



# Achievements and next steps

Sander Janssen, coordinator, 8 October 2021



This project has received funding from the european union's horizon 2020 research and innovation programme under grant agreement no. 842009



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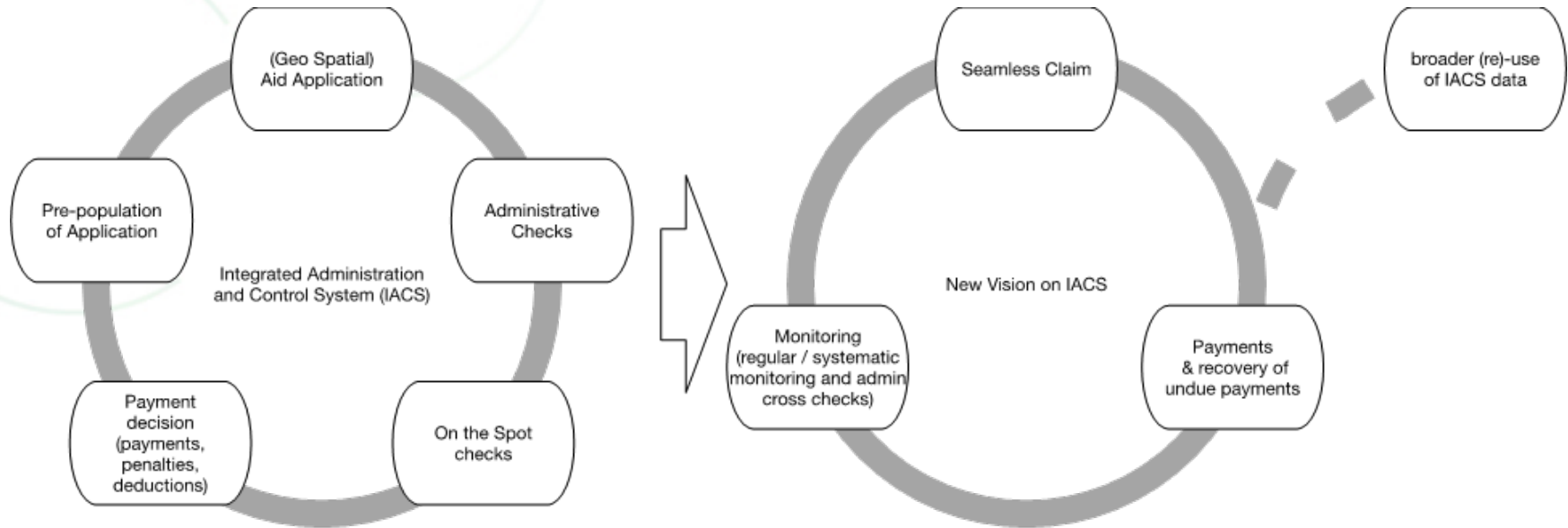
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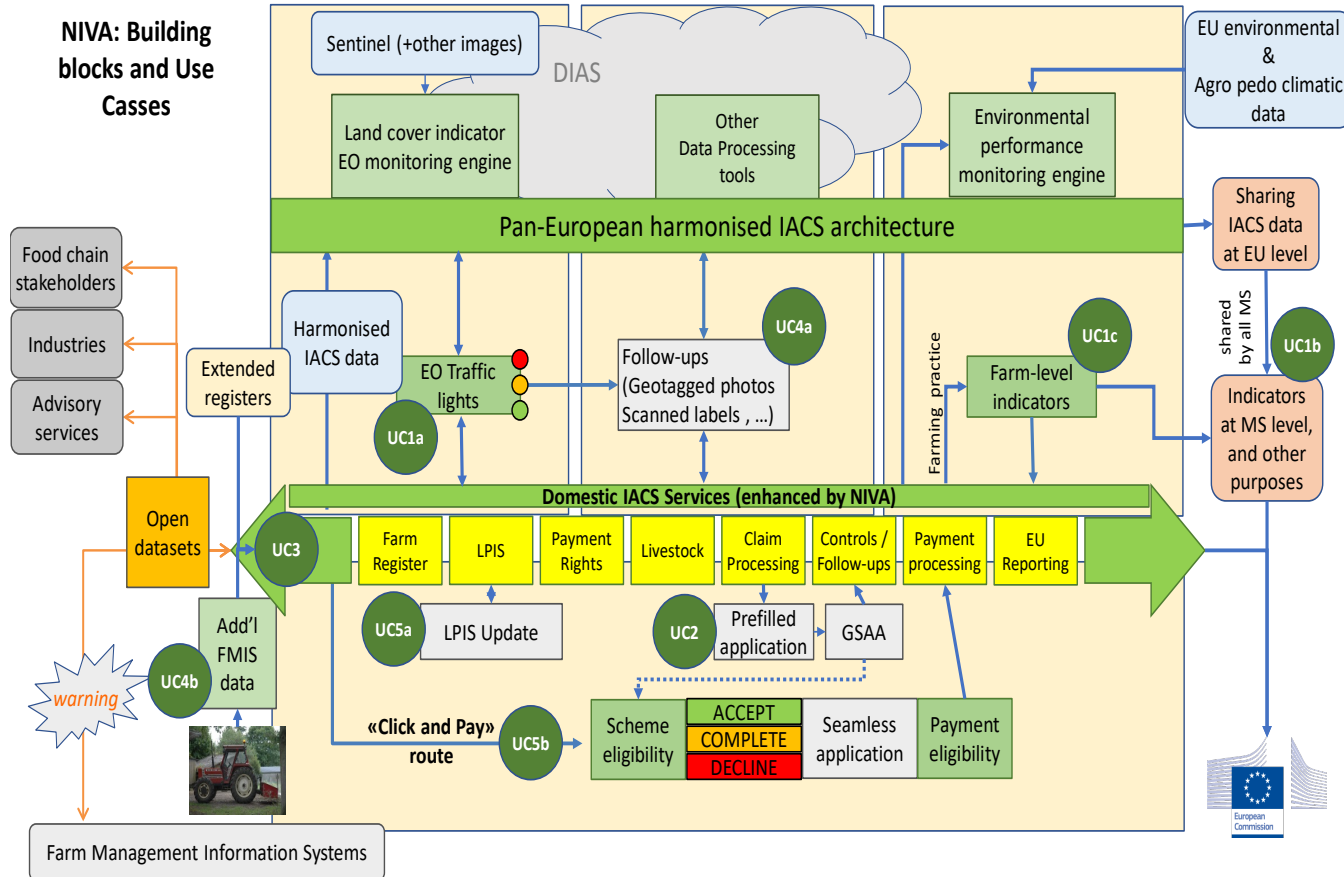
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# Integrated Administration and Control System (IACS) Evolution



