

Pool Away!

Project on Pooling Resources
in International Contingency Management

RFC NS-B

RAG/TAG

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RU Handbook for ICM

UIC IRS (International Railway Solution) 20240:

[Railway Undertakings' Handbook for International Contingency Management \(shop-ETF.com\)](https://shop-ETF.com)

This IRS outlines the following:

1. RU risk management preparatory measures that should be taken and that can be drawn upon in the event of an international disruption.
2. The essential steps to be taken by RUs during an international disruption to minimise disruption to trade flows.
3. In detail processes and procedures that RUs should take in communication with other RUs, Infrastructure Managers (IMs) and end customers.
4. The definition of scenarios for the pooling of resources of RUs and the identification of ad-hoc risk mitigation measures that would allow such pooling in case of an officially declared "contingency case".

It is primarily addressed to those within Railway Undertakings responsible for production, time-tabling (railway infrastructure/service facilities), resource planning / deployment (capacity, staff, rolling stock), traffic contingency management, client relations. The section dealing with pooling of resources is addressed also to RU staff dedicated to the development of new operational practices and Railway Advisory Group (Deputy) Speakers.

It integrates in full the following standard:

Railway Undertakings' Handbook for International Contingency Management, Version 1.0, created by ECCO: Efficient Cross Corridor Organisation, published by UIC 17 December 2019



**RAILFREIGHT
FORWARD**
EUROPEAN RAIL FREIGHT VISION 2030

ICM

PMO UIC

ECCO *Efficient Cross Corridor Organisation*



INTERNATIONAL UNION
OF RAILWAYS

in association with



Handbook approval so far..



All other RUs have been invited to join this effort to improve the resilience of European Rail Freight.

Five pooling scenarios

6

Level 1: Load pooling



Level 2: Pooling of loco, RU keeps its own path



Level 3: Pooling of loco with path



Level 4: Pooling of loco and driver on RU's own path



Level 5: Pooling of loco, third party path



RU impact fields per pooling scenario

Impact differs per pooling scenario.



**Train
Preparation**

**Technical
Inspection**

Shunting

Breaking Test

**Transport
Docs**

**Rolling Stock
Knowledge**

Data Sharing

➤ Pooling and legal requirements

Pooling option 2-5
can only be used
when a
simultaneous,
temporary reduction
in legal requirements
is permitted

**Vehicle
Authorisation**

**Safety
Certificates**

**Data
requirement**

**Route
knowledge**

Language

**Drivers'
certification**

Level 1: Load pooling:

This level is the only form of pooling RUs can attain by agreeing amongst themselves without help from third parties.

Investment impact	RU's pooling
HR training, train preparation, Transport docs, Business agreement to be found between RUs	Load / shipments

**Vehicle
Authorisation**

**Safety
Certificates**

**Data
requirement**

**Route
knowledge**

Language

**Drivers'
certification**

Level 2: Pooling of loco, RU keeps its own path

An RU uses its own path and driver (allocated by leading IM), with a loco from another RU.

Investment impact	RU's pooling
train preparation, technical inspection, shunting, breaking test, transport docs, Rolling stock knowledge	Locomotive

**Vehicle
Authorisation**

Safety
Certificates

Data
requirement

Route
knowledge

Language

**Drivers'
certification**

Level 3: Pooling of loco with path

The first RU provides the driver, the second RU provides the path and the loco

Investment impact	RU's pooling
Train preparation, Technical inspection, Shunting, Breaking test, Transport docs, Route knowledge, Rolling stock knowledge	Locomotive Path

Vehicle
Authorisation

Safety
Certificates

Data
requirement

**Route
knowledge**

Language

**Drivers'
certification**

Level 4: Pooling of loco and driver on RU's own path

The first RU uses its own path and asks the second RU to provide a loco and a driver

**Vehicle
Authorisation**

**Safety
Certificate**

**Data
requirement**

**Route
knowledge**

Language

**Drivers'
certification**

Investment impact	RU's pooling
Train preparation, Transport docs, Route knowledge,	Locomotive Driver

Level 5: Pooling of loco, third party path

All resources are mixed: The first RU uses its driver on loco of the second RU, with the path of a third RU.

