



# **NIVA – NEW IACS VISION IN ACTION**

## WP3 Harmonisation and interoperability

### D3.1 Common Glossary

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# 1 Foreword

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## 1.1 General objectives

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The Common Glossary aims to provide definitions and/or explanations about the general terms used in the NIVA project documents. The Common glossary is the result of the task T3.1: “This task will set-up and maintain this common glossary as a living document. The common glossary will define the main terms used in the NIVA project; it will ensure consistent use of terminology and facilitate communication, both within the project and outside of it.”

More accurately, the glossary should ensure common understanding within the NIVA project, by enabling partners to use same terms with same meaning. The common glossary should also have a practical benefit, by avoiding the necessity to have long glossaries at the beginning of each NIVA deliverable. Last but not least, the common glossary should be an help for external communication, enabling external readers to decode the various NIVA deliverables and other outcomes.

## 1.2 Glossary versions

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The Common Glossary is a living document that should be officially delivered on M3, M12, M24 and M36 of the project, i.e. respectively 3 months, 12 months, 24 months and 36 months after the official beginning of the project (that took place on 01 June 2019).

This version is a non-official version of the Common Glossary; its aim is to provide the whole set of terms used in the NIVA project and requiring a definition, including the terms that appeared between M36 (date of last official version) and M42 (date of the end of NIVA project).

The current version of the common glossary is structured as the previous versions, with 3 tables describing the project structure (partners, Work Packages and Use Cases) and 3 other tables describing other terms of interest (organisms, CAP or NIVA terms, general acronyms).

Whereas the project structure part is stable, most changes and enrichments are related to the last tables about organisms, CAP or NIVA terms and general acronyms.

## 2 Glossary

### 2.1 Project structure

Consortium partners			
Name	Acronym	Country	Category / Description
Stichting Wageningen research	WR	Netherlands	Research Institute for healthy food and living environment
Ministerie van economische zaken en klimaat	RVO	Netherlands	Paying Agency
Ministry of Food, Agriculture and Fisheries, Danish agrifish Agency	DAA	Denmark	Paying Agency
Pollumajanduse registre ja Informatsiooni amet	ARIB	Estonia	Paying Agency
Agence de services et de paiement	ASP	France	Paying Agency
Organismos pliomon ke Eleghou kinotikon enishyseon Prosanatolismou keeggyiseon	OPEKEPE	Greece	Paying Agency
Department of agriculture, food And the marine	DAFM	Ireland	Paying Agency
Agenzia per le erogazioni in Agricoltura agea	AGEA	Italy	Paying Agency
National paying agency	NPA	Lithuania	Paying Agency
Fondo espanol de garantia Agraria	FEGA	Spain	Paying Agency
Neuropublic ae pliroforikis & Epikoinonion	NP	Greece	Small or Medium Enterprise in Information & Communication Technologies
Abaco spa	ABACO	Italy	European company specialist in IACS
Institut National de l'Information Géographique et Forestière	IGN	France	National Mapping Agency, data producer of French LPIS, research activities in remote sensing , ...
E-geos spa	EGEOS	Italy	Company in Earth Observations

Consortium partners			
Name	Acronym	Country	Category / Description
Bureau européen de l'environnement AISBL	EEB	Belgium	Network of environmental citizens' organisations in Europe
Zuidelijke land- en Tuinbouworganisatie vereniging	ZLTO	Netherlands	Organisation of farmers
Institut National de la Recherche Agronomique	INRA	France	Agricultural Research Institute
Empresa de transformacion Agraria sa	TRAGSA	Spain	State owned company providing technical support to the Spanish Ministry of Agriculture and Environment
Waterford institute of Technology	WIT	Ireland	Research on Information & Communication Technologies
Teagasc - agriculture and food Development authority	TEAGASC	Ireland	Agri-food research institute
Tartu ulikool	UT	Estonia	Research institute on remote sensing, space technology, ...
Consiglio per la ricerca In agricoltura e l'analisi Dell'economia agraria	CREA	Italy	Council for Agricultural Research and Economics – research institution on agriculture and forestry.
Itree lietuva uab	ITREE	Lithuania	Small or Medium Enterprise in information system development
Landbrug & fodevarer f.m.b.a.	LANDBRUG	Denmark	Knowledge and innovation centre of Danish agriculture.
Sinergise laboratorij za Geografske informacijske Sisteme doo	SINERGISE	Slovenia	Small or Medium Enterprise in geospatial information systems
Instituto tecnologico agrario De castilla y leon	ITACyL	Spain	Technical Agricultural Research Institute of Castilla and Leon.
Consejeria de agricultura , Pesca y desarrollo rural	CAPDER	Spain	Regional Paying Agency of Andalusia.

**Table 1 Consortium partners**



Work Packages				
Name	Acronym	Description	Leader	Co-leader
Coordination and Management	WP1	<p>This Work Package (WP) covers the project’s coordination and management tasks: day-to-day project and financial management, internal communication, organisation of meetings, reporting, monitoring of deadlines and related actions.</p> <p>It will also monitor and evaluate project progress and quality and propose corrective measures.</p>	WR	DAFM
Large-Scale Pilot	WP2	<p>This work package aims to design, deploy, test and validate highly demanded ICT tools and services for a modern Common Agricultural Policy (CAP) with significant reduction of the socio-economic costs across member states, increasing target communities, addressing farmer’s needs, EU demands, and other stakeholder’s requests. WP2 manages (more than) 12 months of trials in real conditions at least in the nine countries involved in the project.</p>	TRAGSA	DAA
Harmonisation and Interoperability	WP3	<p>WP3 provides interoperability specifications to the NIVA project, ensuring that the IACS components developed by the project can be efficiently used by the identified local test sites and then effectively reused by a wider community (such as other Member States or other application domains). Interoperability and open standards will be a necessary condition to ensure the migration from national experiences to pan-European solutions.</p>	IGN	OPEKEPE
Knowledge Information System	WP4	<p>The main objective of this work package is to provide a technical environment (code and documentation repository) and support services to ensure that digital solutions, e-tools and documentation (project assets) produced within the use cases are collected, meet defined standards, and can be effectively disseminated and efficiently re-used.</p>	AGEA	
Innovation	WP5	<p>This work package will set-up and manage an</p>	RVO	ARIB

Work Packages				
Name	Acronym	Description	Leader	Co-leader
Ecosystem		Innovation Ecosystem that provides fertile soil for development and uptake of innovative techniques and methods which are developed during and after the project. This work package focuses on a highly efficient and user-friendly communication strategy to facilitate active involvement of the different (groups of) stakeholders and actors in creating impact during and after the project		
Open Call	WP6	<p>This work package will set-up and manage a call mechanism for software components and pilot validations. To support a new vision for IACS, specific or upcoming innovations cannot be solely developed within the NIVA consortium but need to involve wider expertise outside NIVA helping to realize the vision. Through this call mechanism, NIVA will be able</p> <ul style="list-style-type: none"> <li>- to build on best expertise available within EU Member states to realize specialised innovations;</li> <li>- to validate and scale out innovations beyond their initial development within the NIVA use cases</li> </ul> <p>to ensure flexibility in the work plan to absorb new developments, that need further exploration.</p>	WR	
Ethics requirements	WP7	This work package sets out the 'ethics requirements' that the project must comply with.	WR	

**Table 2 Work Packages**

Use Cases			
Name	Acronym	Description	Leader
EO Monitoring and Traffic Lights	UC1a	UC1a will demonstrate how the “monitoring” can be implemented and deployed. The Use Case will review the latest data processing algorithms based on current or past projects, review of monitorable eligibility criteria (markers) at the parcel or farm level, define set of	OPEKEPE

Use Cases			
Name	Acronym	Description	Leader
		common and local eligibility criteria to be monitored in real condition and modelling observed conditions in relation with traffic light codes and eligibility scenarios.	
Agro-environmental monitoring	UC1b	UC1b will contribute to a continuous agro-environmental and country-level monitoring and reporting through identifying relevant indicators and models at MS & EU level integrating appropriate data streams from EO monitoring and application forms, Farm Management Information System (FMIS) and other reference data.	ASP
Farmer Performance	UC1C	<p>There is a need derived from new CAP monitoring requirements (done by consultants, paying agencies, NGO's, etc) to get data from IACS to evaluate farmers' impact on environment, climate, economical sustainability.</p> <p>UC1c demonstrates enhanced links between IACS and farmer. The UC1c pilot results in mapped information systems and demonstrated solutions. The pilot establishes evidence for recommended standards and data structure of interfaces (APIs) between different systems.</p>	ARIB
Prefilled applications	UC2	UC2 aims to develop a model that, with a help of automation, will collect large part of application data: from the registries, from continuous monitoring, from other public bodies, from previous years' aid applications, to ensure that the data submitted in the aid application is compliant and verified.	NPA
Farm registry	UC3	Modernised CAP will need an extensive use of information and access to various data sources to support a wider monitoring, to verify the claims, to make easier the control and information crossover to Public Administrations and to guide the application processes and finally to support a seamless experience for the farmers. UC3 will develop and architecture and associated tools for a new Farm Registry that will be such source of information	FEGA
Geotagged photos	UC4a	UC4a will fully customize and demonstrate an application for mobile devices to facilitate a farmer and/or advisor to upload a geotagged photograph as a supporting evidence to the support received, or to be received.	DAFM

Use Cases			
Name	Acronym	Description	Leader
Machine data in Geo-spatial 'on-line' aid application as added value data	UC4b	This Use Case explores the use of data from farm machines, as a data source for IACS and as an added value data source for the farmer. This data can serve as a source to update the farmer's agricultural parcels in Geo-spatial 'on-line' aid application (GSAA) and to control some CAP measures.	RVO
Land Parcel Identification System update & change detection	UC5a	The objective of this UC is to demonstrate the automatic detection and updating of reference parcels and areas like ecological focus areas, which are subject to land cover changes and hereby to focus on updating activity of those parcels.	DAA
Scheme Eligibility and Payments Eligibility: Click-and-Pay	UC5b	UC5b will define the governance and design, prototype and test the end-to-end process to achieve a seamless claim ('Click and Pay'), by piloting, for example, the Smart Contract concept onto the existing IACS distributed ledgers. UC5b will also create an EU-wide simulation tool to quantify the value of payment rights under the Basic Payment Scheme.	AGEA

Table 3 Use Cases

## 2.2 Other terms

Organisms			
Name	Acronym	Definition	Explanation
Paying Agency	PA	In each Member State, the administration in charge to manage the CAP subsidies management.	Paying Agencies are main partners of the NIVA project.
Policy Board	PB	Policy Board is part of the NIVA management structure, it is composed of representatives of the Paying Agencies who are members of the NIVA consortium, it is in charge of the strategic direction of the project.	
Project Management	PMB	Project Management Board is	For the NIVA project, the

Organisms			
Name	Acronym	Definition	Explanation
Board		responsible for operational management of the project. It is composed of the coordinator, the co-coordinator and the WP leaders.	coordinator of PMB is WR and the co-coordinator is DAFM.
Project Coordinator	PC	Project coordinator has the overall responsibility for the achievements of the project objectives.	The project coordinator of NIVA is WR.
General Assembly	GA	The General Assembly is composed of one authorised representative from each partner and decides on all elements of importance for the consortium.	
Project Officer	PO	The person in charge of following the NIVA project, on behalf of European Commission.	The PO officer comes from REA (Research Executive Agency)
Reference Group		Group of Paying Agencies outside the NIVA consortium. Purpose of the Reference Group is to ensure that the NIVA project may benefit to the whole EU community.	
Stakeholder Forum		Industry partner group of the NIVA project (i.e. farmer organisations, IT firms, geo-firms, machinery companies). This group will be invited to dissemination and learning events of the NIVA project.	
Agricultural Industry Electronics Foundation	AEF	AEF is an independent organization of equipment manufacturers and associations, aiming to improve cross-manufacturer compatibility of electronic and electric components in agricultural equipment, and to establish transparency about compatibility issues.	The NIVA Use Case on machine data (UC4b) is cooperating with AEF.
Agdatahub		Platform to protect and valorize the French agricultural data. The platform manages consentments and data exchanges.	Potential partner for NIVA and follow-up projects
AgGateway		AgGateway is a global, non-profit organization whose members	The NIVA Use Case on machine data (UC4b) is cooperating

Organisms			
Name	Acronym	Definition	Explanation
		develop standards and other resources so that companies can rapidly access information. In the domain of agriculture, it has developed the ADAPT standard.	withAgGateway.
AggroApps		ICT company providing services for farmers, agricultural consultants, agri-food and agricultural insurance companies.	AggroApps is one of the sub-contractors in charge of the development of the advances EO tool for CAP monitoring (WP6)
Agro d'Oc		Regional agricultural cooperative whose members are located in Occitany (South-West of France)	Agro d'Oc is contributing to NIVA Use Case on agro-environmental indicators (UC1b)
Agroguia		Agroguia is a Spanish company that provides an integrated system for auto navigation of farm machines to the agriculture industry; it also provides a web-app for visualizing the work done in the field.	The NIVA Use Case on machine data (UC4b) envisaged to cooperate with Agroguia.
Agricultural Knowledge and Information System	AKIS	Agricultural Knowledge and Information Systems (AKIS) comprise the institutions and organizations that generate and disseminate knowledge and information to support agriculture production, marketing, and post-harvest handling of agricultural products and management of natural resources. Most AKIS projects support agricultural research, extension, or education activities, which are increasingly viewed as components of an inter-related system.	Most AKIS projects support agricultural research, extension, or education activities, which are increasingly viewed as components of an inter-related system.
Akkerweb		Akkerweb is a Dutch company that is the editor of a FMIS also called Akkerweb.	The NIVA Use Case on machine data (UC4b) is cooperating with Akkerweb.
Alliance for Internet of Things Innovation.	AIOTI	AIOTI aims to strengthen the dialogue and interaction among Internet of Things stakeholders.	
Permanent Assembly of Agriculture Chambers	APCA	APCA is a French farmer organisation; it is also the editor of a FMIS (MesParcelles)	The NIVA Use Case on agro-environmental monitoring (UC1b) is cooperating with APCA.

