

Helping deliver Nature-Positive outcomes through a Shared Environmental Analytics Facility (SEAF)

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A SHARED ENVIRONMENTAL ANALYTICS FACILITY (SEAF)



Agenda

1. Background
2. Journey to SEAF
3. Current activities
4. Future





Background

- Nature Positive is a global goal to halt and reverse nature loss by 2030 on a 2020 baseline and achieve full recovery by 2050
- Works alongside UN Convention on Biological Diversity's Kunming-Montreal Global Biodiversity Framework

...but how do we meet this challenge?





Background

EPBC Act 1999 Review - Chapter 10

- No whole-of-system approach to discovering and accessing data, lack reliability / trust
- Cumulative impacts not well considered
- Effective 'supply chain' of environmental information needed

Digitally Transforming Environmental Impact Assessment (WA EP Act 1986)

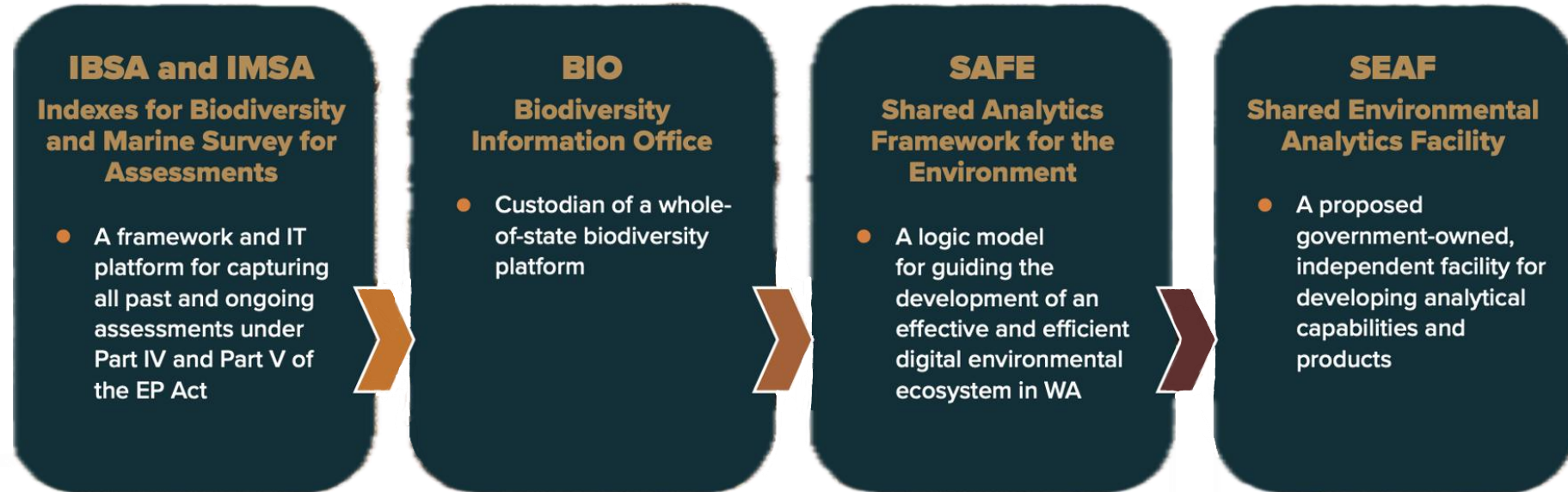
- From inaccessible data in PDFs to curated accessible information

ARDC Trusted Environmental Data and Information Supply Chains (TEDSIC) / 'Dataspaces'





Journey



Data capture and sharing

Data integration and curation

Analytics and modelling to inform digital environmental impact assessment

IBSA / IMSA



Launch of IBSA (May 2018)




Launch of IMSA (March 2020)







Biodiversity Information Office (BIO)

 Department of Biodiversity, Conservation and Attractions
Biodiversity Information Office