**Vehicle
Authorisation**

**Safety
Certificates**

**Data
requirement**

**Route
knowledge**

Language

**Drivers'
certification**

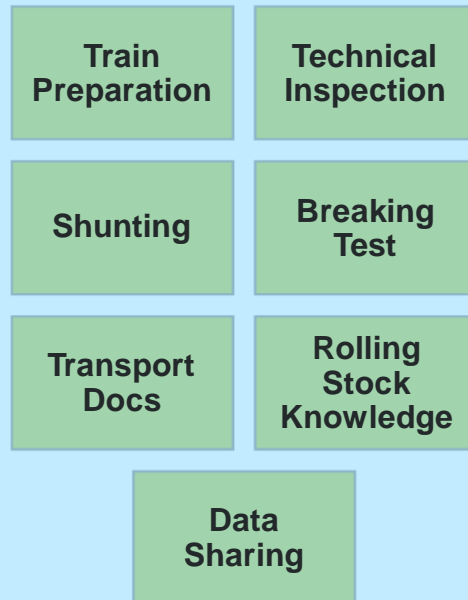
Investment impact	RU's pooling
train preparation, technical inspection, shunting, breaking test, transport docs, Rolling stock knowledge Data sharing	Locomotive Driver Path

level of pooling ↑	Legal impact fields per pooling scenario					
	Level 5: Pooling of loco, third party path	✗	✗	✗	✗	✗
	Level 4: Pooling of loco and driver on RU's own path	✗	✗		✗	✗
	Level 3: Pooling of loco with path				✗	✗
	Level 2: Pooling of loco, RU keeps its own path	✗				✗
	Level 1: Load pooling	✓	✓	✓	✓	✓
Rules / Regulations	VEHICLE AUTHORISATION	SAFETY CERTIFICATE	DATA MANAGEMENT	ROUTE KNOWLEDGE	LANGUAGE	DRIVER CERTIFICATION

Developing pooling of resources

Phase II

RUs develop internally but in common coordination 2021-2023



RUs develop together in 2020



Developing pooling of resources

Phase III

RUs & IMs develop + pilot mitigation measures on:

**Vehicle
Authorisation**

**Safety
Certificates**

**Data
requirement**

**Route
knowledge**

Language

**Drivers'
certification**

Mitigation measures development status quo + reference to EU legislation

EU Rail Freight Corridors - International Contingency Management RU pooling of resources - mitigation measures				Name:	ICM mitigation measures 0.4	
				Version:	0.4	
				Date:	03_02_2021	
				Author:	ECCO - Efficient Cross Corridor Organisation	
	aspect	target	mitigation measures	actions		ERA inputs on 4RWP legal basis
Certification	Vehicle authorisation	acceptance of neighbouring VA	check compatibility of wagons/locos and track	to be determined by RUs		Article 21 of Directive (eu) 2016/796, paragraph 4.2.2.5 and Annex D1 of OPE TSI Regulation 2019/773
			checklist of infra parameters as appendix to ICM handbook			Appendix D1, column 3 "RINF parameters"
			etc			
	Safety Certificate	allow the use of a path by an RU which is not the path owner	the path owning RU provides the rights connected to the use of its path(s) to another RU (all other obligations related to path ownership remain with the path owner)	RU-internal solution is preferred to keep NSA and IMs out as much as possible to speed up the procedure: "national RU" who is the path owner keeps liability towards IM in case of any incident- RUs need internal contractual agreements (e.g. in operational cooperation contracts) to regulate liability issues bilaterally. This means that the RU which uses the path during an ICM must always be kept liable towards the path owner to compensate all the path owners' obligations towards the IM.		This is a commercial issue not a safety one. RSD (Directive 2016/768) art 3 defines RU basically as the entity in charge of the traction and not the entity owning the assigned path. RSD art 4 defines RU responsibilities.

