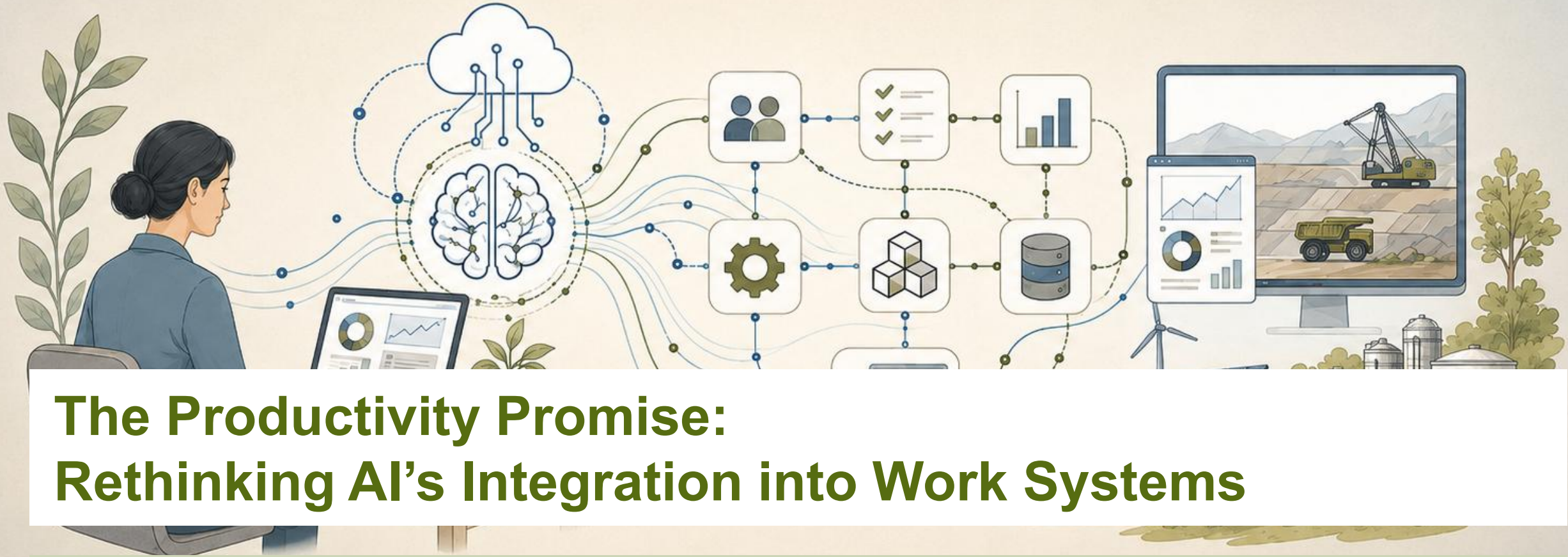
AREEA Webinar
18 August 2026

AUSTRALIAN RESOURCES & ENERGY EMPLOYER ASSOCIATION

Quality Work in a Digital Age

Curtin University
FUTURE OF WORK INSTITUTE



The Productivity Promise: Rethinking AI's Integration into Work Systems

BELINDA CHAM

Curtin University

FUTURE OF WORK INSTITUTE

ARC Centre of Excellence for Quality Work in a Digital Age

FOWI and QWIDA conducts industry-embedded research to:

- Support thriving people & organisations in the digital age
- Understand the role of work design in generating healthy & productive work
- Implement, evaluate & support change

Dr. Belinda Cham

- A decade conducting applied research on human performance in safety-critical, high-pressure work.
- Focus on human systems integration and applying behavioural science to design better human–technology work systems.

