



STAFFER
EUROPEAN RAIL SKILLS ALLIANCE



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**Development of mobility and
training programmes in the field of
cross border railways,
communication and language**

DELIVERABLE 4.4



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1 GENERAL DESCRIPTION OF TASK 4.4

First, we want to say thank you to all our partners and colleagues for the fruitful cooperation, the great ideas and their support during Task 4.4. Furthermore, we would like to thank the members of the previous work packages as their results were very important to us.

The title of *Task 4.4* describes the *task* to be accomplished:

“Development of new training contents and modules reflecting new needs in the field of cross-border railways, communication and language”

(Source: STAFFER detailed description, page 105)

The content basis for Task 4.4 was carried out in work packages (WP) 1, 2 and 3. It is based on surveys on future requirements for the rail sector. The framework conditions for Task 4.4 got prepared during Tasks 4.1, 4.2 and 4.3.

Subsequently, all partners provided their ideas and proposals for implementation. The individual results were described and are now available as the results of Task 4.4.

The documents were developed in such a way that the described contents, methods and framework conditions are included in clear text (within the templates) so that the concepts for the following work packages are described in a comprehensible and implementable way.

2 AIMS OF TASK 4.4

The goals STAFFER aims on can be found in the detailed project description: As a conclusion every in task 4.4 developed programme had to contribute to at least one of the STAFFER goals:

- Gaining more cross-border-railway (CBR) staff
- Increasing the efficiency and functionality of trans European railway traffic
- Fostering the employability of involved staff
- Increasing Digitalisation in railway operation

The target groups of Task 4.4 got also defined in advance: Train drivers, maintenance staff (rolling stock) and dispatchers are the job profiles all developed programmes aim on.

Especially the needs of European railway undertakings were in the focus of Task 4.4. A wide range of specific measurements was gathered within the task. Task 4.4 is mainly focused on the three target groups mentioned above whilst task 4.5 is focused on qualifications within the different EQF levels.

The specific aim of Task 4.4 was to bundle ideas and create universal templates which can be used during the following project. No ideas got sorted out as they are all very valuable. Just according to the 'Training Programmes' a prioritisation is made as more than 80 ideas got suggested by the partners.

Examples for beneficial measures could be the development of applications and concepts for a cross border use in qualification of the target groups:

Identifying existing tools on general and basic knowledge which can easily get translated and used in basic trainings of several countries. The break-simulation-app of Deutsche Bahn can serve as an example.

3 APPROACH FOR TASK 4.4

For the implementation of Task 4.4, the following procedure was chosen in consultation with the relevant STAFFER partners.

3.1 Analysis of the results from the final reports of Task 1, 2 and 3

A total of 105 possible fields of action were selected from WP 2, WP 3 and Task 4.1. The selection was based on the criteria of high discussion objective of the respondents, relevance for STAFFER and the conformity with STAFFER aims and target groups. In the end, 48 topics remained as they were rated as important.

It was decided to transfer the data into an MS Excel spreadsheet in order to ensure an overview and structure the data through appropriate filter logics. This table served as a data store and tool and is attached to the results under the term 'List of Modules'.

3.2 Collection of proposals for appropriate measures

In this step, the partners were asked to contribute ideas and proposals for concrete measures to the 69 topic areas identified. A total of 176 measures were compiled in a comprehensive table.

At the same time, the results from Task 4.1 were evaluated and suitable content was included in the collection of topics for Task 4.4. In total, 9 training formats were integrated into the results of Task 4.4.

The results are divided into Training Programmes for company staff, Academic Modules, Mobility Programmes and CBR Conferences.

After a quality check combining duplicates and disabling non-usable contributions, 140 proposals remained, representing a first output of Task 4.4. This collection will be informally handed over to the downstream WP. Obviously, a complete implementation of all proposals is not feasible. For this reason, a further step must be taken to focus on high-priority topics and to develop a concept for possible implementation.

3.3 Elaboration of final results

The table 'List of Modules' is the starting point for the elaboration of the present results. It offers the possibility to filter the content according to different criteria (goals, target groups, topics, formats, ...). The table is too extensive for a presentation of the results and therefore also unclear. For this reason, the results were clustered again and divided into four categories:

- Training programmes,
- CBR conferences,
- Mobility programmes and
- Academic modules

The results were assigned to these categories and the contents were described in detail in the corresponding documents.

Regarding to the tasks in WP 6, processing the results from Task 4.4 should take place through the implementation of templates for defined formats.

Example:

To support Task 6.3, a template for a vocational trainee exchange format was designed that includes all aspects regarding to the implementation of the format. This concerns from organisational requirements, learning objectives, legal framework and labor law provisions, up to how to handle underage participants of an exchange programme. The programme template is structured in such a way that it can be easily applied to different professions.

4 OVERVIEW ON THE RESULT STRUCTURE OF TASK 4.4

As mentioned above, four different implementation options were found for the identified subjects: Training Programmes, CBR Conferences, Mobility Programmes and Academic Programmes.

For each individual programme, result documents were created which contain a brief programme description, learning aims and an organisational framework.

<p>Training Programmes</p> <ul style="list-style-type: none"> • Language and Communication • European Mindset and Skills • Technologies and Digitalisation • European Railway Operation 	<p>CBR Conferences</p> <ul style="list-style-type: none"> • Human Resources • Operational Functionality • CBR Digitalisation
<p>Mobility Programmes</p> <ul style="list-style-type: none"> • Exchange Programmes for Apprentices • Operational Staff exchange • Internships for Students • Student exchange Programme 	<p>Academic Modules</p> <ul style="list-style-type: none"> • Lectures • Bachelor Courses • Master Courses •

Further information regarding the specific details of contents in the documents can be found in the '**List of Modules**' which can easily be filtered to find the information you need.

Overview of the structure of the results in Task 4.4

4.1 Training Programmes

Regarding the **Training Programmes** four documents with four different topics got created.

