NATURAL HAZARDS
RESEARCH FORUM

STREAM 2 WORKSHOP 3

Bushfire information database

Research data management

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SCAN TO PARTICIPATE
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Research data management: Bushfire information database

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Nader Naderpajouh, Senior Lecturer, The University of Sydney

THE UNIVERSITY OF SYDNEY

RMIT UNIVERSITY

CSIRO

Data Management Principles

Data Availability and Transparency Act 2022 – enacted March 2022

- Enabling better government services

  ✓By increasing the availability and use of Australian government data to **inform better government services, policies and programs as well as research and innovation**.

- Keeping data safe

  ✓Through education and regulation of data sharing and by supporting best practice with **guidance, tools and consistent processes.**

- Building trust and transparency

  ✓By reporting annually on data sharing and through **public registers of accredited participants and data sharing agreements.**

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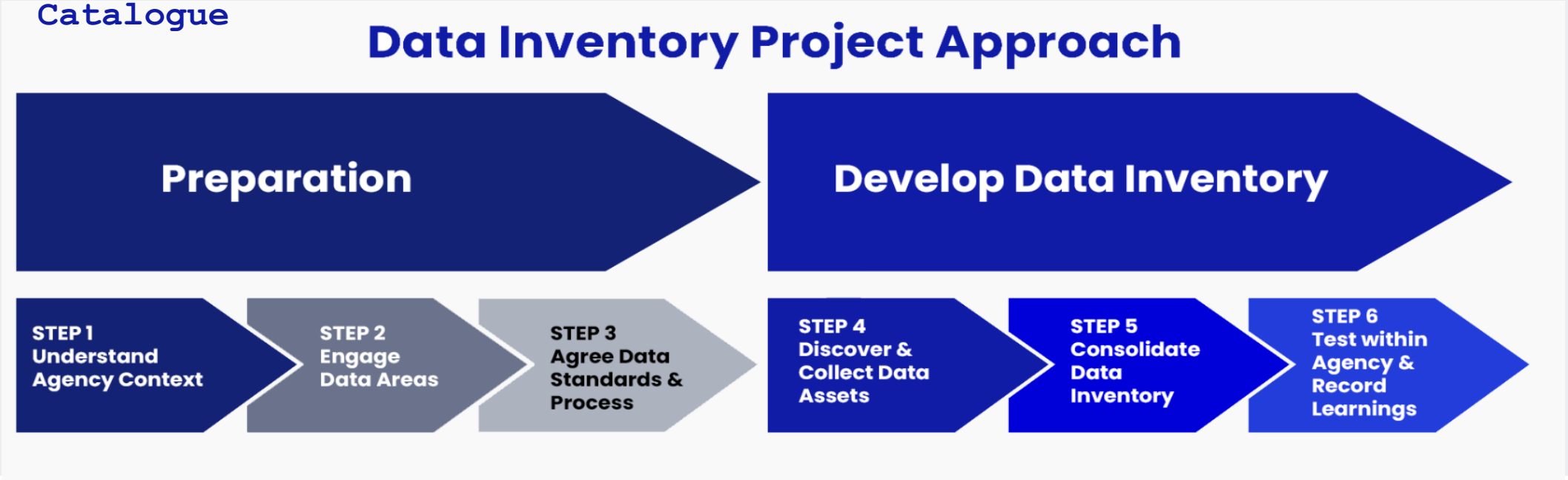
Office of the National Data Commissioner

Australian Government Data Catalogue

Data.gov.au



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Principles for the NHRA Research Data Management

- FAIR Findable, accessible, interoperable and recoverable
- CARE Collective benefit, authority to control, responsibility and ethics (First Nations)
- Data security (cyber security laws and regulations)
- Data privacy (privacy laws and regulations)

Only exceptions on data exclusivity (embargos) and only for short periods of time.

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NHRA Current Data Projects

- **NHRA Data Catalogue** – cataloging of NHRA project data (agreements in place with projects)
- ARDC/NHRA (Funded) **NHRA/CRC Bushfire Data Catalogue** – NHRA, CRC data assets (some NHRA agreements in place but historically no agreements with CRC)
- NHRA (Funded) **Australian Bushfire Data Catalogue** – desk-based review and cataloguing of available datasets
- NHRA (Funded) **Storing and Sharing Qualitative Social Data** - support the effective collection, use, curation and sharing (where feasible) of qualitative research data
- NHRA (Funded) DELWP **Reconstruction Bushfire Data** – case study construction.

