



Functional Requirements

TTcom
version 1.0

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Version history

VERSION	RESPONSIBLE	DATE	CHANGES
0.1	Lukas Miglinas TT IT Manager	2020-07-16	Document created by Lukas Miglinas
0.2	Lukas Miglinas TT IT Manager	2020-08-25	Inclusion of remarks from the project core team
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0.4	Ádám Kertai Junior Capacity Manager	2020-09-04	Finalisation of the draft
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2. Introduction

The idea of Simple Communication Tool for Timetabling (hereafter TTcom) was determined primarily by the diverging methods and forms of international coordination and language barriers that the path planners face in the international rail sector. During the planning and coordination of international rail paths quite often the planners are not aware of the responsible person at other entities for a certain process. It is not always possible to keep track of correspondence between responsible persons and the information provided may be not clear or ambiguous.

In line with the ongoing work to improve the international timetabling process, taking into account that TTR project will not be fully implemented in the upcoming years, RNE supports the idea proposed by SNCF Réseau to develop a tool for communication between timetabling professionals who speak different languages. TTcom tool will serve as an interim solution for communication between IMs until the IT landscape of TTR based on the TSI standards is implemented. Once TTR IT landscape is launched, all communication will be performed exclusively in the landscape.

The aim of TTcom is to offer the planners an address book with traceable contacts who are responsible for certain processes and a set of predefined standardised messages translated in the native language of a user. Predefined messages will include all relevant information that the planner has to exchange with a responsible person of the other entity.

TTcom's goal is to eliminate language barriers between the planners from different countries, keep traceability of the responsible person of other entities and help the correspondence between them. As a result, this should improve and facilitate the timetabling process and communication between different entities that speak different languages. The idea of the project is to develop a simple yet effective solution which will serve its purpose until TTR project is fully implemented.

The development of TTcom is scheduled to be completed in March 2021. This will be followed by the testing phase. After all, the national implementation will take place with relevant adjustments based on test findings.

Project timeline:

- | | |
|---------------------------|-------------------------------|
| - Tendering: | October 2020 – January 2020 |
| - Development: | January 2021 – mid March 2021 |
| - Testing: | March 2021 |
| - Start of implementaion: | April 2021 |

3. Functional requirements

TTcom will be an internationally used application which will include:

1. An address book where the users will store their contacts,
2. Functionality enabling sending predefined standard messages in the selected language.

The necessary user roles for the application are described in Table 1.

Table 1 User roles in TTcom

User Role	Description
RNE Administrator	<p>In general:</p> <ul style="list-style-type: none"> - Log in with email address and password - Reading and editing rights <p>Specifically, persons will have the following rights:</p> <ul style="list-style-type: none"> - Create, edit, delete IM administrator accounts - Rename an IM - Same rights as the Administrator of IM, but not limited to a single IM - Create/Delete TT periods
IM/RFC Administrator	<p>In general:</p> <ul style="list-style-type: none"> - Log in with email address and password - Reading and editing rights within its entity <p>Specifically, persons will have the following rights:</p> <ul style="list-style-type: none"> - Create organisational structure of the IM/RFC - Create, edit, delete user accounts (own organisation) - Set an exact expiry date for each user - Create, edit, delete contact list (own organisation) - Modify contacts per process - Define email address in copy of corporate department according to process type - Translate messages and interface into own language* - Create, edit, delete process type levels and sub-levels - Create, edit, delete mandatory parameters - Select mandatory parameters to the message subject - Setting personal settings: <ul style="list-style-type: none"> - Select language - Change password - Setup email signature
User	<p>In general:</p> <ul style="list-style-type: none"> - Login with email address** and password - Reading rights - Setting personal settings: <ul style="list-style-type: none"> - Select language - Change password - Setup email signature

* English language will be used in the user interface and messages as a starting point. The administrators will translate messages and interface into their own language.