Transformative work design | **Work capabilities and motivation** | **Human systems integration** | **Public policy in the digital age** | **Data analytics and decision making** | **Ageing and work**

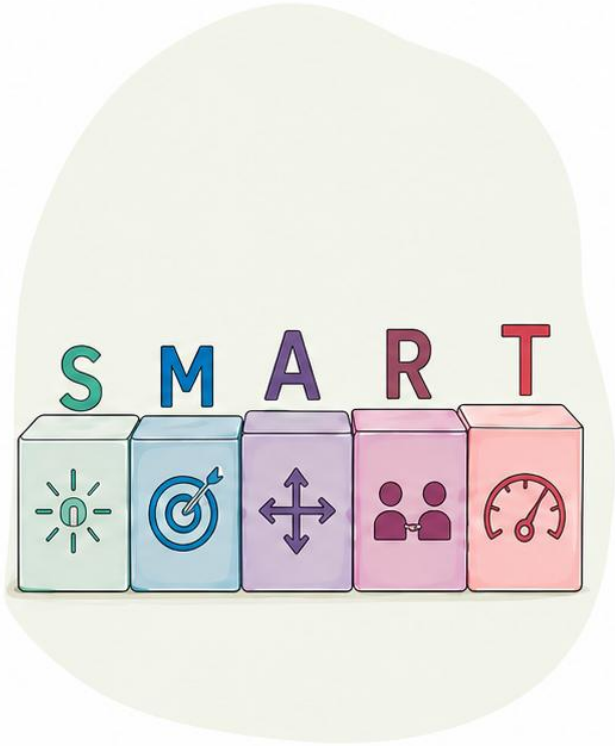
Overview

The Productivity Promise (?)

Taking stock of the various perspectives on AI transformation.

Insights from Past Transformations

Technology has always reshaped human work and shifted opportunities/risks.



Designing for Human Work Systems

A framework and practical considerations for designing quality human work.

Do not edit
How to change the design

How has AI landed in your organisation?

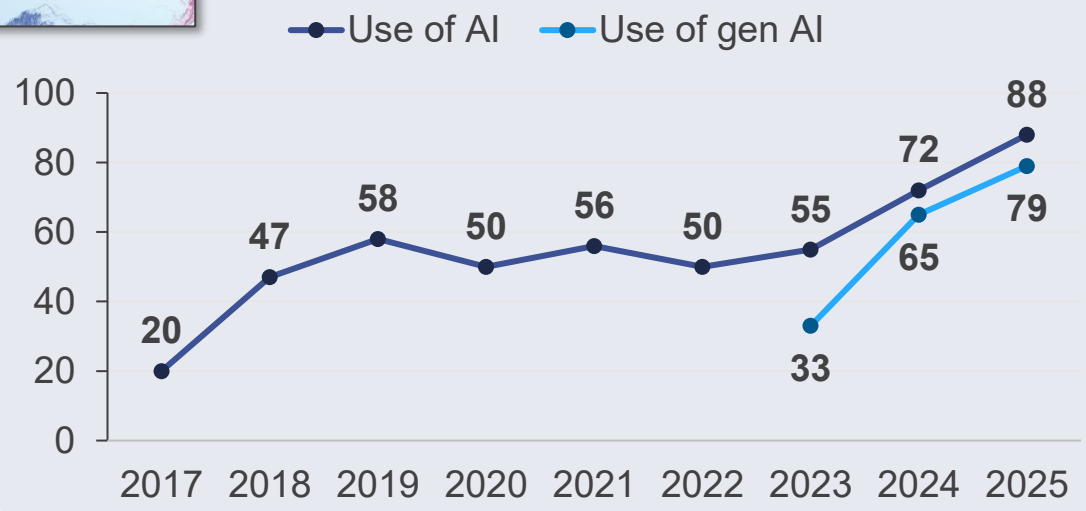
ⓘ The Slido app must be installed on every computer you're presenting from

