



Railway Capacity Allocation (an introduction)

A guide for Capacity
Allocation as per European
Union directives

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...what is this presentation about...

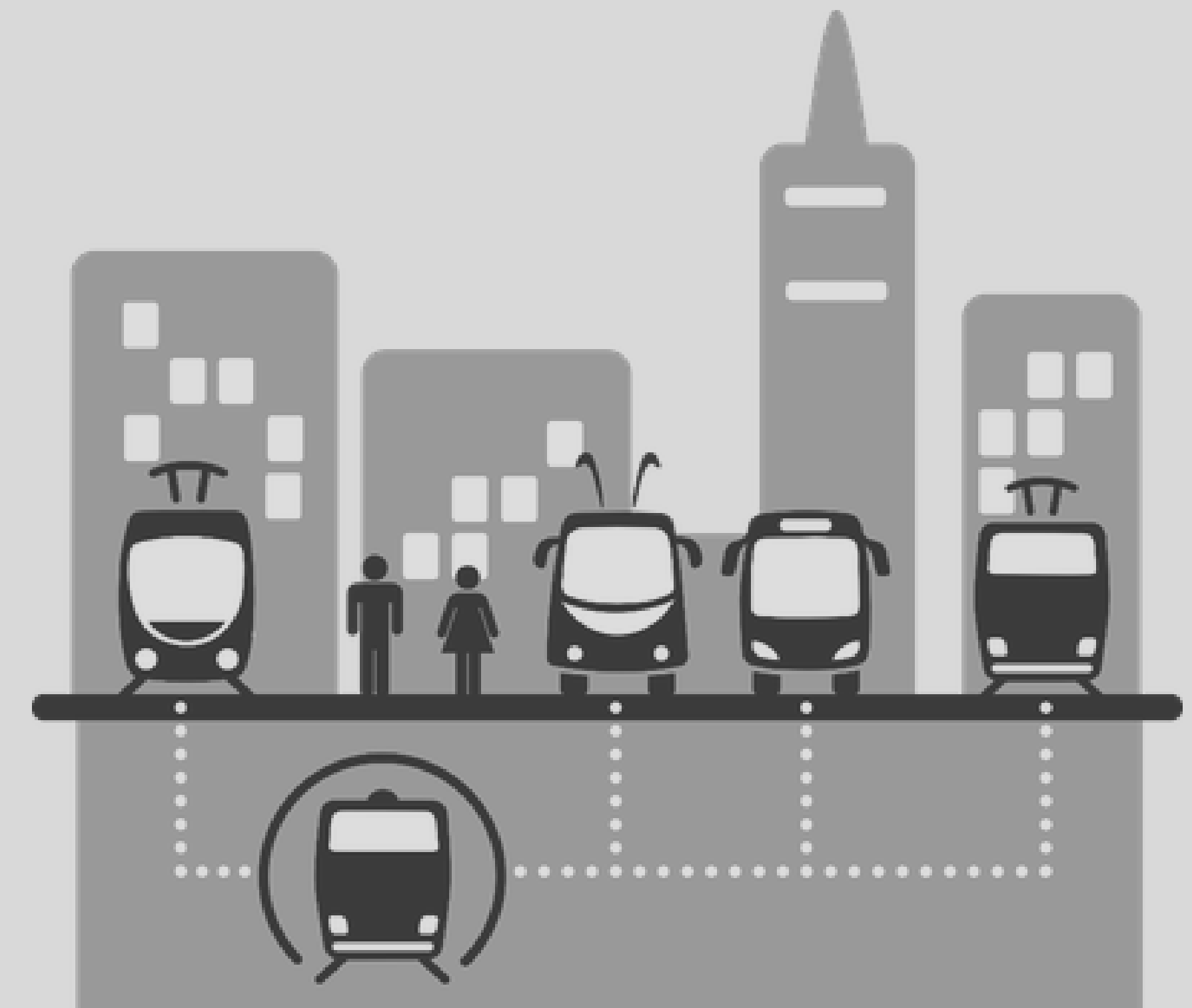
- In rail transport, a train path or (train slot) is a license that allows its holder, usually a railway company, to run a train on a specific section of track at a specific time, similar to an airport slot in civil aviation.
- This presentation is guiding to the capacity allocation as per European Union directives. It presents the processes for capacity allocation (allocation of train path requests) to be applied by the Infrastructure Manager.
- “Capacity allocation” is referred to as the number of trains per hour that can be operated on a railway line. The key objective for railway capacity allocation is using the railway infrastructure capacity as efficiently as possible.

