



## **Deliverable D8.19**


# **Final report on the achievements, conclusions and future directions of the Living lab**

V 1.0



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## Document information

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<b>Abstract (for dissemination)</b>	Final Report on the Living Lab process, summarizing the main achievements and conclusions of its implementation, as well as the its future directions based on the experience on the three alternative sites
<b>Keywords</b>	Living Lab, Community of practice, European, remote sensing spatial technology, user-driven, service living lab process

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30/10/2019	V1.0	Antonio Ruiz-Verdú	Final revision

<sup>1</sup> R = Document, report; DEM = Demonstrator, pilot, prototype; DEC = Websites, patent fillings, videos, etc; OTHER; ETHICS = Ethics requirement


<sup>2</sup> PU = Public; CO = Confidential (Consortium and Commission Services); EU-RES = Restreint UE; EU-CON Confidential UE; EU-SEC = Secret UE (Commission Decision 2005/444/EC)



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# 1. Introduction

## 1.1. Scope of the document


In the Final Report on the Living Lab process, we present an overview of Living lab main achievements and the Living labs recommendations. In the Complementary User requirements, we added an analysis of User requirements from D8.23 and we added other User Requirements regarding SENSAGRI specificities and DIAS platform.

## 1.2. Abbreviations and definitions

D8.4 notes: Replace previous term “end-user service” with “mid-user service”. Service is telling from the provider point of view. When it is about “end-user”, it is always about end-user experience. “Mid-user experience” exists, and it refers to SENSAGRI services.

SENSAGRI web service: geo-information service, which is the output of several SENSAGRI products and services. In a service based economy, SENSAGRI user-centred service will be provided to users by SENSAGRI (in the frame of the project), and later Copernicus (in operational mode). This interaction is consciously designed to fit to intermediate user needs (mid-user and CEE) and, if necessary, their respective end-user needs. SENSAGRI web service embodies products and services to provide a homogenous and user centric experience. They will provide specific EO products, further informations, and services functionalities (such as features like custom output formats, download and API settings) (a more detailed definition will be given in interaction with Copernicus Entrusted Entities).

- Mid-user web service: SENSAGRI web service will feed Mid-user web services, which are predominantly founded on geo information (AGROD’OC web services, or CACG web service). On the other hand, SENSAGRI web-service aims to target relevant European actors (definition below) who will use SENSAGRI products and services by non-predefined means. SENSAGRI project objectives are to identify mid-user requirements and assigned values. In SENSAGRI project, in order to collect user requirements regarding SENSAGRI services, we build the mid-user service hypothesis as an environment where mid-user will be able to express consistent requirements toward future SENSAGRI service. This is the aim of the Service design aspect of the Living lab process.
- Mid-user, intermediate user: potential user of SENSAGRI services and provides downstream service. This role is between SENSAGRI provider (in the frame of the project) or Copernicus (in operational mode) and end-user. They are segmented in several fields , such as insurance, agribusiness, precision agriculture or statistical institutes. The heterogeneity of mid-user is noticeable on the factor of maturity, in terms of familiarity and capability to deal with remote sensing data, and different level of relationship with other actors of the value chain.
- Mid-user service: service provided by mid-user, and includes internal, Business-to-Business (B2B) service, or end-user (B2C) services.

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- End-user: beneficiary of mid-user service, Out of the scope of SENSAGRI, but needed when mid-user explicit their experiences and requirements. End-users are involve punctually in the Living Lab Process, in each iteration-workshop as usability experts.
- Relevant European Actors: firstly, Copernicus Entrusted Entities (CEE: JRC and EEA) and secondly European Directorate-Generals (DG- AGRI, DG-CLIMA, DG-REGIO). They are also considered as SENSAGRI services user. More details will be provided when strategic plan of interaction will be setup.

## 2. Main achievements

### 2.1. Living Lab process

Here is a resume of the Living lab process methodology planned in the initial state of the project :

To collect user requirement about SENSAGRI products and services, we set up Living Lab process on French test-sites, with two user communities : CACG (water management company) and AGROD’OC (Agricultural Cooperative of South West farmers). By Open and service design process, we support users to appreciate SENSAGRI products in their own activity, and by aligning with their innovation ambitions, by the means of prototypes and experimentations.

