

Baltic – Adriatic Rail Freight Corridor 5

Annual Report 2021

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Message of the Chair of the Management Board

Dear Reader,

2021, declared by the EU Commission the European year of Rail, was a year of tackling both existing and new challenges for RFC5. With COVID-19 pandemic dominating the past year, we had to adapt to constantly changing circumstances, and I believe this Annual Report proves our ability to do so. Despite the need to work remotely and the limitations applied to the physical meetings, we managed to complete the plan for 2021 almost in its entirety. Special thanks goes to RFI for providing the RFC 5 with 3 Managers to support day – to – day operations of the Corridor. As a part of RFC 5's continuous strive to improve quality and efficiency of services, a comprehensive Strategy Paper has been published.

In 2021, RFC5 continued to join forces with other RFCs and Customers to propose a comprehensive and attractive offer, including introduction of another premium product feature such as priority for PaPs trains in case of ICM event, following the success of ExtraLong Train PaPs a few years ago, the launch of ExtraHeavy Train PAPs the year before, as well as other tailor – made products. RFC5 also continued to work closely with RNE on various data – quality and contingency management projects.

Performance – wise, year 2021 has shown some signs of market revival, with promising results coming from some of the KPIs; therefore there is still a room for improvement.

2021 was also the year of the Capacity Study completion and the need to further integrate national and international data to provide a better service has become evident.

With the global situation still uncertain in 2022, the importance of multilateral cooperation is bigger than ever, therefore we aim to continue working together for a better, more competitive and innovative rail services.

I wish you a pleasant reading.

Jarosław Majchrzak

Chairman of the General Assembly

EEIG Rail Freight Corridor Baltic-Adriatic

1. Governance

At the end of 2021 the term of the EEIG Managers in charge expired. In preparation to change of Manager, in accordance with the Internal Rules of the EEIG, the General Assembly launched a call for new Managers during the summer 2021. The C-OSS Manager was appointed as new Executive Manager effective from 1st of January 2022. Then two new resources provided by RFI were appointed Managers: the Corridor Infrastructure Manager, as part time position, effective from 1st of January 2022; and the C-OSS Manager, effective from 1st February 2022.

The General Assembly would have welcomed, in accordance with the EEIG Statute, an international composition of the PMO. However, due to lack of candidates from the Members, RFI made an extra effort and provided three Managers.

2. Covid-19 and its impact on RFC 5

During 2021 the continuation of the Covid-19 emergency had a huge impact on the entire European continent, on people's life and the economy. The individual Infrastructure Managers and Members states had to take initiative in order to limit the spread of virus from country to country. Of course, the freight transportation business, and the Rail Freight Corridors Working routines have been influenced, too.

The Baltic-Adriatic RFC continued operations with new methodology of work, made of remote work and teleconferences. The new methodology proved to be successful, effective and efficient. The Work Plan was performed almost fully.

3. Corridor Strategy

In 2021, Baltic Adriatic RFC Executive Board and General Assembly, with the support of the PMO, decided to boost their efforts towards a **more efficient and goals-driven Corridor**, by drafting a **Strategy Paper**, which can be downloaded [here](#).

4. Capacity Management

4.1. Preparation of PaPs offer TT 2023

The PaPs TT2023 offer was published on January 11th, 2022 both in [PCS](#) and in CIP (as a document available for download, on [PaPs catalogue TT2023](#)).

The Working Group Capacity, Timetable and C-OSS (WG Cap/TT/COSS) designed the offer. The bases for the construction of the offer were as usual, the outcomes of the initial corridor **Transport Market Study** and the **wishes** expressed by the users of all RFCs, jointly collected by a survey distributed by the C-OSS Community. Baltic-Adriatic RFC in 2021 managed to fulfil about **83%** of customers' wishes.

In order to allow the highest degree of flexibility:

- every PaP is composed of **several** geographical **sections**;
- **full flexibility** of times in both request and offer is allowed even at the border points.

In terms of Origin/Destination, the PaPs are displayed in Table 1.

Origin	Destination	Pairs
Chalupki	Barbosi	1
Czechowice Dziedzice	Bratislava	1
Oradea	Piacenza	3
Małaszewicze Południowe	Česká Třebová	2
Žilina zr.st.	Zebrzydowice	1
Gdynia Port	Ostrava	2
Zebrzydowice	Ostrava	1
Świnoujście	Ceska Trebova	1
Dobra	Koper	1
Dunajská Streda	Koper/Trieste	1
Žilina zr.st.	Livorno	1
Gliwice	Piacenza	1
Malina	Gliwice	0,5
Chalupki	Cervignano	1
Breclav	Parma	1
Breclav	Koper	1
Chalupki	Lonato	1
Schwechat	Venezia	1
Villach	Trieste	1
Villach	Pordenone	1
Chalupki	Ostrava	1
Zebrzydowice	Ostrava	1
Dobra	Pisa	1
Chalupki	Fossacesia/Bologna	1

Table 1 – List of PaPs offer for TT 2023 of Baltic-Adriatic RFC RFC BA

Several PaPs reach the real O/D of the freight traffic flow, even though is outside the Baltic-Adriatic RFC lines, for instance Lonato, Piacenza, Livorno for RFI and Gliwice for PKP PLK.

Several PaPs are multicorridor PaPs:

- PaPs Czechowice Dziedzice – Bratislava are harmonised with RFC 11.
- PaPs Chalupki-Barbosi are offered jointly with PaPs of RFC 7,9,11.
- PaPs Małaszewicze Południowe- Česká Třebová are offered jointly with RFC 9, 11.
- PaPs Piacenza-Oradea are offered jointly with RFC 7 and 9.
- PaP Malina Gliwice is offered jointly with RFC 7,9,11

In terms of volumes, about 6,2 mln PaPs km*days were offered.

Table 2 shows the capacity offered by RFC 5 C-OSS since set up of RFC 5. There is a clear increase in terms of offered capacity (+10% between TT2022 offer and TT2023 offer).

Capacity volumes delivered to C-OSS by each RFC 5 IM for PaPs TT2022 offer are shown in Table 3.

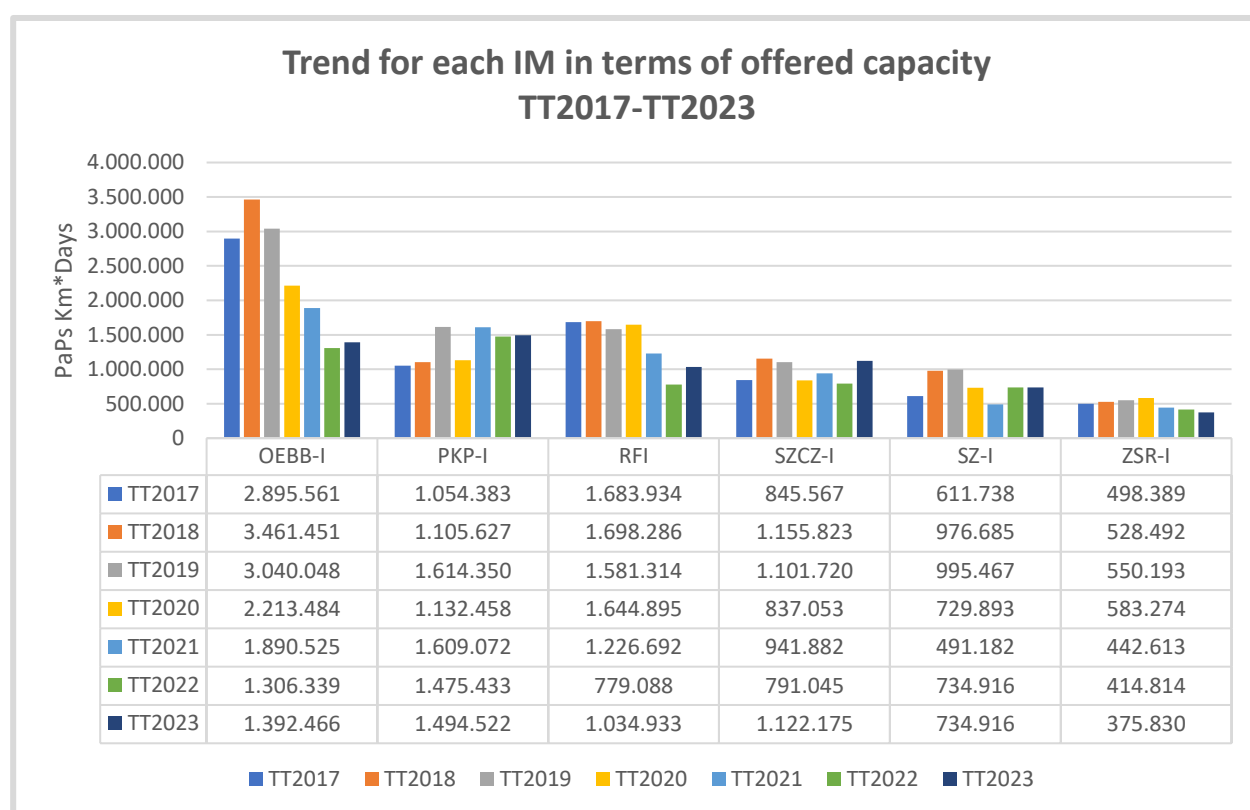
TT Year	Offered capacity PaPs yearly TT	Offered Reserve capacity
	(Km*days)	
TT2016		3.8 mln
TT2017	7.589.572	3.899.045
TT2018	8.926.364	3.481.420
TT2019	8.883.093	3.579.208
TT2020	7.141.056	3.431.423
TT2021	6.601.967	3.3 mln
TT2022	5.501.634	3.4 mln
TT2023	6.154.873,97	

