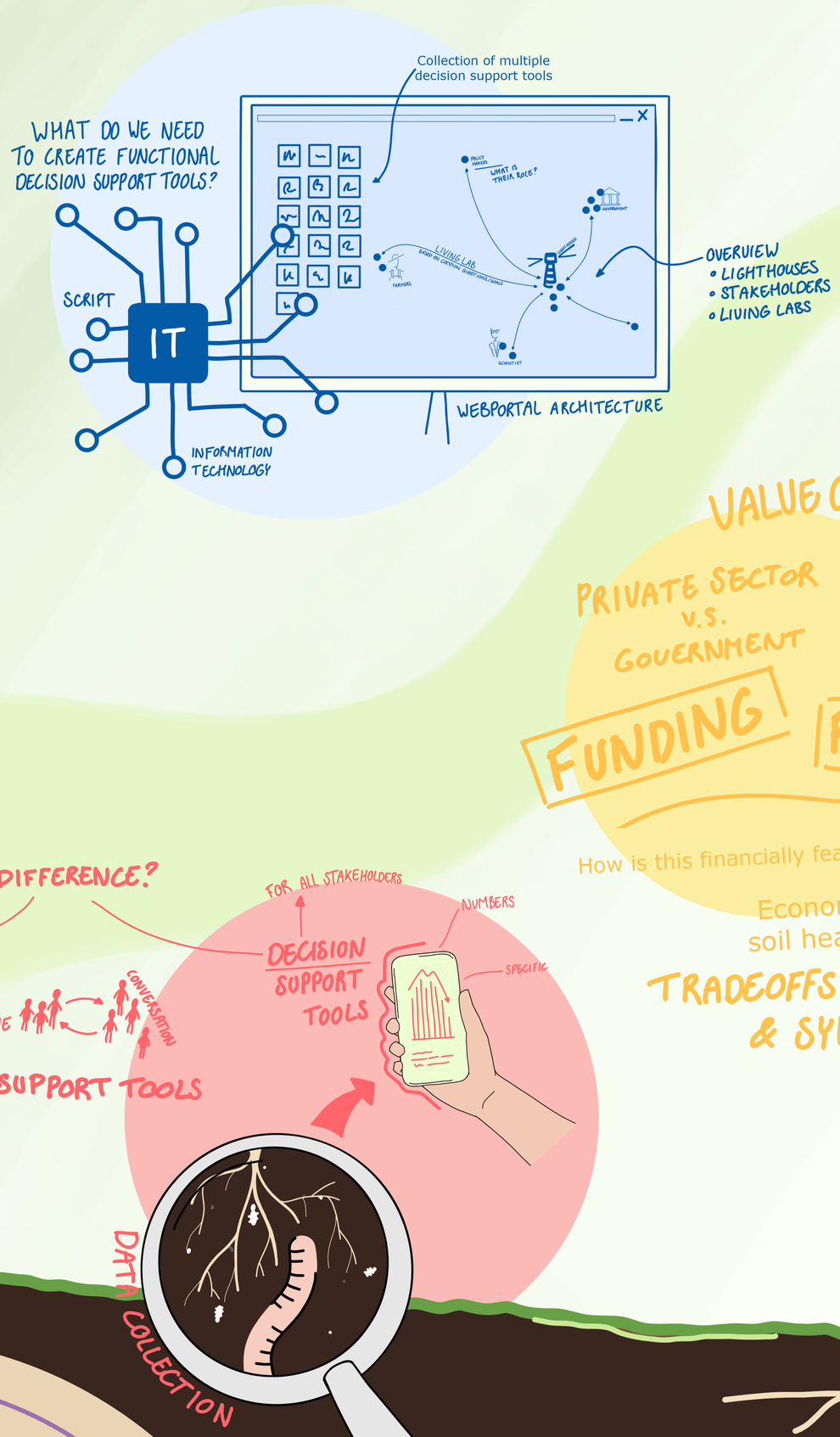
Decision support tools for soil health in living labs

novel method to inspire discussion



User friendly interface

Is the use of the tool optional?

Perceived reliability of the DST

Adoption by end-user

Required data input

The tool has been developed with participatory research/co-innovation

Suitable to reach regional goals

Suitable to reach farmer goals

Suitable to reach national goals

Cost of DST

The size of the words corresponds to how important national coordinators rated features of DST's.

Decision Support Tools (DST)

We define DST as digital tools that farmers, advisors or policymakers can use to make decisions on soil organic matter, water retention or nutrient efficiency. Tools can be software, app, web portal or other digital support. A DST should ideally be reliable, accessible and easy to use by end-users in order to be easily adopted. The tool would typically require some data about the soil, crop, field history and weather and then use an evidence-based algorithm to calculate an output. The output could be a scenario analysis of the effect of current or improved soil, water and nutrient management practices at different scales (e.g. field, farm, regional, national). However, we understand the definition for DST is not unambiguous and that many tools exist.

Abstract

The project PRAC2LIV explores how Decision Support Tools (DSTs) for soil management could support soil health in living labs. The DSTs in this case were constrained to those addressing soil organic matter, water retention, and nutrient use efficiency. Assessing the potential of DSTs to support soil health in living labs is a complex issue, given that all the various aspects of context will play a key role. Therefore, there is a need to not only collect information on DSTs but to inspire conversations to understand the needs and expectations of different stakeholders within the different contexts of living labs across Europe. To address that need, we used the novel participatory pictorial approach which include the visualization and short justification text. This method consists of (1) extracting a visualisation out of a team discussion, (2) presenting these visualised key points in expert groups and (3) using the visualisation as a source for discussion. Throughout the process, the visualisation goes through several iterations, all with the end goal of igniting fruitful discussions. Shown here is a pictorial highlighting a set of key topics around DSTs for soil health in living labs within the EJP Soil PRAC2LIV project. We presented the visualization to several expert groups at various scale levels both national and international. In the discussions, the visualization bridged communication gaps between living lab stakeholders with different values and needs. For instance the suggestion to include a digital twin for living labs and to consider financial aspects of soil health. The visualisation approach was found to be useful to generate new directions for programmes such as EJP Soil including important topics that could be (re) evaluated.

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For context and references see Ooms et al., 2024