The four main topics are: Language and Communication, European Mindset and Skills, Technologies and Digitalisation and European Railway Operation.

Special importance is attached to the European mindset. It was found out that all STAFFER target groups lack a European self-perception. The European dimension of the railways must be addressed in the recruiting, onboarding and qualification of rail employees.

It was possible to match every suggestion of our partners to one of the clusters above. The specific training programmes or learning Apps are getting created in WP 6, Task 6.7. Furthermore, it is important to arrange an agreement on the funding of the Training Programme development.

4.2 CBR Conferences

Regarding the **CBR Conferences** only 3 templates were needed.

The main topics for future European CBR Conferences are: Human Resources, Operational Functionality and Digitalisation.

A materiality of the work is that there is not enough professional exchange and substantive cooperation among European rail management. A large number of proposals for meetings, workshops and conferences were summarised in the three (above mentioned) conference formats.

The templates serve to organise the conferences and represent a first step on the way to European railway conferences. The idea is to create a European organisation to arrange the CBR Conferences. The aim must be to organise a joint and, above all, continuous exchange. Further planning is going to take place in WP 6, Task 6.7.

4.3 Mobility Programmes

Regarding to the **Mobility Programmes** another four templates got created which are assigned to the different target groups of the participants:

Exchange Programmes for Apprentices, Operational Staff exchange, Internships for Students and Student exchange Programmes (Railway ERASMUS).

All Programmes contain a general description which contains the aims of the programme, Learning aims and preconditions (participants point of view), obligations of sending and receiving companies and organisational frame and conditions.

The templates are going to be filled in with further detailed content for different target groups in WP 6 (Task 6.2, 6.3 and 6.4).

4.4 Academic Modules

Academic Modules were found in Task 4.4 as well. One document was created to bundle the information. The document contains different formats for the implementation of each topic. They are sorted by the easiness of implementation. For example, guest lectures during a study course are easy to implement meanwhile the development of new degree programmes takes much longer.

During the STAFFER period it will not be possible to implement totally new study courses, but the document provided can still serve as an idea pool for implementations beyond STAFFER. Other formats like rail summer schools can be implemented during the project's lifetime and should be focused by the leaders of Task 6.6. However, some modules in the document already exist it is still possible to overthink them and further develop the courses.

5 NEXT STEPS IN FOLLOWING WORK PACKAGES

5.1 Implementation of Training Programmes (Task 6.5, 6.6 and 6.7)

To close the gap of skills VET is one of the most important approaches. In the rail sector only 10% of the knowledge is transmitted through vocational training. To increase this amount Training Programmes are getting developed during STAFFER.

The documents regarding the Training Programmes are meant as an idea pool for Trainings to be developed. Further ideas can still be found in the 'List of Modules' as it is the source for the templates.

We are sure that not all Training Programmes which got suggested by the partners can be implemented during the lifetime of STAFFER. That's why some ideas are highlighted in this document as a recommendation.

The financial funding of the training development has to be organised with all STAFFER partners.

5.1.1 Idea pool for Task 6.5

The matching of the programmes is just a recommendation.

<u>Categories</u>	<u>Title of the programme</u>	<u>Name of ideator / organisation</u>
Task 6.5 18 suggestions	New ways of digital training	Vito Pagliarisi, FS
	Training related to smart working	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Training related to advanced ICT skills	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Training related to moderate ICT skills	Nataša Jovanović ICS



	Virtual course related to environmental protection, greener more sustainable and smarter railways	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Digital training related to ATO	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Cyber Security for operational Staff	Arpad Domjan, DB Training
	Awareness training on Safety & Security (incl. legal aspects)	ÖBB, Siegfried Baumgartner (PV), Marc Topal (HO)
	Introduction to signalling	Alstom
	Cyber Sec Awareness Training*	ÖBB, Harald Singer (PV); Stefan Hackl (RCG)
	Rail cybersecurity awareness	Alstom
	Course related to transfer knowledge in contExt of demographic change	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Grundverständnis für Eisenbahn und Organisationsstruktur (basic understanding of railway and organisational structure)	ÖBB, Andreas Pavlacska
	EHS awareness	Alstom
	High risk activities - VR experience	Alstom
	Inclusive "Buddy system"	Mickaël Bregeon, CESI

5.1.2 Idea pool for Task 6.6 + academic modules

The matching of the programmes is just a recommendation.

<u>Categories</u>	<u>Title of the programme</u>	<u>Name of ideator / organisation</u>
Task 6.6 22 Training suggestions	Business strategies in digital economy	Michał Wolański, Warsaw School of Economics
	Introduction to digital economy	Michał Wolański, Warsaw School of Economics
	Digital Marketing	Michał Wolański, Warsaw School of Economics
	Building Information Modeling (BIM) fundamentals (IGTC1261DI)	Patricia Nieto, UDI, SNCF
	Digital training related to digitalisation and automation	Nataša Jovanović IŽS
	Digital training related to digital twins	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Mobility flows	Vito Pagliarisi, FS
	ERTMS and ETCS deployment	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	New power-supply system	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Discover the BIM platform or the Common Data Environment (CDE) (IGTC1265DI)	Patricia Nieto, UDI, SNCF
	Training related to MaaS	Nataša Jovanović IŽS
	Dealing with CAD tools, making derivations	ÖBB, Infra
	NAVISWORKS for BIM manager (IGTC1267)	Patricia Nieto, UDI, SNCF
	NAVISWORKS Fundamentals (IGTC1266DI)	Patricia Nieto, UDI, SNCF
	Prognostics and health management introduction	Alstom
	REVIT for Civil engineers (IGTC1264GC)	Patricia Nieto, UDI, SNCF
	REVIT for electrical engineers (IGTC1263GE)	Patricia Nieto, UDI, SNCF



