

## UC1c Farmer Performance

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### Description of the Use Case

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Use case UC1c aims to improve mutually beneficial exchange of data between the Integrated Administration and Control System (IACS) and a farmer. Main focus is on enhancing exchange of data between IACS and a type of agricultural software used by farmers – Farm Management Information System (FMIS), in particular it's syb-system called farmer field book. UC1c is focused on data which would allow to evaluate farmers' impact on environment and climate, and economical sustainability. In order to measure such impact ("farm performance"), enhanced interoperability is required between IACS and other information systems which could serve as additional data sources.

Application Programming Interfaces (APIs) enabling exchange of data between IACS and FMIS-type of applications will be developed and tested. As a result there will be an opportunity for a farmer to share his/her FMIS data with IACS, based on voluntary authorization and control of what is shared and when. Also use of IACS data in FMIS is facilitated via API, by enabling computer-to-computer exchange without the need for manual input.

### Innovation in the Use Case

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By involving and bringing together different stakeholders, their ideas and expectations, a good starting point is created for adopting with changing needs brought with the new period of common agricultural policy. In order to fully benefit from digitalization of agriculture there are several barriers to overcome, like data protection issues, farmers' somewhat cautious attitude against sharing data with Paying Agencies and linking data originating from different sources to create meaningful information out of them. Pilot project of UC1c is a good opportunity to face these difficulties and seek ways to overcome. The created technical solutions will of course follow up-to-date and best practices of software development, but the biggest innovation lays perhaps in seeking new ways to integrate data in meaningful and useful way.

### Benefits

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Farm management software applications used by farmers to plan and track their agricultural activities is a valuable source of farm-level data. Data captured in FMIS-type of applications can include for example information about use of chemical fertilizers/manure, use of plant protection products, details of work carried out in the agricultural parcel, data about crop group and variety cultivated on the agricultural parcel, livestock grazing data and data about planned and actual yield. If being shared on a voluntary basis by a farmer, this information could be possibility for farmers to demonstrate their compliance under increased conditionality.

By exchanging data between IACS and FMIS, agricultural activities data collected in a farm will become a reliable additional input for monitoring farmer performance, can be used by Paying Agency in area monitoring process and also by policy makers for designing new measures and payment schemes. IACS



data can be used by a farmer, for example measuring his/her performance compared to other farmers (at aggregated level).

Increased data exchange between IACS and FMIS-type of applications provides also an opportunity for a Paying Agency to support farmers compliance and give agricultural advice (e.g. on crop rotation).

## Involvement of stakeholders

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There are several stakeholders, either involved directly in UC1c or being affected by it's outcomes:

- Farmers;
- EU Member States' Paying Agencies;
- Agricultural software providers;
- Agricultural consultants;
- Policy makers, government bodies;
- Researches.

ARIB as Estonian Paying Agency is leading the UC1c. ARIB internal knowledge about IACS is represented by project team members having substantial experience in this domain.

Software solution is being designed in a close collaboration with Estonian start-up company eAgronom who provides FMIS-type of software. A web survey has been conducted amongst Estonian farmers to collect their feedback about the agricultural data and information systems used in Estonia. Farmers input is also received via eAgronom who has a good overview of different problems their users have and what are farmers expectations towards agricultural data management. In the course of project farmers representatives shall further be involved via workshops and meetings.

There is also a national initiative in progress in Estonia, the agricultural big data program. Aim of the project is very similar to NIVA, to enhance agricultural data interoperability. 1<sup>st</sup> part of the project, feasibility study, has been conducted and it's results have been valuable source of information for UC1c. ARIB has had several meetings with the Agricultural Research Centre, Estonian research institute who led the feasibility study. ARIB also has close communication with Ministry of Rural Affairs, who has initiated the agricultural big data program.

For collecting other Member States' Paying Agencies' feedback about IACS and FMIS data, a questionnaire has been prepared and distributed (results are expected in February 2020).