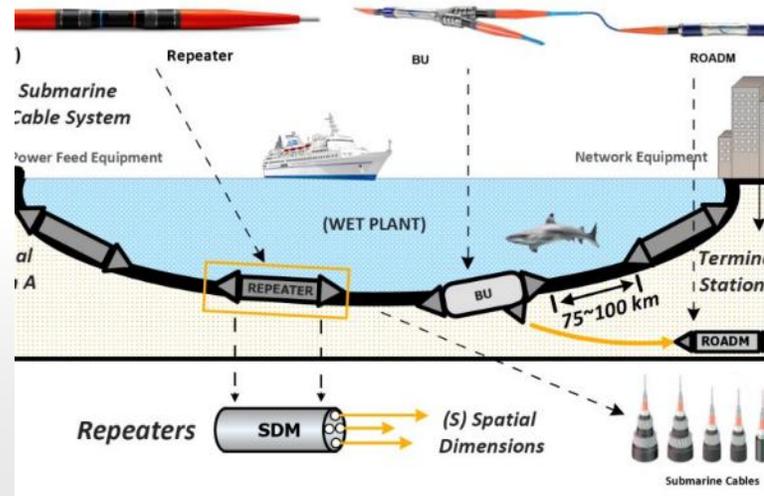
Experimentation

Context



Managing projects without
data isn't project
management.

It's just winging it.



How not to wing it. A simple concept....

Data analytics,
better insights,
better decisions,
better projects,
better outcomes.

1. We use data analytics to bust project management myths and beliefs.

Data analytics is used to reimagine how we work and discover new and effective project management practices rather than simply automating ineffective practices of the past.

2. All projects are data designed and enabled.

The project and its host organisation have a data strategy, ensures their data is safe and secure, understands their data analytics culture/maturity and have a plan to improve. Complex multi-organisational projects have a data integrator.

3. We pool our data to maximise insights.

Project budgets and contracts are set up to ensure data pooling end-to-end across the project ecosystem to maximise insights. We contribute to and use data trusts to safely and securely collaborate across organisational boundaries and benefit from bigger data sets to leverage on current and future projects.

4. We collaborate on opensource data analytics solutions tackling priority challenges.

The numerous opensource solutions already available through the commons* are used to avoid reinventing the wheel. Everyone contributes to the commons and develops a shared understanding of the priority project delivery challenges that we aspire to solve.

5. We re-skill for a digital and data-enabled world.

We improve data literacy by investing in data analytics skills at all project levels and across all roles. New roles emerge, some change and some go as project management practices become data enabled.

6. Data Analytics is codified in all aspects of project delivery best practice and culture.

Our professional bodies include data analytics in their respective Bodies of Knowledge, competency frameworks, qualifications and methodologies. They align on data standards to drive up data quality and increase the trust we place in data.



Project management is an experiment

Assurance Challenges

“defence is mired in process and procedure. We’ve added complexity where simplicity is needed. In procurement, we employ 11 **checkers** for every one decision-maker, so no wonder it takes, on average, six years for a large programme just to get onto contract.”

Secretary of State for Defence, John Healey



Who are the checkers?

Assurance



Who are the checkers?

