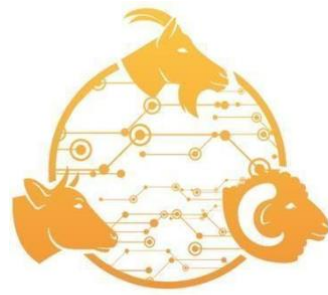


**Smarter livEstock Breeding through Advanced Services Tailoring Innovative and multi-sourceE data to users' Needs**

## **Fifth Semester Activity Report**



**SEBASTIEN**

**January – June 2024**

<b>European Commission</b> Health and Digital Executive Agency (HaDEA)  <b>Connecting Europe Facility</b>	<b>Interim report</b>
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<b>1. INFORMATION ON THE ACTION</b>	
Grant Agreement N°	INEA/CEF/ICT/A2020/2373580
Action Title (Art. 1 of G.A.)	SEBASTIEN
Action number (Art. 1 of the G.A.)	2020-IT-IA-0234

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## 2. IMPLEMENTATION OF THE ACTION<sup>1</sup>

### 2.1. Overall completion of the Action

Planned Start/End date <sup>2</sup>		Actual Start/End date		Completion <sup>3</sup>
Jan 2022	Jun 2024	Jan 2022	Oct 2024	85%

### 2.2. Completion per activity/work package

Activity 1	Title <sup>4</sup>	Planned Start/End date <sup>3</sup>		Actual Start/End date		Completion
		Project Coordination and Management	M1	M30	M1	M34
Milestone no	Title <sup>3</sup>	Planned date <sup>3</sup>		Actual date		Reached (Y/N)
2	Progress report no. 5	M30		M30		Y

Activity 2	Title <sup>3</sup>	Planned Start/End date <sup>3</sup>		Actual Start/End date		Completion
		Outlining geospatial to livestock data gathering, processing and integration steps	M1	M18	M1	M21
Milestone no	Title <sup>3</sup>	Planned date <sup>3</sup>		Actual date		Reached (Y/N)
No milestones expected						

<sup>1</sup> For Interim report: please describe the completion of the action until the end of the reporting period as specified in the Grant Agreement.  
<sup>2</sup> As specified in Art. 2.2 of the Grant Agreement.  
<sup>3</sup> The completion of the Action and of each activity/work package should be indicated as a percentage.  
<sup>4</sup> As specified in the Grant Agreement.

Activity 3	Title <sup>3</sup>	Planned Start/End date <sup>3</sup>		Actual Start/End date		Completion
	Data platform for livestock management	M6	M27	M6	M34	90%
Milestone no	Title <sup>3</sup>	Planned date <sup>3</sup>		Actual date		Reached (Y/N)
No milestones expected						

Activity 4	Title <sup>3</sup>	Planned Start/End date <sup>3</sup>		Actual Start/End date		Completion
	Stakeholders involvement: from co- design to co- evaluation	M1	M30	M1	M34	90%
Milestone no	Title <sup>3</sup>	Planned date <sup>3</sup>		Actual date		Reached (Y/N)

Activity 5	Title <sup>3</sup>	Planned Start/End date <sup>3</sup>		Actual Start/End date		Completion
	Outreach and sustainability	M1	M30	M1	M34	90%
Milestone no	Title <sup>3</sup>	Planned date <sup>3</sup>		Actual date		Reached (Y/N)
No milestones expected						

Activity 6	Title <sup>3</sup>	Planned Start/End date <sup>3</sup>		Actual Start/End date		Completion
	Open Data and Services Exploitation Portal for the livestock sector	M1	M30	M1	M34	90%

<b>Milestone no</b>	<b>Title<sup>3</sup></b>	<b>Planned date<sup>3</sup></b>	<b>Actual date</b>	<b>Reached (Y/N)</b>
16	Final release of the service portal	M30	M30	Y

**2.3. Description of the implementation of the Action, including the actual status at the end of the Action (or of the reporting period) and possible deviations from the planned activities, and, if applicable, compliance with any relevant specific provisions as indicated in the Annex I of the GA**

**Activity 1 - Project coordination and management**

Task 1.1: *Management of the Action (M1-M34)*

Task 1.2: *Financial Management (M1-M34)*

**Description of activities**

Main outputs achieved (as per GA and milestones):

- Fifth progress report

The following activities have been performed:

- Planning and coordination of monthly Activity Leaders meetings
- Planning and organization of periodic Project Management Board meetings
- Coordination and management of technical and scientific activities, particularly focusing on A4 - *Stakeholders involvement: from co- design to co-evaluation*, A5 - *Outreach and sustainability*, and A6 - *Open Data and Services Exploitation Portal for the livestock sector*.
- Monitoring of financial aspects of the Action.
- Production and submission to the P.O. and Hadea of all necessary documentation for the project amendment request until October 2024, i.e., Technical report, new Grant Agreement, Amendment letter, new GANTT chart. The amendment was accepted and communicated by email on April 29th, 2024.

