

# Terms of reference (ToR)

## Relaunching Websites of the EU Strategy for the Danube Region



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# 1 Introduction

## 1.1 Purpose and characteristics of the ToR

The aim of the ToR is the compilation of necessary information and specifications required for the (partial) relaunch of the existing website of Danube Strategy Point (hereinafter referred to as DSP).

The content of the current website <https://danube-region.eu/> and its subpages (2.2) as well as the present ToR and the relevant supplements contain all binding requirements for the system. It is basis for the drafting of contract and therefore the most important requirement for the tender preparation. The ToR is part of the contract between the principal and the contractor. With these requirements the conditions for the development will be defined.

The ToR and the relevant supplements are basis for the preparation of detailed requirement specifications in close cooperation with the principal.

The functional and non-functional requirements do not only serve as specifications for the planned relaunch but are also basis for the requirement traceability and the change management. The requirements should be prepared in such a way that the traceability and an appropriate change management for the entire life cycle of the system is possible.

## 1.2 Objectives

### 1.2.1 General objectives

- Optical Relaunch (Theme, look&feel)
- Revision of the roles and authorisation system
- Check/Analyses of existing plugins and, if necessary, replacing them with more up-to-date and compatible plugins
- Replacement of the document management system incl. adoption of the folder structure and transfer of all existing documents
- Revision/setup of intranet access for private pages and documents for logged-in backend users only
- Connection of/to external data-bases
- Implementation of an easy to use „all-in-one-tool“: combination of an internal/external event tool and survey tool
- Implementation of a project database for all sites (similar to <https://navigation.danube-region.eu/projects/>)
- Replacement of the newsletter tool
- Establishment of an online enquiry option for members for activation as a user in the system
- Online help (frontend/backend)
- Improvement of the editability in the backend
- Improvement of the extension possibilities of website functions
- Reduction of error susceptibility
- Simple login function for users (subscribers/frontend and intranet users/backend)
- Search engine optimisation (SEO)

### 1.2.2 Strategic objectives

- Independence through open-source system
- Updating/adapting the website to current standards
- Flexibility with regard to future requirements
- Adaptability to user needs
- Adaptability to changing user behaviour
- Compliance with current or required standards
- Responsive Web-design
- Accessibility

### 1.2.3 Economic objectives

- Independence from service providers
- Reduction of ongoing maintenance costs
- Reduction of costs for further developments
- Reduction of staff deployment

### 1.2.4 Legal objectives

- Admissibility under public procurement law
- Assured properties
- Possibilities of use
- Warranty and guarantee
- Set-up and operational support
- General Data Protection Regulation (GDPR)

### 1.2.5 Qualitative objectives

- Functional suitability (functions run without errors and without unnecessary intermediate steps/workarounds)
- Efficiency (performance)
- Compatibility with other tools (calendar tool, webinar software,..)
- Interoperability (provision of data - import/export)
- Usability
  - The functionality provided and the suitability of the software can be easily recognized
  - The usage of the software is intuitive and can be learned without great effort, even by non-specialist staff.
  - The software supports users in avoiding errors, for example by marking mandatory fields or value ranges.
  - The user interface of the software conveys an aesthetic design (colours, fonts, positioning of fields etc.)
  - The website can be used by persons with disabilities
  - The website is responsive
  - Language version: English but Multilingualism should be possible if this option is not associated with additional costs
- Reliability

- Fault tolerance (behaviour in the event of hardware or software errors), for example the functions offered for automatic caching or data recovery
  - Use of proven runtime environments
- Security
  - Network security, access routines
  - Mechanisms (e.g. user management to prevent unauthorised data access)
  - Logging
- Serviceability
  - Low effort for corrections, adaptations and extensions (module structure - adaptation independent of each other).
  - Easy analysis of effects in case of changes or analysis of the cause of errors
- Portability
  - Operating System
  - Runtime environment
  - Database system
- Documentation
  - Documentation of the functional scope
  - Interface description
  - Examples of use
  - Documentation of extensions
  - Configuration guide
  - Quality of documentation concerning:
    - ◆ Structure
    - ◆ Clarity
    - ◆ Navigability
    - ◆ Consistent and correct terminology
    - ◆ Completeness
    - ◆ Comprehensibility and
    - ◆ Linguistic expression
- Configurability
  - Scope of role/rights assignment and configuration for role-specific behaviour
  - User-specific settings (colours, fonts, ...)
- Other
  - Number and average time taken to rectify known faults
  - Type and scope of the support provided
  - Quality of source code