We set up the Living lab process Transfer to other European test sites with SENSAGRI partners, Poland (IPP), in Italy (with CREA) : We adapt Living lab activities to maturity of test-sites(in remote sensing maturity of users, and , initiate partners to the role of Technical Bridger (facilitator). Identification of users, workshops has been implemented and User requirements has been collected.


The WebGIS SENSAGRI is developed for dissemination purpose. Researcher expectations were collected. It has been used during the transferred living lab process for presenting SENSAGRI products. User requirements has been collected and analyzed in the D8.23 and the present D8.19.

#### 2.1.1. French Test sites

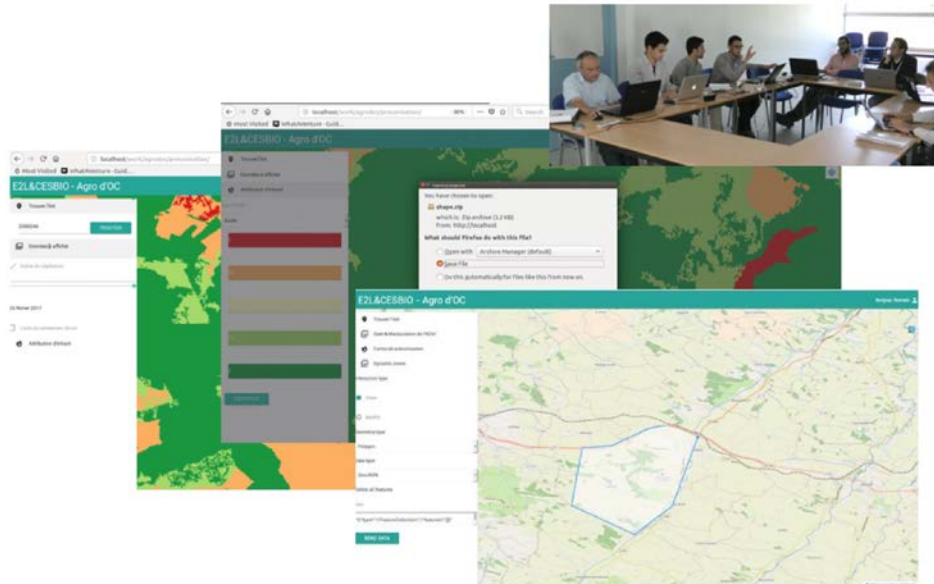


French test site Living lab process : Service design activities (CACG user community)



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More than 5 workshops with CACG user community to build User requirements, from user interests of SENSAGRI products use to experimentation priority of SENSAGRI products, by the means of prototyping tools and aligning with their innovation process.