Important that all projects are **end user driven.**

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Pilot Project - NHRA Data Catalogue:

Development of an End User Driven Data Cataloguing Approach

- Reference group for all data projects – high level end user representatives (researchers and practitioners)
- Technical project team members
- Detailed projects requirements group – current project reps and "super users"
- Use case approach (directly linked to NHRA data projects)

Benefits:

Small scale project (a few projects) to **develop and test data cataloguing approach** – only a small number of projects currently

NHRA projects have **data agreements in place.**

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Digital Ecosystem – Digital Information Exchange

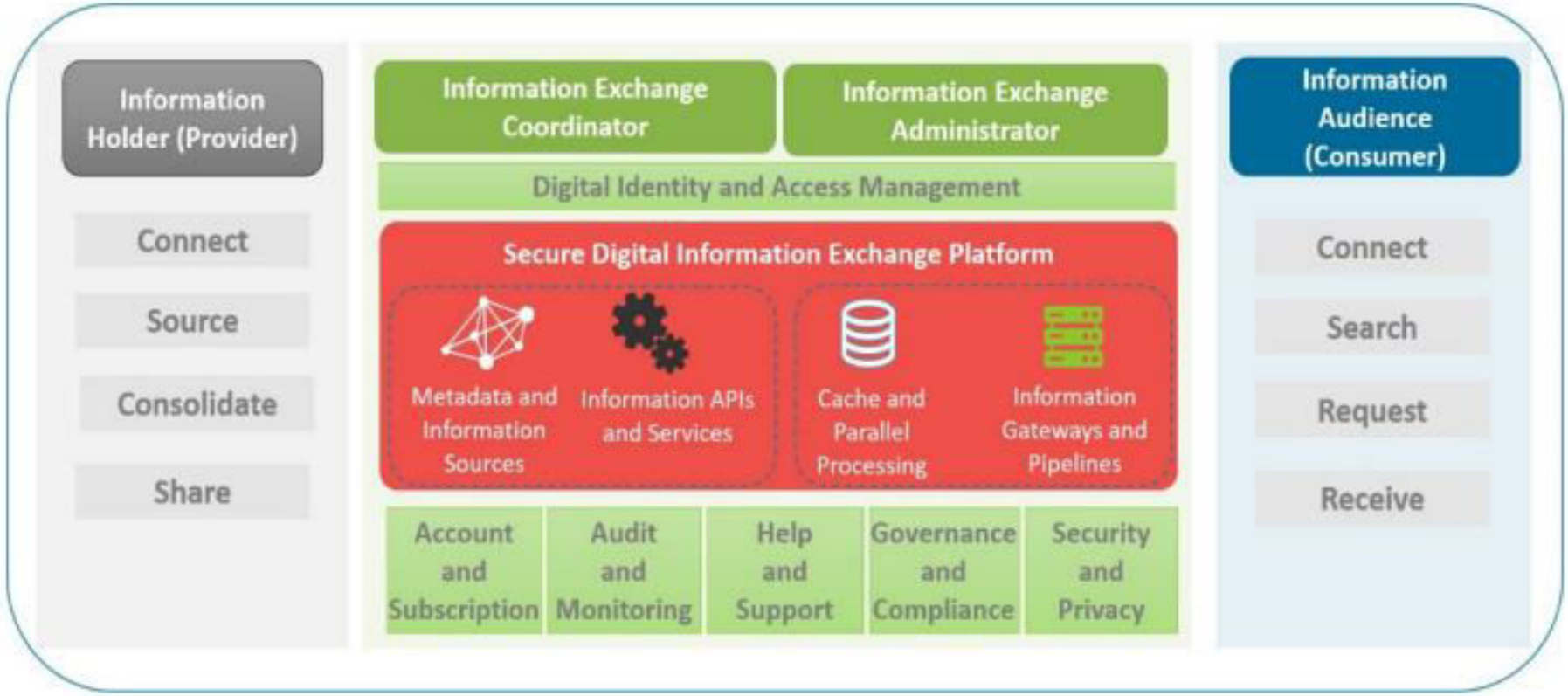

Figure 3. Digital information exchange: a conceptual architecture.