Organisms			
Name	Acronym	Definition	Explanation
Agricultural Interoperability and Analysis System	ATLAS	ATLAS is a H2020 project whose goal is the development of an open interoperability network for agricultural applications and to build up a sustainable ecosystem for innovative data-driven agriculture.	
Agriculture Virtual Laboratory	AVL	A new Virtual Lab focusing on agriculture launched by ESA in September 2020. AVL will include a community open science tool, where EO satellite data, algorithms and derived products can be accessed, shared, visualised, processed and validated.	The AVL is expected to ensure the future maintenance and evolution of the Sen4CAP assets.
BayWa		BayWa is a globally active group with the core segments of, Energy, Agriculture and Building Materials, as well as the development segment Innovation & Digitalisation. BayWa is the editor of an FMIS (Farmfacts)	BayWa was envisaged for the testing of UC1b on machine data.
Bogballe		Bogballe is one of the world's leading manufacturers of fertiliser spreaders.	The NIVA Use Case on machine data (UC4b) is cooperating with Bogballe.
Community on Agricultural Performance Innovation and Geo-Information	CAPIGI	CAPIGI is the network for geospatial experts active in agriculture. It brings together the different stakeholders: Government, Industry, Sector & Research. CAPIGI purpose is to connect people from these stakeholder groups to discuss the application of geospatial data and systems in agriculture.	CAPIGI and NIVA have organized common public webinars about CAP related topics.
Common Agriculture Policy for Green Deal	CAP4Green Deal	Name of a project proposed for the call HORIZON-CL6-2022-GOVERNANCE-01-05 and aiming to monitor Strategic National Plans.	The project has been proposed by a some NIVA partners. The proposal includes a few follow-up activities of the NIVA project.
European Agriculture Machinery Association	CEMA	CEMA is the association representing the European agricultural machinery industry.	Key stakeholder at EU level for NIVA project. The NIVA Use Case on machine

Organisms			
Name	Acronym	Definition	Explanation
		With 10 national member associations, the CEMA network represents both large multinational companies and numerous European SMEs active in the sector.	data (UC4b) has cooperated with Fendt
(Agriculture) Civil Dialog Group	CDG	The civil dialogue group on the common agricultural policy maintains a regular dialogue on all matters relating to the CAP the common agricultural policy and its implementation). It is organised by the European Commission.	NIVA project was presented to the Agricultural Civil Dialog Group
Centre of Spatial Research on Biosphere	CESBIO	CESBIO is a French research unit that aims to develop knowledge on continental biosphere functioning by wide use of spatial remote sensing technologies.	CESBIO is linked to INRAE and in NIVA, it is strongly contributing to activities about carbon and nitrate indicators (UC1b)
General Commissariat for Sustainable Development	CGDD	Unit of the French Ministry of Ecological Transition in charge of providing data and knowledge for Sustainable Development	CGDD has shown interest for the agro-environmental indicators of NIVA UC1b.
Consumers Health Agriculture and Food Executive Agency	CHAFEA	The Consumers, Health, Agriculture and Food Executive Agency (CHAFEA) is an executive agency of the European Union, set up by the European Commission to manage four programs on its behalf, in the domains of health, consumer protection, food safety and the promotion of European agricultural products.	CHAFEA has been identified by NIVA as a potential user of IACS data
Italian Confederation of Farmers	CIA	Italian farmer organisation	CIA is contributing to NIVA Use Case on Seamless Claim (UC5b)
National Center of Spatial Studies	CNES	French Spatial Agency	
National Confederation of Growers	COLDIRETTI	Italian farmer organisation gathering more than 1.6 million farmers	COLDIRETTI is contributing to NIVA Use Case on Seamless Claim (UC5b)
General Confederation of Italian Agriculture	CONF AGRICOLTURA	Italian farmer organisation, among the main ones.	CONFAGRICOLTURA is contributing to NIVA Use Case on Seamless Claim (UC5b)



Organisms				
Name	Acronym	Definition	Explanation	
Conferation of Producers in Agriculture	COPAGRI	Italian farmer organisation	COPAGRI is contributing to NIVA USE Case on Seamless Claim (UC5b)	
Committee of Professional Agricultural Organisations - General Committee for Agricultural Cooperation in the European Union	COPA-COGECA	European umbrella organisation representing farmers and agri-cooperatives (Copa represents over 11 million farmers whilst Cogeca represents the interest of some 22,000 agricultural cooperatives).	Key stakeholder at EU level for NIVA project.	
Community Plant Variety Office	CPVO	The CPVO is a self-financed European Union agency, which manages the European Union system of plant variety rights covering the 27 Member States. Its task is to administer plant breeders' rights, a form of intellectual property right relating to plants.	CPVO has been identified by NIVA as a potential user of IACS data.	
Dacom		Dacom is a Dutch company providing sensor equipment, data driven software and advisory services for agriculture.	The NIVA Use Case on machine data (UC4b) is cooperating with Dacom.	
Directorate-General for Defence Industry and Space	DEFIS	Directorate, of the European Commission , established in January 2021, that leads the European Commission's activities in the Defence Industry and Space sector.	DEFIS is one othe potential EU bodies that might beneficiate from IACS data.	
DEMETER	DEMETER	DEMETER is a H2020 project aiming to large-scale deployment of farmer-driven, interoperable smart farming-IoT (Internet of Things) based platforms.	DEMETER has some common partners (Tragsa, Teagasc) as NIVA and is also dealing with interoperability.	
DIONE	DIONE	DIONE is a H2020 European project from January 2020 to June 2022 aiming to provide an integrated EO-based toolbox for modernising CAP area-based compliance checks and assessing respective environmental impact	DIONE has some common members (NPA and Sinergise) and some common topics (EO Monitoring, geotagged photos agro-environmental indicators) with NIVA	
Directorate-General for Agriculture and	DG AGRI	DG AGRI is a Directorate general of the European Union. The DG AGRI is responsible for the	Key stakeholder for NIVA project. Funder (with DG CNECT) of the	

Organisms			
Name	Acronym	Definition	Explanation
Rural Development		European Union policy area of agriculture and rural development. The work of the DG AGRI is closely linked with the Common Agricultural Policy.	project.
Directorate-General for Climate Action	DG CLIMA	DG CLIMA is a Directorate general of the European Union ; it leads international negotiations on climate, helps the EU to deal with the consequences of climate change and to meet its targets for 2020, as well as develops and implements the EU Emissions Trading System	Key stakeholder for NIVA project.
Directorate-General for Communications Networks, Content and Technology	DG CNECT	DG Connect is a Directorate general of the European Union. DG Connect is responsible for managing the Digital Agenda.	Key stakeholder for NIVA project. Funder (with DG AGRI) of the project.
Directorate-General for the Environment	DG ENV	DG ENV is the European Commission department responsible for EU policy on the environment. It aims to protect, preserve and improve the environment for present and future generations, proposing and implementing policies that ensure a high level of environmental protection and preserve the quality of life of EU citizens.	Key stakeholder for NIVA project.
Directorate-General for Maritime Affairs and Fisheries	DG MARE	The Commission's Directorate-General for Maritime Affairs and Fisheries is responsible for the policy area of fisheries, the Law of the Sea and Maritime Affairs.	DG RTD is one othe potential EU bodies that might beneficiate from IACS data.
Directorate-General for Research and Innovation	DG RTD	The Commission's Directorate-General for Research and Innovation is responsible for EU policy on research, science and innovation, with a view to help create growth and jobs and tackle our biggest societal challenges.	DG RTD is one othe potential EU bodies that might beneficiate from IACS data.
DigiFarm		A Norwegian agro-technical startup proposing super resolved EO-data and automatic detection	DigiFarm has provided deep resolution images for the NIVA UC2 tool about Preliminary Parcel

Organisms			
Name	Acronym	Definition	Explanation
		of field boundaries.	Boundaries Delineation.
Dijon Céréales		French farmer cooperative aiming to develop innovative, competitive and sustainable agriculture.	The NIVA Use Case on agro-environmental monitoring (UC1b) is cooperating with Dijon Céréales.
Diversification through Rotation, Intercropping, Multiple Cropping, Promoted with Actors and value-Chains towards Sustainability	DiverImpact	H2020 project whose overall goal is to promote the diversification of cropping systems, with the aim to improve productivity, help deliver ecosystem services, and support the development of resource-efficient and sustainable value chains.  The project had 34 partners from 11 countries and covered the main biogeographical regions in Europe.	The computation of indicator about nitrate lixiviation by the UC1b of NIVA is based on a method developed by the DiverIMPACT project.
Dynamics and Ecology of AgroForestry Landscapes	DYNAFOR	DYNAFOR is a French research unit that aims to generate knowledge about representations, ecological functioning, management and governance of agroforestry landscapes in order to contribute to implementation of more sustainable practices.	DYNAFOR is linked to INRAE and in NIVA, it is strongly contributing to activities about biodiversity indicator (UC1b)
eAgronom		A privately held Estonian company offering a FMIS software	eAgronom is participating in the UC1c pilot project on a voluntary basis (software offered by eAgronom is used as an example in developing APIs enabling to exchange data between IACS and FMIS).
EIONET Action Group on Land monitoring in Europe	EAGLE	EAGLE has developed a framework for the description of land cover and land use information, that enables the integration from various data sets in one single data model.	The EAGLE concepts have been used for the harmonised crop type classification of the Eurocrops project and for the harmonised list of landscape features categories of the NIVA project.
European Association of Remote Sensing Companies	EARSC	Association aiming to promote the use of Earth Observation technologies	Key stakeholder at EU level for NIVA project.
Executive Agency for Small and Medium-	EASME	The Executive Agency for Small and Medium-sized Enterprises	EASME has been identified by NIVA as a potential user of IACS

Organisms			
Name	Acronym	Definition	Explanation
sized Enterprises		has been set-up by the European Commission to manage on its behalf several EU programs in the fields of SME support, innovation, environment, climate action, energy and maritime affairs	data.
European Court of Auditors	ECA	The European Court of Auditors (ECA) is one of the institutions of the European Union, established in order to improve EU financial management. The role of the ECA is to externally check if the budget of the European Union has been implemented correctly, in that EU funds have been spent legally and with sound management.	ECA is a key stakeholder at EU level for NIVA project as CAP control is under its scope.
European Centre for Medium-Range Forecast	ECMWF	ECMWF is both a research institute and a 24/7 operational service, producing global numerical weather predictions and other data.	ECMWF provides meteorological data that may be used for the computation of Carbon indicator Tier 3 (NIVA UC1b).
European Environmental Agency	EEA	The European Environment Agency (EEA) is an agency of the European Union, whose task is to provide information on the environment.	Key stakeholder at EU level for NIVA project.
European Food Safety Authority	EFSA	The European Food Safety Authority (EFSA) provides independent scientific advice on existing and emerging food risks, including animal health and welfare, plant protection and plant health and nutrition.	EFSA has been identified by NIVA as a potential user of IACS data
European Forum for Geography and Statistics	EFGS	EFGS aims to voluntary cooperation about use of geographic information systems (GIS) and statistics, e.g. for the production of geostatistics in Europe. Most members are from National Statistical Institutes or National Mapping or Cadastral Agencies.	Some NIVA results have been presented to EFGS
European Investment Bank	EIB	The European Investment Bank is a publicly owned international financial institution whose	EIB has been identified by NIVA as a potential user of IACS data

Organisms			
Name	Acronym	Definition	Explanation
		shareholders are the EU member states. Its activities focus on the following priority areas: climate and environment, development, innovation and skills, small and medium-sized businesses, infrastructure and cohesion.	
European Environment Information and Observation Network	EIONET	EIONET is a partnership network of the European Environmental Agency and its 38 member and cooperating countries. EEA and Eionet gather and develop data, knowledge, and advice to policy makers about Europe's environment.	
European Innovation Partnership on Agriculture	EIP-AGRI	The agricultural European Innovation Partnership (EIP-AGRI) works to foster competitive and sustainable farming and forestry that 'achieves more and better from less'.	
National School of Geographic Sciences	ENSG	French school on geographic sciences forming students mainly at licence & master levels.	ENSG students have conducted various training sessions about agro-environmental indicators (UC1b)
ENVISION	ENVISION	ENVISION is a European project that aims to develop innovative tools for the continuous, large scale monitoring of farm management activities with regards to sustainability, in compliance with the CAP's agri-environmental objectives. It exploits the wealth of data made available through GEOSS and Copernicus.	ENVISION has some common topics (EO monitoring) and partners with NIVA.
	EO4GEO	EO4GEO is a European project that aims to help bridging the skills gap between supply and demand of education and training in the EO/GI sector. It is 4 years project that started on January 2018.	EO4GEO provides a BoK (Body of Knowledge) that might be of interest for NIVA and for Paying Agencies.
EO Widget	EO Widget	EO Widget is a European project that deals with Earth Observation Services for supporting the	EO monitoring is common topic between NIVA and EO Widget.