# IACS-NIVA Reference Architecture (NIVA-RA)

## IACS architecture & Use Cases in DoW



# NIVA Objectives

Challenge	M0-baseline situation
<b>Absorbing innovations to simplify the governance</b>	<ul style="list-style-type: none"><li>• Innovations implemented separately in the 41 different IACS systems in Europe</li><li>• only 2 to 3 open source solutions covering small parts of IACS systems</li></ul>
<b>Reducing socio-economic and administrative burden to farmers</b>	<ul style="list-style-type: none"><li>• Digital innovations offer potential to reduce the burdens to farmers and PA's,</li><li>• Digital innovation being tested in some research projects</li></ul>
<b>Reducing the gap between IACS data use and potential broader uses</b>	<ul style="list-style-type: none"><li>• IACS derived data are shared in some member states on an 'As-is' basis</li><li>• lack of standardization across claim years and common lists of relevant attributes (e.g. parcels, crops, vegetation types)</li></ul>

## IMPACTS

## RESULTS

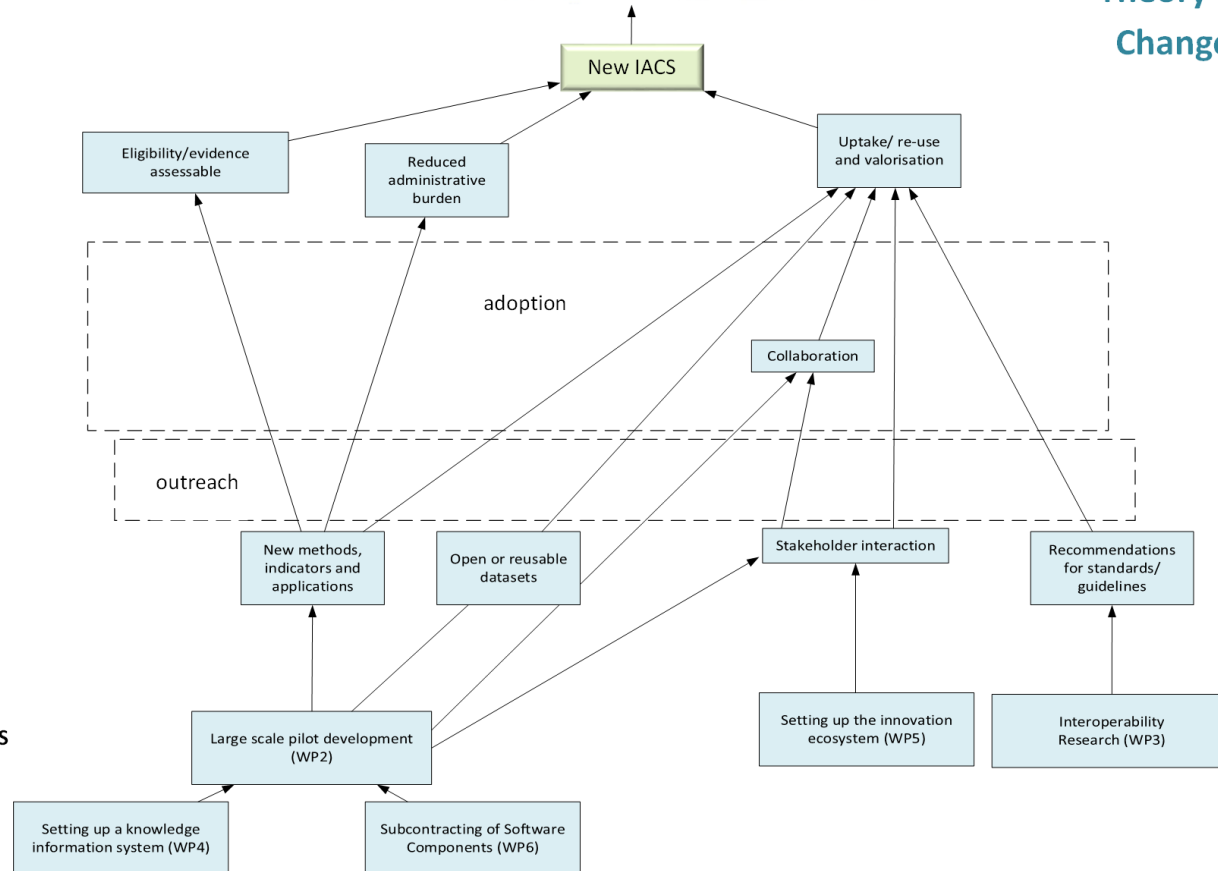
## OUTPUTS

## ACTIVITIES

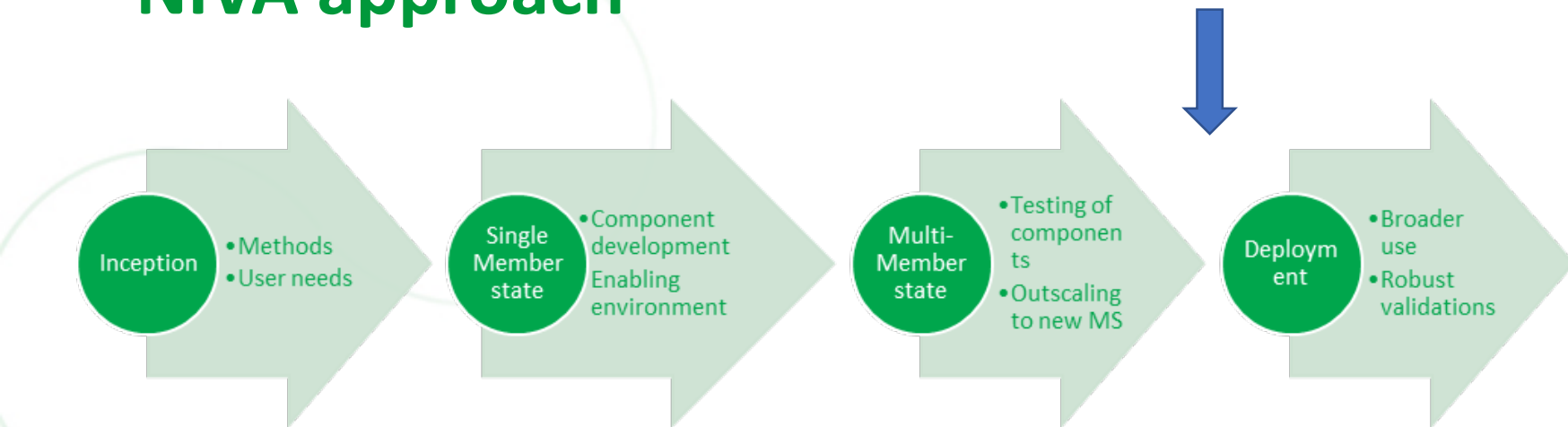


Plus:  
Cross-cutting objective  
on knowledge,  
innovation and  
digitalization...  
... and Strengthening c  
the Farm Advisory Sys

## NIVA Theory of Change



# NIVA approach



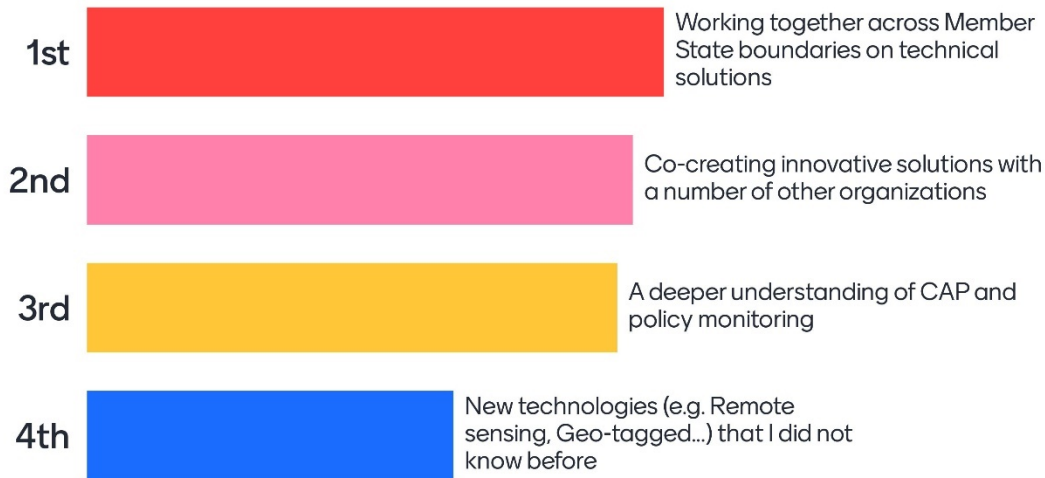
- Iterative development
- Learning approach
- Time: June 2019 – Nov 2022