**Activity deviations:**

**Milestones:**

- no. 2 - Progress report

**Deliverables:**

- None

**Lead partner:** CMCC

**Other contributing partners:** All

## **Activity 2 - Outlining geospatial to livestock data gathering, processing and integration steps**

*Task 2.1: Review and pre-selection of indicators/indices (M1-M3)*

*Task 2.2: Identify existing data sources and ways for access and extraction (M4-M9)*

*Task 2.3: Designing of new project-customized variables (M1-M6)*

*Task 2.4: Planning data elaboration and integration steps (M7-M21)*

### **Description of activities**

Main outputs achieved (as per GA and milestones):

- Activity concluded at M21

The following activities have been performed:

-

### **Activity deviations:**

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### **Milestones:**

- None

### **Deliverables:**

- None

**Lead partner:** UNITUS

**Other contributing partners:** AIA, UCSC, CMCC, NATURE4.0, CINECA

## **Activity 3 - Data platform for livestock management**

Task 3.1: *Livestock sector and environmental data gathering (M6-M15)*

Task 3.2: *Data access layer (M10-M34)*

Task 3.3: *Database of environmental, vegetation and physiological conditions' indicators/indices (M13- M34)*

### **Description of activities**

Main outputs achieved (as per GA and milestones):

- No main outputs expected for the fifth semester

In addition, the following activities have been performed:

- Data Lake drivers for Sentinel data management completed.
- Pipeline for Service 3 indicators computation completed.
- Bug fixing activities on various API to serve different services (e.g., adapted color map, images padding solving, etc.)
- All required datasets ingested and available on the Data Lake. Last datasets to be added are related to some long-term indicators computed in stables (e.g., Service 1 and 2).
- DCAT-AP for European Data Portal on-boarding under testing.

### **Activity deviations:**

-

### **Milestones:**

- None

### **Deliverables:**

- D3.2 - Report on analytical and ML/AI procedures for the indicators/indices database ingestion

**Lead partner:** CMCC

**Other contributing partners:** CINECA, NATURE4.0, UCSC, UNITUS, AIA



## **Activity 4 - Stakeholders involvement: from co-design to co-evaluation**

Task 4.1: *Stakeholders' engagement (M1-M34)*

Task 4.2: *Tailoring data, indicators and tools (M7-M23)*

Task 4.3: *Evaluating the services with stakeholders (M19-M34)*

### **Description of activities**

Main outputs achieved (as per GA and milestones):

- No main outputs expected for the fifth semester

The following activities have been performed:

- Stakeholders' involvement in Verona agricultural fair. Sebastien services were presented to stakeholders, who were then asked to fill a survey. The survey included suggesting improvements and scoring the utility of the service and the quality of the service visualization from 1 to 5.
- General report on the stakeholders' comments and perception on the services, collected along the stakeholders' engagement events

### **Activity deviations:**

-

### **Milestones:**

- None

### **Deliverables:**

- None

**Lead partner:** UCSC

**Other contributing partners:** UNITUS, CMCC, AIA



## **Activity 5 - Outreach and sustainability**

Task 5.1: *Communication and Dissemination (M1-M34)*

Task 5.2: *Lessons learned: toward services sustainability and upscaling (M19-M34)*

### **Description of activities**

Main outputs achieved (as per GA and milestones):

- No main outputs expected for the fifth semester

The following activities have been performed:

- 7th Outreach Team meeting held online on January 16th, 2024
- Creation of news accounting for progress within the project, including update on IoT sensors, face-to-face event with stakeholders in Verona (FierAgricola 2024) and the project presentation during AgriUmbria 2024
- Dissemination of news on the project's social media
- In collaboration with AIA and CMCC, organization of a face-to-face event with stakeholders, held on April 19th in Benevento during CampaniAlleva 2024
- Review and update of the event GANTT
- Preparation of M12

It is worth noting that on January 29th, CMCC presented the SEBASTIEN project in the monthly insert of Sole24Ore called "Scenari - Guida, ricerca e innovazione". The article illustrates the rationale behind the project, along with its goals, services, applications, and the partners involved.

Concerning Task 5.2 - *Lessons learned: toward services sustainability and upscaling*, the questionnaire previously drafted was finalized and circulated among partners to collect responses.