Assurance

Scrutiny

Compliance

Risk

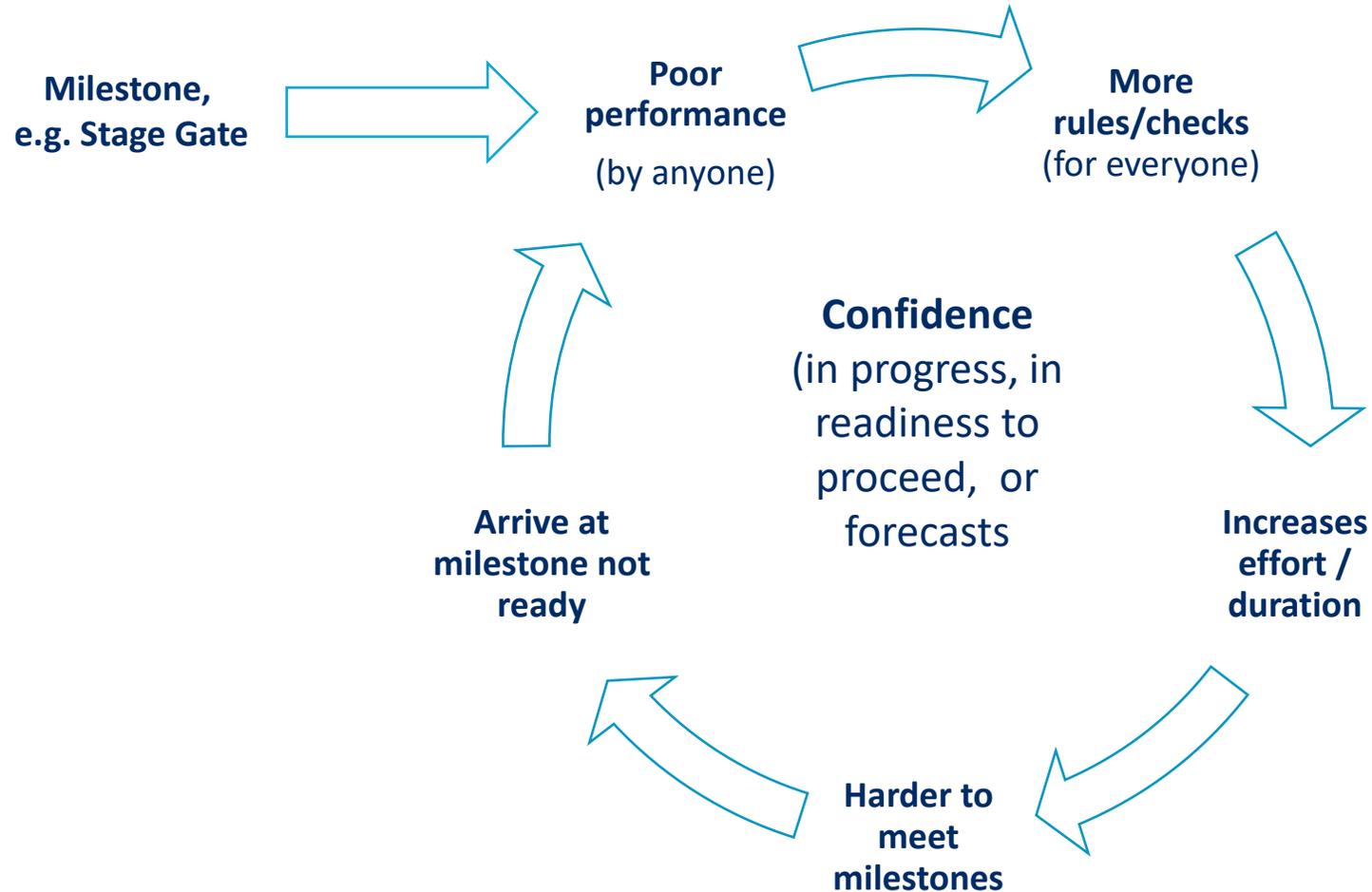
Audit

Gatekeepers
(e.g. safety)

Controls?

Assurance death-spiral paradox.

Activities to provide “confidence” reduce ability to perform, causing a spiral of checking over doing/thinking.



Where has this spiral taken us?

HMT TAP	NAO / PAC	Office for Value for Money	Select Committees	GIAA	Internal audit
Departmental reviews	NISTA Reviews, e.g. PAR	Statutory reviews	Judicial reviews	Regulator reviews	Routemap
IAAPs	ISO 37000, 9001, 15026, etc	Three Lines Model	Swiss Cheese Model	Technical assurance	Commercial assurance
Quality assurance	Project assurance	IARs	PDRIs	Maturity Assessments	And others under the radar!

Familiar issues

1. Overemphasis on compliance and “box-ticking”
2. Too many checkers and too many checks.
3. Or assurance is too superficial
4. Wrong checks at the wrong time
5. Assurance provides false confidence
6. Insufficient capability or independence of assurers
7. Misguided good practice
(i.e. checking compliance with a bad process)
8. Assurance findings are ignored or lack teeth
9. Challenges in enacting lessons learned
10. Varied perceptions of assurance value across projects
11. Assurers become gate-keepers



What is assurance, really?

Project assurance is the process of providing **confidence** to **stakeholders** that projects will achieve their scope, time, cost and quality objectives, and realise their benefits.

In an assurance context a **stakeholder** is anyone who delegates work to another person/team (whether it is assigned to their own team or to a third party, possibly through a contract) or any parties who will benefit or be impacted by the work being completed as intended.

Stakeholders seek **confidence** through a number of means. But in essence that the person/team undertaking the work are:

1. competent for the complexity/nature of the work;
2. using methods and techniques appropriate for the complexity/nature of the work;
3. providing updates on their progress, actions, decisions, current status and forecasts.