# Progress on NIVA main challenges

Challenge	M0-baseline situation	M18 NIVA achievements
<b>Absorbing innovations to simplify the governance</b>	<ul style="list-style-type: none"> <li>• Innovations implemented separately in the 41 different IACS systems in Europe</li> <li>• only 2 to 3 open source solutions covering small parts of IACS systems</li> </ul>	<ul style="list-style-type: none"> <li>• More than 30 components have been developed and are being tested in cross-boundary collaboration</li> <li>• Working modes to learn from each other in an active way, and start relying on developments implemented in different PA systems.</li> <li>• Methodologies for Multi-Actor development and innovation deployment in IACS specified</li> </ul>
<b>Reducing socio-economic and administrative burden to farmers</b>	<ul style="list-style-type: none"> <li>• Digital innovations offer potential to reduce the burdens to farmers and PA's,</li> <li>• Digital innovation being tested in some research projects</li> </ul>	<ul style="list-style-type: none"> <li>• Different aspects of implementing digital solutions have been aligned through an 'As-is' analysis</li> <li>• Wider adoption of research products in innovations and field testing ongoing</li> <li>• Pilots being tested specifically focused on lowering administrative burden through technology</li> </ul>
<b>Reducing the gap between IACS data use and potential broader uses</b>	<ul style="list-style-type: none"> <li>• IACS derived data are shared in some member states on an 'As-is' basis</li> <li>• lack of standardization across claim years and common lists of relevant attributes (e.g. parcels, crops, vegetation types)</li> </ul>	<ul style="list-style-type: none"> <li>• Operational testing of IACS data use in pilots for other purposes ;</li> <li>• Standardization issues in IACS highlighted and recommendations provided in a stakeholder oriented way</li> </ul>

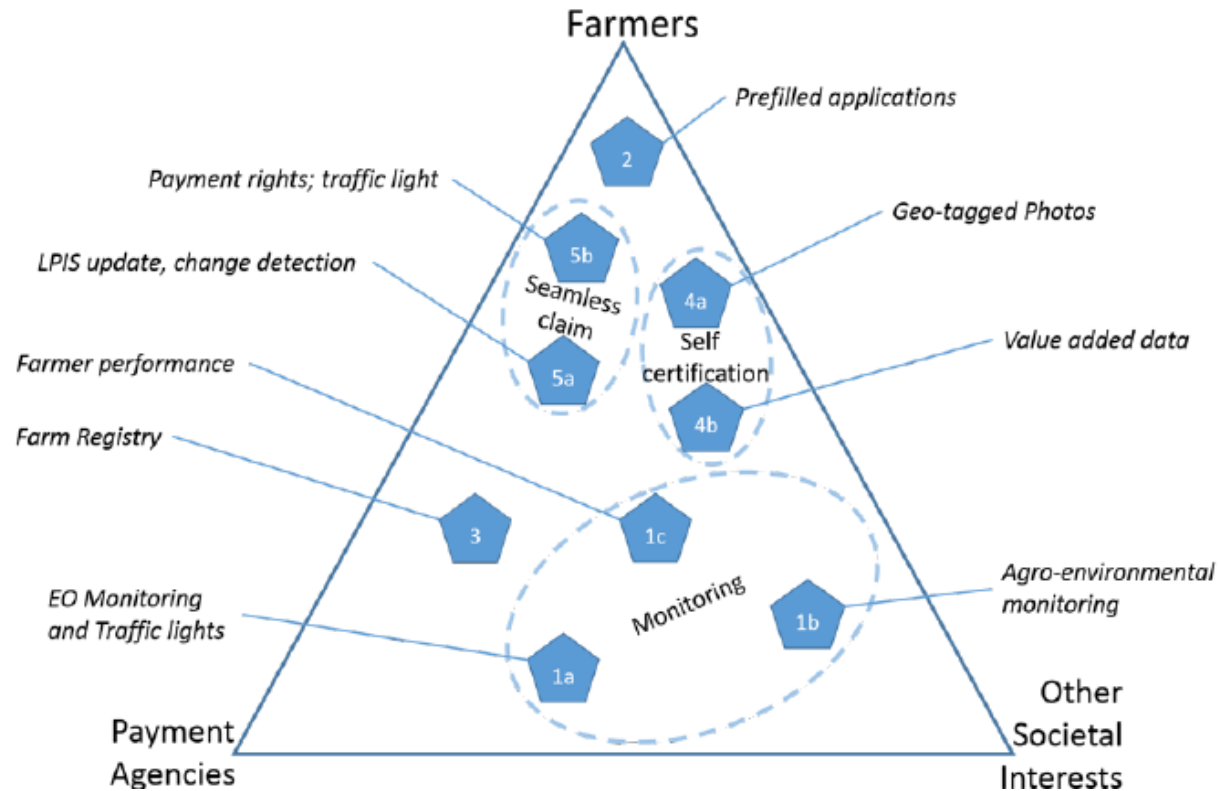
# NIVA achievements according to partners