** Email address and telephone number are mandatory for creating a new user account.

RNE Administrator will create IM Administrator accounts for each IM Administrator. User accounts will be created by national IM Administrator. The tool will be simple to use and customizable by a user depending on their requirements. The process diagram of TTcom is represented by Figure 1.



Figure 1 Process diagram of TTcom

The tenderer shall provide a detailed proposal for the below items, which shall be customer-friendly, simple to use and fit into the corporate layout of the other IT systems of RNE.

4. User View

a. Organization

In the first step, the user will select IM (Infrastructure Manager) which he/she needs to contact. The IMs will be represented by logos along with the name of the IMs' countries. A table view would be preferable to a map view. Additionally next to IMs list all Rail Freight Corridors (RFC) will be included, with the organisational structures and contacts. Below the name of every organisation, the latest organisational update ¹date will be shown, which is visible for every user.

Next to the list of IMs will be a list of favourite searches which would enable the user to quickly choose the IMs which are contacted most often.

b. Process type (object)

In the second step, after selecting IM for contacting, the user needs to define a process type. The following 5 process types are expected:

- Ad Hoc Request
- LPR (Late path Request)
- PM (Path Modification)
- PA (Path Alteration)
- TCR (no predefined message)
- Train numbering (no predefined message)

The list of process types is not limited, and the administrator user will have the possibility to custom add and define a process.

Each process type will contain sub-levels that will be custom defined by an administrator user. As it is shown in Figure 2, the process type and sub-levels will define a person of contact which will be then saved in the address book by administrator user and available to all users.

Process type	Ad hoc <input type="button" value="v"/>				
Sub-level 1	Ad hoc in more than 7 days <input type="button" value="v"/>				
Sub-level 1	Freight <input type="button" value="v"/>				
Sub-level 3	Border: Esplechin/Wannehain <input type="button" value="v"/>				

Name	Email	Tel	Language	Department/ Region	Comment
Gilles de Robien	Gdb@sncf.fr	+33 0 00 00 00 00	fr		
Jean-Claude Gayssot	Jcg@sncf.fr	+33 0 00 00 00 01	fr,en		
Dominique Bussereau	Dbu@sncf.fr	+33 0 00 00 00 02	fr,it,es		

Figure 2 Example for an Ad-Hoc Request process

Some IMs may use tool not for all process types but only for some of them. In such cases, the user will be able to accept enquiries from other IMs for the process types that his/her IM is not using the tool.

¹ Any modification concerning the organisational structure (see in section 4f).
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c. Address book

The address book will contain a contact list of responsible persons created by an admin user. The user will be able to choose required contact or several contacts from the list for whom he/she wants to send a predefined message.

d. Mandatory parameters

The user will have to complete certain mandatory parameters in order for a predefined message to be generated. All mandatory parameters completed in this step will appear in the body of email message and some of the parameters will constitute name of the email subject (Name of the email subject is described on page 9). Mandatory parameters will differ depending on the process type. There will be 4 optional parameters that the user is not obliged to complete if he does not require them. By default, a set of parameters listed below in Table 2, Table 3 and Table 4 will come as standard. The tool will allow the administrator user to delete unrequired parameters and add required parameters.

Table 2 Set of parameters in case of an Ad Hoc/late path request

Parameter	Value	Mapping	
		Email subject	Email body
Timetable period	Year (e.g. 2021) (Dropdown menu)	No	Yes
First day of operation	Date (01.01.2021)	Yes	Yes
Operation period	Open field (e.g. every Monday in July)	No	Yes
Type of traffic	Freight (Dropdown menu) Passenger (Dropdown menu) Engine running light (Dropdown menu)	No	Yes
Train number/Path number	Open text field	Yes	Yes
C-OSS	Optional checkbox *	No	Yes
RUs/Applicants	Open text field *	No	Yes
Border	Location of border crossing *	Yes	Yes

