STAFFER
EUROPEAN RAIL SKILLS ALLIANCE
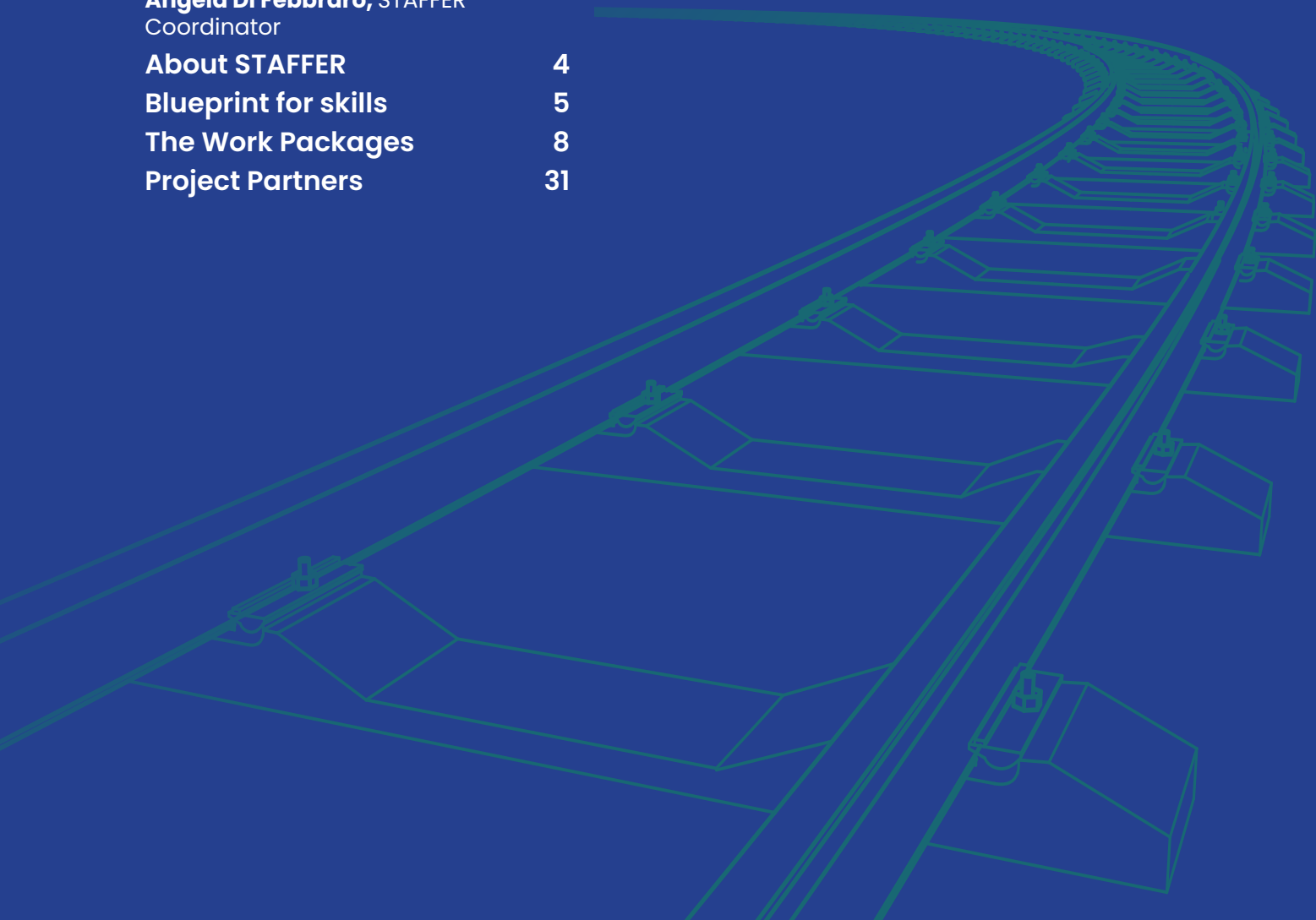
Mid-term Report

October 2022

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Foreword

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STAFFER Coordinator

STAFFER is the **Erasmus+ Sector Skills Alliance for Rail** gathering 31 full partners and 15 associated partners from 13 EU countries and from the different parts of the complex rail world: infrastructure managers and operators, industry suppliers, educational institutions, and other different associations and organisations. The project started on 1 November, 2020, upon approval by the EU Education, Audiovisual and Culture Executive Agency (EACEA) and runs over four years.

STAFFER was thought of as a framework for strategic cooperation among the different key stakeholders of the rail sector, and aims to establish a stakeholder partnership, the Skills Alliance, to develop a holistic Blueprint strategy to recognise present and new skill needs suitably and timely, and contribute to achieve the Single European Rail Area.

Upon the identification of current and future skills and competence needs for the whole complex rail system, suitable training and education paths and curricula will be designed, developed, and validated for effectively increasing employability and career opportunities. STAFFER is defining a long-term and sustainable strategy to fill the gap between supply of and demand for a suitably skilled workforce. Finally, a long-term action plan will be developed and endorsed to roll-out at the different territorial levels.

STAFFER was designed in three phases. The first phase was the **skills identification,** which during the first year of the project defined, under a unique methodological umbrella, the view of the future rail sector and the relevant skill needs identification.

The second phase is the **mobility and training programmes design and implementation**, which runs for the entire duration of the project, and has the crucial and articulated objective of developing and implementing suitable mobility and training programmes to cope with diverse skill needs. At this mid-term point milestone of the project, STAFFER is well inside this phase, completing both the definition of suitable programmes and the assessment of employability and career opportunities, and preparing for their implementation and validation during the next two years of the project.

In parallel, the third phase, the **definition and implementation of a rail sector strategy** will run until the end of the project.

In summary, STAFFER is expected to deliver human capital solutions for all levels of the rail value chain, gaining the holistic view of the sector as a system of systems, contributing to unify the European rail world.

Angela di Febbraro

About STAFFER

Context

In 2019, a European Commission Study on the Competitiveness of the Rail Supply Industry identified the "promotion of the development of skills and safeguard of access to skilled labour" as one of the main action fields for ensuring Europe's rail supply industry's leadership.

According to this study, "the supply of technical engineers may become a bottleneck in maintaining the competitive position of the EU rail supply industry". It even states that "combined with a decreasing workforce due to ageing, perception of an unattractive sector, and changing skill requirements due to the digital transformation, it is expected that this skills shortage could increase in the near future". These mounting challenges necessitate action without further delay.

Later that year, the Final Report of the EC Expert Group on the Competitiveness of the EU Rail Supply Industry confirmed that "in view of the ageing population, a significant cohort of employees is expected to retire within the coming years. At the same time, transformation related to digital and high-tech technologies creates mismatches between available and demanded skills. Already now, enterprises in many Member States are reporting difficulties to find railway engineers".

By the end of 2019, following these discussions held within the EC Expert Group on the Competitiveness of the EU Rail Supply Industry, it was clear that these weaknesses must be addressed immediately. In response, the Commission shortlisted the rail industry as 1 of 6 sectors eligible for the creation of an Erasmus+ Blueprint for Sectoral Cooperation on Skills.

What is STAFFER?

STAFFER is a four-year, European Commission-funded Blueprint project focused on the topic of skills in the rail sector. A large share of the sector's workforce is expected to retire in the next 10 years as it experiences both a severe skills shortage and a need for re/upskilling.

STAFFER will deliver human capital solutions for all levels of the rail value chain, gaining the holistic view of the sector as a system of systems, unifying the European rail world. Coordinated by the University of Genoa, our alliance STAFFER officially started on 1 November 2020 and will last for 4 years.

To ensure that rail is best prepared to meet the transport needs of tomorrow, the consortium is composed of representative key businesses, trade unions, education and vocational training stakeholders and public authorities. Its objective is to help identify the main existing skill gaps and assess the future needs in our industry, Vocational & Education Training (VET) institutions and technical universities to propose adaptations to curricula, training and educational programmes so as to address new technological developments and trends.

Blueprint for skills

The Blueprint for sectoral cooperation on skills was first introduced by the **Skills Agenda for Europe 2016.** Since then the Commission has selected 21 projects under the Erasmus+ programme that are implementing the Blueprint.

They build on previous work by the European Commission and sectoral partners to address sector skills mismatches, in particular the European sector skills alliances.