Table 2: Baltic –Adriatic RFC: trend of capacity offer and requests 2016-2021 (source: C-OSS elaboration)

Table 3 Baltic –Adriatic RFC capacity delivered by RFC 5 IMs (source: C-OSS elaboration)

IM	Offered Capacity (Km*Days)
ÖBB-I	1.392.466,4
PKP-I	1.494.552,3
RFI	1.034.933,6
SŽCZ-I	1.122.175,6
SZ-I	734.916
ŽSR-I	375.830
Total	6.154.873,9

Graphic 1 displays the **trend of PaPs offered capacity per IM since the launch of RFC 5**



Graphic 1: Baltic –Adriatic RFC: trend of offered capacity per IM 2017-2023 (source: C-OSS elaboration)

The innovative product launched in the last years, that is the offer of “**ExtraLong Train PaPs**” from/to Port of Koper, had a good market feedback in the past years . Therefore Baltic-Adriatic RFC offered the product for TT2023 too. They are PaPs pair connecting Dobra in Poland and the port of Koper allowing running of trains of 590m length, which is significantly longer than in the standard offer of IMs (525m). That clearly brings about an economic benefit to the users of the RFC.

Furthermore, another premium product developed by RFC5 CAP WG, the “**ExtraHeavy Train PaPs**”, was proposed again in the offer for TT2023. This product consists of a pair of PaPs from/to Port of Trieste and Villach, and a pair from/to Pordenone and Villach, allowing the run of 1800t heavy trains, which is 200t heavier than the standard along RFI network.

4.2. Publication of Reserve Capacity Offer

Baltic-Adriatic RFC published the Reserve Capacity (RC) offer for timetable 2022, in form of time slots, in **October 2021 in PCS**. This offer is kept available during the running timetable period, in order to meet **ad hoc market needs**. The quantity offered was stable compared to previous years, as shown in table 2.

As usual Authorized applicants could request one path per day and per direction the C-OSS, on the line sections of the Corridor according to train parameters as shown in the catalogue. The deadline to submit a request is **30 days** before the first planned train run.

In 2021 Authorized applicants placed 2 **requests**. They concerned trains between Hungary and the Czech Republic and involved three RFCs COSSs: RFC5, 7 and 9.

4.3. Short term capacity offer

During 2021 as well Baltic-Adriatic RFC continued to offer its innovative **short-term** capacity product.

Updated and transparent terms and conditions were published as annex to the CID.

Baltic-Adriatic RFC users had the chance to request any tailor-made path for more than one operational day. The latest deadline to request capacity was **5 days**.

Despite the efforts needed to make the implementation of such commercial offer possible, applicants' requests were far below the expectations.

5. Operations

5.1. Train Performance Management (TPM)

The WG PM&O continued its activities together with the RNE TPM WG in order to improve the performance reports and to monitor the operational bottlenecks.

Regarding the actions to improve punctuality, the Corridor promoted with the RAG and TAG the set-up of quality circles. However, besides the RFC IMs, the volunteers were only two terminals and one RU, which was not sufficient to have around a table of partners of an international train run from origin to destination, with the purpose to analyse together the delay reasons and adopt common actions. Therefore, the project couldn't be started.

5.2. Integration of Terminals with RNE TIS

The Corridor promoted among the TAG and provided support for the integration of the IT systems with the RNE TIS. Two TAG members showed interest: Port of Venice and Bologna Interporto.

The C-OSS coordinated a set of teleconferences between the partners (RNE, Terminals staff, RFI) with the aim of integrating the information owned by the terminals about the arrival/departure times (and delays) of the trains with TIS. The ScanMed and Med RFCs were also invited to take part in the teleconferences.

The development of an interface between the terminals IT systems and RNE is still in progress.

5.3. Data Quality

The PMO actively took part in the Data Quality project set up by RNE in 2020 with the aim of improving quality of data in TIS.

The project consists of 3 main subprojects carried on by 3 WGs and aimed at:

1. define and agree on the standard requirements on data delivery and processing
2. ensure the implementation via establishing the regular process of data quality monitoring

3. define and agree on the common standards to be applied for RFC Train Performance Management reports

5.4. International Contingency Management

5.4.1. Revision of the International Contingency Handbook

RFC5 PMO continued its active participation in the RNE “**ICM Handbook Revision Project**”.

The updated ICM handbook was approved by the RNE GA in May 2021 and published. Main updates are related to the capacity allocation rules, the definition of the processes between the RFC and IMs in case of disruptions and the annexes to the Handbook. A case study report template to be filled in after the end of the ICM case was agreed. The re-routing document template to be used by RFCs was updated and further harmonized. Currently the ICM WG is working on the RNE tool to be used for declaration of ICM cases.

The Baltic-Adriatic RFC updated its **ICM rerouting overview document** according to the new agreed guidelines and can be downloaded [here](#).

6. Performance

6.1. Key Performance Indicators

6.1.1. Capacity KPIs

In April 2021, Baltic-Adriatic RFC received 35 requests for the yearly TT 2022, with an increase of 52% YoY.

The **capacity request ratio increased from 22% to 34%**, whereas the **PaPs request ratio increased from 48% to 66%**.

There were no requests in conflict, meaning that the design of PaPs offer further improved YoY.