Dandjoo
Biodiversity Data Repository


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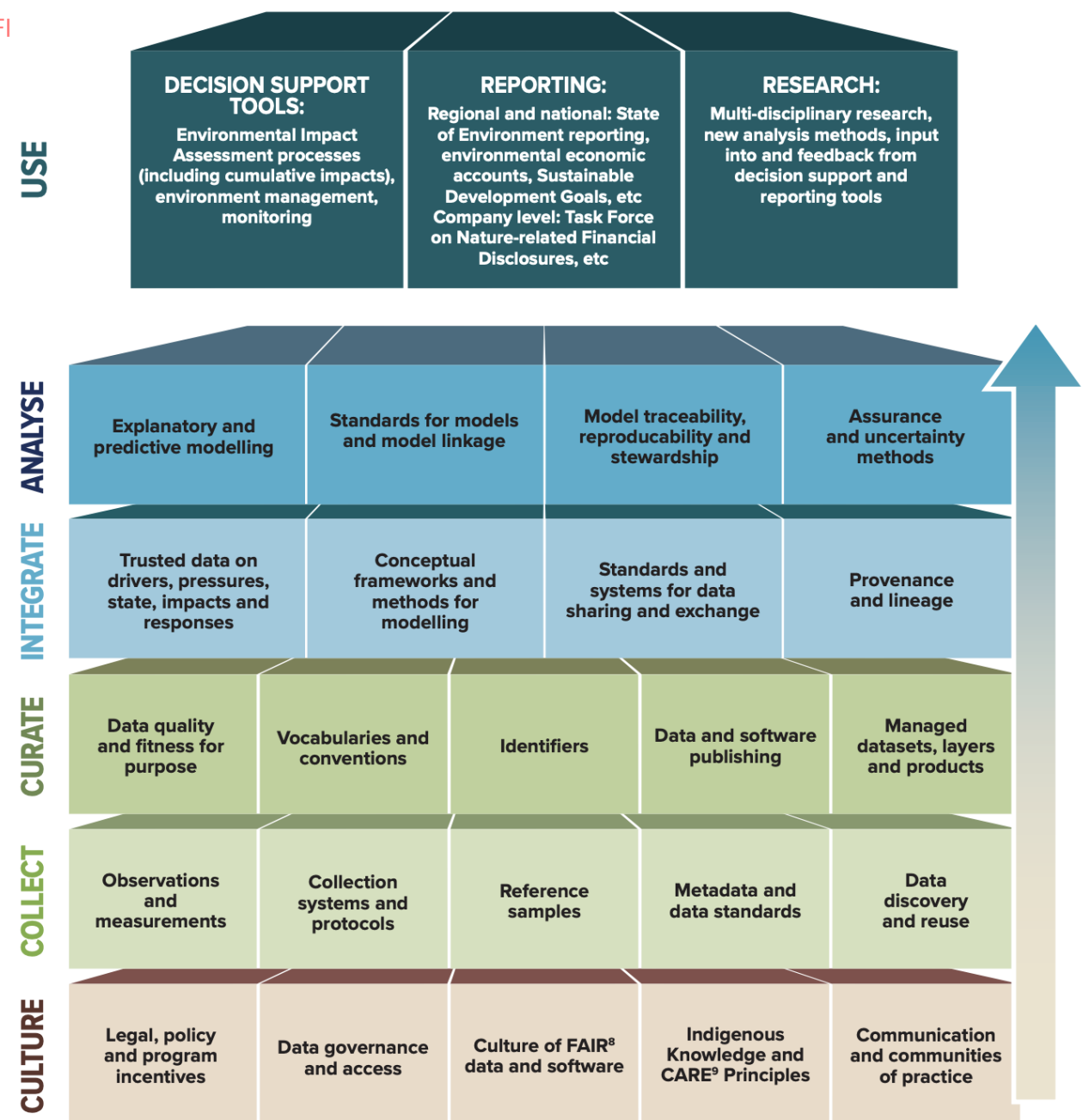




Shared Analytical Framework for the Environment (SAFE)

- A shared language and blueprint for how environmental data, analytics and decision support tools interconnect across agencies and sectors
- Defined capabilities in the data-to-decision pipeline
- **Robust, repeatable and transparent decision making for environmental assessments**