The European Skills Agenda 2020 has confirmed the Blueprint as a key initiative to create new strategic approaches and cooperation for **concrete skills development** solutions in the industrial ecosystems as introduced by the updated EU industrial policy.

Under the new Erasmus+ programme (2021 – 2027) a new action, the Alliances for Innovation Lot 2: Alliances for sectoral cooperation on skills, is now the tool to implement the Blueprint.

The purpose of the Blueprint is to:

- Gather skills intelligence and feed this into CEDEFOP's Skills Intelligence tool
- Develop a sector skills strategy
- Design concrete education & training solutions for quick take-up at regional and local level, and for new occupations that are emerging
- Set up a long term action plan
- Make use of EU tools e.g. EQF, ESCO, Europass, EQAVET
- Address skills shortages and unemployment

Blueprint Alliances gathers key stakeholders from industrial ecosystems. These stakeholders can include for example:

- business
- trade unions
- research institutions
- education and training institutions
- public authorities
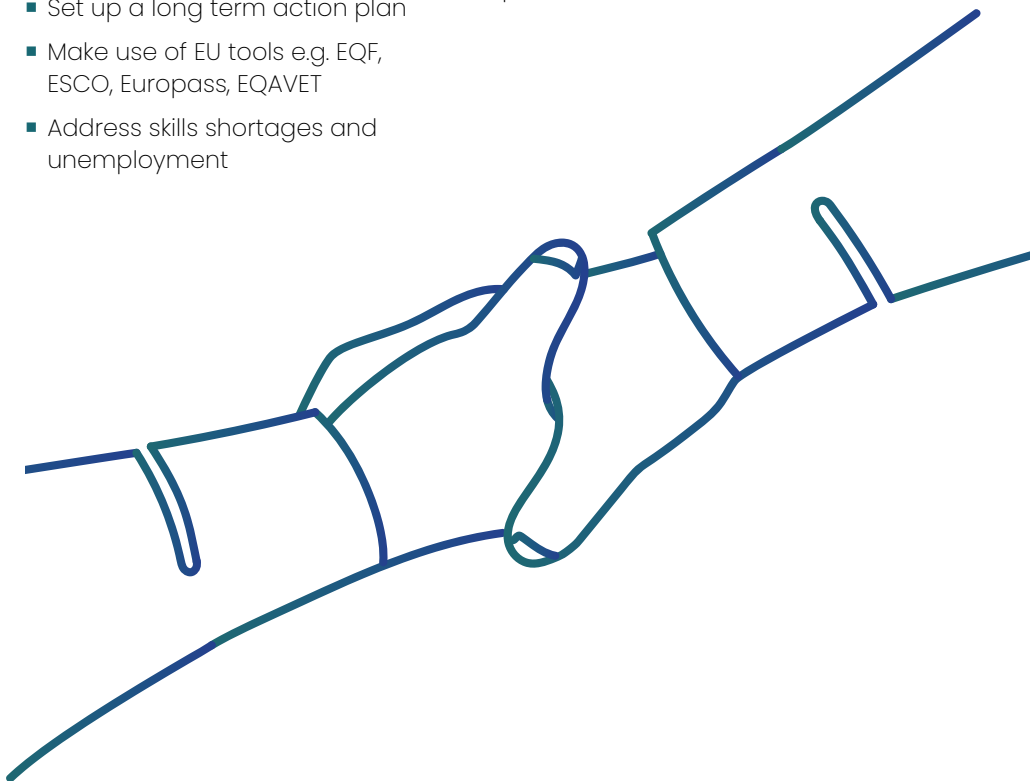
IMPLEMENT EUROPEAN SECTORAL SKILLS PROJECTS

The Commission selects **Blueprint Alliances** through the annual Erasmus+ call for proposals and supports their work with grants. Winning proposals are selected on the basis of the eligibility, award, exclusion and selection criteria.

Each Alliance will develop a **sectoral skills strategy** to support the overall growth strategy for the industrial ecosystem and skills needs.

Partners in Blueprint Alliances will look into how the digital and green transitions are likely to affect jobs and skills needs.

Partners will then **identify priorities and milestones for action** and develop concrete solutions, such as creating and updating curricula and qualifications based on changing or new occupational profiles.

The deliverables of Alliances for Sectoral Cooperation on Skills, i.e. sectoral skills intelligence, skills strategies, occupational profiles, training programmes, and long-term planning, will be an important contribution to the work of the sectoral partnerships that have joined the Pact for Skills.

ROLL-OUT AT NATIONAL AND REGIONAL LEVEL

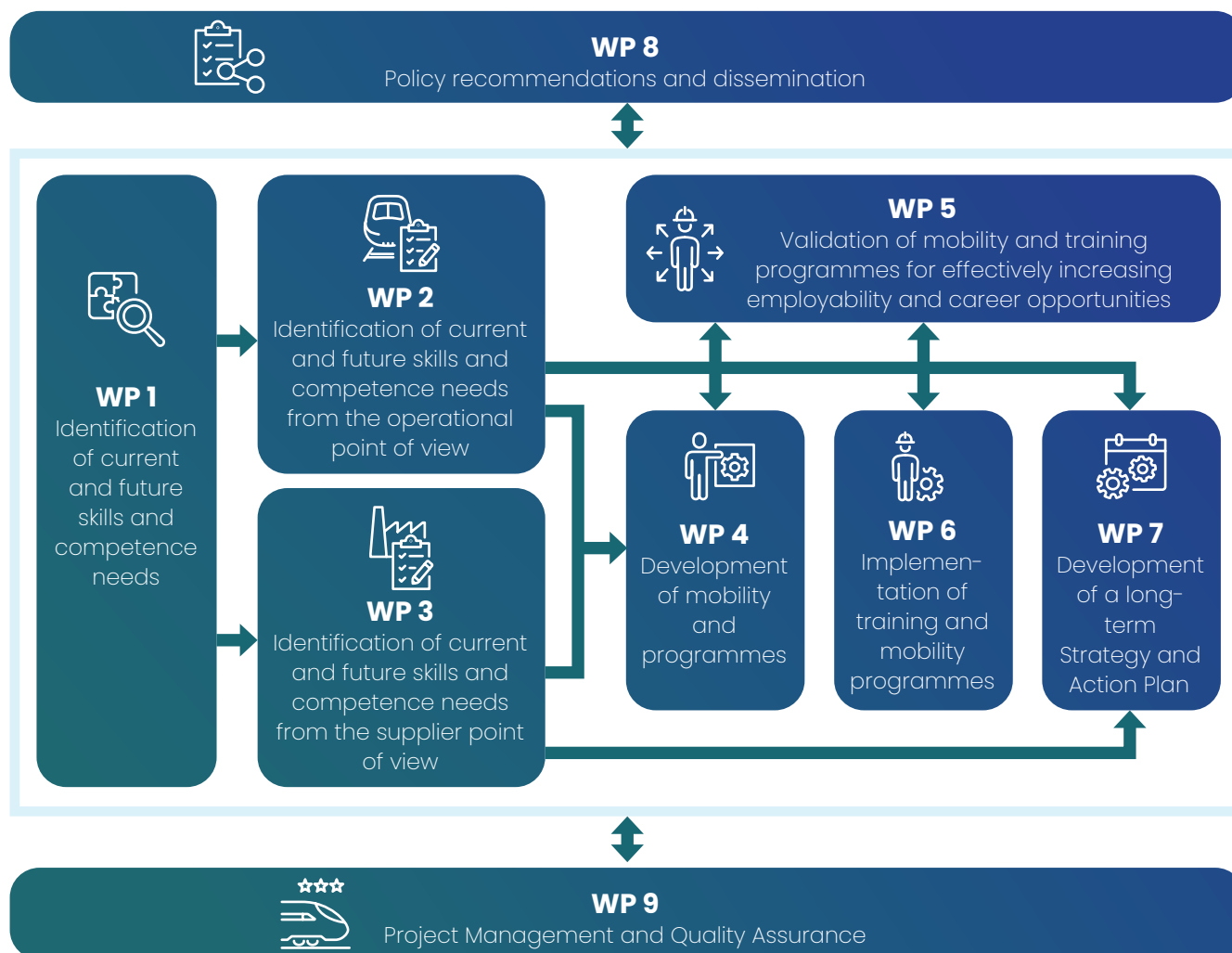Following an implementation plan, which the partnership has to develop, the results of Blueprint Alliances will be **rolled out at national and regional level**, for example through large-scale skills partnerships under the Pact for Skills.

