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CSIRO-Chile ICE International Centre of Excellence Mining and Mineral Processing



fcfm

FACULTAD DE CIENCIAS
FÍSICAS Y MATEMÁTICAS
UNIVERSIDAD DE CHILE

Warren Potma (CSIRO)

CSIRO-Chile Project Development Director

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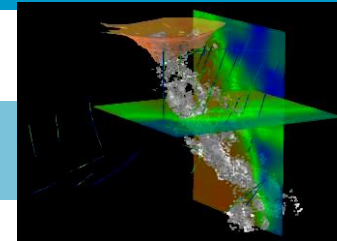
Director AMTC: CSIRO-Chile ICE partner

National Research
FLAGSHIPS
Minerals Down Under



CSIRO's reputation and impact

Australia's premier science agency



One of the largest and most diverse in the world

Ranked in top 1% in the world in 13 research fields

About 6 400 staff, over 2 000 PhD's

>160 companies founded on CSIRO technology



Thousands of companies utilise CSIRO innovations in their business



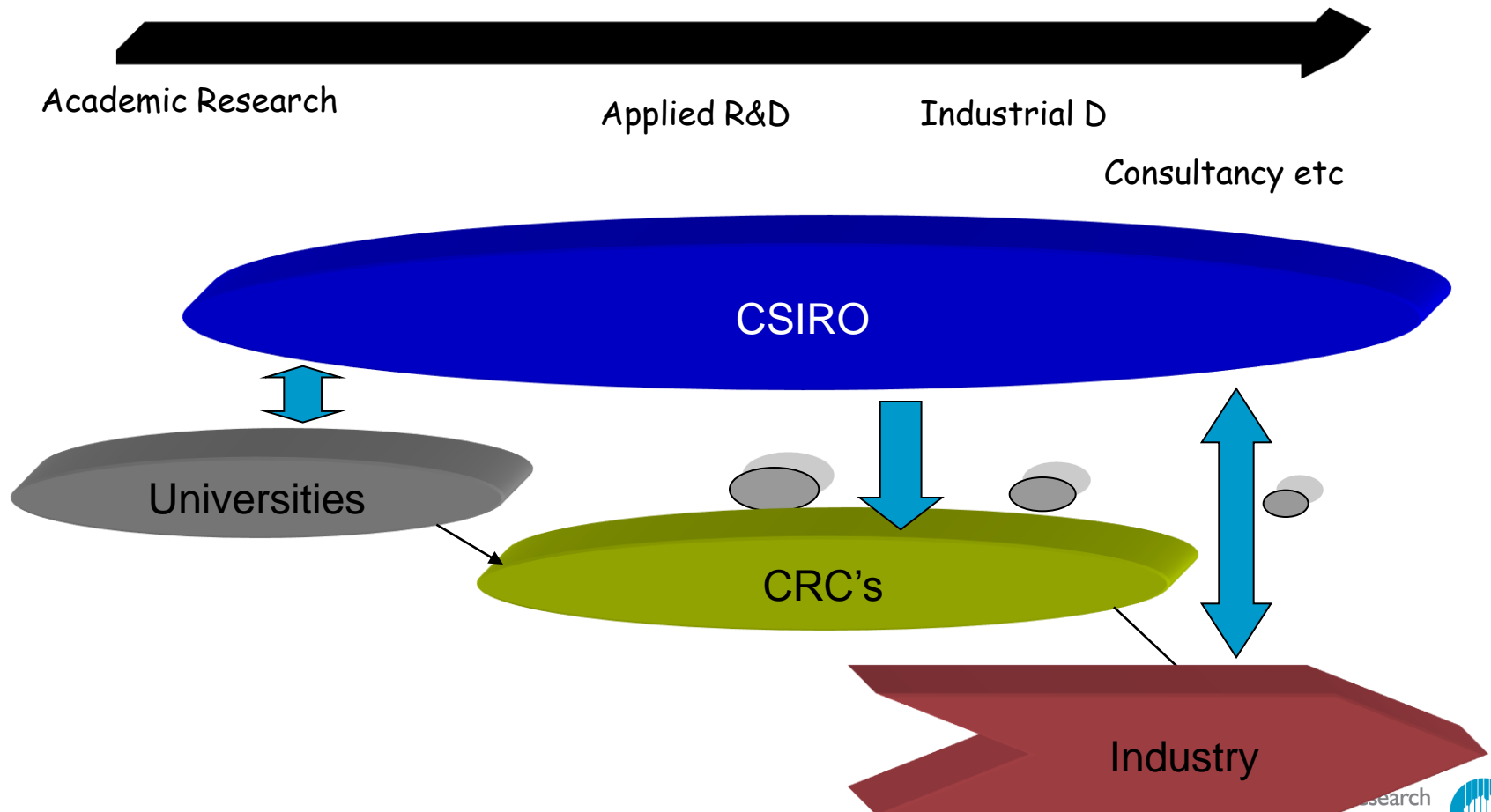
An introduction to CSIRO



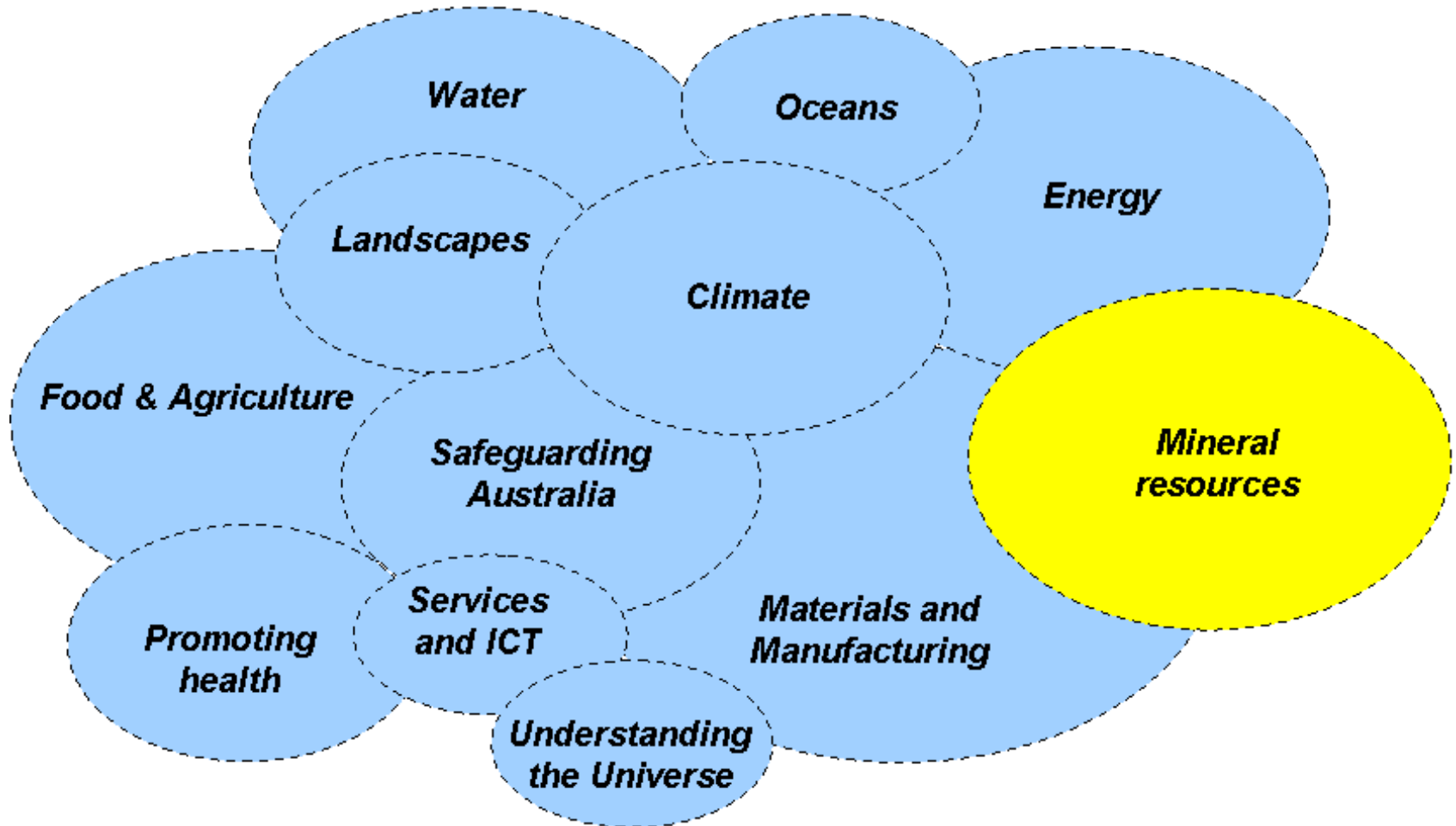
CSIRO's place in Australia's innovation system

