

# **X-BORDER SECTIONS PROJECT**

**A METHODOLOGY FOR WORKING TOGETHER ON EUROPEAN INTEROPERABILITY**

**Exemplary analysis for the München – Verona corridor section**

**RFC ScanMed customer workshop and RAG/TAG meeting**

**November 12<sup>th</sup>, 2020**



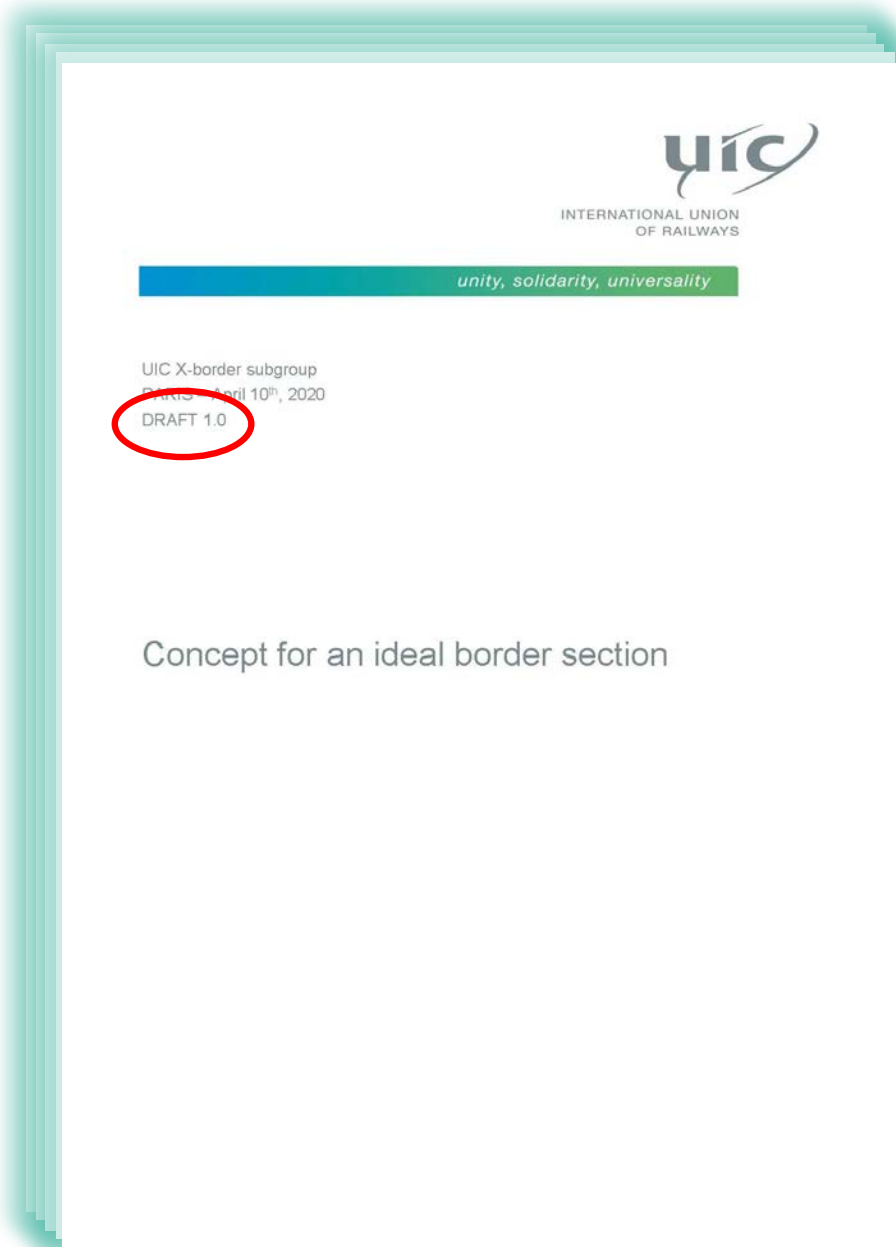
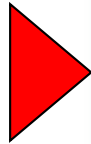
## 11 priorities for rail freight

