

TECHNOLOGY TRANSFER & COMMERCIALISATION

Session 4



Mr. Jan Kwak

Hatch Australia-Asia
Managing Director



Making Technology Pay

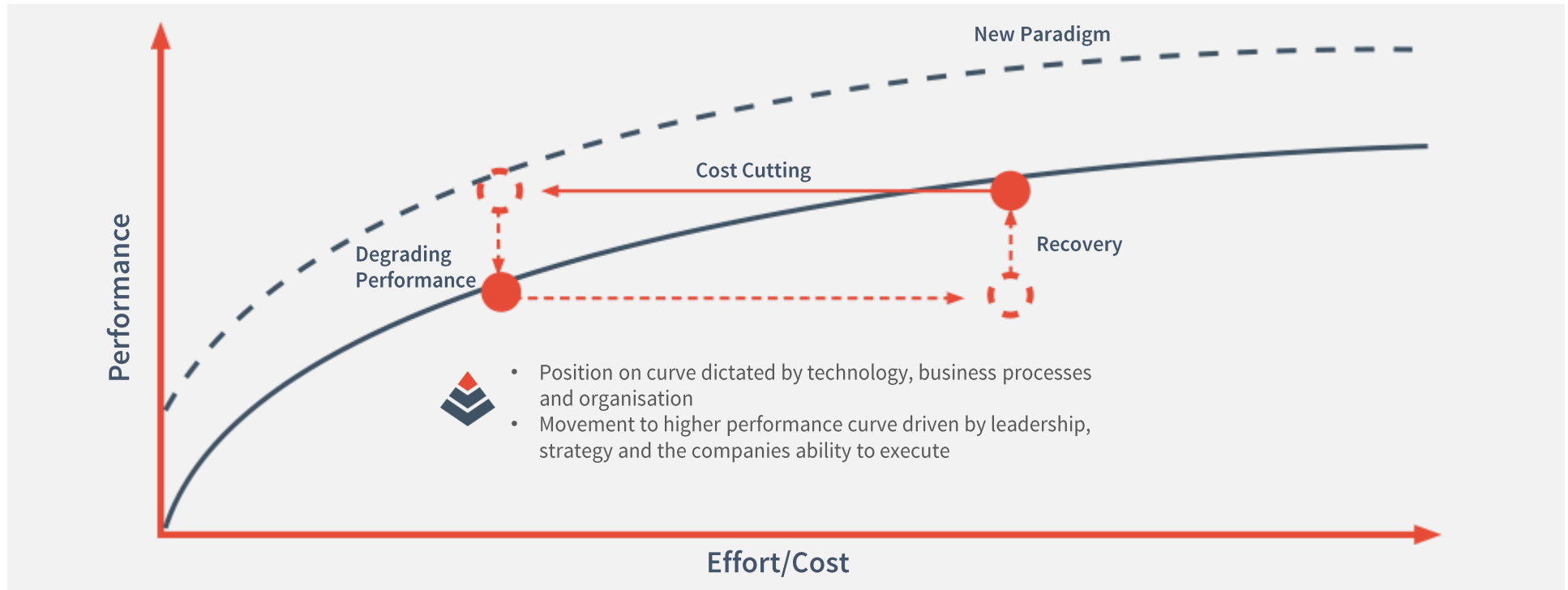
Hatch Perspective



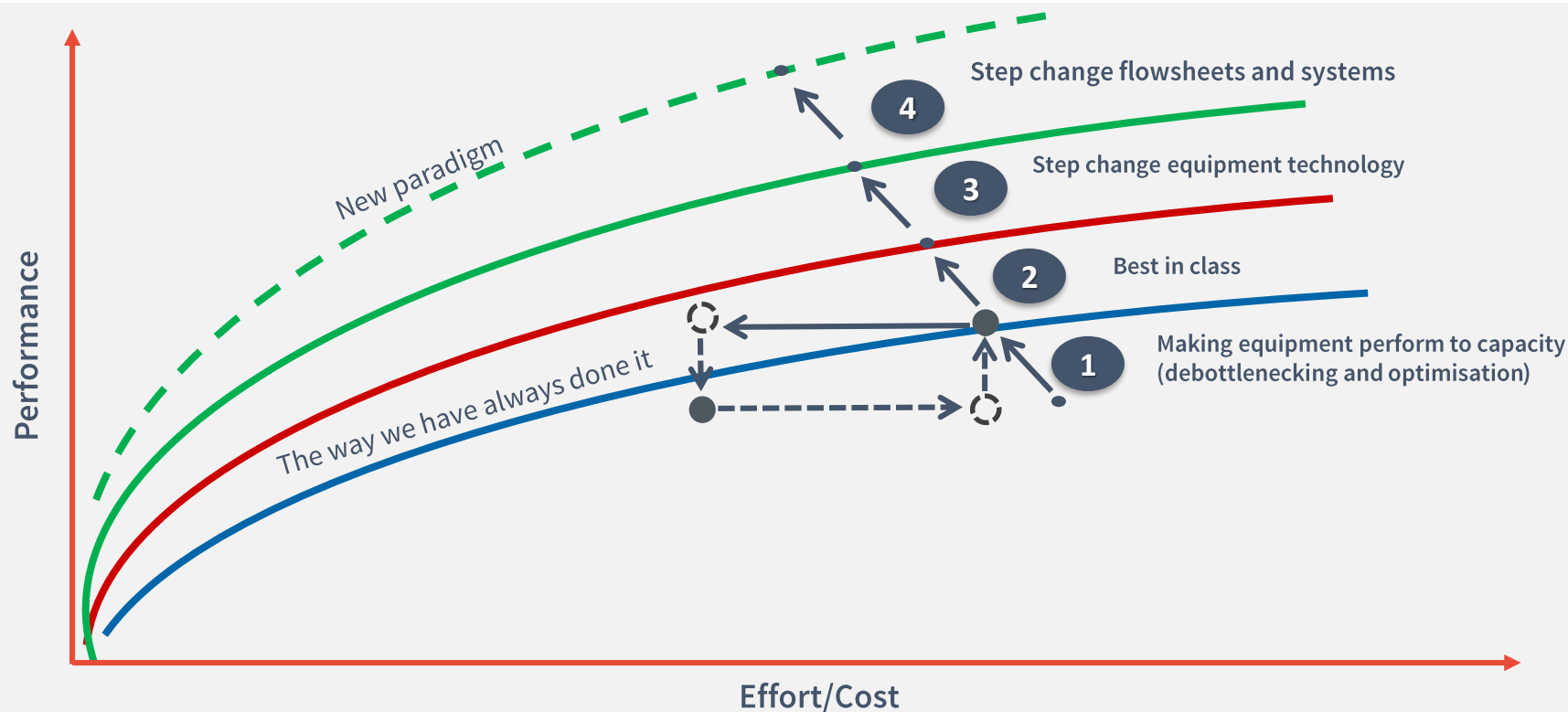
CRC ORE Annual Assembly

20 November, 2018

