

DG Environment

Unit Directorate D – Natural Capital

Project Charter

Forest Information System for Europe (FISE)

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# Executive Summary

The main goal and long-term vision for the Forest Information System for Europe (FISE) is to provide target groups with comprehensive forest data and information on a single website featuring a user-friendly interface. The FISE portal aims to provide better forest data and statistics compared to what is currently on the market, offering a consistent line of generic products and customisable output formats (map overlays, data sets, customisable graphs, downloadable pdf fact sheets etc.), addressing all aspects and parameters to reflect the holistic understanding of forest ecosystems and management advocated in the EU Forest Strategy.

By developing FISE, DG Environment aims to accomplish the following overall objectives:

* Provide **enhanced forest information** togather vital information on forest ecosystems conditions and monitor the relevant trends for informed policy decisions, funding and management.
* **Sustainable forest management**,to encourage forest management practices which preserve and enhance all forest ecosystem functions and services. Main actions include work on criteria and indicators for sustainable forest management and sustainable biomass; promote the wider use of forest management plans and the integration therein of ecosystem approaches and biodiversity concerns.
* **Valuing forests** tohelpidentify, value and include the full value of forests into statistics, accounts, decision-making and payments to forest owners. Main actions include MAES-Forests, payment for ecosystem services in forests.
* **Integration** of the forest environmental needs in the various policy objectives and initiatives of DG ENV and the Commission at large.  Forests are affected by a number of policies and decisions, and their main tasks are achievable only if our objectives are sufficiently reflected across all relevant policies.

# Considerations on the Business Case

The Business Case was developed in the form of a Concept note. Its revision 3.1, released in January 2018, first describes the development principles, portal objectives, key users and geographical scope; it also provides the list of priority themes for the FISE content.

It contains considerations on the governance, content management and workflow and foreseen IT infrastructure. A provisional list of data sources is also given.

Further to this, an online kick-off meeting took place on the 8th of February 2018, where several issues regarding the data to be transferred from the JRC to the EEA were discussed. It revealed that the modelled products currently at the JRC will not be transferred to the new FISE portal hosted at the EEA in the first phase. At a first step, and as requested by DG ENV, the transfer of FISE from the JRC will only include existing source data – information levels A and B. EEA asked for an overview of existing database with such source data and their degree of accessibility also for public sharing of information.

The Forest Focus database, including the BioSoil data (mainly the biodiversity data and eventually the soil data) will be not be harvested or transferred in the EEA infrastructure, given the existing legal constraints on it. The relevant data from it can be harvested from the [ICP Forests](http://icp-forests.net/) and integrated in the upcoming FISE portal, pending an agreement made by the Commission.

With respect to the current version of the Business case and discussions after that, a few aspects were clarified during this phase, or will be further discussed and clarified during the lifecycle of the project:

* What databases will be migrated from the JRC into the new FISE portal, to be hosted at EEA
* Due to delayed starting of the IT contracts, the schedule for development might vary, but the final deadline should remain the same
* The sources of data and information, along with the corresponding format in which they should be presented

# Project Description

The EU Forest Strategy from 2013 committed the Commission and the Member States to set up 'the Forest Information System of Europe by collecting harmonised Europe-wide information on the multifunctional role of forests and forest resources and integrating diverse information systems (e.g. EFFIS) and data platforms (e.g. EFDAC) into a dynamic, modular system that combines data and models into applications. It also said that the Commission would 'develop several modules, e.g. on forests and natural disturbances like fires and pests, forest and the bio–economy, forests and climate change and forest and ecosystem services that could contribute to the EU’s forestry statistics and Integrated Environmental and Economic Accounting for Forests.

In response to the EU Forest Strategy, DG JRC has developed a pilot version of FISE including four modules on forests and natural disturbance, forests and the bioeconomy, forests and climate change, and forests and ecosystem services. Following the decision of JRC in mid-2016 to keep developing new FISE applications, but to leave the operation of the system to a different organisation, DG ENV found in the EEA a new partner for the hosting, operation and further development of the system. This will require a data handover from the JRC to the EEA in the course of 2018. This data will be stored and presented on the new FISE portal by the contractors Eau de Web and Tracasa, to best illustrate user stories to be created by the Commission, together with the EEA.

The main goal and long-term vision for the system is to provide target groups with comprehensive forest data and information on a single website featuring a user-friendly interface and customisable output formats. FISE users should get a one-stop-shop which allows picking and mixing the information which they need in a format which is convenient for them (map overlays, customisable graphs, downloadable pdf fact sheets etc.).

Technically, FISE should deliver through a single interface and coherent output formats information from a variety of different data centres and platforms such as CLIMAT-ADAPT, WISE, BISE, COPERNICUS, the Article 12 and 17 assessments (Nature Directives), or the planned LULUCF registry.

A main component of FISE will be a map viewer with enhanced output formats (thematic maps, graphs, tables, customisable fact sheets…), but the system should also be able to provide raw data files, text files such as short assessments and reports, visualizations, etc.

