Taking Mega-projects to a new level of performance
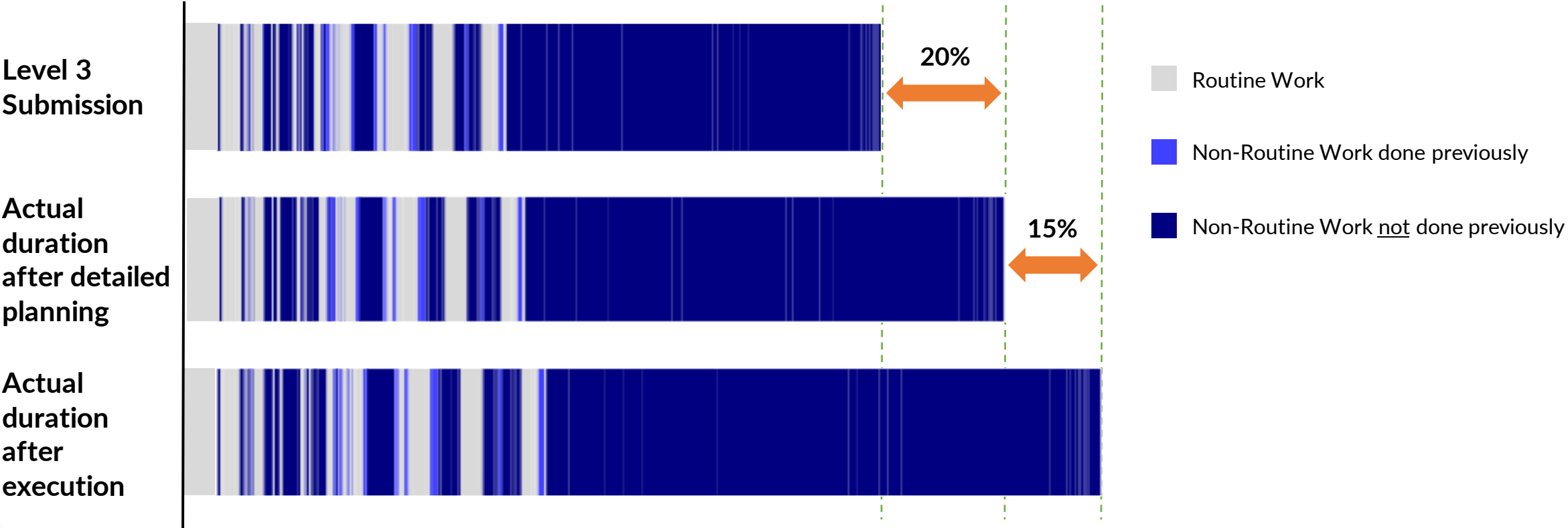
Too often heard: "Achieving great project performance is hard and getting harder".

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Mega-projects are more commonly deploying massive, technically-complicated machines into execution

These machines are expected to accelerate schedules, but Non-Routine Work not done previously is still a big source of delays

Level 3 Submission — 20%

Actual duration after detailed planning — 15%

Actual duration after execution

Legend:
- Routine Work
- Non-Routine Work done previously
- Non-Routine Work **not** done previously

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With project values at $1,000,000+ per day, improvement counts!

$25bn Gas Project

Project Value	$1.6b	**Engineering**	3 mths
Permitting	3 mths	**Construction**	8 mths
Sourcing	$45m	**Commissioning**	6 mths

Significant Savings Can Be Achieved

$8bn Mine Project

Bulk Earthworks	5 mths	**Structures**	2 mths
Tailings Dam	3 mths	**M&E**	4 mths
Concrete	2 mths	**Systems**	4 mths

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Project controls teams are...

Ideally positioned to drive value...

→ Have **access to data**

→ Have the **right technical skills** to gain insight, and communicate it

→ Can **set targets** for specific packages to achieve or **beat the plan**

→ Can look forward and **identify most valuable opportunities**

→ Can **challenge the assumptions**

→ **Foresee risks** and **drive action**

...but are too often driven to look backwards

→ **Overly manual, wordy & protective reporting** (daily, weekly, monthly)

→ **... reporting too focused on the past** (eg: costs, progress, variations and reasons)

→ **Semi-manually linking up different data sets** from several contractors

→ **Ad hoc requests** from Project Managers and Directors for data and reports

→ **Not treated as an essential performance** enabling team by project managers

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So, where to focus to enable project controls teams to drive performance on mega projects?