Market dynamics and seemingly logical tactics often combine to cause a hysteresis effect. A new paradigm is driven through people, process and technology

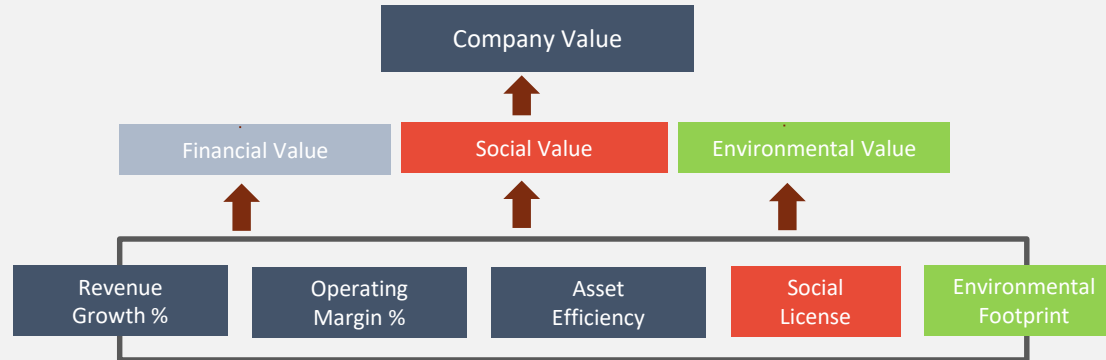


Stage Wise Productivity Improvement



Value

What is the objective?



How do you engineer that?