There will also be synergies with other policy frameworks, such as regional smart specialisation strategies, industrial clusters or Centres of Vocational Excellence.

Project Structure

The STAFFER project consists of 9 Work Packages and a total of more than 30 tasks that are implemented under the co-lead of railway suppliers and academic, rail and research partners as well as vocational education and training (VET) institutions.

WP 8
Policy recommendations and dissemination

WP 1
Identification of current and future skills and competence needs

WP 2
Identification of current and future skills and competence needs from the operational point of view

WP 3
Identification of current and future skills and competence needs from the supplier point of view

WP 5
Validation of mobility and training programmes for effectively increasing employability and career opportunities

WP 4
Development of mobility and programmes

WP 6
Implementation of training and mobility programmes

WP 7
Development of a long-term Strategy and Action Plan

WP 9
Project Management and Quality Assurance

The Work Packages

Work Package 1
Identifying skills needs

ABOUT

Work Package (WP) 1 has the difficult task of identifying the current and future skills and competence needs throughout the rail sector. It serves as a methodological umbrella for the skills identification performed by WPs 2 and 3, where the specific views of operators/infrastructure managers and suppliers will be further developed.

The focus is therefore on providing an overview and an introduction of the competence model featuring the four categories of social, technological, domain knowhow, and personal competences. The analysis of skills and jobs will focus on technical skills that go hand in hand with the technical innovations and adaptions in the rail industry on both the suppliers' and operators' sides.
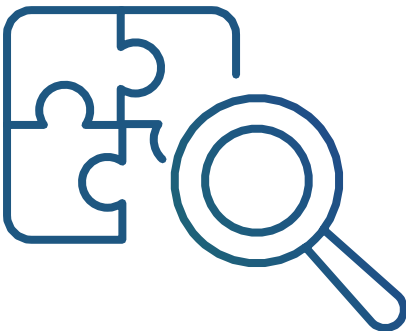
The work will be based on the analysis of existing studies and more in-depth interviews to help assess the skill maturity level of the current workforce and identify skill gaps.

WORK SO FAR

In WP 1, the trends relevant to the railway sector were identified and research on assessment methodology for the evaluation/identification of employees' competencies and skills was conducted.

To identify trends, literature research and a survey of railway operators and suppliers using a questionnaire were carried out. The results and findings of the literature research of 43 sources (projects/studies/initiatives) provided an overall view of the development of the railway sector and showed close interaction of several trends. However, as the individual sources each had a specific focus, only a limited number of trends were identified through the literature research.

This gap was closed in WP 1 by conducting a survey among railway operators and suppliers. Through this, the level of impact of each macro and micro trend in the working field of railway suppliers and operators could be determined. Even though a limited number of responses meant differences between suppliers and operators could not be identified, the survey provided a general insight into perceptions of trends, professional profiles and assessment methods, fulfilling requirements set by project partners.

WP 1 also analysed, through a literature research study, the state of the art of assessment methodologies used to evaluate current available skills of employees and necessary future skills. The analysis highlighted the importance of re-skilling and up-skilling employees impacted by trends such as digitalisation, an increasing complexity of the rail system and new technologies such as data analytics. It also collected assessment practices to provide an overview of what is currently the state of the art for companies and methods for companies to apply to re- and up-skill.

NEXT STEPS

The analyses on assessment methodology carried out in WP 1 provide the basis and links for the comprehensive analyses in WPs 2, 3, and 4.
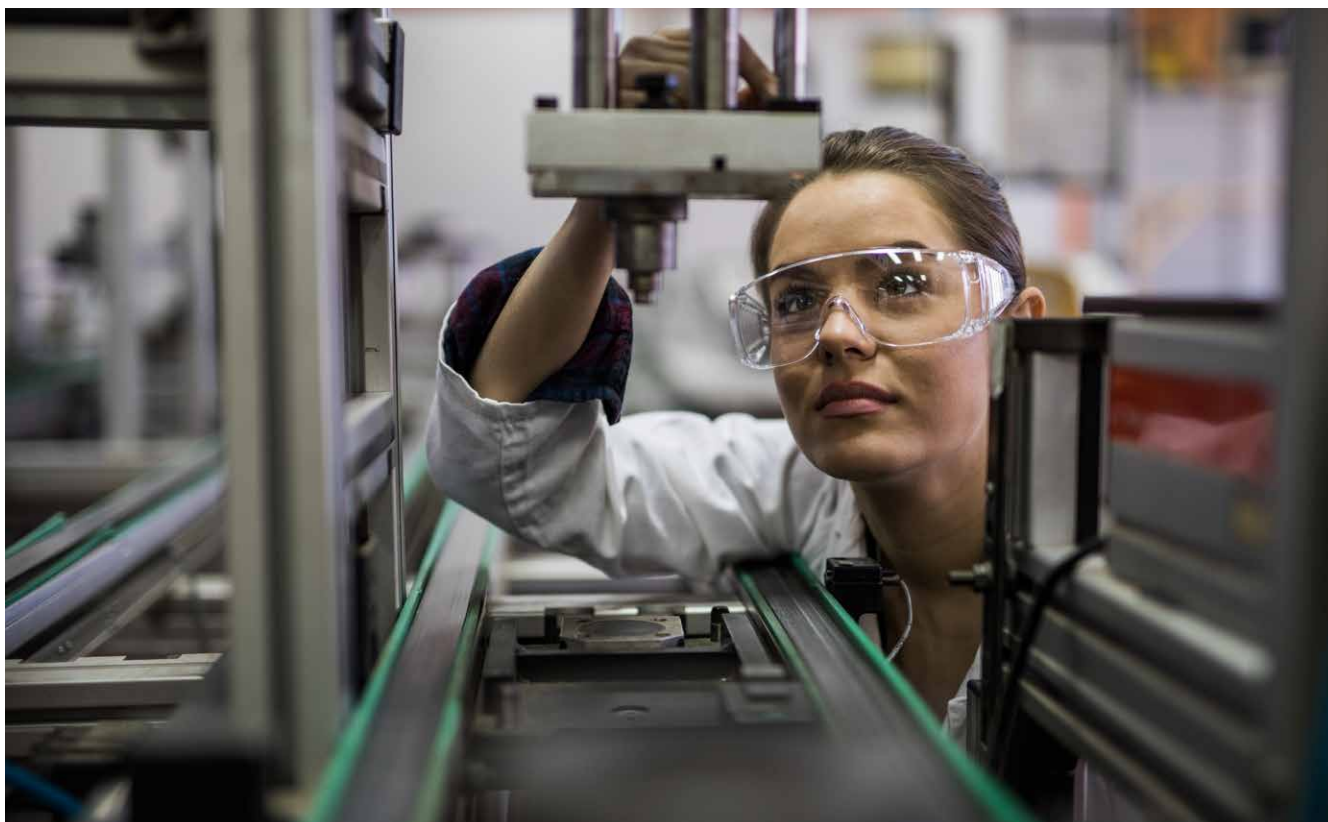
Work Package 2
Assessing operational needs

ABOUT

Alongside the groundwork of WP 1, which covered the whole rail sector, WP 2 focused on main trends and challenges as well as their impact on qualification and skills requirements and changes in railway specific occupational profiles from the perspective of railway operators and infrastructure managers.

WP 2 notably looked at the definition of the future vision of rail considering the trends identified and their specific impact on railway operators and infrastructure managers. Besides taking a general view on railway occupational profiles, the WP paid specific attention to railway personnel involved in cross-border railway activities, including issues related to communication and language in operation and infrastructure management.

WORK SO FAR

In order to learn more about specific challenges and needs as regards future skills and competences that are specific to railway operation, WP 2 focused exclusively on the railway operation and infrastructure management perspective. The research activities were implemented in close cooperation with the 6 railway companies involved in STAFFER as full partners (CFL, DB, FS, IŽS, ÖBB, SNCF) as well as CER, the European Community of Railway and infrastructure companies.