	aspect	target	mitigation measures	actions	ERA inputs on 4RWP legal basis
staff	Route knowledge	speed up the gaining of route knowledge	widen the means of education of train drivers' route knowledge by e.g. "route movies"	<p>-Route knowledge provision should be strongly supported by video tutorials (use of "go pros" in cabins for lean production of videos)</p> <p>Principles for the loco drivers'"first rides":</p> <ul style="list-style-type: none"> - stronger speed reduction for the first "ride" of the loco driver speed reduction decreases the more „rides" a loco driver executes - e.g. first 24h after ICM-declaration: 50% of line speed allowed - 24h-72h: 60% of line speed allowed (e.g with video education) - 72h-144h: 70% of line speed allowed (with single „rides" – e.g. after 2 roundtrips) - overall experience of loco driver must be considered - most experienced loco drivers should be used in such shifts - speed reduction should also depend on safety level of train control system 	Route Knowledge for staff other than driver is are for national rules (OPE TSI Appendix I point 1. Route Knowledge for train driver is defined in TDD (Directive 2007/59) art 23 and 24. Training method and requirements for route knowledge has been defined in Annex III and Annex VI. Regulation 2018/762 Annex I point 4.2 gives the RU's SMS the responsibility to define its own competence management system.
	drivers certification	acceptance of driver certifications	Basic specifications (signals and behavior) should be educated through video-teaching to a definition of a pool of contingency loco drivers	to be determined by RUs	TDD (Directive 2007/59) Annex III and Annex VI. Regulation 2018/762 Annex I point 4.2 gives the RU's SMS the responsibility to define its own competence management system.
			Allowed Vmax depends on experience on diversionary line (see speed reduction principles)		
			etc		
	language	definition of a common language	language knowledge requirement reduced to a minimum set of predefined terms and messages	specify which glossaries and tools are allowed where.	Appendix C OPE TSI Regulation 2019/773
			use of glossaries and/or translation tools wherever possible		Appendix C OPE TSI Regulation 2019/773
			predefined bilingual staff on RU and IM side for easier communication in contingency case		TDD Annex IV - pilot projects
			Use the results from the S2R Xborder Language project to set up pooling		TDD Annex IV - pilot projects
			etc		etc

	<i>aspect</i>	<i>target</i>	<i>mitigation measures</i>	<i>actions</i>	<i>ERA inputs on 4RWP legal basis</i>
data	data management	acceptance of transmitted data format and national rules	acceptance of brake setting and wagon sequence	to be determined by RUs	4.2.2.6 (brake) 4.2.2.5.2 (train composition) in OPE TSI regulation 2019/773 + AMOC (OPE TSI 4.4) to come RU SMS. Braking position, braking sheet and braking performances are all RU responsibilities, no room for national rules.
			acceptance of different format of wagon lists		same as above
			missing brake performance must be compensated with speed reduction		4.2.2.6 OPE TSI - AMOC to come RU SMS. Braking performances calculation is up to the RU via its own SMS (Reg. 2018/762 - annex I, point 5)
			etc		etc

Commercial conditions; logistics

<p>Work package 4.1: design pooling arrangement</p> <p>(How are resources pooled? How are resources managed? Who manages the resources? How is transparency on wagons/trains to be transported achieved? How are resources returned after ICM deployment? -> Virtual control centre for all RUs)</p>
<p>Traffic management: development of principles</p> <p>Possible ICM cases for the individual train path concepts involving possible pooling concepts, development of suitable operating scenarios for all RUs, definition of process on the planning side so as to be able to implement the principles developed quickly in application, pooling concept for train path management (network management)</p>
<p>Service contracting and charging in pooling (e.g. € per km per loco, € per hr per MPU, takeover of wagons e.g. € pro tkm, € per wagon km (based on axles?) ...) – principle of solidarity (cost-covering and not profit maximisation)</p>
<p>Purchasing principles and contracts</p> <p>(bring new framework agreement in line with existing production contracts/interface agreements), regular coordination with the Legal department</p>
<p>Support with contractual issues</p> <p>including antitrust issues, organisational consulting on price setting, taking account of antitrust law</p>