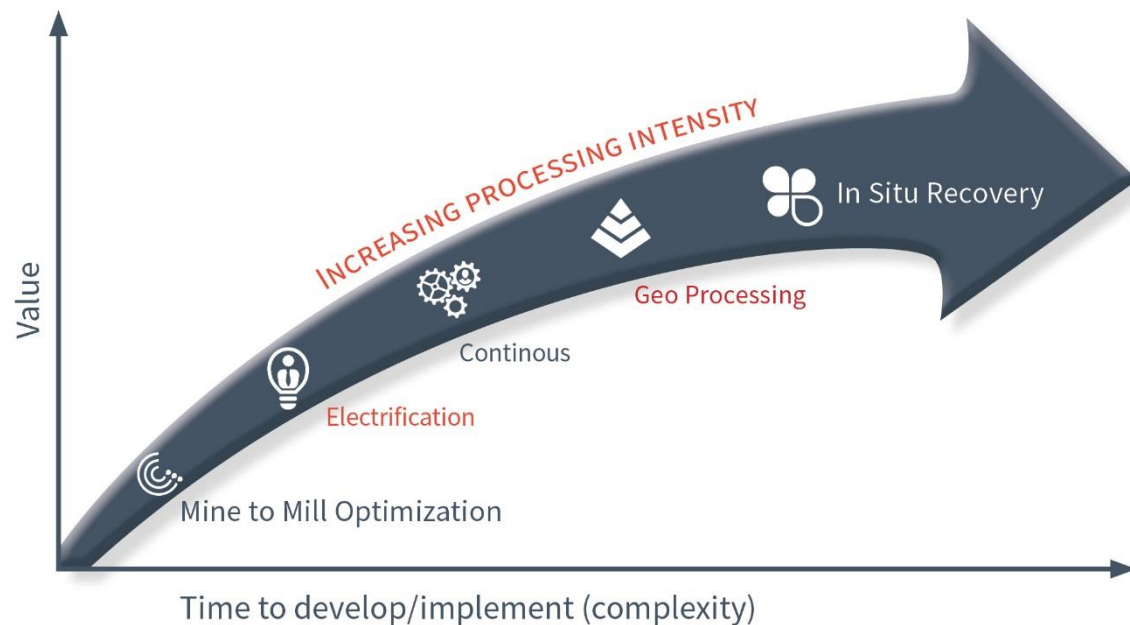
Business Process Framework

Strategic planning - LOM Planning - Annual Planning - Execution

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Optimising Resource Extraction

Hatch process technology to improve intensity

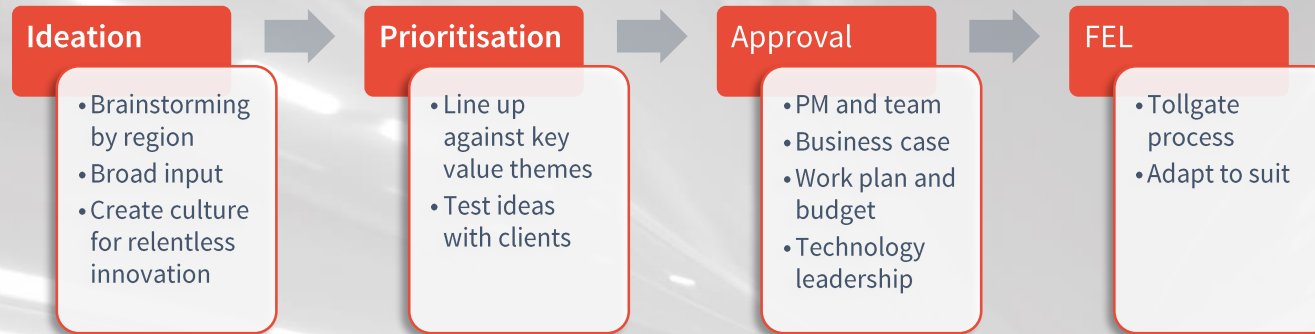


Hatch currently pursuing studies and projects related to all five of these themes.

Strive to find new ways of harnessing value in all projects.

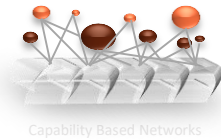
We are confident every one of these topics can generate very high value.

Building a technology pipeline



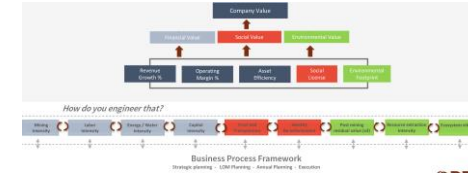
Filing the technology pipeline

Network (2010s)
Economies of Knowledge



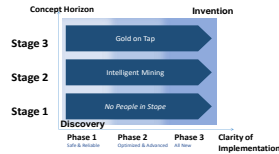
1. Set context
inside the
organisation

Creating New Business Models



Key value drivers enable the development of
new business models for mining

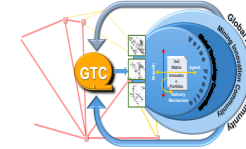
Technology Portfolio



4. Turn ideas into
projects and
manage the
project pipeline.

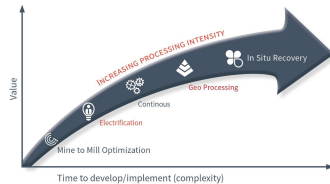
2. Preparing
the organisation
for innovation.