Data and information in FISE will be parts of the following five categories:

1. **Forest base information** should include fundamental numerical forest land and ecosystem parameters which can be partly be used as a reference for other area-based indicators. Examples include forest cover, forest types, annual increment and removals, ownership, tree species etc.
2. **Forest bioeconomy information** should provide numerical data on forest biomass production , other relevant forest ecosystems services and the related value chains; socio-economic indicators such as primary wood and other forest products, employment etc.
3. **Forest nature and biodiversity information** should include the conservation status of forest species and habitats of European interest (Article 12/17 assessments); the forthcoming EU common forest bird species indicator and other SEBI Indicators; structural proxy indicators such as deadwood levels, variety of tree species, forest fragmentation and connectivity; and area designations such as forest areas which are formally protected for nature conservation/biodiversity. The complexity of biodiversity may require the use of proxy indicators and qualitative data, yet numerical data are to be preferred whenever possible.
4. **Forest carbon information** should mainly provide data collected to implement the LULUCF rules to allow monitoring of forest carbon stocks and carbon sinks over time. Data from GHG inventories, including LULUCF, are currently already on the EEA website.
5. **Forest condition information** should allow monitoring forest ecosystem health and resilience in the context of changing conditions (climate change, pollution…). Main data sources include EFFIS (which initially could be simply provided as an external link in FISE, leaving the possibility for a more seamless integration into FISE to a later stage), ICP Forest plot data, Copernicus etc.

A few important aspects regarding the FISE content mentioned in this paper and meetings held in the initiation phase are:

* The hierarchical content organisation will not follow the above categorization by themes, but established later by the EEA
* The portal must not create silos, but rather harvest data from remote sources and expose data published locally to the appropriate aggregation databases (e.g. the EEA Semantic Data Service SDS), according to the principles of the Shared Environmental Information System (SEIS)
* Data to be processed will be stored in the EEA Common workspace. This is a shared platform with homogeneous data quality metrics.

The targeted key users were identified as:

* Policy-makers and decision takers at international, EU and national levels
* Professionals and experts working in organisations with specific forest-related interests
* Scientists and researchers

The geographical scope of FISE will include all EEA 39 countries.

In short, FISE’s key objectives listed by the concept paper are:

* Inform policy making and decision-taking
* Support monitoring and assessments, potentially support reporting
* Facilitate expert knowledge sharing, research and innovation
* Improve public awareness and knowledge

The FISE system must be fully compatible and compliant with the EEA's IT architecture and infrastructure. It should be designed to be regularly updated and to be extended and upgraded to accommodate new content and functions, in response to user needs and availability of new forest related data and information.

## Scope

### Includes ("IN" Scope)

* Data transfer of components from JRC to EEA
* IT infrastructure for organising, sharing and publishing forest data and information through the FISE web portal Identify and compile existing relevant content (database, maps, etc.), including content provided by JRC
  + Develop an entry point (gateway/portal) and a data repository (databases and tables including spatial datasets) for advanced users
  + Developing of a functionality for data and information harvesting from spatial datasets (including Copernicus land monitoring), official reports and statistics (including FAO/UNECE, Eurostat, Forest Europe, EIONET forest data flows, ICP-Forests, Member State reporting on EU directives related to forests), automating this process whenever possible.
  + Expand the EEA existing Forest Data Catalogue and coordinate its expansion with the ongoing development of EEA’s Integrated Data Platform (IDP) which will interlink spatial, tabular and semantic information regarding forests and other forest related data
  + The datasets’ metadata will follow EEA metadata standards, which is based on the INSPIRE metadata template
  + Register all spatial datasets in EEA’s SDI whereas tabular data will be saved on EEA’s Plone system or SQL databases before being indexed on SDI
  + Link to the European Forest Fires Information System (EFFIS)
  + Thorough testing and repeated improvements of the infrastructure
* FISE web robust portal, built for regular change and new functions and features
  + Transfer of the data collected and compiled for the FISE web pilot developed by JRC
  + User interface(s) that allow users to explore spatial and non-spatial datasets with enhanced output formats (thematic maps, graphs, tables, customisable fact sheets…). They must allow querying spatial datasets in a way that all technical, thematic and semantic information stored in FISE can be displayed. They should include the display of base maps and overlays with a variety of thematic maps (e.g. Natura 2000 areas, tree species, soil, Copernicus HRL forest type map, LULUCF registry data, EFFIS maps and data, biomass etc.)
  + Harvesting, storing and publishing of raw data files, text files such as short assessments and reports, possibly audio-visual content etc.
  + Offering both simple query options for beginners, and advanced database exploration and integration functions for experts
  + Including the EEA Forest Catalogue and EEA's IDP integrated analysis of forest related datasets
  + Hierarchical structure of sections, for which templates should be provided, to allow easy updates by content managers, including at least:
    - Topics (descriptions, briefings, reports etc.)
    - Data and maps (map viewer, tables, graphs etc.)
    - National and regional data (customisable 'country fact sheets' and 'country comparisons')
    - Tools and links (other sites, reports; apps etc.)
  + Mandatory pages for EU sites i.e. search, cookies policy notice, legal notice, contact page, site map, about, accessibility, data policy
* FISE server maintenance, monitoring and ensuring a good performance
* Content management support and website maintenance

### Excludes ("OUT" Scope)

Unlike existing similar information systems (BISE, WISE, Climate-ADAPT), FISE will not include a dedicated 'policy' section (which overlaps with Commission websites). There will be no 'networks' section, as the core product is forest data and statistics, and no links to other pages, and finally no assessments. In general, the will be a reduction of external links and pop-up windows to the absolute minimum.