Additionally, assurance provides confidence that the project investment is/was **worth it**.

Is the project worth it?

Project worth = Benefits – delivery costs

Is assurance worth it?

Project worth = Benefits – delivery costs – **cost of waste – assurance costs**

Is assurance worth it?

Value of good assurance = Benefits – delivery costs – cost of waste – **assurance costs**
(max) (min) (avoid) (min)

Optimising assurance – a lesson from quality management

- **Prevention Cost** – costs associated with activities specifically designed to prevent poor quality in products.
- **Appraisal Cost** – costs associated with activities specifically designed to measure, inspect, evaluate or audit products to assure conformance to quality requirements.
- **Internal Failure Cost** – costs incurred when a product fails to conform to a quality specification before shipment to a customer.
- **External Failure Cost** – costs incurred when a product fails to conform to a quality specification after shipment to a customer.

The **Cost of Quality (COQ)** then is simply the sum of all these cost categories; Prevention, Appraisal, & Failure Costs (Internal & External).



Consequence of too much or not enough assurance

	Project is good	Project is bad
Too much assurance	Unnecessary use of resources (and potentially triggering the “assurance death-spiral”)	Triggers even more assurance on this project (and the “assurance death spiral”)
Not enough assurance	Stakeholder/investors assume the worst and may unnecessarily interfere which slows progress or increases cost (and potentially triggering the “assurance death-spiral”)	Triggers more assurance on other projects (catching some poor projects, but pushing others into the “assurance death spiral”)

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So, what is "just the right amount" of assurance?

Opportunities with AI and data

Breaking the death spiral paradox



Reassurance: adaptive automated controls and warnings at source

The AI sweet spot

- **Information Processing:** AI can sift through vast data troves rapidly, something humans would find time-consuming.
- **Pattern Recognition:** Detecting subtle patterns across large datasets is routine for AI, be it in predicting weather or stock market movements.
- **Avoiding Cognitive Bias:** AI can be trained to make decisions free from human biases, leading to fairer outcomes in areas like recruitment or loan approvals.



The AI **agent** sweet spot

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- **Always on:** provides an unblinking eye that never sleeps or tires
- **Speed of action:** AI can take real time or near real-time action (within safeguards) or provide alerts for human intervention.



Automotive analogy

1. Lane Departure Warning:

Mechanisms that detect when a project is veering off track and prompt corrective actions, ensuring it stays aligned with objectives.

2. Driver Fatigue Monitoring:

The system's ability to detect early signs of "project fatigue" or team burnout, allowing intervention to sustain productivity and morale.

3. Adaptive Cruise Control:

The assurance system dynamically adjusts oversight and resources based on real-time conditions, much like cruise control adapts to traffic flow.

4. Predictive Maintenance:

Proactive identification and resolution of emerging risks or issues before they escalate, akin to identifying wear and tear in vehicles before breakdowns occur.

5. Collision Avoidance System:

The system's role in spotting and preventing potential project risks or conflicts before they result in failure or significant setbacks.

6. Traffic Sign Recognition:

The ability to interpret environmental signals or external benchmarks (e.g., industry trends, other projects) to guide project decision-making.

7. Route Optimization:

How the system suggests optimal paths or corrective actions to deliver the project efficiently and effectively.

8. Over-the-Air Updates:

The system's capacity for continuous improvement, incorporating new data and insights to refine assurance practices in real time.

9. Black Box device:

Transparency and tracking/feedback of project team behaviour improves project team performance which leads to less intervention.



