



Plan for Communication, Dissemination and Exploitation

D6.1: Plan for Communication, Dissemination and Exploitation
WP 6, T 6.2

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Technical references

Project Acronym	FORWARDS
Project Title	The ForestWard Observatory to Secure Resilience of European Forests
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Project Duration	November 2022 – October 2027 (60 months)

Funded by the
European Union



Deliverable No.	D6.1
Dissemination level*	PU
Work Package	WP6 – Impact Assurance
Task	T6.2 – Communication, Dissemination and Exploitation
Lead beneficiary	ICONS
Contributing beneficiary/ies	SLU, WSL, UNIFI, EFI, WR, FCRA, BOKU
Due date of deliverable	30 April 2023
Actual submission date	28 April 2023

PU = Public

PP = Restricted to other programme participants (including the Commission Services)

RE = Restricted to a group specified by the consortium (including the Commission Services)

SEN = Sensitive, only for members of the consortium (including the Commission Services)

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Executive Summary

The plan sets out the strategy to effectively promote and exploit FORWARDS results. It defines the processes and activities to be implemented towards the maximization of impact. The plan integrates Dissemination, Exploitation and Communication (DEC) activities and builds an organic, comprehensive framework starting from the definition of Key Exploitable Results (KERs) and a preliminary mapping of stakeholder groups. It defines:

- key messages and the most suitable dissemination tools and channels;
- a timeline and the geographical level of action;
- the proper dissemination pathways;
- the initial exploitation strategies covering the identified KERs.

Moreover, the plan includes monitoring activities to ensure content outreach and engagement with the project, thus assessing its impact on target audiences.

Chapter 1 describes the FORWARDS integrated approach to dissemination, communication, and exploitation, including a summary of the key objectives.

Chapters 2 focus on communication, dissemination, and exploitation activities. The starting point is the preliminary identification of FORWARDS' key exploitable results that leads to the envisioning of possible exploitation pathways, the definition of the target audiences FORWARDS consortium wants to reach and the identification of key stakeholders that can support maximizing project impact. Subsequently, the chapter describes the key messages and different communication materials and formats that will be used to circulate information and promote the project's results. The document includes a preliminary list of events and clustering initiatives that will be targeted to guarantee a wide dissemination of the project's outcomes, during its duration and potentially after its end. This section also outlines how dissemination, exploitation and communication will be managed; it describes both the responsibility within the FORWARDS consortium and between ICONS and the rest of the partners involved in the activities. The monitoring part looks at ICONS monitoring processes with reference to the dissemination and communication activities' impacts, and the indicators that will be used to monitor the community's engagement with our communication materials.

Chapter 3 covers FORWARDS exploitation strategy, i.e., how the results of the project will be utilized to create impact and societal and economic value beyond the project itself. A key focus is given to the sustainability strategy of the ForestWard Observatory (as the key outcome of the project), where all other outputs, such as datasets, tools and methods, CSF management practices, will be made available to end-users. Preliminary exploitation and sustainability strategies are presented for other key results, including maintenance of the networks established, advancement of methods and tools developed, and further scientific research covering the project's key results.

Chapter 4 sums up the previous chapters and draws some conclusions.

This plan is a "living" document, which will be updated when necessary, during the project's implementation. New approaches and methods will be suggested based on regular review and evaluation of KPIs and engagement rates.

1. Introduction: an integrated approach to Exploitation, Dissemination and Communication

1.1 Introduction

FORWARDS will prototype the ForestWard Observatory, a pan-European monitoring and evaluation tool. By defining the impact of climate change on forest, the tool will guide decision-making in practical forest management.

To reach this goal it is fundamental to develop and manage an effective and efficient communication, dissemination, and exploitation strategy. Dissemination (D), Exploitation (E) and Communication (C) activities will be highly integrated and rolled out in synergy with each other to:

- raise visibility on the project and inform target groups and broader communities on the benefits and impacts of the project (C);
- share knowledge and engage the key players, key enablers and early-adopters involved with a dedicated and customised strategy (D);
- set the pathway to the exploitation of the FORWARDS results (E).

The impact-oriented and holistic approach of the FORWARDS “Plan for Communication, Dissemination and Exploitation” (PCDE) will be aimed at generating impacts through i) awareness and understanding; ii) acceptance of innovation; iii) uptake and upscale of the project’s results beyond the end of the project.

More specifically, the PCDE is propped up on the mapping of key exploitable results and stakeholders. This analysis allows the designing of targeted and direct actions (messages, contents, channels, tools, engagement activities) at different geographical levels over time. Additionally, it supports the further strategic elaboration of sustainability and exploitation strategies to leverage the project’s results after its end.

During the project, the identified stakeholders will enhance the mitigation potential of ecosystems and sectors based on the sustainable management of natural resources, as well as carry out an efficient monitoring, assessment and projections related to climate change impacts, mitigation, and adaptation potential to co-design solutions. Moreover, networking will be crucial to exploit synergies with projects, initiatives, and partnerships involved in the latest developments in pan-European forest monitoring.

The impacts and effectiveness of the strategy will be continuously monitored and measured through a proprietary methodology developed by ICONS based on a set of indicators and indexes, among them the Community Engagement - Index-CEI; the CEI measures the actual stakeholders’ engagement with the project. Monitoring activities will provide continuous feeds to the PCDE to optimize and upgrade it along the different project phases.

With regards to the exploitation process, the approach adopted will be comprehensive in scope, and cover all types of results (i.e commercial and non-commercial, products, services, knowledge advancement, etc) and every possible exploitation pathway. This will be achieved through a three-step approach:

- Step 1 – Identification of all KERs; FORWARDS will produce several KERs, which will be reviewed and updated during the project implementation and published on the Horizon Results Platform.
- Step 2 – IPR strategy management; considering the ambition of FORWARDS and its ForestWard Observatory to be widely adopted across the EU, no major registered IPR measures are foreseen.
- Step 3 – Exploitation and sustainability plan, detailing all steps for the successful replication, upscaling, sustainability, and uptake of FORWARDS' results after the project ends, built on specific pillars.

The overall goal is to pave the way for the exploitation of both individual and joint results, commercial and non-commercial, and ensure their sustainability. It is expected that through the implementation of an effective dissemination, exploitation and communication strategy, the stakeholders will support and adopt FORWARDS results, going beyond the project lifetime.

1.2. Objectives and approach to dissemination, communication, and exploitation

An effective DEC of the project development and its results will be crucial to boost research on forests and its implications on climate change, while generating and sharing knowledge to support the ForestWard Observatory and improve the public perception towards climate-smart forest management and restoration practices. FORWARDS' approach to such activities will be impact-driven, aiming at:

- **Raising awareness and understanding of multiple audiences** around climate change impacts on forests and biodiversity as a way to forest resilience;
- **Advancing knowledge innovations** to foster CSF Associated with forestry and restoration;
- **Build a strong community of interested players through a multi-actor approach**, while supporting informed decision-making in climate change mitigation and adaptation policies at EU and global levels, in line with the European framework;
- **Promoting uptake, upscaling and replication of FORWARDS results** beyond the end of the project, thus creating a fertile baseline for their sustainability.

This exercise will start from the analysis of the needs addressed by FORWARDS and its expected outcomes:

TABLE 1 ADDRESSED NEEDS AND EXPECTED OUTCOMES

<i>Specific needs</i>	<i>Outcomes</i>
<i>1. Achieve the European Green Deal objectives: lack of science-based policy to achieve 2030 GHG emission reduction targets and 2050 carbon neutrality targets;</i> <i>EU Forest Strategy: lack of science-based policy support on how sustainable forest</i>	<i>Uptake of CSF & restoration recommendations in the EU, national and regional-level policies, and strategies to become climate neutral by 2050 and achieve biodiversity goals;</i>

<i>management and wood use can improve biodiversity goals, ES provisioning and adaptation;</i> <i>New EU Regulation on Forest Information: lack of centralized and harmonized forest information in Europe;</i> <i>HEU strategic plan: accelerate the green and digital transitions of the EU economy;</i> <i>UN SDGs: 13 (combat climate change) and 15 (reverse land degradation).</i>	<i>Quantified and scientifically robust forest-based policy pathways published in OA publications;</i> <i>Adoption of newly developed tools, models, and data in the wider research community;</i> <i>Incorporation of The ForestWard Observatory in JRC and FISE, and high use by forest practitioners;</i> <i>Societal engagement in CSF & Restoration. Reinitiated ICP Forests.</i>
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2. Dissemination, Exploitation and Communication

2.1 Preliminary Key Exploitable Results (KERs) identification and exploitation pathways

The identification of the project's Key Exploitable Results (KERs) represents the set-up for FORWARDS' exploitation activities. The first step comprises a comprehensive identification and mapping of the project's expected outputs that have the potential to be further exploited after the project's end, ensuring partners' capitalization on research activities and results. The type of results and the nature of the organizations involved (e.g., universities, research institutes and SMEs) will drive later in the project the definition of dedicated exploitation and sustainability strategies, i.e., how outputs will be further used to create an impact beyond FORWARDS.

To ensure an effective exploitation of the project's outputs, FORWARDS exploitation model will be comprehensive in scope and cover all types of results and every possible exploitation pathway. KERs will be identified and monitored in parallel with project's progress and achievements; for each KER, an exploitation and sustainability plan will be drafted to ensure dissemination, replication, and further uptake of FORWARDS results.

Results are defined as *"any (tangible or intangible) output of the action such as data, knowledge, or information — whatever its form or nature, whether it can be protected or not — that is generated in the action, as well as any rights attached to it, including intellectual property rights"*. **A KER is a valuable output that has been selected and prioritized due to its high potential to be "exploited"** (i.e used to generate an economic value, or serve as an important input for policy, further research, or education). Hereafter, the focus of FORWARDS exploitation activities will be mainly on KERs.

Results can be individual or joint, whether they have been generated by a single partner or have been jointly developed by two or more partners. Individual results are carried out by single partners and are individually exploited by the single owner outside the project (e.g., specific expertise or knowledge gained). Joint results represent the main assets of the project, usually jointly co-developed by project partners.

FORWARDS will generate various KERs that will be exploited, either jointly or individually, according to each partner's mission and area of operation. Indeed, FORWARDS consortium is composed on 19 participants, including universities (SLU, UNIFI, UNIMOL, GFZ, WU, BANGOR, BOKU, LUND), research institutes (EFI, WR, WSL, THUE, FCRA, SILAVA, LUKE, EVINBO), as well as SMEs (ESSRG) with outstanding scientific excellence and experience in forest monitoring and CSF & restoration, providing a good foundation for the exploitation of the project's outputs.

A summary list of the project level is provided below. It will be reviewed and updated during the implementation of the project, to account for the project's developments. The Project's KERs will be published on the Horizon Results Platform.

TABLE 2: FORWARDS'S KERs

KERs	Type	Contributing partners
<i>KER1. ForestWard Observatory (Data platform)</i>	<i>Data platform</i>	<i>All partners (Lead: SLU)</i>
<i>KER2. ForestWard Observatory (Web application)</i>	<i>Technology</i>	<i>All partners (Lead: SLU)</i>
<i>KER3. Network of CSF and restoration pilots</i>	<i>KPI and Data</i>	<i>All partners</i>
<i>KER4. Sensing systems for timely identification of vulnerabilities and risks</i>	<i>Methods and tools</i>	<i>WSL, WP2 contributing partners</i>
<i>KER5. Characterization of forest disturbances and estimations of vulnerabilities and risks</i>	<i>Models</i>	<i>UNIFI, WP2 contributing partners</i>
<i>KER6. Indicators of forest structure and functioning</i>	<i>Data</i>	<i>UNIFI, WP2 contributing partners</i>
<i>KER7. Database of state-of-the-art CSF and restoration practices</i>	<i>Advancement in knowledge</i>	<i>EFI, SILAVA, WP3 contributing partners</i>
<i>KER8. Guidance on effective CSF and restoration management</i>	<i>Models, Recommendations</i>	<i>EFI, SILAVA, WP3 contributing partners</i>
<i>KER9. Data assimilation routines and processing tools</i>	<i>Process, Tools</i>	<i>WR, UNIMOL, WP3 contributing partners</i>
<i>KER10. Knowledge platform and co-creation framework</i>	<i>Process, Methodology</i>	<i>FCRA, ESSRG, BOKU, EFI, BANGOR, WP4 contributing partners</i>
<i>KER11. Training materials.</i>	<i>Advancement in knowledge</i>	<i>All partners</i>

As shown in Table 2, FORWARDS' KERs refer to the development of the European-wide forest observatory (ForestWards) and related data and novel models/tools to assess forest disturbances, in addition to CSF restoration management practices and materials, and knowledge advancement in the field. The availability and uptake of these results by stakeholders will determine the success of the project. In view of this, FORWARDS "D6.5 post-action sustainability plan" will set the basis for the exploitation of results and maximization of the impact of the project.