slido

The Productivity Promise

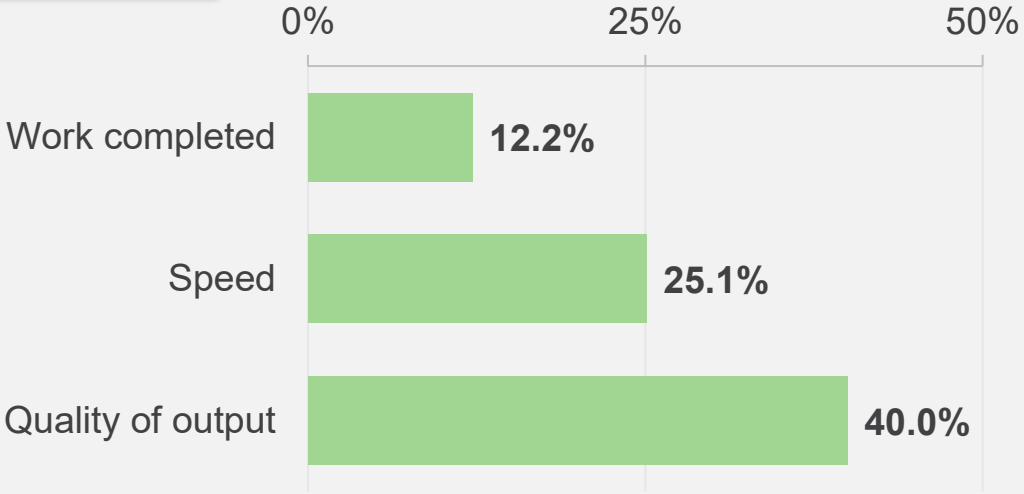
91% of organisations expect productivity to increase because of generative AI

Organisations using AI in at least one business function, % of respondents



Harvard Business School

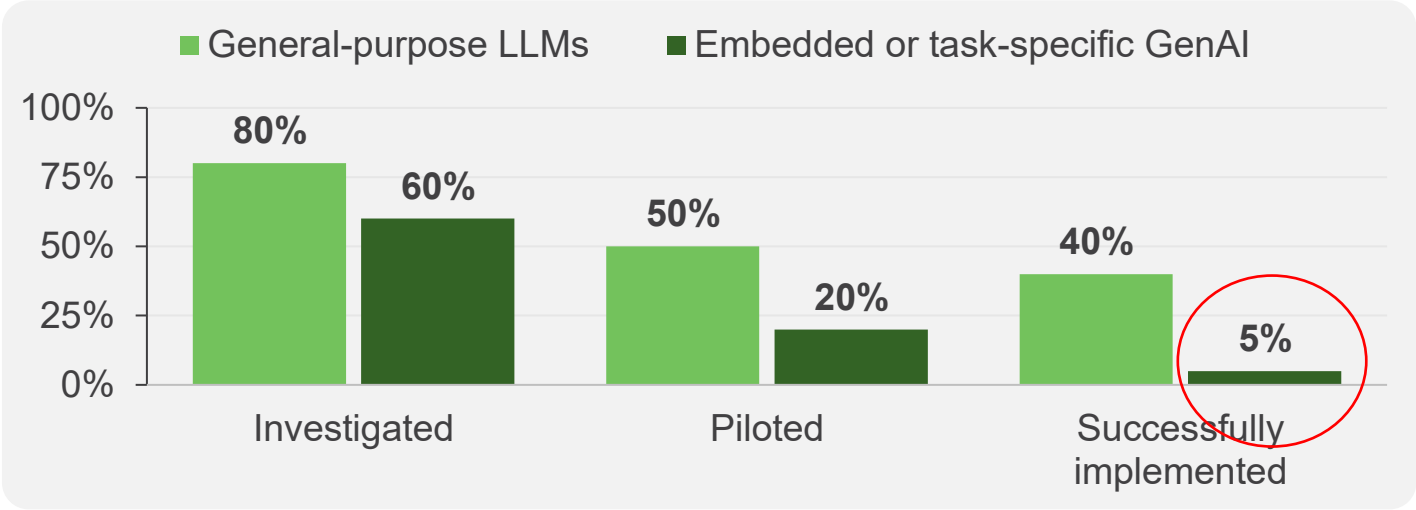
Consultant study: uplift with AI vs. control group, %

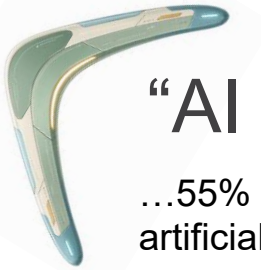


Sources: Deloitte, State of GenAI in the Enterprise; McKinsey Global Survey on the State of AI; HBS/BCG field experiment