Reimagining: Assurance

North Star Vision:
Always-on adaptive automated controls and warnings at source

Horizon 1: Refine

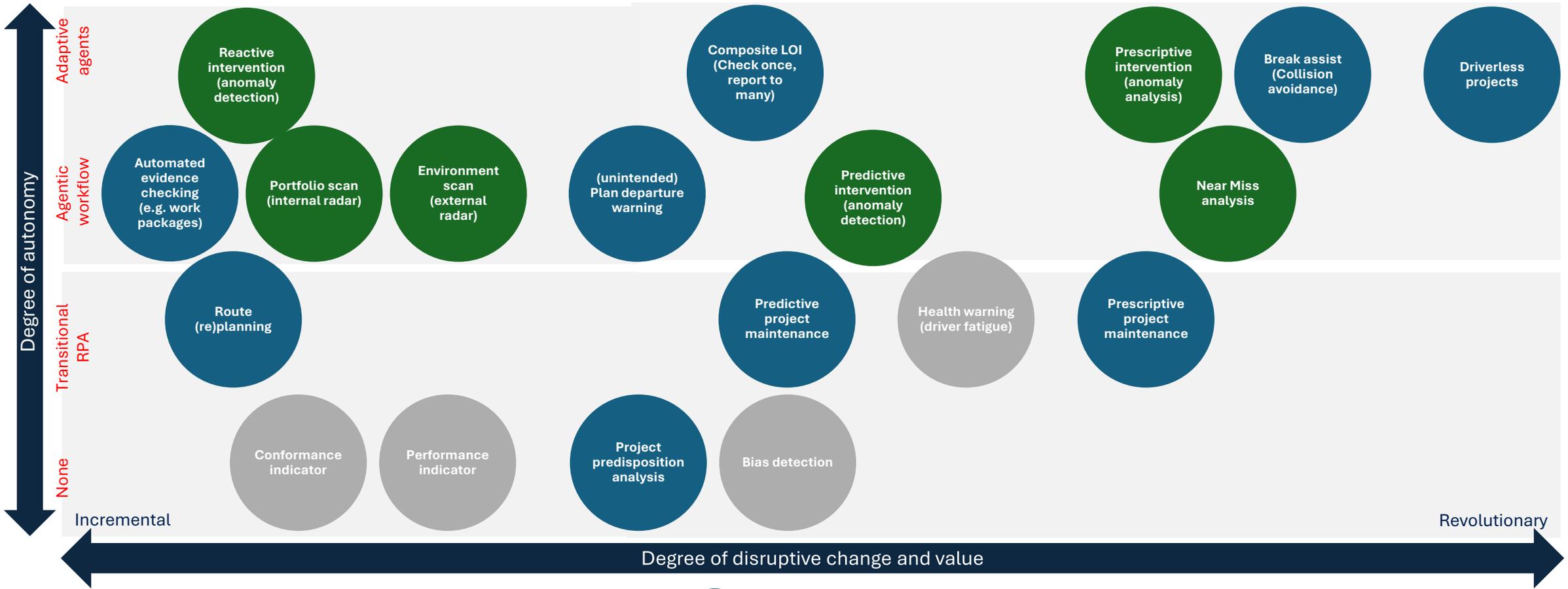
Improve existing process efficiency, functionality and insights delivering incremental capability.

Horizon 2: Enhance

Introduce new methods and ways of working delivering a step change in capability **(evolution)**.

Horizon 3: Reimagine

Completely rethink methods and ways of working transforming capability **(revolution)**.