Description of Key Exploitable Results

KER1. ForestWard Observatory and KER (2) Data platform: The ForestWard Observatory is one of the key results of the project, consisting of a digital platform linking all relevant data generated in the project. It will function as a hub of knowledge, experiences, available data, tools, and alternative practices, accessible for practitioners to increase their capacity to guide practical management at local scales. The ForestWard Observatory will constitute a new European observatory for climate change impacts on forests and will be co-designed with end-users to ensure it meets stakeholders' needs.

KER3. Network of Climate Smart Forestry (CSF) and restoration pilots: this result consists of a wide network of CSF management sites, each representing a model activity for CSF management. It will contain a wide span of alternatives, through a scheme of grants-to-third parties and will be evenly distributed throughout European geographic areas and forest types to cover a diverse span of forest conditions. The Network of CSF & Restoration Pilot sites will be instrumental to identify, quantify, and evaluate options to guide CSF & Restoration management across Europe, through targeted practical actions at each pilot site, including stakeholder involvement in the decision-making process.

KER4. Sensing systems for timely identification of vulnerabilities and risks: FORWARD will develop new methods and tools for novel monitoring, including methodologies that can connect on-the-ground data to remotely sensed information. In particular, the project will integrate existing in-situ/satellite forest monitoring and observation tools and complement these with novel techniques (e.g., drone-based approaches). This new integrated concept will be tested, evaluated, and applied to assess forest disturbances and indicators relevant to CSF & Restoration.

KER5. Characterization of forest disturbances and estimations of vulnerabilities and risks: this result comprises the identification of areas at risk for further climate change-related disturbances and priority areas for CSF restoration. For these specific cases, in-detail analysis of disturbance causes, effects on ecosystem functioning and ecosystem vulnerability will be applied.

KER6. Indicators of forest structure and functioning: these indicators will be generated based on integrated approaches for multiscale fusion of data from multiple sources (model-(plot-based) data fusion, proximate sensing, satellites, to create a wall-to-wall high resolution spatial dataset of indicators that enable the spatially explicit assessment of forest parameters to support CSF and restoration activities in the project, and to be fed into the ForestWard Observatory (KER 1).

KER7, KER8. Database of state-of-the-art CSF and restoration practices; Guidance on effective CSF and restoration management: FORWARD will develop an evidence-based understanding of effective CSF and restoration practices based on the established CSF and restoration pilots across Europe. The project will analyse CSF and restoration options to systematise knowledge on their effectiveness in supporting climate change mitigation, adaptation, and biodiversity in specific regional settings, as a basis for developing good practice guidance to forest owners and managers. Possible (novel) CSF management and restoration options will be identified. These results will be used for developing a handbook for practitioners on effective CSF and restoration options.

KER9. Data assimilation routines and processing tools: the assimilation routines and processing tools will allow the analysis of the effectiveness of CSF from field observations and modelling. The data processing

tools (scripts) will be used for quantitatively analysing the measurement results obtained from the management trials in demo sites WP2 and complemented by data from the open call for climate smart restoration pilots. The data processing tool will link to the database in which all measurement results are stored and allows users to quickly visualise results for the indicators defined. On the other side, the data assimilation routines allow for the use of European-wide, spatially explicit data on forest structure and composition. The routine will be tested with the EFISCEN-space model.

KER10. Knowledge platform and co-creation framework: a knowledge platform to support co-design with stakeholders and citizens' engagement processes is created in WP4. Stakeholders will be consulted and involved in a co-creation process of FORWARDS results, ensuring they meet expected needs and requirements.

KER11. Training materials: FORWARDS will develop both a manual and training materials for the use of these applications. Video tutorials and webinars will demonstrate how the datasets can be used, e.g., to identify forest disturbances after extreme events or harvesting. Forestry sector meetings will be organised to provide opportunities for operational integration of the generated data (T6.2): a) Training materials for policymakers and forest practitioners (including practice abstracts derived from the MMA); b) scientific publications and conference proceedings published on relevant peer-reviewed journals (researchers and academia), c) a policy brief (linking to T6.4), including recommendations for future policy strategies (policymakers & local authorities).

Considering all actors in the project, this description provides a preliminary version of the exploitable results identified in the FORWARDS proposal. From the beginning of the project, continuous interactions, and different rounds of workshops with partners will support the further validation and update of results, following the project's expected developments. The identification of the project's results will be followed by a structured collection of the exploitation pathways.

A clear definition of the IP foreground owners will be followed to identify who detains the rights over the KERs and how such results are intended to be used by owners and/or third parties outside the Consortium. Considering the open-data nature of the project, no major IP risks are foreseen.

2.2 Target audiences & key stakeholders

2.2.1 Preliminary Stakeholder Mapping

In FORWARDS, stakeholders are individuals, organizations, policymakers, or businesses with an interest in the project and its key objectives. These stakeholders include those entities that can contribute to the provision of data and relevant inputs for the project, as well as those organizations that can make use of all the outputs of the project at the operational (to improve forest management with CSF practices) and policy making level.

Stakeholder mapping is a crucial activity to develop an effective dissemination and engagement strategy and to support a viable exploitation and sustainability plan. Identifying stakeholders and understanding their needs and priorities allows us to effectively plan dissemination and exploitation activities, reach, and involve the right external players in the execution of the project and its post-action planning and maximize the overall project's impact.

The current document provides a preliminary mapping of stakeholders. It will be further advanced and serve as an input for WP4 (Knowledge platform: a multi-actor forum for integrating stakeholder & civil society Perspectives) which is entirely dedicated to stakeholder mapping and engagement activities.

Step 1: Identifying stakeholders

The stakeholder mapping provided in this report is performed in line with the key exploitable result expected to be generated in the project, and the respective exploitation and sustainability strategies anticipated by the project partners and treated in section 2.1 of this report. In line with the key results of the project, a total of 10 macro stakeholder groups have been identified:

TABLE 3: FORWARDS STAKEHOLDERS GROUPS AND STAKEHOLDERS SUB-GROUPS

<i>Stakeholders groups</i>	<i>Stakeholders sub-groups</i>	<i>Stakeholders</i>
<i>Policymakers and regulatory actors</i>	<i>International institutions and initiatives</i>	• UN and its specialized agencies • Networks (Global Forest Observations Initiative) • International Non-profit (Forest Stewardship Council)
	<i>European institutions</i>	• EC • EC DGs (CLIMA, ENER, AGRI, ENV) • EU Climate Change Committee Working Groups (WG2 and 5) • FOREST EUROPE • Policy support organizations (e.g., EEA, JRC)
	<i>National public administration and agencies</i>	• Legislative branches • Executive government and administration • Environment government departments • National Environmental agencies • Law enforcement and regulatory authorities
	<i>Local and regional authorities</i>	• Local and regional legislative branches • Local and regional public administration and agencies • Other local pertinent agencies
<i>EU Initiatives</i>	<i>EU Projects and networks</i>	• SUPERB, HoliSolis, RESONATE, Forest Carbon Monitoring, EFINET, VERIFY,

		<i>National Forest Inventories and GHG inventories, FUNPOTENTIAL, Life-IP Canemure, ESA BiomassCCI</i>
Forest landowners and managers	<i>Public landowners</i>	• <i>Municipalities, regional or national governments</i>
	<i>Private landowners</i>	• <i>Families, farms, rural commons, and churches</i> • <i>Industries (small, medium, and large companies)</i>
	<i>Third sector/charitable organisations</i>	• <i>Woodland conservation charities (i.e National Trust, Woodland Trust, the RSPB)</i>
	<i>Public forest managers</i>	• <i>Executive forestry authorities</i> • <i>National Conservation Parks</i>
	<i>Private forest managers</i>	• <i>Forest Practitioners</i> • <i>Forest monitoring managers (companies)</i>
	<i>Community forest managers</i>	• <i>Communities</i>
	<i>Indirect forest managers</i>	• <i>Hazards/fire prevention managers; Emergency and disaster manager</i> • <i>Wildlife managers; Hunters, farmers</i>
Financing actors	<i>Private/Business Investors</i>	• <i>Banks, Insurance companies</i>
	<i>Public investors</i>	• <i>State investors and funders</i> • <i>Development banks</i> • <i>EU funding schemes</i>
	<i>Donors</i>	• <i>Philanthropies, businesses, and fundraisers</i>
Forest-based economic actors	<i>Wood/timber industry</i>	• <i>Forestry grower/tree nursery</i> • <i>Wood processing and trade</i> • <i>Pulp and paper</i> • <i>Furniture and construction</i> • <i>Sawmill industry</i> • <i>Other wood-based products and services</i> • <i>Carbon Services</i>
	<i>Other related industry</i>	• <i>Soil, bark, and compost supplier</i> • <i>Food based, and agroforestry products and services</i>

		• Other non-timber forest product producers • Other non-timber forest product producers
	Recreation, leisure, and cultural services	• Ecotourism and nature-based tourism operators • Winter sports facilities • Hunting
	Forest service providers	• Forest certification organizations/bodies • Land surface climate modelers • Forest planners
	Business associations	• Forestry and Timber Associations • Tourism associations • Hunting associations
	Logistics industry	• Transport Companies and Logistic Providers • Storage and Warehousing Companies • Borders & Customs Authorities • Tree/Plant Health Inspectors • Importer and Exporter • Machine-hire Companies
Technology and service providers	Engineering and technology companies	• Technology providers (drones, sensors) • Other specialized service providers
Environmental associations, organizations, advocacy groups, and networks	Interest and lobbying groups	• Interest groups (COPACOGECA, CEPF)
	Environmental organizations and networks	• Environmental and Climate Action Groups/Organisations • Consumer organizations • Sustainable Consumption Advocate • Advocacy and Awareness-Raising NGOs, and Environmental Networks
Education and research, the scientific community	Educational institutions	• Universities; vocational schools, schools, • Training providers, innovation centres, online education platforms, etc.
	Research institutions and centres	• Climate Change Research Organisations

		• <i>Forest Management Research Centres;</i> • <i>Technological research centres</i>
Communities and inhabitants	<i>Local communities, citizens</i>	• <i>Direct neighbours of demo sites</i> • <i>Neighbourhood associations, grassroots initiatives</i> • <i>Indigenous groups</i> • <i>Citizen Scientists</i>
	<i>Recreational forest users</i>	• <i>Hikers, bird watchers, nature watchers and photographers, sportspersons</i> • <i>Youth organizations</i> • <i>Organized recreation groups (i.e walking groups, running clubs, biking clubs, etc)</i>
Media	<i>Journalists and local/international media</i>	• <i>Media outlets and Journalists/influences (across international, European, regional, and local levels).</i>

2.2.2 Stakeholder profile

i) Policymakers & regulatory actors

Policymakers operate at different levels and have several supporting internal bodies that contribute to the achievement of their objectives. Policymakers at both national and European levels dealing with forest monitoring and reporting play a key role in the success of FORWARDS' objectives. Policymakers are targets of the project due to their capacity of influencing the regulatory environment for the development and application of the results, by providing the regulatory tools, incentives, and financing. Policymakers and regulatory stakeholders can be classified into European, national, and local institutions.