Pilot proposal RUs - IMs

Closure Rhine Valley 2024

Pooling Resources pilots

Proposal for pilots

Summary: -Use the total closure of the Rhine Valley in the summer of 2024 (about 3 weeks) to test all aspects of pooling on the diversionary routes.

pilot -To divert, we have three possible routes with many challenges to face (basically like Rastatt). This time, they can be used to our advantage, as use cases to test the concept.

Benefits: - Focus and structure the project, commitment from IMs
- Increased capacity during TCR (not enough)

Situation TCR RFC 1 summer 2024

Diversionary routes via:

- France (Left Bank Rhine & Lorraine lines)
- Germany (Gäu-Bahn)
- Austria (Brenner)



Pooling use cases: France

Use case: Diversionary route via France via Left Bank Rhine & Lorraine lines

Problem statement:

Tech Capacity/day: 29 round trips

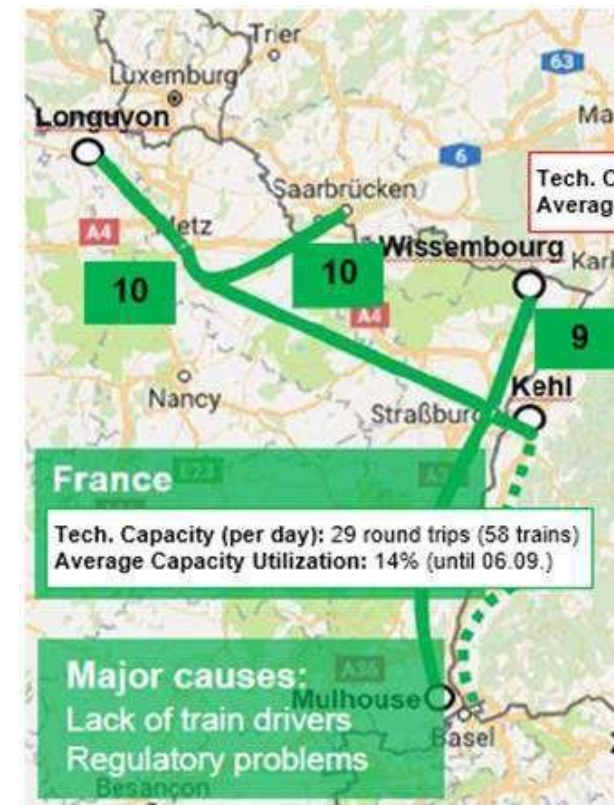
Average capacity utilization: 14%

Major causes: Lack of train drivers, regulatory problems

Pilots:

Route knowledge, driver certification, language and data management

- Divert from route knowledge levels
- Acceptance of driver certification of different country
- Accept language tool for communication
- Data management
 - Acceptance of brake setting and wagon sequence
 - Acceptance of different format of wagon lists



Pooling use cases: Germany

Use case: Diversionary route via Germany via Gäu-Bahn

Problem statement:

Tech Capacity/day: 30 round trips

Average capacity utilization: 52%

Major causes: Lack of train paths

Pilots:

Sharing Locomotives and drivers

- Create an efficient “capacity-shuttle” by DB Netz incl. path catalogue
- Concept for sharing of locos by RUs
- Concept for sharing of drivers by RUs



Pooling use cases: Austria

Use case: Diversionary route via Austria via Brenner

Problem statement:

Tech Capacity/day: 17 round trips

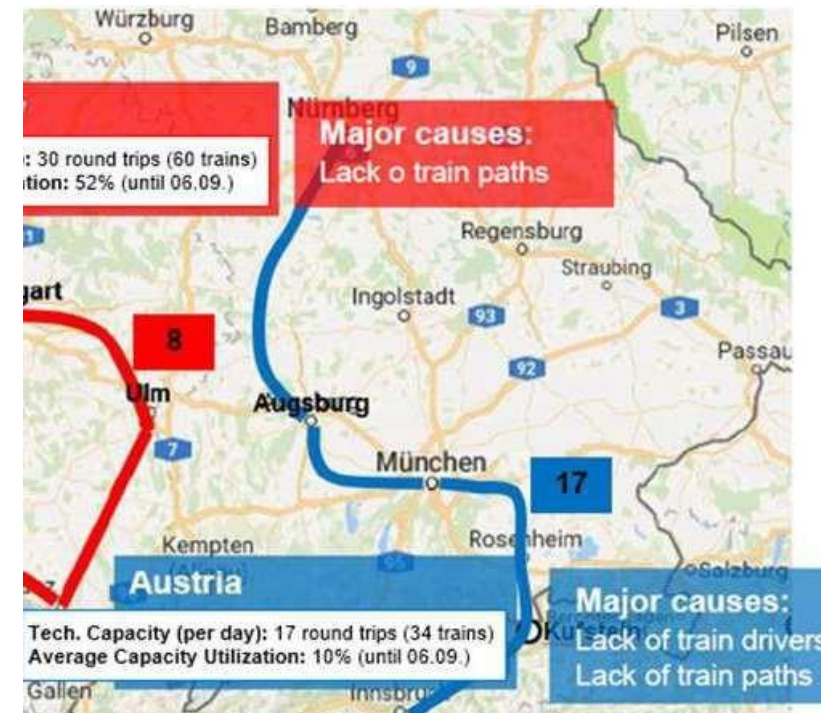
Average capacity utilization: 10%

Major causes: Lack of train drivers, lack of train paths

Pilots:

Route knowledge, safety and driver certification, data management

- Acceptance of neighboring VA (if available but not used and updated in a locomotive)
- Safety certificate (allow the use of path by an RU which is not the path owner)
- Route knowledge
- Acceptance of driver certification of different country
- Data management
 - Acceptance of brake setting and wagon sequence
 - Acceptance of different format of wagon lists



Project goal

Goal of project:

Have generic measures, applicable on every RFC, including agreement on commercial conditions:

1. Develop and test
2. Agree upon final measures
3. Publish final measures and commercial conditions as IRSs
4. *(Use IRS(s) to implement pooling of resources)*

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Thank you for your kind attention.

BACK UP: Advice Mitigation Measures vs 4th Railway Package (1

Feedback DG Move – ERA meeting

UIC (AMP and JO) spoke to DG Move and ERA on 06/11/2020. On the agenda: mitigation measures to allow pooling of resources.

Conclusion from ERA and DG Move:

- There are **no legal barriers**, as all the fields that we need to address fall within 4th Railway Package.
 - In emergency/contingency situation, the EU regulations require IMs and RUs to develop any measure necessary to minimise the impact. What RUs propose here is therefore in line with that.
 - See the excel sheet from ECCO, or the slides below the, with legal references column on the right.

-see next slide-

BACK UP: Advice Mitigation Measures vs 4th Railway Package (2)

- As the mitigation measures are to mitigate risk that may increase by temporarily lowering regulation standards, the development of mitigation measures has to be done within the framework of the **Safety Management System**.
 - When a mitigation measure is the responsibility of IM (and RU), the IM is in the lead.
 - In the SMS process, NSAs should be involved at a certain stage by the IM (or by the RU if the IM is not involved)
 - An NSA can argue about the Risk Assessment method used, but not about the result.
 - Process should lead to set of mitigation measures agreed between IM and RU.
- IM has the responsibility to take this work up (as there is also risk on the RU, it is also RUs interest):
 - as it follows from their legal obligation to publish an approach to contingency situations (not a handbook, this was voluntarily)
 - as they should have the best overview of all risks involved and thereof resulting a wider responsibility

-see next page-