

ANNEX Q

Hosting, regular administration and maintenance, monitoring, availability of the system

1. SCOPE

This annex describes the required services related to hosting, regular administration and monitoring which aim at ensuring maximum availability and stability of the CMS and the Cedefop official website.

These services shall be provided on a **fixed monthly price** basis. In addition, there may be start-up fee, i.e. a fixed price cost at the beginning of the contract to set up the systems, if applicable.

1.1. General conditions for the provision of services

The tenderer has to accept the minimum service requirements presented here; however, the tenderer is allowed to propose an improved service level in each of the categories hereafter, as part of his offer for award criterion 4.1.

If the tenderer proposes an improved service level, the contractor will be bound to his proposal after acceptance by Cedefop and may not afterwards revert to the minimum requirements as set out in the present document.

The financial offer of the contractor, specifically tables 1 to 4 of Annex H, shall reflect the technical offer of the tenderer and will be binding.

1.2. Fixed monthly price

The services described in this annex shall be provided on a **fixed monthly price** basis, **except when otherwise clearly specified by Cedefop**.

The fixed monthly price shall include hosting, regular administration and maintenance services, troubleshooting, security and improvement patches, delivery of monitoring reports, any software license annual fees (including CMS), availability and support.

Depending on the tenderer's proposal, there could be a start-up fee, which is an integral part of the offer. If this is the case, the start-up fee should be all inclusive, including choice of servers' topology and architecture, setup and configuration, and any software purchase and installation related costs and will be reflected in table 3 of Annex H. The start-up shall not include migration of content and development of functionalities.

2. HOSTING AND REGULAR ADMINISTRATION SERVICES

2.1. General conditions

2.1.1. The hosting services that the contractor will be asked to provide under the contract will include:

- managed hosting on dedicated servers in a controlled environment with support, including operating systems and databases.
- maintenance, administration and support of the operating system, applications and databases (including but not limited to upgrading, updating and patch management).

2.1.2. The contractor should provide the necessary hardware/software and services to match the web site and CMS needs.

2.1.3. The contractor shall provide a production environment and a staging environment for Cedefop use. Additionally the contractor will have its own testing/development environment.

2.1.4. During the contract life, the software for the different technologies and operating systems should not be older than two versions of the latest version in the market unless agreed otherwise with Cedefop.

2.2. Physical environment

2.2.1. All systems are to be housed in a secure and redundant environment (mandatory requirement).

2.2.2. The contractor should provide a Data Centre that is either certified to be ISO 27001 (or equivalent) compliant or that conforms to those standards. In the case that the Data Centre is not certified, then the contractor should provide evidence of conformance to those standards (mandatory requirement).

2.2.3. The contractor shall ensure that the hosting platform is backed-up to a remote location (mandatory requirement).

2.2.4. The Contractor shall have established procedures for Business Continuity Plan.

2.2.5. The contractor shall have established processes and procedures to ensure the security of the physical hosting environment and that cover at least the following (mandatory requirements):

- Power supply;
- Environmental conditions;
- Security and Access Control;
- Fire / Flood suppression.

2.3. Capacity Management

2.3.1. Cedefop requires that the contractor have sufficient hosting capacity to meet the required performance as defined in the service level requirements (mandatory requirement).

2.3.2. The contractor shall ensure that the capacity at each layer of the platform is proactively monitored and managed (mandatory requirement).

2.3.3. The contractor shall ensure that prompt adequate actions are taken before thresholds are reached (mandatory requirement).

2.4. Connectivity

2.4.1. The contractor shall provide multiple connections between their Data Centre and the internet in particular ensuring fail-over if the connection fails. The Data Centre should have adequate bandwidth in order to meet the needs of Cedefop hosted systems (mandatory requirement).

2.4.2. The contractor shall provide a 100Mbps unmetered connection per server as a minimum (mandatory requirement). This will be re-evaluated every year in function of Cedefop needs.

2.5. Security

2.5.1. The contractor shall ensure the security of the Cedefop systems (mandatory requirement).

2.5.2. The contractor shall have documented security policies and procedures to ensure the physical and technical security of the Data Centre facilities; this should include firewall(s), vulnerability management, intrusion, detection and denial of service attacks (both DOS and DDOS). The contractor should provide escalation procedures for security related issues and any security screening process for employees.

2.5.3. The contractor shall ensure that only authors authorised by Cedefop can put content on the web site. Secure access to CMS shall be possible from various locations. The CMS's editors shall be able to connect remotely to the CMS from any location with appropriate authorisation and secure way.

2.5.4. The contractor shall ensure that all webserver have Extended Validation SSL certificates.

2.5.5. The contractor shall apply, throughout the duration of the contract, policies and procedures to ensure that Cedefop systems are sufficiently protected against unauthorised access and system attacks (mandatory requirement).

2.5.6. Back-up and recovery requirements

- Daily backups for the last 8 days are required.
- Full weekly backups for the last 35 days are required.
- Full monthly backups for the last 6 months are required.

Requests to restore data should be satisfied within a maximum of 12 hours.

2.6. Availability and service level requirements

2.6.1. Cedefop requires that all components comprising the Cedefop systems be available 24/7/365, except for scheduled maintenance. The contractor should take the necessary measures to address any incidents and restore the service.

