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SWIFTT

Satellites for Wilderness Inspection and Forest Threat Track

WP7 Project Management

D7.1 Co-learning, internal communication and project management handbook, including detailed risk analysis and risk management plan

Version: 1.0

Date: 27/01/2023

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Document control

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Lead Beneficiary	Wildsense
Editor(s)	Gauthier Masson
Contributor(s)	
Reviewer(s)	Thibault Sorret, Renan Picoreti Nakahara
Document description	This document provides information on the SWIFTT project management organization, including the management structure, descriptions of work packages and tasks, a meeting schedule, a list of deliverables, a deliverable quality process, and a project handbook. It also covers internal communication tools and repositories. It also includes a risk analysis and management section, which addresses technological, economical, environmental, commercial, and human risks.

[1]R: Document, report (excluding the periodic and final reports); DEM: Demonstrator, pilot, prototype, plan designs; DEC: Websites, patents filing, press & media actions, videos, etc.; DATA: Data sets, microdata, etc.; DMP: Data management plan; ETHICS: Deliverables related to ethics issues.; SECURITY: Deliverables related to security issues; OTHER: Software, technical diagram, algorithms, models, etc.

[2]PU – Public, fully open, e.g. web (Deliverables flagged as public will be automatically published in CORDIS project's page); SEN – Sensitive, limited under the conditions of the Grant Agreement; Classified R-UE/EU-R – EU RESTRICTED under the Commission Decision No2015/444; Classified C-UE/EU-C – EU CONFIDENTIAL under the Commission Decision No2015/444; Classified S-UE/EU-S – EU SECRET under the Commission Decision No2015/444

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Version control

Version	Editor(s) Contributor(s) Reviewer(s)	Date	Description
0.1	Gauthier Masson	06/01/2023	Table of content
0.2	Thibault Sorret	10/01/2023	Table of content
0.4	Gauthier Masson	17/01/2023	Intermediate document finished.
0.5	Thibault Sorret	17/01/2023	Intermediate document approved by reviewer.
0.8	Gauthier Masson	25/01/2023	Document finished by editor.
0.9	Renan Picoreti	26/01/2023	Document approved by reviewer.
1.0	Thibault Sorret	27/01/2023	Document released by Project Coordinator.

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Abstract

Forests are essential to life on Earth. They provide habitats for thousands of creatures and combat climate change through carbon sequestration. However, our forests are threatened by insect outbreaks, fires, windthrow and droughts. Notably, insect outbreaks are one of the leading causes of forest loss globally, destroying 85 Mha of forest worth €15B annually. At the same time, wildfires destroy 400 Mha annually on a global scale, according to the European Space Agency. The wind is also a significant forest disturbance agent in the temperate forests of France, Germany, and most of Europe.

Climate change affects forests, causing insects to breed more frequently. It also provides more dry fuel for global wildfires. The dry conditions increase the length of the fire season and the size of areas affected by the fire. In addition, both the frequency and the severity of large storms causing windthrow can be attributed to climate change. As a result, countless habitats are lost, and CO2 sequestered yearly decreases by over 4850M tons.

Our solution, SWIFTT, will provide a scientifically sound and technically feasible way to help monitor and manage forest risks: windthrow, insect outbreaks, and forest fires. SWIFTT will enable forest managers to adapt to climate change with affordable, simple and effective remote sensing tools backed up by powerful machine learning models. Our solution will offer a monthly health monitoring service using Copernicus satellite imagery to detect and map the various risks to which forests and their managers are exposed. Early threat detection aids timely intervention. SWIFTT will be tested in real conditions by several end-users from the forest industry, which include Fürstliches Forstamt, Groupe Coopération Forestière and the Rigas Mezi. We anticipate monitoring and protecting up to 40 Mha of global forests by 2030, saving foresters over €468M in monitoring costs and creating over 50 direct jobs.

Consortium

The SWIFTT consortium members are listed below.

Organisation	Short name	Country
Wildsense	WS	FR
Space Research Institute of the National Academy of Sciences of Ukraine	SRI	UA
University of Bari Aldo Moro (Department of Computer Science)	UNIBA	IT
Leibniz Universität Hannover - TNT	LUH	DE
Timbtrack	TT	BE
Fürstliches Forstamt (Donatus Prinz zu Schaumburg-Lippe)	FF	DE
Groupe Coopération Forestière	GCF	FR
Rigas Mezi	RM	LV
Da Vinci Labs	DVL	FR

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Disclaimer

Acknowledgement

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List of abbreviations

WP	Work package
WiP	Work In Progress

List of tables

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1. Executive summary

This document is a deliverable of the SWIFTT project, funded under grant agreement number 101082732.