Introduction to transport capacity allocation



An introduction to the allocation of infrastructure capacity

- The allocation of infrastructure capacity is a major issue in various transport infrastructure sectors.
- A characteristic of transport infrastructure is its limited capacity.
- Infrastructure capacity defines the maximum flow or load of traffic it can serve within a period, depending on prevailing circumstances.
- Because of infrastructure capacity scarcity, it is important that the existing infrastructure capacity is used in an optimal way.



- Capacity allocation is a type of traffic planning, of which the key characteristic is that infrastructure users have to reserve a 'slot' on the network before departure. The total number of users admitted to each bottleneck per period is limited, depending on its capacity.
- Given the EU objective of equal access to infrastructure networks and the increasing scarcity of infrastructure capacity, the propagation of fairness and efficiency of slot allocation in the railway and aviation sectors has become a major issue.
- Air and rail transportation systems are characterized by important common features. Capacity (slot) allocation is currently applied in the railway and aviation sectors.



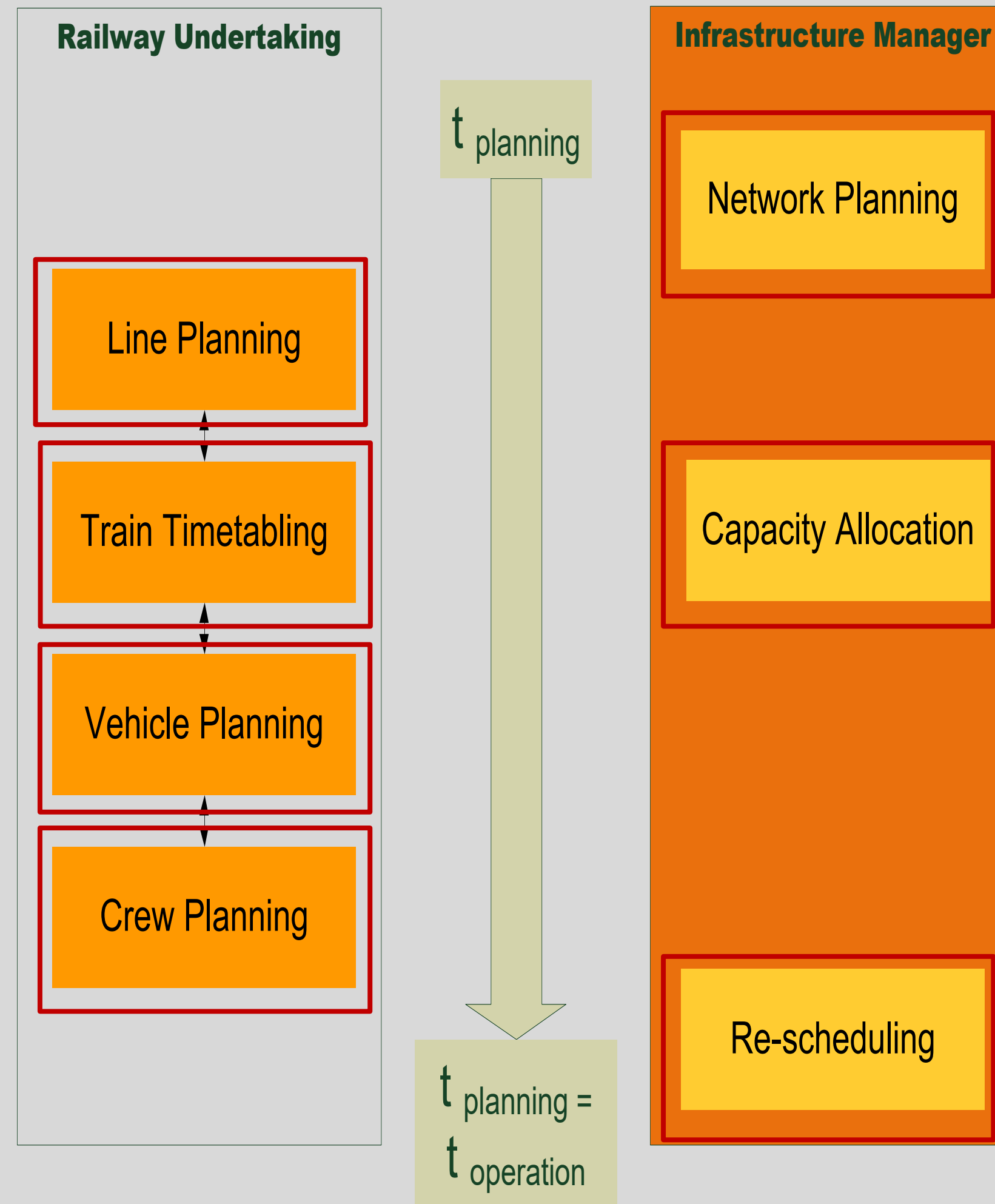
Train Path



Slot

Operational Planning of Railway Systems

- line planning: determines the lines and their frequency of operation
- train timetabling: determines the arrival and departure times of trains at train stations
- vehicle planning: rolling stock assignment
- crew planning: crew rostering and staff planning