The Productivity Promise

The GenAI Divide
STATE OF AI IN BUSINESS 2025





"AI Boomerang"

…55% of employers regretted their decision to lay off staff due to artificial intelligence

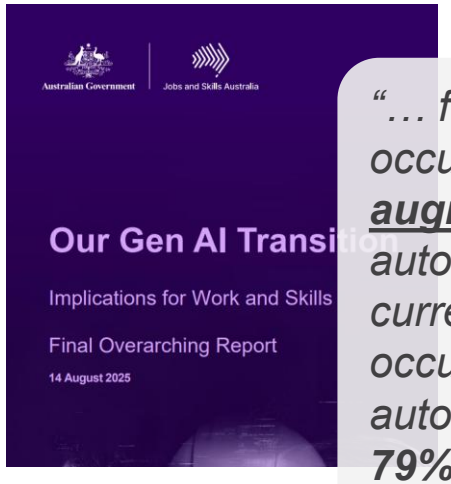
NEWS

Commonwealth Bank backtracks on AI job cuts, apologises for 'error' as call volumes rise

By business reporter Stephanie Chalmers

Watch Live BBC Register Sign In

Ford rehires human engineers after AI fails to match quality checks

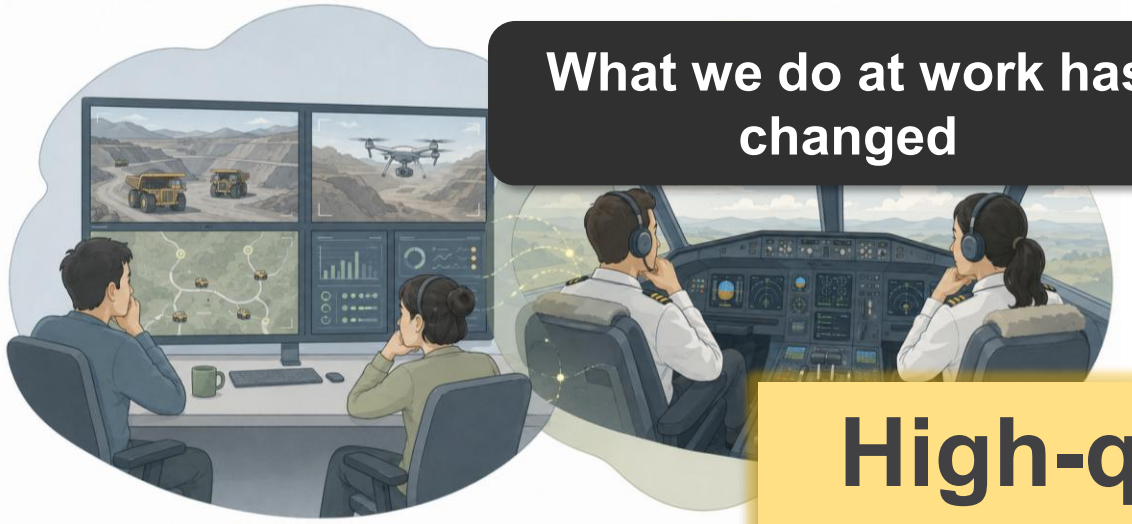


*"… far greater potential for occupations to undergo **augmentation** rather than automation… around 4% of the current workforce are in occupations that have high automation exposure… whereas **79% has low automation exposure**."*

Digital technologies like AI fundamentally change human work.