• Innovation Chain

Commercialisation



CSIRO's areas of impact

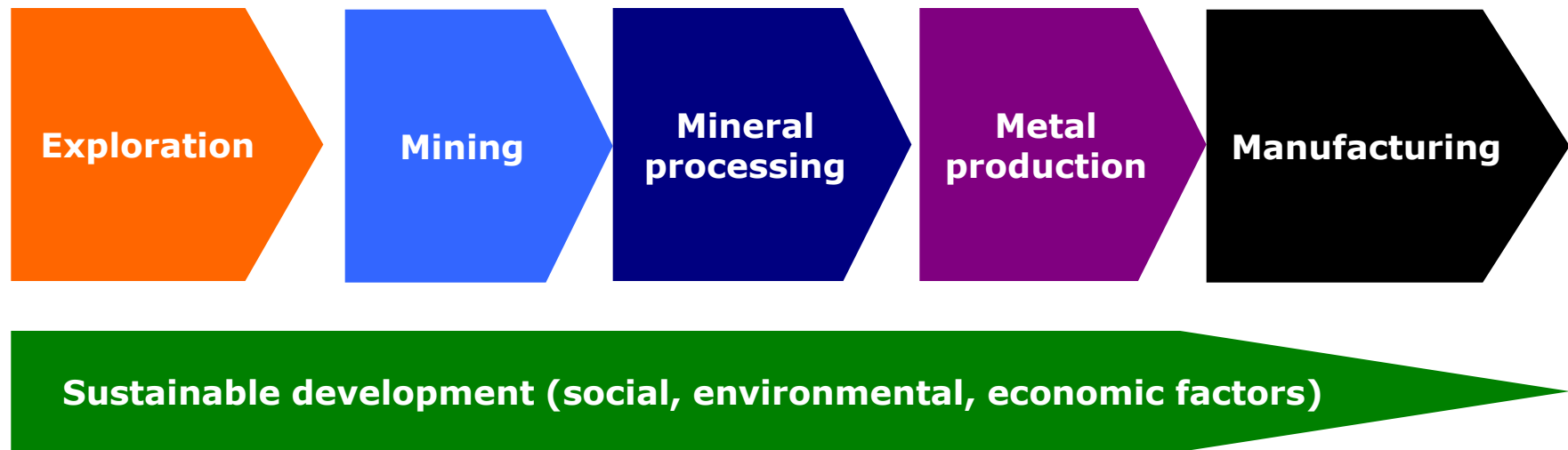


CSIRO in the mineral resources sector

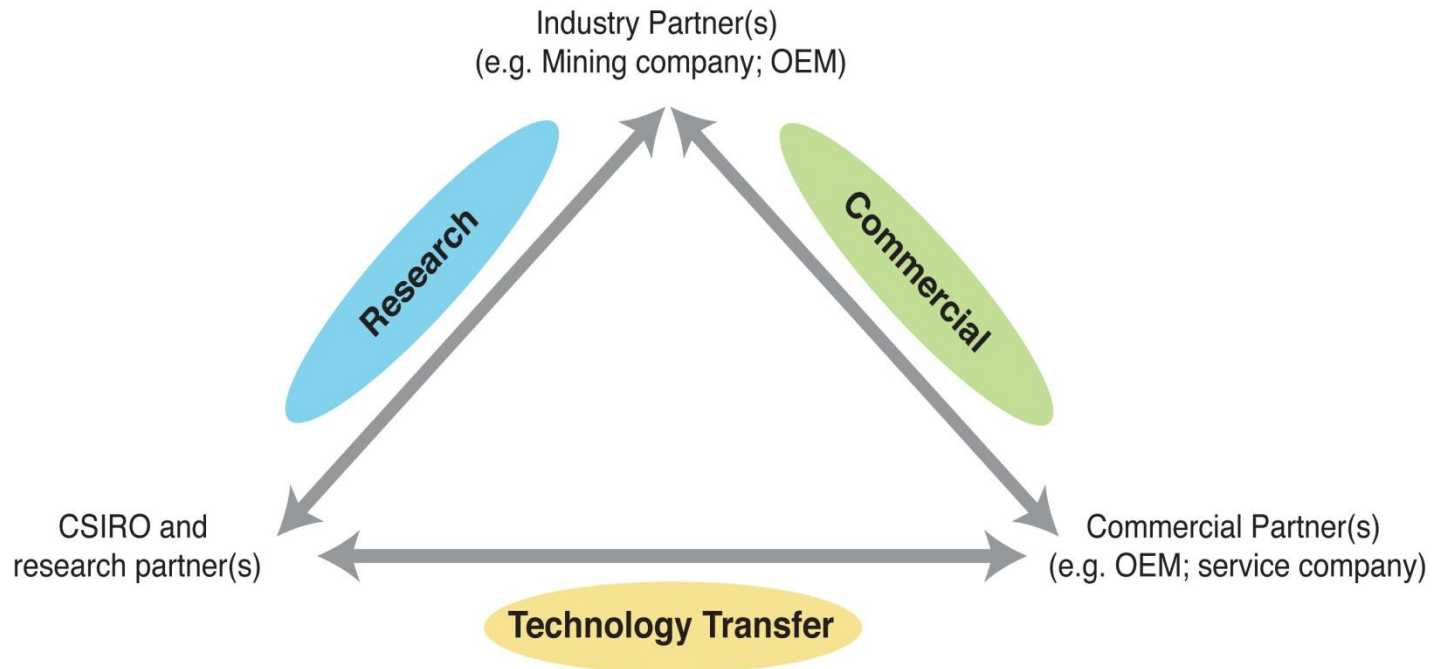
- About 500 scientists and engineers at fourteen laboratories.
- Collaboration with 60 universities and other institutions, both nationally and internationally.
- Engagement with about 300 companies across the value chain...

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CSIRO partnerships and technology transfer