Task 2.1 Future vision of the rail sector from the point of view of railway operators and infrastructure managers

Building on the work done in WP 1, Task 2.1 looked at current and foreseeable future challenges in three areas:

- Cross-border rail traffic, with particular reference to EU rail freight corridors.
- Language and communication issues in cross-border traffic.
- Skills requirements of railway personnel, including trainers and managers as well as skills and competences of professional profiles affected by digitalisation, big data, cybersecurity as well as environmental policies.

For this purpose, a number of research activities were carried out including desk research and focus groups with company practitioners, cross-border railways, rail freight corridors and transnational cooperation.[1]
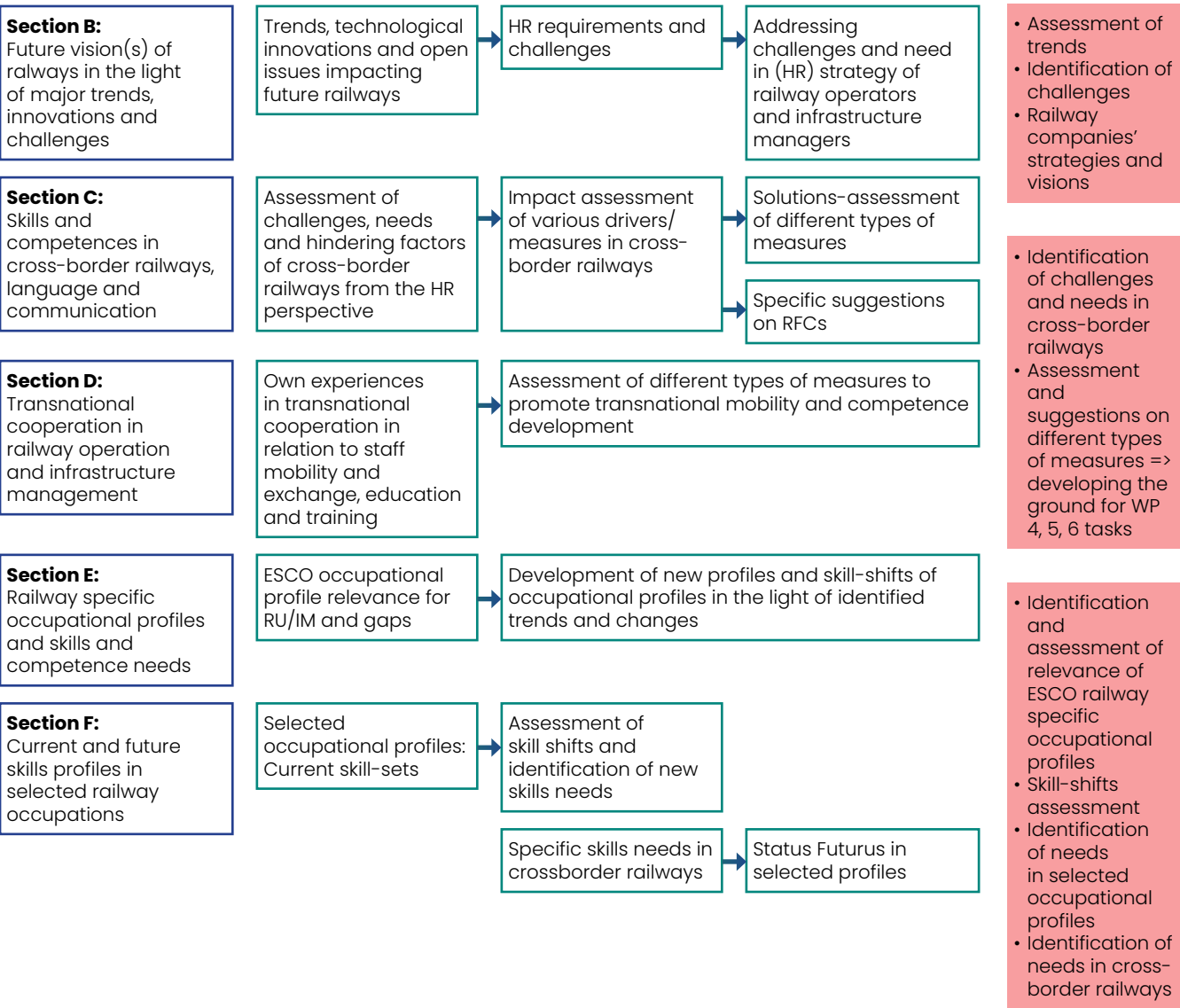
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1 For further details see the results report, Deliverable D.2.1, available on the STAFFER website.

FIGURE 1: STAFFER WP 2: SURVEY LOGIC

Results

| Section B: Future vision(s) of ralways in the light of major trends, innovations and challenges | Trends, technological innovations and open issues impacting future railways | → HR requirements and challenges | → Addressing challenges and need in (HR) strategy of railway operators and infrastructure managers |

| Section C: Skills and competences in cross-border railways, language and communication | Assessment of challenges, needs and hindering factors of cross-border railways from the HR perspective | → Impact assessment of various drivers/ measures in cross-border railways | → Solutions-assessment of different types of measures / → Specific suggestions on RFCs |

| Section D: Transnational cooperation in railway operation and infrastructure management | Own experiences in transnational cooperation in relation to staff mobility and exchange, education and training | → Assessment of different types of measures to promote transnational mobility and competence development |

| Section E: Railway specific occupational profiles and skills and competence needs | ESCO occupational profile relevance for RU/IM and gaps | → Development of new profiles and skill-shifts of occupational profiles in the light of identified trends and changes |

| Section F: Current and future skills profiles in selected railway occupations | Selected occupational profiles: Current skill-sets | → Assessment of skill shifts and identification of new skills needs |
| | | → Specific skills needs in crossborder railways | → Status Futurus in selected profiles |

Results column:
- Assessment of trends
- Identification of challenges
- Railway companies' strategies and visions

- Identification of challenges and needs in cross-border railways
- Assessment and suggestions on different types of measures => developing the ground for WP 4, 5, 6 tasks

- Identification and assessment of relevance of ESCO railway specific occupational profiles
- Skill-shifts assessment
- Identification of needs in selected occupational profiles
- Identification of needs in cross-border railways

Source: STAFFER WP 2 Survey of railway operators and infrastructure managers 2021

Besides these a targeted online survey was carried out that targeted railway operators, infrastructure managers, vocational education and training institutions as well as railway related research institutions. The survey, conducted during May and June 2021 was also promoted by CER and gathered more than 80 responses from 19 European countries.

Survey results revealed additional insights from the perspective of railway operation and infrastructure management on trends, technological innovations and open issues as well as challenges expected to have a major impact on rail by 2030 and beyond. In addition, the survey gathered unique assessments in relation to challenges, hindering factors and HR and skills needed to foster and increase the efficiency of cross-border railways.

Task 2.2 Identification of skill needs and occupational profiles from the railway operators' and infrastructure managers' point of view

In the context of this task, 30 occupational profiles were identified in different domains of railway operation and infrastructure management on the basis of ESCO, the (multilingual) classification of European Skills/Competences, Qualifications and Occupations.

Besides the identification of general skills and competence needs arising from the railway specific trends and drivers of change, an in-depth assessment of future skills needs, and new emerging competences requirements was carried out.

Responses showed that there is a general trend from medium to more advanced skill levels across all occupational profiles. The main drivers of an upward skill shift are new technologies, digitalisation and automation. New skills are needed to master new technologies and tools such as mobile devices and other technological equipment both on-board as well as mobile tools. (see Figure 2).

Another finding of WP 2 is that greater efficiency and employability in cross-border rail could be achieved with shifting mindsets from being too national focused to more European focused. This would require more European railway knowledge and intercultural competences, including soft skills like communication, problem-solving, autonomy and resilience, learning motivation and/or openness.

However, besides technology related skills, around one quarter of the survey participants also highlighted foreign language skill needs as becoming more important in the future for the job of the train driver.