Innovation Model



3. Building
the innovation
process and
generating ideas.

Technology Roadmap



Ideation Process



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What are the
core challenges
for our industry
clients now?

How does our
technology
solution compare
to the
alternatives?

Why have previous
efforts failed to
satisfactorily solve
the core challenge?

Start with the right questions

Ensure you can answer these questions **BEFORE** trying to generate/exploit a technology if you want to achieve significant value.

Organisational building blocks

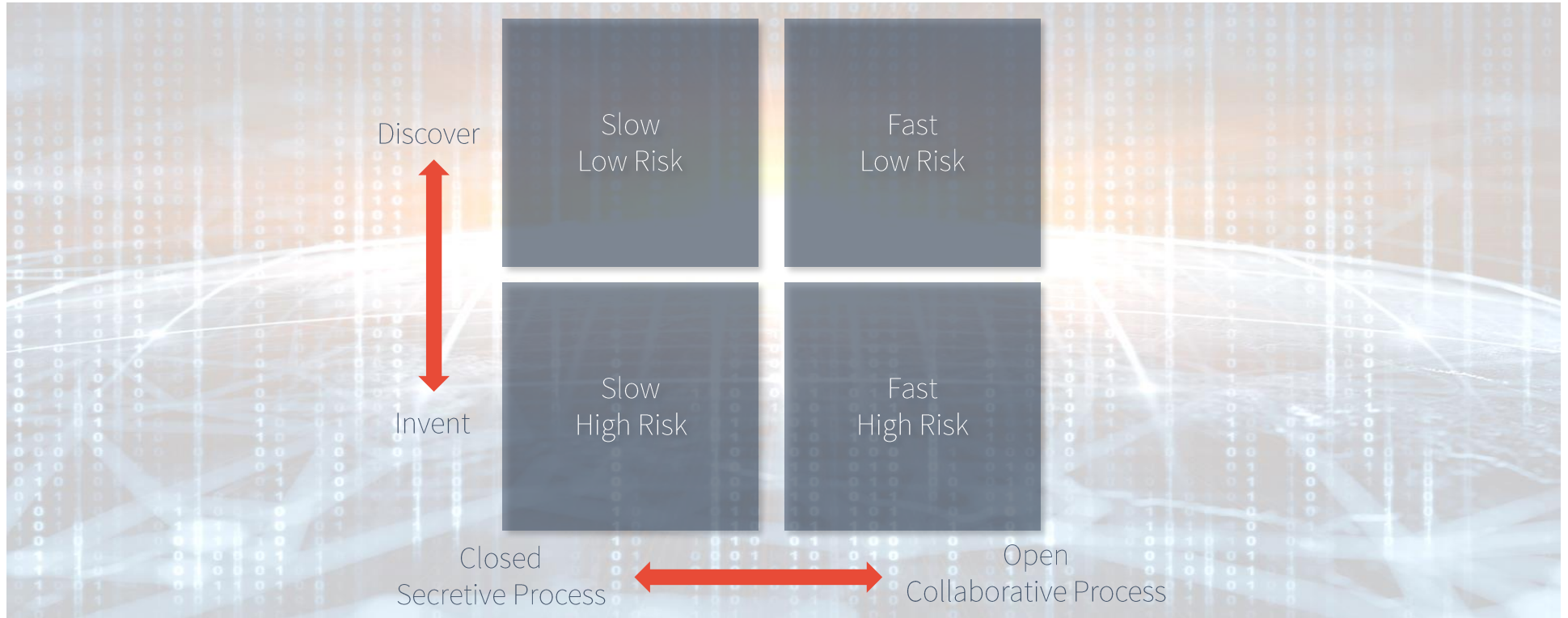


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Innovation approach

Managing speed and risk

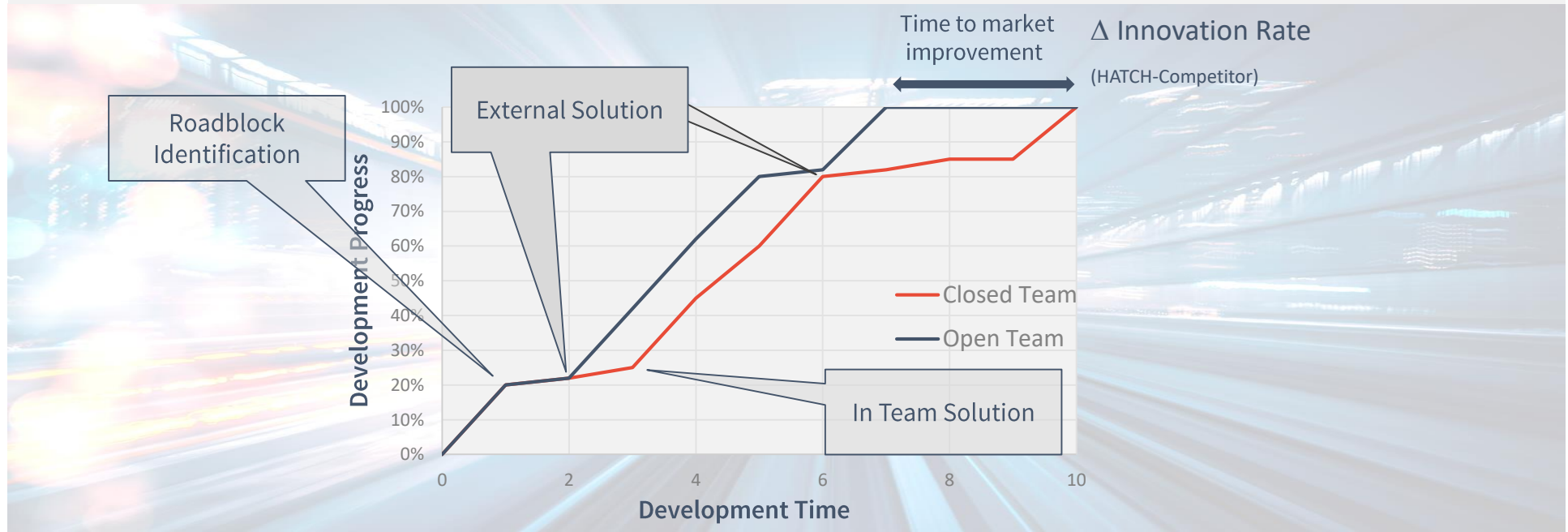


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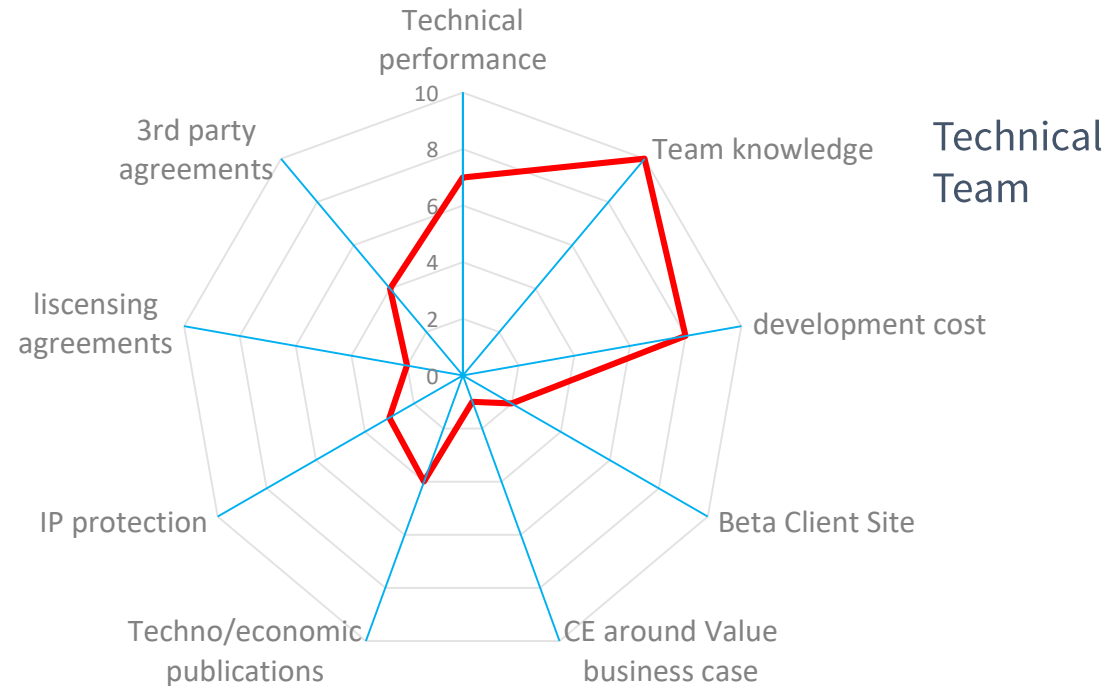
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Speed and collaboration

