



## **Deliverable D2.1**

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## 1 Executive Summary

Despite interoperability and the common railway market, operational constraints still exist and hamper smooth cross border operation. The need to increase the interoperability of the railway system led to the UIC project called "X-Border" which aims at developing alternative solutions regarding problems related to communication between Railway Undertakings (RUs) and Infrastructure Managers (IMs). The overall language issue covering the alternatives of IMs and RUs communication is covered with the sector Language Programme led by RNE.

This guideline addresses the problem of operational interoperability due to drivers' language skills requirements, offering a methodological support to set up seamless field operations in order to further improve the competitiveness of rail freight and to overcome the driver language barrier when crossing borders or driving in a foreign country as well as beyond borders.

The process of setting up projects in the context of Point 8 of Annex VI to Directive 2007/59/EC establishes the level of language skills to be fulfilled by train drivers, so that they can communicate actively and effectively in routine, degraded and emergency situations. Moreover, the possibility also exists to exempt train drivers from the required language proficiency level in sections between the borders and the stations situated close to the borders and designated for cross border operations. In order to break language barriers, it is necessary to test alternative means in day-to-day operations. Therefore, the impact of a lower general language level combined with alternative means to support effective communication can be examined under real conditions in the framework of a pilot project.

Since it is required by the European Commission (EC) to conduct pilot projects in two phases, in a first step IM and RU can carry out pilot testing and if the pilot testing proves that the alternative means effectively complement the language skills of the driver, then the pilot projects can be carried out with train drivers having a lower level of language. This process is to be set up following this guideline. This guideline focuses on the implementation of a Pilot demonstrator in which a prototype Language Tool (LT) is developed in the context of the Translate4Rail project (T4R) with drivers who hold at least a B1 level and to show, through the output of the demonstrator that we can do it safely with a lower level than B1. WP3 "Safety" shall be mentioned which assures with its workstream that safety is handled throughout the whole project and that safety is under constant supervision and not being impacted.

This guideline integrates two accompanying sub-guidelines. In general, the guideline (Part 1) contains all information necessary for the implementation and evaluation of a pilot project for reducing the regulatory requirement regarding linguistic skills of train drivers. Part 2 sub guideline T4R Communication contains a description of testing a LT prototype from its designing phase until the official field pilot testing and analysing the risks associated with the implementation of projects, for the search for mitigating measures and standards to be applied. Part 3 sub guideline Risk Analysis T4R contains the guidelines for managing the risk analysis related to the project and the implementation of the related mitigating measures.

## 2 Abbreviations and acronyms

Abbreviation / Acronyms	Description
EC	European Commission
GDPR	General Data Policy Regulation
IM	Infrastructure Manager
LP	Language Programme; the dedicated RNE work structure
LT	Prototype of a Language Tool
NSA	National Safety Agency
PDM	Predefined message
RFF	Rail Freight Forward
RNE	RailNetEurope
RU	Railway Undertaking
SMS	Safety-Management System
sWG	sub-Working group
TSI OPE	Technical specification for Interoperability – Operation and traffic management subsystem
T4R	Translate4Rail
UIC	International Union of Railways
WO	Written orders
Xborder	UIC project and work structure dedicated to the issue of improving cross border operation

### 3 Background

Point 8 of Annex VI to Directive 2007/59/EC establishes the level of language skills to be fulfilled by train drivers, so that they can communicate actively and effectively in routine, degraded and emergency situations. Moreover, regulation (EU) 2019/554 gives the possibility of exempting the train drivers in the frame of pilot projects from the required level of language skills in sections between the borders and the stations situated close to the borders and designated for cross border operations.

Within the 4<sup>th</sup> railway package, the definition of projects to facilitate railway interoperability which the EU is encouraging under normal and degraded conditions becomes a priority.

### 4 Objective/Aim

The aim of this guideline is to support RUs and IMs in:

- I. defining the scope of pilot testing for assisted communication between train drivers and ground operators in routine, degraded and emergency situations;
- II. indicating which alternative mean to language skills can be applied in emergency situations;
- III. describing the additional tools to be used to support communication in routine, degraded and emergency situations;
- IV. demonstrating that the experimental operations are carried out with a level of safety at least equivalent to operations carried out with full compliance with the pre-existing requirements;
- V. defining how the outcome of the pilot demonstrators could respect the RUs' and IMs' safety management systems, including training programs and documentation of results.

## 5 Elaboration of this guideline

The subject of overcoming cross-border issues by elaborating the methodological guidelines according to which the laboratory tests need to take place and subsequently the pilots organised is being worked on both by IM's and RU's.

In this chapter, the initiatives and activities undertaken by RUs and IMs are explained. We go through the different approaches and methodologies which were used and inform about the work done jointly by RUs and IMs.

The focus of the last part of this section will be the work carried out within T4R and will provide an outlook regarding the delivery of the Guidelines for implementation and description of the pilots.

### 5.1 RU specific work leading to the guideline

#### 5.1.1 The process

Under the branding of RFF (Rail Freight Forward) European Rail Freight CEOs organised within UIC, decided to proactively drive modal shift towards rail and established the removal of the cross-border barriers as one of their priorities. This led to the launch of the Xborder project which is still the platform for RUs dedicated to improving the driver language issue.

#### 5.1.2 Methodology for the elaboration of the guideline

In order to develop a qualitative input, the UIC X Border project members started with the analysis of the regulation (EU) 2019/554; aiming to transfer the legislative possibilities to an easy to use tool for this and future initiatives. Legal issues in relation with Directive 2007/59/EC have been studied and analysed. On this basis the first draft guideline was developed. The guideline was enriched in a bottom up approach on the one hand integrating findings focusing on the first geographical region between Italy and Austria on border section Tarvisio – Villach. On the other hand, it was enriched with the sub-Working group UPDM of the sector Language Programme, where the extended list of PDMs reflecting the IMs specific requirements. The list of these messages was approved in RNE LP WG and by RNE General Assembly to be the input for further enhancement in T4R. In parallel the LP Pilot sWG prepared a general sector Pilot testing checklist which enters into T4R project for improvements and adaptation based on the exact LT requirements.