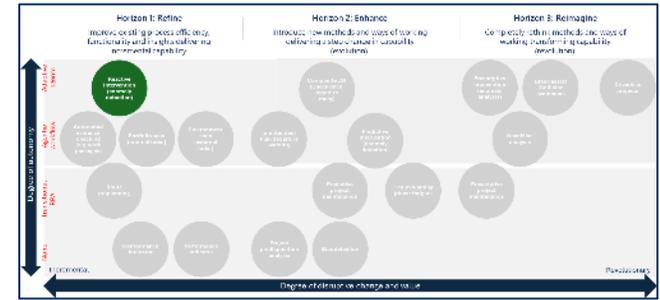
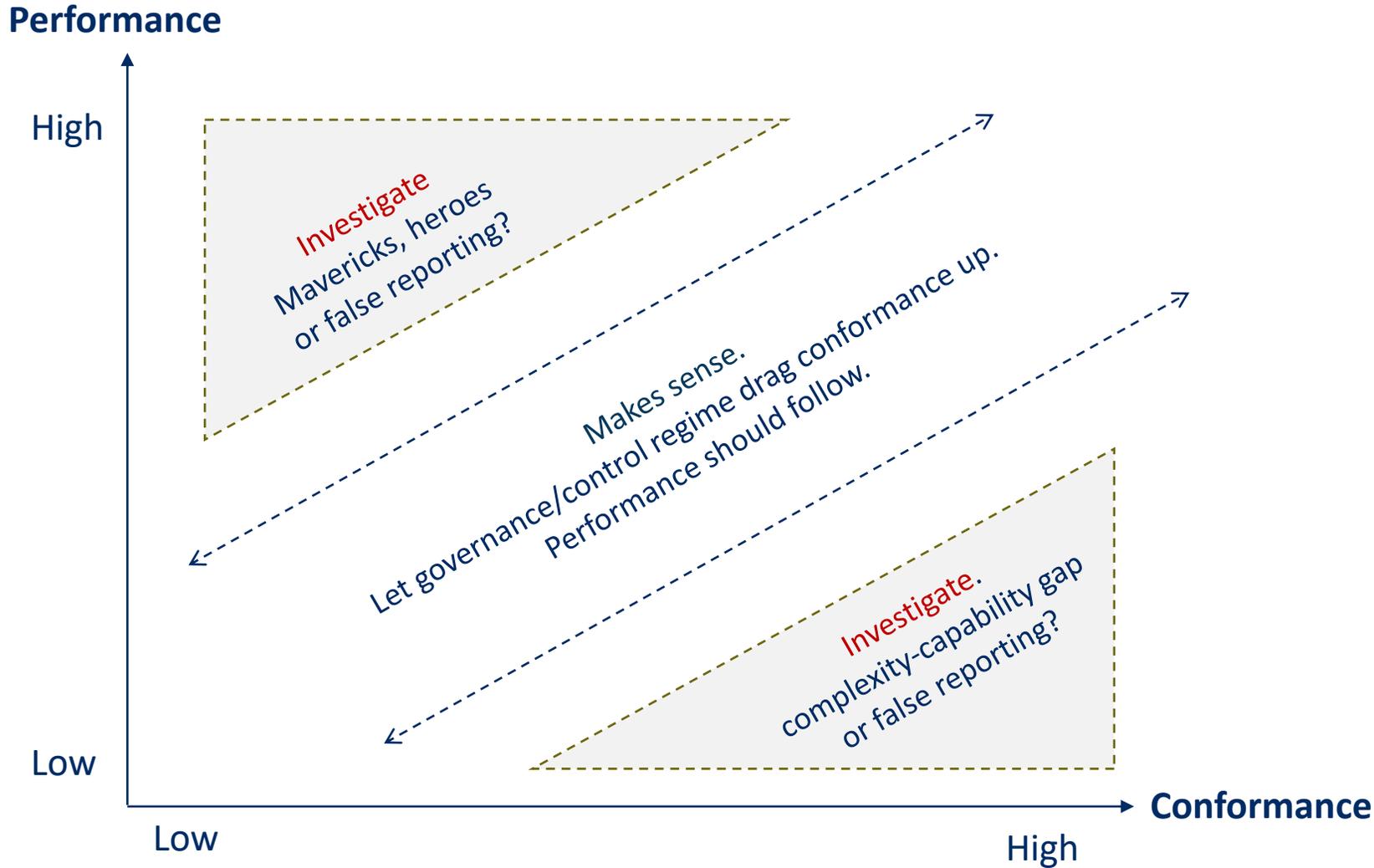
● 1st Line
 ● 2nd Line
 ● 3rd Line

Experimentation



Project management is an experiment

Horizon 1: Portfolio insight



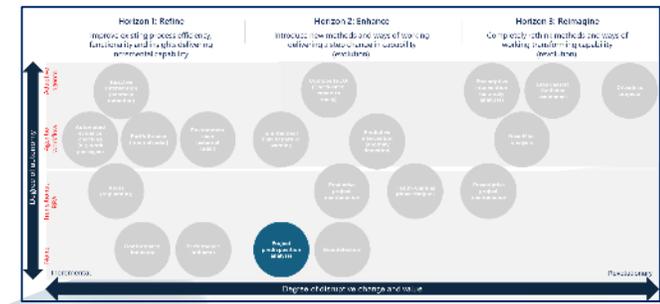
Plot individual projects on the xy axis.

Projects in the middle zone make sense. No need to investigate further. The governance/control framework should trigger improvements.

Two grey zones do not make sense. The response should be to investigate further.

Horizon 2: Red Team Agent

- “Assurance at source”
- Client trains an LLM/Agent to give feedback on draft proposal submissions
- LLM/Agent is trained using different personas, e.g. technical, commercial, social value, security, and using evaluators ‘reasons’ for bid scores
- Provided by the client to the prospective bidders
- The LLM/Agent cannot create content. Only give feedback.
- The idea is fewer bids lose marks for poor bid writing enabling the buyers to better select the one that is most likely to deliver a good solution.