And we have been here before…

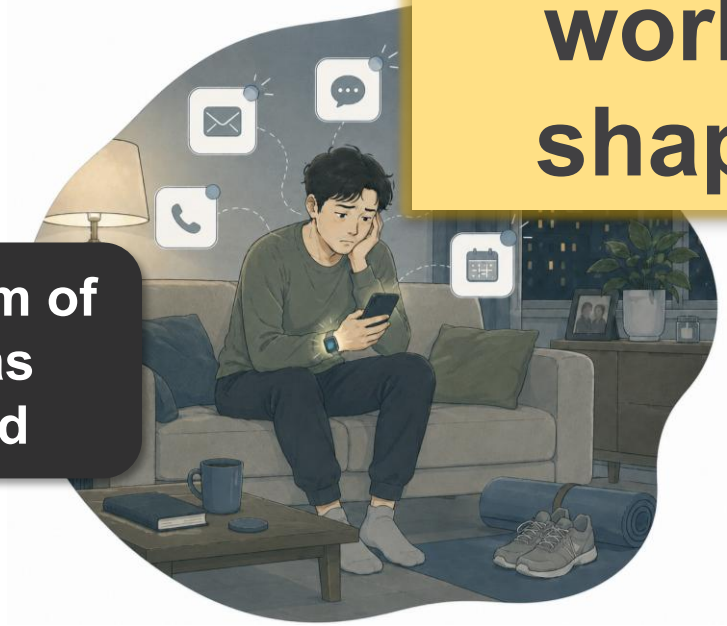
Technology changes the shape of human work: Examples



What we do at work has changed

How we connect and collaborate has changed

High-quality human work matters and shapes outcomes



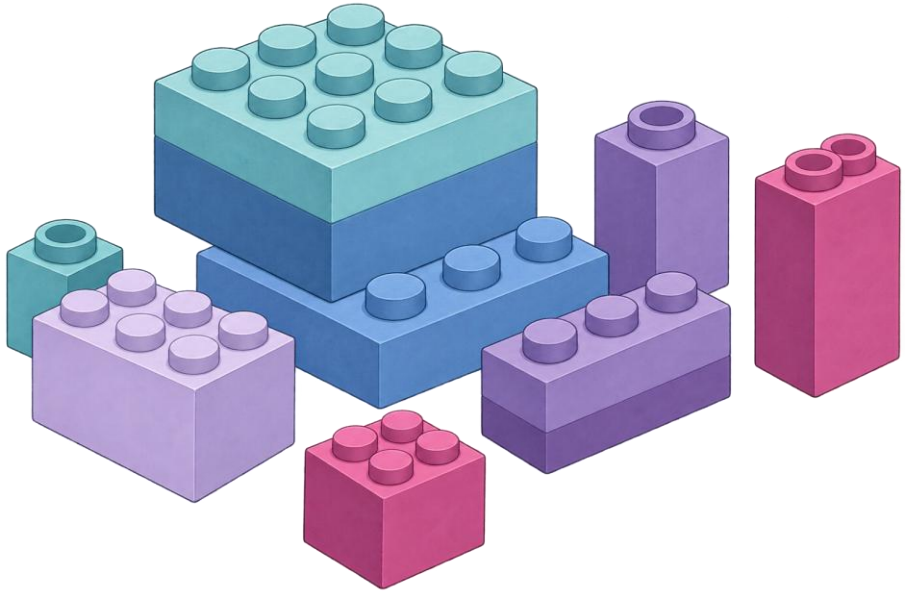
The rhythm of work has changed

How we make decisions has changed

How do we ensure human work remains high quality?

Work design

- How tasks are **organised** and what they **involve**
- One's **role** and **responsibilities** in the organisation
- The nature and quality of the **relationships** one has with others



Over a hundred years of research shows that good quality human work design predicts:

- Mental health and wellbeing
- Motivation and performance
- Learning and growth

Parker, S. K., Morgeson, F. P., & Johns, G. (2017). One hundred years of work design research: Looking back and looking forward. *Journal of applied psychology*, *102*(3), 403.

A Practical Framework: SMART Work Design

Stimulating

Varied, interesting, meaningful work in which you use and develop your skills

Mastery

Clarity about your goals/responsibilities, you receive feedback & know where your job fits in

Agency

Autonomy over when, how, & where you do your work

Relational

Social contact & support from others, being part of a team, and making a difference to others

Tolerable Demands

Having emotional, cognitive, workload & other demands that are experienced as tolerable

Parker, S. K., & Knight, C. (2024). The SMART model of work design: A higher order structure to help see the wood from the trees. *Human Resource Management*, *63*(2), 265-291.