On the basis of this the generic guidelines have been elaborated and enriched with a bottom up approach. The methodology developed also covers the widest possible range of situations since determining factors for pilots in different states vary.



### 5.1.3 The output

By the end of June 2020, the first draft guideline focusing on the first geographical region between Italy and Austria on border section Tarvisio – Villach from RU side was finalised. This methodology was later matched against the one elaborated by IMs in the context of the sector Language Programme prepared in 2019, and in early July 2020 provided to the Pilot Managers of the first T4R Pilot. Afterwards it was enhanced for the purpose of a generic guideline for a wider application and a common methodology - especially with the input and feedback of the concerned companies participating in testing of the T4R pilot - prepared. The iterative improvement process led to a common sector output.

## 5.2 IM specific work leading to the guideline

### 5.2.1 The process

The Language Program was initiated by RNE in December 2017. During 2018 the programme defined distinct situations to focus on the communication of different stakeholders. For the purpose of the IM-RU operational communication several working groups were installed, one of them being the sub working group “Pilot” of railway sector Language Programme managed by RailNetEurope. The IMs contribution continuous with the T4R Pilot meetings providing support in guideline definition.

### 5.2.2 Methodology for the elaboration of the guideline

The work performed by the SWG aimed at describing the evolution of testing a translation Language tool prototype from its designing phase until the official field pilot testing according EU directive 2019/554. The concept developed is supposed to be a working document following the translation Language tool development and cover the testing procedure for pilot testing.

The main ideas and aims of the Pilot SWG are defined as the following:

- Preparation of the pilots;
- Define the language tool pilots plans;
- Set up the objectives and deliverables for pilots;
- Pilots governance;
- Support preparing the testing procedure, technical and operational requirements;
- Elaborate language tool manual(s) covering the installation, operation and maintenance;
- Make a recommendation for language tool coverage by European legislation;

- Support the pilot's teams;
- Prepare compilation of institutions that need to get involved (RUs, NSAs, transport ministries, trade unions, etc.).

### 5.2.3 The output

By the end of June 2020, the first draft guideline was finalised and the specification for concerned T4R Villach – Tarvisio – (Pontebba) pilot prepared. This methodology was later matched against the one elaborated by RUs in the context of the Xborder project, and afterwards jointly worked on for the preparation of a common methodology.

## 5.3 Common RU-IM guideline

The regular exchanges between RNE, UIC and sector organisation participating on Language Programme, led to a common sector guideline. The sector worked jointly on the elaboration of methodological guidelines according to which the laboratory tests need to take place and subsequently the pilots testing to be organised considering all legal issues in relation with the preparation of a pilot in line with Directive 2007/59/EC until June 2020.

Afterwards the concerned companies participating in testing of the T4R pilot were provided with the output. The provision of the methodology to the concerned operational parties offered UIC the possibility to discover additional needs which were expressed by RUs and IMs. From August 2020 on, biweekly “T4R Pilot Meetings” were organised by UIC. With the initiative driven by UIC in cooperation with RNE and IMs and RUs involved in the T4R pilot testing achieved to offer a platform for Pilot Managers to exchange and be supported by the T4R partners, in which we were able to discover additional requirements. As a result, more details on the methodology have been defined.

It has to be stressed that the guideline has reached a final level in terms of the laboratory testing and the definition of the field phase. However, the hands-on experience which will be gained from the further laboratory tests, will significantly contribute to finetuning the field phase. Since the pilots stand for proof of concept where the aim is to ensure if the chosen procedure is effective and useable, and more importantly if it provides at least an identical level of safety as today, the findings of the finalised laboratory phase will be formative for the field phase.

## 6 Scope of this guideline

As indicated in article 1 point 4 of regulation (EU) 2019/554, “one or several RUs in cooperation with one or several IMs (“the applicants”) may carry out pilot projects to test alternative means of ensuring the effective communication required by paragraph 1”.

The purpose of this document is to provide guidelines to facilitate RUs and IMs in the implementation of specific simplified, and at the same time effective, communication tools between operators on board and ashore, based on PDMs, concepts and procedures referred to in regulation (EU) 2019/554 of 5 April 2019 which amends annex VI of directive 2007/59 / CE relating to the certification of train drivers operating locomotives and trains on the rail system in the community to promote rail interoperability.

### 6.1 Content and structure of this guideline

This guideline contains all information necessary for the implementation and evaluation of a pilot project for reducing the regulatory requirement regarding linguistic skills of train drivers.

This guideline is accompanied by two sub guidelines:

Sub guideline T4R Communication	Contains a description of testing a Language tool prototype from its designing phase until the official field pilot testing is provided also in support analysing the risks associated with the implementation of projects, for the search for mitigating measures and standards to be applied.
Sub guideline Risk Analysis T4R	It contains the guidelines for managing the risk analysis related to the project and the implementation of the related mitigating measures

### 6.2 Reference documents

DOCUMENT REFERENCE	OFFICIAL JOURNAL
Directive 2004/49/EC of the European Parliament and of the Council on Safety on the Community's railways and amending Council Directive 95/18/EC on the licensing of railway undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification (Railway	OJ L 164, 30.4.2004, p. 44–113