International institutions and initiatives

Different international policy instruments have been established to address specific aspects of forest resources, their management and uses. Some of these policies are led by key players at the international level such as the United Nations (UN), its specialized agencies, and initiatives such as the United Nations Forum on Forests (UNFF). Other relevant actions include international networks and collaborations such as the Global Forest Observations Initiative (GFOI), and international non-governmental organizations, such as the Forest Stewardship Council (FSC), dedicated to promoting sustainable management of the forests worldwide by delivering a widespread forest certification system.

European institutions

At the European level, the European Commission (EC) and its specialized environmental agency (EEA) are key players in the policymaking arena, also providing information to those involved in the development, adoption, implementation, and evaluation of environmental policies. The EU's new Forestry Strategy calls for the implementation of sustainable forest management that safeguards biodiversity, ensures ecosystem services (ES), and promotes forest adaptation to climate change. Similarly, the European Green Deal calls for science-based policy to achieve climate and biodiversity goals. Other important stakeholders include the EU General Directorates (i.e. *CLIMA*, *ENER*, *AGRI*, *ENV*); the EU Climate Change Committee Working Groups (WG2 and 5), the Ministerial Conference on the Protection of Forests in Europe (FOREST EUROPE), and EU's Joint Research Centre (JRC), which supports policy development.

National public administration and agencies

National governments and agencies are committed to the attainment of EU policy objectives and other international agreements. They play a central role in forest monitoring in Europe, developing and implementing specific programs to assess the health and status of their forest ecosystems inventories. This may include collecting data (e.g., forest area, volume, and biomass, etc) as well as information on forest disturbance, biodiversity, and carbon sequestration. National governments also collaborate with regional and international organizations to exchange information and develop standardized methods for forest monitoring and reporting. Each country has its own regulatory bodies responsible for forest management and protection. For example, in Italy, the "Italian Forest Service", also known as *Corpo forestale dello Stato*, is the national law enforcement agency responsible for enforcing forest and environmental laws. In Finland, the "Finnish Forest and Park Service" or *Metsähallitus*, is a state-owned enterprise responsible for managing and protecting state-owned forests.

Local and regional authorities

Local and regional authorities play a crucial role in forest management throughout Europe, but their specific responsibilities can vary by country. In many cases, local municipalities are responsible for planning and zoning forested areas within their jurisdiction. This includes designating areas for conservation, development, or other land uses. They may also provide educational programs and outreach initiatives to promote sustainable forest management practices among residents and local stakeholders. Additionally, local municipalities work with national and/or regional authorities to protect forests from threats such as wildfires, pests, and illegal logging. They may additionally be involved in forest-related economic activities and tourism. Local and regional legislative and executive branches also play a role in policy making.

ii) EU Initiatives (projects and networks)

This category includes EU-level projects and networks that support FORWARDS goals of sustainable forest management by providing knowledge and solutions. The aim is to promote innovative strategies and share key outputs. European forest management projects are important stakeholders for FORWARDS, and the collaboration with these projects can lead to the development of innovative solutions and ensure optimal exploitation of the project's legacy. By working together, the efforts can be capitalized. Some of these EU projects and initiatives include: *SUPERB*, *HoliSolis*, *RESONATE*, *Forest Carbon Monitoring*, *EFINET*, *VERIFY*, *National Forest Inventories and GHG inventories*, *FUNPOTENTIAL*, *Life-IP Canemure*, *ESA BiomassCCI*.

iii) Forest landowners and managers

Forest landowners are entities or individuals that own forested land. They can be private landowners of different sizes (from individual families who own a few acres to large corporations that own thousands of acres), as well as public owners (state land). Forest landowners can also be forest managers or employ dedicated forest managers that are responsible for managing forest lands on their behalf.

Forest owners and managers take an active role in the stewardship and care of the forest land. As such, they are key stakeholders in the context of FORWARDS: they can have both an impact and an interest in the project's results. They can provide fundamental inputs for the development of the models and contribute in a decisive manner to the collection of data concerning forest structures and functioning. These stakeholders are, in fact, depositaries of a relevant amount of knowledge of their own forests and they can actively provide information and data concerning their own forested lands. Moreover, they can make use of the project's results to increase efficiency and quality of managing activities and adoption of CSF management practices, to ultimately increase forest resilience and guarantee future provision of ecosystem services.

Public Owners

Public forest owners refer to governments or other public entities that own and manage forests for public benefit. These forests can be found in various forms, including national conservation parks, natural reserves, and state-owned forests. The role of public landowners typically includes conservation, protection of biodiversity, recreation, research, and sustainable forest management. Public forest owners hold relevant information concerning the owned land and they can also benefit from the project's results for taking decisions on forest management and development. Public land ownership in Europe varies between countries, but some of the most common public landowners include the national, regional, and local governments.

Private Owners

Private forest owners include *individuals, families, companies, churches, and other privately owned organizations*. Private forests can be managed for various purposes, such as timber production, wildlife habitat, recreation, and agricultural purposes. Some countries in Europe have a long history of private forest ownership, such as Finland and Sweden, where the majority of forests are privately owned. In other countries, such as Germany and Austria, private forest ownership is also common but coexists with public ownership. Private forest owners in Europe face various challenges, such as balancing economic and environmental interests, dealing with changing forest management practices and policies, and adapting to climate change. Similarly, to public landowners, private landowners are key stakeholders in FORWARDS: they can collaborate in the collection of data and information concerning forest structures and functioning as well as be beneficiaries of the project's outputs.

Third sector/charitable organisations

Conservation charities can be either private or public organizations. Some are registered non-profit organizations that rely on donations and grants to carry out their work, while others may be funded by the

government or other public entities. These organizations carry out work related to creation, protection, and restoration of woodland. Some examples include UK's National Trust, the Woodland Trust, the RSPB, Wildlife Trusts, among others.

Forest managers

Forest managers are fundamental stakeholders in the context of FORWARDS: they are responsible for planning and implementing practices for the conservation and use of forested lands. This involves implementing management practices that promote the health, productivity, and sustainability of the forest while balancing economic, environmental, and social objectives.

Forest managers can make use of the project's results for implementing sound and effective practices that aim at forest restoration and sustainability as well as at the implementation of CSF practices. Managers have access to a large amount of information concerning forest structures, functioning, vulnerabilities, and risks. Moreover, they also have sound knowledge about methodologies and patterns for gathering such data and information that can deeply benefit the project's results development. Forest managers can be of different types, such as governmental, private, community, and indirect forest managers.

Public Forest Managers

Forest managers can be national authorities that respond to the government and its branches, among them, *executive forestry authorities* and *National Conservation Parks* play important roles in the management of forests. Executive forestry authorities are typically government agencies responsible for the management and oversight of forests within a particular jurisdiction. They may have a range of responsibilities, including enforcing policies and regulations related to forest management, issuing permits for activities such as logging or mining, conducting research on forestry-related topics, and overseeing forest restoration and conservation efforts. National Conservation Parks, on the other hand, are protected areas designated for the conservation and protection of natural resources, including forests, wildlife, and other ecological features.

Private Forest managers

Private forest managers are different private entities responsible for a range of activities related to forest management, including developing and implementing forest management plans, conducting timber harvesting and marketing, managing forest regeneration and reforestation, controlling invasive species and pests, and monitoring forest health and productivity. *Private forest managers* can be forest practitioners, namely professionals who work in the field of forestry like forest technicians, silviculturists, ecologists, wildlife biologists, forest engineers, and other professionals who have expertise in various aspects of forest management. Some other *specialized companies* can also take active roles in the management of forests, for example, forest monitoring companies.

Community Forest Managers

Community forest management typically involves a participatory approach, where community members are involved in decision-making processes related to the management of their forests. This approach ensures that local knowledge and perspectives are considered and that the benefits of forest management are shared equitably among community members. Community forest managers may undertake a range of activities

related to forest management, including forest inventories, silvicultural treatments, timber harvesting, non-timber forest product collection, and forest restoration and conservation.

Indirect Forest managers

Indirect forest managers are all those stakeholders that informally contribute to the management of the forest in a wide range of manners. They engage in different activities and contribute to the planning of such activities. They are for example *hunters' associations and farmers* that develop plans for the management of forest resources. They can also be *hazards or fire prevention managers*, as well as *emergency and disaster managers*, taking care of and assessing the possible risks related to forests and developing plans to minimize them.

iv) Financing actors

Financing actors play an important role in the context of FORWARDS: they can be considered as financial enablers for the development of project's results ensuring their sustainability and allowing their maintenance. Financing actors can be of different nature: private and business investors, public investors, and donors.

Private/Business Investors

Financing actors can play a role addressing environmental challenges, such as deforestation, climate change, and loss of biodiversity. Private investors include banks or insurance companies that engage in forest conservation projects or impact investment initiatives.

Public investors

Public investors are usually governments, and state investors that fund forestry-related projects in order to increase the sustainability of forest management. Different public funding schemes can be found for that provide financial support to individuals, organizations, and communities engaged in forest-related activities, such as forest conservation and restoration, sustainable forest management, and development of forest-based industries. Such schemes are derogated by the *European Union*, or at regional and international levels through *development banks*.

Donors

Donors in the context of FORWARDS comprise various actors. They can be *businesses* that may choose to donate for the sustainability of forest sustainability for several reasons, like Corporate Social Responsibility mandating them to engage in activities that have a positive impact on society and the environment, improve brand reputation, benefit from the availability of natural resources. Other types of donors are philanthropic associations and single *philanthropies* or other sectorial *organizations and fundraisers*.

v) Forest-based economic actors

The forest/landscape value chain refers to the various stages involved in the production, processing, and marketing of forest products and services. They can benefit from the wide pool of knowledge and tools developed in FORWARDS.

Wood/timber industry

The wood and timber industry encompasses the production, processing, and marketing of wood products, including timber, lumber, plywood, paper, and other wood-based products. The industry includes several economic actors that detain information about forest practices and structures. The wood and timber industry encompasses different actors:

- Forestry grower/tree nursery.
- Wood processing and trade
- Pulp and paper
- Furniture and construction
- Sawmill industry
- Other wood-based products and services
- Carbon Services

Other related industries

Other industries play a role in the management and use of forests, they can be interested in project outputs and be impacted by them because of their dependence on forests resources. Such industries are in fact, economic activities deriving benefits from forest resources. Such related industries are for example: soil, bark, compost supplier, food based, and agroforestry products and services, other non-timber forest product producers.

Recreation, leisure, and cultural services

These services are actively using the forests for recreational, entertaining, and cultural purposes. They can contribute to the development of project's results by providing the information that they usually utilize to develop their services and can be positively impacted by the outputs of FORWARDS by benefitting from the models, platform and data developed. Such services comprise: ecotourism and nature-based tourism operators, winter sports facilities, hunting, etc.

Forest service providers

Forest service providers are companies or organizations that provide a range of services related to the management, conservation, and utilization of forest resources. Some examples of forest service providers include:

- Forest certification organizations are fundamental actors in the context of FORWARDS. They provide certification services to verify that forest management practices meet certain environmental and social standards, such as those established by the Forest Stewardship Council (FSC) or the Program for the Endorsement of Forest Certification (PEFC).
- Forestry consultants provide advice and guidance to landowners and forest managers on forest management practices, timber sales, and forest certification. They may also provide technical assistance on issues such as forest ecology, forest health, and wildlife management.