	REVIT Initiation (IGTC1262DI)	Patricia Nieto, UDI, SNCF
	Digital twins in rolling stock maintenance	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Training related to bridging of traditional and digital approaches	Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Obsolescence and life-cycle management	Alstom
	Resilience in Railways*	ÖBB, Siegfried Baumgartner (PV)



Academic Modules suggested by all partners:

<u>Categories</u>	<u>Title of the programme</u>	<u>Name of ideator / organisation</u>
Guest lecture as part of a study course	Communication and presentation skills (B1041A040001)	Vitek Malinovsky, CTU in Prague
	Cybernality (23KYB)	Vitek Malinovsky, CTU in Prague
	Innovative traction systems	Luca Rizzetto, UNIROMA1
	Selected problems of ecology in transportation (3708V009)	Vitek Malinovsky, CTU in Prague
Post-graduation study course (Single elements of the post-master course can be implemented as a study course as well)	Post-Master course “railway infrastructure and systems engineering”	Luca Rizzetto, UNIROMA1
Study course (a single course during a degree programme) → All mentioned ideas, except the Master Programmes could be implemented as Study courses. Courses marked in other sections don't get mentioned here	Advanced telematic applications (N 3710)	Vitek Malinovsky, CTU in Prague
	Basics of ressource planning and dispatching	UASFHE
	Intelligent Transport Systems (N1041A040007)	Vitek Malinovsky, CTU in Prague
	Modern techniques of safety control of moving railway vehicles (N1041A040006)	Vitek Malinovsky, CTU in Prague
	Modern ways of securing of railway transport carriages (N1041A040007)	Vitek Malinovsky, CTU in Prague
	Process automation in transport telematics	Richard Kayser, TU Dresden
	Railway security systems (3711T004)	Vitek Malinovsky, CTU in Prague
	Railway system design – international comparison	UASFHE
	Railway vehicle technology	UASFHE
	Software verification (or Safety) engineer / Master course / Formal methods / posterior formal model-checking	Sebti Mouelhi, ESTACA



	Technology and security of sensor network (N1041A040007)	Vitek Malinovsky, CTU in Prague
	Telematic systems and their design (N1041A040007)	Vitek Malinovsky, CTU in Prague
Study related project (a project during a degree programme, a course, or a master/bachelor thesis)	BIM & digital twin specialisation (master's degree in building project management)	Mickaël Bregeon, CESI
	Combined freight transport (B 3710)	Vitek Malinovsky, CTU in Prague
	Computer aided railway traffic control (N1041A040006)	Vitek Malinovsky, CTU in Prague
	Methods in Data Analytics	Richard Kayser, TU Dresden
	Rail freight services	UASFHE
Summer School for students (As an integrational part of a study programme with ECTS (e.g., as an elective or as single event))	BIM & digital twin specialisation (master's degree in building project management)	Mickaël Bregeon, CESI
	Cybernality (23KYB)	Vitek Malinovsky, CTU in Prague
	Design and Interoperability of the european railway systems	UASFHE
	Methods in Data Analytics	Richard Kayser, TU Dresden
	Scientific English	Vitek Malinovsky, CTU in Prague
	Selected problems of ecology in transportation (3708V009)	Vitek Malinovsky, CTU in Prague
Specialisation during a degree programme (Students focus on a certain field during their Studying. By electing a specialisation students choose multiple courses at one time)	BIM Bachelor	Mickaël Bregeon, CESI
	Combined freight transport (B 3710)	Vitek Malinovsky, CTU in Prague
	Digitalisation in Railway Systems	UASFHE
	Environmental aspects of transport (B1041A040001)	Vitek Malinovsky, CTU in Prague
	Selected problems of ecology in transportation (3708V009)	Vitek Malinovsky, CTU in Prague



Programme related to EQF 5	BIM Bachelor	Mickaël Bregeon, CESI
	Design and Interoperability of the european railway systems	UASFHE
	Innovative traction systems	Luca Rizzetto, UNIROMA1
	Intelligent Transport Systems (N1041A040007)	Vitek Malinovsky, CTU in Prague
	"Modern techniques of safety control of moving railway vehicles (N1041A040006)"	Vitek Malinovsky, CTU in Prague
	Modern ways of securing of railway transport carriages (N1041A040007)	Vitek Malinovsky, CTU in Prague
	Railway vehicle technology	UASFHE
	Selected problems of ecology in transportation (3708V009)	Vitek Malinovsky, CTU in Prague
Bachelor's degree programme (To be created using different modules from above)	(...)	(...)
Master's degree programme	Engineering Degree - Electronic Systems - Railway Signalling Apprenticeship Training Programme	Khaled ITANI, CNAM
	Electric Transport Systems (Elektrische Verkehrssysteme)	Richard Kayser, TU Dresden
	Electric Transport Systems (Elektrische Verkehrssysteme)	Richard Kayser, TU Dresden
	European Railway Systems	UASFHE
	European Railway Systems	UASFHE
Certificate course (Further education)	BIM Bachelor	Mickaël Bregeon, CESI
Part time post-graduation course	e.g., Master European Rail Systems	Thomas Kämpfe FH-Erfurt

5.1.3 Idea pool for task 6.7

The matching of the programmes is just a recommendation.