DOCUMENT REFERENCE	OFFICIAL JOURNAL
Safety Directive)	
Directive 2007/59/EC of the European Parliament and of the Council of 23 October 2007 on the certification of train drivers operating locomotives and trains on the railway system in the Community	OJ L 315, 3.12.2007, pp. 51-78.
Commission Directive 2014/82/EU of 24 June 2014 amending Directive 2007/59/EC of the European Parliament and of the Council as regards general professional knowledge and medical and licence requirements	OJ L 184, 25.6.2014, pp. 11-15.
Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009	OJ L 121, 3.5.2013, p. 8–25
Commission Regulation (EU) 2015/995 of 8 June 2015 amending Decision 2012/757/EU concerning the technical specification for interoperability relating to the ‘operation and traffic management’ subsystem of the rail system in the European Union	OJ L 165, 30.6.2015, p. 1–69
Commission Regulation (EU) 2016/796 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 May 2016 on the European Union Agency for Railways and repealing Regulation (EC) No 881/2004	OJ L 138, 26.5.2016, p. 1–43
Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union	OJ L 138, 26.5.2016, p. 44–101
Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety	OJ L 138, 26.5.2016, p. 102–149
Commission Implementing Regulation (EU) 2018/763 of 9 April 2018 establishing practical arrangements for issuing single safety certificates to railway undertakings pursuant to Directive (EU) 2016/798 of the European Parliament and of the Council, and repealing Commission Regulation (EC) No 653/2007	OJ L 129, 25.5.2018, p. 49–67

DOCUMENT REFERENCE	OFFICIAL JOURNAL
Commission Delegated Regulation (EU) 2018/762 of 8 March 2018 establishing common safety methods on safety management system requirements pursuant to Directive (EU) 2016/798 of the European Parliament and of the Council and repealing Commission Regulations (EU) No 1158/2010 and (EU) No 1169/2010	OJ L 129, 25.5.2018, p. 26–48

## 7 Guideline on the application of REGULATION (EU) 2019/554

### 7.1 Introduction

This application guide was developed with the contribution of the UIC X Border Language working group and sector LP led by RNE specifically set up for the development and implementation of RU-IM-communication through predefined messages (PDMs).

This application guide provides an overview of the assessments and actions that the various actors of the system (RUs, IMs, NSAs) shall ensure in order to guarantee the required level of safety in rail operations.

This guide is presented in a way enabling the reader to understand how regulation (EU) 2019/554 relates to the operational elements to be treated especially with regard to REGULATION (EU) 2015/995 TSI OPE.

All applicable regulations shall be taken into consideration. This document is a guide and therefore not legally binding. However, it clarifies some concepts and procedures as indicated above and will therefore support the common understanding and application of regulation (EU) 2019/554.

### 7.2 Scope of the REGULATION (EU) 2019/554

Improve rail interoperability by using alternatives means instead of free speech for RU-IM operational, safety related communication and thus enable alternative means of communication such as simultaneous translation through a suitable IT tool in a limited geographical area such as the section of tracks between the borders and the stations situated close to the borders.

IMs and RUs should carry out pilot projects to prove that the level of safety is maintained even using alternative means of communication and involving train drivers who do not fulfil the requirements on language of point 8 of Annex VI to Directive 2007/59/EC.

None of the provisions can be used as a justification for a national rule.

## 8 Communication and Testing

### 8.1 Predefined standardized messages (PDM)

Predefined Messages are standard messages exchanged in operational situations. The elements to be communicated between RUs and IMs have been standardised into short standard sentences transferring strictly needed information or requests. Those are needed in order to ensure the translating tool with which they will be coupled can address the specific needs of rail operation and ensure optimal safety of the system, at least at the same level as today.

The description of PDMs is defined in the T4R project's deliverable D1.2 Enhanced List of Predefined Messages.

The use of PDMs is defined in the "Communications and Testing" Sub-Guideline.

### 8.2 Language tool

A Language tool will then be used to enable the driver and the traffic controller to understand each other even though each of them speaks in his/her native language, according EU directive 2019/554.

The use of the LT is defined in the "Communications and Testing" Sub-Guideline.

### 8.3 Developing of testing Phase

The following guideline describes several steps to be performed in order to reach maturity of a software for successful language pilots.

The testing starts in free and easy office tests, increases complexity by including more circumstances and finally reaches the range of real railway operations.

This ensures to develop a translation software which targets to become a reliable and helpful tool for operational railway staff.

The laboratory phase creates artificially an operational situation but has no direct contact to "real" railway operations. Laboratory phase is characterized by office conditions and easy testing setups using a video simulation or simulator.

The development of testing phase is defined in the "Communications and Testing" Sub-Guideline.

## 9 Responsibilities

### 9.1 Infrastructure Manager and Railway Undertaking

This pilot project foresees the deployment, in a first step on a cross border section, of train drivers, for this pilot, being proficient in the foreign language and knowing how to communicate by adopting the PDMs in their own language and free speech using the ANNEX II PILOT SHEET.