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Six key changes are key to capturing this performance opportunity

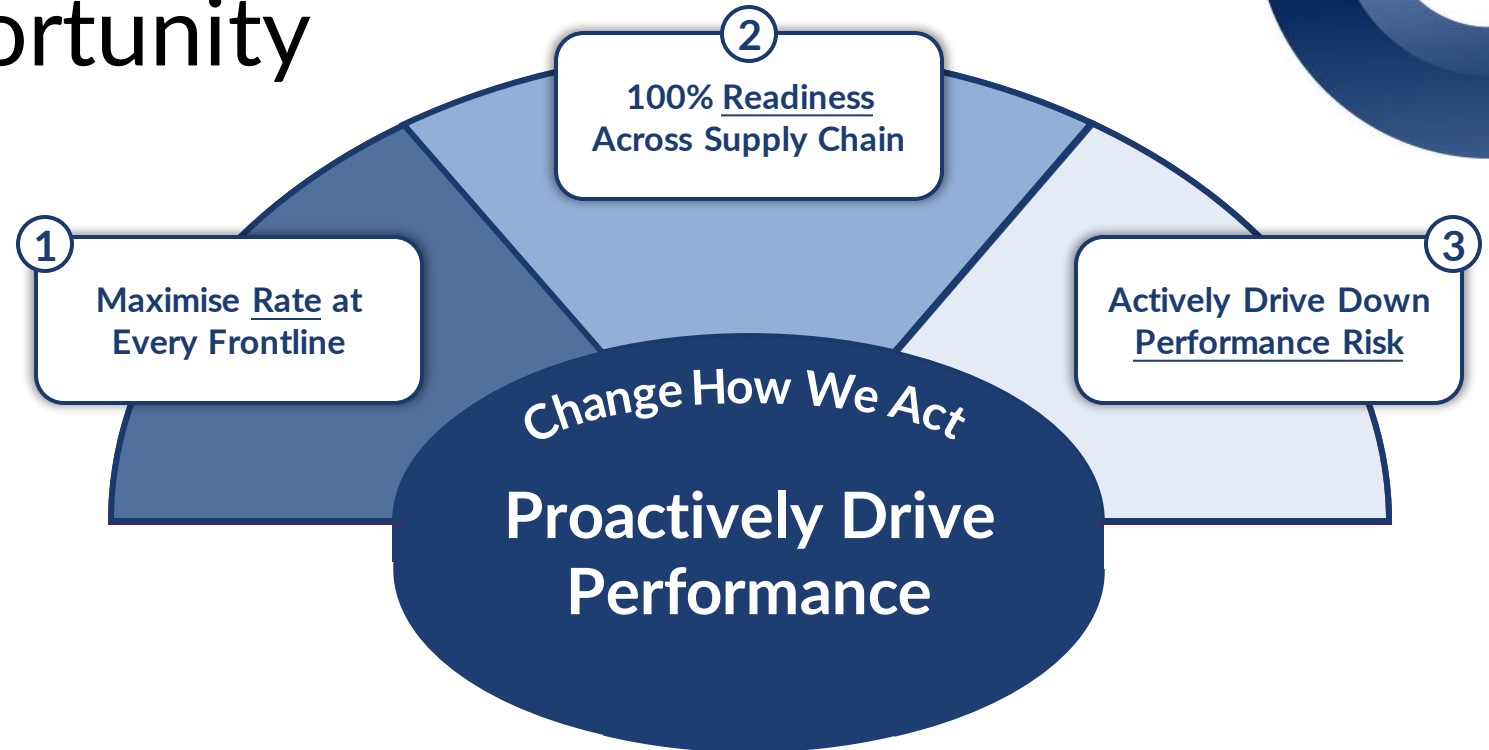**Projects & Project Controls needs to:**

Drive a culture...

