# The FAIR principles and Inspire

## - Reuse of the Inspire infrastructure elements in FAIR implementation

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**INSPIRE MIG-T meeting**
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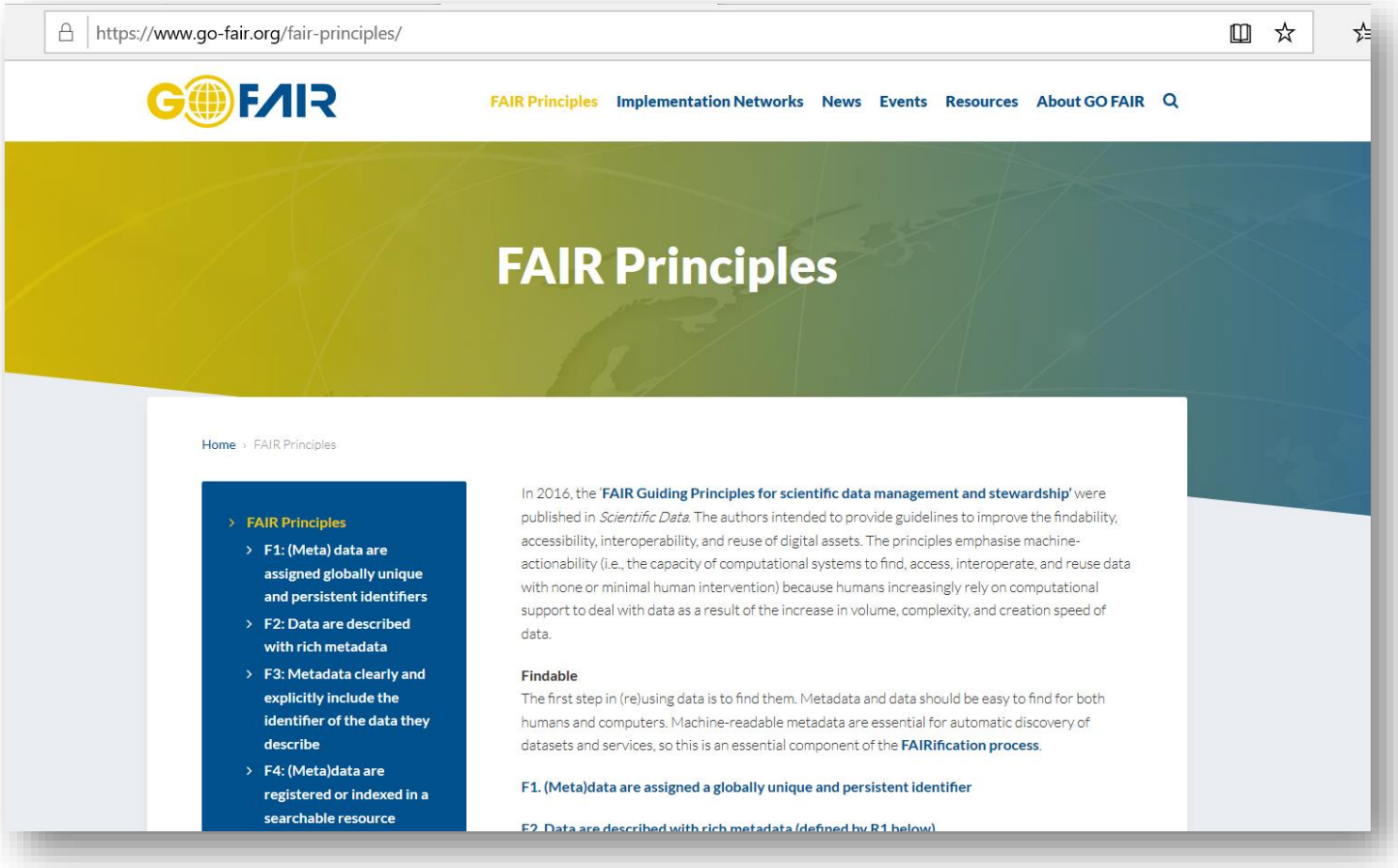
# https://www.go-fair.org/fair-principles/




**Published in 2016**

- Ultimate goal to optimise reuse of data

# 4 main principles

**FAIR in short terms**:

**Findable:** The first step in using data is to find them. Metadata and data should be easy to find for both humans and computers. Machine-readable metadata are essential for automatic discovery of datasets and services.