How would AI change how ‘SMART’ the work is?

S Stimulating

Varied, interesting, meaningful work in which you use and develop your skills

How might AI reshape ‘S’?

Can help:

- Automate tasks and workflows, freeing people from the boring routine work.
- Opening space for problem-solving, creativity, and skilled tasks.

Can hurt:

- Taking away the interesting parts, leaving routine leftovers or passive monitoring.
- Workers don’t get opportunities to practice their skills or learn new skills.

Illustrative scenario:
AI-enabled predictive maintenance used to analyse equipment data, identify emerging faults and help prioritise maintenance.

→ AI handles **routine checks**, **freeing maintainers** for more **fault-finding, troubleshooting and problem-solving**.
→ more varied and engaging work.

→ AI **does the diagnosis and prescribes the fix**, leaving maintainers to **monitor** and execute.
→ less challenge, less judgement, less skill use

How would AI change how ‘SMART’ the work is?

Mastery

Clarity about your goals/responsibilities, you receive feedback & know where your job fits in

How might AI reshape ‘M’?

Can help:

- Giving access to more and/or faster feedback, data, information, and expertise to do the job well.

Can hurt:

- ‘Black-box’ AI information people can't understand or check
- Unclear role and accountability when AI does part of the work.

Illustrative scenario:
AI-enabled predictive maintenance used to analyse equipment data, identify emerging faults and help prioritise maintenance.

→ AI shows **what changed and why it flagged a fault.**
→ maintainer gets clearer feedback and a better understanding of what is happening.

→ AI gives a **diagnosis or recommendation with little explanation.**
→ harder to judge whether it makes sense, build understanding, or learn from the fault.

How would AI change how ‘SMART’ the work is?

Agency

Autonomy over when, how, & where you do your work

How might AI reshape ‘A’?

Can help:

- AI supports human judgement, giving workers better information for the decisions they make.

Can hurt:

- Decisions get taken by AI, and workers are held accountable for outcomes they didn't control.
- Algorithms tighten control over how and when people work.

Illustrative scenario:
AI-enabled predictive maintenance used to analyse equipment data, identify emerging faults and help prioritise maintenance.

→ AI flags the issue and provides information, while maintainers **decide the priority and response.**
→ judgement and control stay with the person.

→ AI **sets the priority and prescribes the response.**
→ less discretion, even when maintainers remain accountable.

How would AI change how ‘SMART’ the work is?

Relational

Social contact & support from others, being part of a team, and making a difference to others

How might AI reshape ‘R’?

Can help:

- AI might create tools to help distributed teams stay connected or automate mundane tasks to free time for team interactions.

Can hurt:

- Interactions shift through the AI instead of between people. Work connections, relationships and collaboration can suffer.

Illustrative scenario:
AI-enabled predictive maintenance used to analyse equipment data, identify emerging faults and help prioritise maintenance.

→ AI pulls together handover information, creating **more time for crews to discuss issues and coordinate.**
→ stronger shared understanding.

→ AI-generated summaries **replace direct handovers.**
→ less conversation, context-sharing and connection between crews.

How would AI change how ‘SMART’ the work is?

Tolerable Demands

Having emotional, cognitive, workload & other demands that are experienced as tolerable

How might AI reshape ‘T’?

Can help:

- Reducing physical and routine cognitive burdens.

Can hurt:

- Load doesn't disappear, it reshapes (e.g., more alerts and data to sift through).
- Monitoring is exhausting
- Difficult cases pile up.

Illustrative scenario:
AI-enabled predictive maintenance used to analyse equipment data, identify emerging faults and help prioritise maintenance.

→ AI detects faults earlier, allowing maintenance to be **planned before breakdowns occur.**
→ less emergency work and reactive pressure.

→ More **alerts** and **difficult exceptions** are left for maintainers.
→ **greater vigilance, cognitive load and time pressure**.