FIGURE 2: TRAIN DRIVER: FUNDAMENTAL FUTURE SKILL NEEDS AS HIGHLIGHTED BY SURVEY PARTICIPANTS

Technological skills 20%
ICT skills 32%
Interoperability skills 24%
Foreign language skills 24%
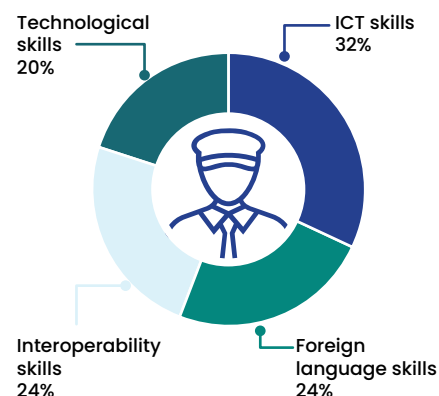
Source: STAFFER WP 2 Survey of Railway operators and infrastructure managers 2021

Closely related to the issue of foreign language, a quarter of the participants also highlighted the need of skills, knowledge and competences related to interoperability, i.e., the knowledge of European and national systems of traffic security and control, the understanding of regulation in neighbouring countries, etc. Survey

participants also highlighted that train drivers need to obtain more cross-functional knowledge within railway operation, infrastructure processes and networks.

NEXT STEPS

WP 2 provided the ground for the more action and practice-oriented work packages of the STAFFER project:

- Direct exchange in thematic focus groups and the forthcoming more in-depth analysis of results of the WP 2 survey will contribute to the development of adequate and relevant measures in the context of further STAFFER work packages and tasks such as the development of mobility and training programmes in WP 4 and the implementation of such programmes in WP 6.

- It is also expected that the research and further activities in WP 2 will contribute directly to the elaboration of a longer-term strategy and action plan for the rail sector as foreseen in WP 7.

Work Package 3
Pinpointing supplier needs

ABOUT

What are the current and future skills and competence needs from the suppliers´ point of view? That is the question Work Package (WP) 3 tried to tackle.

Based on the groundwork of WP 1 – and alongside the work of WP 2 – the goal was to define a future vision of the rail sector from the perspective of suppliers. The analysis of the needs of the rail supplier took into account the current trends of the rail sector and their specific impact on rail industry suppliers.

WORK SO FAR

WP 3 aimed to give an overview of specific macro-trends and their impacts on rail industry suppliers as well as relating to assumed needs. Furthermore, a deeper insight into skill shifts, current and future needs of skills and competencies, and analysing occupational profiles are targeted.

The overall methodology developed in WP 1 was used to identify the needs of rail suppliers. Moreover, Task 3.2 considered different stakeholders and their perspectives by conducting expert interviews. In order to gain an in-depth insight into the topic, an additional data scrolling approach was used.

Summing up the insights from the different sources in the report so far, a broad demand for skills and learning needs are stated. Nevertheless, we also see that the feeling of 'urgency' goes in line with the pace of change and business needs. The pressing nature of this is primarily affecting engineering paired with the strong need to build up the capacity for digitalisation.

Another finding was that companies use all learning elements of the 70-20-10 scheme to ensure up-skilling on a broader base and deepening the learning of skill-by-role modeling and peer-to-peer approaches. This can also be a guiding principle for further STAFFER discussions not to focus only on training, but also to build a strategy of diverse elements to work on filling the skill gap and, furthermore, to keep the overall employability of the workforce to learn and to adapt high.

Discussing future skills requires diverse perspectives on the future development of trends, markets, products, and technologies. However, the skills which need to be increased, changed, or added could be a mix of very common skills. The critical incidents technique helps to understand the context and derive the skills need. The discussion focused on the five most relevant skills that need to be developed from the point of view of suppliers. The identified skills can be categorised into soft skills (collaboration and problem solving) and hard skills (holistic understanding & system

thinking, bridging of traditional and digital approaches, and life-cycle management) and are highly intercorrelated.

Additionally, the data scrolling approach provided insights into the overall skill need. All companies have a high demand for digitalisation profiles. Building recruiting strategies around digitalisation profiles is an essential topic to ensure business reliability for the future. However, the other occupational areas where we also see which profiles are high in demand must not be neglected.

NEXT STEPS

- The five named skills in this WP should be put forward for further exploration for the next WPs to develop skill gap solutions. We strongly recommend trying to understand the critical incidents first before developing a solution as all five skills are interconnected and rather complex.

Work Package 4
Promoting mobility and exchange and developing training

ABOUT

Following on the work carried out in Work Packages (WPs) 1, 2 and 3, this group is setting its sights on creating ambitious training programmes for students and rail professionals hoping to make their mark on Europe's mobility paradigm. Together, they are mapping the main education providers' – both Vocation, Education and Training (VET) and higher education – existing programmes and courses across the EU that provide final certifications and/or diplomas in rail.

WP 4 is also identifying and evaluating common Qualification Standards (QS), assessing existing programmes based on the abovementioned WPs' analysis of needed skills and designing new or complimentary curricula to give students and professionals the skills they need to push rail to the next level.

This group is creating the courses that will allow rail to thrive in the years to come. Their work will focus on providing pathways that will provide students the capacities needed to manufacture cutting-edge rail products, operate and maintain them and be equipped to utilise the ICT skills required for the digitalisation of our sector – ranging from the Internet of Things to (big) data analytics and cybersecurity.

the basis for the development/ integration of new ones.

A public version of the database is already published.

Task 4.2 aims at identifying common qualification standards and the relevant procedures to evaluate the existing/designed training programmes. Two tools were established: 1) a skill recollection form to collect information on one specific skill in a standard way (EQF level, assessment modalities, short description, learning outcomes, etc.), and 2) a database sheet to gather inputs, and to allow tracing the existing, emerging (new) and changing (already existing but evolving) occupational profiles.

WORK SO FAR

Mobility and training programmes development was undertaken within WP 4 by exploiting the outcomes of WP 1, WP 2 and WP 3 in terms of future visions of the rail sector and its skills needs.

Task 4.1 maps all the existing VET and higher-education institutions providing European recognised certifications and/or diplomas related to the rail sector with their associated EQF levels. It is a relevant benchmark of the existing programmes and constitutes
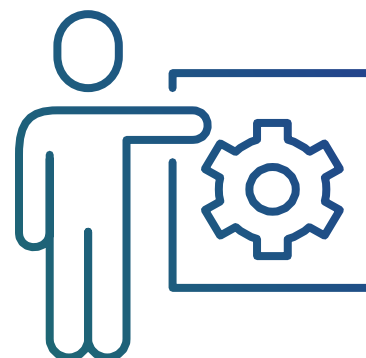
Task 4.3 performs a benchmarking of the existing railway sector VET paths, curricula and courses identified in Task 4.1, highlighting new and emerging innovative teaching and training approaches and best practices such as e-learning/e-training, blended/collaborative learning, gamified learning, etc.

Task 4.4 analyses the results from the final reports of Task 1, 2 and 3. A total of 105 possible fields of action were selected. The selection was based on the criteria of high discussion objective of the respondents, relevance for STAFFER and the conformity with the target audiences in STAFFER. In the end, 69 topics remained that were rated as important.

The task also collects 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 offers, mobility programmes and conference/workshop formats.

After a quality check combining duplicates and disabling non-usable contributions, 140 proposals remained, representing a first output of 4.4. This collection will be informally handed over to the downstream WP.

Task 4.5 is responsible for the development of the training curricula. To do this, a matching between skills and EQF levels is performed: the skills identified by the previous WPs are analysed and divided according to the different EQF levels.

In parallel, the analysis of the requirements, specific procedures and constraints for introducing new training and mobility programmes or complement existing ones are identified for the involved countries.