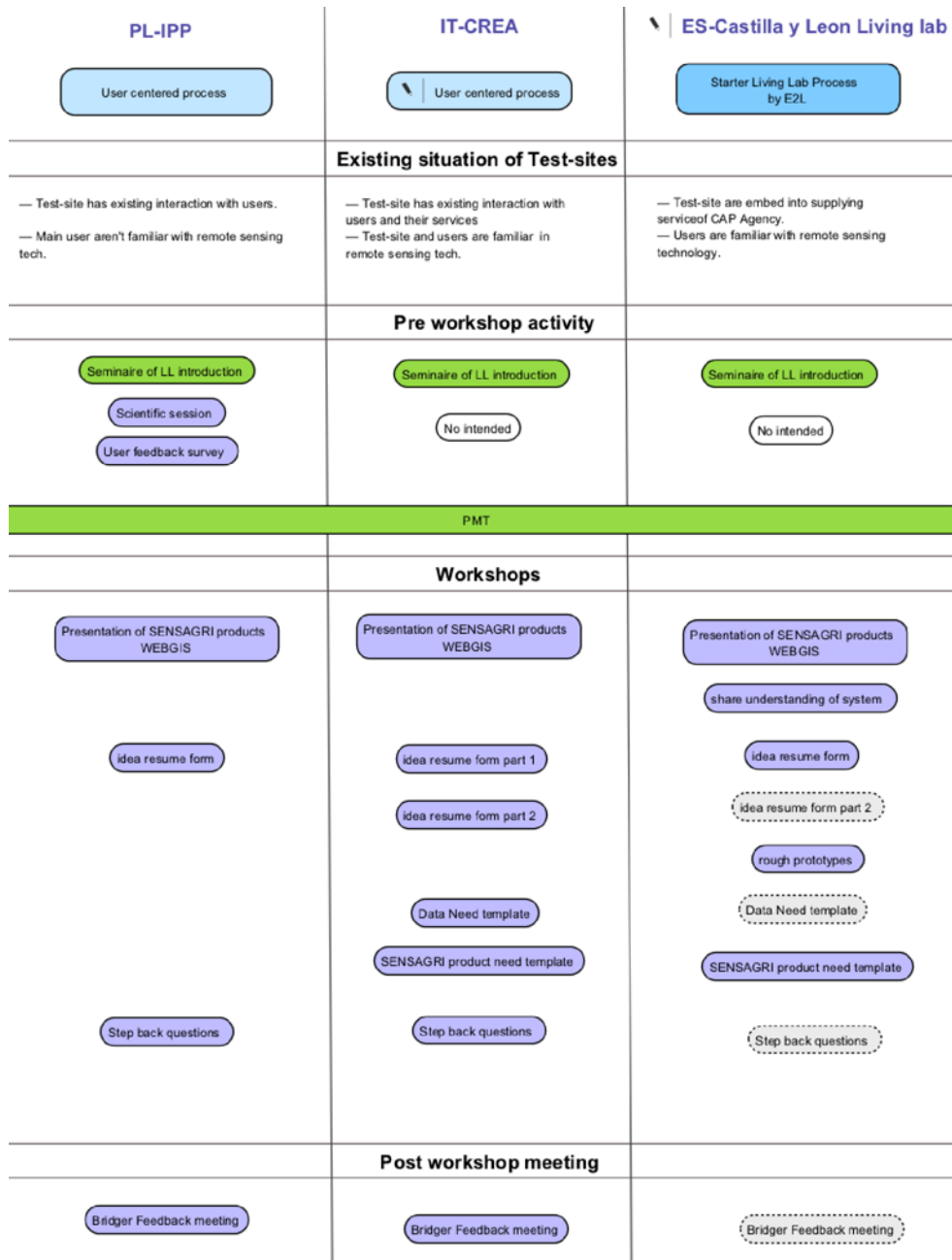


French test site Living lab process : Service design activities (AGROD'OC user community)

With AGROD'OC user community, Proof of concept of web service has been codesigned to support users to appreciate SENSAGRI product relevance in their context of use.

### **2.1.2. Transfer of the Living Lab process**

Initially it was about transferring the Living lab process set up in France to the other test-sites, but faced to different level of readiness in terms of User involvement and their EO technology maturity, the Living lab process transferred has been adapted for a positive experience and to build the necessary user requirements.



**Figure 1 Transfer of Living lab process: comparison of activities set up in different test-sites**

We can see that IPP test-site has developed more pre-workshop activities, due to the necessity to better introduces remote sensing technology to user public. Living Lab process has been setup with the necessary of activities regarding other test-sites processes.

In CREA test-site, a consequent Living lab activities has been set up and brought the highest amount of User requirements (27 of user declared UR, see #figure). CREA LL process was the latest to be set up and benefit from the learning of the transfer of the other test-sites (more tools were suggested and improved to regerate User requirements).

In ITACYL test-site, we (E2L) intervene as facilitator and we set up Service living lab introduction activities (share user system understanding, rough prototypes). Codesign ideas of web services reveals a wider tolerance margin of UR and a solution to satisfy interest of all stakeholders (european DG CAP, Paying agency (LPIS, regional administration) team, and ITACYL team).