Business associations



Funded by the
European Union



Business associations are organizations that represent the interests of businesses within a particular industry or sector. In the context of forestry, there are several business associations that represent the interests of companies involved in the forestry sector. These associations may provide a range of services and activities to support their members to sustain the economic sector and foster its development. Such associations have the ability to efficiently distribute the outcomes and resources of a project by communicating with their members and sharing the information gathered within their groups. Such business associations can be forestry and Timber Associations, tourism associations and hunting associations.

Logistics industry

Logistics companies can play an important role in forest management by providing transportation, warehousing, and other logistics services to businesses and organizations involved in the forest industry. Such companies can play a wide variety of roles and they are for example: transport companies and logistics providers, storage, and warehousing companies; borders and customs authorities; importer and exporter; machine-hire companies, etc.

vi) Technology and service providers

Engineering and technology companies

Technology and service providers are fundamental stakeholders in the context of FORWARDS. They are the providers of technologies that allow the process of data gathering for the development of FORWARDS's results. Such companies can be hardware companies producing drones and sensors, as well as software companies necessary for the analysis of the data gathered and other related specialized services.

vii) Environmental associations, organizations, advocacy groups, and networks

Associations, organization, groups, and networks can play an important role in promoting sustainable forestry by bringing together stakeholders from different sectors to share knowledge, develop best practices, and collaborate on initiatives to support sustainable forest management. Such actors play a key role influencing policy making and doing advocacy work.

Interest and lobbying groups

Interest groups, also known as advocacy groups or pressure groups, play an important role in both forest protection and forest use in the European Union (EU). These groups represent a range of stakeholders, including environmental organizations, industry representatives, and work to influence EU policies and regulations related to forest management and conservation. Some of these groups include COPACOGCECA, representing European farmers and Agri-cooperatives, and the Confederation of European Forest Owners (CEPF).

Environmental organizations and networks

Environmental organizations and networks work to raise awareness of the importance of forests and the threats they face, advocate for policies and regulations that promote sustainable forest management and engage in on-the-ground conservation efforts. These organizations can work on the monitoring of forest ecosystems, and identify areas at risk of deforestation, degradation, or other environmental harms.

Additionally, they can promote engagement of local communities in forest protection and management efforts, including education and training.

viii) Education and research, scientific community

The scientific community specialized in knowledge generation related to, for example, climate change adaptation, disturbance risk management, ecosystem restoration, forest monitoring and tree health is a fundamental stakeholder for the development of FORWARDS results. It can provide not only data, but also methodologies and models to be applied in the development of the project's results. The community consists of higher education institutions and research institutions.

Higher Education institutions

Universities play a key role in producing knowledge concerning forest conservation and management. They will use results of the project in future search and academic activities (especially the open datasets made available through the ForestWard Observatory) and further knowledge published in scientific journals. In particular, academic institutions can leverage FORWARDS outputs in research and academic activities, contributing to their advancement and validation.

Research institutions and centers

Research institutions and centers are often associated with universities and can include *climate change research organizations, forest management research centers, or technological research centers*. These organizations can leverage the wide pool of data and knowledge generated in the project in future scientific research activities. Research institutes can also provide research evidence for policy making.

ix) Communities and civil society

Local communities and inhabitants

In FORWARDS, regionalized CSF & restoration trajectories will be co-designed by actively involving local communities. Inhabitants and neighboring communities from demo sites ((1) Latvian forest on peat restoration sites; (2) Italian Mediterranean mountain forests prone to wildfire and drought; (3) Swedish boreal & subalpine landscape restoration; (4) Diversification of Sitka spruce plantations in Scotland (UK); and (5) Swiss Alpine forests), are also key targets of the FORWARDS dissemination and communication campaign. Therefore, they represent key stakeholders at the local level. By involving local communities and civil society in decision-making, forest management becomes more participatory, transparent, and accountable. This can lead to better decision-making and more sustainable forest management practices. Of particular importance among civil society and local communities are *the direct neighbours of demo sites, neighborhood associations, grassroots initiatives, indigenous groups*.

Recreational forest users

Recreational forest users, such as hikers, birdwatchers, and nature enthusiasts, sportsmen, and youth organizations have a stake in forest management for several reasons. They are invested in healthy forests for the continuous execution of their activities and rely on forest safety and access for their recreational space.

Recreational forest users may be considered in local decision-making processes to ensure that their interests and values are taken into account. In addition to individual forest users, this category also includes organized recreation groups (i.e walking groups, running clubs, biking clubs, etc).

x) Media

Media actors are important for the project, serving as a multiplier of information. This category includes news agencies (such as EurekAlert!, ScienceDaily), and European and national media outlets that have access to a broad public.

2.3 Key messages at general and stakeholder level

The challenge of facing such a variety of targets entails the need to create a series of key messages that communicate FORWARDS core objectives. Blending specific keywords, messages and target audiences ensures the likelihood for the project to resonate with each audience and to generate meaningful impact.

The following list and table provide an overview of the FORWARDS key messages:

KEY MESSAGES at the project level

- Forest management authorities throughout Europe can obtain guidance from FORWARDS solutions, contributing to the EU Forest Strategy for 2030.
- FORWARDS can assist practical forest management to have a more positive impact on sustainability.
- FORWARDS knowledge will help to increase the resilience of European forests in the long term by guiding decision-making.
- To help demonstrate the impact of climate change on forests, the FORWARDS project will prototype the ForestWard Observatory, a pan-European monitoring and evaluation tool, which can be guiding decision-making for practical forest management.

TABLE 4: KEY MESSAGES AT TARGET LEVEL

Target	Key messages	Tagline
<i>Policymakers (regional, national, European) and policy support organizations</i>	▪ <i>FORWARDS aims at reconciling the current gap between European forest information acquired from the field and detected from satellites</i> ▪ <i>The network of monitoring supersites and management pilots will allow coordinated action on the management of European forests</i> ▪ <i>FORWARDS will help regional managers implementing sustainable forest management in a way that maintains the forests' biodiversity, productivity and regeneration capacity</i> ▪ <i>FORWARDS will offer policy support organizations the opportunity to address issues related to forests by developing</i>	<i>European forests; sustainable forest management; biodiversity; forest-related policies</i>

	<i>and implementing forest-related policies and actions.</i>	
<i>Forestry practitioners</i>	- Based on the knowledge generated by the project, FORWARDS will guide forest practitioners across Europe in how their forests can benefit from being managed in a climate-smart way while restoring ecosystems and preserving biodiversity - FORWARDS aims at improving the current understanding of the causes of forest disturbances in Europe and to enhance the usability of satellite information at local scales - FORWARDS will provide guidance to managers on the best forestry activities in their local areas according to future projections of climate change - FORWARDS will provide a stakeholder forum for citizen engagement in CSF and restoration actions.	<i>Climate-smart management; biodiversity preservation; forest disturbances; satellite information; CSF and restoration actions</i>
<i>Forest-based sector</i>	- FORWARDS will shed light on forest owner societal attitudes towards CSF and restoration actions across Europe - FORWARDS will provide timely data on threats to forest resilience in Europe - FORWARDS will provide forward-looking best practice guidance on forest management.	<i>Forest owners; societal attitudes across Europe; forward-looking practices</i>
<i>Scientific community</i>	- Through FORWARDS the scientific community will be able to identify and understand the process linked to forests and human behaviors, identifying innovative approaches and tools for biodiversity conservation and forest restoration - Scientists can use the FORWARDS datasets as a basis for meta-analyses on	<i>Scientific community; innovative approaches; forest restoration</i>

Civil society and NGOs

regional forecasts of the trajectory of forest functioning.

- *The Forestward Observatory will be co-designed through a participatory process and under the principle of co-design*
- *FORWARDS will engage both forest stakeholders and the public in decision-making processes related to the forest.*

Active involvement; engagement; inclusion of different subjects; co-design

These key messages will be used and further elaborated into contents for the project's DC channels and products, which will be presented in detail in the next sections.

2.3.1 A tailored approach to Dissemination and Communication

The project will develop a PCDE articulated upon the following stages: Engage, Produce, Share and Exchange.

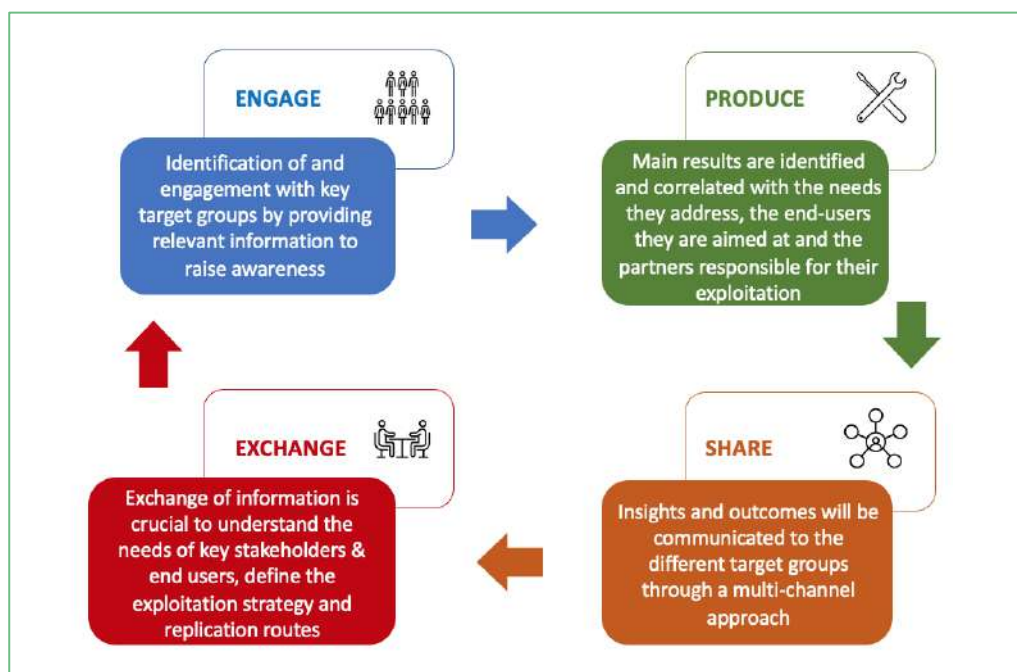


FIGURE 1 DEC STAGES

Dissemination and Communication play a fundamental role in the “Share”, “Exchange” and “Engage” stages. The project dissemination makes the project's results available to the scientific community, policymakers, and industry. This approach facilitates scientific reuse of the results and a long term scientific impact.

On the other hand, communication contributes to increasing the public visibility of the project and its results using accessible language. This encourages people to use the results and increases the chances that the research will make an impact.

TABLE 5 DIFFERENCE BETWEEN DISSEMINATION AND COMMUNICATION

	<i>Dissemination</i>	<i>Communication</i>
Objectives	<i>Public disclosure of scientific and technical results</i>	<i>Promotion of the project and its benefits</i>
Audience	<i>Professional target groups, such as scientific communities, industry stakeholders, policy makers, etc.</i>	<i>EU citizens, civil society</i>
Tone of voice	<i>Scientific/technical language</i>	<i>Non-specialized/layman's terms</i>
Channels	<i>Peer-review journals, scientific conferences, sector events, the web, etc.</i>	<i>The web, social networks, journalistic articles, TV channels, radio etc.</i>

Aligned and coordinated with communication and dissemination activities, exploitation activities will aim at preparing the ground for the use of scientific results and technological solutions during and after the end of the project.

The following table shows how each category identified through the stakeholder mapping exercise will be addressed by the project dissemination and communication. Depending on the stakeholders' needs, dissemination content will be tailored and relayed through formats and channels considered the most effective and impactful.