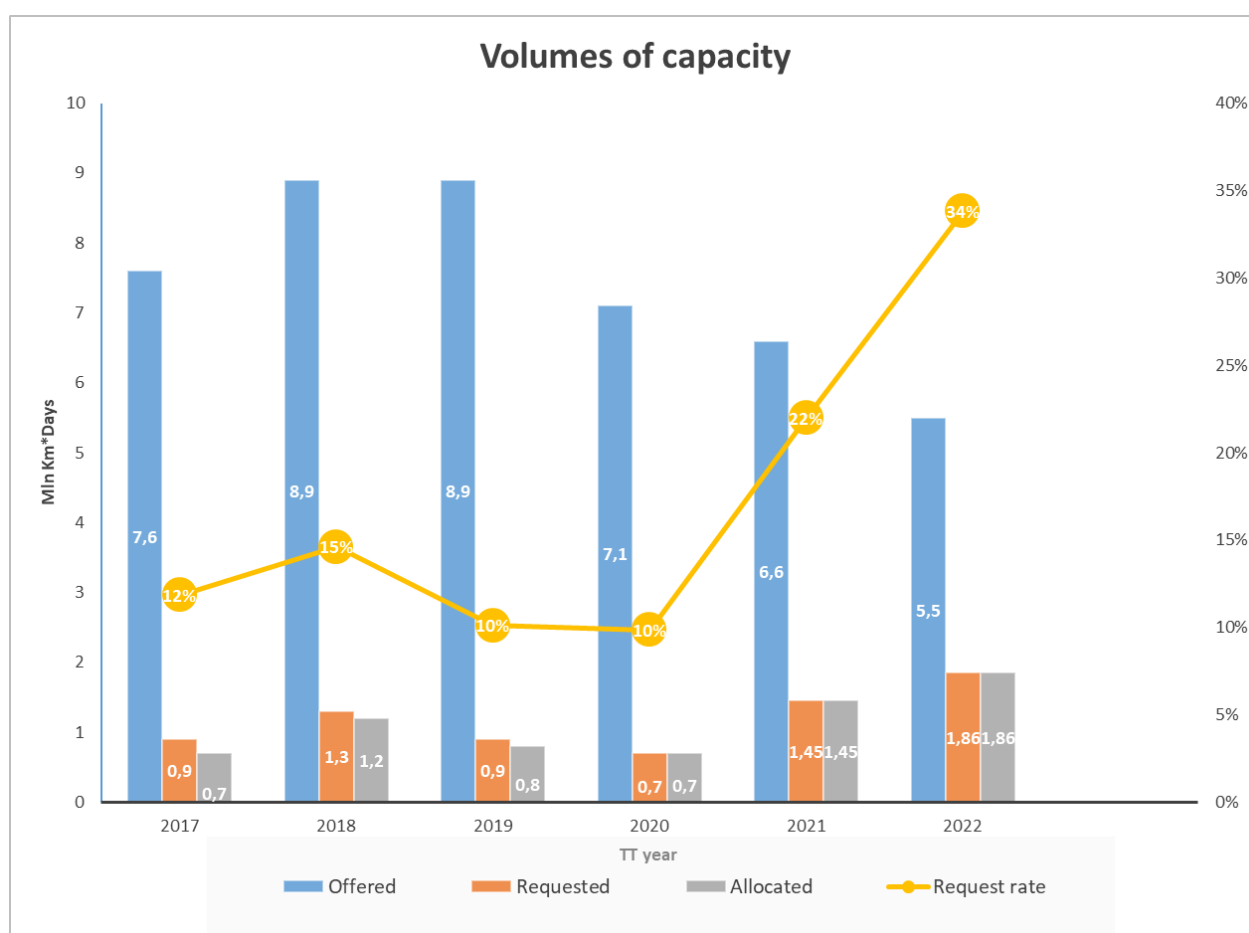
Table 4 displays the main KPIs. It is worth noting that if the volume of requested capacity is close to the volume of pre-allocated capacity, this means that there are very few conflicting requests or bad requests (i.e. requests with errors).

KPIs	TT2021	TT2022	% Δ
Volume of requests	23	35	52%
Number of conflicts	0	0	Na
Number of conflicts/Nr of requests (%)	0%	0%	Na
PaPs offered (a)	44	50	0%
PaPs requested (b)	21	33	57%
PaPs request ratio (b/a)	48%	66%	18%

Volume offered capacity (PaP Km*days) (c)	6.601.967	5.501.635	-17%
Volume of requested capacity (PaP Km*days) (d)	1.446.036	1.862.188	29%
Capacity request ratio (d/c)	22%	34%	123%
Volume of capacity at pre-booking (PaP Km*days)	1.446.036	1.862.188	29%
Volume of capacity at final offer (PaP Km*days)	1.446.036	1.862.188	29%

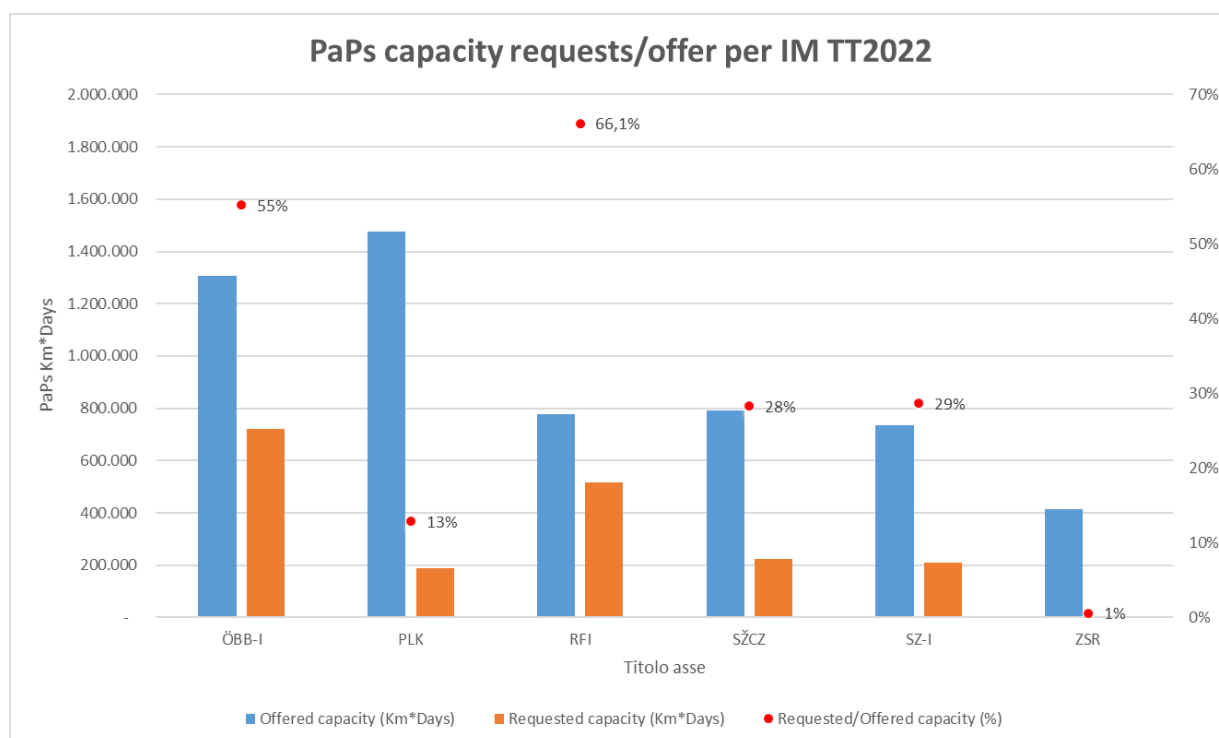
Table 4 - Baltic –Adriatic RFC: main capacity KPIs regarding PaPs allocation for TT2022 vs TT2021 (source: PCS/OBI/C-OSS elaboration)

Graphic 4 shows **trends of KPIs regarding PaPs capacity volumes** from the launch of Baltic-Adriatic RFC. Baltic-Adriatic RFC has been working on the improvement of performance and results of 2021 have been promising that the right path has been taken.



Graphic 2 - Baltic –Adriatic RFC: trends of PaPs capacity volumes KPIs (source: PCS/C-OSS elaboration)

Graphic 5 shows the ratio between the PaPs capacity requested and the PaPs capacity offered *per IM* of Baltic-Adriatic RFC. Compared to previous years, in Austria and Italy a big improvement was recorded. The C-OSS and RNE actively supported RUs with their PCS requests.



Graphic 3 - Baltic –Adriatic RFC ratio of PaPs capacity requests/offer per IM TT2022 (source: C-OSS elaboration)

Table 5 below displays the **ratio between the volume of requests to the C-OSS in yearly TT and the total volume of requests for international freight trains** crossing Baltic-Adriatic RFC borders received by the IMs of Baltic-Adriatic RFC (including requests for PaPs). The data are *per border*.