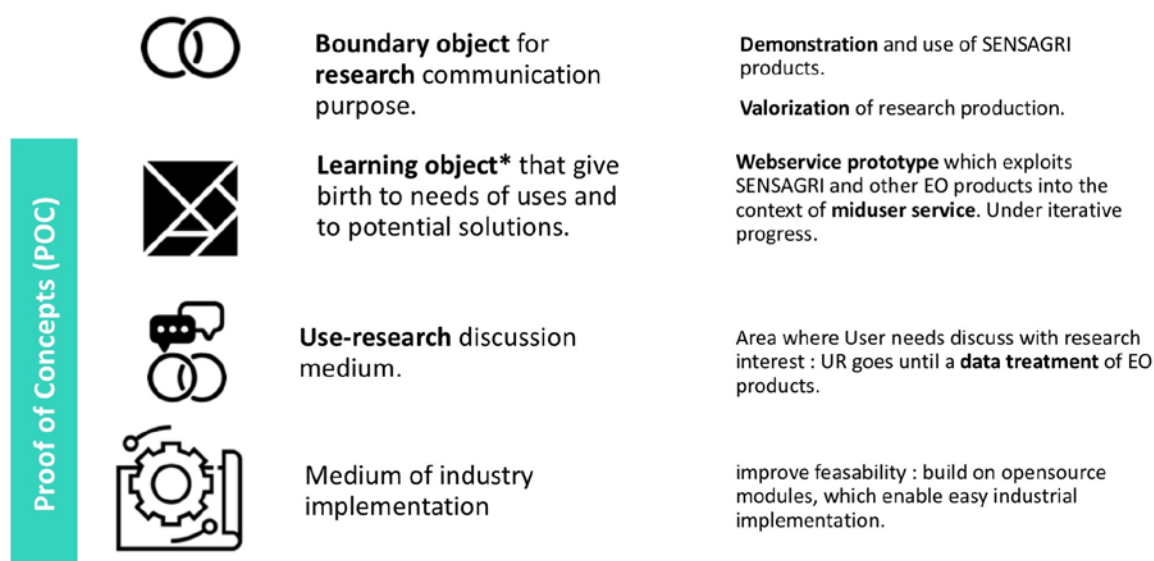
### 2.1.3. WebGIS prototypes

Four WebGIS has been build during the SENSAGRI projects to enable user to better appreciate SENSAGRI products relevance:

1. **SENSAGRI WEBGIS** (as boundary object, see next figure)
2. **Proof Of Concept (POC) « Agriculture »** : fertilization (LAI)
3. **Web tool «Agriculture»** : Visualize/compare (inter-products)
4. **POC «Irrigation»** (Combined SSM and LAI)

Each of WEBGIS prototypes play one or several roles:


**Four different roles:**



SENSAGRI WEBGIS : 4 different roles.

**Boundary object** : it fosters the researchers involvement in the Living lab Process : more than valorize their works, it an anchor to dive into Living lab process.

**Learning Object** : It is the ground of “experimentation room”, where a time, space and form is given to cross thematic expertise exchange (profession specific, interface design, service design, organizational

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design, remote sensing technology expertise, IT development). It situates the user requirement of EO products into the service.

POC prototypes weren't intended initially but necessary during the project : They bring deeper and **situated experience** of the SENSAGRI products and reveal **prototyped proofs** of User Requirement.

We consider that the POC Web tool « Visualize & compare » goes beyond the ambition of the SENSAGRI WEBGIS because it allow advanced interaction with EO products for exploration and continues the **acculturation** of remote sensing technologies to users.

### 3. Living Lab recommendations

#### Recommendation 1 (R1) : Collect User Requirements


If your the research project :	Product development <b>enters the TRL from 4 to 8</b> , in transfer phase.
We recommend :	<ul style="list-style-type: none"> <li>Collect beyond Declared UR : <b>prototyped proofs UR</b>. To situate and better balance UR in their context of use into supplying services.</li> <li>Involve active, mature user communities who <b>are eager to open their innovation process</b> to experimentation of EO products.</li> </ul>
It requires :	—

Living lab process based on **existing French user community**, with trust relationship. It enables to involve them in respect to their innovation process and build prototype to collect prototype proofs of User requirements.