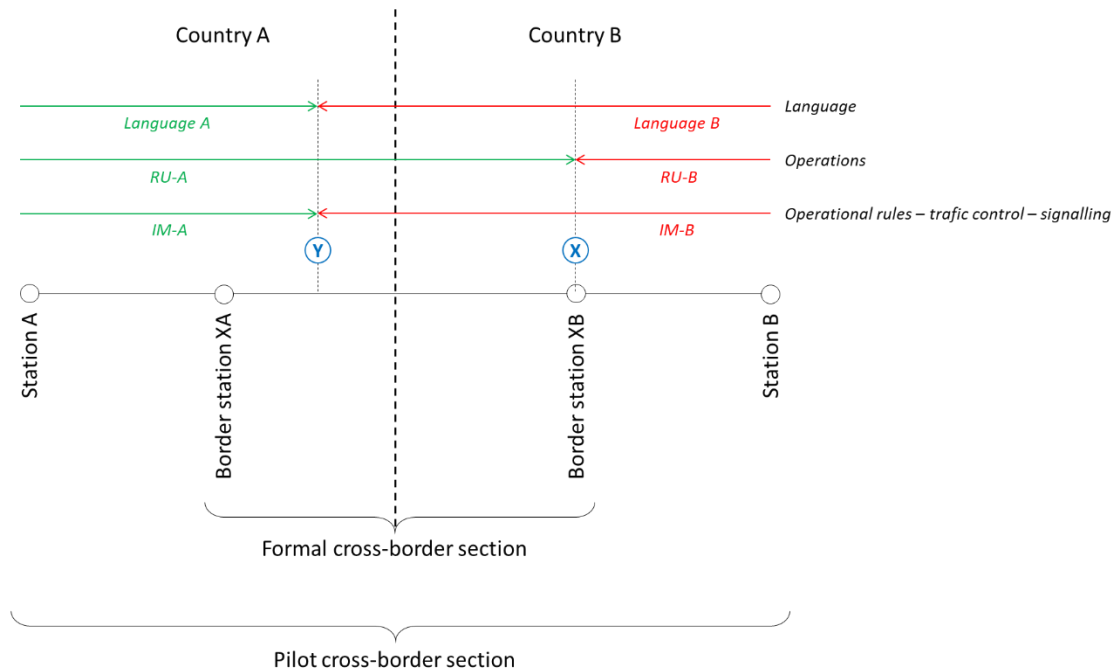
The PDM chosen by the driver is displayed, validated by the driver, translated by the translation tool into the equivalent PDM in the foreign language, which is transmitted via GSM-R to the IM agent. Similarly, the IM agent shall also be able to communicate by strictly adopting the PDMs in his own language. The PDM chosen by the IM agent is displayed, validated, recorded and translated by the translation tool into the equivalent PDM in the driver's language and transmitted to him by GSM-R. This scenario is describing the starting concept of the communication supporting the faster and more agile approach of the development. The next steps in LT evolution leads to usage of the tool only on the train driver side reducing his language competence requirement.

This method of communication shall be tested in routine, degraded and emergency situations.

The use of PDMs and their testing are defined in the “Communications and Testing” Sub-Guideline.

#### 9.1.1 Definition of the context

The definition of the scope of the pilot project shall include line sections managed under the RUs safety certificate, it shall define the affected timetable, the line sections and the type of crew composition provided on board.



### 9.1.2 Driver's Rule and Route Book

In addition to what is indicated in the TSI OPE 2019/773 in paragraph 4.2.1.2.1, the RU shall integrate the provisions in the Driver's rule book with the list of PDMs in the language that can be considered as the driver's mother tongue or for which the driver has a skill of at least level B1, as well as in the language of the neighbouring country's area of operations for which the driver has for the purpose of this pilot this skills and in the future potentially no or reduced skills.

The use of PDMs and a suitable translation tool should allow the driver with language knowledge of a lower level than B1 to travel and handle emergency calls on defined routes of the neighbouring country by providing the ability to communicate effectively with the IM staff of that country on cross-border sections.

The use of PDMs and their testing are defined in the "Communications and Testing" Sub-Guideline.

In addition to what is indicated in the OPE TSI 2019/773 in paragraph 4.2.1.2.1, the RU is responsible for the complete and correct compilation of the Route book, using the information provided by the IMs.

The IM shall provide the RU with the list of railway lines on which the pilot projects are authorized, together with the particularities and limitations associated with them.

### 9.1.3 Documentation for railway undertaking staff

In addition to what is indicated in the OPE TSI 2019/773 in paragraph 4.2.1.2.1, the RU shall integrate the RUs rule with the list of PDMs in the language that can be



considered as the RU's mother tongue or for which the driver has a skill of at least level B1, and in the language of that part of the area of operations for which the driver has a skill of at least level B1 for testing.

The use of PDMs and a suitable translation tool should allow the driver without specific knowledge of the neighbouring country's language to travel on defined routes of the neighbouring country by providing the ability to communicate effectively with the IM staff of that country on a defined route.

The use of PDMs and their testing are defined in the "Communications and Testing" Sub-Guideline.

#### 9.1.4 Timetables

The pilot testing might take place for a subset of the trains operating in the defined area of operations, for a subsection of the lines belonging to the defined area of operation, only by one or by some of the RUs operating in the defined area of operation.

In addition to the provisions of TSI OPE 2019/773, paragraph 4.2.1.2.3, the RU shall provide the drivers and the IMs with all necessary information for the safe execution of the pilot demonstrator project. It has to include at least:

- The train identification – the identification of the train as being involved by the pilot project, in the modality agreed upfront with the IM (e.g. communication before departure by the driver, identification code, particular train number series, etc.);
- The train running days – the operating days during which the pilot project is executed (e.g. all operating days, in the weekend, etc.);
- The stopping points and the activities associated with them – the stopping points and the activities to be fulfilled there in association with the pilot project;
- Other timing points;
- The arrival/departure/passing times at each of those points;
- Contact details of pilot management in order to send feedback.

Such information is based on planning information supplied by the IM.

#### 9.1.5 Documentation for infrastructure manager's staff authorizing train movements

It is necessary that the IM staff is trained to communicate effectively with the RU staff by using the PDMs. It might be required to have the documents on which it has been trained available.

In addition to the provisions of TSI OPE 2019/773, paragraph 4.2.1.4., all information necessary to ensure safety-related communication between IM staff authorising the train movement and train crew shall be set out in: The use of PDMs and their testing are defined in the “Communications and Testing” Sub-Guideline.

The IMs shall prepare these documents in their operational language

#### 9.1.6 Safety-related communications between train crew and IM staff authorizing train movements

As an alternative to the communications envisaged by the TSI OPE in paragraph 4.2.1.5, the use of PDMs and a suitable translation tool also allows communication between two agents with different operating languages.

The aim is to assure communication requirements of TSI OPE are met, however, pilot agents have to know operational and national communication rules (network statement, information for route’s book given by IM, NSA documents...).

#### 9.1.7 Operating rules

The rules and procedures that regulate the movement of trains are not modified by the rules of the project, only the communication method and the linguistic knowledge required of the train drivers are modified.

#### 9.1.8 Professional competence

The RU and the IM staff shall in any case have acquired adequate professional competence, as required by TSI OPE, paragraph 4.6.1, to perform all the safety tasks necessary in routine, degraded and emergency situations on the infrastructure involved in the pilot project. This competence includes professional knowledge and the ability to put this knowledge into practice.