An aerial photograph of a rural landscape featuring a patchwork of agricultural fields. The fields are in various stages of cultivation, with some appearing as dark brown plowed earth and others as vibrant green crops. A network of roads and paths crisscrosses the terrain. In the center-right, a small cluster of buildings, including a red-roofed house, is visible. To the right, a large field is covered with rows of solar panels. The text 'NIVA Pilots' is superimposed in a large, white, sans-serif font across the middle of the image.

# NIVA Pilots

## Pilots at the core





## Pilots and testing partners

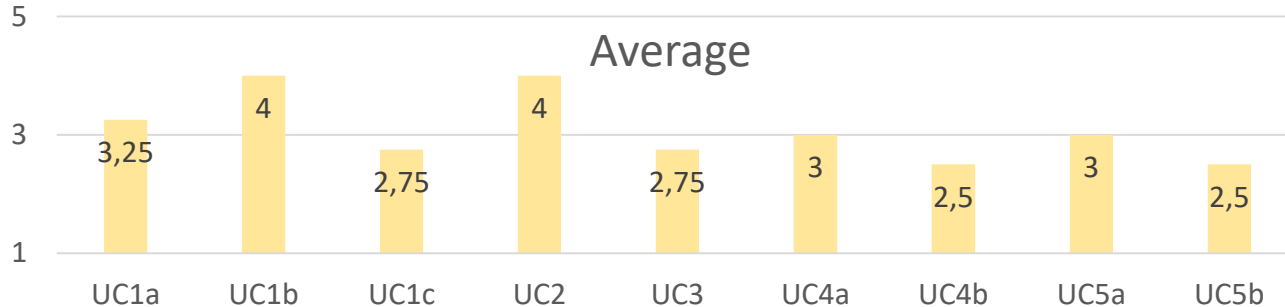
Use Case Group	Use Case id	Use Case title	Lead MS (PA)	Testing PAs
Monitoring	UC1a	Earth Observation Monitoring and Traffic Lights	Greece (OPEKEPE)	DAFM, ASP, ARIB, AGEA
	UC1b	Agro-environmental monitoring	France (ASP)	RVO, DAA, FEAGA (ITACYL)
	UC1c	Farmer Performance	Estonia (ARIB)	AGEA
Prefilled application	UC2	Prefilled application, GSAA/Land link	Lithuania (NPA)	FEAGA
Farm Registry	UC3	Farm Registry	Spain (FEAGA)	CAPDER
Self-Certification	UC4a	Geotagged photos	Ireland (DAFM)	NPA, ARIB, AGEA, OPEKEPE
	UC4b	Machine data in GSAA as added value data	The Netherlands (RVO)	DAA, FEAGA (ITACYL), OPEKEPE
Seamless Claim	UC5a	LPIS: Update & Change detection	Denmark (DAA)	ASP, FEAGA
	UC5b	Scheme Eligibility and Payment Eligibility: Click-and-Pay.	Italy (AGEA)	

## NIVA – MMS Testing complexity

- Level of complexity of being a MMS-testing PA.

Scale / 1 = very difficult – 5 very easy

UCC	M18-2ndMS	MS (Testing)	Expertise	Time/money	Technical	Exploitation	Average
UC1a	EO components	GR (IE, FR, EE) (IT)	2	3	4	4	3,25
UC1b	AE indicators	FR (NL, DK, SP)	4	5	4	3	4
UC1c	IACS-FMIS interface	EE (IT)	3	3	3	2	2,75
UC2	Validation & Eligibility Models	LT (SP)	2	3	2	3	2,5
UC3	FR Reference Data Model	SP (SP) CAPDER	2	3	3	3	2,75
UC4a	Geo-tag API & Certification req.	IE (LT, EE, IT, GR)	2	4	2	4	3
UC4b	Machinery - FMIS Interface - PA	NL (DK, SP, GR)	1	4	4	1	2,5
UC5a	Change detection of high non-agricultural areas	DK (FR, SP)	3	3	4	2	3
UC5b	Smart Contract Model Trials (C&P)	IT (EE,IE)-3rd MS	2	3	2	3	2.5