This deliverable, “D7.1 Co-learning, internal communication, and project management handbook, including detailed risk analysis and risk management plan”, is part of Work Package 7 (WP7) “Project Management”. This WP “covers the complete project management. It will ensure the effective implementation of the project in line with the Commission, the Project Management (T7.1), Data Management (T7.2), and Co-learning and internal communication (T7.3).”

This deliverable provides a detailed guide on how the project team will collaborate and communicate internally, as well as how they will manage the project as a whole. This document also includes a comprehensive risk analysis and a risk management plan which will be used to identify potential hazards and implement measures to mitigate them.

Wildsense (WS) is the WP7’s lead beneficiary and is responsible for the project management plan as project coordinator. It will be continuously improved according to the performance of the project’s development. Intermediary reports will be made available every three months with quarterly reports.

2. Project management

2.1. Management structure

In this project, we have implemented a project management structure that utilizes the use of a Notion page as a central hub for all project-related information. The Notion page serves as a one-stop-shop for all project team members to access the project roadmap, tasks, contacts, meetings, documents, stakeholders, and deliverables list. It provides a comprehensive and intuitive platform for project management, allowing for easy organization, collaboration, and tracking of the project's progress.

Notion is an extremely useful tool for project management as it offers several benefits such as:

- It allows for easy organization and collaboration among team members.
- It is intuitive and user-friendly, making it easy for team members to navigate and find the information they need.
- It offers flexibility in customizing databases and pages to fit the specific needs of the project.
- It allows for real-time updates and tracking of project progress, tasks, deliverables, and meeting notes.
- It enables team members to access all project-related information in one place.

The Notion page includes several databases that serve specific objectives:

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- Project Roadmap database allows the team to have an overview of the project's progress.
- Tasks database allows the team to track and manage the status of each task.
- Contacts database allows the team to have a central location for all project-related contact information.
- Meeting database allows the team to keep track of all meetings.
- Documents database allows the team to store and share all project-related documents.
- Stakeholders database allows the team to keep track of all stakeholders.
- Deliverables list database allows the team to track and manage the status of each deliverable.

The Notion page is organized in a logical and structured way, with a clear separation between different sections. The Project roadmap displays the overall project schedule, while the task follow-up section allows team members to easily track the progress of each task. The contact list section provides a central location for all project-related contact information, while the meeting notes section allows team members to access meeting minutes and agendas. Finally, the stakeholder pages provide relevant information about each stakeholder.

Overall, the Notion page is an efficient and effective tool for project management and collaboration, allowing the project team to stay on track and ensure that all deliverables are completed on time. You will find screenshots of the Notion page below.

