

## 1 Description of Control Objectives

*Control Objective #1: Interact has established and maintained controls and functionalities within eMS to provide reasonable assurance that an access system including possibility to predefine access rights for different users and revoke access to the system for those users which are no longer needed is in place in order to comply with EU Regulation 821/2014 art. 7(1).*

Ref	Controls specified by Interact
A1-1	eMS only allows access by registered users  In order to manage users and their access within eMS a combination of different roles and privileges can be used and can be configured.
A1-2	Obsolete users can be de-activated within eMS and their access therefore restricted.

*Control Objective #2: Interact has established and maintained controls and functionalities within eMS to provide reasonable assurance that logs of any recording, modification and deletion of documents and data are available within the system in order to comply with EU Regulation 821/2014 art. 7 (2).*

Ref	Controls specified by Interact
A2-1	eMS includes a logging functionality to provide logs of any recording, modification and deletion of documents and data.
A2-2	<p>Within eMS logging of various events can be configured:</p> <p>On the one site System- and Errorlogging, on the other site an Autilog can be configured.</p> <p>Within Auditlog follow events may be selected for logging:</p> <ul style="list-style-type: none"><li>• Adding information</li><li>• Altering information</li><li>• Deleting information</li><li>• Upload of attachments</li><li>• Removal of attachments</li><li>• Change of project status</li></ul> <p>For each action a timestamp and information on the user is logged.</p>

*Control Objective #3: Interact has established and maintained functionalities within eMS to provide reasonable assurance that the system doesn't allow for modification of any documents and files uploaded into the system on application level and that Deletion and upload of documents are traceable through the timestamp in the audit log in order to comply with EU Regulation 821/2014 art. 7 (3).*

<b>Ref</b>	<b>Controls specified by Interact</b>
<b>A3-1</b>	eMS does not allow for modification of any documents and files uploaded into the system on the application layer.
<b>A3-2</b>	Deletion and upload of documents are tracked in the audit log. Uploads of documents always create new documents. All uploads are reflected in the audit log and uploaded documents cannot be modified within the system.

*Control Objective #4: Interact has established and maintained functionalities within eMS to provide reasonable assurance that migration of data, format and computer environment is guaranteeing legibility and accessibility of documents and data within a period of time in order to comply with EU Regulation 821/2014 art. 7 (6).*

<b>Ref</b>	<b>Controls specified by Interact</b>
<b>A4-1</b>	eMS stores the data in a SQL 92 standard compliant relational database management system (RDMS) and stores documents on the file system of the server. Due to these standardized technologies access to the data of eMS is possible without using eMS itself.

*Control Objective #5: Interact has established and maintained functionalities within eMS to provide reasonable assurance that the system is capable for interoperability with beneficiaries systems and that the system facilitate verification of the veracity and completeness of the beneficiaries' data where appropriate in order to comply with EU Regulation 821/2014 art. 8*

Ref	Controls specified by Interact
A5-1	Verifications at data entry that can be configured by administrators of the software without using a plugin, namely configuration for mandatory/optional fields and for the maximum length of input are implemented into the system. Additionally data entry forms in eMS allow for a validation plugin, which can contain different validations to minimize the risk of entering data in wrong format.
A5-2	EMS is compliant with the European Interoperability Framework (EIF), due to the technologies used and the architecture of the software. eMS are based on the general principles of technological neutrality and adaptability, openness, reusability, privacy and security and may therefore be easily integrated into other ICT systems.

*Control Objective #6a: Interact has established and maintained functionalities within eMS to provide reasonable assurance that the system is interoperable with other systems and that the system includes appropriate search tools in order to comply with EU Regulation 821/2014 art. 9*

Ref	Controls specified by Interact
A6-1	EMS is compliant with the European Interoperability Framework (EIF), due to the technologies used and the architecture of the software.
A6-2	EMS includes several search fields for application forms in different stages of the application process. All browsers allow for key word search within the given range of data. Those fields allow combining searches for different criteria based on conjunction in Boolean algebra.

*Control Objective #6b: Interact has established and maintained functionalities within eMS to provide reasonable assurance that the system is interoperable with other systems and that the system includes appropriate reporting functionality in order to comply with EU Regulation 821/2014 art. 9*

Ref	Controls specified by Interact
A6-3	<p>EMS allows different reports to be generated.</p> <ul style="list-style-type: none"><li>• Financial data is exportable to Microsoft Excel data format</li><li>• Overview tables – like list of application forms waiting for the monitoring committee decision, including the ranking – can be exported to Microsoft Excel data format.</li><li>• Overview tables on financial data are exportable on various levels (e.g. partner report, FLC certificate, project report, programme)</li><li>• Custom reports needed by specific ETC Programmes based on application form or project report information can be added in a special section; export of custom reports to PDF is possible</li><li>• An integrated OLAP cube reporting tool allows for generation of statistics/calculations based on selected information. Results can be exported to Microsoft Excel or PDF. Generated charts can be saved as image (PNG).</li></ul>

*Control Objective #7: Interact has established and maintained documentation to provide reasonable assurance that detailed and updated functional and technical documentation on the operation and characteristics of the system is provided in order to comply with EU Regulation 821/2014 art. 10*

