



University programme database (initial version)

Deliverable 5.1

Engage

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Engage

THE SESAR KNOWLEDGE TRANSFER NETWORK

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Abstract

This document describes the methodology applied to the design and population of the initial version of the university programme database. The database contains information on postgraduate degree and research opportunities.

The opinions expressed herein reflect the authors' view only. Under no circumstances shall the SESAR Joint Undertaking be responsible for any use that may be made of the information contained herein.

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Executive summary

This deliverable describes the methodology applied to the design and population of the initial version of the university programme database, which is the result of work performed under Task 5.1.1 of Engage. The database comprises two tables:

1. PhD programmes;
2. Master's programmes.

The main objective of this deliverable is to share the early content with the SJU, with examples, in case additional design and/or content features are requested, and to explain the methodology for the development of this process.

The joint deliverables D5.1 and D5.3 are the first building blocks for the establishment of a comprehensive European programme aimed at educating and training future ATM professionals. They build on existing educational programmes in ATM, and leverage their relationships with industry, in addition to the cooperative opportunities and the educational and training programme within Engage. There is a need to collate and intelligently link these resources into a wiki-based centralised knowledge hub and repository.

Note.

This deliverable is formally classified as type "Other" in [1] (i.e. covering software, technical diagram, etc.). The corresponding off-line database (in Excel format), was sent to the SJU by e-mail in parallel with this deliverable.

1 Introduction

1.1 Purpose and structure of the document

This deliverable describes the methodology applied to the design and population of the initial version of the university programme database, containing information on postgraduate degree resulting from work performed under Task 5.1.1 of Engage.

The main objective is to share the early content with the SJU, with examples, in case additional design and/or content features are requested, and to explain the methodology for the development of this process. Database changes suggested by the SJU have been incorporated in this revised deliverable.

The databases of D5.1 that describe postgraduate programmes, combined with those of D5.3 on ATM-related internships and events, are the first building blocks for the establishment of a comprehensive European programme aimed at educating and training future ATM professionals. To be successfully implemented, this initiative has to be built upon existing educational programmes in ATM, and leverage their relationships with industry, in addition to the cooperative opportunities and the educational and training programme being developed specifically by the Engage KTN: conferences, workshops, summer schools, 'GEN-INTRO' (formerly 'GENSPACE') ATCO training places, undergraduate course materials and direct postgraduate (e.g. PhD) funding. There is a need to organise and intelligently link these resources into a centralised knowledge hub and repository, motivating visits to the website, coupled with strong dissemination activities. This is a clear and value-adding role foreseen by Engage: to inspire and support the ATM professional of tomorrow.

The original intention was to include further tables listing information about postgraduate theses and post-doctoral research projects, however these have since been refocused to ensure compliance with data protection regulation (see Section 1.2). Anonymised information relating to theses and post-doc projects may instead be absorbed into Engage's research concepts map (e.g. via keyword search).

The updated database now has two tables that list **PhD** and **Master's (postgraduate)** programmes.

Section 2 describes the methodology applied to addressing the design, population and updating of the database. Firstly, the database design process is described, followed by the plan for establishing and maintaining the contacts between the Engage KTN and the ATM-related postgraduate programmes in Europe. Furthermore, as the database will be publicly available on the Engage wiki, we outline the integration of the database in the wiki. Section 3 describes the database fields; Section 4 summarises the next steps.

1.2 Implications of the General Data Protection Regulation

The General Data Protection Regulation [2] came into force on 25 May 2018, and now governs the use of personal data. The Regulation (referred to as GDPR) concerns the protection of fundamental rights and freedoms of individual persons with regard to processing of personal data, whilst protecting the principle of free movement of personal data within the EU.

In summary, personal data are **any information relating to an identified or identifiable natural person** ('data subject') and **must be kept safe and secure at all times**.

The six data protection principles of GDPR ([2] Article 5) place obligations on organisations to make conscious decisions on how personal information is collected, held and used. Personal data shall be:

- processed lawfully, fairly and in a transparent manner in relation to the data subject;
- collected for specified, explicit and legitimate purposes and not further processed in a manner which is incompatible with those purposes;
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed;
- accurate and, where necessary, kept up-to-date;
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed;
- processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction, or damage, using appropriate technical or organisational measures.

The Engage consortium (as 'data controller') will comply with these principles.