Gill, 2021

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Bushfire Information Database Scoping Study - Project Team

- Dr Nader Naderpajouh, *The University of Sydney*
- Dr Erica Kuligowski, *RMIT University*
- Dr Raphaele Blanchi, *CSIRO*
- A/Prof Nirajan Shiwakoti, *RMIT University*
- Prof Matt Duckham, *RMIT University*
- Dr Alessio Arena, *CSIRO*
- Dr Tariq Maqsood, *RMIT University*

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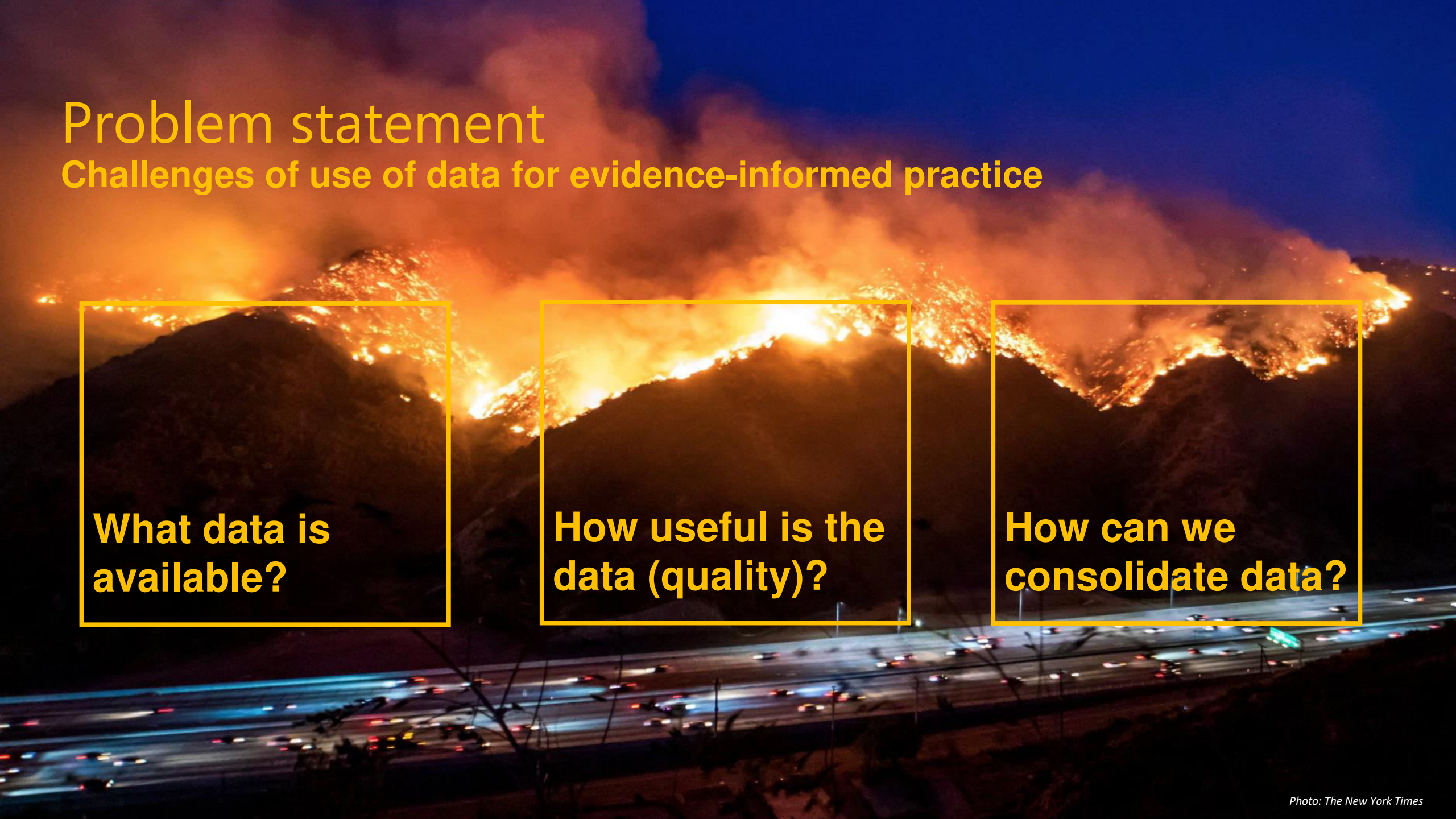
Problem statement

Challenges of use of data for evidence-informed practice



What data is available?

