



# WELCOME: DAY 5

## Session 2

### A (Non-Exhaustive) Glimpse of the FAIR World

# FAIR DATA STEWARDSHIP COURSE

TOWARDS A GO FAIR READINESS PROGRAM

# FUNDING

# HEALTH RESEARCH BOARD (IRELAND)

- HRB heard about FAIR and asked “What should we do about it? What about our community?”
- They organized FAIR awareness events for their researchers and personnel from other funding agencies to better understand what FAIR means;
- They are discussing with their community how to progress in terms of FAIRness, i.e., how FAIR should they expect to be now and the progression in time;
- One of the main and initial assumptions from HRB: “We cannot demand anything that my community is no able to provide, therefore it is our responsibility to help them be prepared”

# FAIR FUNDERS PILOT

- **Funders widely endorse:**
  - (1) good data stewardship planning
  - (2) FAIR research outputs
- **However, both objectives require advanced skills, usually lacking for both Funder and Grantee.**
- **Hence, it is typically difficult for the funder to require FAIR data stewardship planning, and likewise difficult for the grantee to comply.**

# FAIR FUNDERS PILOT



Cornell University

We gratefully acknowledge support from  
the Simons Foundation and member institutions.

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## The FAIR Funder pilot programme to make it easy for funders to require and for grantees to produce FAIR Data

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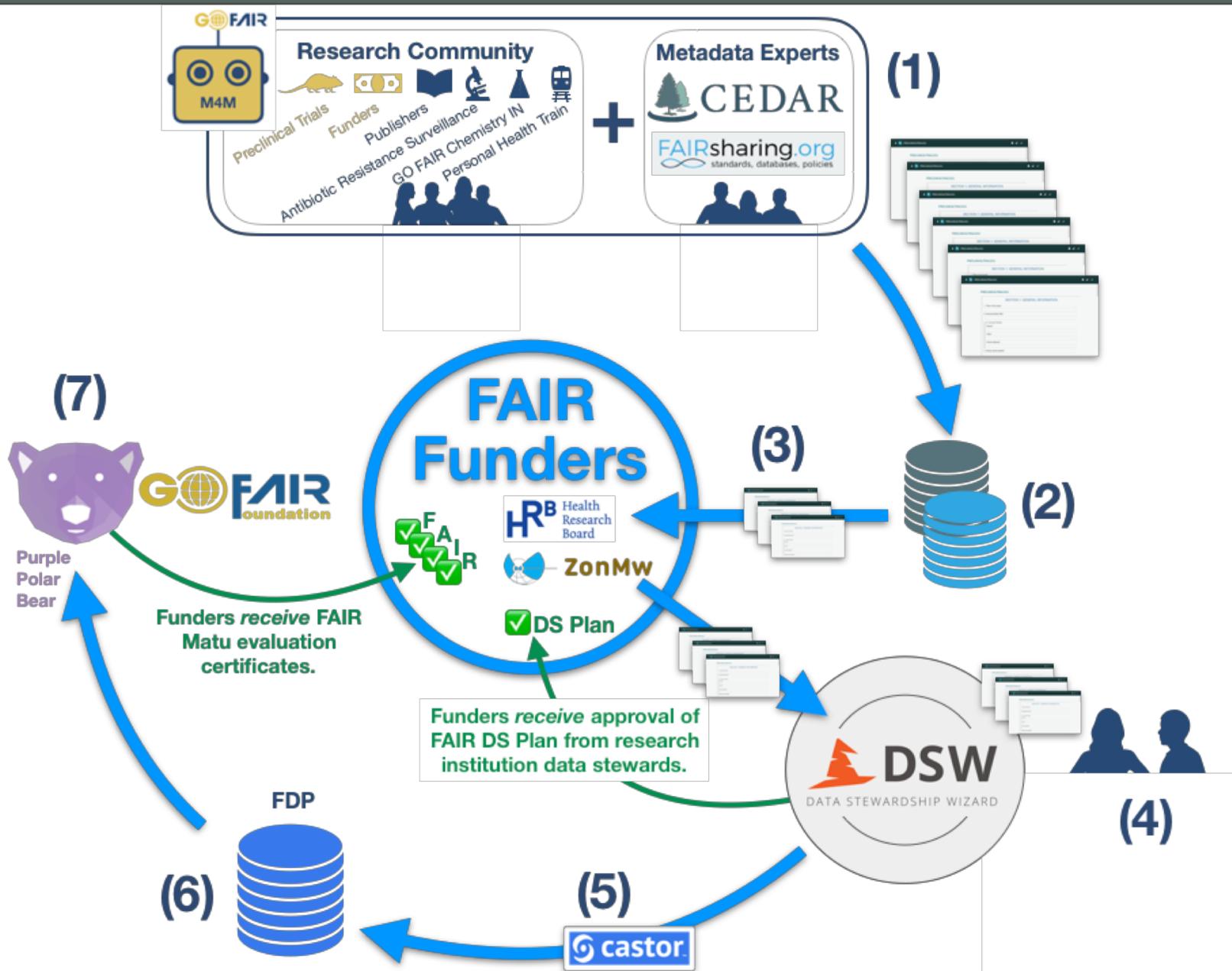
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# FAIR FUNDERS PILOT