### 1.2.6 Technical objectives

- Provision of a system that maps the professional, economic and technical requirements
- Implementation with open source
- Scalability
- Connection to third party systems

- Expansion options for future functions
- maximum self-maintenance
- Independence from individual service providers

## **2 Starting situation**

### **2.1 Background and context**

The Danube is the second longest European river, the longest river of the European Union and the most international river of the world. The river Danube's catchment area covers 19 countries. The Danube Region area covered by the EU Strategy for the Danube Region (EUSDR) stretches from the Black Forest (Germany) to the Black Sea (Romania-Ukraine-Moldova).

The Danube Strategy Point (DSP) is a Secretariat of the EU Strategy for the Danube Region (henceforth to be referred to as EUSDR or "the Strategy"). Following the EU Strategy for the Baltic Sea Region, the EUSDR is the second macro-regional strategy (MRS), which was proposed by the European Commission in 2010<sup>1</sup>, adopted by the Council of the European Union and endorsed by the European Council in 2011. A 'Macro-regional Strategy' is an integrated framework endorsed by the European Council, which may be supported by the European Structural and Investment Funds among others, to address common challenges faced by a defined geographical area relating to Member States and third countries located in the same geographical area which thereby benefit from strengthened cooperation contributing to achievement of economic, social and territorial cohesion<sup>2</sup>.

On behalf of the City of Vienna, the EU Funding Agency of the City of Vienna, as the lead partner of the project DSP, carries out procurements of external services needed to support and enhance the implementation of the EUSDR. As a project of the Danube Region Programme (DRP), the DSP works in close cooperation with the European Institutions, especially the European Commission / DG REGIO, the National Coordinators (NCs) and the Priority Area Coordinators (PACs) of the member countries participating in the EUSDR. The DSP functions as supportive body for all stakeholders involved in the Strategy. It encourages cooperation between stakeholders and other actors (funding facilities, administration, civil society, local / regional / national authorities), to make the Strategy visible and tangible for as many people as possible and documents the added value of the strategy for countries and people.

### **2.2 The Outline**

From April 1<sup>st</sup> 2019 on, the DSP is responsible for the EUSDR main website and 12 respective sub-domains (see below).

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<sup>1</sup> COM(2010) 715

<sup>2</sup> EU Regulation 1303/2013: Common Provisions Regulation, Art. 2 (31)

To support the implementation of the communication and to enhance the visibility of the Strategy, DSP, seeks to relaunch, unify, operate and service the 13 websites/domains of the Strategy.

Building upon the results of an online questionnaire (Needs Assessment) for all 12 PACs or their team members carried out in June 2023, the DSP has elaborated Terms of Reference (ToR) for the relaunch, operation and service of the websites of the Strategy.

This awarding procedure aims at selecting a service provider to perform the relaunch, operation and service of all websites of the Strategy.

To ensure satisfaction among end-users and to facilitate easy handling as regards to quality, functionality, programming, maintenance, service and further development of the websites, the DSP is seeking a provider to implement the following tasks: Redesign, relaunch, backend, frontend and support of the following existing websites as a WordPress-Multisite (one system):

1. <https://www.danube-region.eu> (Main page) +

Respective Subpages:

2. <https://www.danube-navigation.eu>
3. <https://www.danube-transport.eu>
4. <https://www.danube-energy.eu>
5. <https://www.danubecultureandtourism.eu>
6. <https://www.danubewaterquality.eu>
7. <https://www.danubeenvironmentalrisks.eu>
8. <https://www.danube-nature.eu>
9. <https://www.danubeknowledgesociety.eu>
10. <https://www.danube-competitiveness.eu>
11. <https://www.peopleandskills-danuberegion.eu>
12. <https://www.danube-capacitycooperation.eu>
13. <https://www.danube-security.eu>

## 2.3 Stakeholder

### 2.3.1 Process participants

Stakeholder	Contact Person	Responsibility
EU-Förderagentur GmbH	Gabriele Radkolb	Application Lifecycle Management
EU Förderagentur GmbH	Sylvia Fuchs	Managing director and principal
Danube Strategy Point (DSP)	Dr. Robert Lichtner	Coordinator
Danube Strategy Point (DSP)	Irene Schnait	Project Officer



### 2.3.2 Target users

The target users are staff members of the DSP and their subpages (backend) and the frontend users (Subscribers) which are being provided with the DSP services. The roles and their associated authorisations are to be worked out in detail during the implementation in coordination between the contractor and the principal.