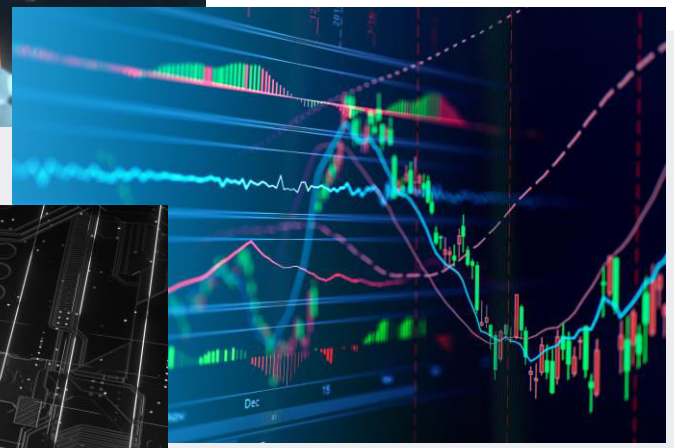
How useful is the data (quality)?

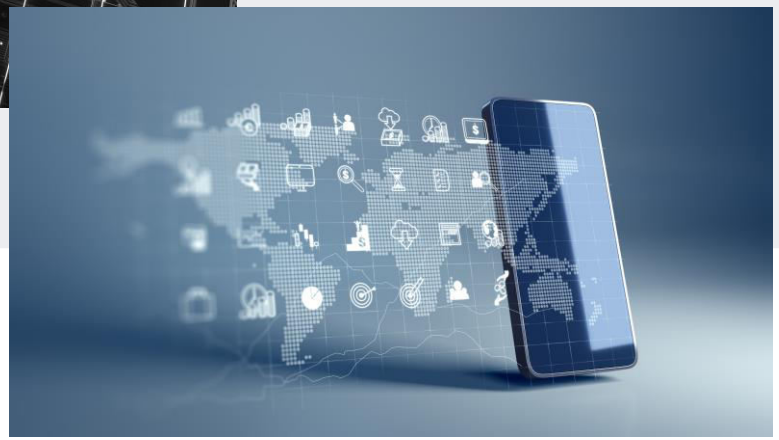
How can we consolidate data?

Photo: The New York Times

Known challenges

- Accessibility,
- Data quality,
- Data accuracy,
- Data reliability,
- Data coverage,
- Duplications,
- Meta-data adequacy,
- Update frequency and life-cycle,
- Utility of data for different stakeholders.





Bushfire databases

- Initiatives to consolidate data: understanding meta challenges
- Bushfire databases as a system of systems
    - Organisations (or even segments of organisations) collect, process, store, use, and operationalise data independently
    - Interoperability
    - Creation of collective considering the managerial/operational independence

Objectives

- Understand and catalogue current bushfire databases
- Map meta-data based on organisations
- Map managerial and operational interdependence of databases
- Current data gaps, system integration challenges, sector/agency data needs
- International comparison and suggestion of the path forward for Australian Bushfire Database

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Path forward

- As we will start the project, we look forward to discuss and hear from you: https://docs.google.com/forms/d/e/1FAIpQLSfa24i8nGGSx3jSUmqC3gb6KyECj4RzPpD1zmaJuSF6z-1KyA/viewform?fbzx=-4862129718561271168
- Next steps: map the existing data, challenges and path forward
- Scope: not collecting the data but to map categories of the existing data and associated challenges

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Questions

- **As a data supplier -** what would be the key issues preventing you from supplying data to a meta-data exchange?

- **As a data user -** if you had to find data, what would be some key descriptors you would use to conduct your search?

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