The staff concerned shall be trained in the safety procedures in case of degradation.

The description of testing phase and the skills required are defined in the “Communications and Testing” Sub-Guideline.

#### 9.1.9 Linguistic competence

Although a lower level than B1 is theoretically safe with the help of the tool, the aim is to test with B1 drivers not using their language skill unless absolute necessity to preserve safety and to show, through the output of the project that we can do it with a lower level than B1. Therefore, during the test knowledge of the language of the infrastructure concerned is required.

It is possible to use several drivers on the same route for the pilot test, always in possession of the requirements defined above.

In the preparation of or in the operational phase it is allowed to have another person

on board in possession of the technical or/et linguistic requirements, who supports the train driver if needed.

The IM and the RU are required to ensure that relevant staff is trained in the use of the PDMs and the communication principles set.

The used tool provides for the translation and transmission of the PDMs allowing communication between the IM signaller and RU driver.

The description of PDM, TL, testing phase and the skills required are defined in the “Communications and Testing” Sub-Guideline.

The RU staff whose functions require them to communicate with the IM staff in relation to safety critical issues, whether in routine, degraded or emergency situations shall be able to use the international phonetic alphabet and numbers 1 to 10 in the English language, corresponding to level 1 of Appendix C of the TSI OPE 2019/773.

#### 9.1.10 Analysis and update of training needs

RUs and IMs shall carry out an analysis of the training needs of the staff concerned and define a process of reviewing and updating their individual training needs in order to meet the requirements specified in this procedure.

This analysis shall define both the scope and the complexity and consider the risks associated with communication via PDMs. The RU shall define the process by which the route knowledge of the concerned sections is acquired and maintained by the on-board staff. This process shall be carried out based on the requirements of this procedure. The analysis of training needs shall document those not deemed appropriate and the reasons why.

At a minimum this shall include that the concerned agents are able to:

- transmit and understand all the PDMs specified in the document Deliverable 1.2: Enhanced List of Predefined Messages in the languages indicated on its complementary certificate;
- communicate effectively using the PDMs in routine, degraded and emergency situations.

The use of PDM, TL, testing phase and the skills required are defined in the “Communications and Testing” Sub-Guideline.

#### 9.1.11 Risk Assessment

The risk assessment shall also include the technology of the LT that translates and sends out the PDMs, verifying their reliability both in routine conditions, in degraded and emergency situations. All assessments shall take place within the scope of the application of Common safety methods (CSMs).

These assessments shall also be extended to the skill requirements that shall be

provided to train drivers, through the definition of specific training programs.

The involvement of staff representatives in the project preparation process is mandatory.

The RU and the IM ensure that the implementation of the pilot project is adequately documented in the respective safety management systems. The documentation shall be kept for 24 months after the conclusion of the pilot project, in particular that relating to personnel involved, the training received, the services provided, and any critical issues encountered during the execution of the pilot project.

#### 9.1.12 Profile required for RU staff

The personnel involved in the experimentation shall be trained by the RU to the skills needed for this project (context, geographical extension, PDMs and related procedures in normal and degraded conditions, usage of the LT fallback scenario in case of failure/unavailability); the relevant information shall be included in the complementary certificates of interested drivers, with specific annotation “trained according to article 1 point 4 of regulation (EU) 2019/554”.

The drivers involved shall still have knowledge of the infrastructure concerned, of the respective safety systems installed on board and of the respective regulations to be applied, this annotation shall be present on the respective complementary certificate.

The description of testing phase and the skills required are defined in the “Communications and Testing” Sub-Guideline.

#### 9.1.13 Technological equipment required

The starting concept foresees a train driver’s and signaller’s personal electronic device (tablet) as an immediate device.

The tablet must be able to work in daily operation without an internet connection. The tablet will have no Internet connection.

GDPR sensible data of users are only stored locally on the own device (under the direct control of the her- or himself).

Based on the selected and agreed concept, the RUs and the IM (in case of starting concept) shall provide the agents and places concerned with the technological equipment that shall comply with the specifications given by T4R project.

The tablet’s technical specification is defined in the “Communications and Testing” Sub-Guideline.

#### 9.1.14 Common table and working group

The creation of the common table with the certification authorities shall include the formation of a working group formed by experts of RUs and IMs which shall maintain



constant contact with the authority concerned in order to promote and explain the modalities of the pilot project.

## 10 National Safety Authority and European Union Agency for Railways

A project which aims in becoming a language pilot according to EU-directive 2019/554 with an official derogation from language level requirement B1, safety authorities have to be involved. Other tests and projects which maintain the status quo language competences of railway staff are not obligated to call for safety authorities opinions.

According to Regulation (EU) 2016/796 , the ERA has been assigned a central role to issue safety certificates, in order to make the issuing of single safety certificate to RUs more efficient and impartial. Where the area of operation is limited to one Member state, the concerned RU should have the possibility of submitting its application for a single safety certificate to the Agency or to the NSA.

When more than one national or European safety authority is responsible, as they issue the involved companies safety certificates, those entities are encouraged to cooperate intensively.

The final document to be submitted for authorization is the Pilot Sheet present in annex 2, shared between the RU and IM concerned. Once the request for an opinion has been submitted to the safety certificate issuing body, the latter shall issue, within 60 days from the date on which the last authorization entity received the request, an opinion on whether the alternative methods guarantee a safety level at least equivalent to full compliance with the requirements of article 1 of the Regulation (EU) 2019/554.

The NSA and ERA can participate in the tests with the presence of their own representatives.

It is recommended to involve the aforementioned parties, even though for the Translate4Rail Pilot the RU and IM do not need to submit to the European Commission (EC) an application for derogation from paragraph 2, since B1 level is required. Furthermore, the Translate4Rail Pilot is a Language Tool prototype development and not a regular cross border operation pilot project according to the regulation 2019/554.