Under GDPR, the processing of personal data must satisfy at least one of the following conditions:

- a) consent of the data subject;
- b) processing is necessary for the performance of a contract with the data subject;
- c) processing is necessary for compliance with a legal obligation;
- d) processing is necessary to protect the vital interests of a data subject or another person;
- e) processing is necessary for the performance of a task carried out in the public interest;
- f) processing is necessary for the purposes of legitimate interests.

Originally, the database would have included *specific/actual* (onymous) postgraduate theses and post-doc research projects. Storing personal data such as the names of PhD candidates, post-docs and their academic supervisors would therefore have required informed and active consent. To ensure compliance with GDPR, such information will thus not be collected.



Given this, personal data will **not** be used in the context of the university programme database as described in D5.1.

Note that no Engage activities (WP5 related or otherwise) will involve the collection and/or processing of any kind of 'sensitive data' such as, but not limited to, health, ethnicity, political opinion or religious belief.

2 Methodology

In order to support the Engage knowledge hub and its contribution to ATM research, the postgraduate university programme database should contain all relevant information, including: the postgraduate university programmes that offer ATM-related postgraduate research opportunities, descriptions of courses offered, tuition fees, keywords, typical numbers of postgraduate students, numbers of faculty and other authorised research supervisors. The goal is to collect these (currently disparate) data in a centralised, ‘one-stop’ knowledge hub (whilst not disclosing non-permitted information – see also Section 1.2) accessible and searchable through the Engage wiki. The database will cover the institutions and opportunities in the ECAC area.

This initial database structure has been designed through the collaboration of Engage consortium members – a detailed description of the database tables can be found in the next section. The database currently contains information collated by Engage consortium members in order to test the applicability through initial completion, e.g. master’s programmes from 13 countries are listed in the initial version.

In order to complete and maintain (i.e. update) the database:

1. Engage will contact institutions known to Engage partners as offering ATM-related courses or postgraduate degrees, establishing an initial contact list with such institutions. The intention is to liaise with specific contact points, to increase the information accuracy and response rate. Contacts will be invited to become official contact points for receiving periodic reminders to update/check the validity of their data. Such contacts should have a vested interest in updating their institutional information to help promote their courses through effectively free dissemination via Engage.
2. The searchable content will comprise part of the Engage repository. This will be a wiki-like platform, editable by registered users. The process of granting the editing privileges and monitoring the update process will be performed by Innaxis (as task leader). Wiki content will thus get published automatically and consequently reduce the consortium overhead.
3. The off-line database tables will be migrated to the on-line Engage wiki (currently in the development stage).
4. Registered users with editing privileges will be able to make the changes to the content at any time. The Engage consortium will send update reminders annually to registered users.

3 Database

This section presents the initial version of the university programme database tables. The key information to be collected is introduced along with a short description explaining the meaning of each header and sub-header. Although structural changes to the database tables are not expected, modifications may subsequently be made to incorporate suggestions from the interested stakeholders once the Engage knowledge hub is available on-line, and from the SJU.

Table 1. List of PhD programmes

This table collects European university PhD programmes related to air traffic management, air transport or relevant topics. Entries are ordered by country/institution.

	Header	Sub-header	Description
1	Institution		Full name of the academic institution offering a PhD degree in a programme linked with ATM.
2	Location	Town	The name of the town where the PhD programme takes place.
3		Country	Country where the PhD programme takes place.
4	Programme name		The name of the PhD programme linked with ATM that is offered by the academic institution.
5	Website		Website of the PhD programme linked with ATM.
6	ATM-related courses offered		List of the ATM-related courses offered in the PhD programme.
7	Typical number of students on ATM-related topics (per year)		Typical number of students on ATM-related topics enrolled (per year).
8	Number of faculty and other authorised research advisors on ATM-related topics		Number of faculty and other authorised research advisors on ATM-related topics.
9	Language		Language in which the PhD programme and courses in the programme are offered.