Finally, six training curricula to be developed for low and high EQF levels are selected, according to the occupational profiles priority and criticality defined by WP 2 and WP 3:

- Train drivers
- Staff in rail traffic control and management (e.g. dispatchers)
- Engineers and technicians in railway maintenance and infrastructure
- Railway systems technicians
- Railway systems engineers
- Rail transport engineers

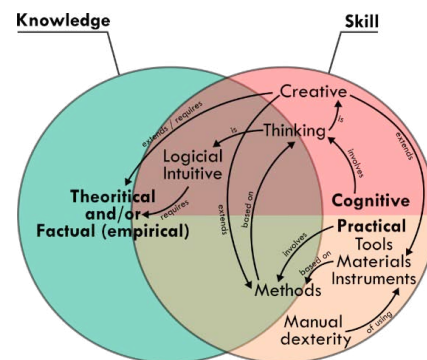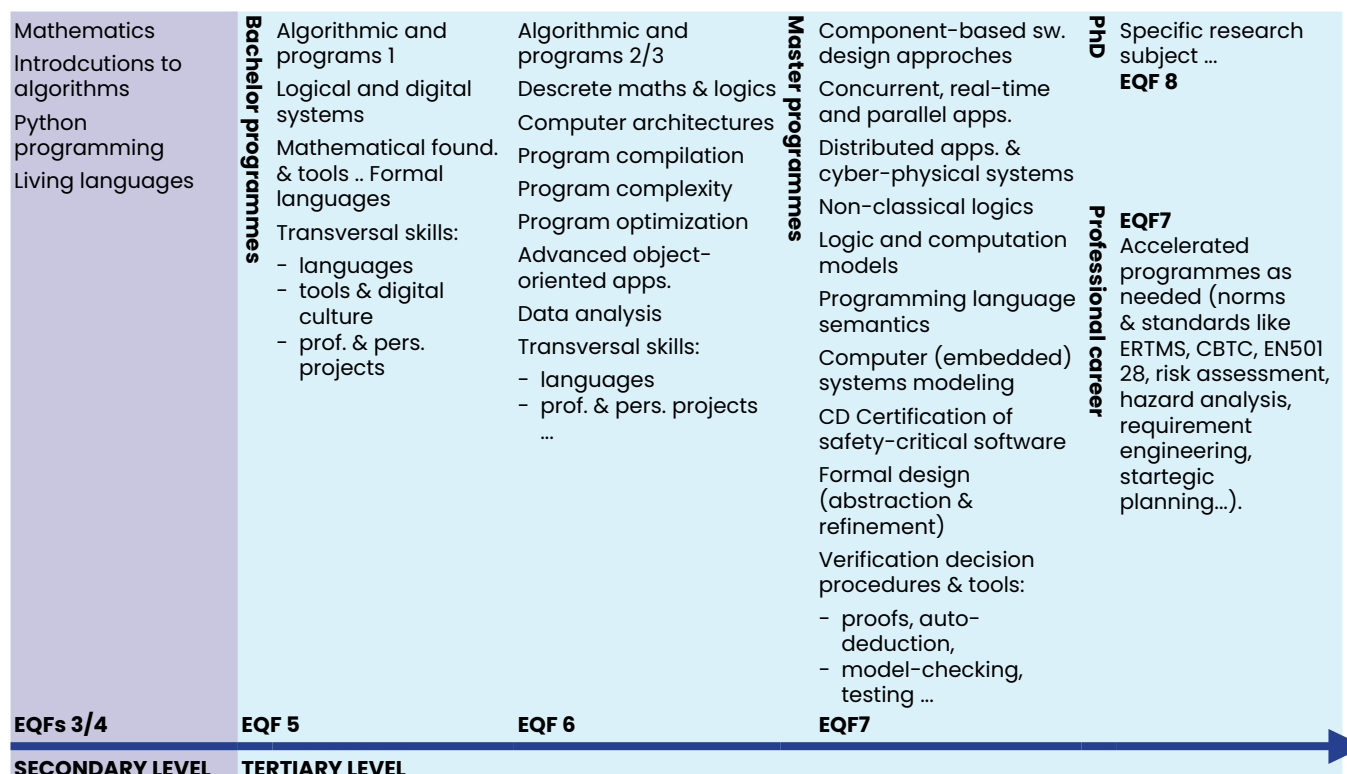**FIG.1 SKILL AND KNOWLEDGE: EQF DEFINITIONS INTERSECTIONS**

FIG.2 SKILL AND EQF LEVELS MATCHING: FORMAL METHODS EXAMPLE

	Bachelor programmes		Master programmes		PhD
Mathematics Introdcutions to algorithms Python programming Living languages	Algorithmic and programs 1 Logical and digital systems Mathematical found. & tools .. Formal languages Transversal skills: - languages - tools & digital culture - prof. & pers. projects	Algorithmic and programs 2/3 Descrete maths & logics Computer architectures Program compilation Program complexity Program optimization Advanced object-oriented apps. Data analysis Transversal skills: - languages - prof. & pers. projects ...	Component-based sw. design approches Concurrent, real-time and parallel apps. Distributed apps. & cyber-physical systems Non-classical logics Logic and computation models Programming language semantics Computer (embedded) systems modeling CD Certification of safety-critical software Formal design (abstraction & refinement) Verification decision procedures & tools: - proofs, auto-deduction, - model-checking, testing ...		Specific research subject ... **EQF 8**

Professional career column:

EQF7
Accelerated programmes as needed (norms & standards like ERTMS, CBTC, EN50128, risk assessment, hazard analysis, requirement engineering, startegic planning...).

EQFs 3/4	EQF 5	EQF 6	EQF7
SECONDARY LEVEL	**TERTIARY LEVEL**		

NEXT STEPS

- WP 4 is working on the definition of the programme contents for the selected occupational profiles that will be compliant with the European standards (such as the European Quality Assurance in Vocational Education and Training (EQAVET) and the European Credit System for Vocational Education and Training (ECVET)) and will take into account the regulations of different European countries to promote mobility.

- The programmes will include soft skills, STEM (Science, Technology, Engineering, and Math) skills, job specific skills, with a focus on new and possible (joint) training contents and mobility plans.

Work Package 5
Increasing employability

ABOUT

Are Europe's rail training programmes making its pupils more employable? Work Package (WP) 5 was established to transfer and then validate the new and updated mobility and training paths, programmes and curricula to see if they are helping students and young professionals seize career opportunities in rail!

Following a similar approach to their counterparts in other STAFFER WPs, these partners are utilising a methodological umbrella considered in WP 5 as it assesses employability and opportunities as it pertains to operators, infrastructure managers and rail suppliers. Their results will be corroborated by a feedback mechanism established to better attune the mobility and training programmes crafted by STAFFER.
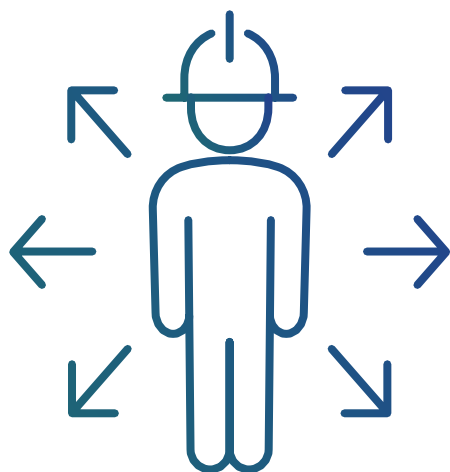
WORK SO FAR

In Task 5.1 the team of the University of Belgrade started with the development of a methodological (and theoretical) umbrella for the evaluation of training and mobility programmes with a focus on employability containing a more specified theoretical construct of employability (conceptualisation phase) and a set of (quantitative and qualitative) indicators for the measurement of employability (operationalisation phase).

In the conceptualisation phase the team conducted a literature research of common definitions on employability and decided on an appropriate definition of the concept within the STAFFER Project (provided by CEDEFOP (2008)) and established a conceptual framework of employability with the three dimensions get a job, stay in job, build a career and the criteria enablers (Input & Process) and results (Output & Outcome).

In the phase of operationalisation, the theoretical construct was provided with a set of measurable indicators.

This final set of metrics consists of 13 individual indicators as well as two indicators in the form of employability toolkits: (1) the employability audit, an assessment tool/questionnaire which focusses on success factors, i.e. items that are seen with strong positive impact on employability (51 items in 5 dimensions: Employability within curriculum, Employment development opportunities, Career development learning and support, Partnership with employers, Options for work experience) and (2) the

employability mapping tool which can be used to identify where and how attributes are developed and assessed, and what is the reflection on current provision as well as what are the reflections on future provision (17 attributes). The 13 individual indicators focus on the quantitative results and the toolkits focus on qualitative enablers (for detailed results see D5.1).

Following this theoretical and empirical basis and using similar approaches, the task leaders of Task 5.2 (DB) and Task 5.3 (Alstom) discussed and elaborated the employability metrics from the perspective of the particular stakeholder group (5.2 – infrastructure managers and railway operators / 5.3 – railway subsystems suppliers) with a focus on the audit tool. In this first step both working groups identified specific occupational profiles as target groups and selected and complemented the indicators and items regarding their particular point of view.