Other subjects that will **not** be part of this contract are:

* Transfer of the applications which are part of the old FISE website hosted by the JRC
* Integration with the European Forest Fires Information System (EFFIS)

### Scope Statement

The main objective of this specific project is to provide the IT and consultancy services needed to enable the European Commission and the EEA to publish, by the end of 2019, a fully functional usable and publicly accessible first version of FISE on the internet, with all the requested data, information, maps and GIS services.

## Success Criteria

* All project objectives are achieved within quality, time and cost objectives
* Limited number of project changes
* Strong Quality Control on all phases of the project
* Clear objectives and priorities (which are continuously managed and adapted)
* Up to date architectural documentation
* Stakeholder involvement and expectation management
* Adapting to change by all project stakeholders
* Continuous learning by all project stakeholders
* Satisfied stakeholders
* Low overtime worked

## Stakeholder and User Needs

The Commission and the EEA will develop use case scenarios for the different targeted user groups from the table below, in order to help developers come up with the right representation and visualization of the forest data available. A first schematic list of needs is presented below.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Stakeholders | Need description | Priority |
| Site end  users |  |  |  |
| Global and international agencies and organisations | * UNSD, FAOSTAT/UNECE-FAO, EUFORGEN, EFI may have the need for map viewing their statistics or dashboards | + |
| EU institutions | * Information on forest ecosystem services, conditions and their trends: * identification of forest ecosystem, area, types, proximity of water, cities, mountains, water retention * forest fires, drought risks, storm risks * Assessment of policy effectiveness and impacts in various parameters (e.g. carbon sink, biodiversity, growing stock, ownership…): * Hard to define * Information relevant for compliance checking with EU legislation * Support to policy developments in forest related fields * Implementation of other policies related to forests | +++ |
| National governments and authorities | * Access information from neighboring countries on forest environment * Comparative assessment on implementation and state of the environment with other countries * Access to European level information and aggregated summary information, such as contrasting officially submitted carbon data in the context of biomass, biomass extraction and possibly soil | +++ |
| +++ |
| (Non-research) professionals and experts | * Information on state of, and changes in forest conditions and implementation of EU policies * Easy access to reference documents * Sharing of data, e.g. via national, European or international associations for comparison of performance indicators | ++ |
| Scientists, researchers | * Information and data relevant for their studies * Dissemination portal for studies of European relevance * Share data and information resulting from their scientific work | ++ |
| Wider public and media | * Access to information on state of the environment on the area where they live or travel * Performance of their region or country in relation to others | ++ |
| Content  providers |  |  |  |
| DGs | * Easy way to provide and maintain data * Clear and solid dataflow and workflow | ++ |
| EEA | ++ |
| National groups | ++ |
| Reviewers |  |  |  |
| EU Commission | - High usability website - Content clearly accessible | +++ |
| EEA staff (IDM and NSS) | - Easy way to manage and maintain the content | ++ |

## Deliverables

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Deliverable Name** | | **Deliverable Description** |
| 1 | Data transfer from JRC to EEA and relevant applications built to store, display and show this data | | Support to the transfer from JRC of relevant datasets and the technical and procedural requirements for their transfer and update |
| 2 | Develop a prototype IT infrastructure for organising, sharing and publishing forest data and information through the FISE web portal:   * Develop an entry point (gateway/portal) and a data repository (databases and tables including spatial datasets) for advanced users * Developing of a functionality for data and information harvesting from spatial datasets (including Copernicus land monitoring), official reports and statistics (including FAO/UNECE, Eurostat, Forest Europe, EIONET forest data flows, ICP-Forests, Member State reporting on EU directives related to forests) * Expand the EEA's on existing Forest Data Catalogue and coordinate its expansion with the ongoing development of EEA’s Integrated Data Platform (IDP) which will interlink spatial, tabular and semantic information regarding forests and other forest related data, together with NSS3 * Produce INSPIRE compliant metadata for all spatial datasets by using EEA’s metadata editor. * Register all spatial datasets in EEA’s SDI whereas tabular data will be saved on EEA’s Plone system or SQL database before being indexed on SDI * Seamless integration with the European Forest Fires Information System (EFFIS) * Thorough testing and repeated improvements of the infrastructure | | The final prototype of the infrastructure must have all outlined functionalities and must have reached a degree of maturity that allows the flawless operation and use of the FISE web portal (deliverable 3) |
| 2.1 |  | First test version of the infrastructure as described above | To be ready by month 6 of the contract |
| 2.2 | Final prototype ready and operational | To be ready by the end of the contract |
| 3 | Develop the FISE web portal | | A FISE web portal single website featuring a user-friendly interface and customisable output formats. |
| 3.1 |  | 2018:   * Web portal design up and running * Publication of the first prototype of the web portal, with at least the following content:   + Topic section: two Topics   + Data and maps section: two topic areas   + Indicators section: all EEA indicators   + Countries section: two countries   + Regions section: one region   + Tools section: full section * Testing and refinements * The data from the FISE web pilot to be provided by the JRC be presented in a user-friendly way, which allows users to pick and mix information which they need in the format which they prefer * Other datasets published in the first prototype | Static portal with design ready by month 4  First prototype ready for testing by month 10 |
| 3.2 |  | 2019:   * Last version of the web portal, with the remaining missing content in all sections * Testing and refinements * Publication of the final, fully functional version 1.0 of the web portal on EEA servers * Passing over of the site in operation mode to EEA | Last version ready for testing by month 22  Final version published by the end of the contract |