Organisms			
Name	Acronym	Definition	Explanation
		Common Agricultural Policy; it aims to provide data derived from satellite images as commercial services to Paying Agencies.	
European and Mediterranean Plant Protection Organisation	EPPO	EPPO is an intergovernmental organization responsible for cooperation in plant health within the Euro-Mediterranean region.	EPPO is editing a data base, including crop types, that is of interest for NIVA.
European Petroleum Survey Group	EPSG	EPSG is an organization that maintains a widely used geodetic parameter database with standard codes, the EPSG codes, for coordinate reference systems, datums and such alike.	NIVA recommends the use of EPSG codes for identification of Reference Coordinate Systems.
European Regions for Innovation in Agriculture, Food and Forestry	ERIAFF	Network aiming to facilitate the integration of European policies in favour of innovation in agriculture, food and forestry areas	Key stakeholder at EU level for NIVA project.
European Network for Rural Development	ENRD	The European Network for Rural Development serves as a hub for exchange of information on how Rural Development policy, programmes, projects and other initiatives are working in practice and how they can be improved to achieve more.	Stakeholder at EU level for NIVA project.
European Space Agency	ESA	ESA is an international organisation of 22 member states dedicated to the exploration of space.	ESA is providing satellite images that will be used by the NIVA project.
European Telecommunications Standards Institute	ETSI	ETSI is an independent, not-for-profit, standardisation organisation in the field of information and communications.	ETSI is also providing some standards for agricultural data exchange.
Eurocrops	Eurocrops	Eurocrops is a project funded by the German Spatial Agency. It aims to provide a database containing agricultural parcels with their associated crops in all European Member States, in order to provide training data for AI processes.	Eurocrop experience in gathering and harmonising IACS data has been of interest for NIVA.

Organisms			
Name	Acronym	Definition	Explanation
European Statistical Office	Eurostat	Eurostat is a Directorate-General of the European Commission whose main responsibilities are to provide statistical information to the institutions of the European Union (EU) and to promote the harmonisation of statistical methods across its member states and candidates for accession as well as EFTA countries.	Key stakeholder for NIVA project: potential user of IACS data, source of standards of interest for NIVA
Research Institute for Agriculture, Fisheries and Food	EV ILVO	EV ILVO belongs to the Flemish Government's Agriculture and Fisheries policy area. Its mission consists of both performing and coordinating policy-supporting (aimed at the Flemish Region) scientific research and the associated public service to promote sustainable agriculture and fisheries from an economic, ecological and social perspective. The Institute for Agricultural and Fisheries Research is a multidisciplinary research and innovation institution with 4 research units: Plant Sciences, Animal Sciences, Technology and Food Science, and Social Sciences.	EV ILVO is partner of the consortium that has proposed the DATAFERT application under the NIVA WP6 call for Pilot validations
	Farm Europe	Multicultural think tank aiming to stimulate thoughts on rural economies.	Key stakeholder at EU level for NIVA project.
FarmHack	FarmHack	FarmHack is a Dutch society that supports the organisation of hackathons for innovative applications in agriculture.	FarmHack has supported the NIVA projects in the organisation of its hackathon (WP5 activity).
FarmLand	FarmLand	FarmLand was a research project (2012 – 2016) bringing together teams from France, Germany, Great Britain, Spain and Canada to test the role of landscape heterogeneity for biodiversity and ecosystem services in agricultural systems.	The Farmland project elaborated a statistical method linking diversity of landscape to biodiversity. The computation of biodiversity indicator by the UC1b of NIVA is based on this statistical method.
Fendt		Fendt is an agricultural equipment (including tractors)	The NIVA Use Case on machine data (UC4b) is cooperating with

Organisms			
Name	Acronym	Definition	Explanation
		company with a full line of products.	Fendt
Flemish department of Agriculture and Fisheries		The Department of Agriculture and Fisheries deals with the development, implementation, control and evaluation of all matters in the field of agriculture, horticulture, fisheries and the countryside.	Flemish department of Agriculture and Fisheries is partner of the consortium that has proposed the DATAFERT application under the NIVA WP6 call for Pilot validations
Food and Agriculture Organization	FAO	The Food and Agriculture Organization of the United Nations (FAO)[ is a specialized agency of the United Nations that leads international efforts to defeat hunger and improve nutrition and food security.	Some standards elaborated by FAO (crop type lists) are of interest for the NIVA project.
Farm-Oriented Open Data In Europe	FOODIE	FOODIE is a co-funded research project within the Competitiveness and Innovation Framework Programme (CIP) that took place in 2016-2017. It was dedicated to the use and promotion of open data for agricultural applications.	FOODIE project developed a data model for farm holdings, extending the INSPIRE data model of theme Agricultural & Aquacultural Facilities.
GAIA-X		GAIA-X is a project for a European meta-cloud. The project will provide governance principles about data security, interoperability and portability. Then companies may offer services compliant with these principles. The GAI-X initiative aims to propose a European alternative to Amazon, Google or Microsoft. It is supported by representatives of business, science and administration from Germany and France, together with other European partners.	GAIA-X may offer future solutions for cloud infrastructure (that is often required for EO monitoring).
Global Standards 1	GS1	GS1 is a global working NGO and acts as standard setting body.. GS1 sets the standards for product coding (e.g. barcode in retail products) and more generally publishes a global language for businesses.	The standard GPC (Global Product Code) including a crop type list comes from GS1 and is considered of interest for NIVA



Organisms			
Name	Acronym	Definition	Explanation
HAS Hogeschool		Hogeschool is a Dutch polytechnic or college; a higher education institution of lower rank than a university. HAS Hogeschool is about Business Management in Agriculture & Food.	Students from HAS Hogeschool have conducted a study about NIVA contribution to the Administrative Burden Reduction perceived by farmers.
International Committee for Animal Recording	ICAR	The International Committee for Animal Recording (ICAR) is an International Non-Governmental Organisation aiming to provide global Guidelines, Standards and Certification for animal identification, animal recording and animal evaluation.	
International Data Spaces Association	IDSA	International standardisation and certification body for data spaces.	
Flanders Research Institute for Agriculture, Fisheries and Food	ILVO	ILVO is an independent scientific research institute of Flanders Government. Its assignment from the government is to work on the sustainability of agriculture, fisheries and agri-food sector	ILVO is one of the DATAFERT partners (testing of UC4b by third party)
Internet of Fruits and Farms	IoF2020	IoF2020 is a 4 years European project whose global aim is to make precision farming a reality. The project started in 2017.	DEMETER has some common partners (Neuropublic, WR, ZLTO) as NIVA and is also dealing with interoperability.
International Standardisation Organisation	ISO	ISO is an independent, non-governmental international organization with a membership of 165 national standards bodies. Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market relevant International standards that support innovation and provide solutions to global challenges.	ISO is providing standards of interest for NIVA, mainly those from Technical Committee TC211 about geographic information
John Deere		John Deere is the brand name of Deere & Company, an American corporation that manufactures agricultural machinery, heavy equipment, forestry machinery, etc	John Deere machines have been used in the testing of NIVA Use Case on machine data (UC4b)

Organisms			
Name	Acronym	Definition	Explanation
Joint Research Centre	JRC	European Commission's science and knowledge service which employs scientists to carry out research in order to provide independent advice and support to EU policy.	Key stakeholder for NIVA project.
KERMAP		KERMAP is a French company dealing with satellite image processes and production of geographic information. It proposes services about agriculture, environment and urban planning.	KERMAP has integrated in its services the carbon indicator developed by NIVA Use Case about agro-environmental indicators (UC1b)
Kubota		Kubota Corporation is a tractor and heavy equipment manufacturer. It is also a family of machine brands.	Kverneland and Vicon machines are under Kubota umbrella and have been used in the testing of NIVA Use Case on machine data (UC4b)
Kverneland		Kverneland Group is a leading international company developing, producing and distributing agricultural implements, electronic solutions and digital services.	The NIVA Use Case on machine data (UC4b) is cooperating with Kverneland that is providing both agricultural machines and FMIS.
Monitoring and Evaluation Frameworks for the Common Agricultural Policy	Mef4CAP	MEF4CAP will make an inventory of future data needs for Monitoring and Evaluation of the CAP, describe the current developments in ICT and data capturing techniques and assess the technological readiness of these solutions.	Mef4CAP has some common members (WR, Teagasc, Neupublic, Itacyl, EEB) and is addressing some similar objectives as NIVA (indicators)
Ministry Of Agriculture and Forestry	MOAF	Turkish Ministry of Agriculture and Forestry	MOAF has shown interest for the components developed by the NIVA Use Case on prefilled applications (UC2)
MyEasyFarm		MyEasyFarm is a software company developing an online interface between various FMIS and various precision farming machinery.  MyEasyFarm is also a Cloud FMIS (Farm Management Information System) platform certified ISOBUS	The NIVA Use Case on agro-environmental monitoring (UC1b) is cooperating with MyEasyFarm.

Organisms			
Name	Acronym	Definition	Explanation
Netherlands Geomatics & Earth Observation B.V.	NEO	Dutch company providing services based on data coming from satellite, planes or drones.	NEO is one of the sub-contractors in charge of the development of the advances EO tool for CAP monitoring (WP6)
Network of European Regions Using Space Technologies	NEREUS	Platform aiming at making a better use of space applications for the delivery of efficient public policies	Key stakeholder at EU level for NIVA project.
NetCarbon		NetCarbon is a French company that offers to farmers a free solution(based on satellite data and algorithms) to measure and valorise the sequestered carbon. This carbon is then sold on the carbon market to partners willing to contribute to the fight against climate warming and for more sustainable agriculture.	NetCarbon has integrated in its services the carbon indicator developed by NIVA Use Case about agro-environmental indicators (UC1b)
Operational Group	OG	These are groups of farmers, researchers, advisors and businesses in the agri-food sector. They receive Rural Development funding to run projects.[from European Commission glossary]	
Open Geospatial Consortium	OGC	OGC is an international voluntary consensus standards organisation, originated in 1994. In the OGC, more than 500 commercial, governmental, nonprofit and research organizations worldwide collaborate in a consensus process encouraging development and implementation of open standards for geospatial content and services, sensor web and Internet of Things, GIS data processing and data sharing.	OGC is providing standards that are of interest for NIVA.  NIVA is also contributing to the OGC Agriculture Domain Working Group
	Open EO	H2020 project running from October 2017 to September 2020 that developed an open application programming interface (API) that connects clients like R, Python and	NIVA is developing common components based on the standards elaborated by the Open EO project.

Organisms			
Name	Acronym	Definition	Explanation
		JavaScript to big Earth observation cloud back-ends in a simple and unified way.	
	Open IACS	European project whose main aim is to provide a community platform for sharing solutions in the IACS domain though the Linked Open Data principles.	Open IACS and NIVA are two European projects running at same period and having both the general objective of opening IACS data.
ORCaSa	ORCaSa	This project implies researchers and companies; it aims to set up a framework and a prototype for computation of carbon indicator at global level (not only in Europe)	ORCaSa project may be considered as extending the NIVA UC1b activities around carbon indicators.
Open Web Application Security Project	OWASP	OWASP is an online community that produces freely-available articles, methodologies, documentation, tools, and technologies in the field of web application security.	Some of the outcomes of OWASP may be of interest for NIVA
Panta Rhei		The knowledge exchange network of Paying Agencies.	Panta Rhei conferences have been identified as a convenient channel to disseminate the results of NIVA project among all PA in Europe.
PRODIGE		This potential project aims to take into account the needs of potential users and the functional representations of landscape elements in the design of a biodiversity indicator for agricultural landscapes. This project has been submitted to the 2022 INRAE call about biosphere.	PRODIGE is a potential follow-up project, improving and extending the work done in the NIVA Use Case on agro-environmental indicators (UC1b)
Quantica		QUANTICA is a 2 years French project that aims to develop a tool combining plant-soil models and remote sensing to quantify, at the plot level, the additional carbon storage induced by intermediate crops in order to better compensate farmers who engage in these practices. The tool is being co-constructed with the actors of the agricultural chain and tested in Occitania to	Quantica is a project related to the NIVA Use Case on agro-environmental indicators (UC1b)

Organisms			
Name	Acronym	Definition	Explanation
		prototype future services.	
Results-Based Environment AgriPilot Project	REAP	REAP is an Irish agri-environment pilot project that pays farmers to maintain and improve the environmental conditions of their land.	AgriSnap (the NIVA geotagged photo application) has been tested by the REAP project.
Rural Support Service	RSS	RSS as a Paying Agency is responsible for implementing EU funds in Latvia.	RSS is partner of the consortium that has proposed the DSMDFMISS and the MATOTSC applications under the NIVA WP6 call for Pilot validations
Sativum		Editor of a public FMIS tool (Spain)	Sativum was envisaged for the testing of NIVA UC1b on machine data.
	Sen4CAP	Sen4CAP is a European project set up by ESA and aiming to provide validated algorithms, products, workflows and best practices, based on the use of Sentinel images, for agriculture monitoring relevant for the management of the CAP.	Several NIVA Use Cases will reuse the results coming from the previous Sen4CAP project.
SMAG		SMAG is a French software company developing a FMIS software package used mainly by cooperatives and accounting centres who act as services providers.	The NIVA Use Case on agro-environmental monitoring (UC1b) is cooperating with SMAG.
State Plant Protection Service	SPSS	SPSS is currently competent institution for checking Cross compliance (in future Conditionality) as appropriate use of plant protection products is a part of Conditionality	SPSS is partner of the consortium that has proposed the DMDFMISS and the MATOTSC applications under the NIVA WP6 call for Pilot validations
State Agricultural Intervention Fund	SZIF	Paying Agency of the Czech republic.	SZIF has manifested interest for a NIVA follow-up project
Terranis		Terranis is a French innovative SME specialized in the design and commercialization of geoinformation services based on Earth Observation, for land development and monitoring. From satellite imagery TerraNIS develops services for viticulture, agriculture, environment and	Terranis has integrated in its services the carbon indicator developed by NIVA Use Case about agro-environmental indicators (UC1b)