- **Across all crews and the supply chain**

That, in the detail:

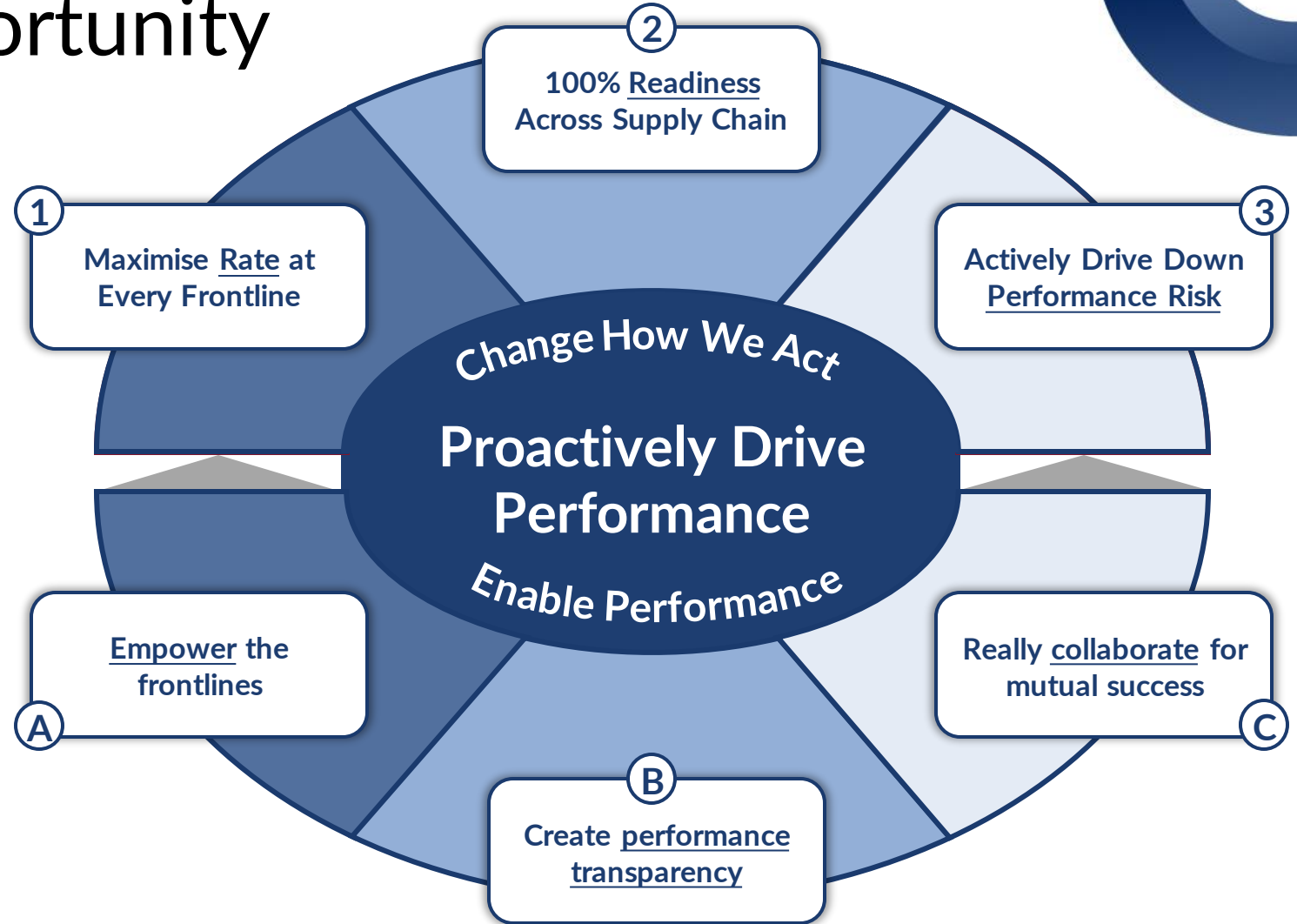- **Maximises productivity and valuable improvement every day**

And...

- **Knows and acts to ensure that nothing will get in the way of this**

②
100% Readiness Across Supply Chain

①
Maximise Rate at Every Frontline

③
Actively Drive Down Performance Risk

Change How We Act

Proactively Drive Performance

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Six key changes are key to capturing this performance opportunity

The project needs to set itself up for performance...