Full set of project deliverables, including plans and artefacts:

1. Project Charter
2. IT governance reports: Architecture overview and Operational model.
3. Development handbook and any kind of plans require for the project: test plan, deployment plan, risk management plan,…
4. Detailed development work plan with tasks, iterations and releases.
5. Security plan and plan to be GDPR-compliant
6. Minutes of Meetings after each meeting and/or evaluation cycle with the agency or DG ENV
7. Bi-Monthly progress status reports including time sheets
8. Mid-term project progress report (December 2018)
9. Report of the conducted tests of the system including documentation of amendments to solve the problems
10. Project-end review meeting
11. Final report (December 2019)
12. Operational software, commented and documented source code(s), quality assurance in the source code repository
13. Closed tasks on the centralised tasks list

## Features

* Data from JRC transferred to the EEA infrastructure and presented into the upcoming FISE portal
* IT infrastructure for organising, sharing and publishing forest data and information through the FISE web portal Identify and compile existing relevant content (database, maps, etc.), including content provided by JRC
  + Development of an entry point (gateway/portal) and a data repository (databases and tables including spatial datasets) for advanced users
  + Development of a functionality for automatic data and information harvesting from spatial datasets (including Copernicus, Corine, Global Land Cover, Global Forest Watch), databases (including FAO, Eurostat, Forest Europe, EIONET forest data flows, ICP-Forests, or LULUCF) and official reports (e.g. Member State reporting on EU directives related to forests).
  + Expand the EEA's on existing Forest Data Catalogue and coordinate its expansion with the ongoing development of EEA’s Integrated Data Platform (IDP) which will interlink spatial, tabular and semantic information regarding forests and other forest related data, together with NSS3
  + Geodatabases, maps, services, Web Maps, Web Applications for the handling of spatial data
  + Produce INSPIRE compliant metadata for all spatial datasets by using EEA’s metadata editor
  + Register all spatial datasets in EEA’s SDI whereas tabular data will be saved on EEA’s Plone system or SQL database before being indexed on SDI
  + Seamless integration with the European Forest Fires Information System (EFFIS)
* Development of the FISE web portal, built for regular changes and additions of new functions and features
  + Integration of the JRC data into the upcoming FISE portal
  + Map viewers with enhanced output formats (thematic maps, graphs, tables, customisable fact sheets…). It must allow querying spatial datasets in a way that all technical, thematic and semantic information stored in FISE can be displayed. This should include the display of base maps and overlays with a variety of thematic maps (e.g. Natura 2000 areas, tree species, soil, Copernicus HRL forest type map, LULUCF registry data, EFFIS maps and data, biomass etc.)
  + Harvesting, storing and publishing of raw data files, text files such as short assessments and reports, possibly audio-visual content etc.
  + Offering both simply query options for beginners and laypeople, and advanced database exploration and integration functions for experts
  + Including the EEA Forest Catalogue and EEA's IDP integrated analysis of forest related datasets
  + Hierarchical structure of sections, for which templates should be provided, to allow easy updates by content managers, including at least:
    - Topics (descriptions, briefings, reports etc.)
    - Data and maps (map viewer, tables, graphs etc.)
    - Indicators
    - National and regional data (customisable 'country fact sheets' and 'country comparisons')
    - Tools and links (other sites, reports; apps etc.)
  + Mandatory pages for EU sites i.e. search, cookies policy notice, legal notice, contact page, site map, about, accessibility, data policy
* FISE server maintenance, monitoring and ensuring a good performance
* Content management support and website maintenance