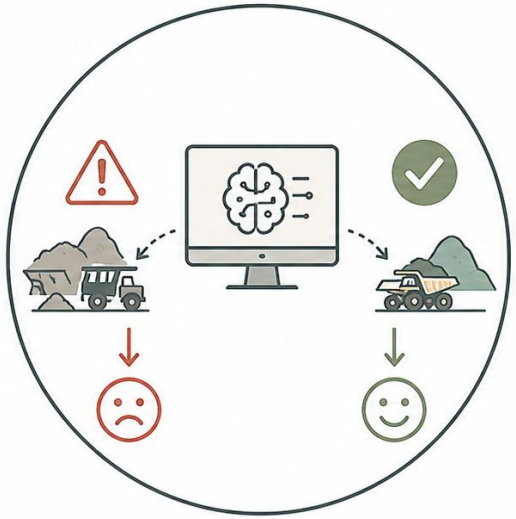
Designing good work takes multiple perspectives

Different perspectives help us make better choices about what we ask the technology to do, and what kind of human work we create around it.

Bring perspectives together early, and keep the workforce involved as the technology evolves.

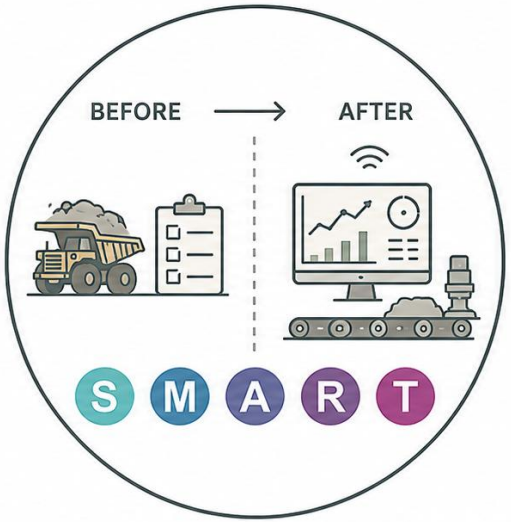
- People using or receiving the technology
- Managers / operations
- Technology / implementation teams
- People, safety & organisational functions
- Senior leaders / strategy

Summary and Takeaways



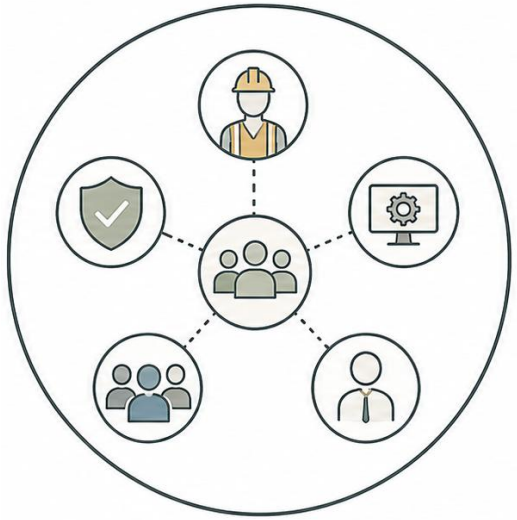
Technology isn’t inherently good or bad

Productivity and success depends on how technology is integrated into work and whether it helps people perform and stay well.



Consider how SMART the human work is

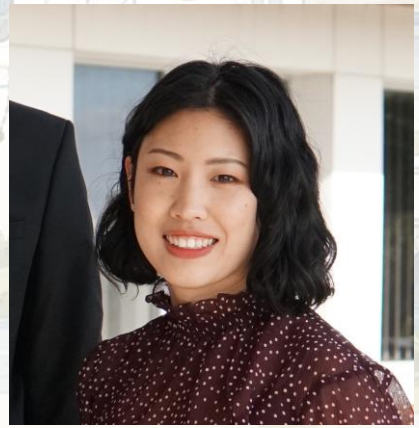
Compare the job before and after the technology. What becomes more or less stimulating, transparent, autonomous, connected or demanding?



Different perspectives matter

Involve the people whose work will change, alongside those selecting, designing, implementing and supporting the technology.

Questions?



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