# TOOLING

# TOOLING

- FAIRsharing ([www.fairsharing.org](http://www.fairsharing.org)): Curated registry for standards;
- CEDAR (<https://cedar.metadatacenter.org>): Create, manage and fill metadata templates;
- Data Stewardship Wizard (<https://ds-wizard.org>): Create and manage data stewardship plans;
- BioPortal (<https://bioportal.bioontology.org>): Ontology registry;
- EBI OLS (<https://www.ebi.ac.uk/ols/>): EBI's Ontology Lookup Service;
- FAIR Data Point (<https://github.com/FAIRDataTeam/FAIRDataPoint>): Expose metadata in a FAIR way – specifications: <https://github.com/FAIRDataTeam/FAIRDataPoint/wiki/FAIR-Data-Point-Specification>
- FAIRifier (<https://github.com/FAIRDataTeam/FAIRifier>): Support the FAIRification process;
- ...

# THE FAIR SERVICES PROVIDERS CONSORTIUM INITIATIVE

The GO FAIR Foundation and Phortos Consultants are approaching candidates for the FAIR Service Providers Consortia (FSPC)

- 🌐 Goal: Balance Open / Public efforts and Market Forces
- 🌐 Vision: Let industry lead but under GO FAIR Rules of Engagement
  - 🌐 Adhere to FAIR principles and GO FAIR Community Implementation choices
  - 🌐 No vendor lock in nor market domination
- 🌐 Strategy: Participate in GO FAIR Implementation Networks (DO FAIR IN)
  - 🌐 Work with trusted parties in the public domain
  - 🌐 Professionalize and scale where necessary based upon market demand