Categories	Title of the programme	Name of ideator / organisation
Task 6.7 34 suggestions	Energy-saving driving style - Data Repository	Manfred Dahr DB Fernverkehr, P.FBT-TK
	Communication and social interaction in European context	Uniroma, Alessia Fava
	Welcome on board*' (integration of topic);	ÖBB, Bettina Gusenbauer
	European awareness and European railway Culture	Carina Schnellbacher, DB Training
	Diversity as a fundamental for Railway operation	Carina Schnellbacher, DB Training
	The train driver as part of the European railways (including a movie)	Lisa Lancken, DB Training
	Energy-saving driving style - Simulator based Trainings	Bastian Dietzel, DB Training
	Awareness on Sustainability	Bastian Dietzel, DB Training
	Further training module on energy saving for train drivers	Bastian Dietzel, DB Training
	Communication through effective presentation for railway managers	Alstom
	ETCS - Digital language training app, for English ETCS vocabulary	Carina Schnellbacher, DB Training
	Railway focused English for managers (meeting orientated, chat)	Carina Schnellbacher, DB Training
	Railway focused English for Engineers (technical orientated)	Richard Kayser, TU Dresden
	ETCS (IGEC1144)	Patricia Nieto, UDI, SNCF
	ETCS - Basic seminar European meaning and technic of ETCS	Bastian Dietzel DB Training
ETCS - Common Training concepts and materials	Patricia Nieto, UDI, SNCF / Bastian Dietzel, DB Training / Natasa	



	ETCS - Simulator based Training Concepts for ETCS	Bastian Dietzel DB Training
	ETCS - Digital Learning Programme for further Training	Bastian Dietzel DB Training
	Advanced train the trainer for railway professionals	ÖBB; Siegfried Baumgartner
	Communication skills for railway managers	Alstom
	Template for railway language glossary	Carina Schnellbacher, DB Training
	Universal template for language learning material	Carina Schnellbacher, DB Training
	Language courses with a focus on cross border operation	Richard Kayser, TU Dresden
	Language courses with a focus on cross border operation	Richard Kayser, TU Dresden
	language training integrated into vocational training for railway professionals	Carina Schnellbacher / Arpad Domjan, Deutsche Bahn AG
	(Self) Language training with AI	Richard Kayser, TU Dresden
	Organization of professional group-specific international Learning trips	Carina Schnellbacher / Arpad Domjan, Deutsche Bahn AG
	Communication skills for railway managers - positive power and influence	Alstom
	Target group specific use of foreign language (easy language...)	Carina Schnellbacher, DB Training
	Training for operational use of AI solutions	Richard Kayser, TU Dresden Nataša Jovanović "Infrastructure of Serbian Railways" JSC
	Training programme for necessary foreign languages	Richard Kayser, TU Dresden
	Trainee programme: Cross-border Train Driver	Bastian Dietzel DB Training
	advanced understanding of European railway and organisational structure	Richard Kayser, TU Dresden
	Training for leading staff on trainee bonding	Carina Schnellbacher, DB Training

5.2 Implementation of Mobility Programmes (Task 6.2, 6.3 and 6.4)

In order to strengthen European railway unity and create a European railway mindset, it is important that employees will participate in mobility programmes throughout Europe, as a natural part of every VET. Furthermore, such programmes will increase the attractiveness of the apprenticeships, operational professions, or railway-specific degree programmes.

Apart from the exchange programmes it became clear that a platform for European internships in the railway sector is missing. We recommend the creation of a website and further elaboration of the template in order to create a uniform framework for internships in the rail industry.

The templates regarding the exchange programmes for:

- Apprentices (Task 6.3)
- Students (Task 6.2)
- Operational Staff (Task 6.4)

serve as a basis for uniform European mobility programmes and should be further elaborated in Task 6.2, 6.3 and 6.4.

The template regarding the student internships needs further development in Task 6.2.

5.3 Implementation of CBR Conferences (Task 6.4 and 6.7)

As there is a lack of communication on the management level in the rail industry, Task 4.4 recommends the implementation of CBR Conferences. The templates serve as a basis for the further development of the conferences. To ensure funding, we recommend creating an organisation that plans and holds the CBR specific conferences. It is crucial to see the organisation of CBR Conferences not as a one-off event, but as a permanent institution and driver of cross-border communication.

Further information can be found in the templates which will be further developed in Task 6.4 and Task 6.7.

5.4 Implementation of Academic Modules (Task 6.6)

Studying railway specific study courses is not always the most attractive for young people. To increase the attractiveness, it is on one hand necessary to offer exchange programmes and internships for students. On the other hand, more attractive courses and study programmes are the key to attract more students for studying rail.

The result document serves as an idea pool for the academic partners to provide new courses or arrange guest lectures in already existing modules. The idea of European rail summer schools is also important. These could be implemented in the very short term, increase the attractiveness and support the European mindset. Further development will take place in Task 6.6.

5.5 Short Summary of Task 4.4

Based on the results of the preliminary work, Task 4.4 was able to identify a large number of requirements for education and exchange between rail companies and the qualification of young professionals for the rail manufacturing sector. The result documents serve a pool of suggestions for the concrete implementation of programmes in WP 6



6 EXAMPLES

In the following you will find one explained template of each field. The parts with the dots (...) are to be filled in by the partners during the further elaboration of the contents in WP 6. Please note: The list of identified topics only reflects the title of the measure. For the sake of clarity, a detailed description of the content, the media used, and the target groups has been omitted. This information is described in the document 'List of Modules'. Excerpts from the table are given as examples at the end of each description of the identified programmes. the exact specifications of the individual modules can be found in the table below (20221125 List of Modules.xlsx). Missing specifics will be requested in the course of implementation in Tasks 6.x via the idea providers listed in the table.

6.1 List of Modules

The document "List of Modules" contains specific information on the different suggestions made by all the partners. It is also based on the results of WP 2/3 and that is why it can be filtered regarding the identified subjects in those WPs. You can also filter the subjects regarding to the relevance of the Tasks in WP 6. It is also possible to filter the contents regarding the type of format which should be used during the implementation. E.G., bachelor degrees, lectures, workshops or classroom trainings.

To navigate through the file there are many dropdown options which may be used.

Example of filtering options:

Subjects	Please fill in your name and Organisation	Please fill in the title of your programme (a draft title is sufficient at first)
----------	---	---

6.2 Training Programmes

STAFFER – Training Programme

LANGUAGE AND COMMUNICATION

PROGRAMME DESCRIPTION

General Approach:

The training programmes from Task 4.4 were developed using the results of Work Package 2 and 3. Thereby the results of Tasks 4.1, 4.2 and 4.3 were taken into account in the development. The listed trainings were proposed and compiled by the partners involved.