Potential list of data sources:

|  |  |
| --- | --- |
| National Forest Inventory (NFI) data | Countries with an open access policy provide raw data |
| COPERNICUS Land Monitoring | Include here the HRL forest layers, derived products and services and other forest-relevant HRL and VHR layers |
| Forest Europe 'State of Europe's Forests 2015' | Possibility to obtain data currently published in a UNECE database? The 2015 FE data in the paper report contain many errors. |
| Natura 2000 data | Reporting on the Habitats and Birds Directives (Articles 17 and 12 assessments); Forests in Natura 2000 sites (available in Natura 2000 viewer, which should also make numerical data available, which is not currently the case) |
| ICP Forest data | Available in EFDAC. Includes N deposition and concentrations etc Use if data will require agreement with ICP. Can be accessed directly from EEA – time series since 1992 |
| Other forest biodiversity datasets provided by MS | Forest bird indicators, both national and EU, to be developed by the European Bird Census Council (EBCC) |
| DG SANTE data | Data and geographical information e.g. on forest pests and epidemics; Forest Reproductive Material Information System (FOREMATIS) |
| EUFGIS – European information system on forest genetic resources | Includes EUFORGEN databases on forest genetic resources in Europe |
| CAP indicators | See <http://ec.europa.eu/agriculture/cap-indicators/index_en.htm> |
| EUROSTAT data | E.g. wood production and trade for EU-28 and other large producers (sourced from FAOSTAT); annual statistics on renewables: gross inland energy consumption of renewable energy, i.e. solid biomass (wood) and other biomass and municipal waste; Forest accounts for physical and monetary value of services |
| European Tree Species Atlas | Data in EFDAC |
| EFI database of forest models |  |

## Constraints

### Policy constraints

The site should follow the following EEA policies:

1. [EEA legal notices](https://www.eea.europa.eu/legal/), with a strong emphasis on the new ‘**Data Protection Notice**’
2. [EEA standards for web site](http://www.eea.europa.eu/code/design-elements)
3. [EEA's Content Management Systems Policy](https://taskman.eionet.europa.eu/projects/netpub/wiki/Content_Management_Systems_Policy)
4. [EEA's Archiving policy](https://taskman.eionet.europa.eu/projects/netpub/wiki/Archiving_policy)
5. [EEA's Data Policy](http://www.eea.europa.eu/legal/eea-data-policy)
6. IDM2's [Policies](https://taskman.eionet.europa.eu/projects/netpub/wiki/Policies), in particular:
   * [IDM2's security policy for software development](https://taskman.eionet.europa.eu/projects/netpub/wiki/Security_policy_for_software_development)
   * [IDM2's application security strategy](https://taskman.eionet.europa.eu/projects/netpub/wiki/Application_security_strategy)
7. [EEA's data protection strategy](https://taskman.eionet.europa.eu/projects/netpub/wiki/GDPR_compliance_strategy)

Further constraints will be set out in the upcoming ‘**IT security plan’, part of** the architecture overview **that will be elaborated in the planning phase**.

### Technological constraints

The site will be built with Plone v4.3, based on the EEA Common Plone Buildout (EEA-CPB) and EEA standard Plone dockerised deployments.

The storage could be the default ZODB objectual database, or using a PostgreSQL backend, in order to reuse a docker-compose architecture done in an existing EEA-managed website.

The maps services and map viewers will be created using the ArcGIS platform, according to the EEA standards, and shown on the site through iframes. EEA’s IDM3 is supporting the creation and hosting of the maps.

Dynamic graphs will be done using DAVIZ or Tableau, both frameworks already used in the EEA to build interactive visualizations.

## Assumptions

The FISE infrastructure is owned by the EEA and will have the following EEA infrastructure:

* CMS: Plone 4.3.7, reusing one of the EEA dockerised buildouts
* Databases: ZODB 2.13 and additional relational databases
* Maps: ArcGIS via EEA web map server
* Dynamic graphs will be done using Tableau
* FME is going to be used whenever automation is needed or necessary
* User authentication via EIONET LDAP accounts

## Risks

The following risk rating matrix will be used:



Figure - Risk Rating Matrix tool

| **ID** | **Risk Description & Details** | **Status** | **Likelihood**[[1]](#footnote-1) | **Impact**[[2]](#footnote-2) | **Risk Level**[[3]](#footnote-3) | **Risk Owner** | **Risk Response Strategy[[4]](#footnote-4)** | **Action  Details** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Not sufficient support from the European Commission |  | 1 | 5 | 5 | PO | Avoid |  |
| 2 | No sufficient capacities at the EEA |  | 3 | 5 | 15 | BM | Reduce | Look for forest experts with European expertise to cover the period of absence of a Business Manager |
| 3 | Not entirely transparent collaboration with partners resulting in duplication of access to the same data source leading to inappropriate resource efficiency and confusion of users |  | 2 | 4 | 8 | PO, BM | Avoid | Organise online and face-to-face meetings, send status updates and engage partners in technical discussions about each relevant topic |
| 4 | Changes in the scope will have a direct influence on the project timeline and budget |  | 1 | 4 | 4 | PM | Transfer or Share | Those changes should be done with caution. It is the responsibility of the PM (helped by the BM) to accept the changes and escalate them to the PSC if necessary. |
| 5 | Data sources to integrate in FISE are not available in due time or do data is not retrievable |  | 2 | 4 | 8 | PM, BM | Reduce | EEA/JRC will first try to make data available in the needed formats. If this will not be possible, data availability should be planned for the future and alternatives should be presented by the SP (EdW and Tracasa) |
| 6 | The required deadlines are too tight |  | 2 | 3 | 6 | PM | Reduce | Start functional design and development activities as soon as possible.  Apply agile methodology and obtain customer feedback early during the project.  Involve a project manager with technical skills to offload analysis and coordination tasks from the technical team.  Involve full-time senior developers with good management skills and for the entire duration of the project. |
| 7 | Slow decision making on beneficiary side. No clear and transparent decision making process & escalation in place. Unclear responsibilities regarding change management and decision making process. |  | 2 | 3 | 6 | PO, BM | Transfer or Share | Engage the Business Manager is clarifying the requirements  Organise online and face-to-face meetings  Provide frequent online prototypes of the entire portal and the different components |