# FAIR SERVICE PROVIDER PARTNERS CONSORTIUM: covering the full spectrum of FAIR Data and Services



Purple Polar Bears

Software development



micelio

DTL partner

Data Quality

mobiquity

Digital Engagement



PHORTOS

CONSULTANTS

DTL partner

Consulting and training



FAIR project management

accenture

Professional Services



Certification and Coordination



DTL partner

Software development and consulting

EURETOS

DTL partner

FAIRification and Analysis

castor

DTL partner

FAIR data at the source



Semantic Web & Linked Data

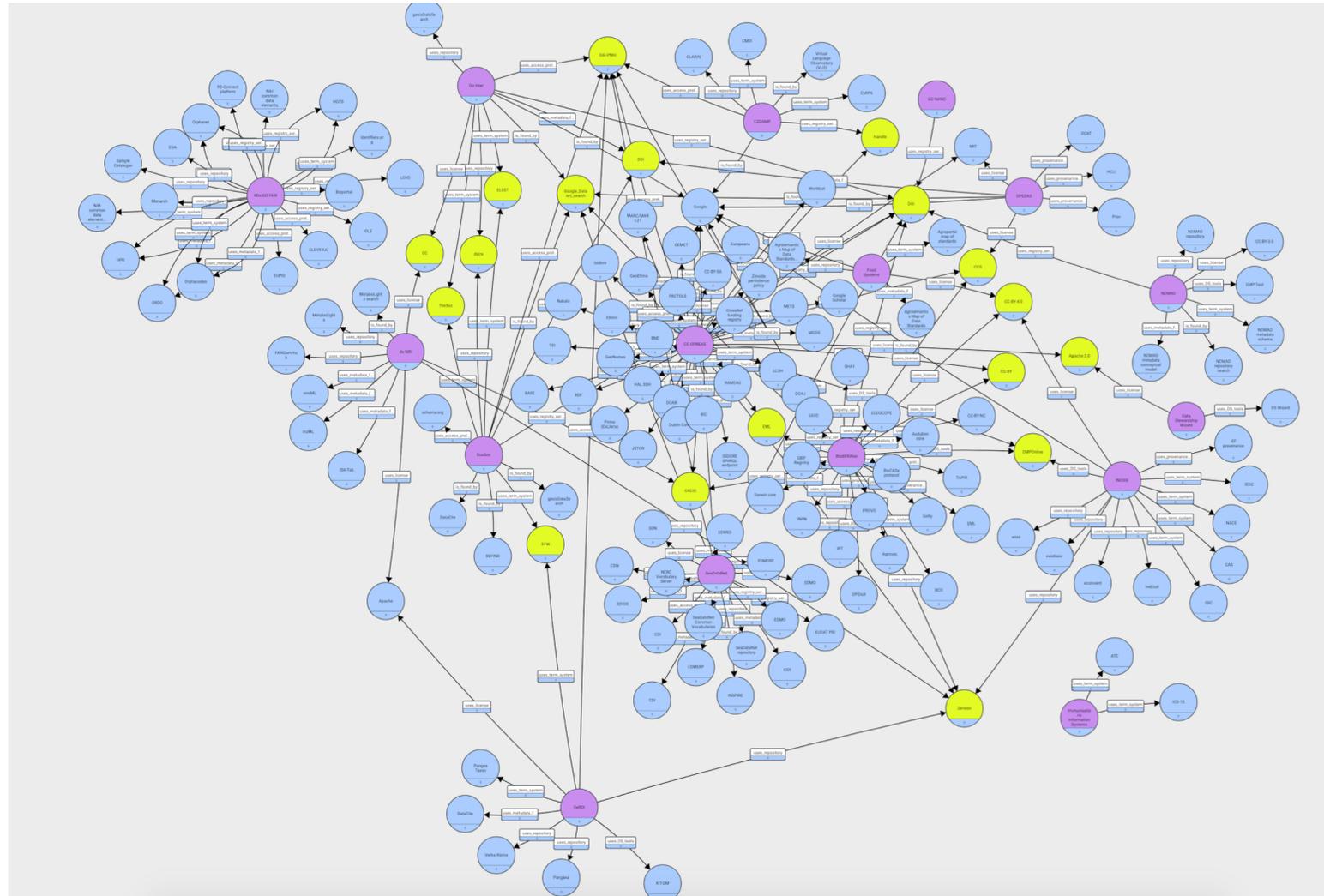
## AND GROWING



ELSEVIER

FAIR data publishing

# FAIR SERVICE PROVIDER PARTNERS CONSORTIUM: covering the full spectrum of FAIR Data and Services



Implementing “According to Column 1”

# SERVICING THE MARKET DEMAND AND MAXIMIZING THE OPPORTUNITY

## ASSETS

### MODELS

### TOOLS

- 🌐 Ontology models
- 🌐 Semantics:
  - 🌐 metadata models
  - 🌐 data models



- 🌐 Create **Centers of Competence** at Service Providers
- 🌐 **Essential for scaling:**
  - 🌐 From Professorware via Consultingware to Professionalware
  - 🌐 Provide as GO FAIR SaaS in cloud environment
  - 🌐 Customizable per client
- 🌐 Accompanying services **required:**
  - 🌐 Services (internal teams OR outsourced to Providers)
  - 🌐 Support (SLA)
- 🌐 Larger customers will **demand** reliable and professional partners
- 🌐 **Critical success factors:**
  - 🌐 Expertise and capacity in use of tools
  - 🌐 GO FAIR certification by a trusted independent party

# FAIR TOOLING ECOSYSTEM: FAIR AS A SERVICE

Plan

Model

Create

Publish

Find

Evaluate



Ontology  
Modeling

Metadata  
Management

Metadata  
Registry

ALL TOOLS ARE NOW MOSTLY PROFESSORWARE  
NEED TO BE TURNED INTO PROFESSIONAL WARE

## FAIR Data Consulting and Services

-  FAIR Readiness Requirements studies
-  FAIR Data Stewardship Planning
-  FAIRification services
-  Semantic and Ontology Modeling
-  Analytics based upon integration of FAIR public and proprietary data
-  FAIR Readiness training courses (off-site or on-site)
-  FAIR Metrics Evaluation

## AND MORE

## FAIR Value Events

-  Demonstrates Value by answering driving research question making one of your datasets FAIR
-  6 weekly conference calls (one hour) in prep
-  2-day on site event: Bring Your Own Data (BYOD) and FAIR Metrics evaluation

## FAIR Readiness Implementation and Vision Plan of Approach

-  An introduction to **GOing FAIR** for organizations
-  A 3 to 6-month implementation process including training and use cases

# PROJECTS

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- H2020 FAIRsFAIR – <https://www.fairsfair.eu> – FAIR repositories
- IMI FAIRplus – <https://fairplus-project.eu> – FAIRification of IMI projects
- PaNOSC – <https://github.com/panosc-eu/panosc/wiki> – Make FAIR data a reality for the Photon and Neutron Open Science Cloud
- ENVRI-FAIR – <http://envri.eu/envri-fair/> - Provide operational FAIR compliant ENVironmental Research Infrastructures
- Enabling FAIR Data – <http://www.copdess.org/enabling-fair-data-project/> - FAIR data for Earth, Space and Environmental Sciences
- ...

# TECHNOLOGIES

- DCAT (<https://www.w3.org/TR/vocab-dcat/>): Data Catalog Vocabulary
- OWL (<https://www.w3.org/OWL/>): Web Ontology Language
- RDF (<https://www.w3.org/RDF/>): Resource Description Framework
- SKOS (<https://www.w3.org/2004/02/skos/>): Simple Knowledge Organization System
- SPARQL (<https://www.w3.org/TR/sparql11-overview/>): Query language for RDF
- Linked Data Platform – LDP (<https://www.w3.org/TR/ldp/>): HTTP operations on web resources

# EVENTS

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- **Bring Your Own Data (BYOD)** – hackathon-like to make data FAIR including FAIR experts, data owners and domain experts;
- **Metadata for Machines (M4M)** – hackathon-like to create metadata templates;
- **FAIR tooling hackathons** – make tools FAIR(er);

**FAIR trainings** – awareness events, FAIR data stewardship, ontology engineering, etc.;



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