Since the EC is responsible for approving a deviation from B1 and for the formal approval of other future pilot projects, it shall be periodically informed on the first phase-pilot, where no derogation is asked for the progress and critical points of the pilot project.

In the same way a frequent information to NSAs and ERA is recommended.

A final report on the pilot operation shall also be written to the EC.

The description of testing phase and the interactions with the authorities are defined in the Annexe 1 and “Communications and Testing” Sub-Guideline.

## 11 Regulation (EU) 2019/554 subsystem

### 11.1 Regulation (EU) 2019/554 and connection to other relevant rules and regulation

This document does not provide a complete description of railway operations. Therefore, it should not be read or applied separately. It should be used in connection with all other relevant legislative documents setting out the requirements for carrying out pilot projects in the transport sector.

Relevant legislative documents include:

- DIRECTIVE 2004/49/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on safety on the Community's railways and amending Council Directive 95/18/EC on the licensing of railway undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification (Railway Safety Directive);
- Directive 2007/59/EC of the European Parliament and of the Council of 23 October 2007 on the certification of train drivers operating locomotives and trains on the railway system in the Community;
- Commission Directive 2014/82/EU of 24 June 2014 amending Directive 2007/59/EC of the European Parliament and of the Council as regards general professional knowledge and medical and licence requirements;
- Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009;
- Commission Implementing Regulation (EU) 2019/773 of 16 May 2019 on the technical specification for the interoperability relating to the operation and traffic management subsystem of the rail system within the European Union and repealing Decision 2012/757/EU;
- Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union;
- Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety;
- Commission Regulation (EU) 2016/796 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 May 2016 on the European Union Agency for Railways and repealing Regulation (EC) No 881/2004
- Commission Implementing Regulation (EU) 2018/763 of 9 April 2018 establishing

practical arrangements for issuing single safety certificates to railway undertakings pursuant to Directive (EU) 2016/798 of the European Parliament and of the Council, and repealing Commission Regulation (EC) No 653/2007;

- Documents issued by the NSAs and interested Ministries.



## ANNEX I Complementary regulatory details

**Please note that the information given in Annex 1 on is not an exhaustive list and is subject to the RUs and IMs operational context. It is given as an indication only.**

	<b>REGULATION (EU) 2019/554 Article 1 Point 8 of Annex VI to Directive 2007/59/EC is replaced by the following: 8. LANGUAGE</b>	<b>Recommendation and associated guidance</b>
	(1) Drivers who have to communicate with the infrastructure manager on critical safety issues must have the necessary language skills in at least one of the languages indicated by the infrastructure manager concerned. Their language skills must allow them to communicate actively and effectively in routine, degraded and emergency situations. They must be able to use the messages and communication method specified in the “Operations and traffic management” TSI. [...]	<p><i>REGULATIONS COMMISSION REGULATION (EU) 2015/995 of 8 June 2015 amending Decision 2012/757/EU concerning the technical specification for interoperability relating to the ‘operation and traffic management’ subsystem of the rail system in the European Union: 4.6 Professional competences, 4.7 Health and safety conditions and Appendices E, F and G</i></p> <p><i>Guidance for safety certification and supervision – European Railways Agency SMS Requirement 4.2.1, 4.2.2, 4.2.3, 4.4,</i></p> <p><i>RSSB Research Programme Operations and Management Non-technical skills required in train driver role: Developing an integrated approach to NTS training and investment</i></p> <p><i>RSSB Non-technical skills New training resources and good practice on non-technical skills for the rail industry</i></p>
	(2) In order to satisfy the requirements provided for in paragraph 1, drivers must be able to understand (both orally and in writing) and to communicate (both orally and in writing) according to level B1 of the Common European Framework of Reference for Languages (CEFR) established by the Council of Europe[...]	<p><i>Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR)</i></p> <p><i>REGULATIONS COMMISSION REGULATION (EU) 2015/995 of 8 June 2015 amending Decision 2012/757/EU concerning the technical specification for interoperability relating to the ‘operation and traffic management’ subsystem of the rail system in the European Union: Appendices E</i></p>
	(3) In case where the train operations take place in sections between the borders and the stations situated close to the borders and designated for cross border operations, drivers of trains operated by a railway undertaking may be exempted by the infrastructure manager from the requirements of paragraph 2, provided that the following procedure is applied:	<p>IM must communicate to RU the lines where pilot projects are in progress also in the preliminary phase, in order to ensure the widest involvement.</p> <p>The RU must present a document that summarizes the ways in which they intend to ensure compliance with the requirements indicated in this document,</p>