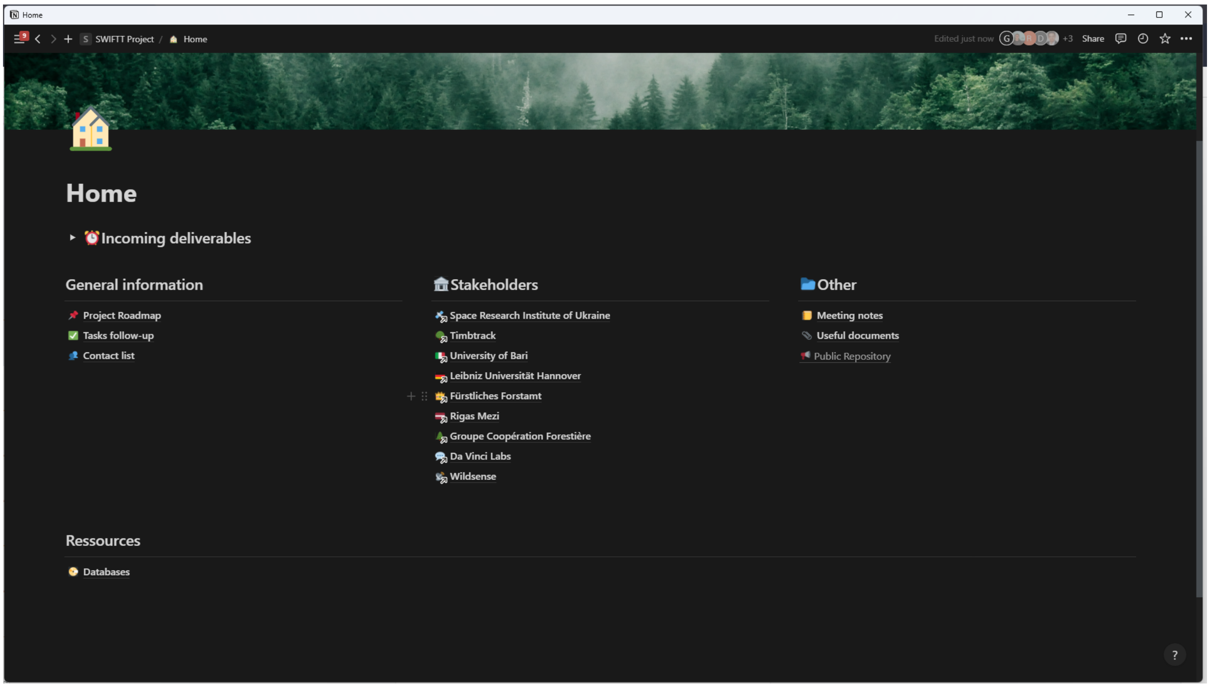

Figure 1: Home page

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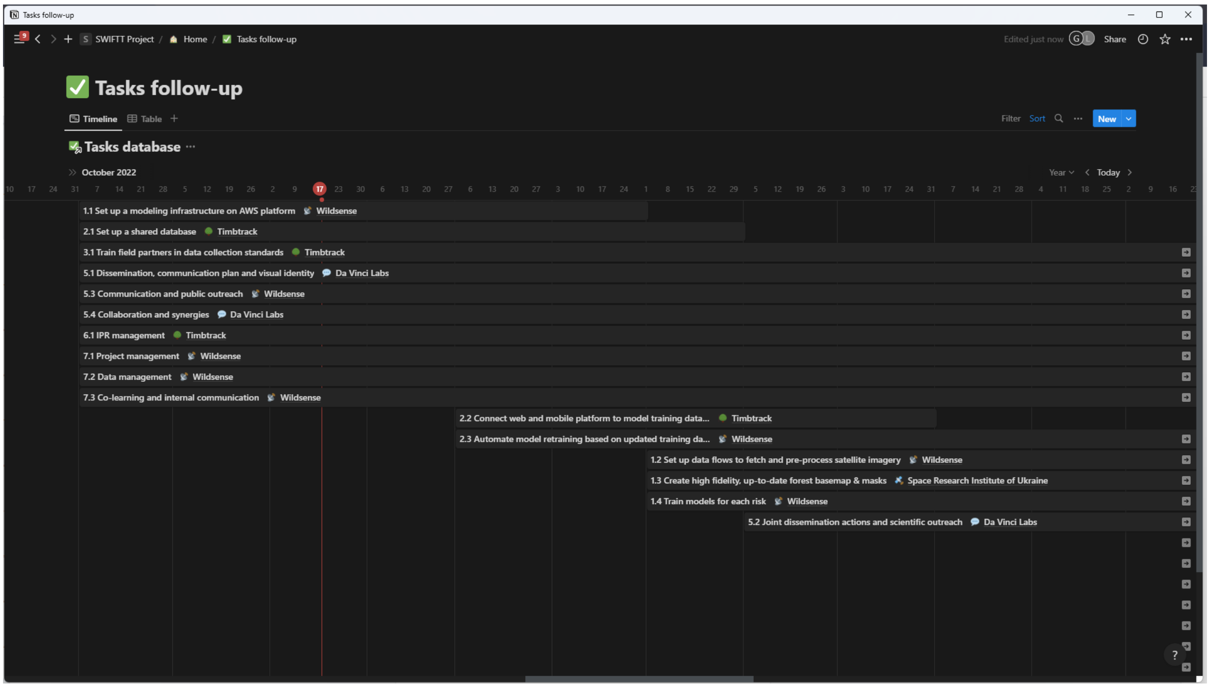