2.6.2. Scheduled down time for the web portal (front end) shall be between Friday 23:59 and Sunday 23:59 (Greek time).

2.6.3. Scheduled down time for the CMS (back end) shall be preferably between Friday 23:59 and Sunday 23:59 (Greek time). Downtimes of one hour are however acceptable during normal working hours if forecasted in advance.

2.6.4. The contractor shall liaise with Cedefop for the planning of scheduled downtime. Scheduled downtime should not exceed 4 occasions a year for a maximum of 12 hours.

2.6.5. Overall, systems downtime shall not overpass a total of 60 hours in one year.

2.6.6. Performance – response time:

On the website (front end), the average response time shall be less than 1 second with a maximum of 5% of the requests exceeding 2 seconds.

On the CMS (back end), an average of 2 seconds is acceptable, unless there is a special request, in which case it should show some sort of indication (e.g. hour glass cursor).

2.7. Support

2.7.1. The contractor shall provide 1st and 2nd level support services for a limited number of CMS editors (see Annex P) (Working hours: 09:00 to 19:00 time zone GMT+2).

2.7.2. Contractor shall use an automated tool for the registration, management and reporting of support requests (issue tracking system). Incident requests and change requests should both be handled by the same tool. Cedefop is using JIRA as issue tracking system. Nevertheless, the tenderer is free to propose his own.

2.7.3. The contractor shall provide the means for Cedefop staff to report new support requests both inside and outside of the stated working days and hours (Monday to Friday, 09:00 to 19:00 time zone GMT+2).

2.7.4. The contractor shall provide the necessary support and ensure that the following types of requests are addressed.

- Low;
- Medium;
- High/Critical.

Average response time to open support ticket

- Low: 16 working hours;
- Medium: 4 working hours;
- High/Critical: 1 working hour.

2.7.5. The resolution time is the elapsed time between the contractor responding to a support ticket opened by Cedefop and the contractor successfully resolving the Incident. The maximum resolution times are:

- Maximum resolution time (reported during working hours) for a Low priority incident: 3 working days

- Maximum resolution time (reported during working hours) for a Medium priority incident: 2 working days.
- Maximum resolution time (reported during working hours) for a High/Critical incident: 4 working hours.

These resolution times are applicable specifically to incidents identified by Cedefop. Critical issues related to failures at the server or network level should be monitored and resolved proactively by the contractor.

2.7.6. The contractor shall have incident management policies and procedures in place that describe how problem/issue escalation is handled and measured.

2.8. Administration

2.8.1 The contractor shall apply, throughout the duration of the contract, server system administration policies and procedures including software upgrade and patch application, capacity monitoring/management and change control (mandatory requirement).

2.8.2 In exceptional circumstances, major software upgrades may make the object of a separate order form.

2.8.3 The contractor shall apply, throughout the duration of the contract, server system administration policies and procedures that govern the backup/restore processes, including backup tools used, retention cycles and policies, frequency, restore procedures, backup validation procedures, and off-site storage facilities and processes (mandatory requirement).

3. MONITORING/REPORTING

The Contractor shall provide monthly reports to be submitted on the hosting, support and maintenance of Cedefop systems. The reports to be delivered will document at least the following information, for the current month and cumulatively since the beginning of the current year, wherever applicable:

- Scheduled downtimes of the public site and CMS
- Non-scheduled downtimes of the public site and CMS, and list of incidents
- Server connectivity - monthly traffic report, inbound and outbound
- List of actions which were performed as part of regular maintenance
- Software components: list of changes made in maintenance period
- Issues / Risks: narrative of any issues/risks identified by the contractor.

4. WEB ANALYTICS PACKAGE

4.1. Requirements

The contractor should install a web analytics package that will allow Cedefop to examine the website statistics. The installation and configuration should be made in a way to achieve maximum continuity and comparability of the Web statistics from the current system to the new one.

Cedefop preferred package is Piwik (<http://piwik.org/>), however the tenderer can propose a different package offering similar functionalities.

The package must be installed on the server and configured to analyse two datasets:

- a) web server logs, that will be used for the analysis of the downloads
- b) the web page visits as recorded by the tracking javascript code which will be embedded in all web pages and will enable Cedefop to analyse the website visitor traffic and online behaviour.

The contractor shall ensure that the web server access logs (IIS logs, Apache logs, etc.) are accurately recorded and fed to the web statistics package. The system should parse and analyse the data sources automatically at least once a week.

The package must be configured to exclude from the reported statistics:

- traffic and downloads made from inside Cedefop (exclude by IP addresses)
- traffic and downloads made by search engine spiders and robots
- partial file downloads (e.g. PDF page views).

Specific Cedefop staff members should be able to login remotely to the web analytics package to view the web statistics and configure reports and alerts.

4.2. Related costs

- 1) The cost (if any) for setup and configuration of the web statistics package, should be included in the initial setup costs for the hosting.
- 2) The hosting of the package itself on the server, together with any regular security and stability patching should be part of the web hosting's monthly fixed price.
- 3) The contractor may be asked to assist in building up and automating customised web analytics reports. These reports can be developed either with the package alone or with additional tools. Example: an excel file that picks web download data from the web statistics package and combines them with business metadata to calculate business KPIs. The cost for these works will be covered by specific order forms.