Organisms			
Name	Acronym	Definition	Explanation
		land management.	
Trimble		Trimble is a private company providing among others, technologic solutions for agriculture.	The NIVA Use Case on machine data (UC4b) is cooperating with Trimble.
Technical University of Munchen	TUM	Technical University of Munchen (Germany)	TUM is conducting the Eurocrops project.
United Nations Centre for Trade Facilitation and Electronic Business.	UN/CEFACT	UN/CEFACT is a subsidiary, intergovernmental body of the United Nations Economic Commission for Europe (UNECE), which serves as a focal point within the United Nations Economic and Social Council for trade facilitation recommendations and electronic business standards	The eCROP standard that is considered of interest for the NIVA project comes from UN/CEFACT
Unión de Pequeños Agricultores y Ganaderos	UPA	UPA is the professional organization that groups, represents and defends the interests of professionals in agriculture and livestock in Spain. UPA is the organization that brings together the majority of the agricultural sector: family farms whose owners are small and medium farmers and ranchers	UPA has collaborated with NIVA about a tool dedidacted to farmers and based on the NIVA data model of Farm Registry.
Vervaet Frans B.V.		Vervaet Frans B.V. is a family business which was established in 1957. The company is based in Biervliet, the Netherlands. Here, the company produces two types of machines used in agriculture.	SPSS is partner of the consortium that has proposed the DATAFERT application under the NIVA WP6 call for Pilot validations

Table 4 Organisms

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
Agricultural assistance	AAC	Is an Authorized Agricultural	

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
center		Assistance Centre which ,on behalf of its users, takes care of services provided through specific agreements with paying agencies or Regional Administrations.	
Aid Application and Payment Claim System.	AAMS	The Aid Application and Payment Claims system is an element of the IACS that manages the applications/request for financial support of beneficiaries under the Common Agricultural Policy.	The system is responsible to collect and manage the aid applications of beneficiaries. The AAMS should include workflow management capabilities and is responsible to do the administrative cross-checks of data ensuring that an application is completed and controlled according to the requirements. The request takes the name "Payment Claim" when a specific action to receive money is requested under a framework agreement previously allocated.
ADAPT		ADAPT is an interoperability solution for FMIS coming from AgGateway. The framework is comprised of an Agricultural Application Data Model, a common API (Application Programming Interface), and a combination of open source and proprietary data conversion plugins.	The ADAPT standard is of interest for NIVA UC4b (machine data)
Administrative burden		Administrative activities that farmers and administrations conduct only because of legal obligations and which add no real value to their work [From European Commission glossary]	
Administrative Burden Reduction	ABR	Administrative Burden Reduction includes reduction of time and costs in data management and reduction of disputes or litigations. It may concern farmers or Paying Agencies or both.	ABR is one of the objectives of the NIVA project.
Administrative costs		Administrative costs are defined as the costs borne by businesses,	

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		citizens, civil society organisations and public authorities as a result of administrative activities performed to comply with information obligations included in legal rules” [Better regulation ToolBox]	
Agricultural block		According to CAP, any area taken up by arable land, permanent grassland and permanent pasture, or permanent crops. [REGULATION (EU) No 1307/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL In the NIVA context, for the Farm Registry, agricultural block is defined as continuous land areas with the same land cover	
Agricultural holding		An agricultural holding, or holding or farm is a single unit, both technically and economically, operating under a single management and which undertakes economic activities in agriculture within the economic territory of the European Union, either as its primary or secondary activity. [REGULATION (EU) 2018/1091 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Article 2 (agricultural holding) and based on the European Statistical Classification of Economic Activities (NACE Rev. 2)].	The holding may also provide other supplementary (non-agricultural) products and services. It is a single unit both technically and economically; in general this is indicated by a common use of labour and means of production. It has single management; there can be single management even though this is carried out by two or more persons acting jointly.
Agricultural Information Model	AIM	A modular data model for agricultural data exchange designed by the Demeter project. The model is based on the principles of Linked Data.	
Agricultural Parcel		A continuous area of land, declared by one farmer, which does not cover more than one single crop group	Agricultural Parcel is a key feature for most NIVA Use Cases.
Agriculture of Data		Call from European Commission (HORIZON C6: Food, Bioeconomy,	A number of existing projects and initiatives may also



CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		Natural Resources, Agriculture and Environment) whose objective is to generate EU-wide data sets and information through combining geospatial and Earth Observation datasets and employing data technologies to provide solutions to the agricultural sector allowing for more efficient, environmentally friendly, and profitable production and strengthen monitoring capacities across policy fields.	complement the work related to agricultural (policy) and/or Earth Observation for instance projects related to RUR-20-2018: Digital solutions and e-tools to modernise the CAP, such as NIVA.
AgriSnap		The geotagged application developed by NIVA(UC4a).	
AgriSmart		The tool developed by NIVA for automatic interpretation of geotagged photos, using AI processes.	
AgroConnect		AgroConnect is a national standard developed in the Netherlands about crop types.	The approach taken by AgroConnect (combining a botanical and product-oriented approach) is considered of interest by NIVA for a potential common crop type list.
Amazon S3		Amazon S3 or Amazon Simple Storage Service is a service offered by Amazon Web Services that provides object storage through a web service interface. Amazon S3 is a free cloud storage (at least for testing).	NPA has installed the Preliminary Parcel Delineation Tool developed by NIVA UC2 (prefilled application), using Amazon S3 as cloud infrastructure.
Area with Natural Constraints	ANC	ANC include mountain areas and areas with bad biophysical conditions, such as low temperature, dryness, excesss soilmoisture, slope ... There is a specific payment scheme for Areas with Natural Constraints	
Artificial Neural Network	ANN	Artificial Neural Network are used in deep-learning, mainly for text, tabular or image data	
Applied map		In the context of smart farming, an applied map is recording and	Applied maps are linked to NIVA UC4b (machine data)

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		displaying the geographic extent and characteristics of an agricultural task, as it has been achieved.	
Annual Performance Report	APR	In CAP 2023-2027 context, a report that EU Member States have to provide to European Commission in order to monitor the progress and efficiency of their National Strategic Plan. The APR should include the output, result and impact indicators.	
Analysis Ready Data	ARD	ARD are satellite images that have benefited from a common set of pre-processes that enables their immediate use for more specific analysis, such as EO monitoring. Most common preprocesses are decompression, ortho-rectification, atmospheric correction.	
Area Monitoring System	AMS	The AMS is the IACS element required by MS that apply the Checks by Monitoring approach. It monitors the land parcels declared under the GSAA to collect data on elementary conditions required to verify the land eligibility to a payment. It is limited to checks on land.	The AMS works through satellite images and uses geospatial technology. When it cannot determine certain conditions, it can request a follow-up action.
Acceptance test-driven development	ATDD	A development methodology based on communication between the business customers, the developers, and the testers.	ATDD is a methodology applied (at least) in UC2 on prefilled applications.
baseline phenomena		In the context of new EO monitoring of CAP payments, the baseline phenomena have to be controlled in a first step. They consist in the presence of ineligible structures or land use and in the change of land cover (arable land, permanent crops, permanent grassland)	
Basic Payment Scheme	BPS	Direct payment received by farmers, in the CAP context; eligibility condition is to have	Eligibility for the Basic Payment Scheme (or, as the case may be, the Single Area Payment Scheme)

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		agricultural activity.	is a precondition for farmers to receive other direct payments. BPS is one of the eligibility rules that will be implemented in the Decision Support System of UC1a
Beneficiary		The beneficiary is who receives the financial aid from CAP.	
Basic Income Support for Sustainability	BISS	In the context of CAP 2023-2027, the Basic Income Support for Sustainability (BISS) scheme will replace both the Basic Payments Scheme (BPS) and the greening payment.	BISS is one of the payment schemes implemented in the NIVA Use Case about Seamless Claim (UC5b)
blockchain		Blockchain is a distributed immutable ledger for recording transactions, tracking assets and building trust. A distributed ledger is a consensus of replicated, shared, and synchronized digital data geographically spread across multiple sites, countries, or institutions. Unlike with a centralized database, there is no central administrator.	A blockchain is a list of records, called blocks, that are securely linked together using cryptography.  Blockchain has been used by the NIVA Use Case on Seamless Claim (UC5b)
Bottom Of Atmospher	BOA	Bottom-of-Atmosphere (BOA) reflectance is also called surface reflectance and consists of the solar radiation that is reflected from the Earth's surface.	The conversion of the top-of-atmosphere reflectance initially captured by satellite images into bottom-of-atmosphere reflectance requires knowledge of atmospheric conditions present during the image acquisition time frame. The resulting image is called atmospherically corrected
Broker		In current language, a broker is stakeholder that brings users and providers together and assists in the negotiation of contracts between them.  In ICT language, a broker is a technical solution to exchange data between two systems.	NIVA is developing some brokers between IACS and external systems such as FMIS or Sentinel images.
Click and Pay		A component of UC5b that aims to provide an interface with users (farmers) in the context of a	

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		Seamless Claim.	
Common Agricultural Policy	CAP	This is the set of legislation and practices adopted by the European Union to provide a common, unified policy on agriculture. The overall objective is to ensure that agriculture can be maintained over the long term at the heart of a living countryside [from European Commission glossary]	
Component		A component is an independent software package that provides functionality via well-defined interfaces	A NIVA common eTool or service is composed of one or several components.
Common component		An interface or communication protocol usually known as API intended to simplify the building of client-side software. In the NIVA context, it is defined as an implementation of software libraries that share the same programming interface and always provide a response in a specific format or initiate a defined action. A common component is intended as reusable/common building block to facilitate the development of the NIVA "Common eTools & Services" produced by the NIVA Use Cases.	All NIVA components may be considered as "common" as they should be reusable in more than one EU Member State. However, the expression "common components" aims to identify the components that are common to several NIVA Use Cases. These common components are developed by WP4.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
Common European Data Space for Agriculture		<p>An initiative from the Commission that aims to create a single market for data, where data from public bodies, business and citizens can be used safely and fairly for the common good. This initiative will draw up rules for common European data spaces.</p> <p>The data space for agriculture aims to enhance the sustainability performance and competitiveness of the agricultural sector through the processing and analysis of data.</p>	Common European Data Space for Agriculture
Common eTools & Services		Deliverables produced by the NIVA Use Cases and intended as solutions or services reusable in more than one EU Member State (hence the "common" in the name), which is one of the main NIVA purposes.	
Connected Europe Facility	CEF	Key EU funding instrument to promote growth, jobs and competitiveness through targeted infrastructure investment at European level.	CEF is proposing building blocks (such as eID or Esignature) that are of interest for the NIVA project.
Continuous Development	CD	Continuous Development is a set of practices aiming to ensure the application will work once deployed. This set of practices involves packaging (e.g. putting the code in a pre-production environment or a replica of the actual production server) and rigorous testing.	Continuous Development is a principle recommended for the developments in NIVA.
Continuous Integration		Continuous Integration is a set of practices in development domain consisting to check that each code modification does bring any regression in the developed application.	Continuous integration is a principle recommended for the developments in NIVA.
Contour line		A contour line (also known as isoline) of a function is a curve along which the function has a constant value, so that the curve joins points of equal value.	For the NIVA the preliminary parcel delineation tool, different values of probability result in different contour lines. The value of probability that leads to a

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		In the NIVA context, the concept of contour line has been used for the preliminary parcel delineation tool where the function represents the probability of a pixel to belong to an agricultural parcel or not.	better overlap with the GSAA geometries is selected. The preliminary parcel delineation tool is developed by UC2.
Convolutional Neural Network	CNN	Convolutional Neural Network are used in deep-learning, mainly for time series, text or video data	
CONstruction TRansparente d'Arbres de decision (Transparent construction of decision trees)	CONTRA	Model based on fuzzy logic and aiming to provide decision trees based on a small set of input parameters.	The CONTRA model is used for the computation of biodiversity index in INVA UC1b
Copernicus		Copernicus is the European Union Earth observation programme coordinated and managed by the European Commission in partnership with the European Space Agency (ESA), the EU Member States and EU Agencies	The Copernicus is providing satellite images that may be used by the smart monitoring process and so, by the NIVA project.
	CREODIAS	One of the existing DIAS (Data and Information Access Service to Sentinel images). It is managed by CloudFerro.	CREODIAS is the DIAS that has been chosen by the Sen4CAP and the NIVA projects.
Complementary Redistributive Income Support for Sustainability	CRISS	In the context of CAP 2023-2027, the CRISS is a scheme which aims to ensure a redistribution of support from larger to smaller or medium-sized farmers by providing a redistributive payment per eligible hectare to increase sustainability.	CRISS is one of the payment schemes considered by the NIVA Use Case about Seamless Claim (UC5b)

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
Crop Activity		In the NIVA context (Farm Registry), works, methods and actions related to a specific crop	
Crop Activity Detail		In the NIVA context (Farm Registry), detail of works, methods and actions related to a specific crop	
Crop Manager		Farm Management Information System provided by SEGES	CropManager is one of the FMIS used in the testing of UC1b about machine data
Crop parcel		In the NIVA context (Farm Registry), continuous land area with the same crop within a single reference plot on a given period of time	
Crop rotation		Crop rotation is the practice of growing a series of different types of crops in the same area across a sequence of growing seasons. It reduces reliance on one set of nutrients, pest and weed pressure, and the probability of developing resistant pest and weeds.	Crop rotation is the key principle used in the computation of nitrate indicator developed by UC1b , i.e. risk of nitrate lixiviation depends mainly on crop rotation.
Crop sequence		Chronologically ordered suite of crops on a given piece of land (e.g. agricultural parcel, pixel) in a given period of time.	Crop sequence on drainage period is necessary information for the nitrate indicator developed by UC1b.
Crop type		In NIVA, a crop type is the crop classification according to the cultivate species and/or according the expected crop product.	The crop type information may be provided at different levels of detail by using hierarchical code lists.
Coordinate Reference System	CRS	System for uniquely referencing spatial information in space as a set of coordinates (x,y,z) and/or latitude and longitude and height, based on a geodetic horizontal and vertical datum	
Coordination Support Action	CSA	Type of Horizon Europe projects. Focus is on accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking,	

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries	
Cuaderno de campo		In NIVA context, “cuaderno de campo” is a Field notebook developed by Spanish stakeholders (NIVA partner and farmer organisation) and reusing the NIVA data model of Farm Registry.	
Data Act		The Data Act is a European legislative proposal that aims to create a framework which will encourage business-to-government data sharing.	The EU Data Act focuses on making clear who can create value from data and under what conditions
Data Catalog Vocabulary	DCAT	Data Catalog Vocabulary (DCAT) is a vocabulary designed to facilitate interoperability between data catalogs published on the Web.  DCAT is a standard from W3C and is the foundation for open dataset descriptions in the European Union public sector.	The DCAT standard may be of interest for the publication of NIVA research data.
Data sharing on manure fertilisation applied on Belgian fields	DATAFERT	Name of an application submitted under the NIVA WP6 call for pilot validation.  DATAFERT aims to test the components developed by NIVA UC4b.	
Data Governance Act		The Data Governance Act aims to increase trust in data sharing, strengthen mechanisms to increase data availability and overcome technical obstacles to the reuse of data.  It is also supporting the set-up and development of common	The Data Governance Act focuses on providing a legal framework, processes and structures to promote data sharing.



CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		European data spaces in strategic domains, involving both private and public players, in sectors such as health, environment, energy, agriculture, mobility, finance, manufacturing, public administration and skills.	
Data and Information Access Service	DIAS	A DIAS offers to facilitate access to data (e.g. Sentinel images) and software.	
Data Management Plan	DMP	A DMP describes the data management life cycle for the data to be collected, processed and/or generated by a Horizon 2020 project.  Horizon 2020 beneficiaries have to make their research data findable, accessible, interoperable and reusable (FAIR)	DMP is one of the expected deliverables of NIVA (as NIVA is a H2020 project)
Data Project Officer	DPO	The primary role of the DPO is to ensure that his/her organisation processes the personal data of its staff, customers, providers or any other individuals in compliance with the applicable data protection rules.	
Decision Support System	DSS	The Decision Support System is a NIVA tool that should enable users to define and then run the rules and decision tree from the results of EO processing (and if necessary alternative evidences) to the traffic lights at parcel level.	DSS is developed by UC1a
Digital Surface Model	DSM	Surface describing the three dimensional shape of the Earth's surface, including all static features placed on it.	DSM is required as input data for some of the LPIS change detection components developed by UC5a.
Digital Terrain Model	DTM	Surface describing the three dimensional shape of the Earth's bare surface, excluding as possible any other features placed on it.	DSM is required as input data for some of the LPIS change detection components developed by UC5a.
Djustconnect		DjustConnect is a neutral data exchange platform available for	Djustconnect has been used to get farmer consent on their

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		all data users in the Agrifood sector. The platform is run by ILVO (Belgium)	machine and FMIS data use for the tests conducted by DATAFERT (test of IVA UC4b by third party)
deployment		Last phase of NIVA Use Cases planning. Deployment is about activities aiming to run NIVA components in conditions close to real-life ones. Deployment includes activities such as robust testing, out scaling, etc.	Deployment was initially called “operational testing”
docker		Docker is an open source platform. It enables developers to package applications into containers—standardized executable components combining application source code with the operating system libraries and dependencies required to run that code in any environment. Containers simplify delivery of distributed applications	Docker is used by some NIVA tools
Direct submission of the Machine Data to FMIS system	DSMDFMIS S	Name of an application submitted under the NIVA WP6 call for pilot validation. DSMDFMISS aims to test the components developed by NIVA UC4b.	
Dynamic Time Warping		In time series analysis, dynamic time warping (DTW) is an algorithm for measuring similarity between two temporal sequences, that are not perfectly synchronized.	
European Agricultural Fund for Rural Development	EAFRD	Dedicated Rural Development funding that is administered by Managing Authorities at national and regional levels through Rural Development Programmes	EAFRD corresponds to the funding of CAP second pillar.
European Agricultural Guarantee Fund	EAGF	The European agricultural guarantee fund helps the EU's farmers to provide a secure supply of safe, healthy, and affordable food. Through the EAGF, EU countries must offer a basic payment scheme for farmers, green direct payments (for sustainable farming	EAGF corresponds to the funding of CAP first pillar.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		methods), a payment for young farmersEU countries can also use the EAGF to fund specific schemes to help small and medium sized farms, farmers who operate in areas of natural constraint, and sectors undergoing difficulties.	
eCROP		A standard developed by the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) describing messages for exchanging crop related data	eCROP is considered as a standard of interest in NIVA for the exchange between machine data and FMIS or between FMIS and IACS.
European Fisheries Fund	EFF	EFF is the European Union's financial instrument for the fisheries sector The aid it provides must stimulate the developm must encourage sustainable fisheries and aquaculture.	Some Paying Agencies are managing the EFF.
	EGNSS4 CAP	The EGNSS4CAP is an application using Galileo differentiators to enable farmers to provide geo-tagged photos in the context of EO monitoring. The tool is Open Source, available for free and is able to be integrated by any Android developer. EGNSS4CAP is also the name of the project founded by European Union Agency for the Space Programme that developed this application	
Entitlement Register		A system for the identification and registration of payment entitlements	A system recording the rights to receive payments under the decoupled mechanism applied by some Member States. Only required for MS applying the decoupled payments approach known as Single Payment System.
Electronic Product Code Information Services	EPCIS	EPCIS is a GS1 standard that enables trading partners to share information about the physical movement and status of products as they travel throughout the supply chain – from business to business and ultimately to	EPCIS is used by companies across the world to track for instance the origin and freshness of foods.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		consumers.	
Earth Observation	EO	Earth observation (EO) is the gathering of information about the physical, chemical, and biological systems of the planet via remote-sensing technologies, supplemented by [Earth]-surveying techniques, which encompasses the collection, analysis, and presentation of data.	From the definition, EO includes in situ, airborne and satellite observations. However, in CAP and NIVA context, it is mainly used for satellite observations.
EO-flow		Python library with code and examples for creation of Earth Observation (EO) projects using TensorFlow . TensorFlow is a free and open-source symbolic math library that is used for machine learning applications such as neural networks.	EO-flow is a technology used in UC2 (prefilled application).
EO-Patch		EO-Patch is common data-object that contains contains multi-temporal remotely sensed data of a single patch (area) of Earth's surface typically defined by a bounding box in specific coordinate reference system.	EO-patch is a concept used in UC2 (prefilled application).
ECMWF Real analysis v5	ERA5	ERA5 is historical meteorological data available from the ECMWF archive.	ERA5 data is used for the computation of carbon indicator Tier 3 (NIVA UC1b)
European Strategy for Data		The European strategy for data aims at creating a single market for data that will ensure Europe's global competitiveness and data sovereignty. Common European data spaces will ensure that more data becomes available for use in the economy and society, while keeping the companies and individuals who generate the data in control.	
European Terrestrial Reference System 1989	ETRS89	ETRS89 is the EU-recommended frame of reference for geodata for Europe. In ETRS89, the Eurasian Plate as a whole is static. Therefore, coordinates and maps in Europe based on ETRS89 are not subject to change due to the	NIVA is recommending to use CRS based on the the ETRS89 datum.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		continental drift.	
European Union Public Licence	EUPL	The European Union Public Licence (EUPL) is a free software licence that has been created and approved by the European Commission.	All tools developed in the NIVA project must be open source and under the EUPL licence.
Enhanced Vegetation Index	EVI	The enhanced vegetation index (EVI) is an 'optimized' vegetation index designed to enhance the vegetation signal with improved sensitivity in high biomass regions and improved vegetation monitoring through a de-coupling of the canopy background signal and a reduction in atmosphere influences.	
Exchangeable Image File Format	EXIF	Exchangeable image file format is a standard that specifies the formats for images, sound and ancillary tags used by digital cameras (including smartphones), scanners and other systems handling image and sound files recorded by digital cameras.	EXIF is the recommended format for geotagged photos (according to JRC guidelines and to NIVA)
Farm to fork strategy		The Farm to Fork Strategy aims to make food systems fair, healthy and environmentally-friendly. It is part of the European Green Deal.	The requirements of the farm to fork strategy have been taken into account by NIVA UC3 for the design of the data model for Farm Registry.
Farm Advisors		Farm advisors collect, analyze, report and guide farmers on issues related to farm management and production. These professionals may advise or help farmers with issues ranging from animal nutrition to harvesting practices	
Farm Advisory Service	FAS	The Farm Advisory System aims at helping farmers to better understand and meet the EU rules for environment, public and animal health, animal welfare and the good agricultural and environmental condition.	

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		It is required for Member States to set up of a Farm Advisory System (FAS).	
Farm Sustainability Tool for Nutrients	FaST	Fast should enable farmers nutrient management planning and recording. Fast system has to be provided by Member States to beneficiaries.	Data recorded in FaST is expected to be of interest for future IACS.
Farm Dossier	FD	A logical container of data from the IACS elements/datasets linked to a beneficiary (see Farm Register) and built according to EU or national payment schemes or interventions	The Farm Dossier is a digital container of IACS information from several elements of the IACS and which collection (of data) serves to verify the overall eligibility to payments under the Common Agricultural Policy. Dossier's contents may change according to the different payment schemes.
Farm Holding		In the NIVA context, a farm holding is the set of all the sites used for agricultural activities, managed by same farmer and situated within the territory of the same Member State. It is a single unit both technically and economically; in general this is indicated by a common use of labour and means of production.	The definition proposed by NIVA is an attempt to combine the advantages of the Integrated Farm Statistics definition (Farm Holding seen as a single economic and technical unit) and the advantages of the INSPIRE definition (Farm Holding seen as a set of sites).
Farm Management Information System	FMIS	A Farm Management Information System (FMIS) is a management information system designed to assist agricultural farmers to perform various tasks ranging from operational planning, implementation and documentation for assessment of performed field work.	Facilitating data exchange between IACS and FMIS is one of the objectives of several NIVA Use Cases.
FarmMaps		FarmMaps is a Farm Management Information System provided by Akkerweb	FarmMaps is one of the FMIS used in the testing of UC1b about machine data.
Farmer performance		Set of indicators, characterizing an agricultural producer (a farmer) from agricultural, environmental and economical	In the NIVA context (UC1c), for calculating this set of indicators basic data from IACS is combined with additional data sources

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		perspective.	such as FMIS.
Farm Register	FR	A single system to record the identity of each beneficiary	The Farm Register is one of the main elements of the IACS ensuring a unique identification of beneficiaries of payments under the Common Agricultural Policy
Farm Registry		Registry of an administrative, public, and informative nature that centralizes and unifies agricultural information and allows the Administration and the farmers to query all the data about farms and their agricultural parcels, and to facilitate administrative procedures. Farm registry should be strongly linked to the future IACS and should be updated in a continuous way.	<p>Farm registry data model and interface tools are developed by the NIVA UC3.</p> <p>The Farm Registry describes the farm and should be part of future IACS whereas the Farm Register is a part of current IACS and describes the farmer (or more exactly the beneficiary).</p>
Farmer		<p>According to CAP regulation, a natural or legal person, or a group of natural or legal persons, regardless of the legal status granted to such group and its members by national law, whose holding is situated within the territorial scope of the Treaties, as defined in Article 52 TEU in conjunction with Articles 349 and 355 TFEU, and who exercises an agricultural activity [REGULATION (EU) No 1307/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Article 4]</p> <p>In the NIVA context (UC3-WP3), a farmer is a natural or legal person, or a group of natural or legal person who exercises an agricultural activity and whose farm is located in the territory of a European Union Member State.</p>	
Findable, Accessible, Interoperable and Reusable	FAIR	The FAIR principles provide guidance for scientific data management and stewardship and are relevant to all stakeholders in the current digital	The NIVA research data should follow the FAIR principles.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		ecosystem. They directly address data producers and data publishers to promote maximum use of research data.	
Fractional of Vegetation Cover	FCOVER	FCover corresponds to the fraction of ground covered by green vegetation. Practically, it quantifies the spatial extent of the vegetation. It is independent from the illumination direction and it is sensitive to the vegetation amount.	FCover is a vegetation indice that may be used for EO monitoring
	FIWARE	FIWARE is an open source framework accelerating the development of interoperable smart solutions. It is based on universal open standards for context data management.	
Field Book		An electronic (or paper-format) document used by farmers for keeping track of agricultural activities performed in their agricultural parcels. The Field Book content is mandated by the national regulations of some Member States, as an application of the Nitrate Directive.	<p>The Field Book content is sometimes managed through a FMIS component</p> <p>The content of Field Book is of interest for some NIVA Use Cases.</p>
Fine-tuning		Fine-tuning takes a model that has already been trained for a particular task and then fine-tuning it to make it perform a second similar task. For example, a deep learning network that has been used to recognize cars can be fine-tuned to recognize trucks.	