* Optional parameters

Table 3 Set of parameters in case of path alteration

Parameter	Value	Mapping	
		Email subject	Email body
Timetable period	Year (e.g. 2021) (Dropdown menu)	No	Yes
Affected days	Date (01.01.2021) (Open text field)	No	Yes
Type of traffic	Freight (Dropdown menu) Passenger (Dropdown menu) Engine running light (Dropdown menu)	No	Yes
Train number/Path number	Open text field	Yes	Yes
C-OSS	Optional checkbox *	No	Yes
RUs/Applicants	Open text field*	No	Yes
Border	Location of border crossing *	Yes	Yes
Change on border	Change border time (Dropdown) Change border location (Dropdown) Change in running days (Dropdown)*	No	Yes

* Optional parameters

Table 4 Set of parameters in case of path modification

Parameter	Value	Mapping	
		Email subject	Email body
Timetable period	Year (e.g. 2021) (Dropdown menu)	No	Yes
Requested running days to be changed	Date (01.01.2021) (Open text field)	No	Yes
Type of traffic	Freight (Dropdown menu) Passenger (Dropdown menu) Engine running light (Dropdown menu)	No	Yes
Train number/Path number	Open text field	Yes	Yes
C-OSS	Optional checkbox *	No	Yes
RUs/Applicants	Open text field	No	Yes
Border	Location of border crossing *	Yes	Yes
Change on border	Change border time (Dropdown) Change border location (Dropdown) Change in running days (Dropdown) *	No	Yes

* Optional parameters

An example of a mandatory parameter window for path modification process type is shown in Figure 3.

Path modification parameters

Timetable period	TT2020
Requested running days to be changed	01.09.2020-11.12.2020
Type of traffic	Freight
Train number/Path number	123456
C-OSS	<input checked="" type="checkbox"/>
RUs/Applicants	Lineas
Border	Somain-FSC Attente P Mouscron-Frontiere
Border time	01.09.2020 15:45

Figure 3 Mandatory parameter window for path modification process

e. Message

An optimal way of handling the messages will be preferred, as well as a good user-friendly solution while taking into consideration the costs for development. The tenderer is asked to make a proposal in this regard.

In order to generate a message, the tool will ask the user to indicate the language in which the message will be generated. There will be the possibility to select more than one language and

the message will be generated into selected languages. The receivers of the message will be paired with the language in which he/she will receive a message.

The message will be generated from a standardised text and contain the given parameters. Below the message, there will be the signature of the person sending the first message, including his/her name, company, position, email contact and phone contact (if provided in the user settings). The user should have a possibility to add an attachment.

The initial message will be sent by the tool. After the initial message is sent from the tool, the following correspondence will be conducted via an email client. The first receiver when clicking on “reply to all” has to be able to reply to the person who sent the initial message. The tenderer is asked to make a proposal in this regard.

The initial message will be addressed to the people selected from the address book and the message will be sent in cc also to pre-defined joint corporate emails (for instance planning@infrastructuremanager.eu).

Email subject name for a message will be automatically generated by the system based on the parameters selected by the administrator of the contacted IM. Email subject will contain the following information, as it can be seen in Figure 4:

- First day of operation (which will hint a planner timetable period)
- Path number
- Border point
- Type of traffic
- Order number consisting of five digits

➤ Send	From	Stephane.LEGEAY@reseau.sncf.fr
	To	oss@acf.etat.lu; olivier.broy@acf.etat.lu
	Cc	COORDINATION.INTERNATIONALE@sncf.fr
	Subject	15.12.2019, 123456, Somain-Antwerpen, Passenger, 00001

Dear SNCF Reseau colleague(s),

We contact you to coordinate the following **Late Path Request** for the train path: **123456**

Annual service: **TT2020**

First day of Operation: **15.12.2019**

Requested running days to be changed: **01.09.2020-11.12.2020**

at the border point of **Somain-FSC Attente P – Mouscron-Frontiere**

C-OSS concerned:

Applicants concerned: **Lineas**

Type of traffic: **Passenger**

Suggested time at the border point: **15:45**

Specify the type of pick-up at the border and/or the duration if necessary: **Crew change, 30 min**

Note: Circulation schedule mentioned in the route sheet is the one at its point of origin

Important comments:

Kind regards,
[Email signature]

Figure 4 An example of an email generated by TTcom

f. Organisational structure

The creation and updating of the organisational structure will be delegated to the administrator user. The administrator will have the possibility to add/edit/remove top levels and sub-levels depending on their requirements.