The whole list of training modules contained 67 suggestions which were divided into 4 groups:

- Technologies and Digitalisation
- European Railway Mindset and Skills
- European Railway Operation
- Language and Communication

Content of the Document:

In this document you will find the modules regarding the topic 'Language and Communication' divided in three subtopics:

- Communication Skills
- Foreign language skills
- Artificial Intelligence Language Solutions

A first suggestion regarding the importance of the programmes can be made according to the quality check criteria's shown in the Excel-table "List of Modules". Further information to the content and the content creators can be found in document "List of Modules". A picture of the table is in the appendix of the document.

The file contains recommendations to be implemented during the following work packages (6.1-6.7). The dots (...) will be completed in WP 6.]

Next Steps:

The description of the trainings should be checked in terms of quality and meaningfulness by the idea providers. The list of products should be checked for completeness of topics. Additions are welcome at any time.

General description of the Training Programme results structure (Similar in all 'Training Programme' documents)

Explanation of ongoing steps (Similar in all 'Training Programme' documents)



Naming of subcategories

CLUSTERS AND SUBCATEGORIES

Categories of the Programme (Subjects)	<p>Language and Communication</p> <ul style="list-style-type: none"> • Communication skills • Foreign language skills • Artificial Intelligence Languages Solutions
--	---

OVERVIEW OF THE CONTENT FOR FUTURE TRAINING PROGRAMMES

Communication skills	<ul style="list-style-type: none"> • Intercultural awareness in European Railways • Communication and social interaction in European context • Communication through effective presentation for railway managers • Communication skills for railway managers • Communication skills for railway managers - Positive power and influence • Target group specific use of foreign language (easy language...)
Foreign language skills	<ul style="list-style-type: none"> • Railway focused English for engineers (technical orientated) • Railway focused English for managers (meeting orientated, chat, ...) • Language courses with focus on cross border operation • Language training integrated into vocational training for railway professionals • Organization of professional group-specific international learning trips • Template for a railway language glossary • Universal template for language learning material • ETCS - Digital language training app, for English ETCS vocabulary
Artificial Intelligence Languages Solutions (Trends)	<ul style="list-style-type: none"> • (Self) Language training with AI • Training for operational use of AI solutions

Content of subcategories
(Actual Training Programmes suggested by all partners)





LIST OF MODULES - LANGUAGE AND COMMUNICATION

Reference	Please fill in your name & Organisation	Please fill in the title of your programme & all title in column of facts	Which kind of format to appreciate for your train?	Which kind of setting to your programme or in which shape							Please describe the achieved aim of your organisation	Please give us more keywords for a context of your organisation	
				Classroom	Workshop	Online	Blended	Self-paced	Microlearning	Mobile			
Communication skills	Infancia, Avenida Fies	Communication and social interaction in European context	Classroom Training								Training programme	This ability is only obtain alongside with the experience alongside in the different job environments, but it would be interesting to develop and structure in early career and job placement	Ability to listen and interact with colleagues and clients (including the handling of complaints). Ability to communicate in a proper and professional way about how to solve problems, describe and solve in a European context in a clear short
Foreign language skills	Marilly Anasikov "Internationalism of Sector Railway" (IC)	Course for English language	Virtual Course (training via internet)								Training programme	Obtaining knowledge related to English language	Listening English, communication
Foreign language skills	Marilly Anasikov IC	Course for foreign language	Virtual Course (training via internet)								Training programme	Obtaining knowledge of new language	communication
Communication skills	Alison	Discourse presentation	Virtual Course (training via internet)								Training programme	improve presentation skills in front of an audience	Communication
Foreign language skills	Peter Hagen, TU Dresden	English for Engineers	Classroom Training								Training programme	English language related to railway specific and engineering English	Engineering English
Communication skills	Alison	Advertising skills for Managers	Classroom Training								Training programme	The H1000 Course is a step towards a world-wide network for Managers	Communication
Foreign language skills	Peter Hagen, TU Dresden	Language courses with a focus on cross-border cooperation	Classroom Training								Training programme	Obtaining the knowledge of a foreign language for the railway industry	Occupation based language training
Foreign language skills	Peter Hagen, TU Dresden	Language courses with a focus on cross-border cooperation	Digital Training (VET, VR, AR)								Training programme	Obtaining the knowledge of a foreign language for the railway industry	Occupation based language training
Foreign language skills	Carla Schindler, IAPAD/Contra, Deutsche Bahn AG	Language training integrated into vocational training for railway professionals	Classroom Training								Training programme	Course in EU wide standard of Language Modules for railway professionals in national and international training scenarios, before taking on these and further tasks also are participating in a language course that helps to study independently in German. The use of it will help to provide further feedback. Despite the training scenario and the independent language training. This is meant as a successful transition to a new system	Integrated Occupation based language training
Individual intelligence Language SubArea	Peter Hagen, TU Dresden	Language training with AI	Virtual Course (training via internet)								Training programme	Course in EU wide standard of Language Modules for railway professionals in national and international training scenarios, before taking on these and further tasks also are participating in a language course that helps to study independently in German. The use of it will help to provide further feedback. Despite the training scenario and the independent language training. This is meant as a successful transition to a new system	Artificial intelligence, language training
Foreign language skills	Carla Schindler, IAPAD/Contra, Deutsche Bahn AG	Module Language courses (developed with a focus on cross-border cooperation)	Classroom Training								Training programme	Development of an European standard and presentation of cross-border cooperation	Prevention of international cooperation through national, European and international cooperation
Foreign language skills	Carla Schindler, IAPAD/Contra, Deutsche Bahn AG	Optimization of professional competences international cooperation	Learning tool								Training programme	Learn how to have a higher influence over relevant digital tools in the work environment	Communication
Communication skills	Alison	Positive press and influence	Virtual Course (training via internet)								Training programme	Learning about the use of tools to improve effectiveness of press and acceptance of new technology	Communication
Individual intelligence Language SubArea	Peter Hagen, TU Dresden	Training AI solutions	Classroom Training								Training programme	Training staff in the use of tools to improve effectiveness of press and acceptance of new technology	Artificial intelligence, language training
Foreign language skills	Marilly Anasikov "Internationalism of Sector Railway" (IC)	Training programme for necessary foreign languages	Classroom Training								Training programme	Provision of language courses materials to optimize language communication skills for railway staff	language training

20221006 STAFFER Task 4.4 - Training Programme - Language and Communication

Excerpt from the List of Modules. The list contains further information of the programmes matched to the subcategories.