CAP or NIVA terms			
Name	Acronym	Definition	Explanation
F-Score		The F-score is a measure of a model's reliability on a dataset. It is used to evaluate binary classification systems, which classify examples into 'positive' or 'negative'. The F-score is commonly used for many kinds of machine learning models. F-Score is useful for differing costs of false positives or false negatives or where there is a large class imbalance.	Example : for crop classification, the F-Score is provided for each crop type
Fully Convolutional Network		A fully convolutional network is a type of Artificial Neural Network architecture where the constituting layers make use of spatial convolutions. This kind of architecture is particularly suited for the analysis of images, modelling spatial correlations at different scales. In the NIVA context, for the preliminary parcel delineation, application, the architecture is used to assign a probability to each pixel in the image to belong to an agricultural parcel and parcel boundary.	
Galileo		Galileo is a global navigation satellite system (GNSS) that went live in 2016, created by the EU through the European Space Agency (ESA). One of the aims of Galileo is to provide an independent high-precision positioning system so European nations do not have to rely on the US GPS , or the Russian GLONASS systems, which could be disabled or degraded by their operators at any time.	Galileo is one of the systems that may provide location of geotagged photos.
Geospatial Data Abstraction Library	GDAL	GDAL is a computer software library for reading and writing raster and vector geospatial data formats, and is released a free software license by the Open Source Geospatial Foundation.	GDAL is used by some NIVA components.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
General Data Protection Regulation	GDPR	European Directive about personal data protection.	
	GitLab	GitLab is an open-source and web-based tool to manage the lifecycle of a development project; it provides a Git-repository manager including wiki, issue-tracking and it enables continuous integration.	GitLab is the technical solution chosen by NIVA to host and manage the developments done during the project.
Gray-Level Co-occurrence Matrix	GLCM	A GLCM is a matrix that is defined over an image to be the distribution of co-occurring pixel values (grayscale values, or colors) at a given offset. It is used as an approach to texture analysis with various applications.	GLCM texture analysis has been used by one of the NIVA tools (advanced EO tool for CAP monitoring)
Global Good Agricultural Practices	GlobalGAP	G.A.P. stands for Good Agricultural Practices – and GLOBALG.A.P. is the worldwide standard that assures them.	
Global Navigation Satellite System	GNSS	Global Navigation Satellite System (GNSS) refers to a constellation of satellites providing signals from space that transmit positioning and timing data to GNSS receivers. The receivers then use this data to determine location. By definition, GNSS provides global coverage. Examples of GNSS include Europe’s Galileo, the USA’s Global Positioning System (GPS), Russia’s GLONASS and China’s BeiDou Navigation Satellite System.	GNSS are used for the location of geotagged photos.
Global Product Code	GPC	GPC is a standard issued by GS1 and including a crop type classification.	The GPC crop type classification is considered as of interest by NIVA for a potential common crop type list.
Global Positioning System	GPS	The Global Positioning System (GPS) has been developed in order to allow accurate determination of geographical locations by military and civil	GPS may be used for the location of geotagged photos.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		users. It is based on the use of satellites in Earth orbit that transmit information which allow to measure the distance between the satellites and the user. It is owned by the United States government.	
Ground Range Detected	GRD	GRD is one of the derived products from Sentinel-1. It includes only the amplitude information of the backscatter (return) signal.	
Green Deal		The European Green Deal is a set of policy initiatives by the European Commission with the overarching aim of making Europe climate neutral in 2050.	Agriculture is one of the domains under the Green Deal scope
Geo Spatial Aid Application	GSAA	Digital version of the Aid Application using geographical information system technology to declare the agricultural parcels on a map.	Whilst the original aid applications were done on paper-forms or their digital twins, the GSAA allow to graphically define or choose on a map the agricultural parcels for which the beneficiary is asking financial support. It is inherent part of the Aid Application and Payment Claims element of the IACS.
Hackathon		A hackathon is an event, in which computer programmers and others involved in software development, collaborate intensively on software projects.	NIVA has organized or might organize hackathons to deal with specific issues (e.g. geometry handling to import machine data or to manage crop rotation)
Horizon 2020	H2020	Horizon 2020 is the financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness.	NIVA is a H2020 project
Hierarchical Crop and Agriculture Taxonomy	HCAT	A common classification of crop types, at EU level, based on EAGLE principles and designed by the Eurocrops project.	
High Performance Computing	HPC	High Performance Computing most generally refers to the practice of aggregating computing power in a way that delivers much higher	Artificial Intelligence (used in EO monitoring) is one of the domains where HPC may provide relevant solution.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		performance than one could get out of a typical desktop computer or workstation in order to solve large problems in science, engineering, or business. HPC is not about having a number of computers/processors, but using them effectively in parallel to solve a problem faster.	
High Resolution	HR	In the NIVA context, high resolution is finer than 50 m and equal or coarser to 10 m.	
High High Resolution	HHR	In the NIVA context, high high resolution is between 1m and 5 m.	
High Value Datasets	HVD	According to the Open Data Directive, datasets associated with important benefits for the society and economy. They are subject to a separate set of rules ensuring their availability free of charge, in machine readable formats.	Some IACS data might be included in the list of HVD.
HoriZontal Regulation	HZR	In the context of CAP 2023-207, the horizontal regulation is about common rules in Europe (such as IACs content) and about governance (who controls? Who pays? ...).	HZR is complemented by the CAP strategic plans regulation that explains how to build a National Strategic Plan.
Integrated Administration and Control System	IACS	A mandatory information system used by EU Member States to manage subsidy payments to farmers whose provisions are defined under the Common Agricultural Policy and mandatory under the CAP regulations and the overarching regulations on spending public money	It comprises a computerised database; an identification system for agricultural parcels; a system for the identification and registration of payment entitlements; aid applications and payment claims; an integrated control system; a single system to record the identity of each beneficiary who submits an aid application or a payment claim, and the identification and registration of animals. As of 2018, it can also contain an Area Monitoring System element.
Integrated Carbon	ICOS	ICOS provides standardised and	The scientific method used to

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
Observation System		open data from more than 140 measurement stations across 14 European countries. The stations observe greenhouse gas concentrations in the atmosphere as well as carbon fluxes between the atmosphere, the land surface and the oceans. Thus, ICOS is rooted in three domains: Atmosphere, Ecosystem and Ocean.	compute the NIVA carbon indicator of NIVA UC1b is based on ICOS measurements
Integrated Control System	ICS	The Integrated Control System (not to be confused with IACS) is an IACS element responsible to execute on the spot checks on the CAP aid applications	The ICS includes the capabilities to select the applications to be checked (cascade mechanism) or inspected, the management of the inspection cases, the execution of the inspections through different techniques (remote sensing, field visits, etc.).
Agri-environmental indicator (CAP)	AEI	Agri-environmental indicators track the integration of environmental concerns into the Common Agricultural Policy at European Union, national and regional levels.  [from European Commission glossary]	In 2006, the European Commission adopted 28 such indicators to assess the interaction between the Common Agricultural Policy and the environment and to serve the following purposes: to provide information on the state of the environment in agriculture; to understand and monitor the linkages between agricultural practices and their effects on the environment; to provide contextual information, particularly concerning the diversity of agri-ecosystems; to assess the extent to which the Common Agricultural Policy and the Rural Development programmes promote environmentally-friendly farming activities and sustainable agriculture and, lastly, to provide information for the global assessment process of agricultural sustainability.  [from European Commission glossary]

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
Agro-environmental indicator (NIVA)		An indicator designed by the NIVA Use Case on agro-environmental monitoring (UC1b) and aiming to measure the impact of agricultural activities on environment and climate	The NIVA agro-environmental indicators are independent from the new CAP indicators (though close to the impact ones).
Carbon indicator Tier I	CT1	This NIVA indicator measures, for an agricultural campaign, the CO <sub>2</sub> flow (in t/ha) due to plant vegetation cycle on a given part of land using a simple relation between number of days with vegetation and CO <sub>2</sub> flow.  The given part of land may be a pixel, a parcel, a farm holding or an administrative unit.  This indicator is useful for climate change.	This indicator is using only widely available data: IACS and Sentinel images.
Carbon indicator Tier II	CT2	This NIVA indicator measures, for an agricultural campaign, the carbon storage (in t/ha) taking into account the plant vegetation cycle, the imports (organic fertilizers) and exports (grain and straw) on a parcel or on a farm holding  This indicator is useful for climate change.	In addition to IACS and Sentinel data, this indicator requires FMIS data.
Carbon indicator Tier III	CT3	This NIVA indicator aims to measure, for an agricultural campaign, on a parcel, a farm holding or an administrative unit, the carbon storage (in t/ha) taking into account the plant vegetation cycle and if available, the imports (organic fertilizers) and exports (straw). The CO <sub>2</sub> flow due to the plant vegetation cycle is simulated according a physical model (called SAFY-CO <sub>2</sub> )  This indicator is useful for climate change.	In addition to IACS and Sentinel data, this indicator requires meteorological data and if possible FMIS data.
Nitrate indicator Tier I	NT1	This NIVA indicator measures, for a yearly drainage period, on a given part of land, the risk of	This indicator is using only widely available data: IACS and Sentinel images.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		<p>nitrates lixiviation due to the influence of crop sequence and of intermediary cover presence.</p> <p>The given part of land may be a pixel, a parcel, a farm holding or a catchment area.</p> <p>This indicator is useful for water quality.</p>	
Biodiversity indicator Tier I	BT1	<p>This NIVA indicator aims to measures the biodiversity for an agricultural campaign, and on a given part of land.</p> <p>The biodiversity is assessed through the landscape characteristics that influences the presence of several taxon (plants and small animals)</p> <p>The given part of land may be a grid cell (1 km<sup>2</sup>) or a farm holding.</p>	This indicator requires mainly IACS data (from the landscape characteristics related to agriculture practices) and topographic data (for the other landscape features).
Key Performance Indicator	KPI	In the NIVA context, indicators aiming to measure the main achievements of the project.	<p>In practice, there are :</p> <ul style="list-style-type: none"> <li>- global KPI for the whole project</li> <li>- KPI for each Use Case</li> <li>- KPI for communication activities</li> </ul>
Output KPI		A KPI aiming to measure the results, the concrete achievements of the NIVA project.	Number of components developed by a UC is an example of output KPI.
Outreach KPI		A KPI aiming to measure how much NIVA has succeeded in involving its target stakeholder community	Number of farmers involved is an example of outreach KPI.
Adoption KPI		A KPI aiming to measure the adoption of the assets elaborated by the NIVA project where adoption implies usage, acceptance of an innovation uptake (product or process), entailing a recognition of its value or burden reduction by the users.	Benefits expected from a given Use Case are an example of adoption KPI.
Infrastructure for spatial information in Europe	INSPIRE	The INSPIRE Directive aims to create a European Union spatial	The NIVA is working on or about on IACS data; part of this data is

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		data infrastructure for the purposes of EU environmental policies and policies or activities which may have an impact on the environment. This European Spatial Data Infrastructure will enable the sharing of environmental spatial information among public sector organisations, facilitate public access to spatial information across Europe and assist in policy-making across boundaries.	under the scope of the INSPIRE Directive.
Data interoperability		Data interoperability is the ability of a data set to be reused by any system without special effort.	IACS data interoperability is under NIVA scope.
Interoperability between components		Ability of a given NIVA component to be combined with other components (e.g. another NIVA component or existing components of national or regional IACS)	
Interoperability between countries		Ability of a NIVA tool (initially designed as a Single MS Pilot) to be reused with reasonable adaptation effort in any European MS	
Interoperability solutions for public administrations, businesses and citizens	ISA <sup>2</sup>	The ISA <sup>2</sup> Programme supports the development of digital solutions that enable public administrations, businesses and citizens in Europe to benefit from interoperable cross-border and cross-sector public services	The ISA <sup>2</sup> Programme provides a registry tool that might be used for publication of the NIVA glossary and Feature Catalogue
ISOBUS		ISOBUS is a standard protocol that makes it possible to manage the communication between tractors, software and equipment of major manufacturers, allowing the exchange of data and information with a universal language through a single control console in the tractor's cabine.	
ISO-XML		In the NIVA content, ISO-XML is a module that enables to read and write machine orders for	ISO-XML is a standard of interest for NIVA Use Case on machine



CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		standard ISOBUS machine terminals. It is supplied by the entrepreneurial platform provider 365FarmNet.	data (UC4b).
Implementation eXtra Information for Testing	IXIT	A standard provided by ETSI that covers the entire test development process.	IXIT is used for the quality checks of national IACS by the European Commission.
Jupyter notebook		The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. Uses include data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more.	Jupyter notebook is used by several NIVA tools.
keycloak		Keycloak is an open source software product to allow single sign-on with Identity and Access Management	Keycloak is used by the NIVA AgriSmart platform.
K-Nearest Neighbour	KNN	K Nearest Neighbour is a simple algorithm that stores all the available cases and classifies the new data or case based on a similarity measure. It is mostly used to classifies a data point based on how its neighbours are classified.	
Kubernetes cluster		A Kubernetes cluster is a set of node machines for running containerized applications.	Kubernetes cluster is used by one of the NIVA tools (AI tool for automatic interpretation of geotagged photos).
Lambert Azimuthal Equal Area	LAEA	The Lambert azimuthal equal-area projection is a particular mapping from a sphere to a disk. It accurately represents area in all regions of the sphere.	The Coordinate Reference System for the kilometric grid used to compute and display the biodiversity indicator (NIVA UC1b) is using the LAEA projection, based on the ETRS 89 datum.
Land Parcel Identification System	LPIS	This computer database contains all agricultural areas that are eligible for a payment under the Common Agricultural Policy under the payment schemes mainly identified by the EU Reg.	The LPIS in one of the main registries of the IACS and provides the identification of land elements which are used to determine the areas eligible under a certain payment, or that

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		<p>1307/2013 and 1305/2013. It operates at reference parcel level. It enables the unique and unambiguous localisation of each agricultural parcel annually declared by beneficiaries and ensures that such declared parcels are also reliably identified.</p> <p>Its main purpose is to determine the maximum eligible area for the purpose of different payment schemes and to cross-check overpayments.</p>	have to be checked/monitored by other systems.
Land Cover Classification System	LCCS	The Land Cover Classification System (LCCS) was developed by FAO to provide a consistent framework for the classification and mapping of land cover.	The LCCS includes a crop type classification that is considered as of interest by NIVA for a potential common crop type list.
Landsat		Landsat is a long-running American programme for acquisition of satellite imagery of Earth	Images from Landsat-8 are of interest for EO monitoring of CAP.
Leaf Area Index	LAI	Leaf area index (LAI) is a dimensionless quantity that characterizes plant canopies.	LAI may be derived from Sentinel or other satellite images and is widely used in EO processing and so of interest for NIVA
Long Short-Term Memory	LSTM	Long Short-Term Memory (LSTM) networks are a type of recurrent neural network capable of learning order dependence in sequence prediction problems.	
Machine-learning		<p>A machine-learning process is based on the possibility for the machine to induce decision rules from a set of labelled examples (called training data).</p> <p>It is widely used in EO processing.</p>	Machine-learning is used in NIVA by several Use Cases
Deep-learning		<p>Deep learning is part of a broader family of machine learning methods based on artificial neural networks with representation learning.</p> <p>Regarding EO processing, whereas the machine-learning</p>	Deep-learning is used in NIVA by several Use Cases