- TTR
- RFC capacity offer
- TCR coordination, information and consultation
- PCS development
- **Improvement of harmonisation and interoperability**
- Train tracking and ETA
- Prioritisation, funding and monitoring of TEN-T parameters
- ERTMS Implementation
- Quality monitoring
- CID improvement
- ICM
- Language Programme



## Analysis of cross-border sections on different dimensions:

- *Legal*
- *Technical*
- *Operational*



## Definition of “cross-border section” and “cross-border area”

### Legal aspects

- EU railway legislation
- Interoperability and Safety Directives
- Non-railway legislation

### Technical aspects

- Technical interfaces
- Infrastructural lay-out
- Power supply
- Train protection systems
- Communication
- Transition

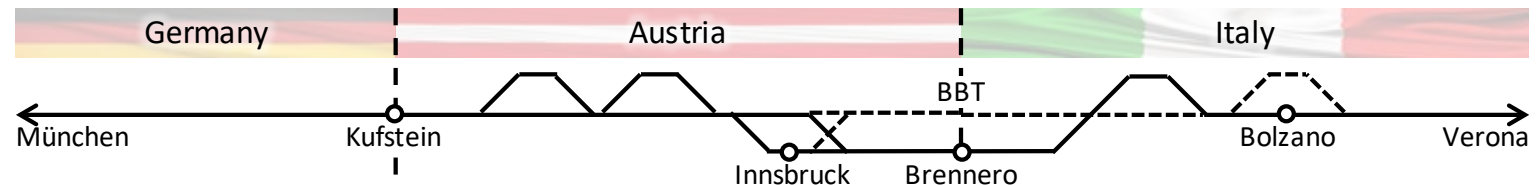
### RU operations

- Driver change
- Locomotive change
- Through-going operations
- Train composition, braking rules, wagon inspection
- RU informative/commercial procedures

### RU-IM Interface processes

- Commercial conditions of IMs
- Operational rules
- Operational language

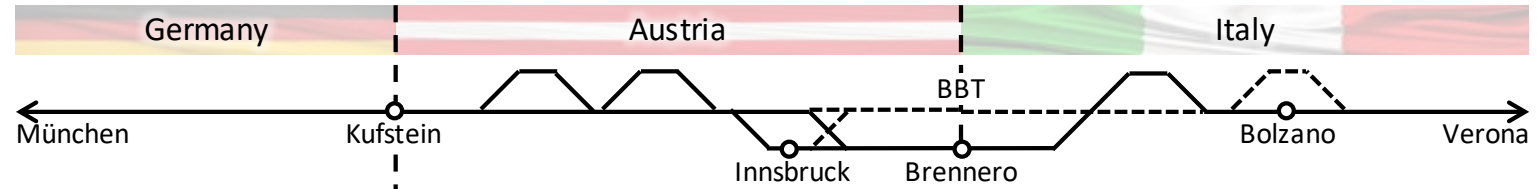
# Analysis by the example of the München – Verona corridor section



**today**

- ← → Safety certification, vehicle authorisation  
EBA BMVIT ANSF
- ← → Capacity allocation, operational rules, signalling, traffic mgmt.  
DB Netz ÖBB Infra RFI
- ← → Electric traction power supply  
15 kV A.C. 3 kV D.C.
- ← → Train protection system  
PZB ETCS SCMT
- ← → Maximum train length  
740 m 600 m
- ← → Maximum haulable train weight  
>2.000 t 1.500 t
- ← → Language for RU-IM operational communication  
German Italian
- ← → Driver complementary certificate, safety management system  
German RU Austrian RU Italian RU