OFFI





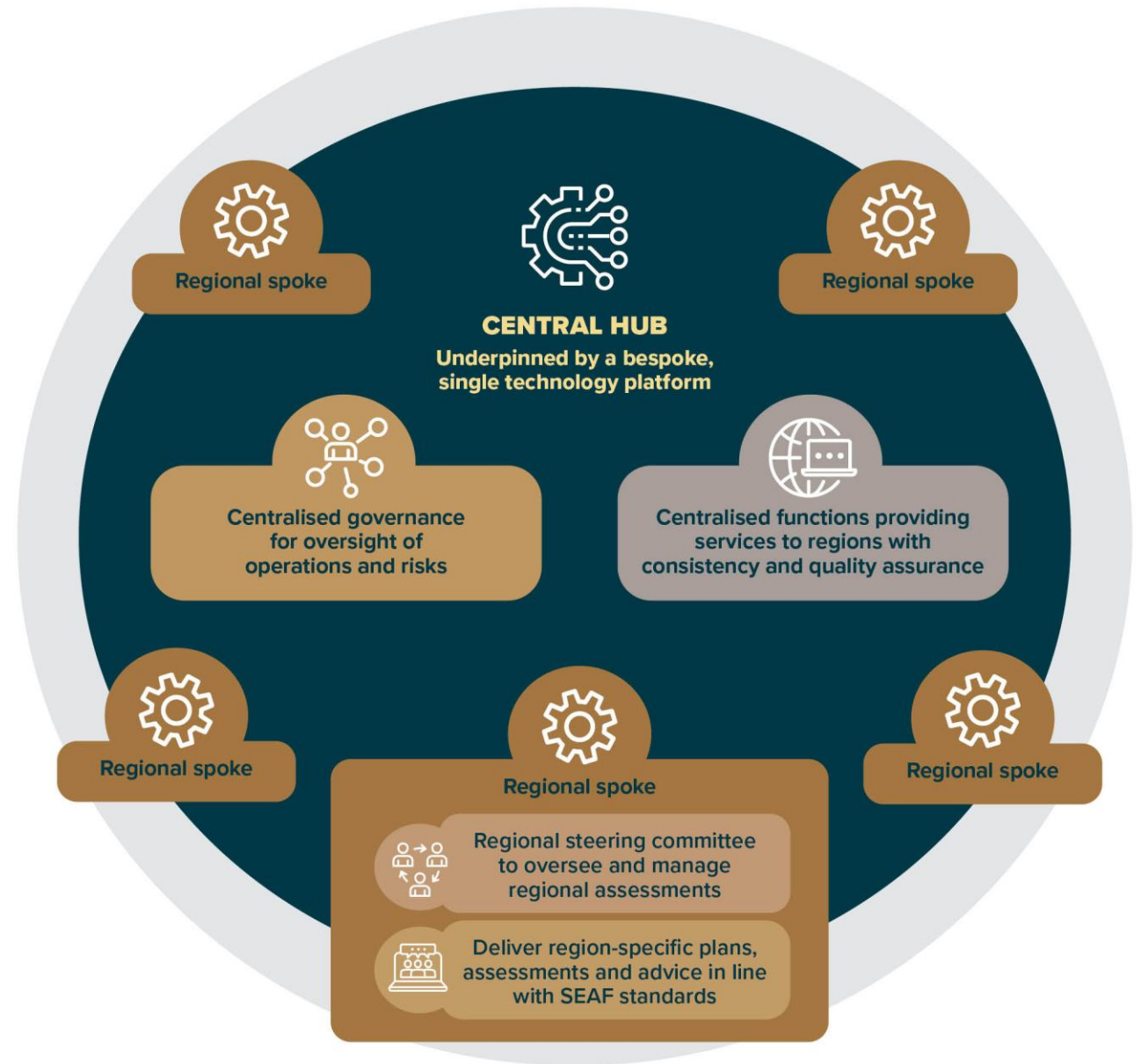
What is SEAF?

SEAF does	SEAF does not
Reach out and draws data from already existing, disparate data sources like portals and repositories (Data is drawn as agreed and when required)	SEAF is not another data repository
Provide shared data zones for collaboration Assure private data zones maintain confidentiality Allows trusted and agreed modelling and analytics from the data SEAF draws	Does not make all data public
Provides information to help determine the impact of a pressure on an ecosystem (e.g. noise and temperature change) Utilises analytics to produce science-based products and forecasting tools for use by government, regulators, industry and regional project teams	Does not provide recommendations Does not make decisions