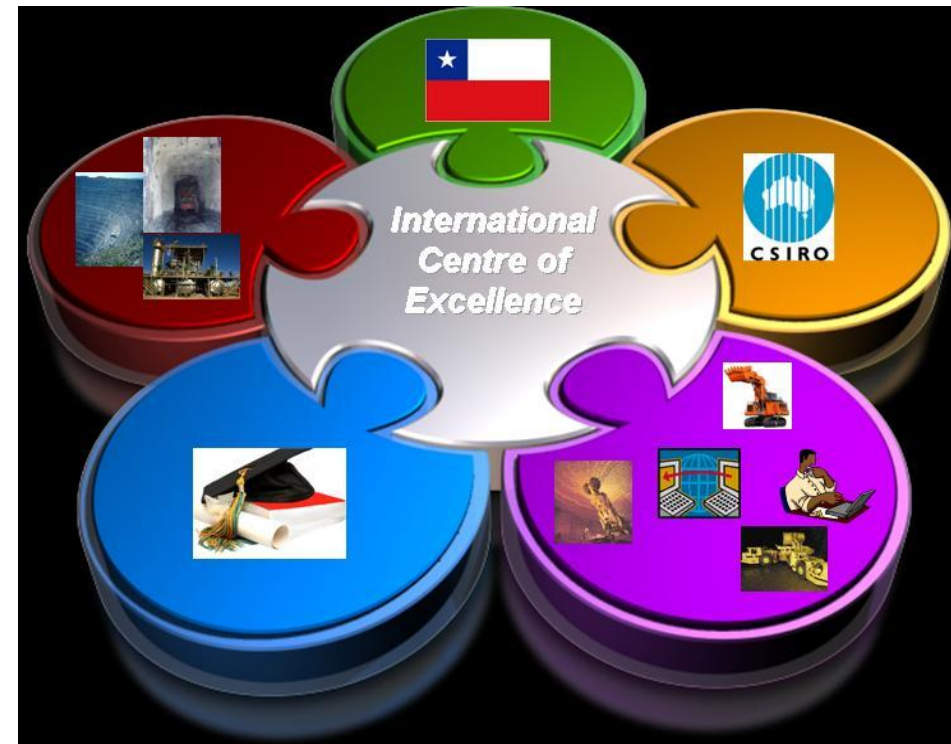


Vision for a Centre of Excellence in Chile

- A world class **Centre of Excellence** in Mining and Mineral Processing
- CSIRO – UCH partnership
- Innova-CORFO \$ funding
- Significant industry \$ funding
- Applied industrial research and technology development
- Built upon strong collaboration between key Chilean universities, and the CSIRO and other R&D partners
- A hub for early stage commercial interactions with Chilean and Australian technology and service groups



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LASC

Automation of underground longwall mining operations

- World's best practice technology automates:
 - Shearer Position
 - Face alignment
 - Horizon Control
- Significant step change in safety
- Between 5 and 10% improvement in productivity
- Licensed to the leading OEM's:
 - In By Mining
 - Joy Global Machinery
 - Bucyrus
 - Eichoff
 - ZMZ Kopek



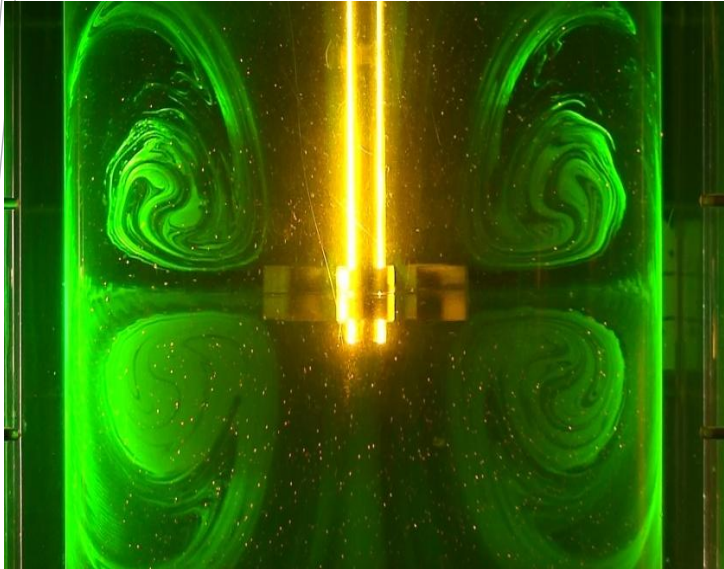
Hylogging™ systems

- Rapid non-destructive mineralogical characterisation of cores & chips.
- Developed for mine and exploration-based activities for efficient and objective mineralogical analysis (e.g. vastly improved, rapid resource delineation and grade control)
- Specialist Hardware and Software systems: Hylogger™; HyChips™; TSG software suite
- In discussions with potential commercial partner(s).



•Developed in collaboration with the Australian industry, the State Geological Surveys and Geoscience Australia.

Increasing Mixing Intensification in Tanks



**isolated non-mixing
zone, slow rate of mixing**



**better mixing,
improved
circulation**

Impact:

- * improved product consistency;**
- * enhanced heat transfer;**
- * reduced scaling**

Implementation at QAL, RTA
3 months service life extended to 12 months



CSIRO Minerals Down Under Flagship

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Thank you



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