<p><b>REGULATION (EU) 2019/554</b> <b>Article 1 Point 8 of Annex VI to Directive 2007/59/EC is replaced by the following:</b> <b>8. LANGUAGE</b></p>	<p><b>Recommendation and associated guidance</b></p>
<p>(a) the railway undertaking shall request the infrastructure manager for a derogation with regard to the concerned drivers. In order to ensure a fair and equal treatment of the applicants, the infrastructure manager shall apply to each submitted request for derogation the same assessment procedure, which shall be part of the network statement;</p> <p>(b) the infrastructure manager shall grant a derogation if the railway undertaking demonstrates that it has made sufficient arrangements for ensuring communication between the concerned drivers and the staff of the infrastructure manager in routine, degraded and emergency situations, as provided for in paragraph 1;</p> <p>(c) railway undertakings and infrastructure managers shall ensure that the concerned staff is aware of those rules and arrangements and receive appropriate training through their safety management systems.</p>	<p>with the related risk analysis.</p> <p>The IM must draw up a special guideline which indicates the rules to be applied when compiling the route book and the driver's manual, which must be implemented by the RUs that adhere to the project.</p> <p><i>DIRECTIVE (EU) 2016/798 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 May 2016 on railway safety Article 6 Common safety methods ('CSMs')</i></p> <p><i>REGULATIONS COMMISSION REGULATION (EU) 2015/995 of 8 June 2015 amending Decision 2012/757/EU concerning the technical specification for interoperability relating to the 'operation and traffic management' subsystem of the rail system in the European Union: 4.2.1.2.1 Driver's Rule Book, 4.2.1.2.2.1 Preparation of the Route Book, 4.2.1.2.2.2 Modifications to information contained within the Route Book, 4.2.1.3. Documentation for railway undertaking staff other than drivers, 4.6 Professional competences, 4.7 Health and safety conditions and Appendices F and G</i></p> <p><i>Guidance for safety certification and supervision – European Railways Agency SMS Requirement 4.2.1, 4.2.2, 4.3, 4.4, 5.5.7</i></p>
<p>(4) One or several railway undertakings in cooperation with one or several infrastructure managers ("the applicants") may carry out pilot projects to test alternative means of ensuring the effective communication required by paragraph 1. The following procedure shall apply:</p> <p>(a) the applicants shall identify the parts of the network and nature of the services concerned, the initial duration of the pilot project and in particular:</p> <ul style="list-style-type: none"> <li>i) specify the scope of the pilot project,</li> <li>ii) indicate what alternative language competences they propose to apply,</li> <li>iii) describe which additional tools they propose to use to support communication in routine, degraded and emergency situations,</li> <li>iv) demonstrate how the alternative</li> </ul>	<p>As regards the requirements of point A, the promoters of the pilot project must complete the format contained in Annex II, which ensures compliance with the requirement.</p> <p><i>REGULATIONS COMMISSION REGULATION (EU) 2015/995 of 8 June 2015 amending Decision 2012/757/EU concerning the technical specification for interoperability relating to the 'operation and traffic management' subsystem of the rail system in the European Union: 4.2.3.8. Aid to train crew in the event of an incident or of a major rolling stock malfunction, 4.4. Operating rules, 4.6. Professional competences, 4.6.2. Linguistic competency, and Appendices C, F, G</i></p> <p><i>Guidance for safety certification and supervision – European Railways Agency SMS Requirement 1.1,</i></p>

	<p><b>REGULATION (EU) 2019/554</b>  <b>Article 1 Point 8 of Annex VI to Directive 2007/59/EC</b>  <b>is replaced by the following:</b>  <b>8. LANGUAGE</b></p>	<p><b>Recommendation and associated guidance</b></p>
	<p>language competences and additional tools ensure at least an equivalent level of safety to full compliance with the requirements of paragraph 1, when integrated in their respective Safety Management Systems (*),</p> <p>v) explain how they shall implement the pilot project in their Safety Management System, including training programs and documentation of the results, and</p> <p>vi) consult the representatives of the concerned staff in the process of preparing the application.</p> <p>(b) The applicants shall request the opinion of the concerned national safety authority/authorities that issued their single safety certificate(s) or safety authorization(s), and of the European Union Agency for Railways, where it is the safety certification body (“the authorizing entity or entities”). Each authorizing entity shall issue an opinion on whether the alternative means ensure at least an equivalent level of safety to full compliance with the requirements of paragraph 1, within 60 days from the day the last authorizing entity concerned has received the request. In case several authorizing entities are involved, they are encouraged to work together and ensure coordination.</p> <p>The opinions shall assess in particular whether the following conditions are fulfilled:</p> <p>i) the proposed alternative language competences and other tools for communication are sufficient to ensure effective communication between the concerned drivers and the staff of the infrastructure manager in routine, degraded and emergency situations.</p> <p>ii) the safety management systems of the applicants have been adapted to using alternative language competences and other tools for communication.</p> <p>iii) the applicants have provided evidence that these tools have been tested under operational conditions involving drivers fulfilling the language requirements of paragraph 2.</p>	<p>3.1.1.1, 4.2.1, 4.2.2, 4.2.3, 5.1.5, 5.1.6, 5.5.5, 5.5.7</p>

<b>REGULATION (EU) 2019/554</b> <b>Article 1 Point 8 of Annex VI to Directive 2007/59/EC is replaced by the following:</b> <b>8. LANGUAGE</b>	<b>Recommendation and associated guidance</b>
<p>iv) all concerned staff of the railway undertaking and infrastructure manager have received appropriate training through their safety management systems.</p> <p>In the event of diverging opinions, the provisions of point (5) second subparagraph shall apply.</p> <p>(c) The applicants shall jointly submit to the Commission an application for derogation from paragraph 2, including the opinions of the authorizing entity or entities and the detailed description of the pilot project on which the opinions are based. Alternatively, the participants in the project can designate a coordinator among them, who may submit the joint application on behalf of all participants in the project.</p>	
<p>(5) The Commission shall, within 60 days after receiving a complete application, grant a derogation from paragraph 2:</p> <p>(a) where the opinions of the authorizing entity or entities are positive; and</p> <p>(b) where it is demonstrated that equal and non-discriminatory treatment of all applications as well as legal coherence at Union level is ensured.</p> <p>In the event of diverging opinions, or a failure of one or more authorizing entities to deliver an opinion within the prescribed time limit, the applicants may request the Commission to find a mutually acceptable solution, in cooperation with the parties involved. If no mutually acceptable solution can be found within 90 days after receiving a request for derogation, the pilot project shall be deemed to be refused. The Commission may request the opinion of the European Union Agency for Railways and shall do so where the opinion of each authorizing entity is negative.</p>	
<p>(6) The derogation shall be granted for a limited period of time and shall not exceed 36 months. Where the derogation has been granted for a shorter period of time, it may be renewed provided that the total duration of 36 months is not exceeded.</p> <p>(7) On request by interested railway undertakings and where justified, an infrastructure manager shall offer other railway undertakings using a section of the network on which a pilot project is on-going, the possibility to participate in the pilot project subject to</p>	<p><i>Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety: Article 9 Safety management systems, Article 19 Annual report</i></p> <p><i>REGULATIONS COMMISSION REGULATION (EU) 2015/995 of 8 June 2015 amending Decision 2012/757/EU concerning the technical specification for interoperability relating to the 'operation and traffic management' subsystem of the rail system in</i></p>

