

FAIR ASSESSMENT

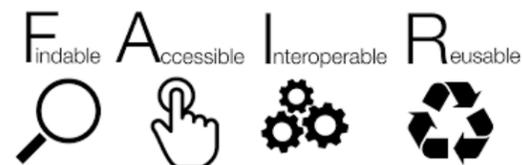
The Hyve's framework to measure your FAIR journey

FAIR stands for Findable, Accessible, Interoperable and Reusable. Metadata and data should be easy to find for both humans and machines. Machine-readable metadata are essential for automatic discovery of datasets and services, so this is an essential component of the FAIRification process.

Pursuit of FAIRness goes beyond just files and data, and it requires significant efforts. Operationalization of FAIR data at scale implies several discussions over time, it often demands changes around processes and it aims at estimating the value of data and other intangible assets. It usually triggers a radical transformation of the organization at the cultural level, it accelerates the digital transformation as it may also require technological shift and/ or upgrade of systems.

A FAIR assessment is a great place to start with your FAIR journey or keep it on track with your corporate objectives. It is a nice addendum to a retrospective analysis of the efforts made and it can inspire future endeavours, allowing an informed decision-making process.

Based on specific enterprise goals, areas for improvement can be identified at different levels and tailored advice can be provided.



1 Why a FAIR assessment? _____

FAIR assessment can be used to **determine the FAIRness** of specific digital assets, such as datasets, software applications, and/or standards; but they can also be used to **evaluate the maturity** of (a part of) an organization in the adoption of the FAIR principles. Thinking of the assessment as a health check-up, this evaluation can be embedded in the operational routine for example of a Data Office and / or CIO to provide a snapshot of the impact of FAIR at a specific point in time, showcasing results and all possible constraints in a language that speaks to C-level, IT staff and scientists. Such exercise will facilitate discussion and nurture the culture of collaboration needed to plan any additional FAIRification operations (implementation of FAIR).

The Hyve recommends starting with clear goals and agreeing with metrics at the company level in order to measure progress. Here below are some other prerequisites: data landscape, including key entities and applications, along with their relations and provenance; relevant code or architectural representation of the ecosystem of tools in scope, including users'™ list and data workflow, and outlined dependencies and competences.

2 A principled approach _____

Based on the 15 principles distributed and promoted by the GO-FAIR organization, Pistoia Alliance and other initiatives that The Hyve supports, **our experts have created a personalized approach** that follows this framework:

- Power session to reach agreement on metrics / KPI's
- Interviews with key stakeholders: realizing assessment motives and targets
- Bring your own data workshops to reach consensus on cross-department entities
- Executive and detailed readouts on current FAIRness status and guidelines for improvement including high-quality visual support (heatmaps, 2D and 3D plots)

3 FAIR assessment in practice

The Hyve bases its FAIR assessments on a list of maturity indicators. Typically, we would use a pre-defined list such as the ‘Gen2’ FAIR maturity indicators or the RDA Data Maturity model; however the list is fully customizable based on the context and internal environment. Each of the 15 principles is associated with one or more indicators. These are validated against every digital asset in scope, resulting in a FAIRness score and guidelines for improvement per resource.