- Recognise that performance comes from the frontlines

- Use digital and data to build a single source of truth to help all see ahead of the curve

- Contract, incentivise and build a culture of: *"together we can all help everyone beat their targets"*

② 100% Readiness Across Supply Chain

① Maximise Rate at Every Frontline

③ Actively Drive Down Performance Risk

Change How We Act

Proactively Drive Performance

Enable Performance

Ⓐ Empower the frontlines

Ⓒ Really collaborate for mutual success

Ⓑ Create performance transparency

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Maximise Rate at every Frontline

Continuously drive up rate through process discipline and improvement

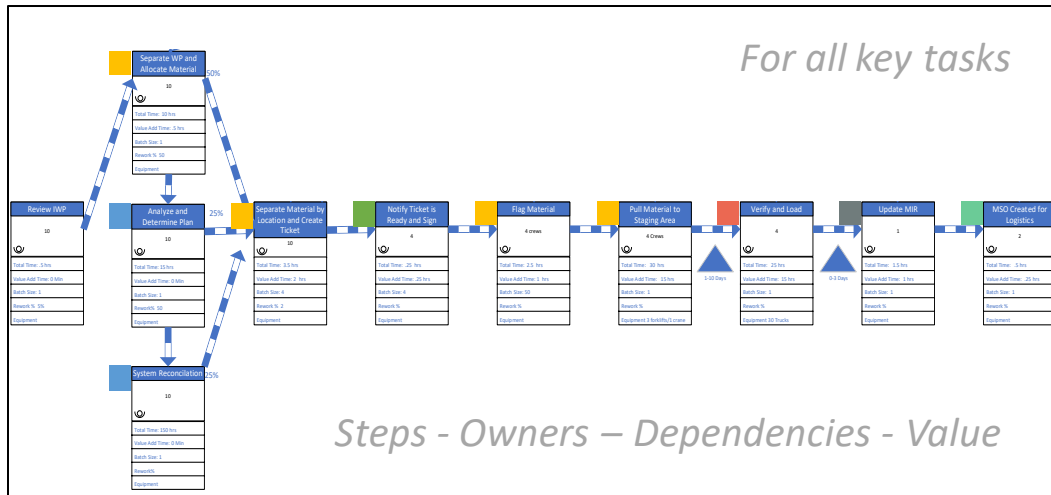| **Develop Efficient Processes with Clear Rates & Owners** *Create a foundation for performance and improvement*	**Continuously Improve** *Improve the most valuable processes*	**Maximised Rate** *Secure performance quickly*

Engineering - Fabrication - Construction - Commissioning

For all key tasks

Steps - Owners – Dependencies - Value

- Be ready everyday

- Be clear on target timings for each process step

- Train and coach teams on good process

- Reduce handover downtime

- Improve the process

5 weeks : 50% Improvement

Rail Construction – Line Laying
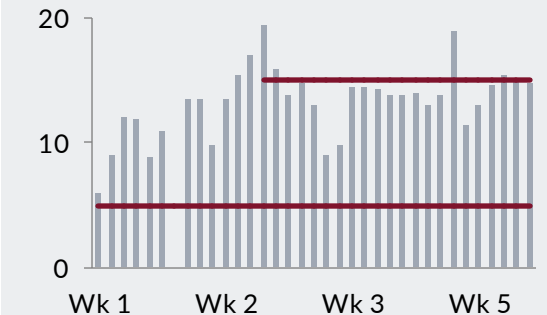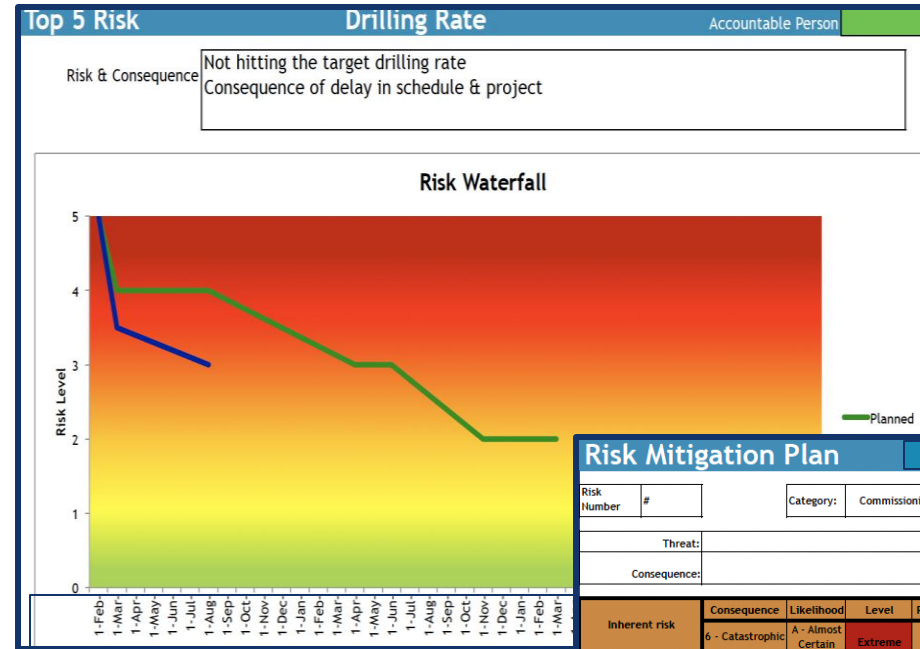