Figure 2: Task view

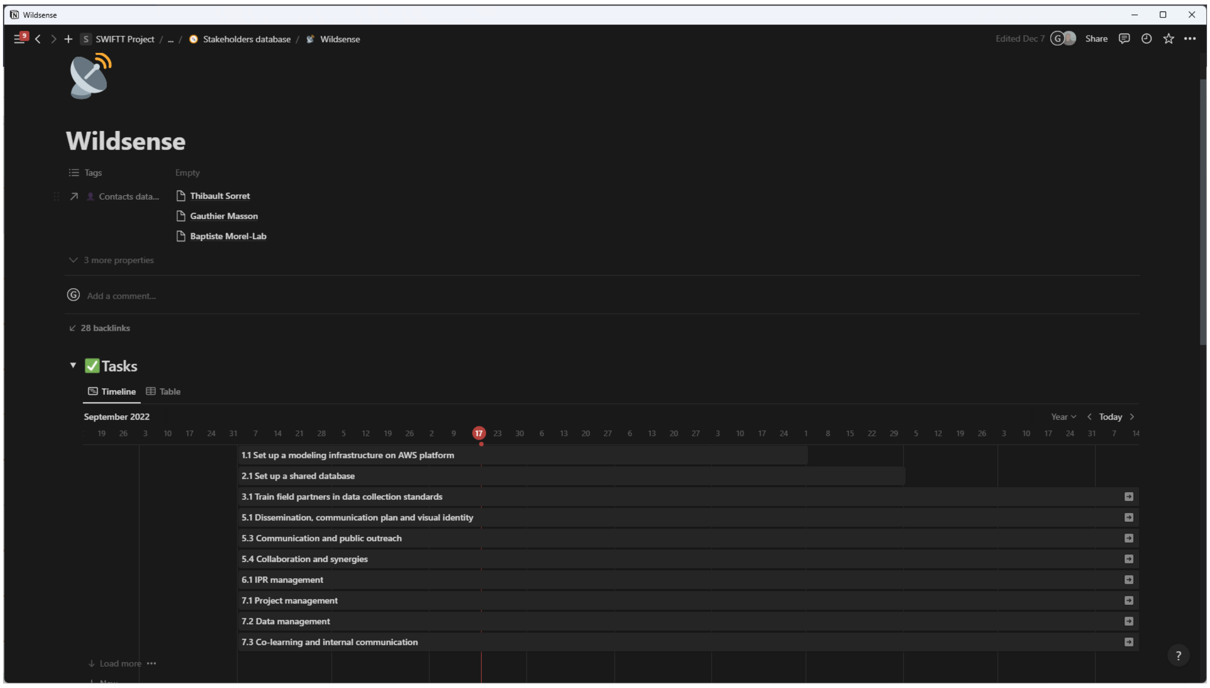

Figure 3: Partner's page

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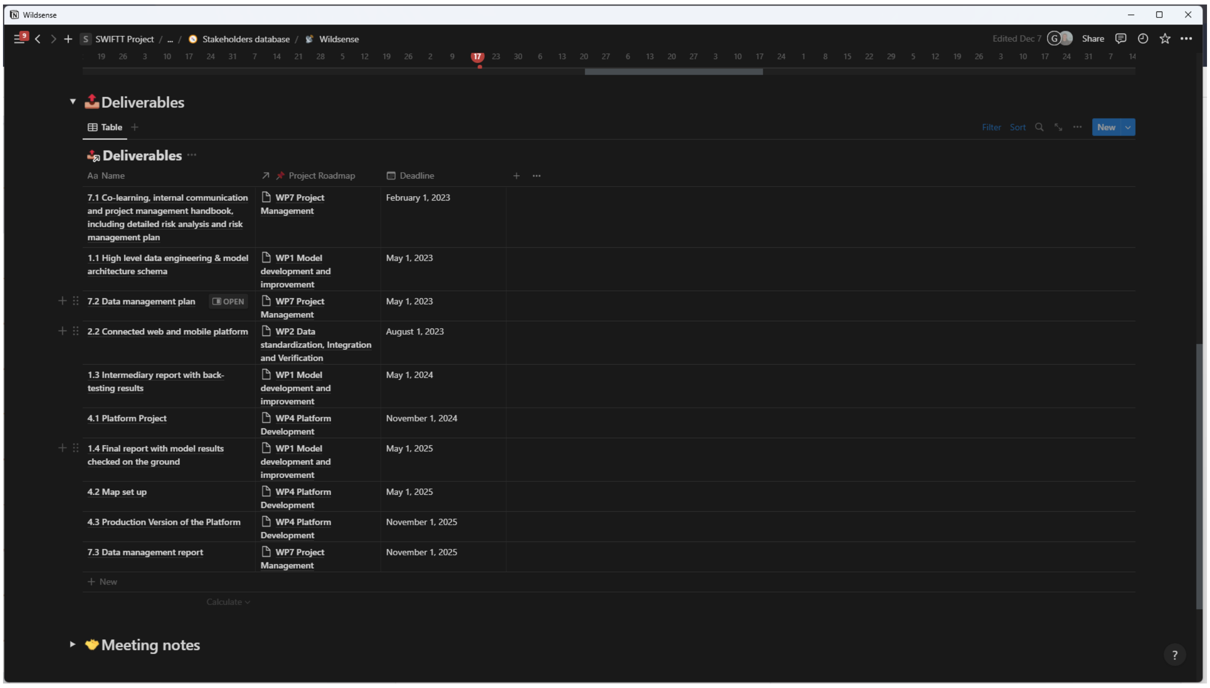