When a level and sub-levels are created and defined, the administrator will be able to assign a contact person.

The contact person will contain the following information:

- Name, surname
- Email
- Telephone
- Language in which the message should be sent (if the translation is provided)
- Department/location
- Comments

The organisational view (Figure 5) will also include a search box in order to quickly search a certain person by name in all objects (in case of replacement to quickly find all location where this person was in the address book). The tenderers will be asked to evaluate the price and difficulty of replacement function for the name in all fields where it is written.

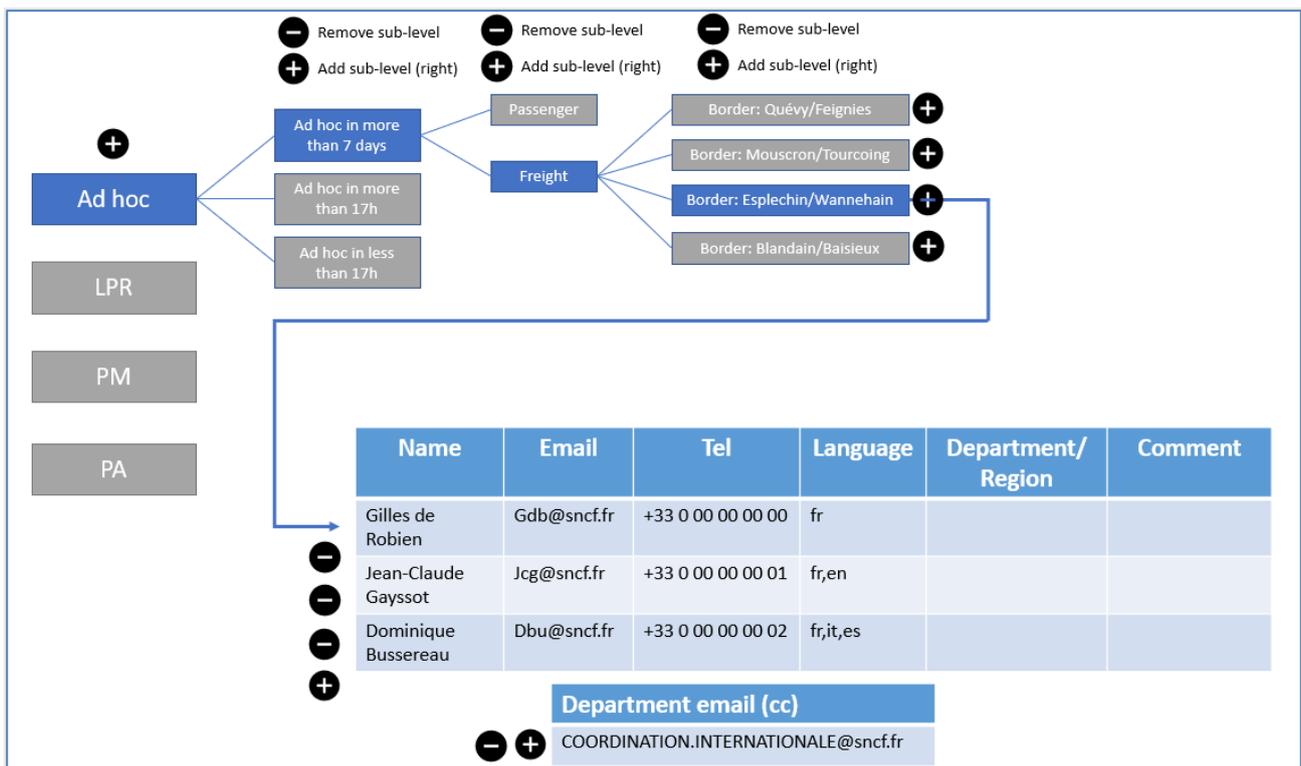


Figure 5 Organisational view in TTcom

* Default process types: Ad-hoc, LPR, PM, PA cannot be removed. Only the process types which were created additionally by the IM administrator will be subject for removal.