**Accessible:** Once the user finds the data, the user needs to know how to access them, including possible arrangements related to authentication and authorization.

**Interoperable:** Usually the user wants to integrate data with other data. In addition, the data need to interoperate with different applications or workflows for analysis, storage, and processing.

**Reusable:** The ultimate goal of FAIR is to optimize the reuse of data. To achieve this, the description of metadata and data should support replications and/or combinations in different settings.

The principles refer to three types of entities: **data** (any digital object representing the data content), **metadata** (information about the digital object), and **infrastructure** (arrangements and/or components for data and metadata).

# Sub-principles

**Findable**

The first step in (re)using data is to find them. Metadata and data should be easy to find for both hur

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F1.

F2.

F3.

F4.

**Accessible**

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**Interoperable**

The data usually r

with applications

I1. (Meta)data us

representation.

I2. (Meta)data us

I3. (Meta)data in

**Reusable**

The ultimate goal of FAIR is to optimise the reuse of data. To achieve this, metadata and data should be well-described so that they can be replicated and/or combined in different settings.

**R1. Meta(data) are richly described with a plurality of accurate and relevant attributes**

**R1.1. (Meta)data are released with a clear and accessible data usage license**

**R1.2. (Meta)data are associated with detailed provenance**

**R1.3. (Meta)data meet domain-relevant community standards**

The principles refer to three types of entities: data (or any digital object), metadata (information about that digital object), and infrastructure. For instance, principle F4 defines that both metadata and data are registered or indexed in a searchable resource (the infrastructure component).

# Turning FAIR into reality

- European Commission publication , 2018

- https://ec.europa.eu/info/sites/info/files/turning_fair_into_reality_1.pdf

- New element in focus : Data Management Plans

# EC-report: FAIR into reality - Fair ecosystem to support Fair Digital Objects

- Data mangement plans
- Data standards, metadata, vocabularies, ontologies
- Fair digital objects
- Registries and repositories
- Certification
- Indicators Measuring change – Maturity Model