#### R2 : User involvement in the definition and collect of User requirement

Same colored paragraphs have to be read jointly.

If your the research project :	Handle a <b>complex problem</b> , where the requirement and the solution are unknowable. <i>Fit of product or service <b>concerns specific users</b> and specific service-thematic situations.</i>
We recommend :	To grab the complexity of innovation's situation, <b>involve the actors of the value chain</b> : <ul style="list-style-type: none"> <li>In <b>open design</b> : through the various stages of the project and the service design steps.</li> <li><b>Answer to multiple interests</b> of stakeholders, to bring synergic efforts.</li> </ul>

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	<ul style="list-style-type: none"> <li>not only the expertises of stakeholders but the <b>tacit knowledge</b> for realistic implementation.</li> </ul>
It requires :	« identify the right place of EO products » is necessary to be developed simultaneously with « <b>structure actors mobilization</b> » to share their tacit knowledge (build trust, share the beneficiaries, etc.)

### R3 : WebGIS contribution to the project and to open innovation


If your the research project :	Aims <b>TRL 4 to 5-7</b> : Aim to reach users for <b>industrial transfer</b> purpose.
We recommend :	<ul style="list-style-type: none"> <li>Build a <b>webGIS artefact</b> embodies into a <b>service design process</b> as supplying service prototype, which enable deeper <b>Open innovation</b> process (by making accessible steps of innovation process to multiple stakehorders). It allows to dive into experimentations in a near real condition experience of SENSAGRI product in order to build high quality UR.</li> </ul>
It requires :	This implies having <b>the means and the skills</b> in software development and geomatics. The work of software development (GIS and remote sensing) is always <u>done</u> considering the users' innovation process.

### R4 : Transfer of Living lab process

#### Observation :

Living lab acculturation activities and Transfer material-efforts brought **positive experience** to european test sites. We were able to adapt Living lab Process to make SENSAGRI **partners feel secure with LL approach** : We convince and acculturate SENSAGRI partners (activities and proofs).

If your the research project :	Is focused on operational transfer technology by LL process. If projects partners firstly deal with LL process.
We recommend :	<ul style="list-style-type: none"> <li><b>Establish a Consortium agreement</b> for a more robust LL transfer, which is <u>mutally agreed</u> with partner and benefit of a <u>specific workpackage</u> for LL coordination with research project coordinator.</li> <li>Set up the Bridger role, who will operate the transferred LL process. Consider the Bridger as <b>an intermediate of innovation</b>, between users innovation process and EO products dev. <ul style="list-style-type: none"> <li>Consider the <b>LL maturity of partners</b> by acculturation activities and adaptive LL processes</li> </ul> </li> </ul>
It requires :	The dissemination of LL process requires a more ambitious goal as in SENSAGRI, therefore it requires a <b>dedicated</b> activity and coordinator.

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	Mutual acknowledgement between research activity and LL activity : misunderstanding expressed, solutions negociated,etc.
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## 4. Complementary User Requirements

### 4.1. Synthesis of SENSAGRI products use

#### 4.1.1. Description of User Requirements collection

Here is a general qualification of User Requirements (UR) : UR has been collected among different type of users, situated in different type of supplying services, which use EO products at different scale and impact different scale of user community.

Type of user	Nb of UR	Type of service	Scale of EO product use	Services Impacts on users
end-user	3	Business	plot (2)	Individual (3)
mid-user	34	Business	regional (10), Multiplot (6)	Large communities-regional (25), communities-client (22)
institution	18	Governmental	Multiplot, Regional	large communities-regional
Total	55			

Those users have different professional status and supply different type of services :

Users	are composed of	services concerned are
End-users	Farmers	support in operational tasks, pre-campaign planning, analysis of crop efficiency.
Mid-users	regional water management companies, Agronomist, Consultants, farming cooperative,	Planning, management, Decision making, Advise service, Supply chains analysis,
Institutional user	Paying agency, research council, research laboratory	Control process, Aid application process, Monitoring art regional scale, Reporting.