# Analysis by the example of the München – Verona corridor section

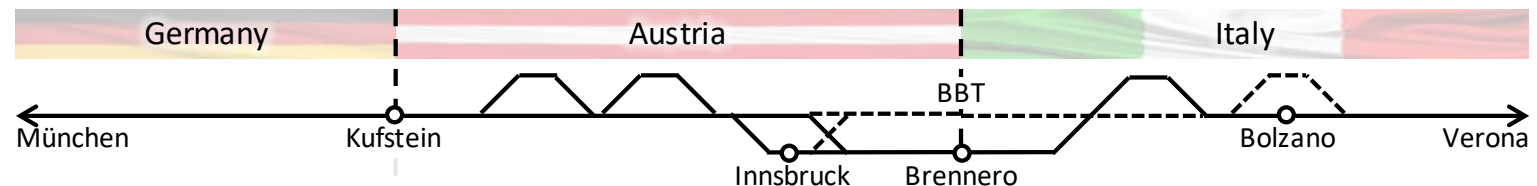


## 2030?

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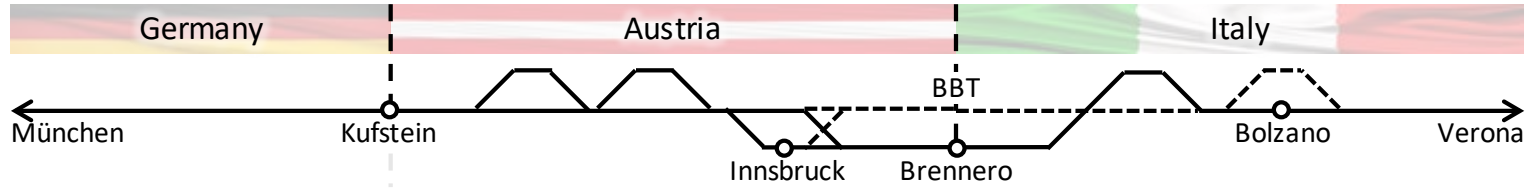
# BCP?