6.3 CBR Conferences

STAFFER – Template No.1 for Collaboration Conferences

EUROPEAN CBR CONFERENCE - HUMAN RESOURCES

Short description of the idea
how to organise the conferences

PROGRAMME DESCRIPTION / CONCEPT PROPOSAL

The conference (or Workshop) is getting implemented to discuss human resource related topics in order to increase the employability and efficiency of CBR staff.

The conference can be held remote, but it should preferably be in person. We would advise that the planning of the conference is taken over by a company or organisation which takes care of the administration of the financial resources as well as the assignment of the specific tasks. A permanent institution should be created, which is also financed from the partners' funds. The strategic objective must be worked out at a first constitutional meeting. The participating organisations determine the rules of procedure and the organisational framework. Online conferences can be an option to minor the costs.

It would be appreciated, that each year, a different company or organisation is hosting a theme-specific conference in its own country. All participating partners pay an annual membership fee for the realisation of the conference, so that every partner has the opportunity to arrange conferences.

A detailed description of the contents can be found in the Excel-document "List of modules". A screenshot of the list can be found in the appendix.

The contents presented were developed as a concept from the results of the previous work packages in accordance with the project mandate. The development of the contents is the responsibility of the tasks 6.x. For this reason, the content is limited to examples. The entry "(...)" refers to the need for more in-depth elaboration in the course of implementation in the respective Tasks 6.x.



CONCEPTUAL FRAME

Target Group	Railway industry staff in leading HR positions and interested partners
Durance	1-2 days
Content (Example for content)	<ul style="list-style-type: none"> • Language topics <ul style="list-style-type: none"> ○ Best Practices to solve the language problem in CBR ○ Between lingua franca and targeted solutions in railway language ○ Common language in international railway communication ○ (...)

Target group and frame data

20221006 European CBR Conference - Human Resources



Co-funded by the European Union
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Topics to be discussed during the conference (suggestions of all partners)

	<ul style="list-style-type: none"> • Hr development <ul style="list-style-type: none"> ◦ European mindset ◦ Specific skills related to CBR ◦ New leadership models ◦ Transfer of knowledge in context of demographic change ◦ Securing critical knowledge ◦ Catalogue of best practices and training development • (...)
Number of Participants	At least one qualified Staff member from every participating partner
Cycle	1 per year
Location	The next responsible partner chooses a location for the next conference
Further organisation	<ul style="list-style-type: none"> • To be filled in • (...)

Further frame data

OBLIGATIONS – COMPANIES AND PARTICIPANTS

Obligations of hosting company / organisation	<ul style="list-style-type: none"> • Organisation of conference rooms / catering • Planning the Agenda and topics • Must responsibly work with the money and present a statement of costs after the conference • (...)
Obligations of the sending company / organisation	<ul style="list-style-type: none"> • pays accommodation and bears other travel costs of the participants • (...)
Obligations of the participants	<ul style="list-style-type: none"> • Must actively contribute to the success of the conference • (...)

FRAMEWORK – MONETARY AND EMPLOYMENT LAW

Monetary framework	<ul style="list-style-type: none"> • A fund with financial resources is created from which the organising company receives funds to book conference rooms and catering • Funds to remunerate working time invested in planning are not provided • (...)
Founding Model	<ul style="list-style-type: none"> • Every partner pays a certain membership fee annually into the fund <ul style="list-style-type: none"> ◦ The organising company can demand an additional participation fee





Excerpt from the List of Modules
with further information
(basis of the produced results)

DETAILED INFORMATION ON IDEAS PROVIDED BY STAFFER PARTNERS

Subjects	Please fill in your name and Organisation	Please fill in the title of your programme (a draft title is sufficient at first)	Please describe the achieved aim of your suggestion
Communication in Cross-Border-railway	Eckhard Voss, wmp	Between lingua franca and targeted solutions in railway language	Determining foreign language requirements for different occupational groups involved in cross-border railways
Vocational education	Reymund Weitzel, DB	Concepts for implementation of simulators in Existing train driver training	Exchange of experience on the introduction of driving simulators in the qualification and further training of train drivers
European Collaboration Skills	Mickaël Bregeon, CÉSI	Inclusive "Buddy system"	Enabling every employee to "walk in the shoes" of somebody from a different background as theirs
Communication in Cross-Border-railway	Carina Schnellbacher / Arpad Domjan, Deutsche Bahn AG	Organization of professional group-specific international workshops (Consultation)	Update for Quality in language adaptations and railway specific sets of rules (language)
Vocational education	ÖBB, BCC, f. RCG-Anja Steiner	Securing critical knowledge in operating railways	Understanding how to structure and proceed with knowledge transfer
Technical innovations in the railroad	Manfred Dahr DB Fernverkehr, P.FBT-TK	Workgroup to define the best effort between the human factor and digital skills/methods	human factor vs. Digitalisation
Vocational education	Vito Pagliarisi, FS	Workshop related to HR development and new leadership models	To create a leadership model for cross boarder railways. Spread, dynamic leadership for impacted roles
European Collaboration Skills	ÖBB, HO	Collaboration in Cross Border Railway	Develop European Mindsets and related skills and competences in the field of cross-border railways and international railways



6.4 Mobility Programmes

STAFFER – Template for Mobility Programmes

APPRENTICES EXCHANGE PROGRAMME

PROGRAMME DESCRIPTION

Aim of Programme:

The programme serves as an intercultural and linguistic exchange within the framework of training in a railroad company. It is intended to enable the identification and intercultural openness of employees in railroad professions. The programme is to be implemented primarily abroad.