Border	TT2021	TT2022	TT2023
Zebrzydowice- Petrovice u Karviné	19%	16%	12%
Chałupki - Bohumín-Vrbice	12%	4%	8%
Międzyzlesie- Lichkov	25%	0%	0%
Mosty u J. - Cadca	5%	0%	4%
Bratislava-Petržalka št. hr. - Kittsee	4%	5%	0%
Devinska NV- Marchegg	0%	0%	0%
Břeclav - Hohenau	4%	6%	14%
Spielfeld-Straß - Šentilj	1%	4%	4%
Villach - Tarvisio B.	7%	3%	8%
Sežana - Villa Opicina	1%	0%	0%

Table 5 - Baltic –Adriatic RFC: ratio between the volume of requests to the C-OSS in yearly TT and the total volume of requests for international freight trains crossing Baltic-Adriatic RFC borders received by Baltic-Adriatic RFC IMS (source: C-OSS elaboration)

Figures show that requests submitted to C-OSS are still a **low fraction** along the whole RFC, despite the slight positive trend identified for certain cross border points (Břeclav – Hohenau, Villach-Tarvisio) compared to the past. However, please note that for borders common to several RFCs, the cumulated share is higher but not reported in the table.

In order to have an idea on the **weight of the role of the Corridors in the yearly Time Table process**, the capacity allocated by the C-OSSs of RFCs was compared with the total scheduled traffic *per* border point of RFC 5.

Table 6 provides information about the share of capacity allocated in the yearly TT by the C-OSSs of RFC Network for each Baltic-Adriatic RFC border compared to the total volume of planned trains crossing those Baltic-Adriatic RFC borders.

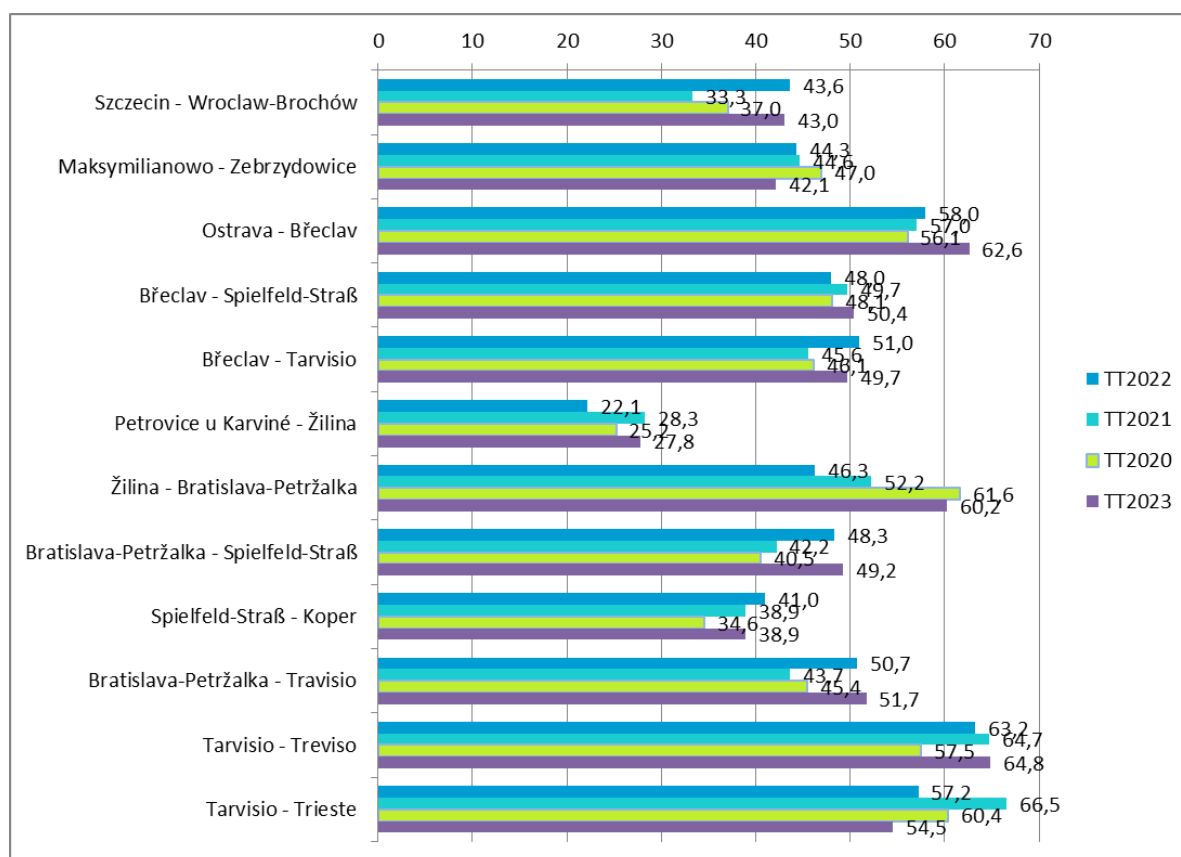
Overall, the capacity allocated by Baltic-Adriatic RFC C-OSS is still a small share of overall planned train volumes, falling below 10%. Figures for certain cross border points were not provided by other RFCs.

Border		TT		
		2020	2021	2022
PL-CZ	Petrovice u Karviné - Zebrzydowice	11%	16%	14,3%
	Bohumín-Vrbice - Chałupki	7%	3%	6,2%
	Lichkov - Międzylesie	7%	0%	0%
CZ-SK	Čadca - Mosty u Jabl.	75%	73%	18,6%*
AT-SK	Bratislava-Petržalka - Kittsee	5%	10%	1,3%*
	Devínska Nová Ves - Marchegg	0%	0%	0%
AT-CZ	Břeclav – Hoenau	4%	10%	9,5%*
AT-SLO	Spielfeld-Straß - Šentilj	6,4%	8%	10,7%*
IT-AT	Villach - Tarvisio B.	1,6%	4%	3,9%
IT-SLO	Sežana - Villa Opicina	9%	10%	11%*

Table 6 Baltic –Adriatic RFC: ratio of capacity allocated by the RFC 5 C-OSS in TT2022 compared to the total volume of planned trains crossing the RFC 5 borders (source: C-OSS elaboration)

- Čadca - Mosty u Jabl. : joined figure with RFC9
- Sežana - Villa Opicina : joined figure with RFC6
- Bratislava-Petržalka – Kittsee: joined figure with RFC 7 and 9
- Spielfeld-Straß – Šentilj: joined figure with RFC10
- Břeclav – Hoenau: joined figure with RFC7

Graphic 6 compares the average **planned speed** of PaPs on Baltic-Adriatic RFC sections YoY. The goal of this KPI is to be able to assess the evolution of the planned speed of PaPs over time. The values take into account the planned commercial and operational stops, including those needed by users (e.g. to change locos or drivers). Overall, the average speed has a slight **uptrend** (+4%).



Graphic 4 – average planned speed of PaPs on Baltic-Adriatic RFC sections YoY

6.1.2. Operations KPIs

During 2021, the overall average punctuality of all trains run at entry and exit of the RFC BA lines are displayed in Table 8

	Punctuality 15 min.	Punctuality 30 min.
RFC ENTRY	43%	50%
RFC EXIT	29%	34%

Table 8: yearly average punctuality figures (source TIS)

Compared to the year before, the punctuality 30min at exit decreased by 4%, while at entry it was stable. The reliability of freight decreased slightly due to a higher number of passenger trains compared to 2020.