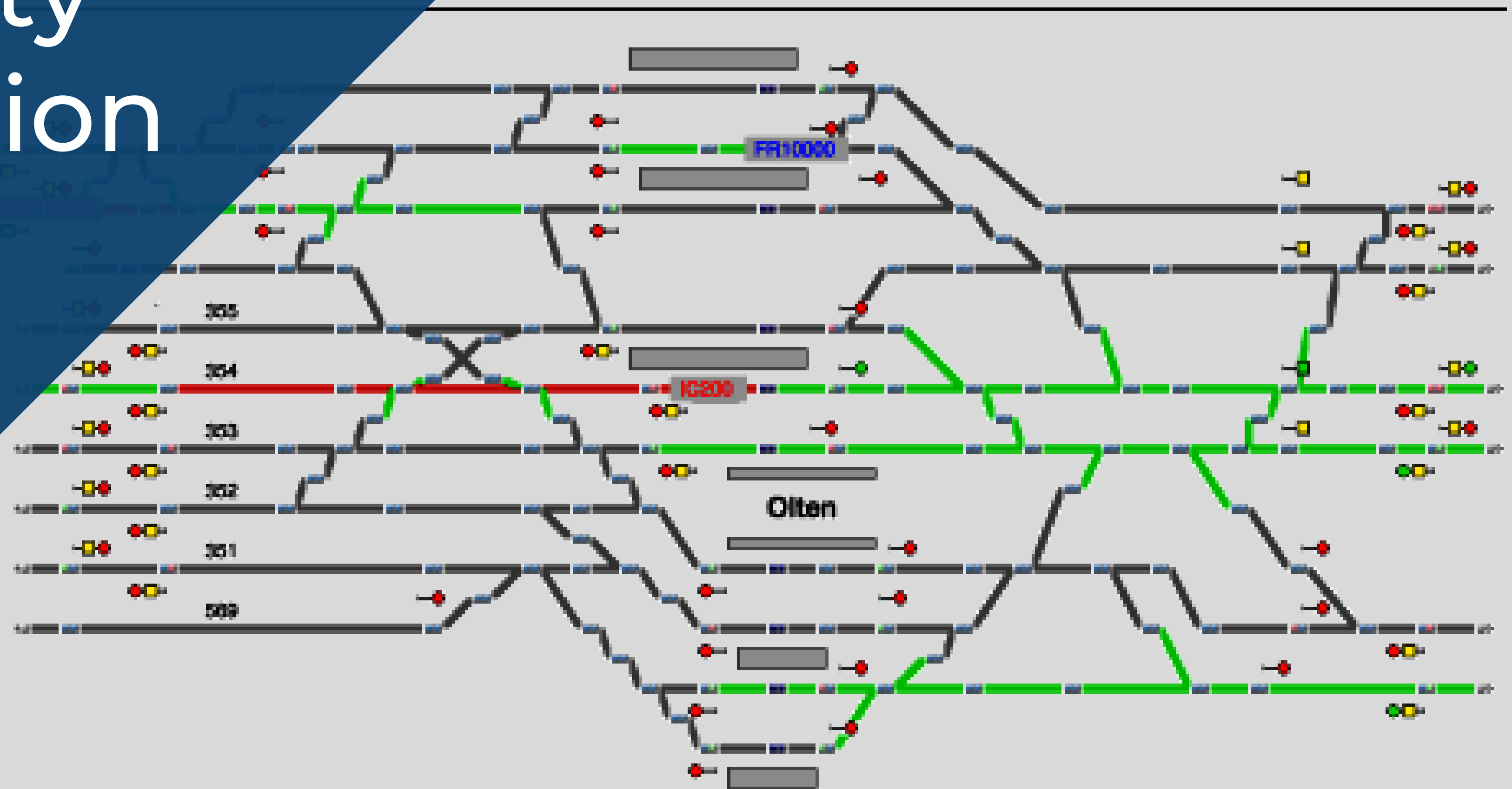


network planning: determines the microscopic layout of the railway infrastructure

capacity allocation: including the train path requests into the working train timetable