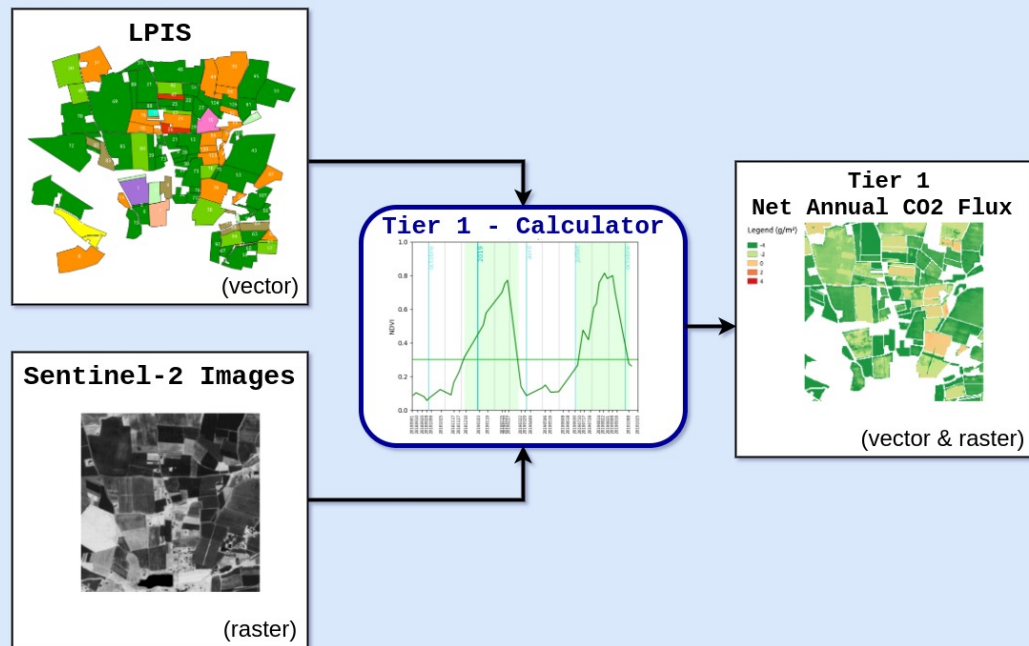
# Examples of use cases





## UC1 b: Agri Environmental Monitoring (lead by France)

### NIVA - Tier 1 carbon indicator

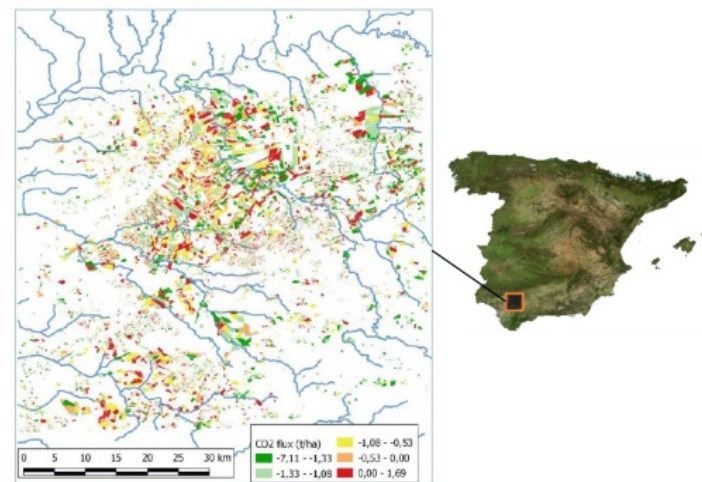
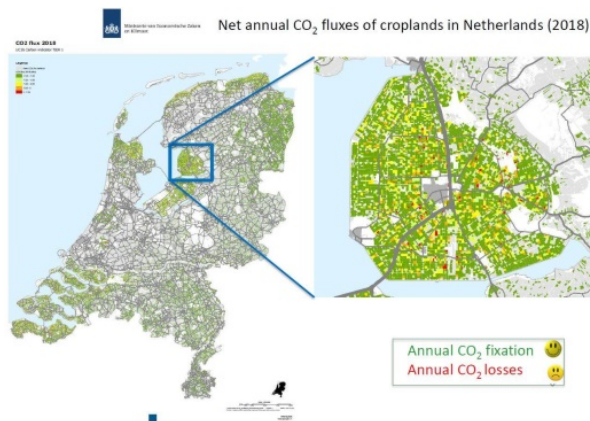
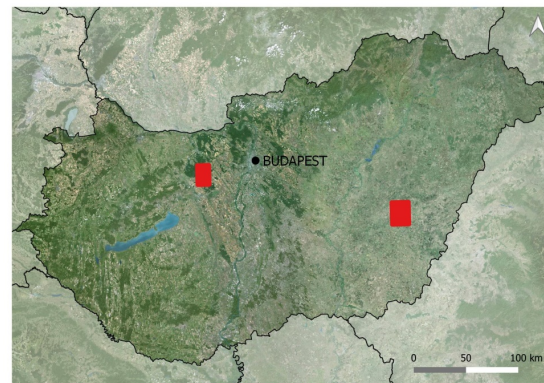