The selected profiles from the perspective of rail operators and infrastructure managers are train drivers, train dispatchers and engineers (focus on maintenance) and from the perspective of suppliers the target groups are system engineers, software engineers and vehicle architects.

Currently WP 5 is in the stage of trial-assessments, in which the specified tools are tested on selected training programmes of STAFFER partners to get feedback on the items from the target group and collect first data on existing programmes.

NEXT STEPS

- When the trial assessments are finished the feedback will be discussed in the working groups of Tasks 5.2 and 5.3 as well as in the core-team of WP 5 task and WP co-leaders. The results of the trial assessments will be shared with the leaders of Tasks 4.4 and 4.5 to support the program development and the evaluation tools will be finalised and published in the deliverables D 5.2 and D 5.3.

- In Task 5.4 which runs in parallel to WP 6 the tools will be used to support and validate the new and updated programs.

Work Package 6
Implementing training programmes

ABOUT

Let's get to work! Work Package (WP) 6 is where the rolling stock hits the track – this group is tasked with actually implementing the training programmes developed in WP 4.

Partners partaking in these activities will first establish a methodology and a set of key performance indicators to best continuously monitor the implemented programmes and their achievements. From there, they will create a framework, or scheme, to facilitate transnational mobility students, apprentices, trainees or other staff groups in the rail industry.

Lastly, the WP will set up Vocational Education and Training (VET) at the lower and higher European Qualification Framework (EQF) levels as pilot cases to design new courses, or adapt existing ones, to introduce necessary knowledge and work-based activities needed to enhance skills in rail.
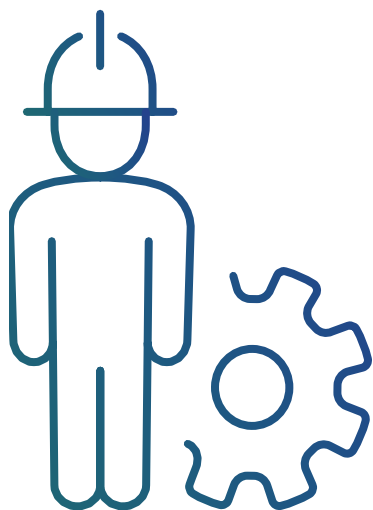
WORK SO FAR

The WP 6 implementation of training and mobility programmes has seven tasks. The first, Task 6.1 Continuous programmes monitoring methodology started in May 2022 as per the defined timeline of the project. Task 6.2 to Task 6.7 will start in November 2022.

Task 6.1 has an objective of defining a monitoring and evaluation methodology based on Result-Based Management (RBM) approach (in line with the available guidelines and EQAVET Framework), which tests whether the designed programmes are achieving the intended goals. Two meetings have been held so far between the two WP co-leaders (CNAM and UNIROMA1) and the leader of Task 6.1 (MAFEX) in order to define the scope of work of the task.
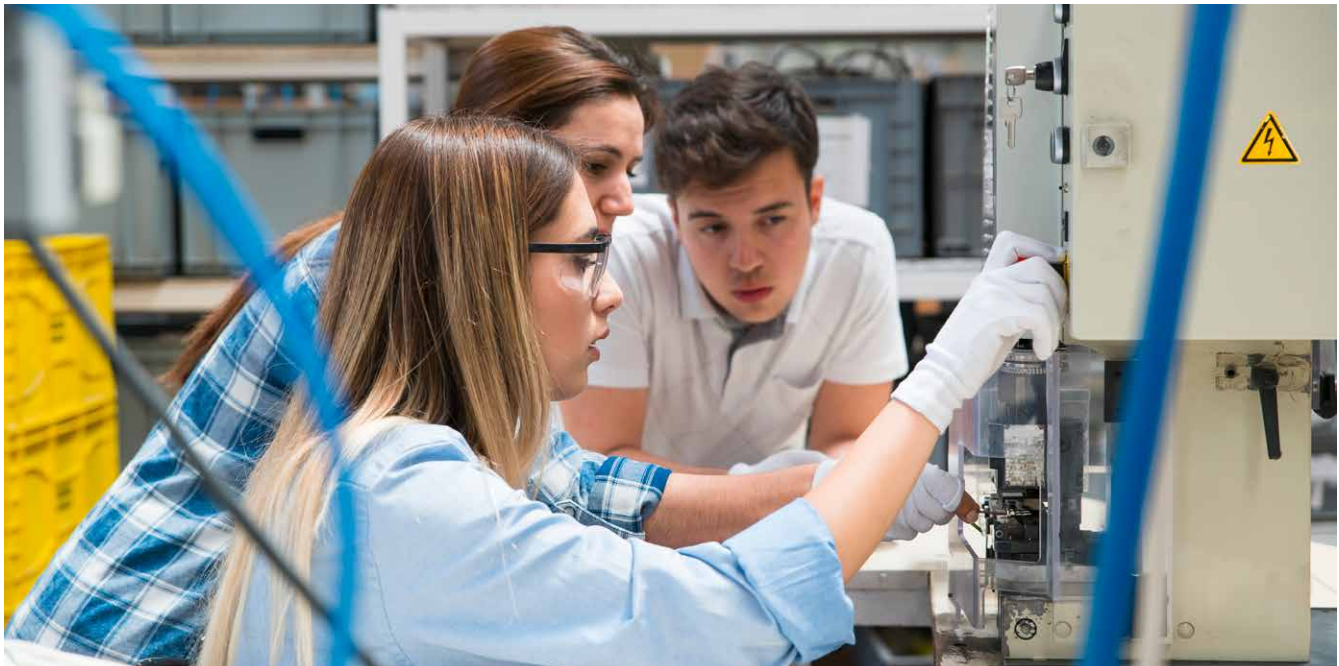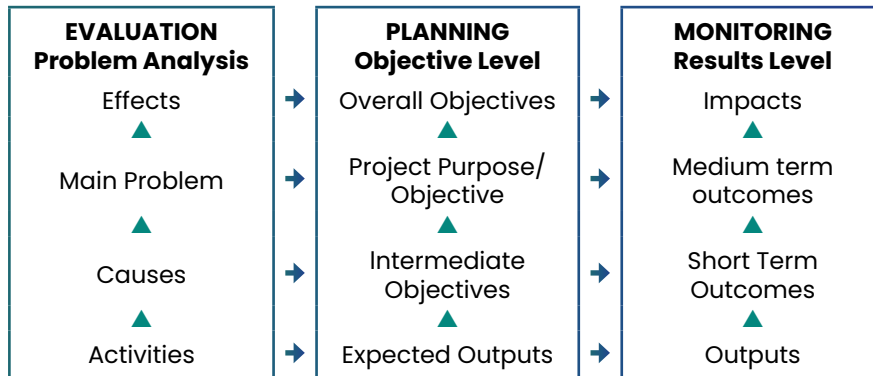
NEXT STEPS

Concerning Task 6.1, the next steps are:

- Identify the stakeholders that will participate in the evaluation.
- Define the objectives to be achieved (focused on results RBM) short, medium and long-term outcomes.
- Define key indicators to monitor performance/impact (based on the EQAVET Framework).
- Define the evaluation/monitoring aspects leading to further actions.
- Identify the means of verification and data sources.

- Define partners who will implement new programmes.
- Evaluate and report the data, do the results analysis.

RESULT-BASED MANAGEMENT (RBM) APPROACH

EVALUATION Problem Analysis		PLANNING Objective Level		MONITORING Results Level
Effects	➜	Overall Objectives	➜	Impacts
▲		▲		▲
Main Problem	➜	Project Purpose/ Objective	➜	Medium term outcomes
▲		▲		▲
Causes	➜	Intermediate Objectives	➜	Short Term Outcomes
▲		▲		▲
Activities	➜	Expected Outputs	➜	Outputs

Work Package 7
Thinking ahead

ABOUT

Addressing Europe's rail skill mismatch is no easy task, but STAFFER is looking to develop a strategy that allows future Europeans to access careers in rail and the sustainable mobility solutions they create.

STAFFER partners in Work Package (WP) 7 are working to devise a long-term strategy and action plan that will make sure that European rail continues to be a world leader in transport technologies, provides quality jobs and allows citizens to safely and responsibly transport themselves and goods.