Project Data Analytics Coalition | PROJECTING SUCCESS | PROJECT DATA ANALYTICS

PROJECT:HACK24

ORACLE, READING
11-12 MARCH, 2025

Collaboration with ORACLE® | APM Association for Project Management

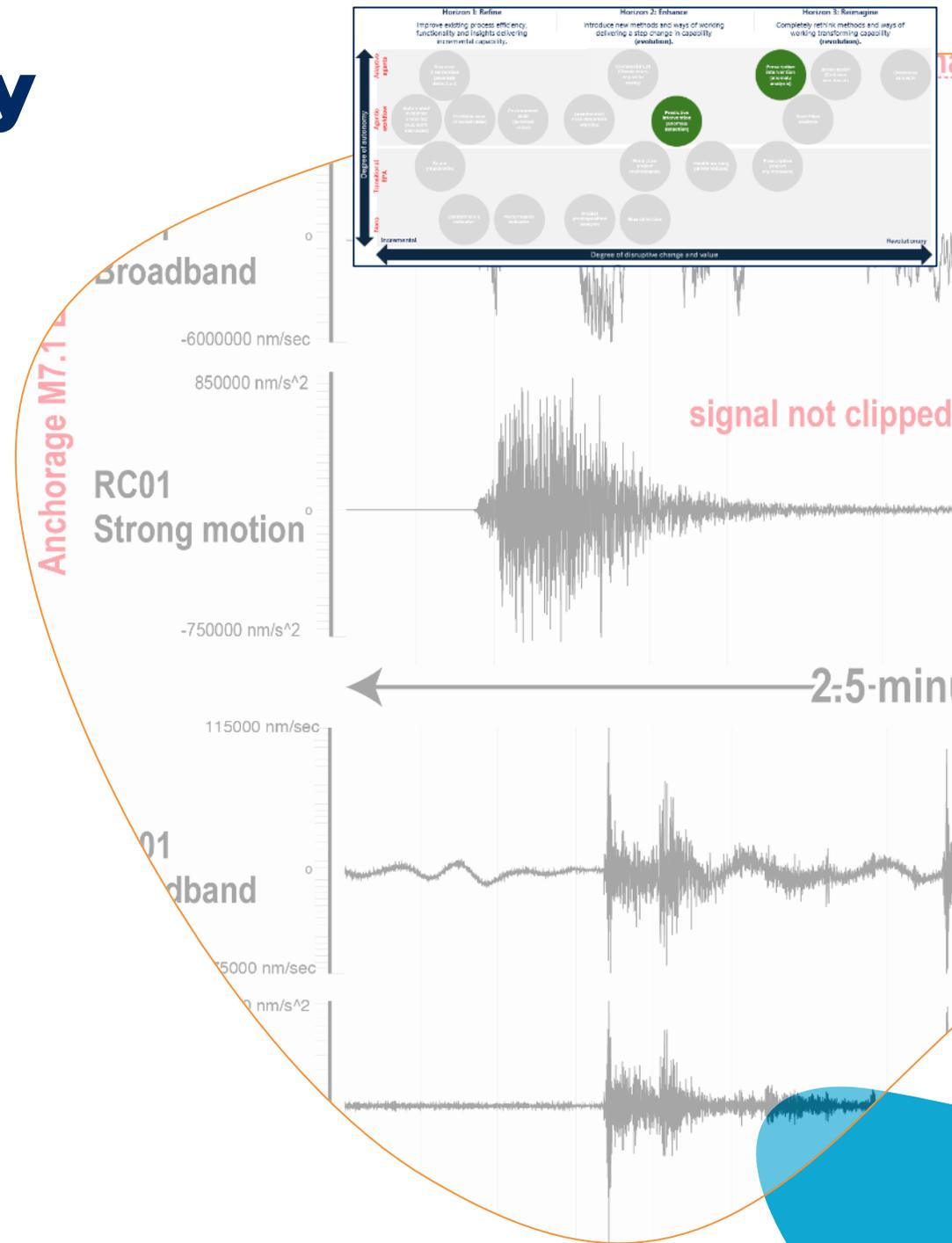
Horizon 3: Seismology analogy

“Earthquakes are caused by the sudden release of energy from the Earth's crust, typically due to the movement of tectonic plates. These large, moving plates get stuck at their edges due to friction, **building up pressure** until the stress overcomes the friction and causes a sudden slip or break along a fault”.

Global network of sensors traditionally detect movement. Now looking to monitor stress and therefore predict movement.

Graham Oakes book “Governance, Assurance and Reviews, 2014” explored whether project delays are caused by stress. Modelling indicated projects follow a similar pattern with regard to after-shocks.

Can we change our sensors from detecting movement to detecting stress?



Where would you like to experiment?



"I have no special talents, I am only passionately curious."

ALBERT EINSTEIN

**Thank
You**