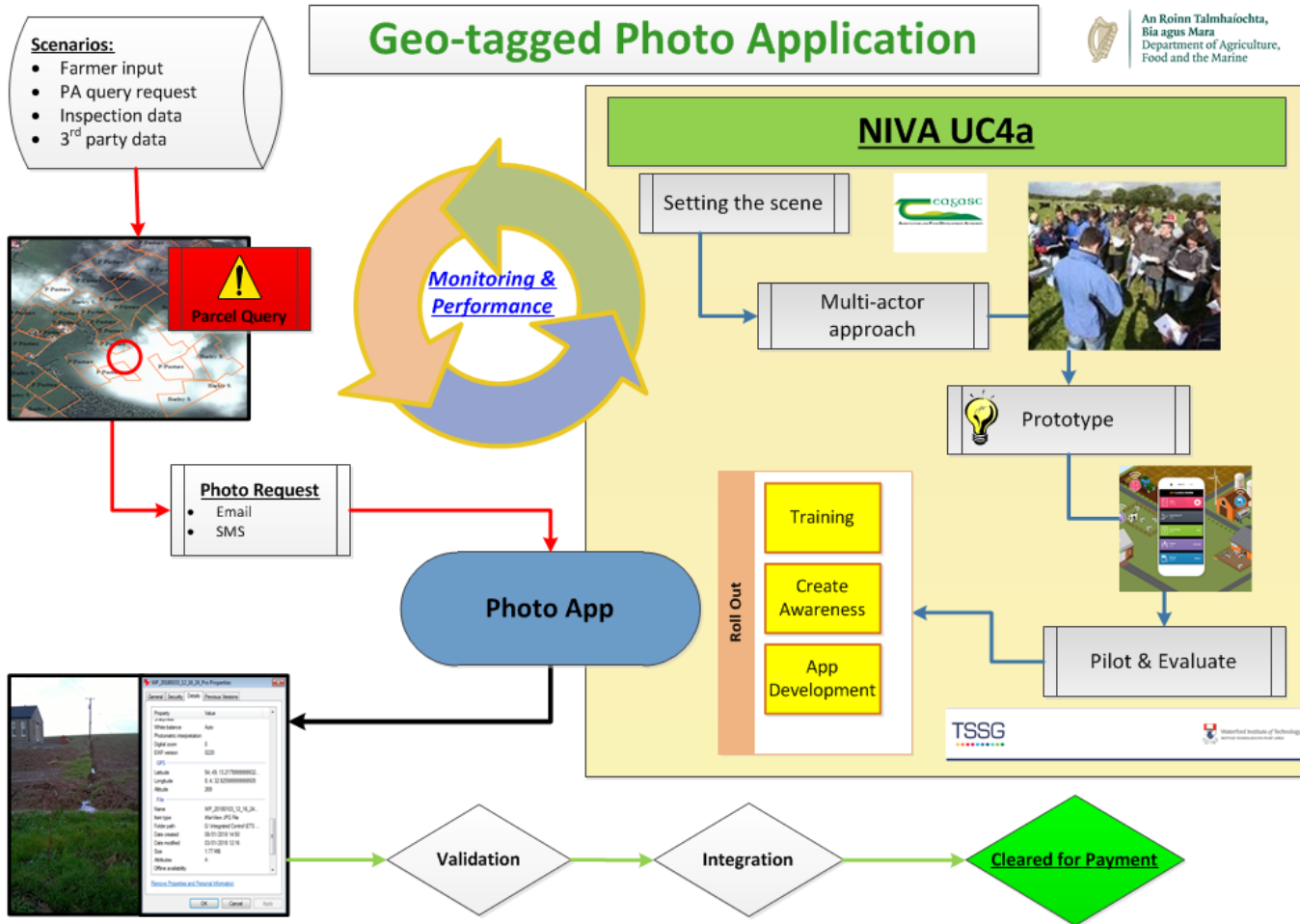
## UC1 b: Agri-environmental Monitoring, test performed

### • Parcels level

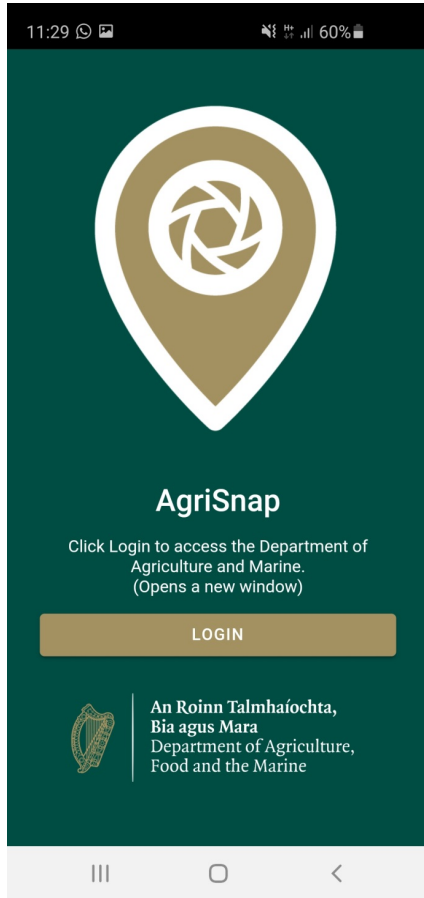
- Tested by Spain, Netherlands
- Denmark (on going)
- Interest and news from Hungary  
(+5 000 parcels covering 46 000 ha)



