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MULTIPASS: Managing the consents to access to farm data in a chain of trust to make new service to emerge for farmers

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With the emergence of digital technologies, farms become a source of data that cannot be ignored to meet the challenges of multi-performance agriculture. Beyond the services provided, access to farmers' data depends on a clear understanding of their use, which must be done in a transparent way. Several codes of conduct at a national or international level push for a voluntary commitment by the parties to respect some good practices in the use of agricultural data. To provide a tool and answer farmer's questions on the control of their data and the transparency of the data processing, the partners of the MULTIPASS project, supported by the French Ministry of Agriculture, have imagined an interoperable ecosystem of farmer consents management, protecting agricultural data exchanges.

Farmers' expectations of such an ecosystem have been expressed in focus groups. They expressed in these groups their regrets that so far they are not consulted much before processing their data. They want to better identify existing flows, including actors, data processing, and data clusters. Thus farmers express some new information needs that should be taken into account to specify a new consent management tool. The analysis of their feedback is the subject of a white paper including recommendations to strengthen the confidence needed to share agricultural data. Based on the farmers' expectations, the MULTIPASS project stakeholders have proposed the architecture of an ecosystem integrating two consent management tools as "pilots" and the conditions for their interoperability between each other or with the future tools to come. The goal of this communication will be to describe the solution proposed in this project.

This solution is based on a shared typology of data and data processing as well as on the specifications of the consent message content, a prerequisite for considering the interoperability of the ecosystem. It is also based on a router, which provides unified access to consent management tools (using API). In particular, it provides the farmer (beneficiary) with an exhaustive view of his/her consents (which can be distributed on several consent managers), meeting farmers' expectations for transparency. It is also the point where a data provider can check whether the consent required to provide data exists, without needing to know which consent management system is concerned. As part of the project, we compare two existing consent management tools based on different approaches involving a trusted third party for one and Blockchain technology for the other.

In this project, the stakeholders want to demonstrate to agricultural professional organizations the benefits and feasibility of a consent management ecosystem with several use cases. By strengthening the confidence of farmers to share their data, the project will allow the emergence of new knowledge and new services. It promotes open innovation, i.e. the emergence of agricultural applications coupled with farmers' data from any data source or connected object, to avoid the risk of innovation concentration, but also the creation of knowledge through the analysis of massive farms data, in a chain of trust.

Keywords: data agriculture consents management trust platform