Open Innovation recognises that the rate of progress of development teams is usually dictated by the challenges which arise that are outside the core expertise of the team

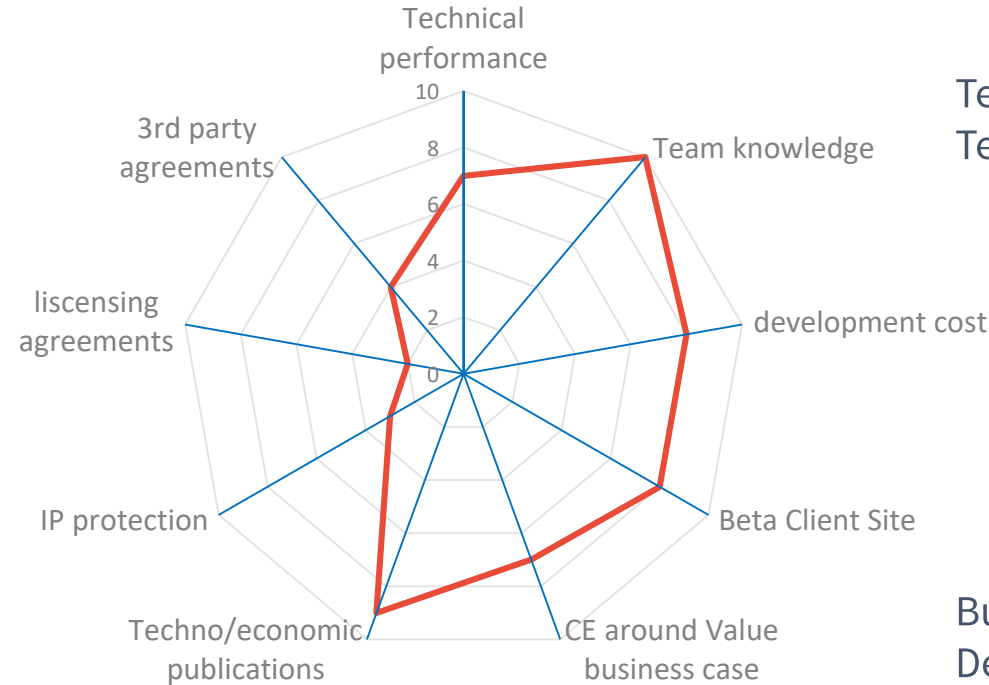


Technical dominant scenario



□ That's really clever, but why wont anyone buy it?

Weak commercial scenario



Technical Team



Business Development Team



□ That's fantastic, but we don't make much on it...

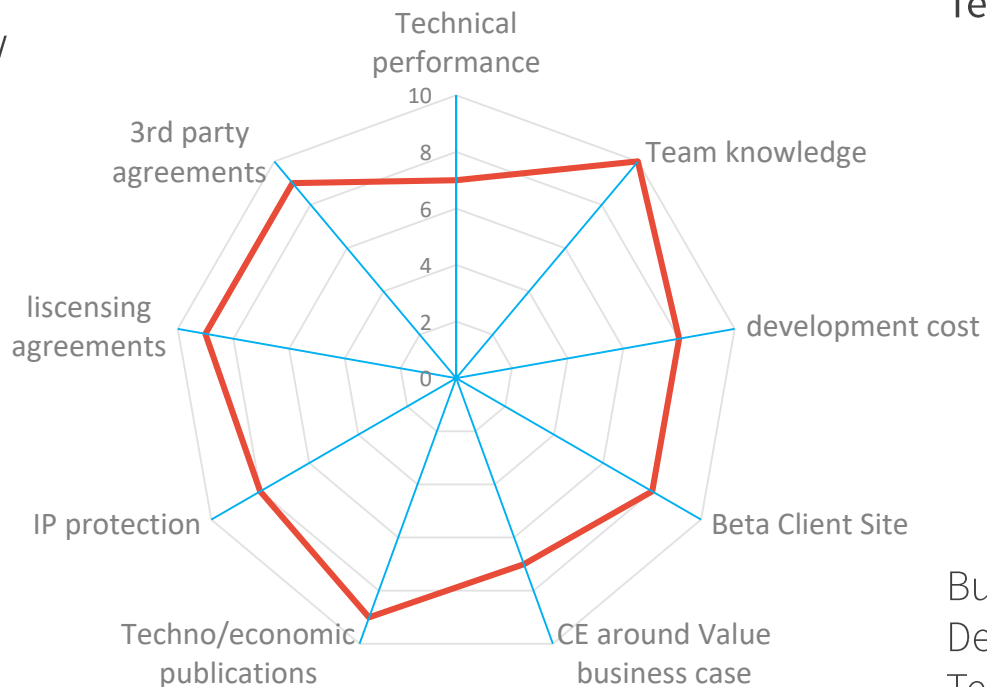
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Balanced scenario