### **Activity deviations:**

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### **Milestones:**

- None

### **Deliverables:**

- None

**Lead partner:** UNITUS

**Other contributing partners:** All

## **Activity 6 - Open Data and Services Exploitation Portal for the livestock sector**

Task 6.1: *Open Data Policy (M1-M12)*

Task 6.2: *Open Data Catalogue (M1-M34)*

Task 6.3: *Open Data and Services Exploitation Portal (M13-M34)*

Task 6.4: *Visualization and dissemination tools (M13-M34)*

### **Description of activities**

Main outputs achieved (as per GA and milestones):

- Milestone 16: Final release of the portal

In addition, the following activities have been performed:

- Periodic meetings to coordinate the development of the services with the participation of CINECA, CMCC, UNITUS, AIA, UCSC and NEATEC.
- Development of the front-end module for the Sebastien services portal. Users' stables and pastures management is implemented in the MySebastien section of the Portal.
- Integration of the Data Lake APIs into the Services Portal.
- The Sebastien Exploitation Portal is available and accessible at the URL:  
<https://dds.sebastien-project.eu>  
All the services are freely available after registration. The portal is hosted by CINECA cloud infrastructure.
- The development of the SEBASTIEN mobile App to allow users to access services via mobile is ongoing. The test version of the App is available in the dedicated Playstore.

### **Activity deviations:**

- None

### **Milestones:**

- Milestone 16: Final release of the service portal

### **Deliverables:**

- None

**Lead partner:** CINECA

**Other contributing partners:** CMCC, UNITUS, AIA, UCSC, NATURE4.0, NEATEC



**2.4. Conclusions on results of the Action, including the impact of the possible deviation on 1) the objectives of the action, 2) the completion of the planned activities and 3) the cost-breakdown**

During the 5th semester, the amendment request was submitted on March 27th with the aim of extending the project duration by 4 months (from June to October 2024). All necessary documentation was produced, and the amendment was accepted by email from Hadea on April 29th. Following the rescheduling of the project duration, the deadline for the remaining milestones and deliverables was extended in line with the new needs of the project and its developments, as well as the ongoing Activities (1, 3, 4, 5, 6). According to this rescheduling, all Activities are in line with the new planned timeframe and the new GANTT.

### 3. VISIBILITY OF UNION FUNDING

#### What measures have been taken to publicize the Action, including EU funding (GA II.7.1)?

During the fifth semester, the SEBASTIEN project was promoted by partners at the following events:

- *SEBASTIEN article published in Sole24Ore newspaper*

On January 29th, 2024, CMCC presented the SEBASTIEN project in the monthly insert of Sole24Ore called "Scenari – Guida, ricerca e innovazione". The article illustrates the rationale behind the project, along with its goals, services, applications, and the partners involved. The article was a great opportunity to disseminate the project to a large audience.

- *SEBASTIEN services presented during Fieragricola 2024*

From February 1st to 3rd, SEBASTIEN services were presented to the individual stakeholders who attended the 116<sup>th</sup> Fieragricola held in Verona. The UCSC team composed of Matilde Passamonti, Prof. Paolo Ajmone Marsan, Prof. Riccardo Negrini, Elisa Somenzi, Mariantonietta Palazzo, and Maria Antonietta Palumbo, attended the three days of the fair and handed out assessment questionnaires to collect feedback.

- *SEBASTIEN project presented during Agriumbria 2024*

On April 6th, 2024, a conference on "The barn of the future in the present" was held at Agriumbria in Bastia Umbra (PG), organized by ANGA Umbria. Daniele Pietrucci (University of Tuscia) gave a presentation entitled "The 4.0 technologies at animal genetics service", which mentioned the SEBASTIEN project and its services.

- *SEBASTIEN'S SUCCESSFUL EVENT @CAMPANIALLEVA 2024*

On April 19<sup>th</sup>, 2024, the SEBASTIEN project was introduced at the Exhibition Center in Benevento during the CampaniAlleva 2024 event (Southern Italy's largest livestock exhibition). The project was presented at "Sala Convegni e Mostra d'Arte" by Riccardo Negrini (AIA). The meeting was a chance to illustrate the project objectives and Sebastien DDS including focusing on Service 3 regarding pastures. The event was attended by quite a few breeders, breeder representatives and interested people.

#### 4. OTHER SOURCES OF EUROPEAN UNION FUNDS

**If applicable, provide information about other sources of EU funds (CEF, ERDF, Cohesion Fund, H2020, TEN, EEPR, EIPA, etc.) used for the action (including previous or subsequent phases not covered by the Grant Agreement).**

Not applicable.

#### 5. COMPLIANCE WITH EU LEGISLATION

**Where relevant, provide information on the compliance with EU legislation regarding other matters (notably public procurement, competition, regulatory matters, etc...).**

During the fifth semester, there haven't been any relevant compliance matters to report.



## 6. COMPLIANCE WITH CORE PLATFORM AND POLICY OBJECTIVES

**Information on the compliance with the core service, including conformity with relevant technical specifications and alignment with the policy objectives of the Digital Service Infrastructure (as specified in the relevant CEF Telecom Work Programme).**

No activities related to compliance have been carried out yet.