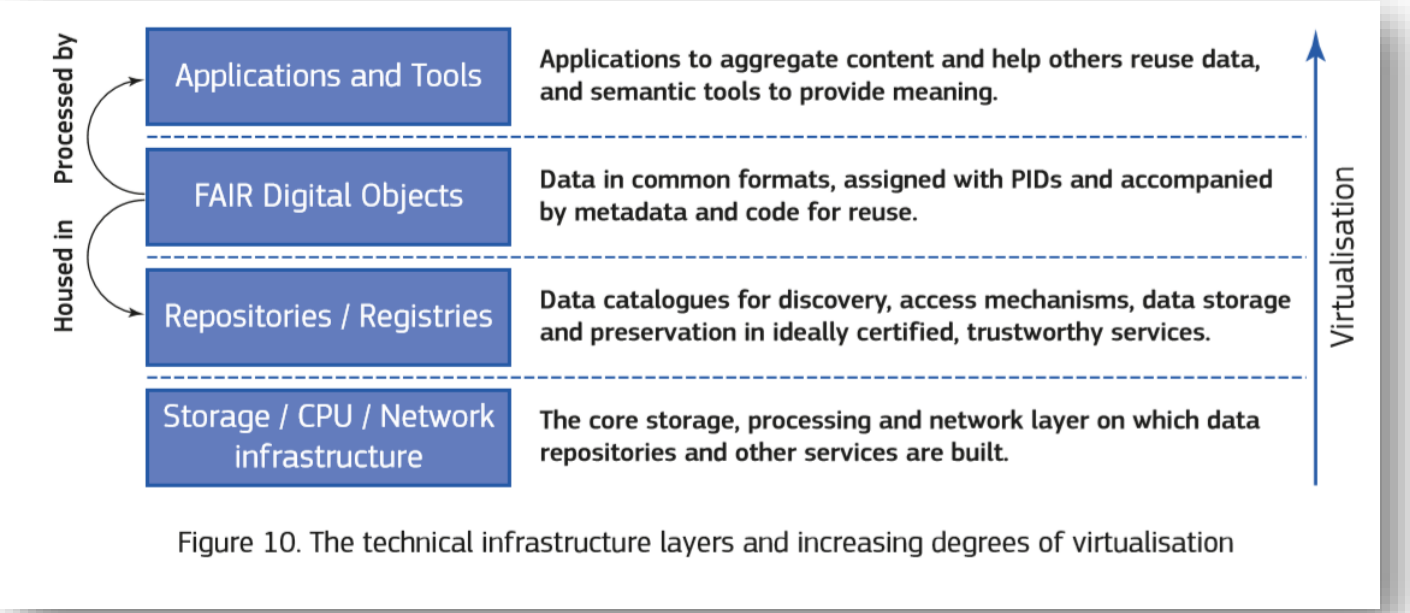
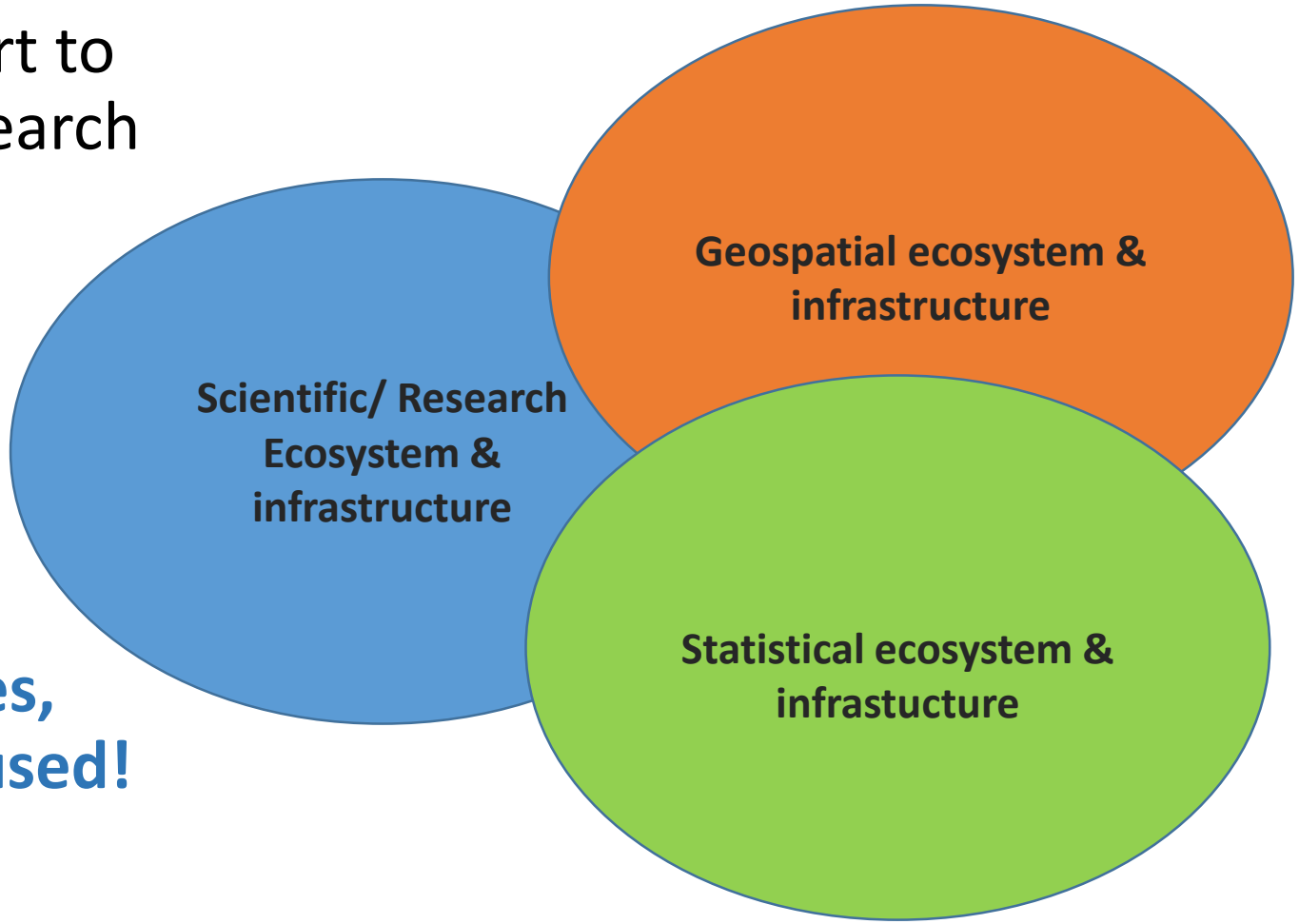