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		may allow some human help by defining the image characteristics to be taken into account to define the decision rules, the deep-learning is fully automatic.	
Linked Open Data	LOD	Data that is both linked ( i.e. structured data which is built upon standard Web technologies and interlinked with other data so it becomes more useful through semantic queries) and open (i.e. released under an open license, which does not impede its reuse for free).	Linked Open Data is currently seen as the highest degree of data opening also called “five stars”
Livestock System		The element of the IACS responsible to record animals if the MS is providing financial support under the CAP	The Livestock system is a mandatory system for MS that are supporting beneficiaries based on livestock.
Long Term Archive	LTA	System of storage for the Sentinel images older than a few months on the ESA hub: access to LTA images require more complex procedures.	
Land Use/Cover Area frame Survey	LUCAS	LUCAS is a Land Use & Land Cover product of the European Commission (Eurostat). This product is captured according LUCAS related classifications.	The LUCAS Land Cover classification includes a crop type list of interest for NIVA.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
Land Use, Land Use Change and Forestry	LULUCF	LULUCF is defined by the United Nations Climate Change Secretariat as a "greenhouse gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human-induced land use such as settlements and commercial uses, land-use change, and forestry activities."	LULUCF is encompassing emissions and removals mainly from forests, but also from cropland, grasslands, wetlands, settlements and other lands. IACS data may be useful for the LULUCF inventory.
MACCS-ATCOR joint algorithms	MAJA	MAJA is one of the cloud detection algorithms most frequently used for Sentinel-2 images. It was developed by the French and German spatial agencies.	MACCS : Multi-mission Atmospheric and Cloud Detection Software MAJA has been used by the Sen4CAP project
Mobile app for replacing On The Spot Check	MAROTSC	Name of an application submitted under the NIVA WP6 call for pilot validation. MAROTSC aims to test the components developed by NIVA UC4a.	
Monitoring Agricultural Resources	MARS	Annual conference organised by JRC	MARS conferences have been identified potential events where NIVA might be presented.
Military Grid Reference System	MGRS	MGRS is the geocoordinate standard used by NATO militaries for locating points on Earth. The MGRS is derived from the Universal Transverse Mercator (UTM) grid system. The MGRS is used as geocode for the entire Earth.	MGRS is used for the tiling of Sentinel data.
Multi Diversity Index	MDI	In the NIVA context, an index taking into account several kinds of taxons.	The NIVA UC1b biodiversity index is an MDI
Minimum eligible area	MEA	Minimum eligible area for allocating entitlements and claiming payments under the Basic Payment Scheme	
Multi Actor Approach	MAA	A multi-actor approach aims to make innovation fully demand-driven, involving concerned actors during the whole cycle	NIVA is applying a multi-actor approach; the concerned actors include farmers, farmers' groups, PAs, Public Administrations, researchers, citizenship, etc.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
MobileNet		Convolutional Neural Networks for Mobile Vision Application.	MobileNet is a technology envisaged by the NIVA project for the automatic interpretation of geotagged photos, using deep-learning approach.
Monitoring		In common language, monitoring is about observing and checking the progress or quality of (something) over a period of time and keeping it under systematic review.	In the NIVA project context, “monitoring” is often used as synonymous for “Smart monitoring”.
Area Monitoring System	AMS	The AMS is the IACS element required by MS that apply the Checks by Monitoring approach. It monitors the land parcels declared under the GSAA to collect data on elementary conditions required to verify the land eligibility to a payment. It is limited to checks on land.	The AMS works through satellite images and uses geospatial technology. When it cannot determine certain conditions, it can request a follow-up action. Usually the overarching process to arrive to a final decision is managed by the ICS element.
Check by Monitoring	CbM	A monitoring approach using automated processes based on the Copernicus Sentinel data and possibly other new technologies, such as drones and geo-tagged photographs or data captured by other satellites, as additional evidence for checking compliance under the CAP.  In June 2017, the Commission proposed legislative changes allowing the Member States to apply this new approach called <b>‘checks by monitoring’</b> as of 2018	
EO monitoring		Monitoring of farmer declaration based on Earth Observation data, mainly satellite images such as Sentinel.	In the NIVA context, the term “EO monitoring” is generally used for the first phase of the new monitoring process (smart monitoring), i.e. it generally excludes the decision rules on traffic lights and the process of alternative evidences.
Smart Monitoring		Continuous monitoring based on satellite data (especially Sentinel images) and automated classification algorithms to check	One of the objectives of the NIVA project is to develop tools to implement the Smart Monitoring

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		the farmers' claims, according to regulation 1306/2013 article 110.	in real conditions.
Mundi		Mundi is one of the five DIAS (Copernicus Data and Information Access Services) cloud-based platforms. It is managed by Atos.	
National Strategic Plan		EU countries will implement the new CAP (2023 -2027) with a CAP strategic plan at national level. Each plan will combine a wide range of targeted interventions addressing the specific needs of that EU country and deliver tangible results in relation to EU-level objectives, while contributing to the ambitions of the Green Deal	
Normalised Difference Infrared Index	NDII	This index is a reflectance measurement that is sensitive to changes in water content of plant canopies.	NDII is an index used in one of the NIVA tools (advanced EO tool for CAP monitoring).
Normalised Difference Tillage Index	NDTI	An index aiming to measure tillage intensity and crop residues. It is based on combination of SWIR (Short Wave Infrared) bands.	NDTI is an index used in one of the NIVA tools (advanced EO tool for CAP monitoring).
Normalized Difference Vegetation Index	NDVI	The density of vegetation (NDVI) at a certain point of the image is equal to the difference in the intensities of reflected light in the red and infrared range divided by the sum of these intensities.	NDVI may be derived from Sentinel or other satellite images and is widely used in EO processing and so of interest for NIVA
Net Ecosystem Exchange	NEE	Net ecosystem exchange (NEE) is a measure of the net exchange of Carbon between an ecosystem and the atmosphere (per unit ground area).	NEE is computed by some of the NIVA UC1b carbon indicators.
Next Generation Service Interfaces	NGSI-LD	NGSI-LD is an API that aims to enable applications to discover, access, update and manage data and context information from many different sources as well as to publish it through interoperable data publication platforms like Open Data	

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		platforms. It is provided by ETSI. It is used among others for Smart Agriculture.	
A New IACS Vision in Action	NIVA	The project described by this glossary and by the web site in general.	NIVA aims to modernise IACS by making efficient use of digital solutions and e-tools, by creating reliable methodologies and harmonised data sets for monitoring agricultural performance while reducing administrative burden for farmers, paying agencies and other stakeholders.
NIVA Dashboard Supervisor	NIDAS	Optional NIVA component for certificate data quality and provenance	A NIVA common component mainly dedicated to the audit and validation of the datasets used as input for the Seamless Claim (UC5b)
ONDA		ONDA is one of the five DIAS (Copernicus Data and Information Access Services) cloud-based platforms. It is managed by Cerco Italia.	
Open access	OA	The Open Access (OA) publication provides principles for the publication of academic work.	NIVA will follow the OA principles.
Open Authorization	OAuth	OAuth is an open standard for access delegation, commonly used as a way for Internet users to grant websites or applications access to their information on other websites but without giving them the passwords	OAuth is used by various FMIS providers.
Optical Character Recognition	OCR	The electronic or mechanical conversion of images of typed, handwritten or printed text into machine-encoded text.	OCR is one of the technologies used by Robot framework, the data mining tool of UC2.
Open Innovation	OI	In research and development domains, Open Innovation is used for Innovation modes funded on sharing and collaboration between stakeholders	NIVA developments are done under the Open Innovation principles.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
Operational trial		For each Use Case of the NIVA project, Innovation achievements of the project are tested under real conditions in several Member States	Operational trials are scheduled on third year of the project (3 <sup>rd</sup> cycle or 3 <sup>rd</sup> wave). Operational trials have been renamed “deployment”
Open Call		In the NIVA project context, the mechanism that be used to have the tools developed outside the project partners (by subcontracting) or adopted by other stakeholders (support to third parties).	Open call is the old name of WP6. WP6 is now called “call for software components and Pilot validations”.
orchestrator		In system administration, an orchestrator performs automated configuration, coordination and management of computer systems and software.	NIVA has developed an orchestrator component, mainly devoted to Use Case 1a about EO monitoring & traffic lights
orthophoto		An orthoimage is a raster image of the Earth surface that has been geometrically corrected ("orthorectified") to remove distortion caused by differences in elevation, sensor tilt and, optionally, by sensor optics.  Term “orthophoto” is commonly used for orthoimages coming from images taken by airborne sensors.	Orthophotos are input data for the LPIS change detection components developed by UC5a.
On The Spot Check	OTSC	Control of farmer declaration based on location	OTSC means a control done on a specific application with different means as allowed by the EU CAP Regulation. It can consist of a check done through remote sensing (photointerpretation), through a Rapid Field Visit, through a Full Field Visit. It can include land measurements or filling a check-list. Usually it is done on a representative sample as required by the EU Regulation.
Payment System		A mandatory system for Paying Agencies according to the EU rules on public spending. Under the CAP it is a mandatory requirement to receive the EU	The Payment System, although not included in the CAP Regulation, is a mandatory requirement for Paying Agencies to record the subsidy requests



CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		accreditation as a Paying Agency.	and to report the payments to the European Union. It shall also be used by MS Treasury departments to ask and receive funds from the EU and to manage a debtor's ledger.
Personally Identifiable Information (PII)	PII	PII is information that can be used by organizations on its own or with other information to identify, contact, or locate a single person, or to identify an individual in context.	In NIVA, PII has to be removed from geotagged photos by their automatic interpretation using AI processes.
Performance Monitoring and Evaluation Framework	PMEF	PMEF aims to monitor how MS agricultural policies achieve the CAP 2023-2027 objectives. It is based on National Strategic Plans, revised list of output, result and impact indicators, a common reporting approach and awarding & correction mechanisms, etc.	
Local pilot		Innovation experiences conducted in a local site (in practice, by one of the Paying Agency member of NIVA) for each Use Case of the NIVA project.	Local pilot is scheduled for the first year of the NIVA project. "local pilot" and "Single MS pilot" are synonymous.
Single MS pilot		Innovation experiences conducted in a single Member State, for each Use Case of the NIVA project.	Single MS Pilot is scheduled for the first half of the NIVA project (1 <sup>st</sup> cycle ou 1 <sup>st</sup> wave). "Local pilot" and "Single MS pilot" are synonymous.
Multi MS pilot		Innovation experiences conducted in several Member State, for each Use Case of the NIVA project.	Multi MS Pilot is scheduled during the second year of the NIVA project (2 <sup>nd</sup> cycle or 2 <sup>nd</sup> wave).
Planet		A programm of satellite images coming from an American private Earth imaging company. The goal is to image the entirety of the Earth daily.	Images from Planet are of interest for EO monitoring of CAP, especially for small parcels.
Prefilled application		Graphical material and information that is given to the beneficiaries in GSAA in order to support the application filling by	In the NIVA context, tools and methodologies preparing the prefilled application are developed by UC2.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		the farmer.	
Processing of Personal Data	PODP	Title of a NIVA deliverable that aims to ensure that the processing of personal data by the NIVA project complies with ethical principles and relevant national, EU and international legislation.	
Preliminary parcel boundary detection and delineation	PPBDD	In NIVA, one of the UC2 component that detects changes in parcel boundaries and suggests new delineation, based on processing of satellite images. This information is then used for the prefilled application.	
Plant phenology Index	PPI	The Plant Phenology Index (PPI) is a new vegetation index optimized for efficient monitoring of vegetation phenology. It is derived from radiative transfer solution using reflectance in visible-red (RED) and near-infrared (NIR) spectral domains	PPI is proposed by the Copernicus High Resolution Vegetation Phenology and Productivity (HR-VPP) products
Production unit		In the NIVA context, a production unit is an agricultural holding used for economic activities in agriculture and managed by a farmer.	NOTE : This NIVA definition of a production unit refers to the Farm Holding as defined in the EU regulation about Integrated Farm Statistics.
Prosumer		Producer and consumer	Farmers are prosumers of IACS.
Public Sector Information	PSI	European Directive about re-use of public data. PSI has been replaced by the Open Data Directive.	IACS data was under scope of PSI Directive (and is now under scope of Open Data Directive).

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
	R	R is a programming language and free software environment for statistical computing and graphics.	R is used by some NIVA Use cases for the development of their e-tools.
radar		Radar is active data collection: the satellite-borne sensor emits its own energy, in the form of a signal and then records the amount of that energy reflected back (reflected backscatter) after interacting with the Earth. Radar can “see” through darkness, clouds, and rain.	Sentinel-1 is radar.
Random Forest		Random forests or random decision forests are an ensemble of learning methods for classification, regression and other tasks that operate by constructing a multitude of decision trees at training time	Random Forest is a process widely used for crop type classification in the smart monitoring processes.
Reference Parcel		A geographically delimited area retaining an unique identification as registered in the identification system for agricultural parcels referred to in Article 70 of Regulation (EU) No 1306/2013.	
Reference Plot		In the NVA context, the intersection between agricultural blocks and reference parcels	
Residual neural Network	ResNet	ResNet is an artificial neural network (ANN). ResNet makes it possible to train up to hundreds or even thousands of layers and still achieves compelling performance.	NIVA is envisaging the use of ResNet for the development of an AI based tool dedicated to automatic interpretation of geotagged photos.
Recurrent Neural Network	RNN	Recurrent Neural Networks are used in deep-learning, mainly for image or video data.	
ResUnet		A fully convolutional network for semantic segmentation. (Convolutional network being a class of deep learning methods, most commonly applied to analyzing visual imagery)	ResUnet is a technology adopted by UC2 (prefilled application).