The intercultural, cross-border exchange of vocational trainees is a prerequisite for awakening the willingness and interest of as many people as possible to become involved in a European cross-border context. The goal is to break down inhibitions and arouse interest in order to increase the number of applicants for cross-border traffic in the future. In contrast to the current situation, intercultural and professional exchange should thus become more of a matter of course in the professional life of railway employees.

Making mobility a realistic possibility for any learner and supporting development of professional networks across Europe strengthens the European dimension of teaching and learning.

Organisation:

The exchange is agreed and organised bilaterally between two companies. During the exchange both companies send and receive participants. The partners can be rail companies, manufacturers, or training providers. Both partners agree with each other on the time slot, the number of participants and the specific content. If possible 1 to 1 partnership between apprentices should be implemented. There is also need for an academic task during the exchange. It can be several tasks abroad, a report afterwards or a combination of both. Please note that not all STAFFER partners are EU-Members.

A possibility to give feedback must be given to increase the quality of the programme.

Development of the content:

The contents presented were developed as a concept from the results of the previous work packages in accordance with the project mandate. The development of the contents is the responsibility of the tasks 6.x. For this reason, the content is limited to examples. The entry “(…)” refers to the need for more in-depth elaboration in the course of implementation in the respective Tasks 6.x.

Aim of the Programme and very basic description of the organisational framework

	<ul style="list-style-type: none"> • Getting to know the host <u>company</u> • Exchange with colleagues of the company • Participation in the regional, usual life • Visiting interesting tourist locations • (...) • (...) • (...) <p>Profession Specific Content:</p> <ul style="list-style-type: none"> • (To be defined for certain professions) • (...)
Number of Participants	Up to XX Participants

Frame data (suggestions) and
Examples for content



LEARNING AIMS AND REQUIRED PRECONDITIONS

Learning aims	<ul style="list-style-type: none"> • Networking with colleagues • Perception of cultural differences and similarities • Improve learning <u>performance</u> • Enhance employability and improve career <u>prospects</u> • Increase sense of initiative and entrepreneurship • Increase self-empowerment and <u>self-esteem</u> • Improve own foreign language skills and digital <u>competences</u> • Enhance intercultural <u>awareness</u> • More active participation in society • Enhance positive interactions with people from different <u>backgrounds</u> • Better awareness of the European project and the EU values • Increase motivation for taking part in future education or training after the mobility period <u>abroad</u> • (...) • (...) • (...)
Required preconditions	<ul style="list-style-type: none"> • Willingness to engage in intercultural <u>exchange</u> • First contact with required language <u>absolved</u> • PPE (personal protective equipment) in case of field trips • (...) • (...)

Detailed description of
learning aims



Obligations of companies and participants
(regarding legal framework for minors)

OBLIGATIONS – COMPANIES AND PARTICIPANTS

<p>Obligations of the receiving company</p>	<ul style="list-style-type: none"> • Implementation of the programme in compliance with the described framework conditions • The host company organises accommodation and meals for the participants and bears the costs. • The company provides a contact for the group who has the necessary language skills. • (–) • (–) • (–)
<p>Obligations of the sending company</p>	<ul style="list-style-type: none"> • The sending company involves the responsible works council • The sending company organises the trip and bears the costs for travel to and from the company • The sending company agrees to support a corresponding return visit in return for sending its own employee • The sending company provides a technical supervisor and contact person for the participants • (–) • (–) • (–) • <p>In Case of minority of participants:</p> <ul style="list-style-type: none"> • The sending company provides an adult supervisor on site for the duration of the program • (–) • (–) • (–)
<p>Obligations of the participants</p>	<ul style="list-style-type: none"> • Bring along the necessary workwear and safety shoes • Conclusion of private and official liability insurance • Conclusion of a foreign health insurance (EU-Wide health insurance) • (–) • (–) • (–) <p>In Case of minority of participants:</p> <p>Declaration of consent of the legal guardian</p>

Monetary framework and forms/documents to be filled in in advance

FRAMEWORK – MONETARY AND EMPLOYMENT LAW

<p>Monetary framework</p>	<ul style="list-style-type: none"> • The participant does not receive a salary from the host company during the programme. • The costs of travel to and from the event shall be borne by the participant (company) • Travel Budget Support • Housing Budget Support • Individual Budget Support • Travel Insurance Budget Support • (...) • (...) • (...)
<p>Employment law framework</p>	<ul style="list-style-type: none"> • The daily working time is 7 hours, in exceptional cases up to 10 hours, associated with a timely compensation of the working time. • The working hours are observed on average. There is no overtime during the Mobility Program. • (...) • (...) • (...) <p>In Case of minority:</p> <ul style="list-style-type: none"> • In the case of minors, employment is only between 8am and 6pm. • (...) • (...)
<p>Some forms and applications to be prepared, filled, and signed</p>	<ul style="list-style-type: none"> • Inter-institutional Agreement • Apprentice Application Form • Apprentice Evaluation (by the host institution) • Health Form (Confidential) • Guidance on Crisis Management/Crisis Contact List • Insurance for Apprentices

6.5 Academic Modules

STAFFER – Academic Programmes

OVERVIEW ON ACADEMIC PROGRAMMES

ADDRESSED TO TASK 6.6

GENERAL DESCRIPTION / CONCEPT PROPOSAL:

The academic programmes described in the following table were developed in cooperation with our partners, in particular the FH-Erfurt. They got assigned to 11 different categories. Some categories (e.g., guest lectures) can be implemented more quickly, which is why the sorting within the table is ordered according to the feasibility of implementation.