<p><b>REGULATION (EU) 2019/554</b> <b>Article 1 Point 8 of Annex VI to Directive 2007/59/EC is replaced by the following:</b> <b>8. LANGUAGE</b></p>	<p><b>Recommendation and associated guidance</b></p>
<p>a positive opinion by the authorizing entities concerned. Such additional participation shall be notified to the Commission by the infrastructure manager.</p> <p>In case of changes in the scope of the pilot projects, in particular the part of the network in which the project is carried out, the alternative language competences and the additional tools used for communication, the procedure described in point (4) shall apply.</p> <p>(8) The railway undertaking and infrastructure manager shall ensure that the operation of the pilot project is appropriately documented in their safety management systems. Records shall be kept for 24 months after the end of the pilot project, in particular of the staff involved, the training they have received, the services operated, and any issues encountered during the pilot project. The concerned train drivers shall have the relevant information included in their complementary certificates.</p> <p>(9) After the end of each pilot project, the railway undertaking(s) and infrastructure manager(s) involved shall report to the authorizing entities concerned. Where the duration of a derogation exceeds one year, the railway undertaking(s) and the infrastructure manager(s) shall report on a yearly basis within their annual safety reports according to Article 9(6) of Directive (EU) 2016/798. The national safety authorities concerned shall report the results of pilot projects in their annual reports according to Article 19 of Directive (EU) 2016/798. Based on a common framework for assessment, the European Union Agency for Railways shall analyze the results of the pilot projects and submit a report to the Commission.</p> <p>(10) The Commission may suspend the derogation granted if it considers that the conditions are no longer fulfilled or where safety concerns arise. A national safety authority, railway undertaking or infrastructure manager shall immediately inform the Commission in case any safety concerns arise.</p> <p>(11) The European Union Agency for Railways shall publish on its website a list of pilot projects authorized by the Commission, including a short description of the project and the period for which it is authorized as well as any other relevant information, such as discontinuation or suspension of the projects.</p>	<p><i>the European Union: 4.2.3.8. Aid to train crew in the event of an incident or of a major rolling stock malfunction, 4.4. Operating rules, 4.6. Professional competences, 4.6.2. Linguistic competency, and Appendices C, F, G</i></p> <p><i>Guidance for safety certification and supervision – European Railways Agency SMS Requirement 5.4, 6, 7.1, 7.2</i></p>

# PILOT SHEET

PILOT SHEET				
Name of the Pilot		Translation tool pilot _____ (line concerned) Railway Undertakers partnership: ○ ○ ○ Infrastructures managers concerned: ○ ○		
RU Project manager 1 for the Pilot		Name		
		Email		
		Mobile phone		
		Company		
		Country		
RU Project manager 2 for the Pilot		Name		
		Email		
		Mobile phone		
		Company		
		Country		
IM Project manager 1 for the Pilot		Name		
		Email		
		Mobile phone		
		Company		
		Country		
IM Project manager 2 for the Pilot		Name		
		Email		
		Mobile phone		
		Company		
		Country		
Involved parties	Ministry or NSA1	Country		
		Name		
		email		
		Mobile phone		
	Ministry or NSA2	Country		
		Name		
		email		
		Mobile phone		
Scope of the Pilot		Translation tool developed by xx in coordination with Company A & Company B <ul style="list-style-type: none"> <li>- Laboratory testing in realistic operational frame</li> <li>- Pilot according to EU 2019/554</li> </ul> Focusing on cross border section xx-xx		
Objectives of the pilot		I. define the context of pilot projects for communication between train drivers and ground operators; II. indicate which alternative language skills can be applied; III. describe the additional tools to support communication in routine, critical and emergency situations; IV. demonstrate that it guarantees a level of safety at least equivalent to full compliance with the pre-existing requirements, once integrated into the respective safety management systems; V. define the implementation of the pilot project in its safety management system, including training programs and documentation of the results.		

Attached documents	<p>Description of the pilot project context:</p> <ul style="list-style-type: none"> <li>• type, extent and area of its operations;</li> <li>• identify interested parties (e.g. regulatory bodies, authorities, infrastructure managers, contractors, suppliers, partners);</li> <li>• identify and maintain legal and other requirements related to safety from the interested parties;</li> </ul> <p>Identification of personnel involved, and alternative language skills required</p> <p>Description of the tools to support communication in routine, critical and emergency</p> <p>Language Tool assessment survey from participants (Drivers, Signallers) including Language Tool evaluation, Tablet usage (Ergonomy and Human Factor), open questions: improvement of the LT for operational usage.</p> <p>SMS procedures issued by reference</p> <p>Risk assessment</p>

Location of the Pilot	Laboratory tests	xx and xx
	Field tests	xx - xx
Expected times		
Time schedules		Not fixed yet
Pilot	Beginning	
	End	
Phase	Name	
	Beginning	
	End	
Phase	Name	
	Beginning	
	End	
Phase	Name	
	Beginning	
	End	
Phase	Name	
	Beginning	
	End	
Language tool used for the Pilot		Developed by
Language pairs used in the Pilot		xx - xx
Which equipment of the railway system will be affected by the Pilot		GSM-R

ESTIMATED ELIGIBLE COSTS	1. Staff / Personnel costs		
	2. Travel and Subsistence		
	3. Purchase of Equipment		
	4. Consumables and Supplies		
	5. Subcontracting		
	6. Other costs		
	Total estimated eligible direct costs		
	7. Estimated eligible indirect costs (overheads)		
	TOTAL ESTIMATED ELIGIBLE COSTS		
FUNDING	1. Requested EU financial contribution (column E)		
	2. Income generated by the action		
	3. Financial contribution by third parties		
	4. Financial contribution by the beneficiaries (own resources)		
	TOTAL FUNDING		
Pilot team	Name	Email	Company
Free boxes to add additional information			