# Analysis by the example of the München – Verona corridor section



## What can we do today?

# Analysis by the example of the München – Verona corridor section

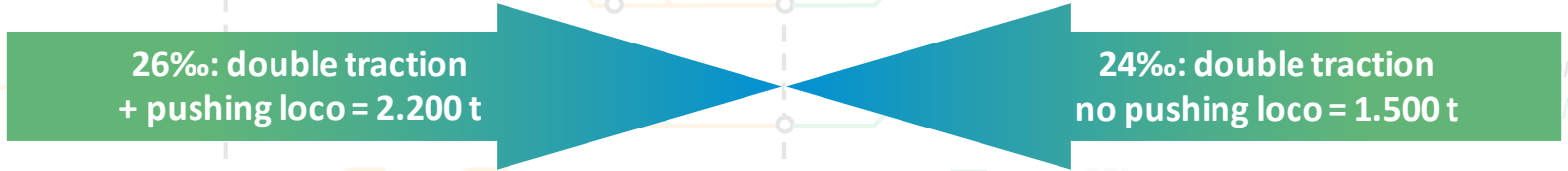


## 1

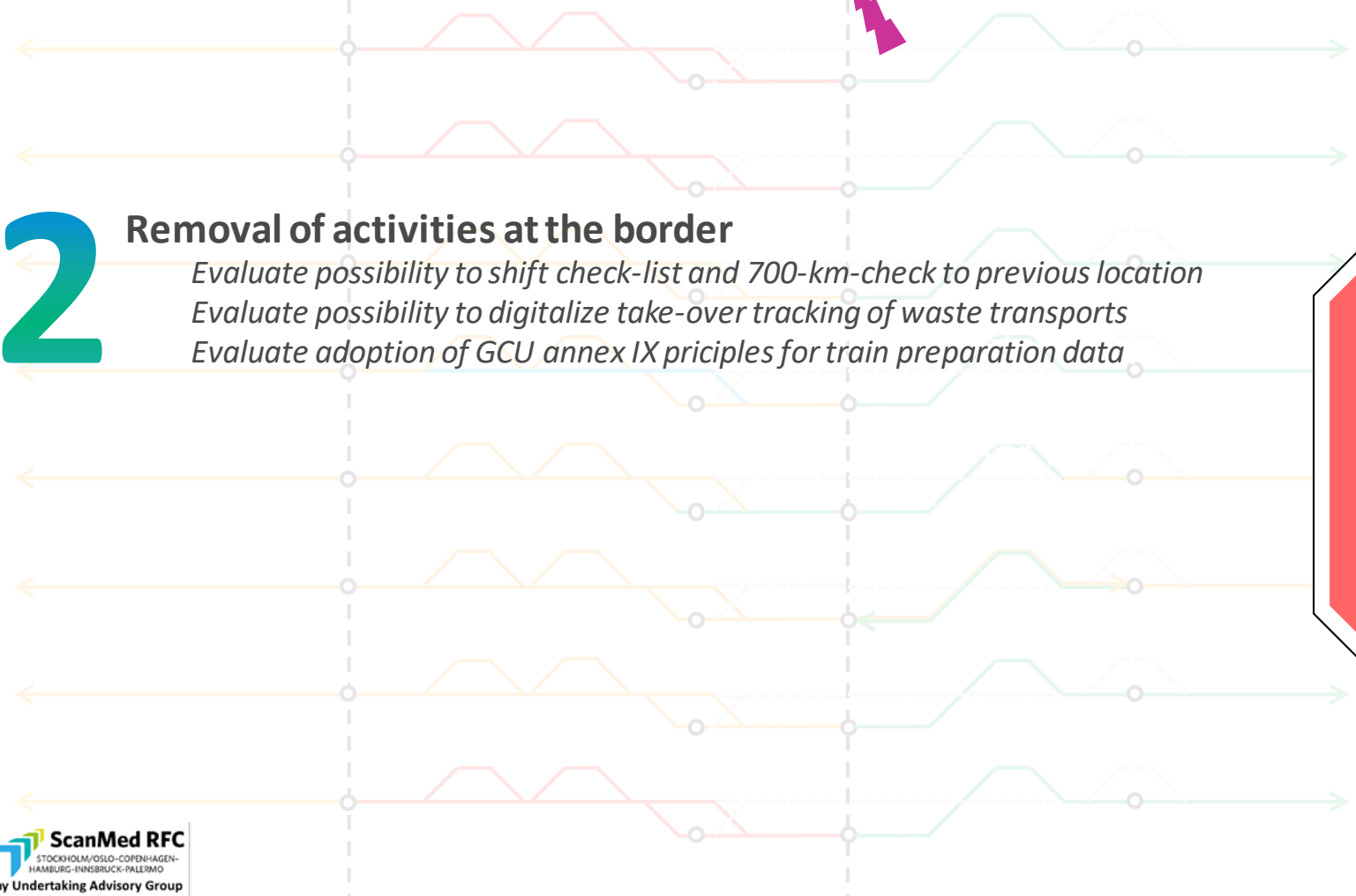
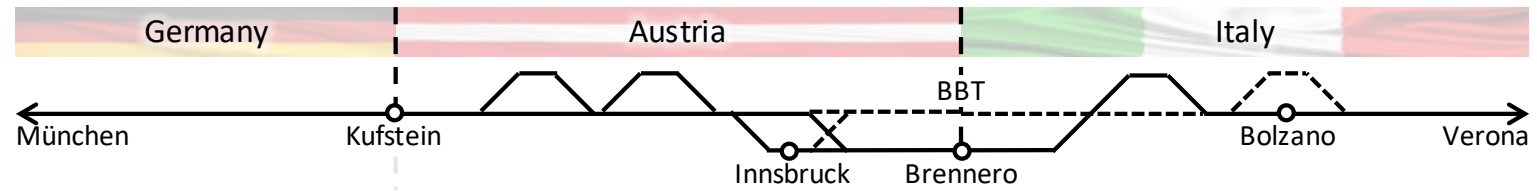
### Optimization of maximum haulable train weight

Study of the technical motivations for the existing limitation  
 Analysis of possible mitigation measures to remove the limitation  
 Piloting

- Safety certification, vehicle authorisation  
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- Capacity allocation, operational rules, signalling, traffic mgmt.  
DB Netz ÖBB Infra RFI
- Electric traction power supply  
15 kV A.C. 3 kV D.C.
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# Analysis by the example of the München – Verona corridor section