Build process clarity; Ensure readiness; Remove variability; Simplify the process

Project Controls are key to building and supporting core performance disciplines

Ensure 100% Readiness across the Supply Chain
Shift the upstream focus to "Is everyone making construction ready on time?"

Does every team know specifically when they need to complete their task for each package?

Does the project know when a team misses a deliverable?

Act early enough to recover

"Engineering is usually too opaque. Readiness gives us the specificity engineering needs and the transparency the project needs. The same mindset flows down through the supply chain"

- Not an even bigger P6!

- Give upstream teams the precision they need to be construction led

- Stop using % complete to track performance – it's *"Done or Not Done"*

- Real demand bumps can be smoothed out

- Recovery can be completed early enough

- Following teams and construction can see packages will be ready

Actively drive down performance risk

- What are the risks that will cause us not to achieve maximum rate on our key activities?

- When will they impact us?

- What actions can we take to remove those risks? How much will I invest to remove them?

- What is the timed action plan to execute them?

- Are we driving & tracking risk removal / mitigation with the same discipline as performance and progress?
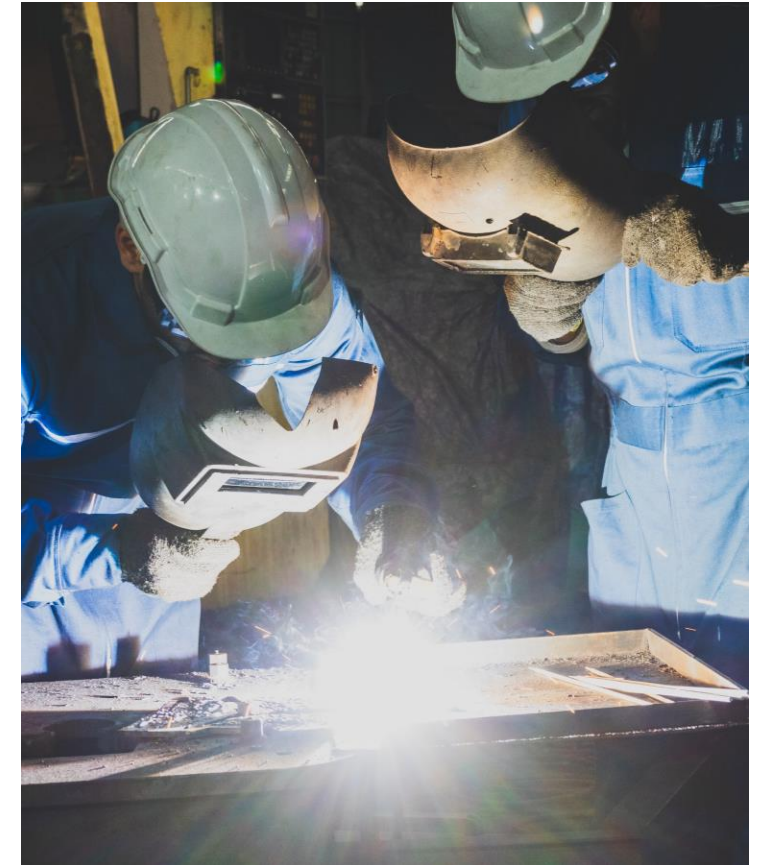
Empower the Frontlines
Performance comes from frontline – release and enable them