Under the STAFFER umbrella, WP 7 partners are collaborating closely with their colleagues in WPs 4 and 6 – concerned with trainings development and implementation, respectively – to extrapolate a means of allowing the next generations to continue to benefit from STAFFER for years after its 4-year mandate. These partners are reflecting on follow-up actions that will extend STAFFER's impact beyond its budget.

and design of WPs 4 and 6 and will contribute to the overall Blueprint activities to develop a long-term action plan for the rail sector, including plans for follow-up activities after the end of the project. Such an action plan should be anchored in a longer-term strategic vision agreed by all relevant sectoral stakeholders, i.e. railway sector companies, social partners and educational institutions.

Such a longer-term strategy should have the ambition to establish a sector-related framework of activities and practices that strengthen human dimension and workforce development of European railways as an attractive place to work. Therefore it would complement and add a strong human resources dimension to European flagship initiatives in rail such as Europe's Rail Joint Undertaking (EU-Rail), the European partnership on rail research and innovation established under the Horizon Europe programme (2020-2027) and the universal successor of the Shift2Rail Joint Undertaking.
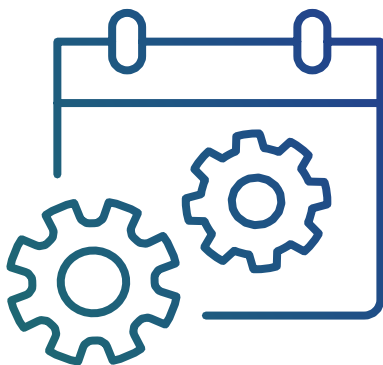
WORK SO FAR

WP 7 is part of the implementation activities of STAFFER, aiming at identifying and performing actions that will ensure the implementation of activities and programmes developed in the context of STAFFER after the project's life.

WP 7 is building on the achievements of the development

NEXT STEPS

According to the agreed time plan, activities in WP 7 will start at the end of 2022 and will be implemented until the end of the STAFFER project. WP 7 consists of four different tasks that are coordinated under the overall co-leadership of wmp consult (Germany) and the University of Applied Sciences Sankt Pölten (Austria) with the help of further STAFFER partners as task leaders and strong involvement of all STAFFER partners, including CER and UNIFE and the main railway sector related European trade union federations, industriAll and ETF.[2]

- Developing an integrated sectoral skills strategy for the rail sector (M25–M36, task 7.1 led by wmp consult)

- "Making rail sector a great place to work" – promoting attractiveness of the rail sector as a career path (M31–M36, task 7.2 led by Technical University of Dresden)

- Develop action plan for obtaining political and financial support for STAFFER Educational Programmes (M31–M36, task 7.3 led by the University of Applied Sciences Sankt Pölten)

- Designing and implementing the action plan of the sectoral skills strategy (M37–M48, task 7.4 led by University of Rome 1)

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2 *industriAll is an associated partner of STAFFER and ETF is a member of the STAFFER Advisory Board.*

Work Package 8
Strengthening rail by communication and dissemination of results

ABOUT

How can STAFFER both disseminate the project's results among all rail stakeholders and relevant educational institutions in Europe, and define skills-related policy recommendations addressed to regional, national and European decision makers?

Work Package (WP) 8 is committed to three different objectives:

- Developing a communication strategy and establishing a dissemination plan to facilitate widespread information and knowledge transfer within the consortium during and beyond the project's lifespan

- Communicating STAFFER's successes to relevant stakeholders using social media, events and more

- Reaching out to regional, national and European decision makers to share STAFFER results on the best way of building skills in rail!

WORK SO FAR

The first task of WP 8, which is co-lead by UNIFE and CER, was to prepare the Communication, Dissemination & Exploitation plan. This was achieved during the first 6 months of the project with the aim to facilitate wide-spread information and knowledge transfer amongst and beyond the members of the consortium (and beyond the project life-time).

Target audience
The project's outreach activities aim to reach the widest audience possible, with the resources available. The following stakeholders were identified as the main targets for dissemination:

- Academic & Vocational & Educational Training (VET) institutions
- Students and learners
- The European railway operating community and rail supply industry, including workers
- Research community (European and non-European)
- European, national and regional policy-makers
- Social partners
- General public
- Press

To effectively share project progress with the above-mentioned audiences, the dissemination of the project comprises of three major activities tailored to reaching each of the different stakeholder groups:

- Communication to the rail sector and relevant governmental bodies
- Communication to the general public
- Dissemination of project results addressing specific targeted stakeholders.

WP8 utilises direct consultation with academic and VET institutions, discussions with authorities ranging from the local to European level across Europe, attendance and participation at rail sector events, the development of publications and media materials and general use of public media.

In order to effectively disseminate the project, a variety of dissemination tools were established and mobilised to communicate this initiative's progress. A cohesive project identity was created that informed the design of all communication materials ranging from the project website to physical publications to social media visuals. This includes an easily recognisable visual identity (including STAFFER logo) which is used in the project's public website, templates for presentations and a flyer presenting the project.

Website

A project website was created to host information and deliverables: www.railstaffer.eu. The website provides a clear overview of the project and is regularly updated with the latest news, events and publications involving or created by STAFFER. The objectives and expected results of the project are also detailed, as is STAFFER's structure and the project's operations.

Social media

Staffer is active on both Twitter and LinkedIn in order to boost awareness amongst target audiences. STAFFER social media accounts are coordinated by the WP 8 co-leaders who also rely on consortium partner's social media presences to maximise the project's reach. Consortium partners support this WP's efforts by amplifying and disseminating these communication materials throughout the collaboration's duration.

WP 8 also strives to ensure visibility for the project during conferences, congresses & trade fairs (eg. InnoTrans, Trako) and works closely with the sector press to ensure coverage in specialised magazines and journals. WP 8 organised a side event during InnoTrans on 21 September entitled "Skills for the Rail

Do you have the skills to get the job done?

EUROPEAN RAIL SKILLS ALLIANCE

RAILSTAFFER.EU   STAFFER   EUROPEAN YEAR OF YOUTH   #RAILSTAFFER #EUYEAROFYOUTH

Sector: adapting training curricula and attracting talent".

The WP 8 co-leaders are also responsible for the organisation and logistics of the project mid-term conference (Brussels, 13 October 2022) and the preparation of the supporting mid-term report. The main objective of the conference is to present the results achieved so far and to discuss the expected outcomes and deliverables of the second half of the project. Participants will include project partners, all key stakeholders in the EU rail sector and representatives from educational institutions.

NEXT STEPS

WP 8 will continue its dissemination activities as appropriate. Further planned output includes:

- A short, animated video to explain the project and its goals
- A STAFFER report card
- Young people & rail pamphlet

Work Package 9
Delivering quality

ABOUT

STAFFER is committed to pushing skills in rail forward, Work Package (WP) 9 keeps us on task! Tasked with ensuring the consortium moves as one unit and delivers high-quality results, this group:
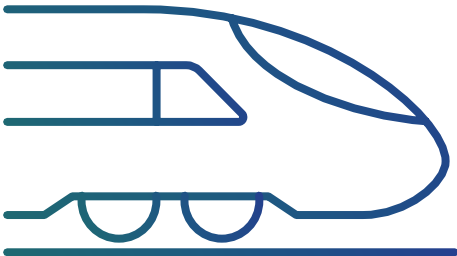
- Is active throughout the lifecycle of the project

- Plans and organises STAFFER's overall actions

- Guarantees that it reaches its objectives on time and on budget

- Brings out the best from the consortium by pushing for quality deliverables and results

The aims of WP 9 are devoted to the effective project management:

1. planning, organizing, and controlling the integrated effort of the consortium;

2. guaranteeing the achievement of the project objectives within the time schedule and budget;

3. assure the quality of the project deliverables and results.

To these aims, the following activities will be performed during the whole project life-time:

- Coordinating the project administration, financial, and technical management;

- Planning meetings of the consortium, which will be a mix of face-to-face meetings and virtual meetings.

- Managing the project effectively, reporting problems and issues, establishing contingency plans, handling disputes, and guaranteeing ontime delivering;

- Continuous risk monitoring;

- Monitoring and assessing the quality of the project deliverables and results;

- Managing the collection, revision, and submission of deliverables;

- Providing regular communications (within the consortium and towards the European Commission) to keep everyone informed about changes to plan and possible delays.

Project Partners

STAFFER

EUROPEAN RAIL SKILLS ALLIANCE

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