## 2 Removal of activities at the border

- Evaluate possibility to shift check-list and 700-km-check to previous location
- Evaluate possibility to digitalize take-over tracking of waste transports
- Evaluate adoption of GCU annex IX principles for train preparation data

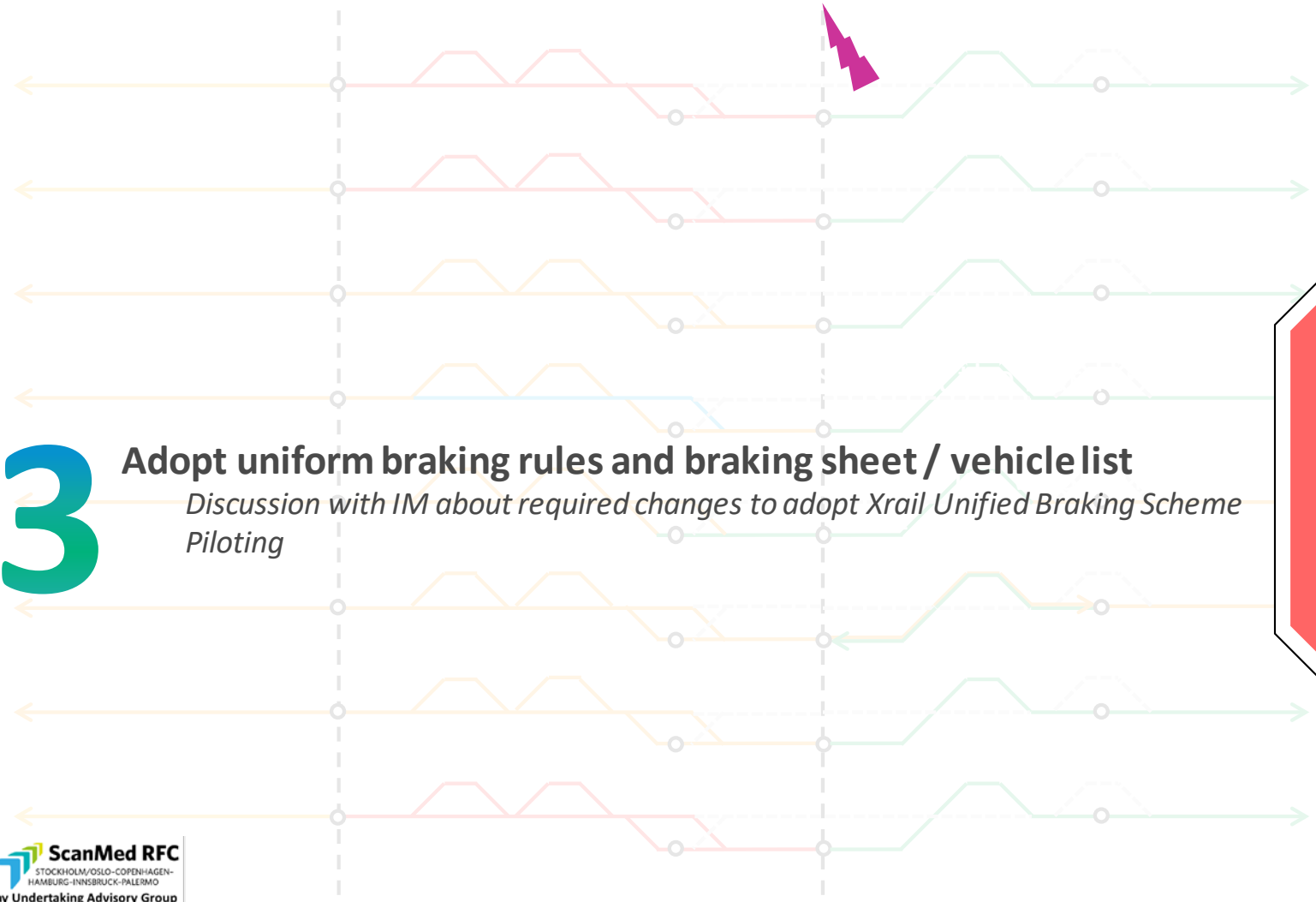
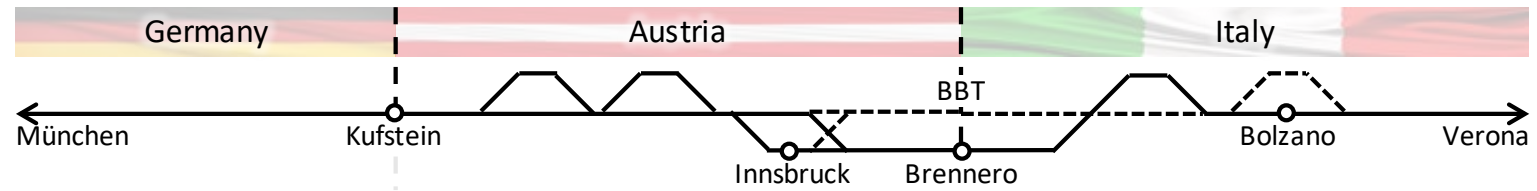
**Dwells at the border due to:**