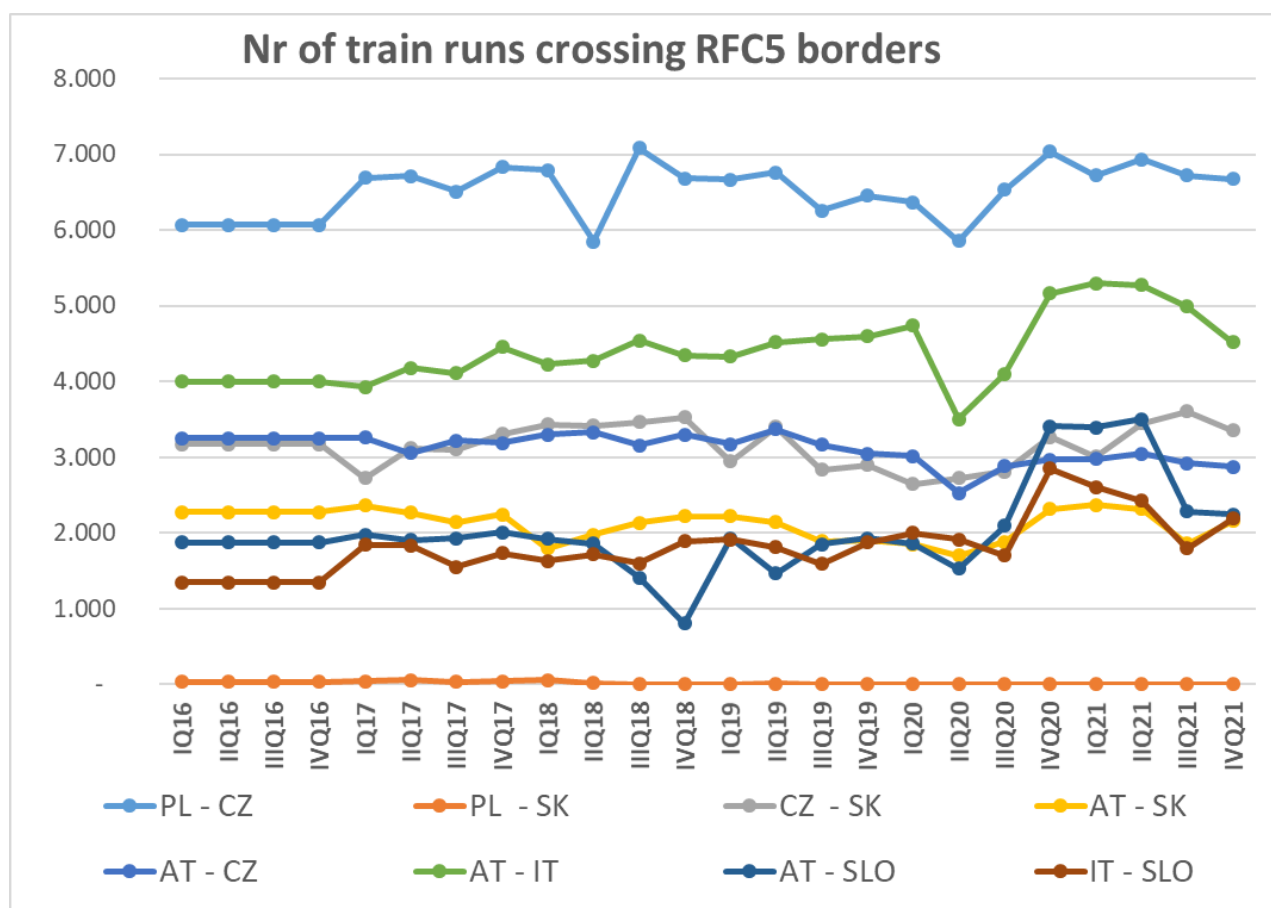
6.1.3. Market KPIs

Table 7 displays the trend of volume of **cumulated gross tons** transported by rail across Baltic-Adriatic RFC borders. High positive figures do not necessarily imply that rail transport increased. They may be due to works (therefore goods moved across alternative borders). It should also be considered that not all borders between two IMs belong to Baltic-Adriatic RFC and therefore are not in the table, flows between Slovenia and Austria being a notable example. The high positive trend was due to track closure at Villach-Jesenice line due to works at Karavanken in the first part of the year. Most of trains were rerouted via border Villach-Tarvisio and Villa Opicina-Sezana borders.

Borders	2021	Δ YoY	2020	Δ YoY	2019
Zebrzydowice- Petrovice u Karviné	7.582.875	-13%	8.725.896	-2%	8.908.320
Petrovice u Karviné - Zebrzydowice	4.659.052	-20%	5.858.587	-5%	6.136.408
Chałupki - Bohumín-Vrbice	11.102.225	21%	9.207.178	5%	8.787.399
Bohumín-Vrbice - Chałupki	7.262.739	24%	5.852.496	22%	4.812.797
Chałupki - Bohumín hl n	1.591.412	203%	526.020		na
Bohumín hl n - Chałupki	1.237.453	201%	411.475		na
Międzyzlesie - Lichkov	538.834	21%	446.365	-23%	582.260
Lichkov - Międzyzlesie	429.524	14%	377.739	15%	328.976
Total PL - CZ	34.404.114	10%	31.405.756	6%	29.556.160
Zwardoń- Skalité št. hr.	0		0	-100%	3.099
Skalité št. hr. - Zwardoń	0		0	-100%	2.276
Total PL - SK			-	-100%	5.375
Mosty u J. - Cadca	8.258.612	17%	7.036.580	-9%	7.709.039
Cadca - Mosty u J.	11.710.502	24%	9.462.410	-6%	10.103.240
Total CZ - SK	19.969.114	21%	16.498.990	-7%	17.812.279
Bratislava-Petržalka št. hr. - Kittsee	5.241.326	10%	4.782.738	0%	4.799.019
Kittsee- Bratislava-Petržalka št. hr.	3.459.151	21%	2.857.870	-5%	2.998.704
Devinska NV- Marchegg	116.200	259%	32.359	-78%	146.024
Marchegg - Devinska NV	24.628		-	-100%	85.278
Total AT - SK	8.841.305	15%	7.672.967	-4%	8.029.025
Břeclav - Hoenau	8.897.074	6%	8.374.719	-12%	9.570.330
Hoenau-Břeclav	5.599.441	7%	5.242.868	-9%	5.755.701
Total CZ - AT	14.496.515	6%	13.617.587	-11%	15.326.031
Villach - Tarvisio B.	13.514.693	17%	11.517.443	2%	11.309.414
Tarvisio B.-Villach	10.743.561	19%	8.993.194	-1%	9.119.444
Total AT - IT	24.258.254	18%	20.510.637	0%	20.428.858
Spielfeld-Straß - Šentilj	5.005.341	26%	3.964.189	26%	3.146.909
Šentilj - Spielfeld-Straß	7.672.280	42%	5.418.599	23%	4.400.525
Total AT - SLO	12.677.621	35%	9.382.788	24%	7.547.434
Sežana - Villa Opicina	6.754.686	2%	6.627.630	19%	5.581.596
Villa Opicina - Sežana	3.175.487	21%	2.625.235	29%	2.042.835
Total IT - SLO	9.930.173	7%	9.252.865	21%	7.624.431

Table 7 - trend of volume of cumulated gross tons transported by rail across Baltic-Adriatic RFC borders.

The data above should be analysed in combination with Graphic 7, which shows the volume of trains which ran across Baltic-Adriatic RFC borders in the last four years. In last quarter of 2020 and first part of 2021 the uptrend follows up the closure of Villach-Jesenice due to works at Karavanken.



Graphic 5 - Baltic-Adriatic RFC: volume of trains running along Baltic-Adriatic RFC borders (RFC5 IMs data)

6.1.4. New KPIs

In 2021 the Baltic-Adriatic RFC worked on the development of new KPIs in cooperation with RNE, specifically, the dwelling times at borders and the train*Km. Such KPIs are expected to be calculated for the first time in 2022.