Commercial/
Legal Team



Technical
Team



Business
Development
Team



□ That's fantastic, and look at the impact on the bottom line!

Awesome technology is the embodiment of answers to the most important industry challenges



Tube digestion – most efficient
\$/t Alumina Refinery tech



Electric Furnace –
longest life furnace (\$/t)



Hatch Product Transport –
max tph & expansion capability



Galvanizing Control –
Galv Line \$/t minimisation



Lance – minimum operating
\$/t & max uptime



Grade Engineering (!)
- Highest grade feed to mill (\$/t)

- Understand the challenge it addresses & how well it does it.
- Use technology in engagement when that challenge is what the client cares about.



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Additional notes

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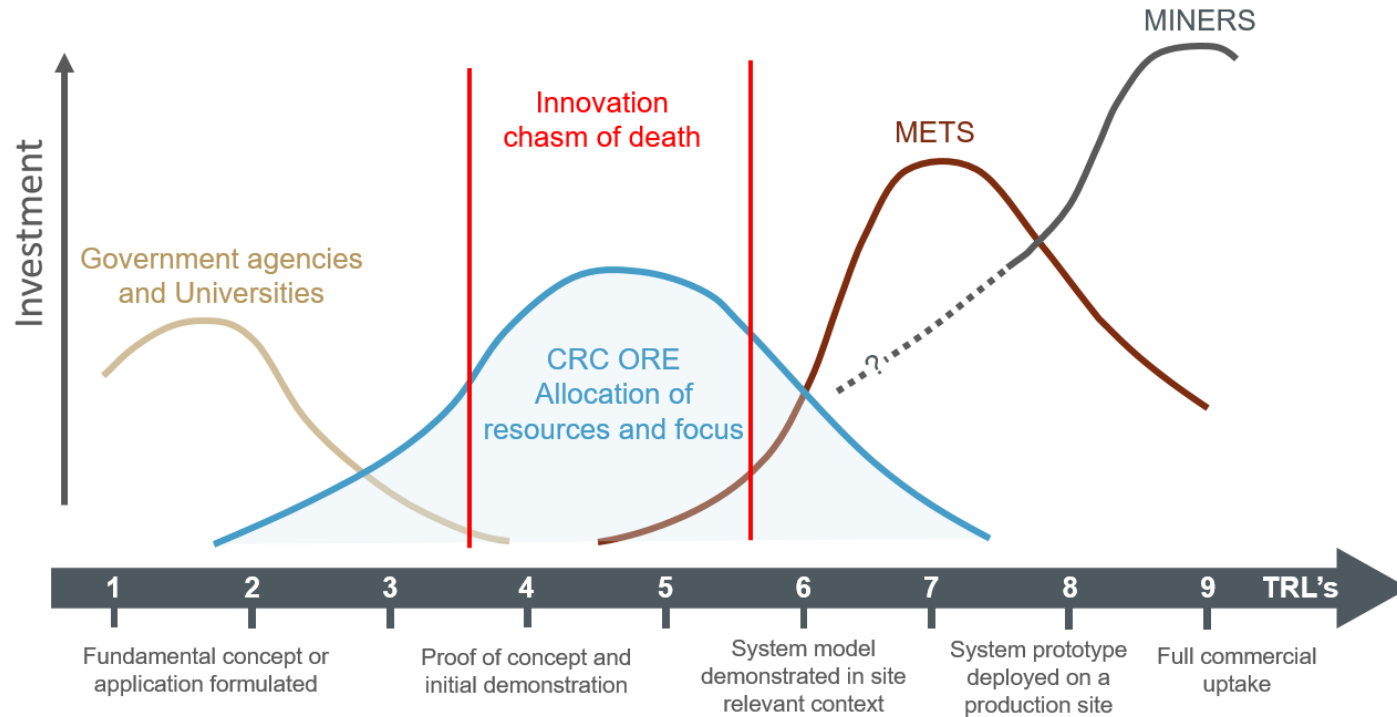
Australian Government
Department of Industry,
Innovation and Science