	Header	Sub-header	Description
10	Duration (years)		Typical duration of the PhD programme, in years.
11	Tuition fees for the entire duration (K€)		Cost for a PhD student for the entire duration (K€), usually tuition fees, or self-financing if offered by institution.
12	Cost for the institution for the entire duration (K€)		Cost the institution sustains for the PhD student that is enrolled in the programme, which usually involves a PhD student's stipend.
13	External financial and teaching support (e.g., from industry)	Regular	Mention in this field if regular cooperation (financial or teaching) from industry or any other source, exists in the PhD programme.
14		Ad hoc	Mention in this field <i>ad hoc</i> cooperation (financial or teaching). Usually refers to the topics of interest to the industry partners that were, or are being, financed.
15	International cooperation (e.g., double degree)		Lists the institutions with which this PhD programme has international cooperation relations, specifying the type of cooperation (e.g. double degree, short-term research missions, internships or any other type of cooperation).
16	Links with on-going international research projects		List of the on-going international research projects on which the advisors and PhD students are working.
17	Links with on-going national research projects		List of the on-going national research projects on which the advisors and PhD students are working.
18	Keyword 1		Keywords describing the programme.
19	Keyword 2		
20	Keyword 3		
21	Keyword 4		
22	Keyword 5		
23	Keyword 6		

Table 2. List of master's programmes

This table collects European university master's programmes related to air traffic management, air transport or relevant topics. Programmes are MSc unless specified otherwise (e.g. MA, MBA). Entries are ordered by country/institution.

	Header	Sub-header	Description
1	Institution		Full name of the academic institution offering a master's degree in a programme linked with ATM.
2	Location	Town	The name of the town where the master's programme takes place.
3		Country	Country where the master's programme takes place.
4	Programme name		The name of the master's programme linked with ATM that is offered by the academic institution.
5	Website		Website of the master's programme linked with ATM.
6	ATM-related courses offered		List of the ATM-related courses offered in the master's programme.
7	Typical number of students on ATM-related topics (per year)		Typical number of students on ATM-related topics enrolled (per year).
8	Number of faculty and other authorised research advisors on ATM-related topics		Number of faculty and other authorised research advisors on ATM-related topics.
9	Language		Language in which the master's programme and courses in the programme are offered.
10	Duration (years)		Typical duration of the master's programme, in years.
11	Tuition fee for the entire duration (K€, EU students)		Cost for the student for the entire duration (K€), usually tuition fees, or self-financing if offered by institution.
12	External financial or teaching support (e.g., from industry)	Regular	Mention in this field if regular cooperation (financial or teaching) from industry or any other source, exists in the programme.
13		Ad hoc	Mention in this field <i>ad hoc</i> cooperation (financial or teaching). Usually refers to the topics of interest to the industry partners that were, or are being, financed.

	Header	Sub-header	Description
14	International cooperation (e.g., double degree)		Lists the institutions with which this programme has international cooperation relations, specifying the type of cooperation (e.g. double degree, short-term research missions, internships or any other type of cooperation).
15	Links with on-going international research projects		List of the on-going international research projects on which the advisors and students are working.
16	Links with on-going national research projects		List of the on-going national research projects on which the advisors and students are working.
17	Keyword 1		Keywords describing the programme.
18	Keyword 2		
19	Keyword 3		
20	Keyword 4		
21	Keyword 5		
22	Keyword 6		

4 Next steps

The following actions summarise the key next steps for this task:

- (1) The EU's General Data Protection Regulation (GDPR) came into force on 25 May 2018, replacing the Data Protection Directive 95/46/EC. As the most important change in data privacy regulation in over twenty years, it is important that the Engage consortium (as 'data controller') conforms to the obligations and spirit of this new regulation. The implications of the regulation have been understood by the consortium, who will ensure that the planning outlined above is fully compliant with GDPR (see Section 1.2).
- (2) Reflect on possible SJU feedback regarding the design and implementation of this task.
- (3) Contact the institutions known to Engage partners as offering ATM-related courses or postgraduate degrees. Organise communication actions, with the support of the SJU, to support the completion and update of the ATM courses and postgraduate degrees database from the known institutions, and other new ones that may not have been initially contacted.
- (4) Migrate the content to the Engage wiki, whilst ensuring (1) is respected and considering (2).
- (5) The follow-up deliverable, D5.2 University programme database (updated version), will recap the structure of the database tables, without re-reporting other content already summarised in D5.1. It is to be stressed that this design is a dynamic process.
- (6) Extend the database coverage to include postgraduate programmes from other institutions and countries.

5 References

- [1] Engage project, 2017. Grant Agreement 783287, Ref. Ares(2017)6114946 - 13/12/2017.
- [2] European Commission, 2016. Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), 04/05/2016.



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Founding Members



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