Figure 10. The technical infrastructure layers and increasing degrees of virtualisation

- FAIR action plan recommendations

# A fear that FAIR do not re-use and link up to existing infrastructure solutions

- The FAIR prinicipals start to spread in scientific/research communities
- How to implement?
- **The spatial data infrastructure principles, standards etc to be reused!**



# FAIR – geo-infrastructure – EU – Inspire directive

METADATA
Metadata Native
Metadata English
Metadata for services/APIs
Quality to be described
Unique identifiers
Coupling dataset- service/API
Metadata available in national geoportal
Metadata tagged & indexed in geoportal


SERVICES/API AND FILES
Data available through national portals
Data set available as services
WMS
WMTS
WFS
WCS
Atom
Other download api's
OGC Feature API fra 2020
CSW for metadata
Standard formats: gml, geojson, postgis, geopackages, tif, tiles etc
System for authentification/autorisation

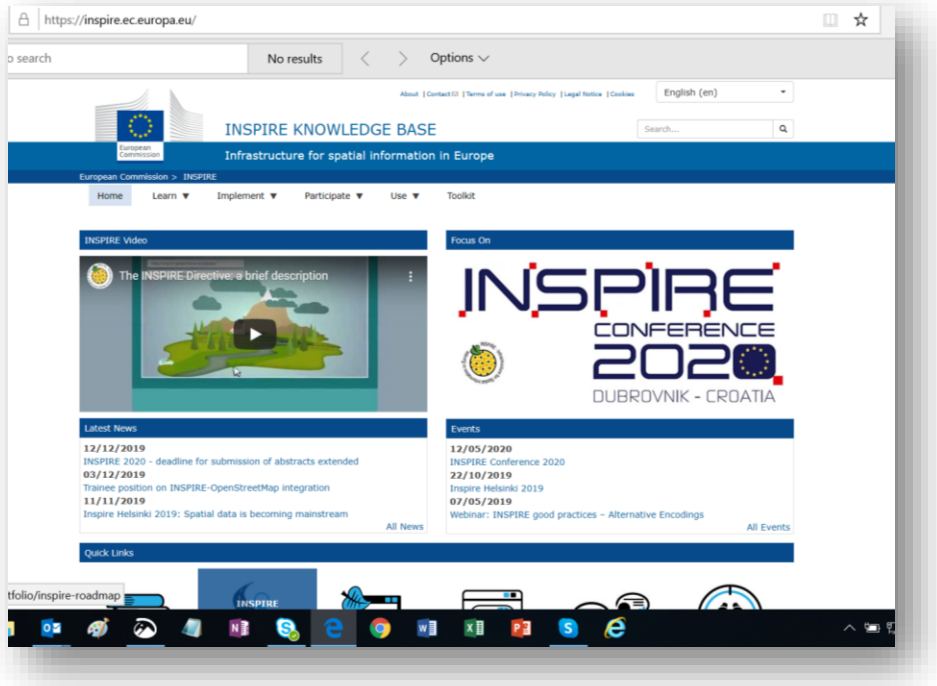
ACCORDING TO STANDARDS AND SPECIFICATIONS
Data according to data product specifications – Inspire or sector
Deliver data according to spec's
Deliver services according to spec's
Document i register - feature types, attributes, code lists etc
API over definitions – in registers

LISENCES, SOURCES ETC
Lisencer according to standards – DCAT
Sources documented in metadata
Info about data treatment – in metadata or linked to metadata
Lisence for use - native and English
Lisence available through metadata

# Inspire - FAIR – activities/ initiatives?

- Norway Mapping Programme on marine data focus on FAIR implementation
- How is interaction EC-Inspire and EC-Fair-communities?
- How does the wide Inspire community react or interact with FAIR ?
- Who has worked on FAIR implementation - experiences?
- Mapping document – INSPIRE - > FAIR
- How to market OGC/ISO/Inspire as solutions?
- What to learn from FAIR?
- Joint projects?

# Reference to Inspire directive




- INSPIRE - Infrastructure for spatial information in Europe
- Inspire EU directive:
  - https://inspire.ec.europa.eu/inspire-legislation/26
- Website:
  - https://inspire.ec.europa.eu/
- Portal for access:
  - https://inspire-geoportal.ec.europa.eu/
- In Brief: INSPIRE – an efficient way to share European spatial data!:
  - https://inspire.ec.europa.eu/file/2834/download?token=sVeAlhcn