We recommend that certain courses get put together to create specialisations or even new degree programmes. To create a European mindset already during the study period we recommend starting a European Summer School Programme for railway engineers. The idea is to create a format which can easily be adapted by other universities to implement more and more summer schools with different Cross-Border-Rail related topics in the future. The allocation of the programmes is only a recommendation and can be changed during the following tasks.

The list which includes 32 entries serves as a source of ideas for universities and other higher education institutions. The implementation of the respective programmes is the responsibility of the academic partners.

Some suggested topics can be implemented in different formats. That's why they are mentioned in different categories. The sources of the data are the suggestions of our partners in the Excel table. There is a screenshot attached.

The contents presented were developed as a concept from the results of the previous work packages in accordance with the project mandate. The development of the contents is the responsibility of the tasks 6.x. For this reason, the content is limited to examples. The entry "(...)" refers to the need for more in-depth elaboration in the course of implementation in the respective Tasks 6.x.

Brief overview of the compilation of results

Proposal for further actions

Ideas of partners matched to different formats (suggestions)

DESCRIPTION OF THE COURSES

Categories	Title of the programme	Name of initiator / organisation
Guest lecture as part of a study course	Communication and presentation skills (B1041A040001)	Vitek Malinovsky, CTU in Prague
	Cybersecurity (23KYB)	Vitek Malinovsky, CTU in Prague
	Innovative traction systems	Luca Bizzetto, UNIROMA1
	Selected problems of ecology in transportation (3708V009)	Vitek Malinovsky, CTU in Prague
Post-graduation study course (Single elements of the post-master course can be implemented as a study course as well)	Post-Master course "railway infrastructure and systems engineering"	Luca Bizzetto, UNIROMA1
Study course (a single course during a degree programme) → All mentioned ideas, except the Master Programmes could be implemented as Study courses. Courses marked in other sections don't get mentioned here	Advanced telematic applications (N 3710)	Vitek Malinovsky, CTU in Prague
	Basics of resource planning and dispatching	UASFHE
	Intelligent Transport Systems (N1041A040007)	Vitek Malinovsky, CTU in Prague
	Modern techniques of safety control of moving railway vehicles (N1041A040006)	Vitek Malinovsky, CTU in Prague
	Modern ways of securing of railway transport carriages (N1041A040007)	Vitek Malinovsky, CTU in Prague
	Process automation in transport telematics	Richard Kayser, TU Dresden
	Railway security systems (3711T004)	Vitek Malinovsky, CTU in Prague
	Railway system design – international comparison	UASFHE
	Railway vehicle technology	UASFHE
	Software verification (or Safety) engineer / Master course / Formal methods / posterior formal model-checking	Sebbi Mouelhi, ESTACA
	Technology and security of sensor network (N1041A040007)	Vitek Malinovsky, CTU in Prague
	Telematic systems and their design (N1041A040007)	Vitek Malinovsky, CTU in Prague



Study related project (a project during a degree programme, a course, or a master/bachelor thesis)	BIM & digital twin specialisation (master's degree in building project management)	Mickaël Breton , CESI
	Combined freight transport (B 3710)	Vitek Malinovsky, CTU in Prague
	Computer aided railway traffic control (N1041A040006)	Vitek Malinovsky, CTU in Prague
	Methods in Data Analytics	Richard Kayser, TU Dresden
	Rail freight services	UASFHE
Summer School for students (As an integrational part of a study programme with ECTS (e.g., as an elective or as single event))	BIM & digital twin specialisation (master's degree in building project management)	Mickaël Breton , CESI
	Cyberality (23KYB)	Vitek Malinovsky, CTU in Prague
	Design and Interoperability of the European railway systems	UASFHE
	Methods in Data Analytics	Richard Kayser, TU Dresden
	Scientific English	Vitek Malinovsky, CTU in Prague
Specialisation during a degree programme (Students focus on a certain field during their Studying. By electing a specialisation students choose multiple courses at one time)	BIM Bachelor	Mickaël Breton , CESI
	Combined freight transport (B 3710)	Vitek Malinovsky, CTU in Prague
	Digitalisation in Railway Systems	UASFHE
	Environmental aspects of transport (B1041A040001)	Vitek Malinovsky, CTU in Prague
	Selected problems of ecology in transportation (3708V009)	Vitek Malinovsky, CTU in Prague
Programme related to EQF 5	BIM Bachelor	Mickaël Breton , CESI
	Design and Interoperability of the European railway systems	UASFHE
	Innovative traction systems	Luca Bizzetto , LINIBOMA1
	Intelligent Transport Systems (N1041A040007)	Vitek Malinovsky, CTU in Prague
	"Modern techniques of safety control of moving railway vehicles (N1041A040006)"	Vitek Malinovsky, CTU in Prague



Further suggestions and matching



	Modern ways of securing of railway transport carriages (N1041A040007)	Vitek Malinovsky, CTU in Prague
	Railway vehicle technology	UASFHE
	Selected problems of ecology in transportation (3708V009)	Vitek Malinovsky, CTU in Prague
Bachelor's degree programme (To be created using different modules from above)	(...)	(...)
Master's degree programme	Engineering Degree - Electronic Systems - Railway Signalling Apprenticeship Training Programme	Khaled ITANI, CNAM
	Electric Transport Systems (Elektrische Verkehrssysteme)	Richard Kayser, TU Dresden
	Electric Transport Systems (Elektrische Verkehrssysteme)	Richard Kayser, TU Dresden
	European Railway Systems	UASFHE
	European Railway Systems	UASFHE
Certificate course (Further education)	BIM Bachelor	Mickael Bregeon, CESI
Part time post-graduation course	e.g., Master European Rail Systems	Thomas Kämpfe FH-Erfurt

Further suggestions and matching