TABLE 6 DC TAILORED TO FORWARDS'S STAKEHOLDERS

<i>Stakeholders</i>	<i>Dissemination formats</i>	<i>Communication channels</i>	<i>How DC supports exploitation</i>
<i>Policymakers and regulatory actors</i>	• <i>Sector events</i> • <i>Webinars</i> • <i>Project presentation</i> • <i>Info packs and factsheets</i> • <i>Video</i> • <i>Press and news releases</i> • <i>Journalistic articles</i> • <i>Video interviews</i>	• <i>Website</i> • <i>Social media</i> • <i>Sister project's website</i> • <i>Media Multipliers</i>	<i>Policy makers will help to provide detailed information on European forest vulnerability to climate change impacts, with ultimate benefit for the environment. Evidence gathered by the project may be used as a base for elaborating policies which will encourage biodiversity preservation, CSF & Restoration.</i>

EU Initiatives	• Sector events • Webinars • Project presentation • Info packs and factsheets • Handbook • Video • Press and news releases	• Website • Social media • Sister project's website	EU partnerships may become a vehicle of cooperation to join forces and pave the way towards technological compatibility, interoperability, and reproducibility. Cooperation will also rely on the FORWARDS DC channels, and on the possibility, they will be offered to use our social media as an additional way to reach their members.
Forest landowners and managers	• Scientific and tech publications • Sector events • Webinars • Factsheets and policy brief • Video	• Website • Social media • Sister projects' websites	Dissemination materials will showcase the advantage of FORWARDS research, solutions, and of the ForestWard Observatory, sharing knowledge on the importance of forest monitoring.
Financing actors	• Scientific and tech publications • Sector events • Webinars • Factsheets and policy brief	• Website • Social media	DC products will help to promote the KERs and to define the interest on the market.
Forest-based economic actors	• Scientific and tech publications • Sector events • Webinars • Factsheets and policy brief	• Website • Social media	Dissemination materials addressed to them will summarise the expertise gathered by FORWARDS with an emphasis on replicability across other sectors. When possible, economic viability of the project's results will be demonstrated.
Technology and service providers	• Brochure • Scientific and tech publications • Events	• Sisters projects' websites • Website	DC products will help to promote the KERs; thanks to events and synergies support the identification of competitors.

Environmental associations, organizations, advocacy groups, and networks	• Video		
	• Brochure • Sector events • Webinars • Project presentation • Factsheets and policy brief • Handbook • Video • Press and news releases	• Website • Social media • Sister projects' websites	They will be approached by offering them the possibility to use the FORWARDS accounts to broaden their community of followers. Mutual exchange of expertise will be a way for them to gain trust and open opportunities for joint collaboration. Participation to our webinars will be a special opportunity offered to their members for an early glimpse on the results achieved.
Education and research, the scientific community	• Scientific and tech publications • Sector events • Webinars • Project presentation video • Press and news releases	• Website • Social media • Sister projects' websites • Scientific journals	Scientific papers produced by FORWARDS will consolidate credibility of the research beyond the project's solutions.
	• Video • Press and news releases • Journalistic articles • Video interviews	• Website • Social media (Twitter and LinkedIn) • Media Multipliers	General knowledge about forest monitoring and sustainability is scarce, because it is a very technical subject and there is a tendency to think that it is only for experts. Our communication and dissemination products will help provide the project information to the general public in a clear and layman's way.
Communities and citizens			
Media	• Press and news releases • Journalistic articles	• Media Multipliers	The ForestWard Observatory can be a safe and innovative way to CSF, which will become a long-lasting legacy of FORWARDS. This information through the media and multipliers will be

distributed to reach the greatest number of people

2.4 Dissemination & Communication channels

TABLE 7 DISSEMINATION AND COMMUNICATION CHANNELS AT THE TARGET LEVEL

Channel	Description	Target
Website	<i>The project website will be used to showcase details about the project, its objectives, challenges, and results. It will act as the primary communication channel between the consortium and FORWARDS target audiences. It will also facilitate exchange with stakeholders.</i>	ALL
Landing page	<i>The landing page is a preliminary version of the project website. This was put up online in M5, prior to the launch of the website. It contained an overview of the project and direct contacts to the FORWARDS coordinator and the partner responsible for project communications.</i>	ALL
Social networks (Twitter and LinkedIn)	<i>These will be used to actively engage with the online community. This will be done by informing the followers about the progress made by FORWARDS and by inviting them to participate in a dialogue on the different topics/issues addressed by the project.</i>	ALL
Media multipliers	<i>These are external platforms that republish the journalistic articles, news and press releases written by FORWARDS.</i>	<i>Citizens, policy makers; forestry practitioners; media; forest-based sector</i>

2.4.1 Website and landing page

The project website acts as the main "**shop window**". It presents the key features of FORWARDS as well as more in-depth information and resources as the project unfolds. It will also provide regular news items about the project, its challenges and its achievements, and the research advancements. A landing page has been

up since M5 as a contact point while the actual website is being developed. It can be found at the following link: <https://forwards-project.eu/>.



FIGURE 2 FORWARDS HOMEPAGE ONLINE

The project website will also be used for the following purposes:

- to cross-link it with external platforms, relevant initiatives, partnerships, and sister projects;
- to provide links to joint webinars and practical information about training, workshops and other stakeholder engagement activities promoted by the project;
- to be informed about the project's activities and be targeted by its dissemination initiatives.

The website is structured in a way that encourages navigation across sections and topics. It consists of static pages that will be updated regularly during the project. All the contents published on the website are accessible to all viewers with no restrictions.

TABLE 8 WEBSITE ACCOUNTABILITY

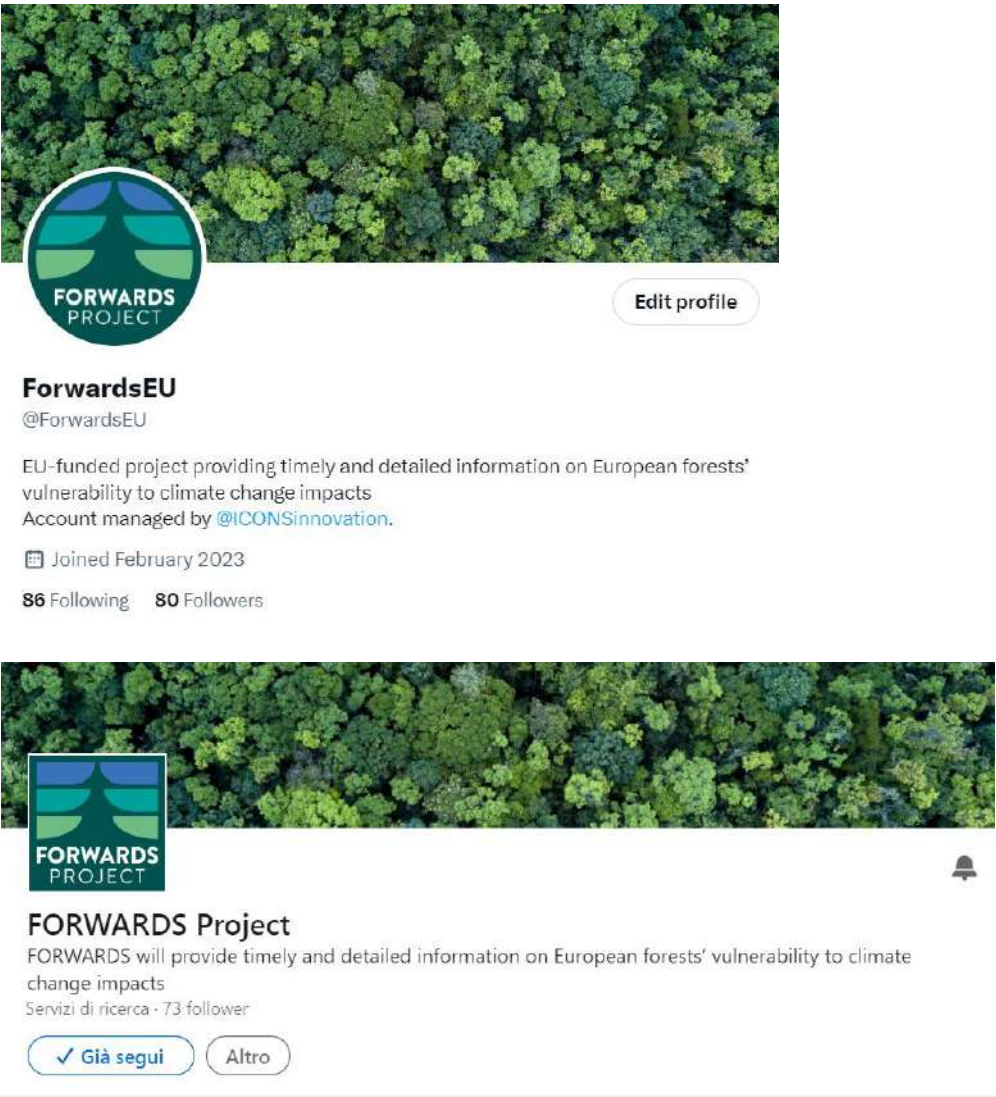
<i>Accountability</i>	<i>Developed and managed by ICONS, with input and feedback from SLU and all the partners. Input and co-operation from SLU and the rest of the FORWARDS partnership will be encouraged during the project duration. To comply with General Data Protection Regulation – Regulation (EU) 2016/679 (GDPR), private data will remain confidential as ICONS will act as the Data Controller and be responsible for treating all the sensitive data provided by registered users upon online registration.</i>
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2.4.2 Social media

The FORWARDS project will be widely visible on social networks, which will be used to promote the project, its objectives, and its results. FORWARDS presence on social media is expected to boost the outreach of our project's DC activities, as it will allow touching base with the audiences that are difficult to reach through other conventional project channels.

FORWARDS will have a social media presence on Twitter and LinkedIn. The two social networks will have different tone voices and reach different audiences. While Twitter keeps us updated on forest management news and engaged with EC accounts and citizens, the LinkedIn company page targets a professional audience.

The [LinkedIn](#) and [Twitter](#) accounts were opened in February 2023. They will be maintained throughout the duration of the project. FORWARDS will produce regular posts on both social networks. The purpose is to keep online communities interested and informed about the project, its progress and activities, and upcoming events. This will enable our project to establish relationship with i.e., groups and LinkedIn pages grounded on the field of forests. The members of the consortium are encouraged to follow existing LinkedIn groups on a regular basis and post news (produced by the project) and facts worth bringing to the attention of these groups. It should be noted that these LinkedIn groups will be carefully chosen bearing in mind the FORWARDS stakeholder audience. In the long run, they may hopefully become multipliers of our project's dissemination strategy. We will produce an editorial plan made up of regular posts to get the public's attention regarding FORWARDS main results: public deliverables, scientific publications, details and follow-up news about the progress made by the project, and facts worth bringing up to attract the targeted online community's attention.



In view of tracking the impact of the conversation about the project happening online under direct ICONS management, the project has set an official hashtag, #forwardsEU. The hashtag will be used to monitor posts about FORWARDS and to gather quantitative and qualitative impact data.

TABLE 9 SOCIAL MEDIA ACCOUNTABILITY

<i>Accountability</i>	<i>ICONS will be responsible for the core social media activities, like setting up the accounts, posting, following existing social media channels and monitoring outreach.</i> <i>The consortium partners are encouraged to contribute by joining the community of FORWARDS Twitter and LinkedIn followers. They can retweet and repost our content from their organizations' channels and use the #forwardsEU hashtag.</i>
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2.4.3 Media multipliers

External media multipliers will be used to disseminate contents of general interest produced by FORWARDS.

These multipliers are external platforms that have syndication agreements with ICONS. The most used multipliers are EU Agenda, AlphaGalileo and Phys.org. Additional channels with a focus on the topics covered by FORWARDS will also be included in the project distribution list. Where appropriate, the European Research Executive Agency (REA) communication officer will be informed about the FORWARDS production and asked to support the distribution of our materials via their online channels. Products to be distributed will include journalistic articles, video interviews, press and news releases (T6.3b) on FORWARDS.