g. Personal settings

Each user should have his/her personal settings (Figure 6) where (s)he can change the password or the email signature (when the initial message is sent by this user).

Personal settings		
User profile	Contact	
SNCF Reseau	Street	Additional address info
Change password	PO Box	Zip Code
Select spoken language	City	Country
Email signature	Email*	Tel*
IM administrator dashboard		

Figure 6 Personal settings

* *Change password* – forwards user to a new window for password change

* *Select spoken language* – forwards user to a new window with a list of available languages to choose from for interface and communication

* *Email signature* – forwards user to a new window where he/she can define email signature used in messages

* *IM administrator dashboard* – available only for IM administrator accounts. It forwards the user to IM Administrator dashboard where specific administrator's tasks can be carried out.

5. IM Administrator dashboard

IM Administrator dashboard (Figure 7) will have the following buttons:

- **User administration** – forwards to a new window where user accounts can be created, modified and deleted. In order to create user account, email address, validity period and telephone number are mandatory. By default, validity period is infinite for every user, but IM/RFC administrators can set an exact expiry date (e.g. 31.07.2022) for each user.
- **Edit parameters** - forwards to a new window where default parameters can be adjusted depending on the requirements.
- **Organisational structure** – forwards to a window where organizational structure is defined.
- **Translate messages** – forwards to a translation environment where message will be translated.
- **Translate UI** – forwards to a translation environment where user interface can be translated
- **Translate org structure** – forwards to a translation environment where organisational structure of other IMs can be translated.

IM Administrator dashboard		
User administration	Edit parameters	Organizational structure
Translate message	Translate UI	Translate org structure

Figure 7 IM Administrator dashboard

Translation will be carried out by IM Administrators. Translation environments for the message (Figure 8), user interface (Figure 9) and organizational structure (Figure 10) will be

accessible by clicking the corresponding button within IM Administrator dashboard. Translation environment will contain phrases in English which IM Administrator will translate into his/her language in corresponding column. Translated phrases will be automatically updated in a message, user interface and organisational structure of corresponding language. If there is no translation in another language, the system will use English by default.

Translate message							
English	French	Dutch	German	Swiss	Italian	Slovakian	Spanish
Hello							
Please find attached a coordination request for the train path							
Annual service							
Requested running days to be changed							
at the border point of							
C-OSS concerned							
RU (s) concerned							
Activitv							
Suggested time at the border point							
Specify the type of pick-up at the border and/or the duration if necessary							
Note: Circulation schedule mentioned in the route sheet is the one at its point of origin							
Important comments							
Kind regards							

Save translation

Figure 8 Translation environment for the message

Translate user interface							
English	French	Dutch	German	Swiss	Italian	Slovakian	Spanish
Select IM for coordination							
Your favourite searches							
Process type							
Sub-level							
Address book							
Ad-hoc							
Late Path Request							
Path Modification							
Path Alteration							
Parameters							
Timetable period							
Requested running days to be changed							
Enerate pre defined message							

Save translation

Figure 9 Translation environment for user interface

Translate organizational structure							
English	French	Dutch	German	Swiss	Italian	Slovakian	Spanish
Ad-hoc							
Late Path Request							
Path Modification							
Path Alteration							
Less than 7 days							
More than 17 hours							
Less than 17 hours							
Passenger							
Freight							
Border							
Name							
Email							
Phone							
Language							
Comment							

Figure 10 Translation environment for the organizational structure