Figure 4: Deliverables follow-up

2.2. Work Package and Task descriptions

In this project, there are 7 Work Packages (WPs) that have been defined to ensure the successful completion of the project's objectives. Each WP is led by a WP leader and has a specific set of tasks that need to be completed. The project coordinator is Wildsense, who is responsible for the overall coordination and management of the project.

The first WP, WP1 Model development and improvement, is led by Wildsense and is focused on the development and improvement of models that are used to predict the risks associated with the project. Tasks under this WP include setting up a modeling infrastructure on the AWS platform, setting up data flows to fetch and pre-process satellite imagery, creating high-fidelity, up-to-date forest & masks, training models for each risk, and retraining the best-performing models with field data.

The second WP, WP2 Data standardization and Verification, is led by Timbtrack and is focused on ensuring the consistency and accuracy of the data used in the project. Tasks under this WP include setting up a shared database, connecting the web and mobile platform to the model training database, automating model retraining based on updated training data, running backtests to repredict previous reports and compare model accuracy, and updating the production model with the retrained version.

The third WP, WP3 Testing and Feedback, is led by Timbtrack and is focused on testing and evaluating the project's results. Tasks under this WP include training field partners in data

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collection standards, collecting feedback, running a second testing phase, and collecting additional feedback.

The fourth WP, WP4 Platform Development, is led by Timbtrack and is focused on developing the project's platform. Tasks under this WP include setting up the project, mapping setup, and configuration, and building the final version.

The fifth WP, WP5 Dissemination, Communication & Collaboration, is led by Da Vinci Labs and is focused on disseminating the project's results and collaborating with external stakeholders. Tasks under this WP include creating a dissemination and communication plan, jointly organizing dissemination actions and scientific outreach, communicating with the public, and identifying and leveraging collaboration synergies.

The sixth WP, WP6 Exploitation & Market Access Plan, is led by Timbtrack and is focused on ensuring the commercialization and exploitation of the project's results. Tasks under this WP include managing intellectual property rights, updating the business plan, and developing a market access plan.

Finally, the seventh WP, WP7 Project Management, is led by Wildsense and is focused on managing the project itself. Tasks under this WP include overall project management, data management, and internal communication and co-learning activities.

All WPs and tasks are closely coordinated and monitored by Wildsense to ensure that all deliverables are completed on time and within budget. The project management structure ensures that all team members are aware of their roles and responsibilities and that the project stays on track to achieve its objectives.

Work Packages and tasks progress can be easily tracked thanks to our Notion page, as shown in the screenshot below.