6.2. User Satisfaction Survey

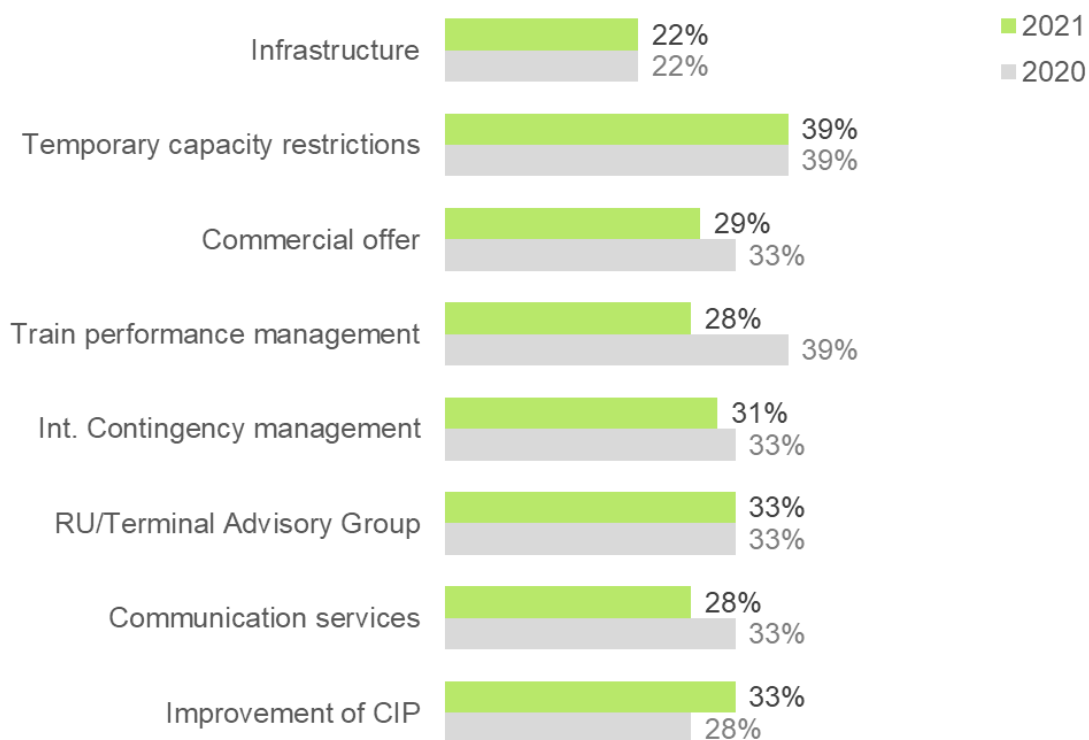
In 2021 the RFCs jointly ran the in-house USS. The questionnaire was rather stable. The field work went from August till end of September.

RNE USS WG experts from RFCs produced an overall report and individual reports for each RFC.

Overall, the number of responders increased by 4%, whereas the evaluations decreased by 4%.

Regarding the Baltic-Adriatic RFC, **evaluations were stable YoY**. There were 18 evaluations, 13 from RUs and 5 from terminals/ports. **72%** of respondents were generally **satisfied** with Baltic-Adriatic RFC.

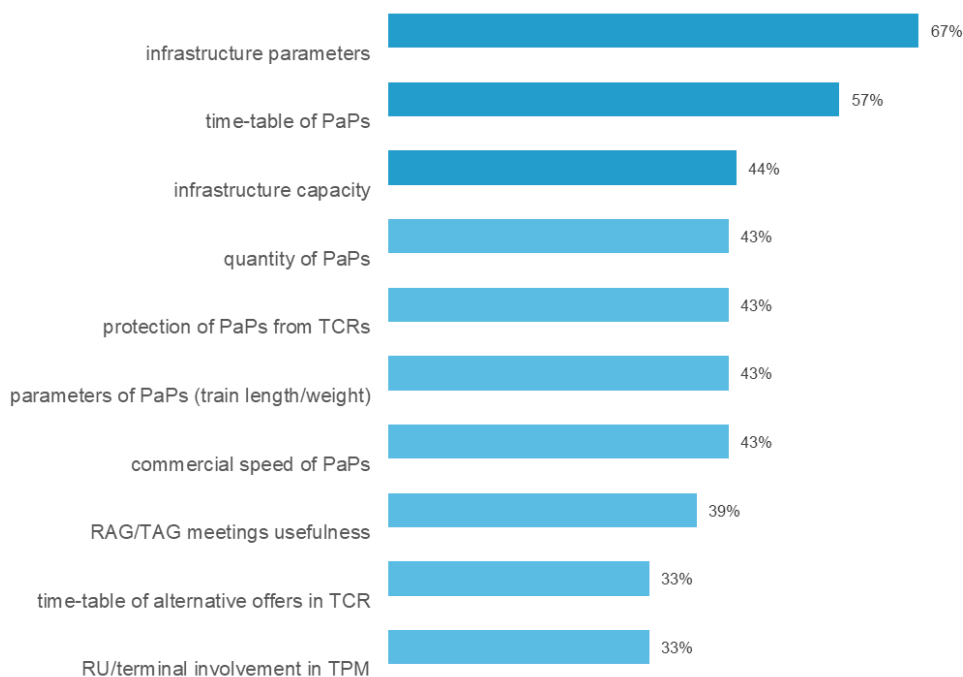
The level of satisfaction with main topics dealt with by Baltic-Adriatic RFC are shown by Graphic 8



Graphic 6 General satisfaction with main topics dealt by Baltic-Adriatic RFC – Source: *Survio/c-oss elaboration*

Users seem to be most satisfied with TCRs management and least satisfied with Infrastructure.

When asked about more specific areas of improvements, PaPs features were also mentioned (Graphic 9).



Graphic 7 - Specific areas of improvement - Source: *Survio/c-oss elaboration*

Regarding infrastructure, there is a clear users' need to improve infrastructure parameters and capacity.

Regarding TPM, users complained about low involvement in TPM activities: Baltic-Adriatic RFC invited RUs and terminals to cooperate in TPM activities aimed at improving punctuality, however there were only 3 volunteers.

It also seems that the awareness about the RFC initiatives is not high: for example, 39% of respondents were not aware of the premium PaPs offer (longer and heavier trains) and 44% were not aware of the Transport Market Study update presented during the previous year RAG/TAG meeting and mentioned in the last year AR.

The USS report for Baltic-Adriatic RFC can be downloaded [here](#).

7. Temporary Capacity Restrictions

Planned Temporary Capacity Restrictions (TCRs) are inevitable in order to keep the infrastructure and its equipment in good condition and to allow infrastructure development in accordance with market needs. The important issue when dealing with TCRs, is to ensure a maximum of available capacity during the period of restrictions. TCR-working group is responsible for dealing with this issue on corridor Baltic-Adriatic.

On Baltic-Adriatic RFC the TCR-management is organised on two levels:

1. TCR-working group as the **central group** to carry out the high - level coordination of TCRs, to set and perform strategic measures, to create and define procedures, and to provide the publication of TCRs on the Baltic-Adriatic RFC's communication tools (RFC [website](#), as well as RNE's [CIP](#)).
2. **Bilateral TCR-meetings** capable to coordinate TCRs on either side of all border-crossings of the corridor. In Austria, Slovenia and Italy also impacts (e. g. re-routings) from other RFCs (ScanMed, Mediterranean) are taken into consideration by a joint group of the involved IMs and RFCs.

Based on the experiences from RNE pilot of the first version of the **TCR-IT-Tool**, which was developed with contribution of members of Baltic-Adriatic RFC TCR WG, it was decided to continue with the project. During 2021 as well, the further developments were carried out, with the goal to achieve an extensive usage by both IMs and RUs.

The latest publication of TCRs took place on 21 December 2021 and the interactive file can be downloaded from [CIP. Next publication is envisaged in July-August 2022, according to the deadlines requested by RNE Guidelines and EU Directives.](#)

8. Studies

During the first half of 2021 the Capacity Study, started at the end of 2020, was completed.

The main objectives were drafting, assessing, developing and testing a completely new approach to international coordinated train path and capacity planning, **supporting the IMs, Terminals, RUs and Executive Board members in shaping an international capacity offer** that allows to increase the **attractiveness of rail freight transport**.

The first step was to create the context by a comprehensive data collection where all aspects that could influence an optimal timetable (in short, medium and long term) were taken into account (please see fig. 1). That served as **INPUTS FOR MODELING THE PLANNING TOOL**.