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
ResUNet-a		A deep learning framework for semantic segmentation of remotely sensed data	ResUnet-a is a technology adopted by UC2 (prefilled application).
Key exploitable result	KER	According to the Horizon 2020 text, a <b>result</b> is defined as: “Any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected, which are generated in the action as well as any attached rights, including intellectual property rights”. A <b>Key Exploitable Result (KER)</b> is an identified main interesting result (as defined above) which has been selected and prioritised due to its high potential to be “exploited” – meaning to make use and derive benefits- downstream the value chain of a product, process or solution, or act as an important input to policy, further research or education. In order to select and prioritise results, the following criteria should be used: a) degree of innovation, b) exploitability and c) impact.	NIVA being a Horizon 2020 project, aims to deliver Key exploitable results.
Robot framework		Robot Framework is a generic test automation framework for acceptance testing and acceptance test-driven development	Robot framework is the tool adopted by UC2 (prefilled application) for data mining in external registers.
Robotic Process Automation	RPA	RPA systems develop the action list by watching the user perform that task in the application's graphical user interface (GUI), and then perform the automation by repeating those tasks directly in the GUI.	The UC2 data mining tool Robot Framework is using RPA technology.
Standard Archive Format for Europe	SAFE	SAFE is designed to act as a standard format for archiving and conveying Earth observation data within the	SAFE is the format of Sentinel images.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		European Space Agency (ESA) archiving facilities and, potentially, within the archiving facilities of cooperating agencies.	
Simple Algorithm for Fluxes and Yield Estimates	SAFY- CO2	SAFY-CO2 is an agro-meteorological model whose objective is to estimate carbon storage by the plant, by making a direct link between this storage and the biomass observed by satellite. The model has been developed by INRAE and CNRS.	SAFY-CO2 is the starting point for the computation of carbon indicator Tier 3 in the NIVA UC1b.
Single Area Payment Scheme	SAPS	Due to limited administrative capacities and the absence of historical data, new member states (i.e. those that joined the European Union in 2004 and 2007) were granted the possibility of applying the single area payment scheme instead of applying the standard direct payment schemes. [from European Commission glossary]	
Synthetic Aperture Radar	SAR	A radar whose sensor aperture is managed by digital means	Sentinel-1 is a SAR
	SAREF2 AGRI	SAREF states for Smart Applications REference and is an ontology provided by ETSI. SAREF2AGRI extends SAREF for the Smart Agriculture and Food Chain domain	
Smart Contract	SC	A smart contract is a computer protocol intended to digitally facilitate, verify, or enforce the negotiation or performance of a contract. Smart contracts allow the performance of credible transactions without third parties.  In the NIVA context, a digital contract between farmers and	There will be different kinds of smart contracts depending on the payment support.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		Paying Agencies, used for Seamless Claim (UC5b), and specifying the conditions of the monitoring process.	
Seamless Claim		By properly combining several datasets and using innovative technologies, it seamlessly provides farmers with advisory and validated payments thus reducing, if not eliminating, sanctions.	
Semi natural cover types		In rural areas, land cover types with no or limited human action. In practice, what is neither agricultural land nor artificialized land. Semi natural cover types include natural bare soil, hydrography and vegetation such as woods, hedges ...	The quantity of semi natural cover types is among the landscape characteristics that have an impact on the biodiversity indicators of NIVA UC1b.
Semi natural elements	SNE	In NIVA context, SNE is sometimes used as synonymous of semi natural cover types.	
Semi natural habitats	SNH	In NIVA context, SNH is sometimes used as synonymous of semi natural cover types.	
Sentinel		Satellite constellation for Earth Observation. The Sentinel missions are part of the Copernicus programme.	The images Sentinel-1 (radar) and Sentinel-2 (optic) are expected to be used in the smart monitoring process and so, in the NIVA project.
SentinelHub		Service-oriented satellite imagery infrastructure takes care of all the complexity of handling satellite imagery archive and makes it available for end-users via easy-to-integrate web services. SentinelHub is run by Sinergise.	NPA has installed the Preliminary Parcel Delineation Tool developed by NIVA UC2 (prefilled application), using SentinelHub.
Shannon index		It is a diversity index, i.e. a mathematical measure of species diversity in a community. Diversity indices provide information about community composition, such as species richness (i.e., the number of species present) and the relative	The NIVA Use Case UC1b envisaged to use the Shannon index in the computation of the biodiversity indicator. The Simpson indicator was finally chosen.

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		abundances of different species .	
Social Innovation	SI	Social innovation consists in elaborating new answers to social new requirements or to unsatisfied existing ones in the current conditions related to market or to social policies, by involving participation and cooperation of involved stakeholders, especially users.	The Social Innovation principles are recommended in the NIVA project.
National Agriculture Information System	SIAN	SIAN is the single, integrated information system in use by the various departments or agencies of the Italian Ministry of Agriculture.	The NIVA Seamless Claim components (UC5b) are expected to be used within the SIAN
Sistema Informacion de Explotaciones agruarias	SIEX	In Spain, a new information system gathering, data about farms from various public bodies This new system (2022 and after) aims to reduce farmer administrative burden by simplifying the recording of his/her activities (including the CAP declaration).	The SIEX is based on the work conducted by the NIVA Use Case on Farm Registry (UC3).
Simpson index		It is a measure of diversity which takes into account the number of species present, as well as the relative abundance of each species	Simpson index has been used for the crop richness, one of the landscape characteristics used as input data to compute biodiversity indicator (NIVA UC1b)
Single Looks Complex	SLC	SLC is one of the derived products from Sentinel-1. It includes both the amplitude and the phase information of the backscatter (return) signal.	
Sentinel Application Platform	SNAP	SNAP is an open source common architecture for ESA Toolboxes and for the exploitation of Earth Observation data.	In EO monitoring context, SNAP is often used for the preprocessing of Sentinel-1 images
SOBLOO		SOBLOO is one of the five DIAS (Copernicus Data and Information Access Services) cloud-based platforms. It is managed by a consortium led by Airbus, Orange Business Services and Capgemini	
SOSTARE		A diagnostic system to assess sustainability at farm level.	SOSTARE model is of interest for the NIVA UC1c (farmer

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		SOSTARE was developed by JRC. It includes a set of indicators that can provide an immediate valuation of a farm's economic, agronomic and ecological performance.	performance).
Shuttle Radar Topography Mission	SRTM	In EO monitoring context, name of a Digital Elevation Model, covering almost whole inhabited Earth (from 56° S to 60°N). SRTM comes from international research effort. Its resolution in Europe is one arcsecond. Data is freely available.	SRTM is often used for the orthorectification of Sentinel images.
Social Spaces for Research and Innovation	SSRI	Social Spaces for Research and Innovation (SSRI) <sup>1</sup> are defined as organizational ecosystems in which the research and innovation activities are guided by the necessities and constraints of the social communities that benefit from the results, involving, in a balanced way, all the actors present in the research and innovation value chain	NIVA aims to build such SSRI, mainly through its work package Innovation ecosystem (WP5)
SpatioTemporal Asset Catalog	STAC	STAC is an open specification that evolved from different organizations coming together to increase the interoperability of searching for satellite imagery.	STAC is considered as of interest for NIVA (especially regarding EO monitoring activities).
Support Vector Machine	SVM	A support vector machine (SVM) is a computer algorithm that learns by example to assign labels to objects.	
Swagger		Swagger is an Interface Description Language for describing RESTful APIs expressed using JSON. Swagger is used together with a set of open-source software tools to design, build, document, and use RESTful web services. Swagger includes automated documentation, code generation, and test-case generation	Some NIVA tools are using Swagger.

<sup>1</sup> [www.researchspaces.eu](http://www.researchspaces.eu)



CAP or NIVA terms			
Name	Acronym	Definition	Explanation
TensorFlow		TensorFlow is a free and open-source software library for machine learning and artificial intelligence. It can be used across a range of tasks but has a particular focus on training and inference of deep neural networks.	In the NIVA project, TensorFlow is expected to be used for the development of a tool for automatic interpretation of geotagged photos.
Theory of change		Theory of Change is essentially a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context.	NIVA has described its theory of change through the definition of output, outreach and adoption KPI.
Third Party		Party external to a given system.	In the NIVA context, third party is used both for the external systems that are candidates for data exchange with IACS such as FMIS (WP3) or for the stakeholders that should be encouraged to use the NIVA assets, mainly the Paying Agencies not partners of the NIVA project (WP6).
Tier		Tier is used for ranking, i.e. for a relationship involving order between a set of observations or variables	There are several Tiers of the agro-environmental indicators developed by UC1b, depending on the input data and resulting indicator.  Tier I indicator are using data widely available and providing coarse results whereas Tier II or III indicators are using more data and providing better results.
Top Of Atmosphere	TOA	Top of Atmosphere (TOA) is used for an optic signal as received by the sensor, i.e. once the signal has crossed the atmosphere and been influenced by it (e.g. cloud radiation).	
Traffic Light		Traffic Lights are intermediary results in the continuous smart monitoring process, indicating if the degree of reliability of the farmer declaration.  In summary, the traffic light is green when the monitoring	

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
		operation results are in agreement with the farmer declaration, red in case of disagreement and yellow in case of doubt.	
Technology Readiness Level	TRL	Degree of maturity of a technology	One of the objectives of the NIVA project is to increase the TRL of the CAP monitoring components.
Use Case	UC	In the NIVA project context, a Use Case addresses a specific issue to be solved (at least partly) by the practical tools that will be developed by the project.	There are 9 Use Cases in the NIVA project.
Unicode Transformation-8	UTF-8	UTF-8 is an encoding system for a wide range of character sets (or alphabets). It is recommended by ISO, by World Wide Web Consortium (W3C) and by Internet Engineering Task Force (IETF).	UTF-8 is recommended also by NIVA.
Universal Transverse Mercator	UTM	Universal Transverse Mercator (UTM) coordinate system is a standard set of map cylindrical projections. The UTM system consists of 60 zones, each 6-degrees of longitude in width.	Sentinel images are initially provided in UTM.
Voluntary Coupled Scheme	VCS	One of support schemes listed in Annex I ("direct payments"). 1307/2013 Title IV, Chapter 1 In practice, it is related to the support for production of specific crops.	VCS is one of the eligibility rules that will be implemented in the Decision Support System of UC1a
Very High Resolution	VHR	In NIVA context, resolution finer than 1 metre.	
Virtual Machine	VM	A Virtual Machine is a compute resource that uses software instead of a physical computer to run programs and deploy apps.	Example: CREODIAS is proposing a preconfigured VM for EO monitoring.
WEKEO		WEKEO is one of the five DIAS (Copernicus Data and Information Access Services) cloud-based platforms. It is managed mainly by EUMETSAT, ECMWF and Mercator Ocean).	

CAP or NIVA terms			
Name	Acronym	Definition	Explanation
World Geodetic System 1984	WGS 84	WGS 84 is a global geodetic system. It is the coordinate reference system used by GPS.	
Work Package	WP	Usual way to organize the activities in a European project. Set of tasks aiming to achieve a high level objective.	There are 7 Work Packages in the NIVA project.
Gradient Boosted Tree	Xgboost	Gradient boosting is a machine learning technique used in regression and classification tasks, among others.	Gradient Boosted Tree is used by the advanced EO tool for CAP monitoring developed by NIVA (WP6).

**Table 5 CAP or NIVA terms**

General acronyms	
Acronym	Full name
AI	Artificial Intelligence
AOI	Area of interest
API	Application Programming Interface
BDTI	Big Data Test Infrastructure
CAPI	Computer Aided Photo Interpretation
COTS	Commercial off-the-shelf
CSV	Comma Separated Values (format for tabular data)
CSW	Catalogue Service for the Web
DSI	Digital Service Infrastructure
eID	electronic Identifier
ECW	Enhanced Compressed Wavelet (image format)
EC	European Commission
ETS	Executable Test Suite
EU	European Union
ICT	Information & Communication Technologies
IT	Information Technologies
GEOSS	Global Earth Observation System of Systems
GHG	Greenhouse Gas
GIS	Geographic Information System
GML	Geographic Markup Language
GUI	Graphical User Interface
HTTPS	Hypertext Transfer Protocol Secure

General acronyms	
Acronym	Full name
IaaS	Infrastructure as a Service
IUT	Implementation Under Test
JPEG	Joint Photographic Expert Group (and related image format)
JSON	Java Script Object Notation (data format)
KML	Keyhole Markup Language
LUT	LookUp Table
MMS	Multi Member State
MrSID	MultiResolution seamless Image DataBase (image format)
MS	Member State (of the European Union)
NDAV	Number of Days with Active Vegetation
NetCDF	Network Common Data Form (format for coverage data)
NGO	Non Governmental Organisation
NIR	Near Infra Red
NSI	National Statistics Institute
PDF	Portable Document Format
PNG	Portable Network graphic (image format)
PPP	Plant Protection Product
QA	Quality Assessment (in CAP context)
REST	Representational State Transfer
REST API	Representational State Transfer API
SI	Spectral Indices
S-1	Sentinel-1
S-2	Sentinel-2
SAML	Security Assertion Markup Language
SDG	Sustainable Development Goal
SME	Small and Medium sized Enterprise
SMS	Single Member State
SQL	Structured Query Language
SWIR	Short Wave InfraRed
TIFF	Tagged Image File Format (image format)
TJS	Table Joining Service
TLSO	Trusted List Scheme Operators
ToR	Terms of Reference
TRL	Technology Readiness Level
UML	Unified Modelling Language
UX	User eXperience

General acronyms	
Acronym	Full name
W3C	World Wide Web Consortium
WCS	Web Coverage Service
WFS	Web Feature Service
WKT	Weel-Known Text
WMS	Web Map Service
WMTS	Web Map Tiled Service
WPS	Web Processing Service
XML	eXtensible Markup Language

**Table 6 General acronyms**