# Cost, Timing and Resources

## Cost

Provide the **T**otal **C**ost of **O**wnership (TCO) of the delivered solution (project output). Calculate the cost for the involvement of the project team and all stakeholders (including costs, if any, for other DGs and/or external stakeholders).

|  | **2018** | | **2019** | | **2020** | |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Expenditure** | **Budget Line** | **Amount[[5]](#footnote-5)** | **Budget Line** | **Amount** | **Budget Line** | **Amount** | **Total cost** |
| Solution Development*[[6]](#footnote-6)* (k€) |  |  |  |  |  |  |  |
| Solution Maintenance*[[7]](#footnote-7)* (k€) |  |  |  |  |  |  |  |
| Support *[[8]](#footnote-8)* (k€) |  |  |  |  |  |  |  |
| Training*[[9]](#footnote-9)* (k€) |  |  |  |  |  |  |  |
| Infrastructure*[[10]](#footnote-10)* (k€) |  |  |  |  |  |  |  |
| **Total per year (k€)** |  |  |  |  |  |  |  |
| **Total per year FTE officials*[[11]](#footnote-11)*** |  |  |  |  |  |  |  |

## Timing and Milestones

| **Phase** | **ID** | **Milestone Description** | **Target Delivery Date** |
| --- | --- | --- | --- |
| Initiation | 1 | Kick-off meeting without consultants in the EEA | 25 Jan 2018 |
| 2 | Business case | Jan 2018 |
| 3 | Kick-off meeting with consultants (online, by Webex) | 8 Feb 2018 |
| 4 | Project Charter finalised | May 2018 |
| Planning | 1 | Initiation meeting in the EEA | 24 Apr 2018 |
| 2 | Project Work Plan, including an architectural overview | June 2018 |
| 3 | Security plan and plan to be GDPR-compliant | July 2018 |
| Executing | 1 | Development of the first version of the portal, web design and wireframes for inclusion of the JRC data | 17 June 2018 |
| 2 | Development of the first portal prototype, to present at the meeting with the National Forest Directors | September 2018 |
| 3 | Development of the second portal prototype, approximatively one year after the start of the contract | February 2019 |
|  | Mid-term project progress report | December 2018 |
| 4 | Development of the third portal prototype, containing most of the functionalities and data integration | Autumn 2019 |
| Closing |  | Final version of the portal online | December 2019 |
|  | Final report | December 2019 |
|  | Project-end review meeting | December 2019 |
|  | Maintenance of the system |  |
|  | End of IT contracts | March 2020 |

## Planned Resources





### EEA

| **ID** | **Name** | **Role** | **Person-days** |
| --- | --- | --- | --- |
| 1 | Annemarie Bastrup-Birk /  Andrus Meiner | Business Manager |  |
| 2 | Christian Xavier Prosperini / Antonio de Marinis | Solution Provider |  |
| 3 | Sebastien Petit | Maps Manager |  |
| 4 | EEA COM | Communication |  |

### JRC

| **ID** | **Name** | **Role** | **Person-days** |
| --- | --- | --- | --- |
| 1 | Bernd Eckhardt | Domain expert |  |
| 2 | Peter Vogt | Domain expert |  |

### Eau de Web

| **ID** | **Name** | **Role** | **Person-days** |
| --- | --- | --- | --- |
| 1 | Miruna Bădescu | Project manager | 109 |
| 2 | Andreea Popescu | Project manager | 20 |
| 3 | Sorin Stelian | System architect | 80 |
| 4 | Tiberiu Ichim | System architect | 60 |
| 5 | David Bătrânu | Web developer | 100 |
| 6 | Olimpiu Rob | Web developer | 200 |
| 7 | Andrei Duhnea | Web developer | 40 |
| 8 | Gabriela Strezea | Web developer | 60 |
| 9 | Krisztina Elekes | Web developer | 150 |
| 10 | Diana Boiangiu | Web developer | 100 |
| 11 | Ariel Pontes | Web developer | 20 |
| 12 | Valentin Popescu | Web designer | 30 |
| 13 | Mihai Măcăneață | Web designer | 40 |
| 14 | Anton Cupcea | DevOps | 80 |
| 15 | Andra Necula | DevOps | 20 |
| 16 | Bogdan Ciobanu | Tester | 20 |