Following roles are intended:

- **System administrator** (developer)
- **Super administrator:** has all rights and access to all websites in the network and is superior to the administrators of the individual sites. Only the super administrator can install themes, manage plugins and even delete individual sites. The super administrator adds or deletes users and should be the only one who can change the authorisations of roles. The super administrator must have the possibility to create and administrate further roles and users. This task should therefore be performed by a user who can take on this responsibility, is trustworthy and reliable and has an overview of all processes.
- **Administrator (light):** has all authorisations, access to all functions of his **own** site and can assign roles to other users. The administrator adds new users or deletes them.
- **Editor:** can create, edit, publish and delete posts and pages of his site. This also applies to posts and pages created by **other** users. The main task is therefore the content part of the site and, in the case of a larger team, the supervision of other users
- **Author:** can only post, edit, remove and publish **own** contributions and upload media such as images and videos. This means he cannot correct, publish or delete other users' posts. Authors can assign their posts to existing categories, but cannot create their own categories.
- **Intranet reader:** users logged into the intranet have
  - read access to files on the intranet and can download them
  - authorisation to fill in forms
- **Subscriber:** can manage his profile, has read access to all public posts on the website, receives (with consent) newsletter

For the main page, it is necessary that authorised members/users of the subpages that are to be assigned to the main page can also be provided with an indicator (DG REGIO, DRP, PAC, NC).

## 2.4 Quantity structure

The current website contains about 1.200 Users (Frontend, Backend) and includes about 60GB content.

There are continuous accesses by about 15 persons (staff members) in the backend.

## 3 Requirements

### 3.1 General

Basis of the requirements are the descriptions in Annex 2 (ToR) and Annex 3 (Specifications) and the applicable documents under point „5 Applicable documents“.

The current use cases have to be checked and adapted in close cooperation with the principal. The elaborated results must be defined by the contractor in a detailed specification.

The contractor must at least fulfil the technical know-how as described in “Annex\_3\_Specifications\_Relaunch\_DSP”, point 0-30.

#### 3.1.1 Requirements during the construction phase of the application

The contractor shall prepare and submit a preliminary project plan with project phases (milestones) and milestone dates for the realisation of the relaunch.

It is possible to carry out partial acceptances (interim acceptances). These must be listed in the milestone plan if necessary.

Upon conclusion of the contract the contractor must announce the responsible contact persons. The principal has the possibility and the right to be informed about the status of the project at any time. The contractor shall inform the principal about the current status of the project at least every 14 days. The contractor shall inform the principal of any delays in the software development immediately.

### 3.2 Functional requirements

#### 3.2.1 Basic requirements

- Roles and authorisation / User management system
- Registration and notifications
- Intranet
- Newsletter
- Social media links
- Events / Survey tool
- Photo galleries
- Post, pages, embedding videos
- Document management
- Import and export of data
- Project Database & Connection of external databases
- Embedding of a database hosted on another server

- Search engine optimization (SEO)
- Statistic / visits
- Full GDPR-conformity on all levels (Front End, Back End)

### **3.2.2 Language versions**

The web application must be available in English. Other languages must be technically possible within the system.

All features in the application must be available in English.

### **3.2.3 System notifications**

The system must send processing-related information automatically by e-mail. Details are to be worked out in the course of the relaunch.

## **3.3 Non-functional requirements**

### **3.3.1 Usability**

The application should comply with the generally applicable usability rules:

- it should be learnable in a short time and support the users within the application through context-sensitive help.
- it should be easy and intuitive to use and meet today's common UI standards.
- the user interface should have an appealing design (colours, fonts, positioning)

### **3.3.2 Software Ergonomics**

In the course of the relaunch, the focus should be on a clearly structured interface.