### Vocabulary

When we qualify the Quality of the data by "High robustness", it means "High amount of data is used in the validation phase and in the building of precision indicators (eg commission, omission, Alpha, Square, ...)".

When we qualify the Quality of the data by "Minimum robustness", it means "the validation process uses more than twice the test data and that the product has an indicator of accuracy greater than 80%".

In the following example :

	Technical specification (most repeated)	Technical specification (secondly repeated)
Precision	not declared	None.
Temp. Resol°	1 / year	None.
Quality	High robustness.	None.
Other	None.	None.

The column "Technical specification (most repeated)" means technical specifications most repeated among User requirements. The column "Technical specification (secondly repeated)" means secondly most repeated technical specifications after the first tech. specifications.

In the following example :

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	1	1	1	4	7	6	6	6	6	4	5	1

It concerns the expected duration of product accessibility to user.

Number correspond to the repetitiveness of UR among all the user requirements of an user type, and so the color of cells.

### Methodology notes


The aim of the document is to synthetize User requirement to make it more readable. Some "isolated" data were removed from technical specification tables.

UR of each product, per user type :

For end-users :

The repetition of SENSAGRI products among end-users UR :

SCM	ACM	CM	LAI	SSM	TCM	IM	YBM
0	0	1	0	2	0	0	0

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### Synthesis of User requirements for **Crop map (Seasonal Crop map, Advanced Crop map and Crop Map)** (on a total of 1 UR)

	Technical specification (most repeated)	Technical specification (secondly repeated)
Precision	not declared	<i>None.</i>
Temp. Resol°	1 / year	<i>None.</i>
Quality	High robustness.	<i>None.</i>
Other	<i>None.</i>	<i>None.</i>

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	0	1	1	1	1	0	0	0	0	0	0	0

### Synthesis of User requirements for **Surface Soil Moisture Map (SSM)** (on a total of 2 UR)

	Technical specification (most repeated)	Technical specification (secondly repeated)
Precision	not declared	<i>None.</i>
Temp. Resol°	not declared	<i>None.</i>
Quality	High robustness.	<i>None.</i>
Other	<i>None.</i>	<i>None.</i>

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	0	0	2	2	2	2	1	0	0	0	0	0

*For mid-users :*


The repetition of SENSAGRI products among mid-users UR :

SCM	ACM	CM	LAI	SSM	TCM	IM	YBM
6	2	2	9	13	4	4	2

### Synthesis of User requirements for **Crop map (Seasonal Crop map, Advanced Crop map and Crop Map)** (on a total of 10 UR)

	Technical specification (most repeated)	Technical specification (secondly most repeated)
Precision	plot scale, 10 to 30 m	As targeted in the SENSAGRI project
Temp. Resol°	1/week (3)	1 / month (2) and 1 / year (2)



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Quality	High robustness.	<i>None.</i>
Other	<i>None.</i>	<i>None.</i>

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	3	3	3	5	7	7	7	6	6	6	4	3

CM is required at its very early stage, with a minimum quality data.

The combination of CM with other SENSAGRI products (All) is acquired **2** of a total of 10 times.

In the case of Crop map, it is required at a temporal resolution of 1/week during the duration between April to November. This UR can be translated into the following statement : CM product will be used at a frequency of 1 image per week from April to September. It can be acquired once or twice during the indicated duration.

### Synthesis of User requirements for **Leaf Area index (LAI)** (on 9 UR)

	Technical specification (most repeated)	Technical specification (secondly repeated)
Precision	Plot scale, 10 to 30 m	As targeted in the SENSAGRI project
Temp. Resol°	1/week (5)	1 / year (2)
Quality	High robustness.	<i>None.</i>
Other	<i>None.</i>	<i>None.</i>

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	1	1	1	4	7	6	6	6	6	4	5	1

The combination of LAI with other SENSAGRI products (SSM and IM) is acquired **3** of a total of 9 times.

The LAI is required under Data treatments of user (mentioned min. 2 times on 9).

