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## How to assess FAIRness to improve crediting and rewarding processes for data sharing? A step forward towards an extensive assessment grid

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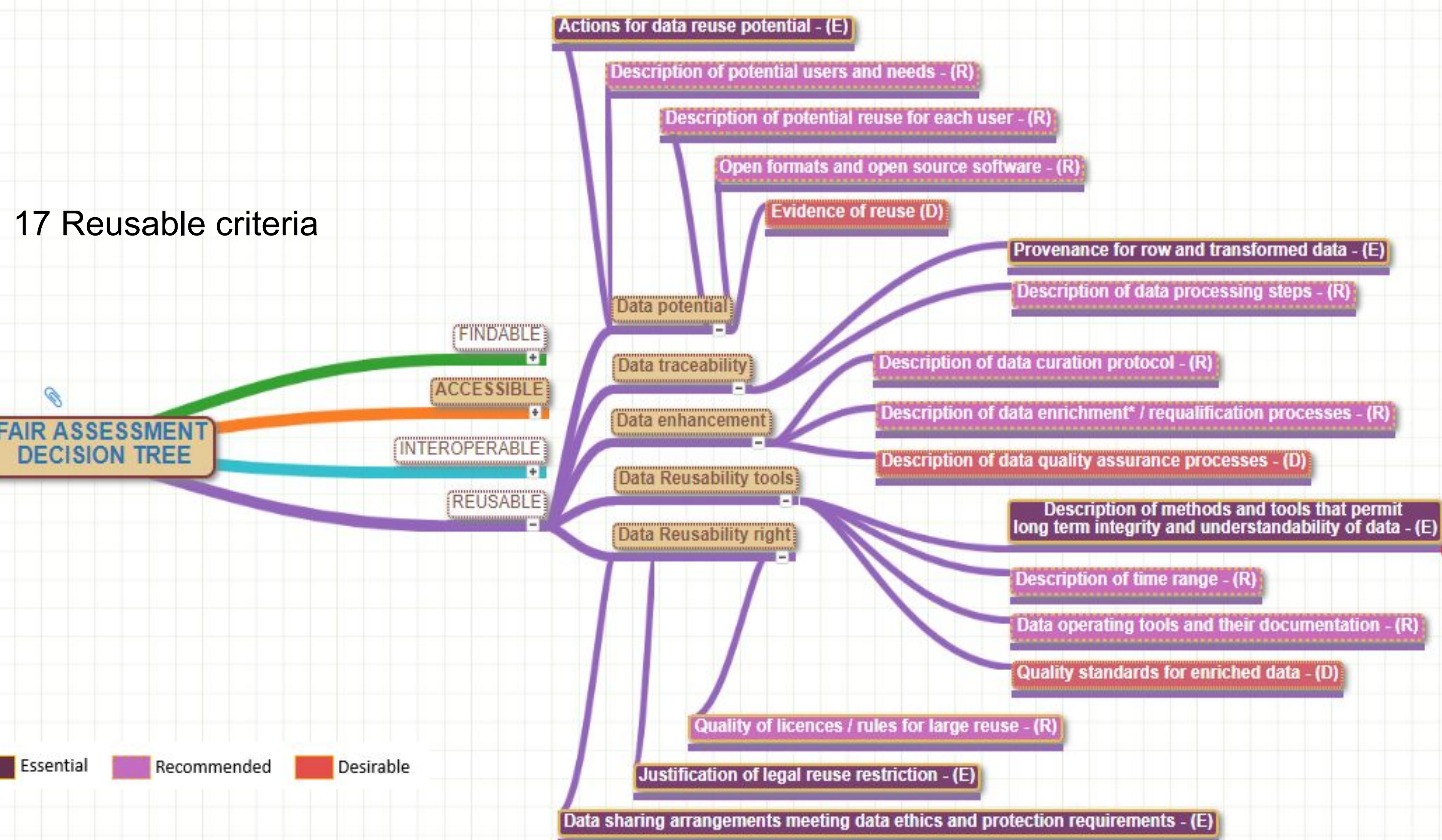