Execution driven performance

→ Frontline team leaders responsible and enabled to drive performance

→ Supply chain 100% **focused on feeding construction on time and in full**

→ Leadership's role is to **remove the barriers**

→ Controls **provide teams with targets, structure and insights** to perform and improve

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Performance Transparency
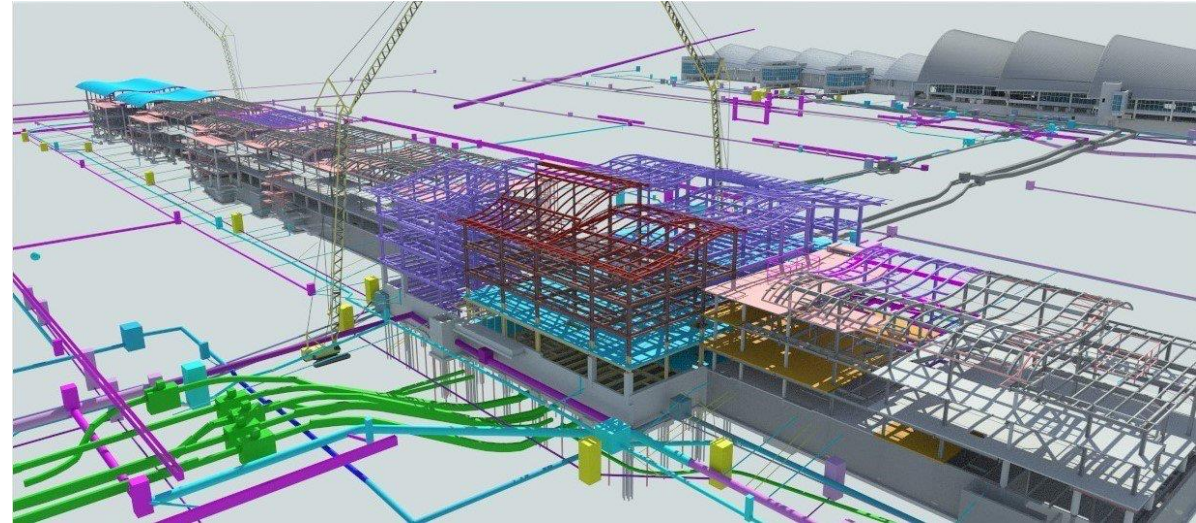*Real time performance transparency across the project and its supply chain*

Still too many text heavy reports that report past progress and protect the contract

▼

Digital dashboards that highlight performance & progress from one source of truth

▼

Digital twin that enables collaborative performance & supply chain efficiency

Set the Foundations

- Digital twin
- Common data structure
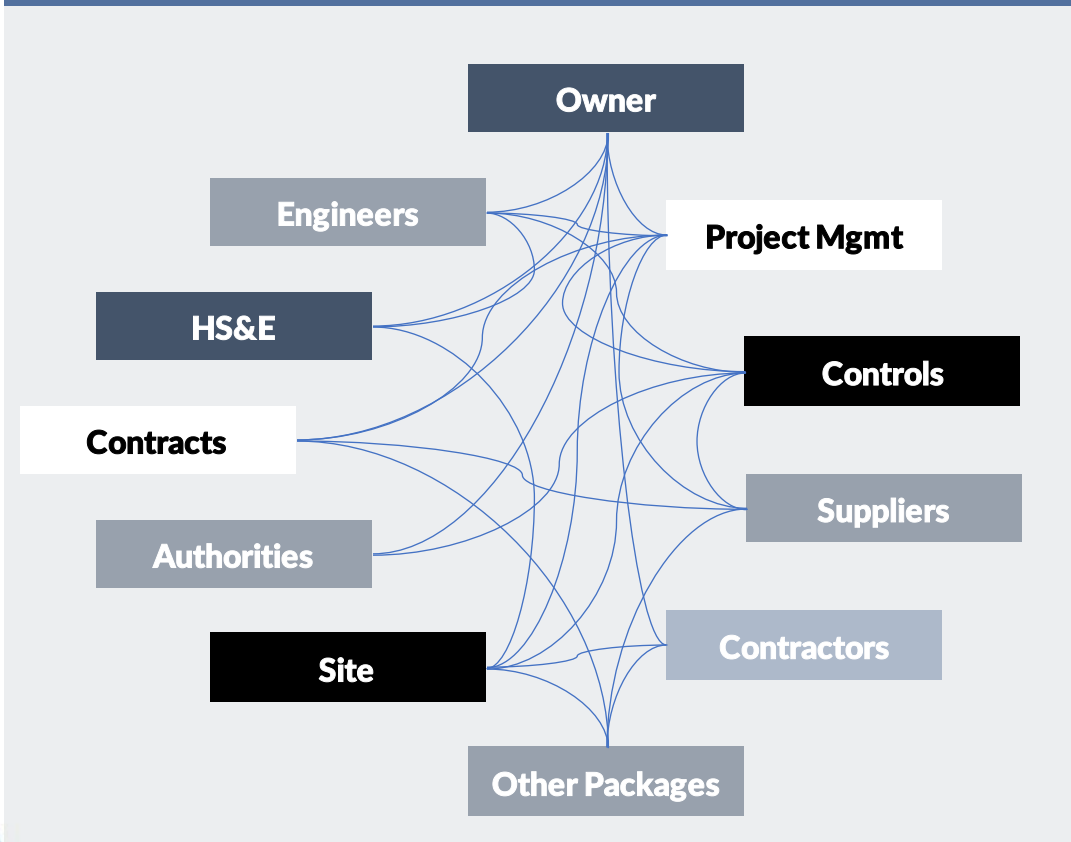- Common key software
- Performance reporting