### Tracasa

| **ID** | **Name** | **Role** | **Person-days** |
| --- | --- | --- | --- |
| 1 | Vicente Urdánoz | GIS developer - ArcGIS, Tableau | 30 |
| 2 | Leire Leoz | GIS developer - ArcGIS | 30 |
| 3 | Koldo Goñi | GIS developer - ArcGIS, Tableau, FME | 40 |
| 4 | Iratxe Orbe | Web and GIS developer - FME, ArcGIS, web | 30 |
| 5 | Josu Ramírez | Project manager, GIS developer - ArcGIS | 50 |
| 6 | Fredrik Thoren | Web developer - FME | 120 |
| 8 | Mikel Gonzalez | GIS developer - FME, ArcGIS | 120 |
| 9 | David Ramírez | GIS developer - ArcGIS, FME | 110 |

# Approach

## Methodology

The project will follow an adapted PM² methodology to EEA standards, the development will be AGILE/SCRUM. The full text of the methodology is presented on the [EEA Taskman](https://taskman.eionet.europa.eu/projects/netpub/wiki/PM%C2%B2_for_IT_projects).

## Change Management

### Configuration Management

* The artefacts will be stored in the "Forest Information System for Europe" project page: <https://taskman.eionet.europa.eu/projects/fise>
* The source code will be stored in the EEA space on Github
* Every changes in the artefacts after their approval will need the approval of the PSC, depending on their nature (technological, content-related, design, etc.)
* The issues, risks, decisions and changes will be stored as tickets in [the issues area](https://taskman.eionet.europa.eu/projects/fise/issues)
* The Agile Project Manager (Eau de Web) will structure the wiki pages from Taskman following the PM2 phases: 01 - Initiating, 02 - Planning, 03 – Executing, 04 - Monitoring & Controlling, 05 - Closing.

# Governance and Stakeholders

## Structure

The [PM2 governance structure](https://taskman.eionet.europa.eu/projects/netpub/wiki/PM%C2%B2_for_IT_projects#IT-Governance) adapted by the EEA will be used.

As laid out in the Concept paper, the governance of FISE, in terms of system infrastructure and ownership is described by the figure below:

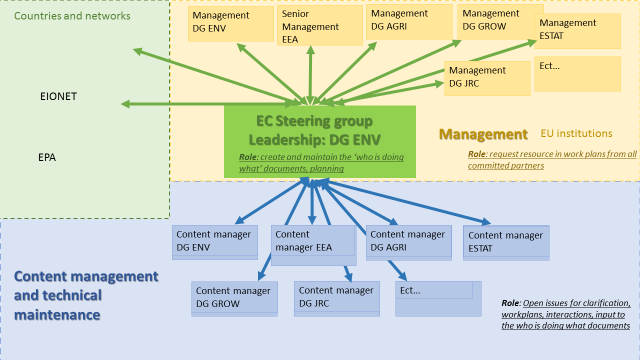


Figure - the system architecture and ownerships that lead to how governance is organised

|  |  |
| --- | --- |
| Roles | Staff Name |
| Project Steering Committee (PSC) | |
| Project Owner | Peter Loffler – DG ENV |
| Business Manager | Annemarie Bastrup-Birk – EEA |
| Business Manager backup | Andrus Meiner – EEA |
| Domain Expert(s) | Peter Vogt, Bernd Eckhardt - JRC |
| Solution Provider | Christian-Xavier Prosperini - IDM2 |
| Project Manager | Miruna Bădescu - Eau de Web |
| Architecture Office | Antonio de Marinis - IDM2 |
| Project Support Team (PST) | |
| Maps Manager | Sebastien Petit - IDM3 |
| System Administrators | Adrian Dascalu, Florin Ungureanu |
| Project Core Team (PCT) | |
| EaudeWeb | |
| Agile Project Manager / EdW PM | Miruna Bădescu, Andreea Popescu, Cornel Nițu (backup) |
| System architect(s) | Tiberiu Ichim, Sorin Stelian |
| Web developer(s) | David Bătrânu, Olimpiu Rob, Andrei Duhnea, Gabriela Strezea, Krisztina Elekes, Diana Boiangiu, Ariel Pontes |
| Designer(s) | Valentin Popescu, Cosmin Neagu, Mihai Măcăneață |
| Quality assessment | Bogdan Ciobanu, Eduard Fironda |
| System administrator(s) / DevOps | Anton Cupcea, Andra Necula |
| Tracasa | |
| GIS designers | Koldo Goñi, Vicente Urdánoz, Leire Leoz |
| Quality management | Josu Ramírez, Iratxe Orbe |
| GIS developers | FredrikThoren, Mikel Gonzalez, David Ramírez |

## Roles and Responsibilities

The [PM2 roles and responsibilities](https://taskman.eionet.europa.eu/projects/netpub/wiki/PM%C2%B2_roles_and_responsabilities) adapted by the EEA will be used.