- RID check list
- Annex for waste transports
- 700-km-check
- Train preparation
- Shunting activities

The sign is a red octagon with a white border and the word 'STOP' in large, semi-transparent white letters in the background.



# Analysis by the example of the München – Verona corridor section



**3 Adopt uniform braking rules and braking sheet / vehicle list**  
*Discussion with IM about required changes to adopt Xrail Unified Braking Scheme Piloting*

**Dwells at the border due to:**

- RID check list
- Annex for waste transports
- 700-km-check
- Train preparation
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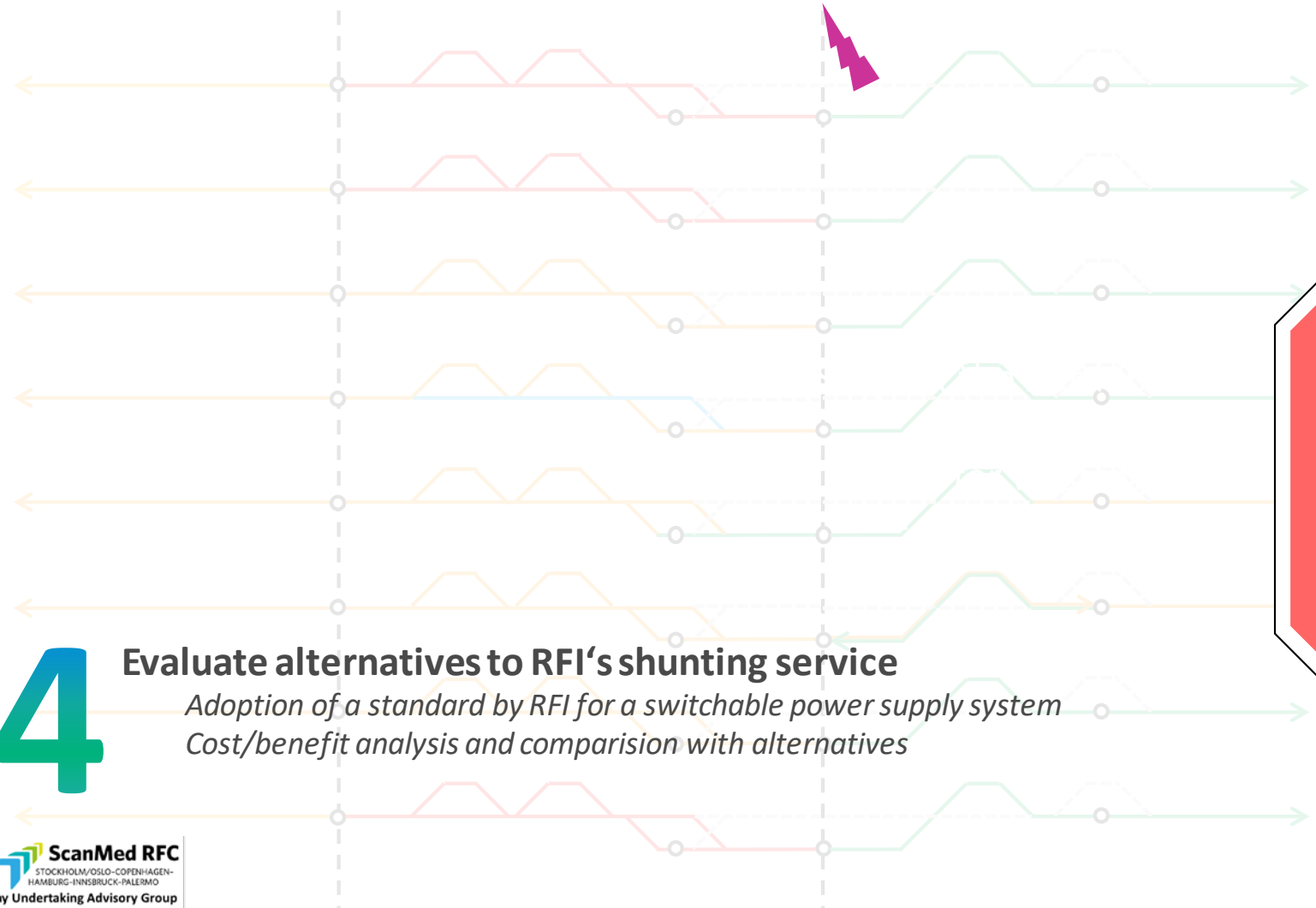
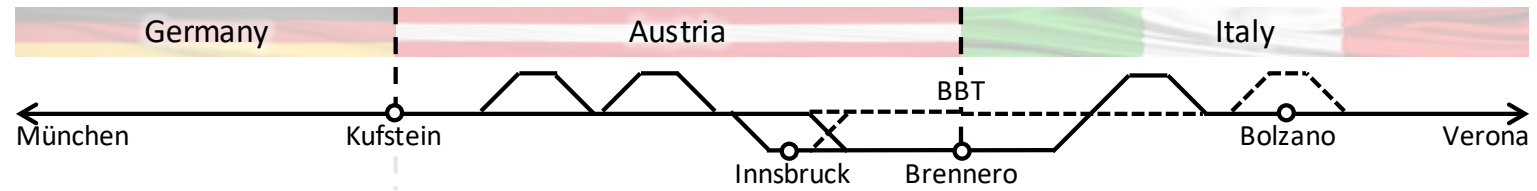
*Safety certification, vehicle authorisation  
 EBA, BMVIT, ANSF*