The rest of the FORWARDS consortium **is encouraged to republish the project’s press and news releases via their own networks**. For monitoring purposes, they will have to inform ICONS once they re-distribute the abovementioned materials.

All communication materials produced by the project will be regularly monitored to quantify their outreach and understand the interaction and level of engagement our news, press releases and journalistic articles have been able to trigger.

TABLE 10 MULTIPLIERS ACCOUNTABILITY

<i>Accountability</i>	<i>ICONS will be responsible for distributing the news and press releases and journalistic articles to external news multipliers.</i> <i>The consortium partners are encouraged to re-distribute these materials within their networks.</i>
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2.5 Dissemination & Communication materials and formats

2.5.1 Formats

Within FORWARDS, ICONS will oversee the production of content-specific DC formats and will take care of their distribution through dedicated channels, thus maximising impact in terms of awareness, acceptance and uptake, while promoting the ForestWard Observatory. The following materials and formats will be developed.

TABLE 11 DISSEMINATION AND COMMUNICATION MATERIALS AND FORMATS

<i>Material/Format</i>	<i>Description</i>	<i>Target</i>
<i>Communication Kit</i>	<i>The FORWARDS communication kit will entail a flyer, roll-up, PowerPoint template, Word template and presentation video. Communication materials will be distributed both online (as downloadable materials on the</i>	<i>All</i>

	website), and offline (to be displayed at workshops, exhibitions and external events attended by the partners). The materials' design will be consistent with the project's visual identity. The kit will be ready in April 2023 (M6).	
Scientific publications	With graphic support and guidance from ICONS, technical partners will produce scientific articles and papers to be published in peer-reviewed journals and conference proceedings. Such scientific publications will present the cutting-edge research and results from FORWARDS.	Research and academia, scientific community
Factsheets and policy brief	Factsheets based on the project's main achievements will feature various technical insights and solutions from the project. Each will cover specific content and will be distributed to key stakeholders and published on the FORWARDS website.	EU policy support organisations, Policy makers,
Handbook on good practice guidance on effective CSF and restoration management	The FORWARDS innovation handbook on CSF guidelines will be developed for forest practitioners to systematise knowledge on their effectiveness in supporting climate change mitigation, adaptation, and biodiversity in specific regional settings. Technical partners will provide the text and images. It will come in electronic and printable formats.	Forest practitioners & forest industry, policy support organisations, associations, clusters, and membership organisations, policy makers, media

2.5.2 Communication kit

The communication kit will be produced by April 2023 (M6), providing partners with professional quality material necessary to promote the project. **This will include a flyer, roll-up, a standard PowerPoint and Word presentations including the key messages of the project and a presentation video.** The PowerPoint presentation will be updated at least twice during the duration of the project to reflect progress. A short presentation video in English will show and explain the FORWARDS concept and impacts to non-technical audiences.

Resources from the communication kit will support project communication by allowing FORWARDS partners to use them as a hook to engage with stakeholders, particularly when participating in events. It will contain all the information stakeholders need to know regarding the project. The materials will follow the project visual identity. All visual materials will be available in electronic format for downloading.

TABLE 12 COMMUNICATION KIT ACCOUNTABILITY

Accountability	<i>ICONS will oversee the development and the design of the materials by April 2023 (M6). Partners will provide any further information that may be necessary for the development of the kit.</i>
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2.5.3 Scientific publications

The project is expected to generate scientific results worth to be disseminated in scientific conferences and published in journals.

FORWARDS papers will feature the most interesting findings produced by the academic and technological partners within the project. All peer-reviewed articles will be open access. News about the release of FORWARDS scientific and peer-reviewed publications will be shared via the project website and social media channels.

TABLE 13 SCIENTIFIC PUBLICATIONS ACCOUNTABILITY

Accountability	<i>Research, forestry and technical partners will be the main responsible for the release and publishing of these actions. FORWARDS has identified possible OA journals for publishing scientific articles: Journal of EGU/Copernicus, Open Research Europe, PNAS, Journal of Open-Source Software, Environmental Research Letters, GCB Bioenergy, etc.</i> <i>ICONS will keep track of all the scientific and technical publications made by FORWARDS scientific and technical partners within the project. Moreover, ICONS will promote such publications via the project website and social media.</i>
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2.5.4 Factsheets and policy brief

Factsheets and policy briefs are synthetic reports specifically designed for the professional community and policymakers to learn about technical insights, solutions and measures developed by FORWARDS.

They allow the project’s communication team to package technical achievements and findings into a visually attractive and easy-to-access document. The specific contents will be taken from the public deliverables and scientific publications produced by the project.

This format makes them particularly suitable to be distributed at scientific and technical events. Moreover, they will also be made available for download from the project website and will be actively distributed to key stakeholder groups interested in updates on project results.

TABLE 14 FACTSHEETS AND POLICY BRIEF ACCOUNTABILITY

Accountability	<i>ICONS will oversee the development and the graphic design of the factsheets and the policy brief. They will liaise with technical partners to collect content to be featured in such resources. When the content of factsheets and policy brief will be particularly technical, some partners or the coordinator will be asked to draft content, based on the guidelines provided by ICONS, who will oversee the final edits and pagination.</i>
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2.5.5 Handbook on good practice guidance on effective CSF and restoration management

A handbook on CSF & Restoration practices will be developed for forest practitioners to systematise knowledge on their effectiveness in supporting climate change mitigation, adaptation, and biodiversity in specific regional settings.

The results will be synthesised to understand how CSF & Restoration can support EU policy goals and national and regional targets concerning climate change mitigation, adaptation, and biodiversity.

TABLE 15 HANDBOOK ACCOUNTABILITY

Accountability	<i>ICONS will oversee the development and the design of the handbook. This will be done in cooperation with SLU and technical partners, who will provide the text and the data/figures to be showcased in the handbook. The structure and content of the innovation handbook will be discussed with the project coordinator.</i>
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2.5.6 Editorial contents

TABLE 16 EDITORIAL CONTENTS

<i>Editorial content</i>	<i>Description</i>	<i>Target</i>
<i>Journalistic articles</i>	<i>Independent articles and interviews with the project’s experts and external stakeholders will be produced by professional</i>	<i>Forest practitioners and forest industry; media</i>

	<i>journalists and distributed to online media, thematic portals, and other information outlets.</i>	
<i>Press and news releases</i>	<i>They can be used to inform the community about the project's main achievements and milestones and promote project events and progress. They will also have an information purpose and disclose evidence about the novelties in the field relevant for the forest industry.</i>	<i>Policy makers; European partnerships; associations, clusters, and membership organisations; media</i>
<i>Video production</i>	<i>FORWARDS videos will communicate the project in an easy and engaging way. Their format will be suitable for online distribution, although they may also be used to present the project at sector events.</i>	<i>Policy makers; European partnerships; Associations, Clusters, and membership organisations; Media</i>
<i>Podcasts</i>	<i>Podcasts will be produced to attract a wide audience, as well as a larger group of citizens. The series will be produced by ICONS Innovation Stories - the podcast series that highlights cutting-edge developments in Europe's path towards a more sustainable future</i>	<i>All</i>

The outreach will be monitored on a regular basis thus allowing us to fine-tune the communication materials' contents, in order to gain more impact over time.

2.5.7 Journalistic articles

Independent journalistic articles and interviews will be written by professional journalists from ICONS. They will cover topics linked to FORWARDS with an angle suitable to reach through to a wide range of audiences.

Articles will be published via the project website. Moreover, they will be distributed to the public at a European and global level using different multipliers or media platforms, namely EU Agenda, AlphaGalileo

and Phys.org and other platforms which will be indicated as relevant. Social media channels will promote articles when released.

Journalistic articles will inform and stimulate interest among the public about the topics covered by the project. They will serve to present a technical project like FORWARDS to a laymen's audience by using understandable language and messages. Journalistic articles and project interviews can be seen as a way to raise public awareness, the project's key ideas and, ultimately, contribute to social acceptance of the results.

TABLE 17 JOURNALISTIC ARTICLES ACCOUNTABILITY

Accountability	<i>The editorial production will be discussed by ICONS with SLU. Contents will originate either from external sources collected by journalists (during their investigation) or directly from the FORWARDS project. ICONS will take care of the distribution.</i>
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2.5.8 Press and news releases

FORWARDS press and news releases are meant to draw the stakeholders' and the public's attention towards the project, the progress made, and the results achieved.

Press releases are particularly effective when it comes to communicating the project's main achievements and key milestones, like the release of a scientific paper or a technical deliverable.

News releases, on the other hand, have an informal structure and they use plain language and are thus easily read by the public. They are usually published on the project website to communicate news about the project, its features and its work which are all worth bringing to the attention of the FORWARDS community despite not being "breaking news". A news release will be produced, for example, to explain an innovative concept developed by the project or as background information on a project activity.

News releases are particularly effective when informing of the participation of some members of the FORWARDS partnership to external events to present their latest project findings or achievements.

Both the press releases and the news releases will be published on the project website and, whenever deemed newsworthy, they'll be distributed to external online resources and news multipliers.

Consortium members are encouraged to actively publish and post news about their project on their own distribution channels and external media. ICONS will monitor all publications released by the partners on a bi-annual basis. This exercise will be based on a dedicated template circulated in the consortium twice per year.

TABLE 18 PRESS AND NEWS RELEASES ACCOUNTABILITY

Accountability	<i>ICONS will be responsible for producing and distributing press and news releases on behalf of FORWARDS.</i> <i>All the members of the FORWARDS consortium will flag up to ICONS interesting aspects worth covering in the press, by providing them with the necessary</i>
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details and background information. ICONS will draft texts and take care of their distribution.

Once press releases are ready, all the members of the consortium will be encouraged to further distribute them through their own portals or other appropriate channels.

2.5.9 Video production

FORWARDS videos aim at communicating the project in an easy and engaging way. They can be developed in different formats (infographics and animation, scribing technique, real footage, stock images etc.) according to the audience, the targets, and the channels to be used for distribution.

The first presentation video will be released in April 2023, M6, and will focus on the general concept of FORWARDS and its objectives. A second video will be produced towards the end of the project to present the project results and their application areas. Moreover, video interviews with experts and social media video clips will be produced throughout the lifetime of the project.

The video format is particularly effective at facilitating knowledge sharing of complex contents with a wide audience. FORWARDS videos will be promoted and distributed via social media, the project website, as well as other sector-related communication portals and platforms. When possible, the FORWARDS videos will be used to present the project at external events partners will be invited to.

TABLE 19 VIDEOS ACCOUNTABILITY

Accountability

ICONS will oversee the video production, development, and distribution. Format and content to be featured on the video will be preliminarily discussed with SLU.

SLU and the technical partners will be asked to provide the technical background necessary to develop content and script.

2.5.10 Podcast production

Podcast production aims to attract new audiences, especially young people and citizens.

Four episodes on forest sustainability will be produced. The episodes will be published on the podcast platform Anchor, in ICONS' account, and then distributed to further platforms like Spotify and Google podcast. The podcast episodes will be available in English only.

TABLE 20 PODCAST ACCOUNTABILITY

Accountability

ICONS is in charge of the podcast production, from the draft of the scripts to the recording, editing and publication of the episodes. The topics and the speakers will be decided by ICONS in collaboration with SLU and, generally, with the approval of the whole consortium. ICONS will take care of the proof reading and the publication on the social networks.

2.6 Networking, policy dialogue & international cooperation

To achieve its objectives, FORWARDS will create networking activities with non-EU-countries. These allow to set up some methodology (for example, remote sensing mapping) that may be suitable for other types of forests worldwide. Moreover, using existing international networking between FORWARDS partners and non-EU institutions/research institutes and NGOs will be possible to set up and test already available methodologies for non-EU countries that can be used in the EU.

Reaching out to the stakeholders by attending events in person can effectively multiply opportunities of interaction between the project consortium and their professional target audience(s).