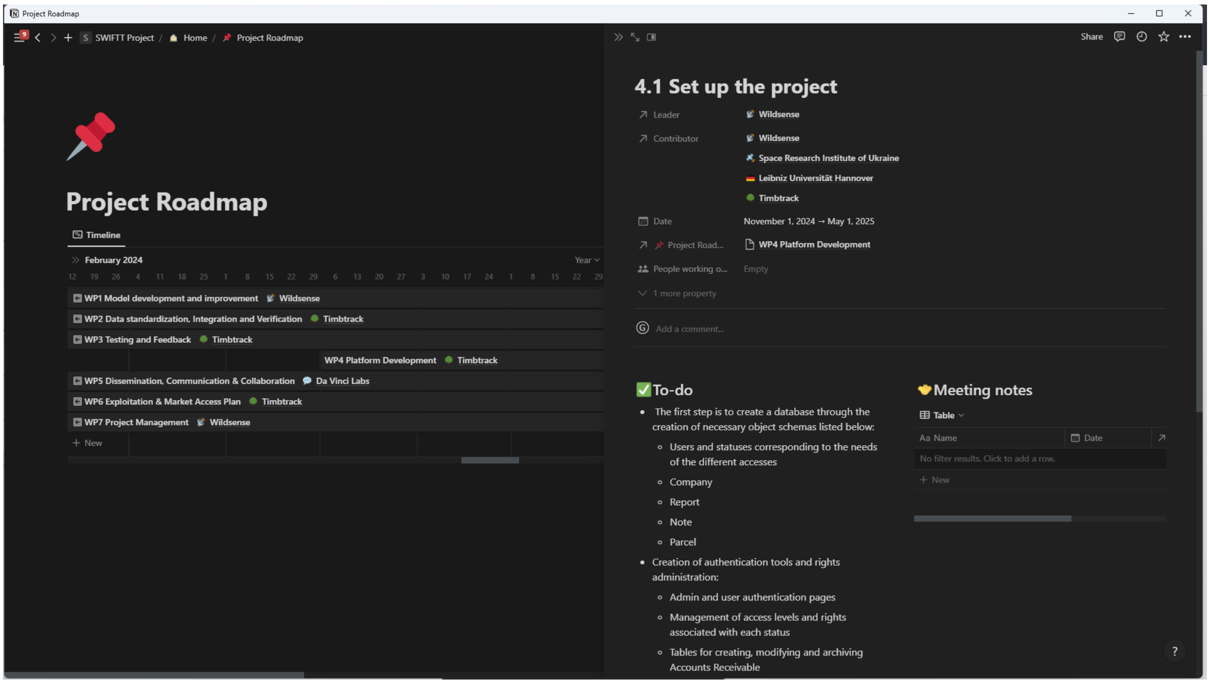

Figure 5: WP and tasks view on Notion

2.3. Meeting schedule

The project's meeting plan includes several types of meetings to ensure effective communication and coordination among consortium members. The first type of meeting is the Consortium annual meeting, which is an in-person meeting arranged by Wildsense. These meetings will take place at least once a year (date TBD) to review the progress of the project and plan for the upcoming year.

The second type of meeting is the Consortium monthly meeting, which is a virtual meeting arranged by Wildsense. These meetings will occur every month on the 4th Thursday and will serve as a forum for discussing project updates, addressing any issues or concerns, and planning for the upcoming month.

The third type of meeting is the WP meetings, which are virtual meetings arranged by the WP leaders. These meetings will take place 2x month until Month 12, after which the frequency will be revisited. Each Work Package has a different schedule:

- For WPs 1,7: every 1st and 3rd Thursday of the month, led by Wildsense
- For WPs 2,3,4,6: every 1st and 3rd Thursday of the month, led by Timbtrack
- For WP 5: every first and third Wednesday of the month, led by Da Vinci Labs

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2.4. Deliverable list

The project includes a total of 38 deliverables that will be submitted at various points throughout the project. The first deliverable is due at the end of Q1 (January 2023), and the last deliverable is due at the end of Q36 (October 2025). This list of deliverables includes 12 quarterly reports, which will provide updates on the progress of the project and serve as a record of the project's activities.

A full list of the deliverables, including their due dates and a brief description of their content, is available below for reference. These deliverables will be prepared and submitted by the project partners in accordance with the project's reporting and dissemination plan and will be reviewed and approved by the project coordinator and Project Management Team before submission to the funding agency.