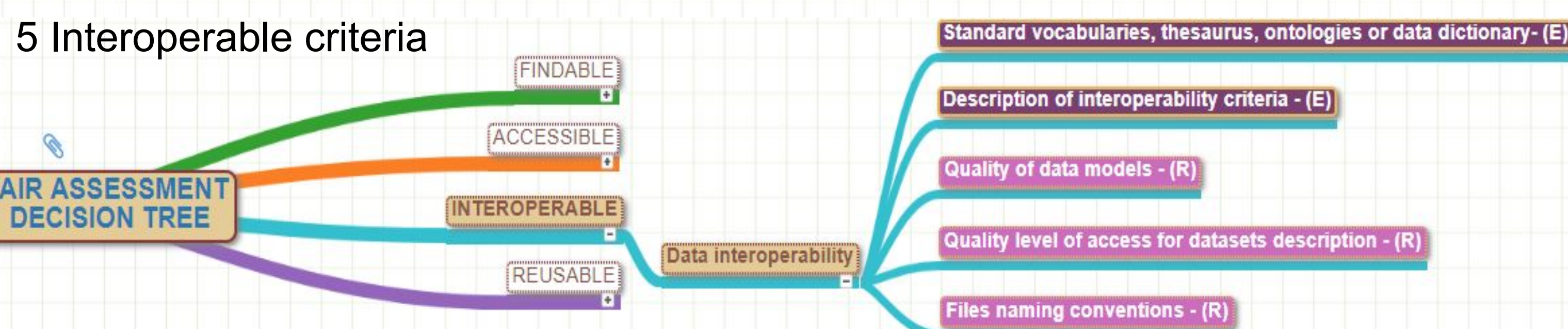
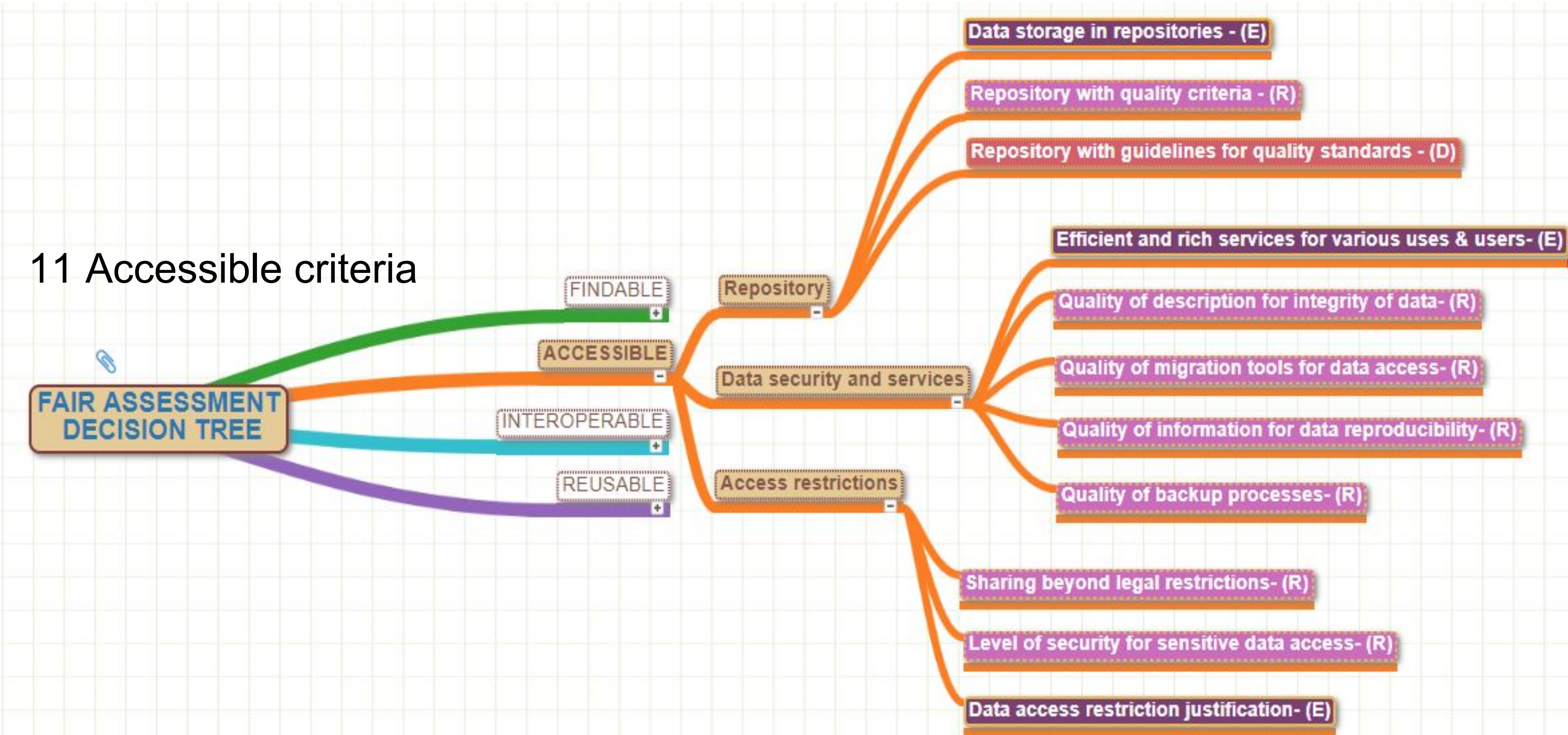
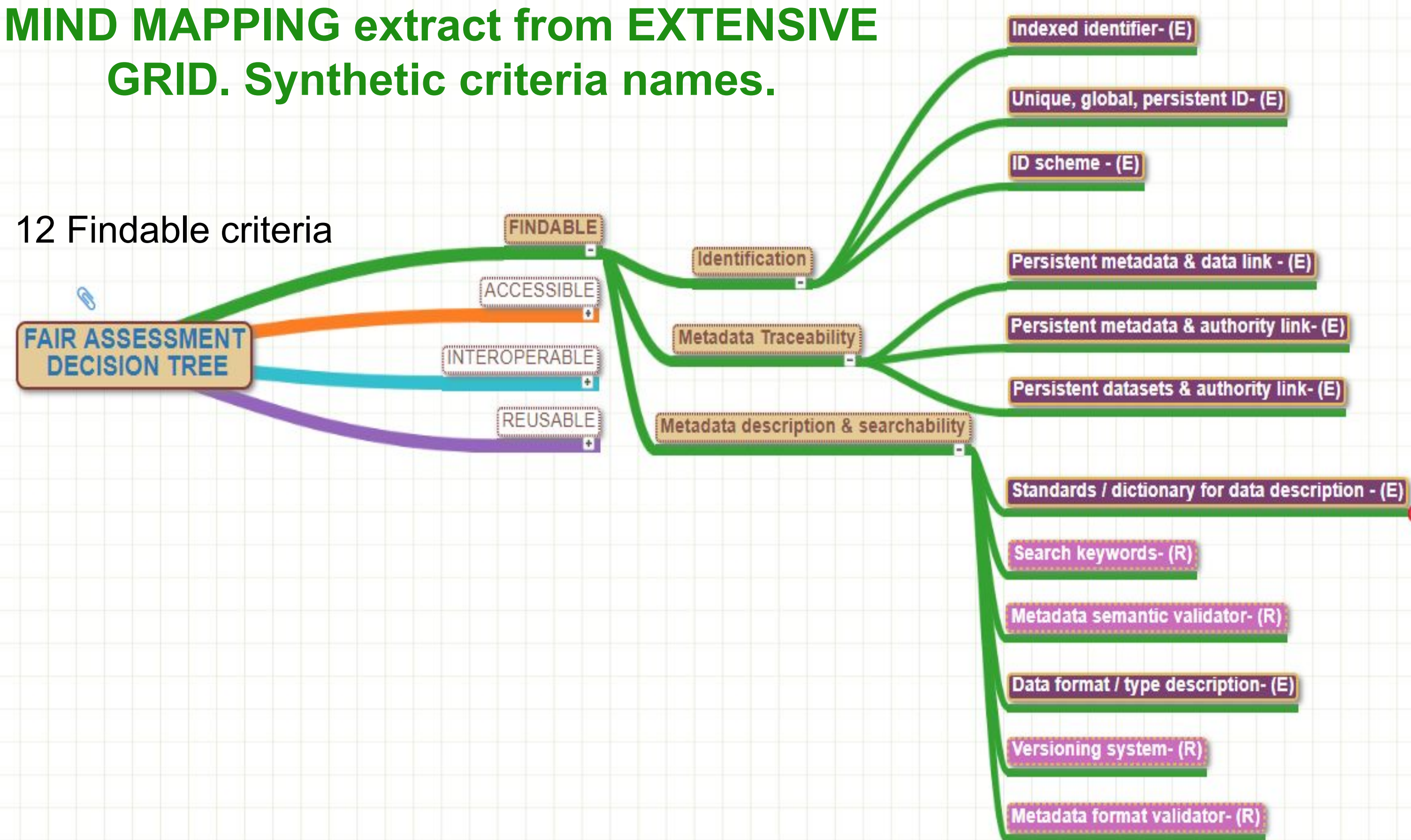