The distribution of roles by organisation and their specific responsibilities in this project are:

* **Project Owner (PO):** DG ENV of theEuropean Commission will be the system owner and coordinator, being also accountable for FISE. Its role will be to support, through financial and management contributions, the development of FISE. DG ENV is also the FISE system and thematic coordinator and the principal interlocutor with the EEA. In this role, ENV will steer, but also take final decisions on the system development, in consultation with other Commission services (DG AGRI, DG RTD, ...). Its role will be to clarify open questions that cannot be solved by thematic responsible managers for specific content parts. Its role will be to delegate responsibilities and should be called up to take decisions.
* **Business Manager (BM):** EEA, which will contribute with content, operate the system, provide the IT infrastructure and set the standards for it. The EEA will be responsible for the daily management of FISE. The development of technicalities, regular maintenance and updating of FISE will fall under the responsibility of the EEA.   
    
  Furthermore, EEA will coordinate with member countries / not EU members, and will communicate and discuss about FISE in the EIONET (NFP, NRC and expert meetings) and EPA meetings. EEA will have an in-house EEA Steering Group made up of representatives of all implied programmes, and it may also set up a forest expert group, either as a NRC Forest as part of the EIONET.
* **Solution Providers (SP):** EEA, Eau de Web, Tracasa
* **Project Manager (PM):** Eau de Web (Contractor’s PM)
* **Business Implementation Group (BIG):** EEA, JRC, potentially expert groups

### Other roles

ENV and the EEA will form the *FISE management team*, responsible for overseeing and coordinating the daily system and content development, editorial control, and liaison with external partners.

*FISE’s content management team* will cater to the needs for knowledge and assessments on forests by the EEA and its partners. Individual content managers will represent their institutions and take responsibility for a specific part of the information system.

Content management and development will be carried out in close partnership between EEA and the Commission Services. This includes more specifically DG-ENV, DG-AGRI, JRC, Eurostat, and EEA (and it’s ETC/ULS and ETC/BD).

The EEA will have editorial control over the content.

All content managers must relate to their representative in the EC Steering Group and feed into the process of coordination through this relationship.

The *FISE Advisory Board* will be composed of EEA, Commission services and partner representatives it will facilitate linkages, synergies and complementarity with relevant groups and bodies such as UNECE, FAO, Forest Europe, Conventions, EFI, the informal Forest Directors meetings, relevant Commission expert groups etc. The aim is to use existing structures and capacities rather than building new ones.

## Other Stakeholders

No other stakeholders were identified at this time.

Appendix 1: References and Related Documents

|  |  |  |
| --- | --- | --- |
| **ID** | **Reference or Related Document** | **Source or Link/Location** |
| 1 | Project folder | [*https://projects.eionet.europa.eu/fise-project/library*](https://projects.eionet.europa.eu/fise-project/library)(Eionet login required for content updates) |
| 2 | Forest Information System for Europe Concept paper, revision 3.1, January 2018 | [*https://projects.eionet.europa.eu/fise-project/library/1.-initiating-phase/fise-concept-paper*](https://projects.eionet.europa.eu/fise-project/library/1.-initiating-phase/fise-concept-paper) |
| 3 | Project space on the EEA’s ‘Taskman’ ticketing system | *<https://taskman.eionet.europa.eu/projects/fise?jump=issues>* (Eionet login required for content updates) |
| 4 | Data provided by the JRC | *<https://projects.eionet.europa.eu/fise-project/library/datasets-jrc/>* |

1. A numeric value denoting the relative probability that the risk should occur. [↑](#footnote-ref-1)
2. A numeric value denoting the relative severity of the impact of the risk if it should occur. [↑](#footnote-ref-2)
3. The risk level is the product of the likelihood and impact (RL=L\*I). [↑](#footnote-ref-3)
4. The possible risk response strategies are: Avoid/ Transfer or Share/ Reduce / Accept. [↑](#footnote-ref-4)
5. If you cannot provide an amount, provide at least a qualitative statement (e.g. 20 days of training, 2 laptops, etc.) [↑](#footnote-ref-5)
6. Development: provide the total (anticipated) cost (human resources) for the development of the solution [↑](#footnote-ref-6)
7. Maintenance: provide the total (anticipated) cost (human resources) in K€ per year to maintain the solution [↑](#footnote-ref-7)
8. Support: provide the total (anticipated) cost (human resources) in K€ per year to support the solution (e.g. website, helpdesk, operations, etc.) [↑](#footnote-ref-8)
9. Training: provide the total (anticipated) cost (human resources) to ensure the training of the users, the support and operations staff, etc. [↑](#footnote-ref-9)
10. Infrastructure: provide the total (anticipated) cost of the infrastructure required to deliver, support, operate and maintain the delivered solution. [↑](#footnote-ref-10)
11. Total FTE officials: provide the total (anticipated) effort that will be spent by Commission officials on the project (in man-weeks, man-months or man-years). [↑](#footnote-ref-11)