*Capacity management, traffic mgmt.  
 DB M*

*German railway management system*

*Driver competence management system  
 German RU*

# Analysis by the example of the München – Verona corridor section



Safety certification, vehicle authorisation  
EBA, BMVIT, ANSF

Capacity analysis, traffic mgmt.  
DB M

Driver coordination, management system  
German, RU

**Dwells at the border due to:**

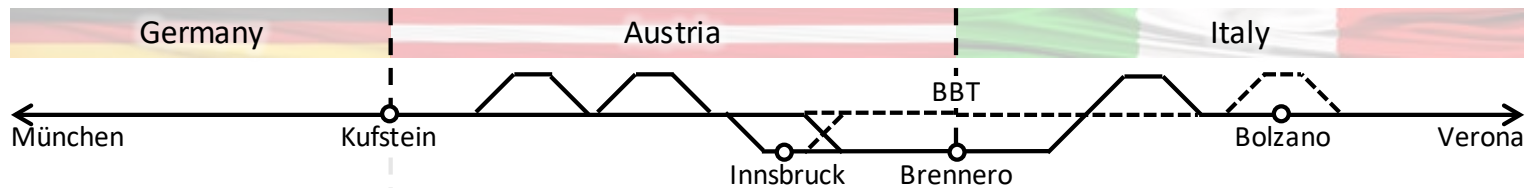
- RID check list
- Annex for waste transports
- 700-km-check
- Train preparation
- Shunting activities