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In order to foster data sharing, the RDA-SHARC (SHaring Rewards & Credit) interest group has been set up to unpack and improve crediting and rewarding mechanisms in the data/resources sharing process.

As part of the objectives, **one extensive FAIRness external assessment grid** is being developed using criteria to establish if data are compliant to the FAIR principles (Findable/Accessible/Interoperable/Reusable). The objective is to **promote a FAIRness literacy** to improve scientists sharing behaviours.

## MIND MAPPING extract from EXTENSIVE GRID. Synthetic criteria names.



Essential Recommended Desirable

## BUILDING 1st DRAFT OF AN EXTENSIVE FAIRNESS ASSESSMENT GRID

The grid displays a **mind-mapped tree-graph structure** based on previous works on FAIR data management (Reymonet *et al.*, 2018; Wilkinson *et al.*, 2016; Wilkinson *et al.*, 2018; and E.U.Guidelines about FAIRness DMPs\*). The criteria used are based on the work from *FORCE 11\**, and on the basis of the Open Science Career Assessment Matrix designed by the *EC Working group on Rewards under Open science*.

### MAIN PROPERTIES to be generic and trans-disciplinary :

- As simple as possible (understandable by non IT people),
- Step by step processes,
- Easy to complete (due to FAIR skills availability in evaluation processes),
- Based on information given by researchers in career activity reports,
- Creative Commons author license.

## ASSESSMENT PROCESS

Designed as a **decision tree** in each FAIR Principle

3 Levels of criterion importance : **essential / recommended / desirable**  
4 possible answers/criteria (only one answer per criteria):

**Never/NA**  **If Mandatory**  **Sometimes**  **Always**

Evaluation based on scoring each answer for each possible answer in the 4 FAIR principle

ex: for **Findable**

**2/8 Never/NA; 3/8 If Mandatory; 1/8 Sometimes; 2/8 Always (Total = 8).**

Recommendations based on this scoring.

## LESSONS LEARNT FROM FIRST TESTS

- Essential criteria are not always understandable without training.
- Implementation of some criteria can be time consuming and may need some technical advisor / operator support.

## POSSIBLE OPEN ISSUES

- Develop gradual assessment of **researcher FAIRness literacy**.
- Help identifying needs to build FAIRness guidelines for a better researcher sharing capacity (based on rewards and credits / *How to do and Step by step* tools),
- Develop step by step curation processes for FAIRness compliance implementation.

## NEXT STEPS

- **RDA P13** Sharc's session: please attend!
- **A crowd sourced paper** on FAIR criteria evaluation with open contribution from interested Working Groups in RDA community
- Tool testing in **specific networks and in various scientific communities** (IMI FAIRplus/Elixir community; BiodiFAIRse, Belmont-PARSEC, Citizen science networks, agronomy community...)

## INPUT NEEDED FROM RESEARCH COMMUNITIES

To implement a fair appraisal of the sharing process, appropriate criteria must be selected in order to design optimal generic assessment grids. This process **requires involvement, time and input from volunteer data producers / users / scientists in various fields**. The aim is to get feedback from a larger community as to the validity of the criteria over different fields.

A survey was launched in April 2019 to assess the usability and the validity of the decision tree and the corresponding grid. If you produce or use data, **please participate** in the development of the FAIRness assessment grids by completing the online questionnaire. **It will help you get credit back for your efforts!**

**HOW? Join the SHARC RDA community**

and the SHARC interest group at [www.rd-alliance.org/groups/sharing-rewards-and-credit-sharc-ig](http://www.rd-alliance.org/groups/sharing-rewards-and-credit-sharc-ig)

You will then be informed in due time.



\* Reymonet N et al. (2018). Réaliser un plan de gestion de données « FAIR » : modèle. (sic\_01690547v2)

\* Wilkinson MD et al. (2018). A design framework and exemplar metrics for FAIRness. Scientific data, 5, 180118. doi:10.1038/sdata.2018.118

\* Wilkinson MD (2016). The FAIR Guiding Principles for scientific data management and stewardship. Scientific data, 15, 160018. doi:10.1038/sdata.2016.18.

\* E.U. European Commission Directorate-General for Research and Innovation report: Evaluation of Research Careers fully acknowledging Open Science Practices; Rewards, incentives and/or recognition for researchers practicing Open Science. 2017

\* E.U. European Commission Directorate-General for Research and Innovation report: H2020 Programme Guidelines on FAIR Data Management in Horizon 2020, Version 3.0, 26 July 2016