Secure Value Eg:

- Performance focus
- Collaboration
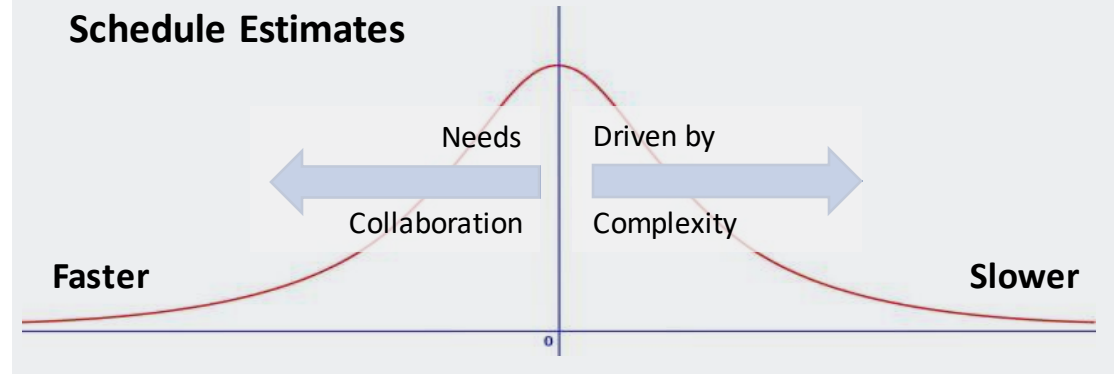- Productivity apps
- Blockchain payments

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Collaborate for Mutual Success

All teams and organisation shift from "safe plan for us" to "best result for all"

It's sort of complicated out there...

Owner

Engineers

Project Mgmt

HS&E

Controls

Contracts

Suppliers

Authorities

Contractors

Site

Other Packages

...which gets in the way of performance

Schedule Estimates

Needs — Collaboration

Driven by — Complexity

Faster

Slower

0

Collaboration must be grown

- Right partners
- Right team & mindset
- Right incentives
- Everyone can win

- Trust that is built
- Early engagement
- Transparency
- Stability

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In summary...

Achieving high performance in projects is naturally harder than in more stable ops - *its tough!*

But...
- *too much*
- *too often*
- *left on the table*

With the right performance culture and discipline, significant value / upside is available to all

Project Controls is key to high performance...

- **Driving** the processes, discipline and improvements that secures **rate**

- **Ensuring** that everyone has the detail to know what must be done today to be **100% ready** for construction tomorrow

- **Agreeing** the actions required to drive out **performance risks** on time

- Setting-up the **digital twin** so that everyone can **see performance**

- Automatically **reporting & highlighting performance opportunities**

But, the whole project team also needs to want to reap the benefits of an **empowered and collaborative performance culture**

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