Table 1 : List of deliverables

Name of the deliverable		WP	Lead beneficiary	Deadline
D5.1	Dissemination and communication plan and visual identity	WP5	Da Vinci Labs	Jan-23
D7.1	Co-learning, internal communication and project	WP7	Wildsense	Jan-23
D7.3	Quarterly report 1	WP7	Wildsense	Jan-23
D1.1	High level data engineering & model architecture schema	WP1	Wildsense	Apr-23
D7.2	Data management plan	WP7	Wildsense	Apr-23
D7.4	Quarterly report 2	WP7	Wildsense	Apr-23
D2.1	Shared database	WP2	TimbTrack	May-23
D2.2	Connected web and mobile platform	WP2	TimbTrack	Jul-23
D7.5	Quarterly report 3	WP7	Wildsense	Jul-23
D1.2	European-wide high fidelity forest cover maps	WP1	SRI	Oct-23
D7.6	Quarterly report 4	WP7	Wildsense	Oct-23
D2.3	Automated retraining model	WP2	Wildsense	Nov-23
D7.7	Quarterly report 5	WP7	Wildsense	Jan-24
D1.3	Intermediary report with back-testing results	WP1	Wildsense	Apr-24
D5.2	Intermediary report on dissemination and communication activities	WP5	Da Vinci Labs	Apr-24
D7.8	Quarterly report 6	WP7	Wildsense	Apr-24
D3.1	Protocol for field data collection	WP3	TimbTrack	Jul-24
D3.2	Report on First Feedback	WP3	TimbTrack	Jul-24
D7.9	Quarterly report 7	WP7	Wildsense	Jul-24
D4.1	Platform Project	WP4	Wildsense	Oct-24
D7.10	Quarterly report 8	WP7	Wildsense	Oct-24
D6.2	Value propositions for business plan	WP6	TimbTrack	Dec-24
D7.11	Quarterly report 9	WP7	Wildsense	Jan-25
D1.4	Final report with model results checked on the ground	WP1	Wildsense	Apr-25
D4.2	Map set up	WP4	Wildsense	Apr-25
D7.12	Quarterly report 10	WP7	Wildsense	Apr-25
D3.3	Report on Second Feedback	WP3	TimbTrack	Jul-25
D7.13	Quarterly report 11	WP7	Wildsense	Jul-25
D2.4	Updated and validated production model	WP2	TimbTrack	Oct-25
D4.3	Production Version of the Platform	WP4	Wildsense	Oct-25
D5.3	Final report on synergies and collaboration	WP5	Da Vinci Labs	Oct-25
D6.1	New IPR	WP6	TimbTrack	Oct-25
D7.14	Quarterly report 12	WP7	Wildsense	Oct-25

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2.5. Deliverable quality process

The deliverable quality process for this project includes several development steps that have been defined to ensure that all deliverables are of the highest quality and meet the standards set by the funding agency. The process is divided into several stages, each with a specific objective and deliverable version. The steps are as follows:

Milestone: The responsible person outlines the document's Table of Contents and provides a set of notes in each chapter describing the content of each chapter and section.

TOC proposed (v0.1): The editor constructs the document's Table of Contents. The document should be understandable and coherent even for a reader unfamiliar with the project.

TOC approved (v0.2): The reviewer has reviewed the document according to the guidelines. The document should be understandable and coherent even for a reviewer unfamiliar with the project.

Intermediate proposed (v0.4): When the editor considers the "earned value" of the deliverable to be 50% ready.

Intermediate approved (v0.5): The reviewer has reviewed the document according to guidelines and shared the editor's opinion that the document is approximately 50% ready.

ER proposed (v0.8): The editor considers the document finished.

ER Reviewed (v0.85) revised: The reviewer has reviewed the document according to guidelines and provided constructive comments on how to finalize the document.

ER revised (v0.9): The editor has taken the reviewer's comments into account and/or offered arguments for not complying with specific comments/suggestions provided by the reviewer if that is the case.

ER approved (reviewer) (v0.98): The reviewer has accepted the deliverable for external release.

ER released (Project Coordinator) (v1.0): Project Coordinator has checked the document for formal completeness and done a final quality check on the content. The document is converted to PDF and uploaded to the “Reporting to commission” database. The document has been sent to the commission.

This process ensures that each deliverable is reviewed and revised as necessary before being released and that the final product is of the highest quality and meets the standards set by the funding agency.

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2.6. Project handbook

Our project handbook, developed in collaboration with Polite, a consulting firm specializing in European projects, serves as a comprehensive guide for project management within the SWIFTT consortium. To ensure that our team is well-equipped to manage the project effectively, Polite organized two webinars on project management and cost, providing valuable insights and best practices for successful project management.

