

MODULARITY GRID

Problem Validation and Definition: Space-enabled Agritech

Background

Modularity Grid (MG) is collaborating with the UN Food and Agriculture Organization on an innovation project focused on building and piloting a digital platform to democratize satellite data, with the aim of catalyzing innovation as well as the adoption of digital technologies, to address needs and challenges that impact the food-energy-water security nexus.

Introduction

Before starting this project, a preliminary survey of academic literature highlighted a range of barriers, including financial, technical and operational barriers, that may be limiting the prevalence of software-enabled or data-driven approaches among the various stakeholders linked to the smallholder farming value chain. If they are indeed present, they could be overcome in a manner that empowers the stakeholders, to both develop and apply digital technologies to create measurable value.

Objectives

To support the problem definition and validation phase of the project, MG will conduct a diagnostic investigation that will make use of a combination of approaches including surveys, interviews and workshops among others, to better understand the needs and challenges faced by the various stakeholders with links to the smallholder farming value chain.

Overview of the investigation

The types of activities that will be conducted as part of the investigation include:

- Stakeholder mapping and analysis
- Exploring the current state of practice, as well as the needs and challenges relating to:
 - Data, i.e.
 - If and how data is used
 - Types of data used (remote sensing data or any other types of data)
 - Barriers / challenges preventing adoption of data
 - *How* data is collected / acquired, as well as the associated barriers and challenges
 - Software, i.e.
 - Types of software used
 - How software is acquired (i.e. developed in house, provided by third party developers, or adopted pre-existing software)
 - How software is used
 - Limitations / challenges related to using and acquiring / developing software

Scoping the investigation

As a first step, a combination of three approaches (survey, workshop, interviews) will be used to gather insights to support 1) the scoping and planning of the diagnostic investigation to inform the development of the collaborative innovation project; and 2) resource mobilisation efforts for the collaborative innovation project including applications for upcoming calls by Innovate UK and ESA.

Survey (5-10 minutes)

Gaining a high level view to help identify key stakeholder segments / subsegments to focus on.

Workshop (40-60 minutes)

An interactive discussion within each breakout session, involving a small group of stakeholders, to prompt discussions on the current state of practice, providing an insight into the needs and challenges, as well as suggested feature ideas for the project. Explore recommendations for the development of specific digital solutions, to overcome the challenges and meet the needs. The workshop will include participants from each stakeholder segment.

Interviews (20-30 minutes)

Provide more detailed insights into specific entities / organisations. Explore needs that could be addressed using digital technologies. Assess challenges related to why the needs identified have not yet been catered for.