### Synthesis of User requirements for **Surface Soil Moisture (SSM)** (on 13 UR)

	Technical specification (most repeated)	Technical specification (secondly repeated)
Precision	plot scale, 10 to 30 m (6)	300 m (district level) (1)
Temp. Resol°	1/week (7)	1/ year (2)
Quality	High robustness.	<i>None.</i>
Other	<i>None.</i>	<i>None.</i>

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	3	4	5	10	13	12	11	11	11	9	8	3

The combination of SSM with other SENSAGRI products (SSM and IM) is acquired **2** of a total of 13 times.

The SSM is required under Data treatments of user (mentioned min. 2 times on 13).

While reading a post-treated data, it is important to users to be able to reach raw data to fact-check the compliancy of post-treated and pre-treated data.

To meet user specifications in the experiment phase, we chose to use THEIA's SSM for its strongest Precision, highest temporal resolution and Canopy penetration.

*For institutional user :*

The repetition of SENSAGRI products among mid-users UR :

SCM	ACM	CM	LAI	SSM	TCM	IM	YBM
4	0	3	7	4	1	3	0

### Synthesis of User requirements for **Crop map (Seasonal Crop map, Advanced Crop map and Crop Map)** (on a total of 7 UR)

	Technical specification (most repeated)	Technical specification (secondly most repeated)
Precision	plot scale, 10 to 30 m (4)	<i>None.</i>
Temp. Resol°	1 / year (2)	
Quality	High robustness.	<i>None.</i>
Other	<i>None.</i>	<i>None.</i>


Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	1	1	2	3	2	3	3	3	3	1	1	1

CM is required at a high robustness level in April and twice in September.

One UR prefers a duration at all the year but while removing all snow cover data.

### Synthesis of User requirements for **Leaf Area index (LAI)** (on 7 UR)

	Technical specification (most repeated)	Technical specification (secondly repeated)

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Precision	plot scale, 10 to 30 m (3)	None.
Temp. Resol°	As targeted in the SENSAGRI project	1 / year (1)
Quality	High robustness.	None.
Other	None.	None.

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	1	1	2	3	2	2	2	4	2	2	2	1

LAI is required at a high robustness level in April and twice in August.

The combination of LAI with other SENSAGRI products (CM and SSM) is acquired **2** of a total of 7 times.

### Synthesis of User requirements for **Surface Soil Moisture (SSM)** (on 4 UR)

	Technical specification (most repeated)	Technical specification (secondly repeated)
Precision	1 / km	None.
Temp. Resol°	As targeted in the SENSAGRI project	None.
Quality	High robustness.	None.
Other	None.	None.

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	1	1	1	3	3	3	3	3	3	3	3	1


The combination of SSM with other SENSAGRI products (CM and LAI) is acquired **1** of a total of 4 times.

*For all users (end-user, mid-user, Institution)*

### Synthesis of User requirements for **Tillage Change Map (TCM)** (on 5 UR)

	Technical specification (most repeated)	Technical specification (secondly repeated)
Precision	plot scale, 10 to 30 m (3)	None.
Temp. Resol°	1/week, 1 / 2 weeks (2)	None.
Quality	High robustness.	None.
Other	None.	None.

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration												

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Duration	0	0	1	3	3	3	2	2	2	2	1	0
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## Synthesis of User requirements for **Irrigation Map (IM)** (on 7 UR)

	Technical specification (most repeated)	Technical specification (secondly repeated)
Precision	plot scale, 10 to 30 m (5)	<i>None.</i>
Temp. Resol°	1 / year (3)	1 / 2 weeks (1)
Quality	High robustness.	<i>None.</i>
Other	<i>None.</i>	<i>None.</i>

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	0	0	0	3	3	4	3	3	3	2	2	0

## Synthesis of User requirements for **Yield/Biomass Map (YBM)** (on 4 UR)

	Technical specification (most repeated)	Technical specification (secondly repeated)
Precision	As targeted in the SENSAGRI project	<i>None.</i>
Temp. Resol°	1 / week	<i>None.</i>
Quality	High robustness.	<i>None.</i>
Other	<i>None.</i>	<i>None.</i>

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Duration	2	1	1	1	1	1	1	1	1	1	2	2

## 4.2. UR regarding SENSAGRI specificities


Here is a resume of all the SENSAGRI spec-focus of User requirements based on SENSAGRI specificities. See more details on the “D8.23 Synthesis of user workshop-User requirement”.