As part of Task 6.4 (led by EFI) FORWARDS will establish close links and cooperation patterns with other European projects under the same or other calls in joint communication and dissemination activities. It will leverage already existing successful initiatives, events and established channels to raise visibility via cross-fertilization and –linking (e.g. RESONATE, SUPERB, Holisoils and ForestPaths). Collaboration will include active participation in working groups and regular exchange of inputs and sharing of experiences in the context of forestry and climate change, as well as through e.g., joint workshops and webinars, press releases, social media support and exchange. Event attendance will be monitored through a regular communication flow happening within the consortium and updates will be collected by ICONS. The partners' attendance to any events will be featured in the project website and in the social media channels to ensure appropriate visibility.

A final event and dissemination webinar will be organized in cooperation with other EU-funded projects. Finally, T6.3 (led by THUE) will organise events (e.g. webinars or workshops) with IPC Forests, the EC, and other relevant stakeholders to inform about the latest developments in pan-European forest monitoring and their relevance for policymaking.

TABLE 21 NETWORKING ACCOUNTABILITY

<i>Accountability</i>	<i>ICONS will be responsible for keeping track of the FORWARDS networking, international cooperation and events organization.</i> <i>Also, to boost impacts from cooperation with other projects, FORWARDS will also apply to the Horizon Results Booster to define a joint dissemination strategy portfolio with other EU projects (e.g., SUPERB, RESONATE, HOLISOILS).</i>
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2.7 Management of communication, dissemination and exploitation

2.7.1 Responsibility in the consortium

To ensure that EU-wide communication activities can reach out to the mentioned stakeholders and the general public full cooperation needs to be established between the DEC Exploitation Leader (ICONS) and the rest of the consortium.

There are strong interactions between the project exploitation, dissemination and communication, illustrated in the current document, and the partners' local activities, especially when involving stakeholders

and professional audiences. Therefore, full support of the rest of the team is expected. Likewise, the exploitation part of WP6 heavily relies on input from the FORWARDS consortium. In fact, all the project partners are expected to cooperate by participating in direct interviews and questionnaires, which will be facilitated by ICONS, to gather information necessary to define the project KERs and the most suitable exploitation strategies. ICONS will also organize workshops on exploitation themes and activities to support the development of exploitation roadmaps to ensure the sustainability of the project results beyond the end of the project. Further details concerning the partners' inputs to the exploitation activities are provided in Chapter 3 (Exploitation strategy) in the current document. The role and responsibility of ICONS, the project coordinator and all the other member of the FORWARDS consortium can be summarised according to the following scheme:

Partner	Responsibility and involvement
SLU (Coordinator)	<i>As primary interlocutors of ICONS on communication and dissemination activity, they will be asked to validate the proposed dissemination, communication and exploitation strategy;</i> <i>Providing their feedback and approval on the communication and dissemination of contents to be released on behalf of FORWARDS (i.e. project website, leaflet, roll up, etc.)</i> <i>Actively contribute to the definition of joint exploitation strategies</i>
ICONS (WP6 leader)	<i>WP6 leader for communication, dissemination and exploitation;</i> <i>Developing a communication and dissemination strategy to be implemented for the duration of the project;</i> <i>Defining key messages that will convey the objectives and goals of FORWARDS based on the expectations of the project's target audiences;</i> <i>Developing the FORWARDS logo, visual identity and various communication materials;</i> <i>Internal point of contact for all communication, dissemination and exploitation activities that will take place on behalf of FORWARDS;</i> <i>Designing, updating and maintaining the project website;</i> <i>Producing the content to be published on the project website and social media platforms, together with the active contribution of all the partners;</i> <i>Monitoring the impact of every communication material produced and distributed for FORWARDS;</i>

*All other
FORWARDS
partners*

Delivering regular updates of the communication plan based on the project's emerging dissemination and communication requirements;

*Identifying and monitoring of FORWARDS KERs, and stakeholder groups;
Designing a plan with partners' joint and individual strategies for accelerating model upscaling and future uptake;*

Assisting ICONS by providing input needed to feed the FORWARDS website and other communication materials;

Keeping ICONS informed as to relevant progress made by the project in their respective work packages;

Boosting FORWARDS presence on social media;

Providing ICONS with the list of events and publications they will be attending on behalf of FORWARDS. In parallel, the partners promote FORWARDS in their own communities and networks to spread info about the project.

Actively participating to the exploitation activities facilitated by ICONS (e.g., questionnaires, interviews, workshops);

Supporting exploitation activities providing inputs on KERs identification and description; and discussing individual and joint exploitation strategy.

2.8 Monitoring

2.8.1 ICONS's monitoring process

The impact of FORWARDS DC products will be measured throughout the whole duration of the project. This will be done by monitoring and studying the project's ability to reach and engage with its target audiences.

Online media outreach will be calculated using a methodology that relies on automated tools that collect reliable statistics and data. The effectiveness of workshops and webinars will be measured based on the number of attendees and feedback to be collected at the end of each event.

Matomo will be used to assess the performance of the project website. It will be used extensively to retrieve available data about the traffic (in terms of the number of views, sessions, and users' behaviour) and the audience it reaches out to.

Press and news releases and journalistic articles will be monitored as well by calculating the outreach generated by the spontaneous take-ups of the FORWARDS content on websites and social media channels. This reporting activity will be done using Nuvi®, social media analytics programs i.e., Twitter Analytics, Facebook Insights and YouTube Analytics and data coming from external platforms and multipliers.

2.8.2 ICONS's engagement indexes: CEI encompassing - PEI, SEI, WEI

Outreach and engagement indicators are not sufficient to assess the evolution of the acceptance level. The former only provides an estimate of audience size, not its interest level; the latter describes the interest and overall impacts on a community but should be read in conjunction with outreach to draw relevant conclusions on engagement. To this end, composite indicators are calculated for each area of activity: **Website Engagement Index (WEI)**, **Social media Engagement Index (SEI)** and the **Publication Engagement Index (PEI)**. They are computed as the ratio between the corresponding engagement and outreach indicators. This allows ICONS to analyse the communication and dissemination impacts for each area of activity separately.

The **Community Engagement Index (CEI)**¹ developed by ICONS is used to integrate all communication activities into one single metric. The total engagement (outreach) value is calculated by adding together the engagement (outreach) values calculated for the individual indicators.

The ratio between the engagement and outreach values collected for each single editorial product can be used for another analysis tool developed by ICONS, namely the impact quadrants as in Figure 4 below. In the plot, the x and y axes report the publication outreach and engagement values respectively. Each editorial product is represented with a bubble whose radius is given by the ratio between the corresponding engagement and outreach values. The two axes cross at the average values across the editorial products in question. The bubble distribution allows us to see which news items have performed better in terms of outreach and engagement. This is a valuable tool for correcting and fine-tuning the FORWARDS communication and dissemination strategy. The plot is dynamic, as the coordinates of the bubble vary with time as more data is collected.

The CEI will measure the actual engagement of the FORWARDS community via the project contents delivered on the internet and the social media. It portrays the univocal relation between any project content available on the web and social media and the actual interactions of online visitors coming across that content. The CEI is a function of the outreach and engagement values, with low values of the CEI indicating little relative interest by the target audience.

¹ Folco Giuliana, Gaboardi Elena, Lischetti Serena, Martinoli Mario, Mazzolo Giulio, & Schmid Elisabeth. (2022). Two new tools for science communication assessment: the community engagement index and communication effectiveness quadrants. Zenodo. <https://doi.org/10.5281/zenodo.6985584>



FIGURE 3 IMPACT QUADRANT WHERE EACH BUBBLE CORRESPONDS TO AN EDITORIAL PUBLICATION

Accountability

ICONS will be in charge of monitoring the outreach and engagement generated by the project communication. The outcome of such exercise will be shared with the FORWARDS consortium at project meetings, and it will be fed into periodic reporting.

FIGURE 4 MONITORING ACCOUNTABILITY

2.8.3 Timeline

The timeline below covers the main activities for WP6 for the first reporting period of the project. The first months focus on setting up of the visual identity, social media accounts, website, and other outreach materials. In the same period, a preliminary identification of FORWARDS' KERs and the main stakeholder groups is carried out on the basis of the project proposal and further inputs arriving from all the partners.

In addition to the activities shown in the table below, specific communication campaigns will also be conducted; press releases will be issued generally at milestones or for events and specific achievements or deliverables.

When	What	Lead beneficiary
M5	Set up of social media accounts, visual identity design, landing page	ICONS
M5	Brandbook, .ppt, Word and deliverable templates	ICONS
M6	Project website and first press release available on the website	ICONS

<i>M6</i>	<i>Plan for dissemination and exploitation of results (D6.1)</i>	<i>ICONS</i>
<i>M6</i>	<i>Communication Kit (D6.2)</i>	<i>ICONS</i>
<i>M7</i>	<i>Impact Evaluation Plan (D6.2)</i>	<i>ICONS</i>

2.9 The project’s visual identity

An appealing and consistent visual project identity is key to reaching out effectively to stakeholders, helping the project increase its influence and impact. The project logo has been developed starting from the FORWARDS brand personality exercise, which highlights the main features, characteristics, and elements the project partners want to convey when communicating about the project. During the exercise, it emerged that in every public manifestation, the project should look reliable, knowledgeable and – at the same time – welcoming and down-to-earth; established, still forward-looking; essential and vital.

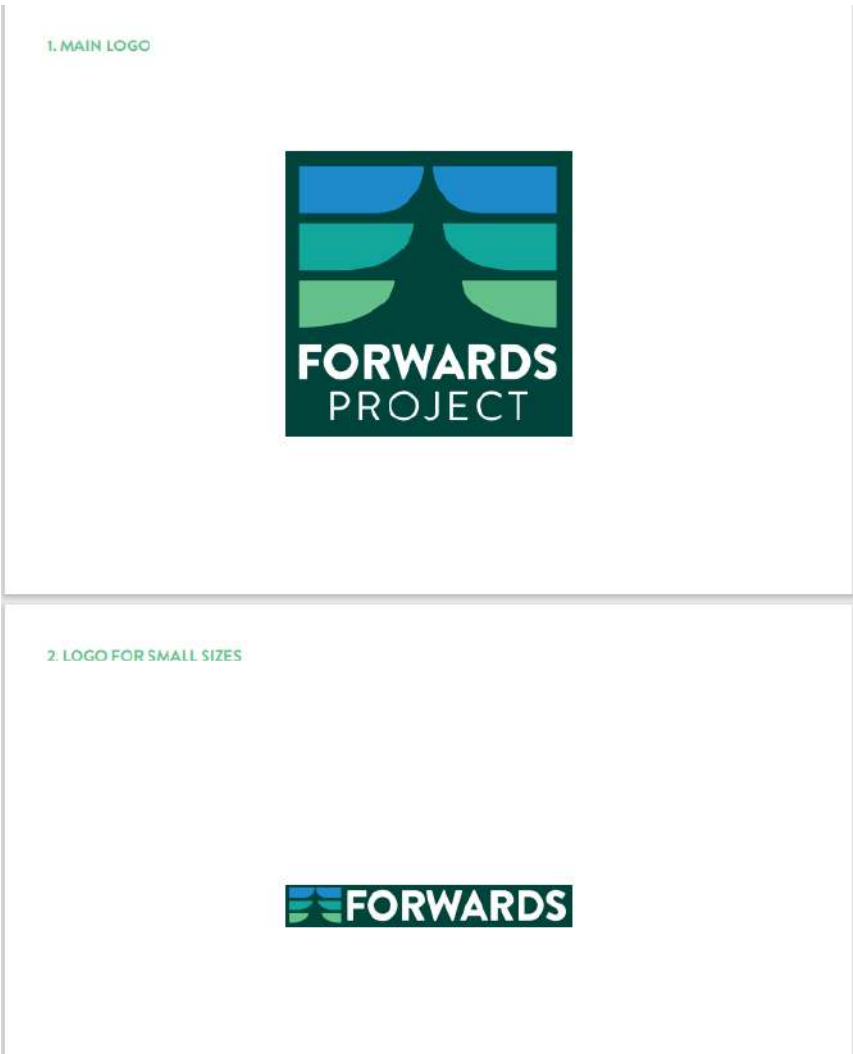


FIGURE 5 FORWARDS LOGO

The official Brandbook was developed and shared among partners. It serves as a rulebook for everyone involved in the project, particularly when developing communication and dissemination materials for specific events including webinars. Some of the rules are shown below in the Annexes.