The principles of dialogue design in accordance with EN ISO 9241 should be observed. These include in particular:

- Task adequacy – appropriate functionality, minimisation of unnecessary interactions.
- Self-descriptiveness – comprehensibility through help/feedback.
- Controllability (dialogue) – control of the dialogue by the user.
- Conformity to expectations – consistency, adaptation to the user model.
- Fault tolerance – undetected errors do not prevent the user goal, detected errors are easy to correct.

### **3.3.3 Accessibility**

Minimal requirement: The website shall be designed barrier-free on the basis of „best practices“.

Optional: The website will be designed barrier-free with compliance level AA of the "[Web Accessibility Guidelines - WCAG 2.1](#)" according to the applicable harmonised European standard "European Standard EN 301 549 V3.2.1 (2021-03)"

### **3.3.4 Mobile Devices**

The website must also be user-friendly for mobile devices with correspondingly small screens and be designed on the basis of "best practices".

### **3.3.5 Browser operability**

Proper display of the website must be guaranteed for all current versions of popular browsers such as Chrome, Firefox, Safari, Opera and Microsoft Edge.

### **3.3.6 Dimension**

The website must be developed in such a way that there is no technical limit to the number of users.

### **3.3.7 Frontend Performance and Availability**

The following response times are expected:

- Calling up the website: 1 sec
- Search: < 3 sec

The website must be available at all times – at least during office hours.

Downtimes outside the maintenance window: < 0,5 Hrs./year

### **3.3.8 Security Requirements**

The transmission of data must be encrypted.

The contractor must demonstrate how the security of the website is guaranteed.

SQL Injection und cross site scripting should be hindered as much as possible - e.g. through comprehensive validation of user input.

The website shall comply with the current provisions of the General Data Protection Regulation.

### **3.3.9 Emergency Requirements**

In the event of a disaster (complete failure of the system), a concept must be created by the contractor.

## **3.4 Infrastructure**

### **3.4.1 Interfaces, data import and data export**

- Interface to the PA 9 monitoring database (<https://peopleandskills.danube-region.eu/danube-region-monitor/>)
- Import/Export of data of forms/form entries
- Import/Export of calendar
- Import/Export of users
- Import/Export of content

- Export of event registrations
- Export of data must be possible as .xlsx or .pdf  
The formats for import/export must be specified in the course of the relaunch

## **3.5 Requirements for the System**

### **3.5.1 Scalability of the System**

The scalability of the system is an essential principle of the system architecture.

It should be possible to add functionality with relatively little effort. This concerns not only the extension of functionality by means of programming tools inherent to the system, but especially the integration of third-party add-on components. The use of standards is required. The extension of functionality through customising must be sufficient in most cases. Additional programming must not exceed a minimum level.

### **3.5.2 Technology**

The implementation should be based on the existing technology (CMS: WordPress, Script: PHP, database management: MySQL, container orchestration system: K8s).

### **3.5.3 System Design**

There is a two-tier system consisting of a production environment and a test/development environment so that developments/changes to the website (hardware and software) and bug fixes can be tested and released before going live.

### **3.5.4 Logging of User Activities**

All accesses to the application must be saved in a log file. The entries in the log file must have a time stamp. The IP address shall be anonymised before saving.

### **3.5.5 Job Flow Control**

The administrators must be able to define jobs in the CMS that are triggered based on an event. The event can be an external event (e.g. arrival of data) or a time-controlled event (deadline, e.g. for surveys).

### **3.5.6 System Failure, Malfunctions and Recovery**

In the event of errors, malfunctions, failures, normal operation must be restored within 24 hours.

For this purpose, the user data must also be stored in persistent storage and a corresponding restore must be provided for at a defined point in time. If necessary, a backup of the persistent storage should also be considered.

For failover reliability, it must be ensured that operation can be continued by other nodes if necessary. Therefore, at least 2 worker nodes are provided in the existing Kubernetes cluster configuration, which are distributed to 2 different data centers at the web host.

As part of the operational management (including software maintenance) by the contractor, an application backup is to be made, which must be updated after each change to any components.

### **3.5.7 Diagnostic Capability**

The system has effective mechanisms and procedures for diagnostics, optimization and early warning of problems with the application.

### **3.5.8 Fault Tolerance**

The system should be designed in such a way that user errors do not occur if possible. If errors do occur, the system should react to them with tolerance and ideally correct them itself so that users can still reach their destination.