SENSAGRI Spec UR-1 :

Context of User needs : ITACYL, Paying agency

Product : All

Description of UR : Products Value to user : a robust products with permanent data, even miss of time series of raw data.

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For instance, paying agencies can detect if a fallow land sowed with melliferous species meets the EFA conditionality (EFA : environmental focus area, for environmental Aid application). In this case, it is not allowed to be harvested. Through a detailed crop map we can detect the species and through the LAI we can detect if it is mowed or harvested.

#### SENSAGRI Spec UR-2 :

Context of User needs : Regional water management company (CACG) to detect phenological phase information of crop.

Product : LAI

Description of UR : Currently the product is delivered with a mask that makes missing the data = 0. Need to be able to recover the data = 0. We suggest to translate all data under the mask = 0.

#### SENSAGRI Spec UR-3 :

Context of User needs : ITACYL, Paying agency

Product : LAI

Description of UR : the sharp decrease of green LAI is consider at the only tool with which to control pastures since 2019, since grazing cannot yet be detected. SENSAGRI products, thanks to S1 and S2 Synergy, allow to provide continuous and regularly manner EO data informations.

#### SENSAGRI Spec UR-4 :

Context of User needs : AGROd'OC, farming cooperative, will use EO products for yearly and weekly activities. For weekly activities like monitor the phenological dev of crops, informations at near real time frequency is required.

Product : LAI, SSM

Description of UR : SENSAGRI products (LAI, SSM) shall build information that are required at near real time (1 / week temporal resolution), thanks to combinaison of S1 and S2 produce efficient cloud mask.


#### SENSAGRI Spec UR-5 :

Context of User needs : Paying agency of Castile and Leon is interested in EO products that support them to monitor agriculture practice and follow the crop developments

Product : Advanced Crop Map, Tillage Change Map, Leaf Area Index Map.

Description of UR : Paying agency of Castile and Leon is interested in SENSAGRI products that let them to identify type crop in detail (such as Sensagri advanced crop map) and to identify if some agricultural practices exist at field scale (such as tillage change maps), or those that help them to detect a mowing event, or harvesting such as LAI.

#### SENSAGRI Spec UR-6 :

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Context of User needs : EEA (land monitoring service, by Hans Dufourmont) have existing products similar to SENSAGRI for their research service, like Tillage map and "Wetness product", which gives 1 good image per saison (based on S1 only). EEA is interested to complement their existing products with products with different features, like different time series.

Product : Surface Soil Moisture Map (SSM).

Description of UR : SENSAGRI products SSM shall have time series shorter than 1/saison. SENSAGRI Surface Soil Moisture is more dynamic in time series because not only base on S1 but combination of S1 and S2. Same for tillage.

### 4.3. UR regarding DIAS platform

Case 1 : the regional Paying Agency perspective

Use : processing and managing such **big amount of data** produced in paying agencies at national level in countries of large size such as Poland, Germany or France.

Recommendation : Size threshold of 90.000 Km<sup>2</sup> below which a DIAS would not be required for the monitoring CAP needs.

Description : in small-area countries like Belgium, Switzerland or Denmark, or even in Paying Agencies responsible for CAP subsidies management over a small and regional territory, such as Basque Country, Cantabria or Madrid, as happened in Spain, it would not be so relevant to have access to a DIAS platform. At that level, they will be able to ingest and process all data produced for the CAP monitoring. As an example we can mention that the Paying Agency of Castile and León having an area extension of 94.226 Km<sup>2</sup>, similar to that of Portugal or Hungary, they do not need a DIAS.

## Glossary

**MU** : Mid-user

**EU** : End-user

**CEE** : Copernicus Entrusted Entities

**EEA** : European Environment Agency

**JRC** : Joint research Center

**CSS** : Copernicus Sensagri Services

**CSR** : Copernicus Services Requirements.

**UR** : User requirements

**POC** webservice : Proof-of-concept of webservice., prototype of webservice