Ref	Controls specified by Interact
A7-1	<p>There is a detailed documentation of eMS system containing of following documents:</p> <ul style="list-style-type: none"><li>• Workflow charts and descriptions</li><li>• Technical description of the system<ul style="list-style-type: none"><li>○ Documentation of the Database</li><li>○ Software architecture</li></ul></li><li>• Description of the content<ul style="list-style-type: none"><li>○ HIT documents (Harmonized implementation tools)</li><li>○ specification documentation</li></ul></li><li>• Security measures document</li><li>• User manual<ul style="list-style-type: none"><li>○ User guide for Programmes</li><li>○ eMS manual</li></ul></li></ul>

*Control Objective #8: Interact has established and maintained functionalities to provide reasonable assurance that the system is protected by adequate security measures concerning data protection in order to comply with EU Regulation 821/2014 art.11 and EU Regulation 1011/2014 art 9(1).*

Ref	Controls specified by Interact
A8-1	The software supports the use of encrypted channels like HTTPS and contains a sophisticated application security (Spring security).
A8-2	The software allows the generation of a hash value during submission of documents like the application form. This hash value is stored in the technical database. Modifications of values in the application form lead to an invalid hash value. This feature is implemented as a plugin; Programmes can therefore decide, which values are taken into account for the hash calculation.
A8-3	The system is accessible only by a closed group of users. Data access is based on roles and privileges. It is possible to allow or limit access to different sections of the system. Only registered and privileged users are allowed to access the system and insert information. Access to the system is only possible after verification of the provided email address.

*Control Objective #9: Interact has established and maintained functionalities to provide reasonable assurance that the system is equipped with various functionalities regarding interactive forms, calculations, data exchange, system alerts, status tracking and data availability in order to comply EU Regulation 1011/2014 art 9(2) and 9(3).*

Ref	Controls specified by Interact
A9-1	It is possible to provide all necessary data via web service without any parallel paper exchange. The entire project workflow is included in eMS as interactive forms.
A9-2	eMS implements automatic calculations where applicable – all the possible calculations are done automatically in eMS
A9-3	eMS implements automatic embedded controls which reduce repeated exchanges of documents or information as far as possible. Further eMS provides a possibility to define programme validation rules (as a plugin). The plugin is called at the submission phase of different forms and can either block the submission or just give a warning message in case of incorrect data.
A9-4	eMS implements system-generated alerts to inform the beneficiary that certain actions can be performed – the system can generate automatically different alerts to support the users. Programmes using eMS can select the necessary alerts from a predefined list and can define their content. The alerts are sent via the integrated message portal to users. Notifications about incoming messages can be sent to the users email address.
A9-5	eMS implements online status tracking, allowing the beneficiary to monitor the current status of the project – each applicant and beneficiary have access to his projects and can see in which state the application, project or report is currently.
A9-6	eMS ensures availability of all previous data and documents processed by the electronic data exchange system – the data and documents introduced in eMS are available for the relevant users

*Control Objective #10: Interact has established and maintained functionality to apply certain principles of an “electronic signature” (timestamp, no changes of the data within eMS and user authentication) to comply with EU Regulation 1011/2014 art. 10 to a reasonable but not full extent (without implementing an electronic signature based on cryptographic methods).*

Ref	Controls specified by Interact
<b>A10-1</b>	INTERACT has implemented an authentication system of user using basic signature mechanisms (username, password).
<b>A10-2</b>	Interact has implemented an authentication validation of the provided user information via a validation email.
<b>A10-3</b>	All sections in eMS are only visible to registered and verified user; no section is publicly available.
<b>A10-4</b>	Interact has implemented a detailed user roles and rights management system, which allows only specific users in specific roles to see or modify data.
<b>A10-5</b>	eMS provides validation and verification of data provided by the user through mandatory/optional fields which can be defined via configuration in the system and an optional validation plugin which could contain specific validation rules.
<b>A10-6</b>	Interact has implemented a checksum plugin to calculate a hash value of the provided data in the application form.  This plugin is triggered at the submission of an application form. The plugin calculates a hash value out of the provided data. This mathematical function creates a checksum of the data provided in the application form. This checksum is stored in the technical database.
<b>A10-7</b>	The system does not allow modifying any provided document – consequently it does not allow altering documents bearing an electronic signature. Documents are stored binary identically on the file system of the server - as provided by only this user. No modification of documents whatsoever happens automatically or is possible in the application. eMS stores a time stamp and the username of the actor of any upload of any document.
<b>A10-8</b>	The system traces any saving, uploading, deletion, modification or submission of data processed within the system.
<b>A10-9</b>	Uploaded files are stored on the hard drive of the server. Dependent on the environment, this could be an encrypted storage.

*Control Objective #11: Interact has established and maintained functionalities to provide reasonable assurance that eMS is accessible through an interactive user interface in order to comply with EU Regulation 1011/2014 art. 9*

Ref	Controls specified by Interact
A11-1	<p>The system is built based on standard solutions and is a web-based application accessible through any web browser. Any user having internet connection and browser can access the system and use its functionalities.</p> <p>When designing the system, the WAI-ARIA requirements have been taken into account.</p>

*Control Objective #12: Interact has established and maintained functionality to provide reasonable assurance that relevant information on data to be recorded and stored for each operation in the monitoring system are in accordance with for the application process needed requirements in order to comply with EU Regulation 480/2014 ANNEX III*

Ref	Controls specified by Interact
A12-1	<p>All the data listed in the Annex III except for those not applying to ETC (field numbers 15, 28, 38, 40, 89, 90, 106, 108 and 109) is recorded and stored in eMS.</p>