### **3.5.9 Software Maintenance/Application Operations Management (except Hosting)**

The offer must provide application maintenance and application operation including application backup (see chapter 3.5.6) for 4 years – which must be priced separately with annual amount.

### **3.5.10 Web server hosting**

The website is hosted by an external service provider as a managed Kubernetes cluster. The application must therefore be able to run correctly on the service provider's infrastructure.

## **3.6 Requirements for the Contractor**

### **3.6.1 Announcement of the Contractor's Contact Persons**

The tender must be accompanied by the name, position, e-mail address and telephone number of the contact persons of the contractor.

### **3.6.2 Announcement of the Technical Concept, Realisation Phases and Realisation Period**

The offer must describe the implementation concept.

The planned realisation phases (milestones) and the planned realisation period must be specified with the offer.

### **3.6.3 Project Proceedings**

The realisation shall take place as a development cooperation between the principal and the contractor. In a first project phase, the requirements must be jointly specified in detail and documented in a performance specification/final requirement specification. The principal has the comprehensive rights of use to the results of the work.

Where possible, the principal should be able to carry out partial functional tests in the test system during the course of the project.

Formal overall acceptance takes place after successful overall functional testing in the test system.

The 24-month warranty begins after overall acceptance.

### **3.6.4 Change Request Procedure**

If one of the parties involved in the project wishes to subsequently change the services defined within the framework of the specifications, one party must submit a written request for change to the other party.

A cost/benefit analysis must be carried out for all change requests and the impact on the schedule must be taken into account. If the desired change results in higher costs, this must be explicitly pointed out. The schedule may have to be changed by mutual agreement.

The change request must be signed by the contractor and the principal both in the case of approval and rejection.

## **4 Appendix**

### **4.1 List of Abbreviations / Glossary**

The list of abbreviations shows all abbreviations used with their long name and/or technical terms with a short description of their meaning.

<b>Abbreviation</b>	<b>Long name/ technical term/ description</b>
DSP	Danube Strategy Point
PA	Priority Area
PAC	Priority Area Coordinator
NC	National Coordinator
DRP	Danube Region Transnational Programme
DG Regio	Department for regional and urban policy/European Commission
EUSDR	EU Strategy for the Danube Region

### **4.2 Link Directory**

<b>Description</b>	<b>File Name / Link</b>
Main website DSP	<a href="https://danube-region.eu/">https://danube-region.eu/</a>
Subsite PA 1A	<a href="https://navigation.danube-region.eu/">https://navigation.danube-region.eu/</a>

Description	File Name / Link
Subsite PA 1B	<a href="https://transport.danube-region.eu/">https://transport.danube-region.eu/</a>
Subsite PA 2	<a href="https://energy.danube-region.eu/">https://energy.danube-region.eu/</a>
Subsite PA 3	<a href="https://cultureandtourism.danube-region.eu/">https://cultureandtourism.danube-region.eu/</a>
Subsite PA 4	<a href="https://waterquality.danube-region.eu/">https://waterquality.danube-region.eu/</a>
Subsite PA 5	<a href="https://environmentalrisks.danube-region.eu/">https://environmentalrisks.danube-region.eu/</a>
Subsite PA 6	<a href="https://nature.danube-region.eu/">https://nature.danube-region.eu/</a>
Subsite PA 7	<a href="https://knowledgesociety.danube-region.eu/">https://knowledgesociety.danube-region.eu/</a>
Subsite PA 8	<a href="https://competitiveness.danube-region.eu/">https://competitiveness.danube-region.eu/</a>
Subsite PA 9	<a href="https://peopleandskills.danube-region.eu/">https://peopleandskills.danube-region.eu/</a>
Subsite PA 10	<a href="https://capacitycooperation.danube-region.eu/">https://capacitycooperation.danube-region.eu/</a>
Subsite PA 11	<a href="https://security.danube-region.eu/">https://security.danube-region.eu/</a>
Project database of PA 1A	<a href="https://navigation.danube-region.eu/projects/">https://navigation.danube-region.eu/projects/</a>

## 5 Applicable Documents

Description	File
ToR (Terms of reference)	Annex_2_ToR_Relaunch_DSP
Specifications	Annex_3_Specifications_Relaunch_DSP