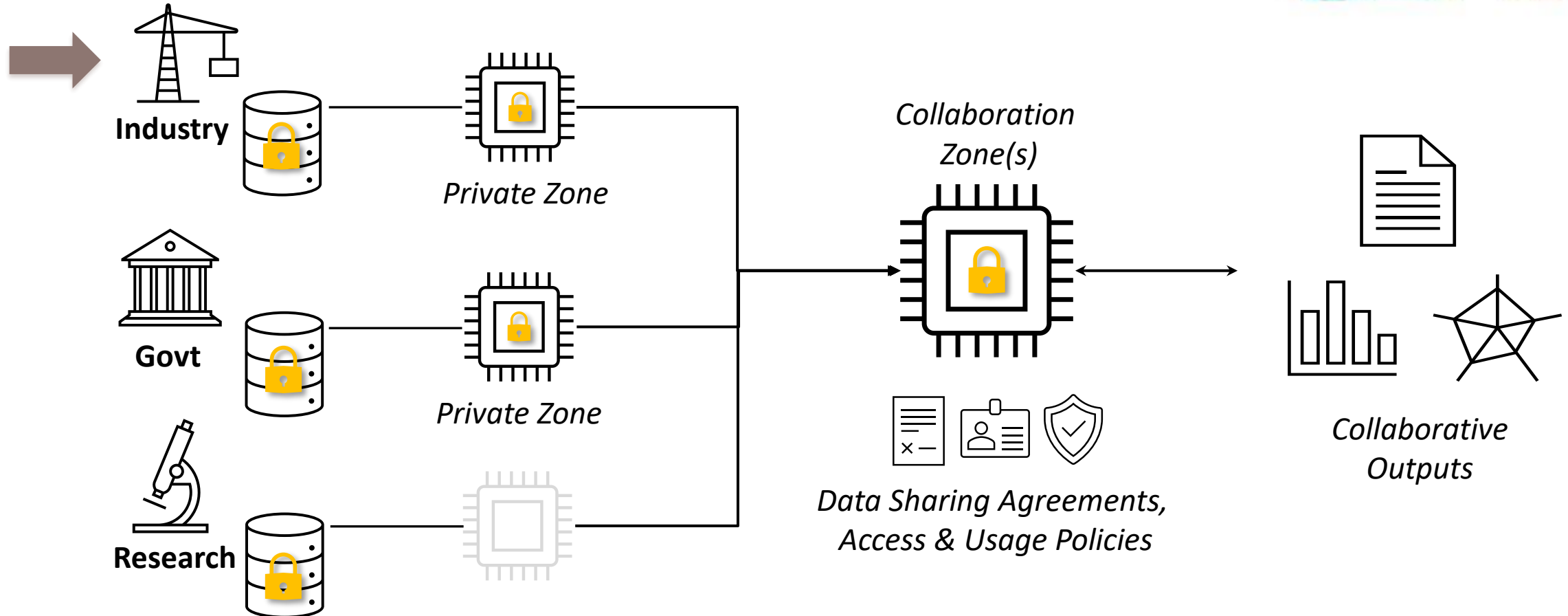


Shared Environmental Analytics Facility

- **Hub and spoke model**
- Robust, repeatable & sustainable
- Scalable, trusted & secure
- Operationalised delivery of knowledge products informed by the best science and data



SEAF - Trusted Collaboration





Current work

- Pilot projects for Pilbara and Cockburn Sound
- New Nectar cloud node at Pawsey - proof of concept
- New spoke planned (**Middle Arm Sustainable Development Precinct (MASDP)**)
- Dataspaces (ARDC) – *visit BoF Thurs 2.20pm B3 room*



ROMS Regional hydrodynamic conditions

BARRA, WRF Weather conditions

SWAN, WWM Wave conditions

GIS Benthic habitat



Swan Estuary inputs
SCERM

Local discharges/intakes
PSDP, SDOOL,
... Industry ...

Local groundwater inputs
PRAMS

Local activities
Shipping, Berthing,
Dredging, Spoil,
Aquaculture, etc.

WAMSI Westport Marine Science Program

1. Ecosystem modelling

2. Benthic habitats and communities

3. Water and sediment quality

4. Fisheries and aquatic resources

5. Hydrodynamic modelling

6. Social

<https://westport.wa.gov.au/environment/>

7. Noise

8. Apex predators and iconic species

9. Coastal processes



Future

- Development of new spokes
- Work towards a long-term facility
- Further info
 - <https://ardc.edu.au/project/seaf-for-pilbara-and-cockburn-sound/>
 - www.seaf.org.au





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Department of **Jobs, Tourism, Science and Innovation**



Government of **Western Australia**
Department of **Water and Environmental Regulation**



Australian Government
Department of **Climate Change, Energy,
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databricks



ARINCO





Thank you

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