# UC4a: Geo tagged photo application (lead by Ireland)



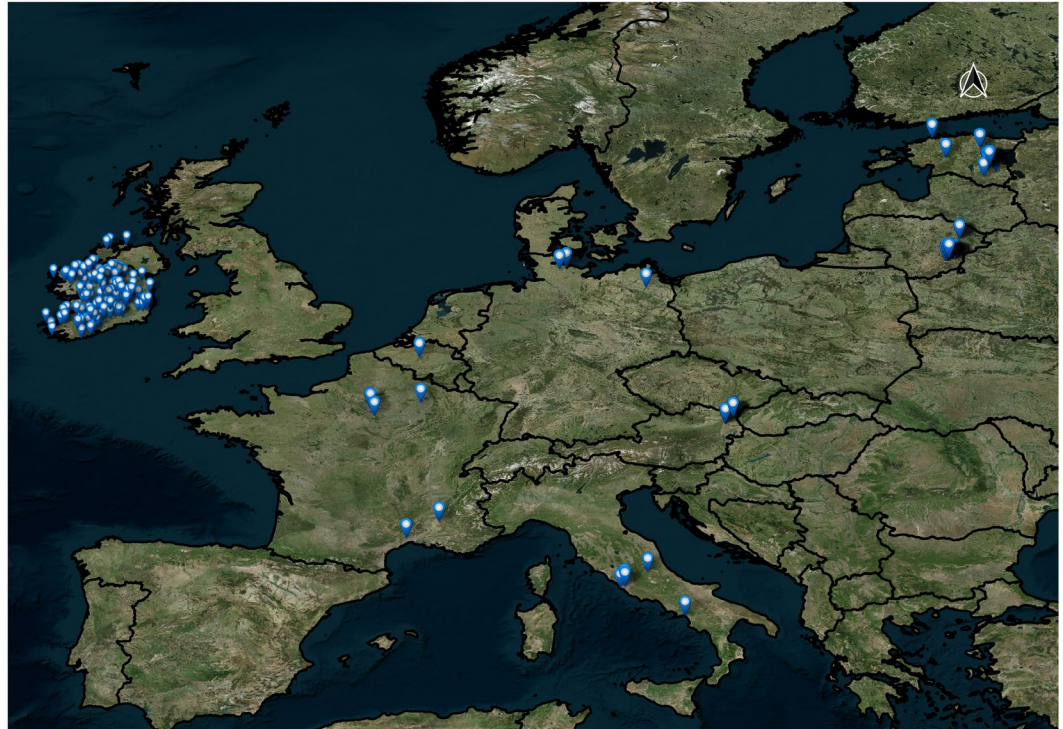
## UC4a – Testing across Member states



Ireland 174

Estonia 10  
Lithuania 6  
France 6  
Italy 6  
Austria 13  
Germany 7

222 Individual Testers





An aerial photograph of a lush green agricultural field. The field is divided into a grid of rectangular plots by thin, light-colored furrows or ditches. The color of the vegetation varies slightly, with some areas appearing a deeper green and others a lighter, more yellowish-green, possibly indicating different crop types or stages of growth. A few small, dark green trees are scattered throughout the field, particularly along the boundaries of the plots. The overall perspective is from directly above, looking down on the landscape.

# NIVA next steps

# Focus development areas in Juni 2021-Nov 2022

- **Continue the focus on cross Member State collaboration and co-design** as done in the first 18 months, while grasping the opportunity to involve outside-NIVA PAs and other partners;
- **Focus on active implementation of the NIVA innovations and components in PA systems.** Within PA's there are many different departments and those departments deciding on adoption of innovations might not be involved in NIVA. Hence an PA Adoption group was started over the past months of NIVA to facilitate uptake of innovations;
- **Continue to further engage a wide range of stakeholders** through the Stakeholder Forums, building on a good virtual presence with webinars and whenever possible engaging 'in-person' for dedicated topics. A stakeholder analysis will be used to further broaden the involved stakeholder groups and achieve a better coverage;
- **Develop more accessible knowledge products (through policy and technical briefs),** alongside a unique open source approach, providing the stakeholder network with the required insights and sense-making;
- **Solidify the network in a future oriented exploitation plan**

# THANK YOU



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# Operationalising agro-climatic and agro-environmental indicators for future CAP

5<sup>th</sup> Feb, ASP, Paris

<https://www.niva4cap.eu/uploads/NIVA%20Policy%20Brief%20No.%202%20agri-environmental%20and%20climatic%20indicators.pdf>



# Key findings

- **IACS data very valuable for assessment of indicators but not ready for analysis to compute these indicators.**  
(hence also for the evaluation of the CAP through indicators)
- **Achieving relevant agro-environmental and agro-climatic indicators require a development process with involvement of all stakeholders, including farmers.**
- **Indicators need to be relevant for the farmer, not just about the farmer, to monitor performance and provide timely feedback.**
- **Performance assessment reflects multi-annual land management.**