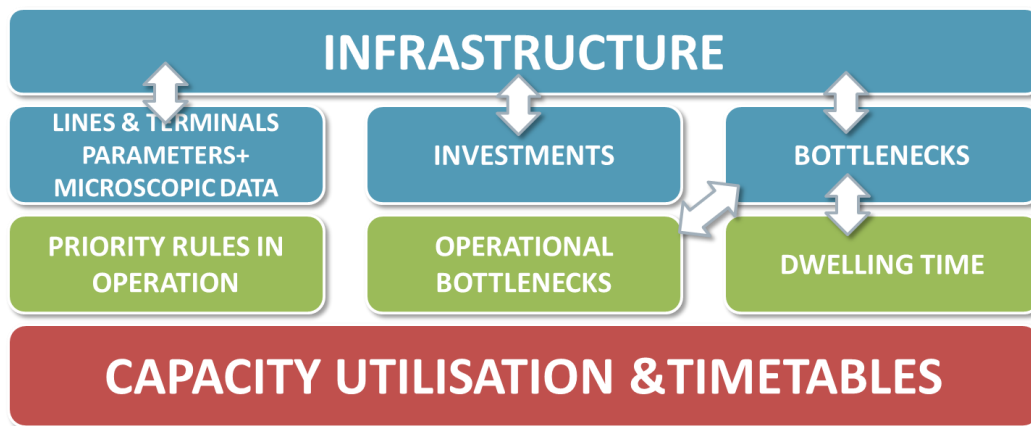


Figure 1 inputs for modeling the planning tool

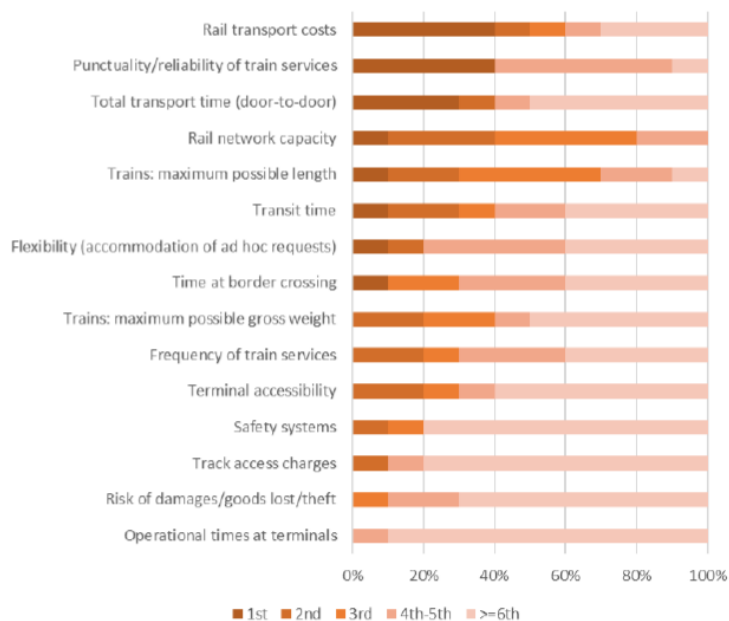
The second step, on the basis of the updated TMS of the BAC (2020), was to carry out a further market study in order to identify the **most promising O/D relations, along the corridor, for three time scenarios: 2018 (base year), 2022 and 2030**.

2030/2019	PL	CZ	SK	AT	SI	IT	HUR	UBR	NCE	WSE	SEE	Total
PL	-	4,039	684	256	900	1,550	185	332	9	0	8	7,963
CZ	4,039	-	1,203	1,221	950	675	186	667	39	0	10	8,991
SK	684	1,203	-	358	700	222	6	107	185	0	13	3,478
AT	256	1,221	358	-	1,195	1,886	51	149	17	0	44	5,176
SI	900	950	700	1,195	-	23	21	34	61	0	0	3,884
IT	1,550	675	222	1,886	23	-	991	26	850	0	1,343	7,566
HUR	185	186	6	51	21	991	-	8	5	0	0	1,453
UBR	332	667	107	149	34	26	8	-	18	0	1	1,341
NCE	9	39	185	17	61	850	5	18	-	0	1	1,184
WSE	0	0	0	0	0	0	0	0	0	-	0	0
SEE	8	10	13	44	0	1,343	0	1	1	0	-	1,420
Total	7,963	8,991	3,478	5,176	3,884	7,566	1,453	1,341	1,184	0	1,420	42,456

Table 9 additional train runs at 2030 vs 2019, countries matrix

A survey was run among stakeholders to rank the quality priorities for timetable planning (figure 2). That translates into requirements on path quality for the identified most promising O/Ds. It was later checked if these can be fulfilled

Figure 30: Ranking priorities for qualitative timetable planning



Source: Tplan elaboration based on RFC BAC 2020 Capacity Study Survey data

Figure 2 Ranking priorities for qualitative TT planning

In order to perform optimised **timetable project** (usable for *ad-hoc*, rolling and yearly planning), the Study investigated the functional/technical requirements of an **IT system** that is positioned as a layer above the national systems and receives data from them or feeds back timetable data for national sections of international trains to them.

A specific tool, TPS, was suggested. This was partly **customised** for the BAC RFC, where the infrastructure, investment and timetable data of the Corridor were uploaded and it could be **demonstrated** that the tool is able to support the planners with conflicts-free international TT creation, as well as to apply changes in case of change of context (e.g. TCRs). Below, a screenshot as an example (figure 3).

FindSlot functionality

- Solution is requested between Divaca – Koper
- Several solutions can be offered by the system
- Example of creating a new train into the system and finding a free slot fit it.
- The train (Div-koper) has a conflict with another train. The conflict will be solved by using find slot function.

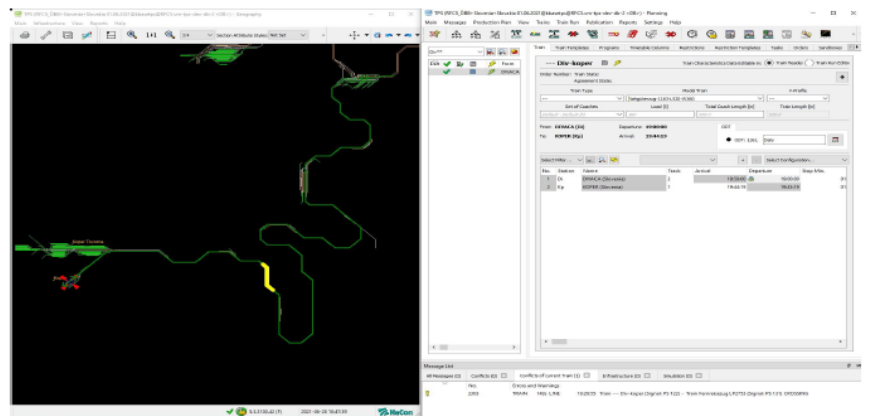


Figure 3 screenshot from the TPS system

The next step of the study was modeling and populating the system. In case of Oebb-I the network infrastructure data could be imported at micro level automatically. In the case of SZ-I and ZSR it was done manually. For the scenarios 2022 and 2030, the model kept into account the main infrastructure projects expected to be completed in those dates.

The 2019 Timetable data was imported. For the scenarios 2022 and 2030, additional transport demand (e.g. the identified most promising ODs) was loaded and it was assessed if there is capacity available to accommodate it. The outcome was a timetable (net travel time, arrival time) for the additional ODs identified by the market study section of the CS (figure 4 sums up the process steps).