All dissemination items and publications to be released by FORWARDS, including the project website, will specify that the project has received funding from the European Union research and innovation programme and display the European emblem. All publications will include the following statement (from GA 17.3): “Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or REA. Neither the European Union nor the granting authority can be held responsible for them.”

3. Exploitation strategy

The FORWARDS Consortium adopts an impact-driven approach to ensure the exploitation and sustainability of the project's results. In particular, the Consortium has envisioned a preliminary exploitation and sustainability strategy to support FORWARDS in the deployment and consolidation of the "*ForestWard Observatory*" as a long-lasting instrument that can support decision making at strategic and operational levels in the EU.

In addition to the *ForestWard Observatory*, the project generates a number of other results (see section 2.1), some of which are instrumental for the realization of the ForestWard Observatory, such as a supersites network, and other important advancements, including novel systems and methodologies for forest monitoring, knowledge advancement concerning forest resilience and disturbances, restoration practices, and other materials that will support CSF management in Europe.

Considering the nature of the results and partners involved, FORWARDS exploitation strategy will be mostly non-commercial, focused on the sustainability and uptake of the "*ForestWard Observatory*" by end-users and key stakeholders, and scientific exploitation of knowledge and data generated in the project.

FORWARDS exploitation & sustainability strategies will be built around the following key pillars:

- 1) Sustainability plan of the ForestWard Observatory to make it a permanent tool.
- 2) Continuation, expansion, and maintenance of the networks created.
- 3) Use and refinement/advancement of FORWARDS tools and methods.
- 4) Advocacy strategies with key policymakers.
- 5) Academic and scientific research.

The Consortium will assess partners' individual exploitation strategies and assess their role in FORWARDS joint exploitation strategies. The process will entail a collaborative effort among all partners, which will be involved in dedicated workshops and guided interviews aimed at assessing all Key Exploitable Results, clear IP matters, and develop a sound strategy addressing the above-mentioned pillars. The preliminary exploitation pathways are detailed in the following paragraphs.

3.1 Definition of the sustainability strategy of the ForestWard Observatory

The ForestWard Observatory aims to become a long-lasting and valuable instrument for supporting decision-making at both the strategic and operational levels throughout the European Union. As part of the project's scope, ForestWard's extensive data repositories will be hosted at the Remote Sensing Division of the Department of Forest Resource Management at SLU and will utilize existing infrastructures in the High-Performance Computing Centre North.

In view of the post-project sustainability of the ForestWard Observatory, and availability of all the results delivered through the platform (i.e *datasets from multiple sources and networks; specific tools and applications for end-users; CSF & restoration management practices, indicators, and other knowledge material developed in the project etc.*) the observatory will be designed to be fully compliant with the

capabilities of the EC Joint Research Centre (JRC), which will enable its future integration into the observatory of deforestation and forest degradation. Additionally, the ForestWard Observatory will be incorporated within the Forest Information System for Europe (FISE), which is managed by the European Environment Agency (EEA).

The consortium has already engaged in preliminary discussions with the JRC, and concerted efforts will be made to ensure the financial sustainability of the observatory through discussions with stakeholders, including the EC and ICP Forests members. The team will also explore other possible financing mechanisms, such as national government funds or crowdsourcing.

ForestWard Sustainability strategy will address all the necessary steps to ensure the availability of the results after the project's and maximize its uptake by the relevant stakeholders in the forest community (e.g., decision makers, practitioners, etc.). The strategy will be comprehensive, covering different aspects that are crucial for the ForestWard sustainability, such as:

- Governance model and roles,
- Aspects related to the technical and financial sustainability of the Observatory,
- Specific initiatives to be taken by partners to improve the platforms performance aligned with stakeholders needs and priorities,
- Identification of new opportunities and challenges linked to the platform uptake.

3.2 Maintenance of the networks of CSF and restoration pilots

The ForestWard Observatory will collect relevant data from established networks such as ICP Forests and a network of pilot sites, through five FORWARDS Demo cases and 50 trials funded by the project via the scheme of grants to third parties. These networks are not only instrumental for the execution of the project (by implementing forest observations and testing CSF and restoration measures), but also have the potential to become long-term networks that can provide valuable information on the impact of climate change on forests and provide constant data flow into the ForestWard Observatory.

To ensure a continuous flow of updated and refined data to the observatory, the pilot site network created in the project will be maintained, and potentially extended to maximize the impact of FORWARDS. Indeed, the exploitation of established networks will enable the ForestWard Observatory to obtain comprehensive data on the state of forests, which can contribute significantly to addressing climate change and promoting sustainable forest management. Maintaining the networks, however, will require a strategic approach that focuses on establishing and nurturing relationships with partners and stakeholders. These efforts will leverage on the continuous stakeholder dialogue initiated in the scope of WP4 (Knowledge platform and co-creation framework), and tailored dissemination activities in the scope of WP6 (Impact assurance and outreach), and a financial sustainability strategy tied to the ForestWard Observatory.

The sustainability strategy addressing the networks developed in the project will consider the following key aspects:

- Establishment of clear communication channels and methods to ensure that all parties have access to relevant information.

- Foster relationships by identifying common interests and needs of partners and stakeholders.
- Evaluate potential incentives and benefits to partners and stakeholders for their continuous participation in the networks (this could include access to data, recognition of contributions, or other forms of incentives).
- Provision of training and support (e.g. on how to use models and tools) to ensure network members have skills and resources necessary to contribute to the network goals.
- Ensure financial sustainability to define how initiatives can be funded and sustained long term.

3.3 Use and refinement/advancement of FORWARDS tools and models

FORWARDS will develop and improve multiple models and tools, which will be available in the ForestWard Observatory upon registration in the ForestWard Platform or by request, based on scientific collaboration, and in accordance with use policies for each model. FORWARDS aims to share knowledge; therefore, it will provide training in these models and tools.

Models and tools will be further refined in application in pilots (by leveraging established networks), in view of advancing TRLs. The new methods and tools for novel monitoring (KER4) will be tested and evaluated during the project, and further activities will be carried out by partners to advance such results. Similarly, the improved data processing (KER8) will facilitate the alignment of measurable CSF indicators with information from monitoring networks (e.g., ICP, NFI), igniting research and education on management options and trade-offs. Improved high-resolution European forest resource data will be very valuable for further research and education. These data routines can be further exploited and modified regionally.

Lastly, KER7 provides a database of innovative practices, which can be further leveraged in research activities; KER 10 can also be applied for stakeholder engagement and co-design activities in other subjects tied to the EU forest industry; all KERs present opportunities to enhance the European leadership in academic courses and research in the forest sector and its implications on climate change. Moreover, the availability of data on the platform can enable the launch of start-ups and and/or new visionary services that could be exploited by third-party SMEs to the benefit of the EU forest economy.

3.4 Use of results in advocacy and policymaking

Data and knowledge generated in FORWARDS will be available through the ForestWard Observatory and consist of important resources for policy making at the EU and local levels. Throughout the project, scientifically robust forest-based policy pathways will be published in OA publications. To ensure the uptake of monitoring results into policymaking, FORWARDS will organize events with relevant stakeholders to discuss the latest developments in pan-European forest monitoring. This will be enabled by targeted dissemination activities, including the development of the capacity building program (WP4) and training materials for policymakers and forest practitioners. Project partners and experts will participate in different key conferences and policy discussions to disseminate the results at EU and international levels.

The consortium includes partners with strong skills in governance and transference from science to policymaking, with project participants (e.g., EFI, SLU, WR, WSL, LUKE, FCRA and BANGOR) being highly experienced in providing policy support to European Commission and/or national ministries, and EFI having

a strong involvement in FOREST EUROPE and the European Integrate Network. These will play a relevant role in leveraging project outputs to inform policy making at the national and EU levels.

3.5 Academic and scientific research

The FORWARDS partners have extensive experience in conducting research dedicated to studying the impacts of climate change on forests. By leveraging the vast amounts of data that are derived from the existing and newly established networks (KER3), and acquired through the adoption of new tools and methods (KER4 and KER5), university partners (SLU, UNIFI, UNIMOL, GFZ, WU, BANGOR, BOKU, LUND), and research institutes (EFI, WR, WSL, THUE, FCRA, SILAVA, LUKE, EVINBO), will be able to generate science-based knowledge that will serve as the foundation for ongoing and future research.

The research outputs will include datasets that will be published in dedicated repositories along with relevant publications, as well as in ForestWard Observatory (KER1, KER2), and which will be available for use by project partners and third parties outside the consortium, including research and academic institutions, and private organizations.

As a result, FORWARDS will contribute to a better understanding of the potential for mitigating the effects of climate change on ecosystems and sectors based on the sustainable management of natural resources. It will also provide advanced knowledge to support the adaptation and resilience of natural and managed ecosystems, as well as water and soil systems and economic sectors in the context of a changing climate.

4. Conclusions

This Plan for Dissemination and Exploitation of results presents the overall PCDE strategy of FORWARDS.

Partners can refer to this deliverable to align their local communications with the communications strategy agreed on at project level, as it entails visual and content guidelines. Also, it provides an overview of the main tools and channels to be used for dissemination of project results, as well as the monitoring strategy that will be developed. The channels and formats illustrated in the current deliverable will ensure awareness, engagement and uptake of project outputs by professional stakeholders and citizens. Efficiency and outreach of channels and formats will be monitored periodically, thus allowing the project to understand and fine-tune its contents and the overall DC strategy over time.

This document also contains the premise of the exploitation strategy, starting from the preliminary identification of KERs and stakeholder groups. Partners can find in this document the methodology that will be applied to define joint and individual exploitation strategies and the steps that will be carried out to ensure an effective and sustainable exploitation of project results.

The current deliverable will be updated throughout the whole project to fine-tune the strategy. The exploitation strategy will be consolidated at the end of the project, defining the sustainability plan of the ForestWard Observatory to make it a permanent tool.

Annex I – Brand book

This annex shows the FORWARDS brand book. It was developed by ICONS to summarise the main aspects of the project's visual identity.

Logo variants

1. MAIN LOGO



2. LOGO FOR SMALL SIZES



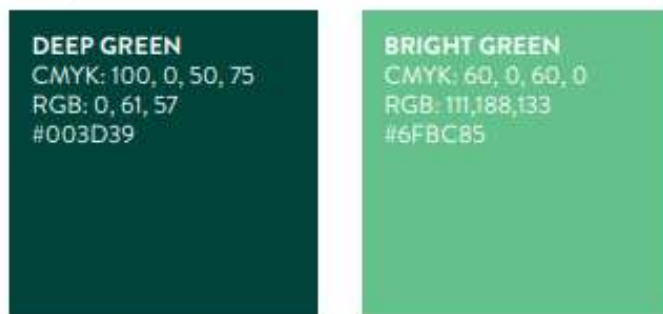
3. MONOCHROME LOGOS



Brand identity colours

4. COLOURS

Primary colours



Secondary colours



Typography

5. TYPOGRAPHY

BRANDON GROTESQUE BLACK

AaBbCcDdEeFfGgHhJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz

BRANDON GROTESQUE BOLD

AaBbCcDdEeFfGgHhJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz

BRANDON GROTESQUE REGULAR

AaBbCcDdEeFfGgHhJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz

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