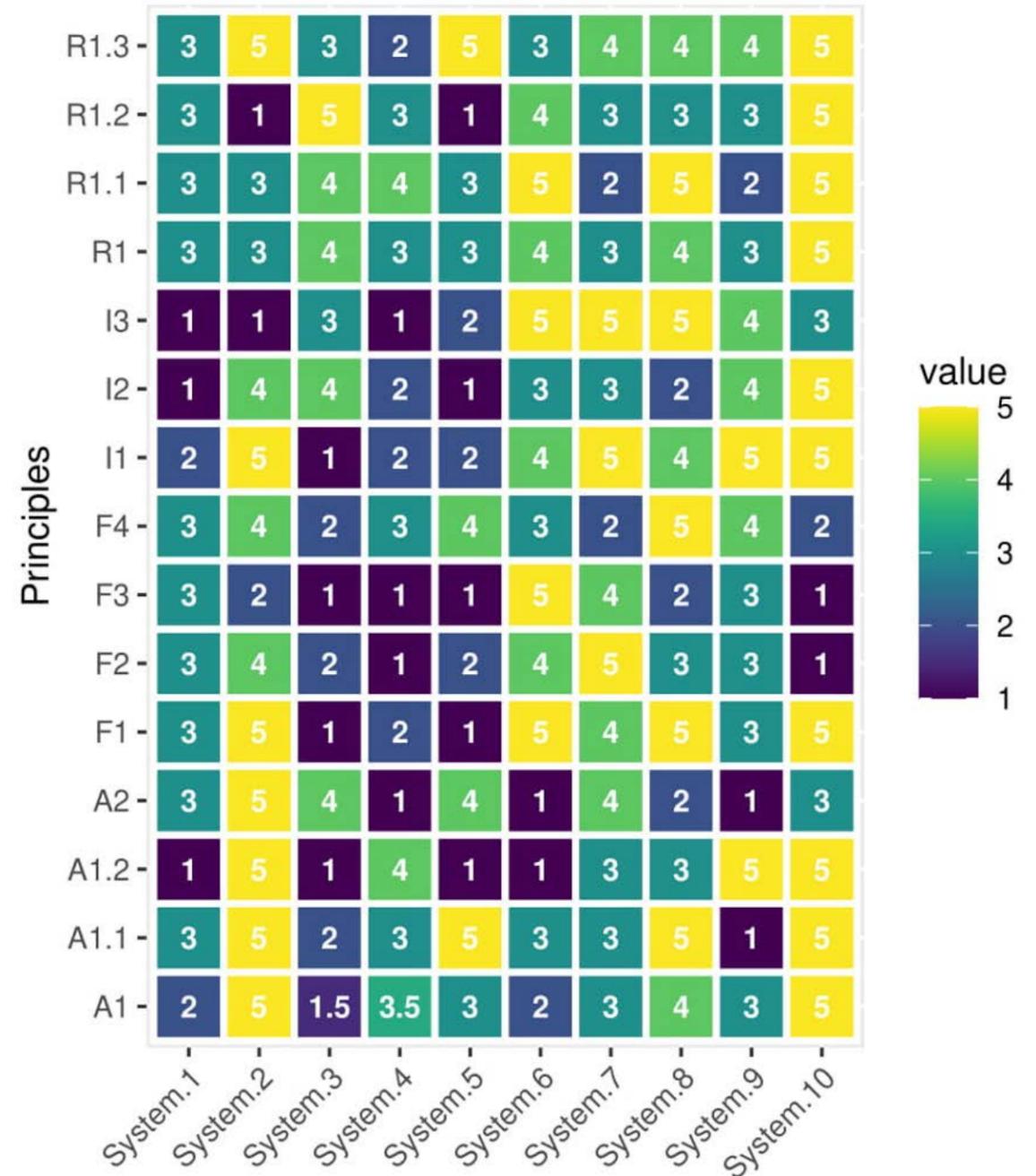
The Hyve has created following **scoring system** for the assessment:

- *Score per maturity indicator*
- *Total and weighted score for each of the 15 FAIR principles*
- *Weighted score for F, A, I and R*

The scores are visualized on a 5 star scale to provide an immediate understanding of how FAIR a digital resource is, and where there is room for improvement.

4 FAIR Evaluation toolkit

- The FAIR Maturity Evaluation Service is a public tool that is used to automatically assess the FAIRness of a digital object. The evaluation is run against a collection of FAIR maturity indicators based on the indicators created by the FAIR Metrics Group, or defined by the user. This tool lends itself well to evaluate the FAIRness of datasets and to publicly share the result of the evaluation.
- FAIR Toolkit launched by the Pistoia Alliance to accelerate the implementation of FAIR Principles: backed by major pharmaceuticals. The toolkit aims to improve data management and data sharing practices, assisting AI and machine learning to advance the Lab of the Future. The Hyve’s founder was on the board of the Pistoia Alliance at the time the project was kicked off in 2018 (see IP3 proposal) and we hosted the first workshop in our office in Utrecht, which is documented in a joint proceedings paper. We also contributed content to the toolkit.



5 Result

The Assessment is delivered to the client in the format of an **executive report with a visual representation of the FAIR assessment** (infographic, heatmap or other plots).