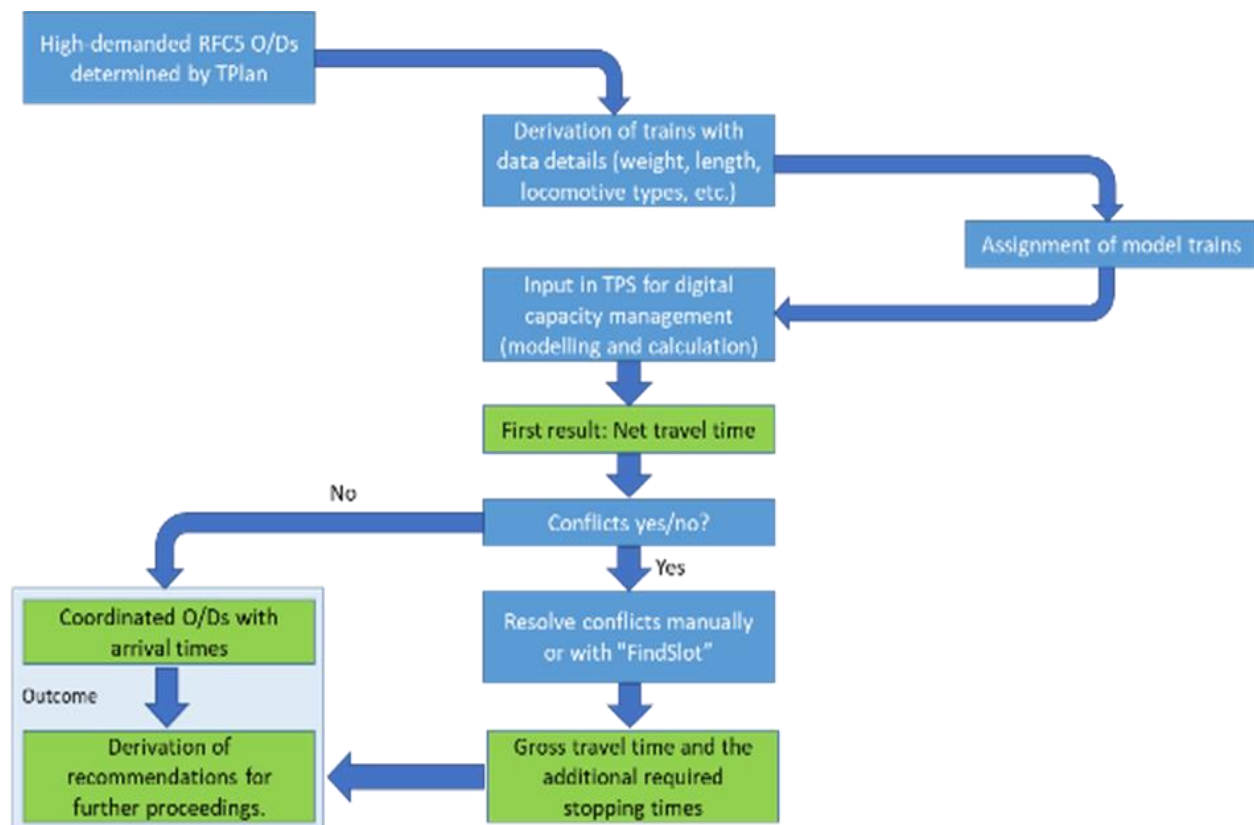


Figure 4 process steps to draft a TT for the most promising ODs

The system also allows to assess the capacity of a line by adding new trains till no conflict - free path is available. For example for the line section Bruck an der Mur – Wiener Neustadt the capacity was assessed ante and post the new Semmering line completed. The below table 10 shows it in terms of paths per time period.

	0-4	4-8	8-12	12-16	16-20	20-24
2022 Scenario	12	29	25	29	42	37
2030 Scenario	41	53	47	53	53	36

Table 10 Assessment of capacity slots for the Semmering line

Finally, the Study provides some recommendations for the future, both regarding the use of the tool and for further actions to be taken by the Corridor:

- Existing national systems of IMs might have to be adapted to provide and receive data to/from an international system;
- Integration of all national and international timetable data in order to provide a complete database;
- Agreement on a standardized format for infrastructure data which allow smooth transfer of data;
- Agreements on processes to ensure that infrastructure updates are immediately visible and transferred to other systems;
- The regular updating and reporting of Temporary Capacity Restrictions (TCRs) should also be available for the international planning system via a standardized interface/ format;
- Regarding the efficient and automated integration of current passenger trains which is needed as basic system load for freight train planning, it should be possible in the long term to import these from the national systems in high quality, including correct merging into continuous international trains (e.g. Merits database; operated by UIC). This will ensure that only an up-to-date information on passenger trains is part of the international timetabling system.

Information on the CS can be found on our [web page](#) and an Executive Summary is available for downloading at this [link](#).

9. Communication

9.1. Customer Information Platform (CIP)

CIP is, as matter of fact, an IT tool that was conceived since the beginning as a Rail Freight Corridor's tool, and, over the years, improvements and new developments were agreed and managed by the RFCs collectively. Rather a success both from the "political" side and the operational side.

9.1.1. CIP developments 2021

During 2021 the main achievements in terms of new developments in Customer Information Platform were mostly:

- The completion of the roll-out of RFC Rhine-Danube. Now the stakeholders of all eleven Rail Freight Corridors benefit from the joint data platform;
- Several developments to improve the user friendliness and an update of the graphical user interface;
- Implementation of new parameters, like maximum train length and maximum speed;
- Implementation of the re-routing scenarios for ICM situations;
- Launch of a CIP marketing campaign including [promotional videos](#).

9.2. LinkedIn page of RFC Network

The RFCs jointly launched an information [page](#) on LinkedIn as RFC Network.

9.3. CID

In January 2022 the RFC BA published the updated CID for TT2023 both in the new portal NCI and in printable form in CIP.

During 2021 the Implementation Plan has been updated. The pdf version of the whole document can [be downloaded here](#).

10. Partnerships & Events

10.1. European Year of Rail

The year 2021 was declared the European Year of Rail by the EU Commission to promote rail traffic as a sustainable, innovative and safe mode of transport through events, campaigns and initiatives which took place throughout the European Union. As part of the European Year of Rail, the Connecting Europe Express criss-crossed the continent from 2 September to 7 October 2021, stopping in over 100 cities in 26 countries and also making multiple stops along the Corridor. RFC Baltic Adriatic participated in September 2021 at a round table side event on the future of European rail freight held in Milan.

10.2. Executive Board

Cooperation with Executive Board continued with an online meeting in the first half of the year. The **Strategy Paper** has been approved and the parties committed to realise its content, provided the availability of EU funding for some specific activities. A set of KPIs was defined, and the next step will be to define targets for some of them.

10.3. RAG-TAG Meeting 2021

Despite the pandemic, the cooperation with the Railway Undertakings and Terminals Advisory Groups did not stop. An [online RAG-TAG meeting](#) took place on **10 November** and was organised in cooperation with the Speakers of the Advisory Group.

10.4. RFCs Network and Rail Net Europe

Also in 2021 Baltic-Adriatic RFC actively contributed to RFC Network and RNE activities.

One of the important projects was International Leading Entity in TTR, which tried to define the role of RFCs within TTR.

Another joint project with RFCs in which the Baltic-Adriatic RFC took part was the ILEA (**Improving Links to Euro-Asian Landbridges**). The project working group elaborated the project charts and defined the scope of the project, identifying three main areas of study. However, the planning of activities was put on hold at the end of the year, waiting for a call with proper EU funding, which at the time hasn't come up yet.

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11. Outlook 2022

The EU financing of RFC BA activities ended on 1st July 2021. During the autumn 2021 the DG Move and CINEA published a new call for funds to the Rail Freight Corridors, which is called Technical Assistance.

The RFC BA applied for this call and is now waiting for feedback in order to sign a Grant Agreement with CINEA covering the activities till the end of 2024.

We intend to focus on the activities foreseen by the Technical Assistance, and on top of that to focus on further activities in several areas, such as:

- Common projects with RFCs
- Communication (CIP, website, sector events)
- Enhancement of our offer (integrated capacity, premium offer)
- Improvement of performance monitoring (TIS Data Quality, KPIs)
- ICM (case study, rerouting scenarios)
- Starting on-hold activities (integrated capacity)

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RAIL FREIGHT CORRIDOR 5
BALTIC – ADRIATIC
Via Trento 38
30171 Mestre (Venice) – Italy
VAT 04524610278

Executive Manager
Alessandro Turconi
tel: +39 041 784850
e-mail: executive_manager@rfc5.eu

Infrastructure Manager
Laura Zoppini
tel: +39 041 784790
e-mail: c_infra.manager@rfc5.eu

C-OSS Manager
Sandra Ferrari
tel: +39 335 7645417
e-mail: c-oss@rfc5.eu

Website: www.rfc5.eu
CIP: <http://info-cip.rne.eu/>



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