Business
Cooperative Research
Centres Program

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Break out technology

Hatch is focused on identifying, developing and commercialising value adding technologies for the mining sector

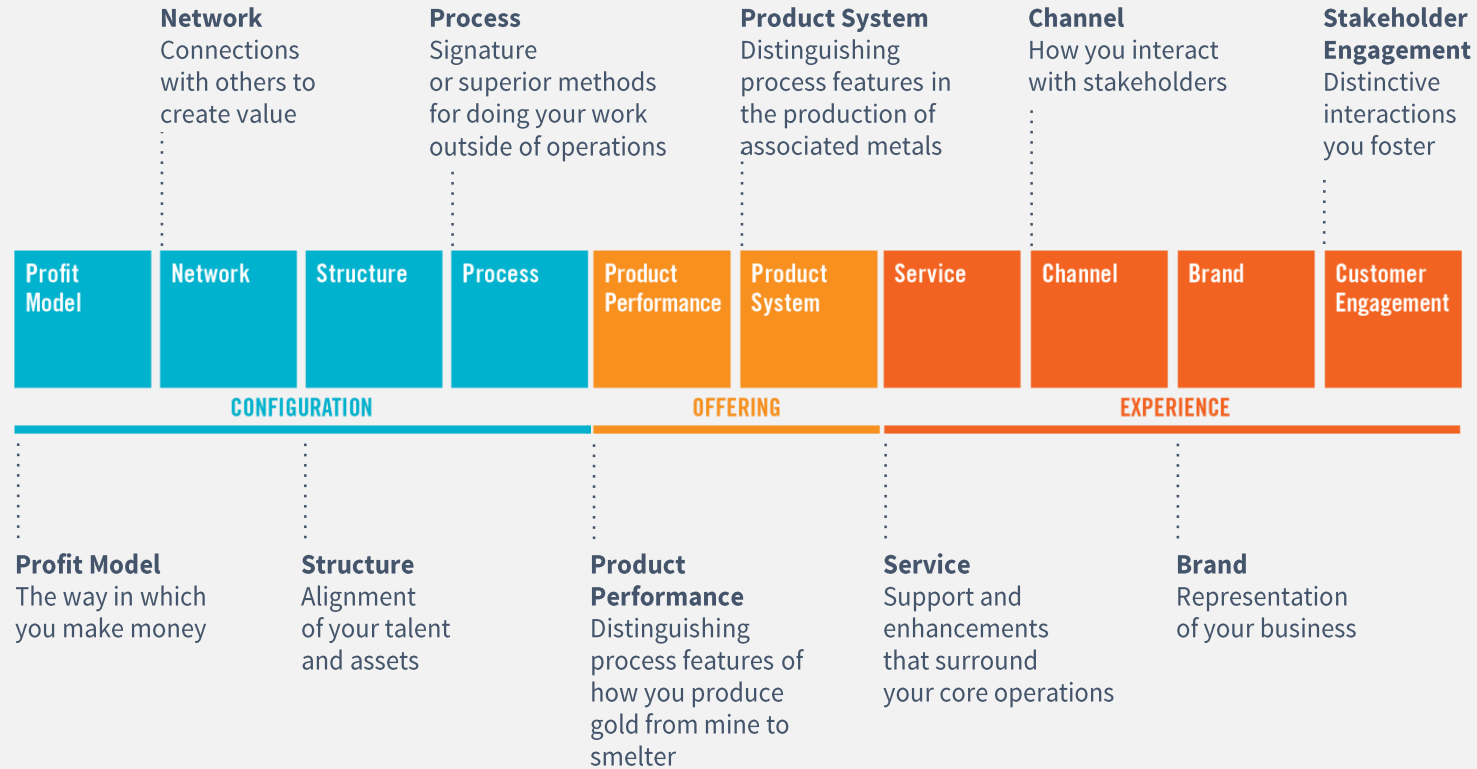


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Types of Innovation:

Successful innovators innovate beyond products and integrate multiple types...



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