## 4

### Evaluate alternatives to RFI's shunting service

Adoption of a standard by RFI for a switchable power supply system  
Cost/benefit analysis and comparison with alternatives

# Analysis by the example of the München – Verona corridor section



# 1

## Optimization of maximum haulable train weight

- Study of the technical motivations for the existing limitation
- Analysis of possible mitigation measures to remove the limitation
- Piloting

# 2

## Removal of activities at the border

- Evaluate possibility to shift check-list and 700-km-check to previous location
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# 3

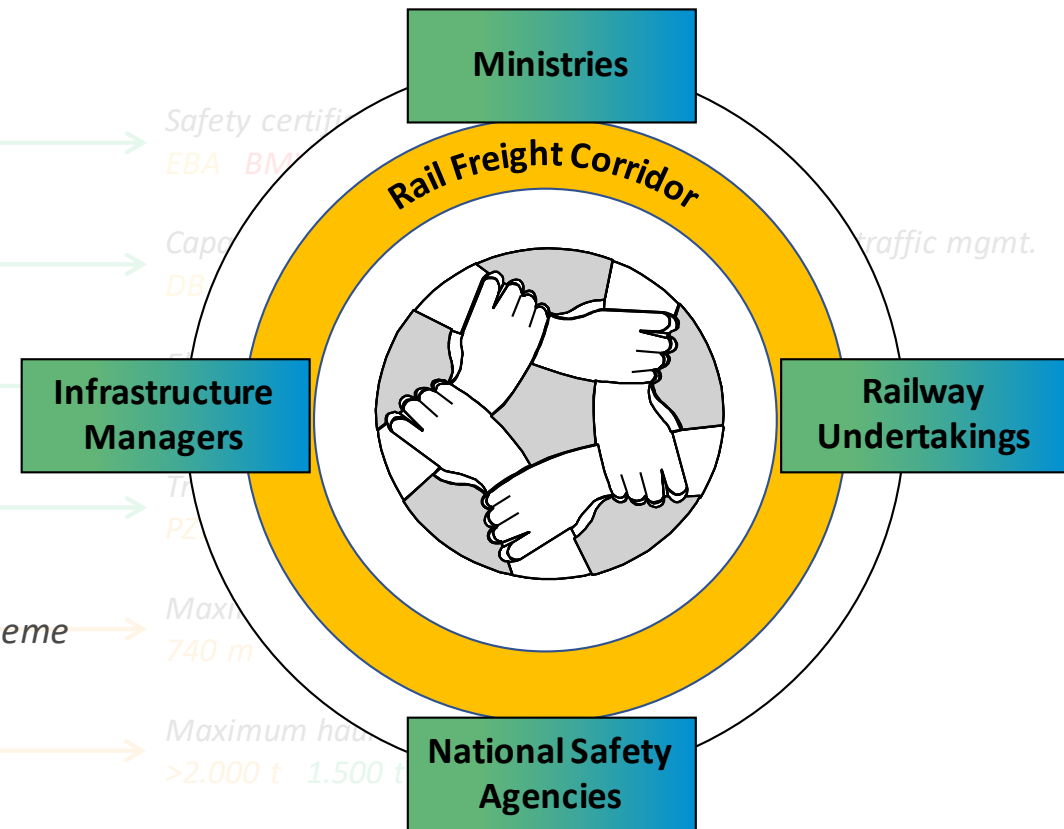
## Adopt uniform braking rules and braking sheet / vehicle list

- Discussion with IM about required changes to adopt Xrail Unified Braking Scheme
- Piloting

# 4

## Evaluate alternatives to RFI's shunting service

- Adoption of a standard by RFI for a switchable power supply system
- Cost/benefit analysis and comparison with alternatives



Safety certificate  
EBA, BM, ...

Capacity  
DB, ...

Traffic mgmt.

Maximum haulage  
>2.000 t 1.500 t

Language for RU-IM operational communication  
German Italian

Driver complementary certificate, safety management system  
German RU Austrian RU Italian RU

**Stay in touch with UIC!**

**[www.uic.org](http://www.uic.org)**



**#UICrail**

***Thank you for your kind attention.***