In addition, Polite created a set of templates to assist us in tracking key project metrics, such as personnel and software/equipment usage. These templates include personnel time sheets, budget control, exclusive personnel, non-exclusive personnel, software, and equipment timesheets, exclusive software/equipment, and non-exclusive software/equipment (pending), ensuring that we have accurate and up-to-date information at our fingertips. This handbook is an essential tool that will help us stay organized and on track as we work to deliver a successful project.

3. Internal communication

3.1. Internal communication tools

In order to ensure effective internal communication among partners, the SWIFTT consortium has established a comprehensive communication plan. This plan includes regular meetings, the use of multiple communication platforms, and a clear protocol for addressing different types of issues.

To keep all partners informed, we have scheduled bi-monthly work package meetings and monthly consortium meetings. These meetings provide a forum for partners to discuss progress, share information, and coordinate efforts.

For quick and easy communication, we have set up a WhatsApp project channel that can be used for answering quick issues and for general project-related conversations.

For more complex issues or for situations where clarification is needed, we have established protocols for calls or video calls communication.

Finally, email communication is used for more formal and official correspondence between partners.

Additionally, a master list of contact information for all partners has been created to simplify communication.

With these tools, we are confident that we can maintain open lines of communication and ensure that all partners are informed and engaged throughout the duration of the project.

3.2. Internal repositories

In order to ensure effective and efficient collaboration among all partners within the SWIFTT consortium, we have implemented several internal repositories.

The primary repository we use is Google Drive, where we share files, templates, and reports. This allows all partners to have access to the latest versions of important documents and facilitates collaboration on shared tasks.

Additionally, we have created a Notion page where we keep records of all our meetings and provide direct links to relevant documents on Google drive. This allows all partners to easily access and review meeting notes and stay informed of any updates or important information discussed.

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4. Risk analysis and management

In this project, we have identified several potential risks that could negatively impact the success of the SWIFTT consortium. These risks have been evaluated and assessed in order to develop a risk management plan to mitigate their impact.

4.1. Technological risk

On the technological part, The SWIFTT consortium's main risk is if we fail to reach an F-score above 0.80 in model performance. Indeed, it would strongly decrease our model reliability and thus hamper our ability to address market issues.

To address this risk, we have identified several criteria that must be considered in developing our models, including different types of terrain, forests, angle of the sun and sensors, mixed forests, the density of plantations, size of trees, and passage of clouds. Additionally, we have seen significant improvement in model performance, with an evolution of 30% to 73% precision in just four months.

4.2. Economical risk

The main economical risk we identified is the decorrelation between our burn rate and our revenues.

To mitigate this risk, we will focus on economies of scale and minimizing operational costs. By supervising an excess of 1 million hectares, we can earn over €1 million while keeping our operational costs low. For example, our satellite imagery data is obtained for free from the Copernicus Open Access Hub, saving on the investment of launching an independent satellite into orbit.

4.3. Environmental risk

The fragmented ownership of land in Europe, with 1.6 million owners possessing 1% of the land, presents a challenge in reaching enough clients to make the business profitable.

To address this risk, we will focus on reaching potential clients with high hectarages, such as landowner’s groups and cooperatives.

4.4. Commercial risk

Limited market penetration could prevent the generation of enough revenue to make the business viable.

To mitigate this risk, we will develop the SWIFTT platform with wide applicability to different forests and aim to penetrate multiple markets in parallel, starting with pilot projects in France, Germany, Latvia, and Austria.

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4.5. Human risk

The SWIFTT consortium faces a risk of limited adoption due to hesitation to change and concern by foresters.

To mitigate this risk, we shall leverage results obtained from our three pilots spanning over 2M Ha hectares to demonstrate the feasibility of SWIFTT. The satisfaction of the clients we are running pilots with will promote our attractive offer within the forestry sector. The end-users of the consortium (Rigas Mezi, Groupe Cooperation Forestière, and Fürstliches Forstamt) will perform the validation of the technology and will be the first early adopters. Additionally, we will target three other early adopters, including CFBL (Coopérative Forestière Bourgogne Limousin), AFB (Alliance Forêt Bois), and FBE (Forêts et Bois de l'Est) to increase market penetration and generate enough revenue to make the business viable.

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