re-scheduling: controlling the movements of trains during operation

Introduction to Railway capacity allocation



Train Path Request Types

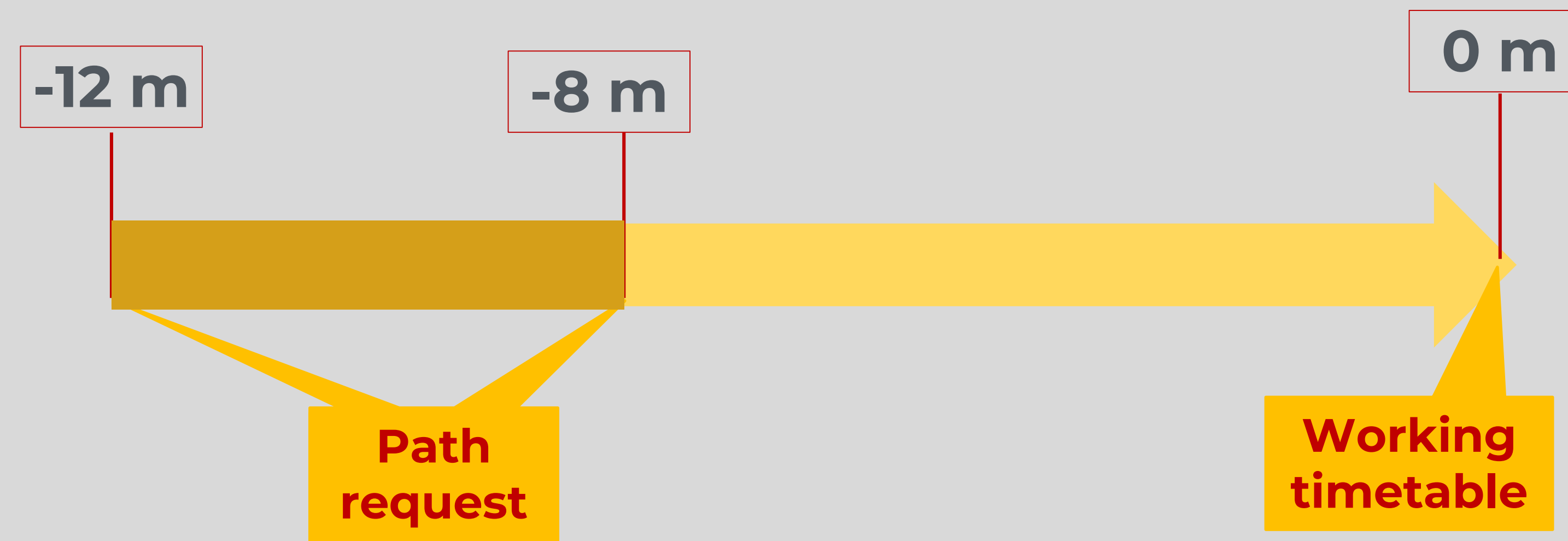
- Dependent on this planning time horizon and on whether the train path request concerns railway infrastructure capacity of more than one national railway Infrastructure Manager, four different types of train path requests can be distinguished.
- *Train Path Request Types*
 - Long term train path requests
 - Regional (International) train path requests
 - Annual train path requests
 - Ad hoc train path requests

- Long term train path requests are contracted by so called framework agreements. The planning time horizon of long term train path requests is ranging from 5 to 15 years. The long planning time horizon shall insure reliability for the future planning of railway Infrastructure Managers and railway undertakings.
- Regional (International) train path requests do require railway capacity from at least two different national railway Infrastructure Managers.

Article 15 of Directive 2001/14 (Article Dir 2012/34 points out that international train path requests need a particular level of cooperation between the concerned national Infrastructure Managers. But not only cooperation between the Infrastructure Managers is required. Various national train path requests may have to be altered in order to permit the allocation of an international train path request.

- Annual train path requests have to be requested annually to be included into the annual train timetable.

They can be requested from at most 12 months in advance of the entry into force of the working train timetable until a deadline that can be determined by the Infrastructure Manager. Most European Infrastructure Manager set this deadline to 8 month before entry into force of the working train timetable.



- Ad hoc train path requests are requested at short notice. This applies for example for cargo train movements which are planned in a far more flexible way than the train movements of passenger trains.

Objectives for Railway Capacity Allocation

- As long as one integrated Railway Company managed and operated the national railway systems in the European Union, there was one key objective for railway capacity allocation: using the railway infrastructure capacity as efficient as possible.
- During the allocation of train path requests the Infrastructure Manager shall meet the requests of the railway undertakings as far as possible including those requests for train path crossing more than one national network.
- The constraints on railway undertakings as well as the economic effects of the train path allocation shall be considered as objective during the railway capacity allocation process.

- After constructing the draft working train timetable, conflicts may occur.
- Particularly on highly congested parts of the railway infrastructure such conflicts are very likely to occur and must be resolved in order to obtain a valid, feasible working train timetable.
- For such cases a coordination process is launched in order to solve the occurring conflicts. Article 21 of EU Directive 2001/14/EC describes this coordination process.

Information needed on capacity allocation

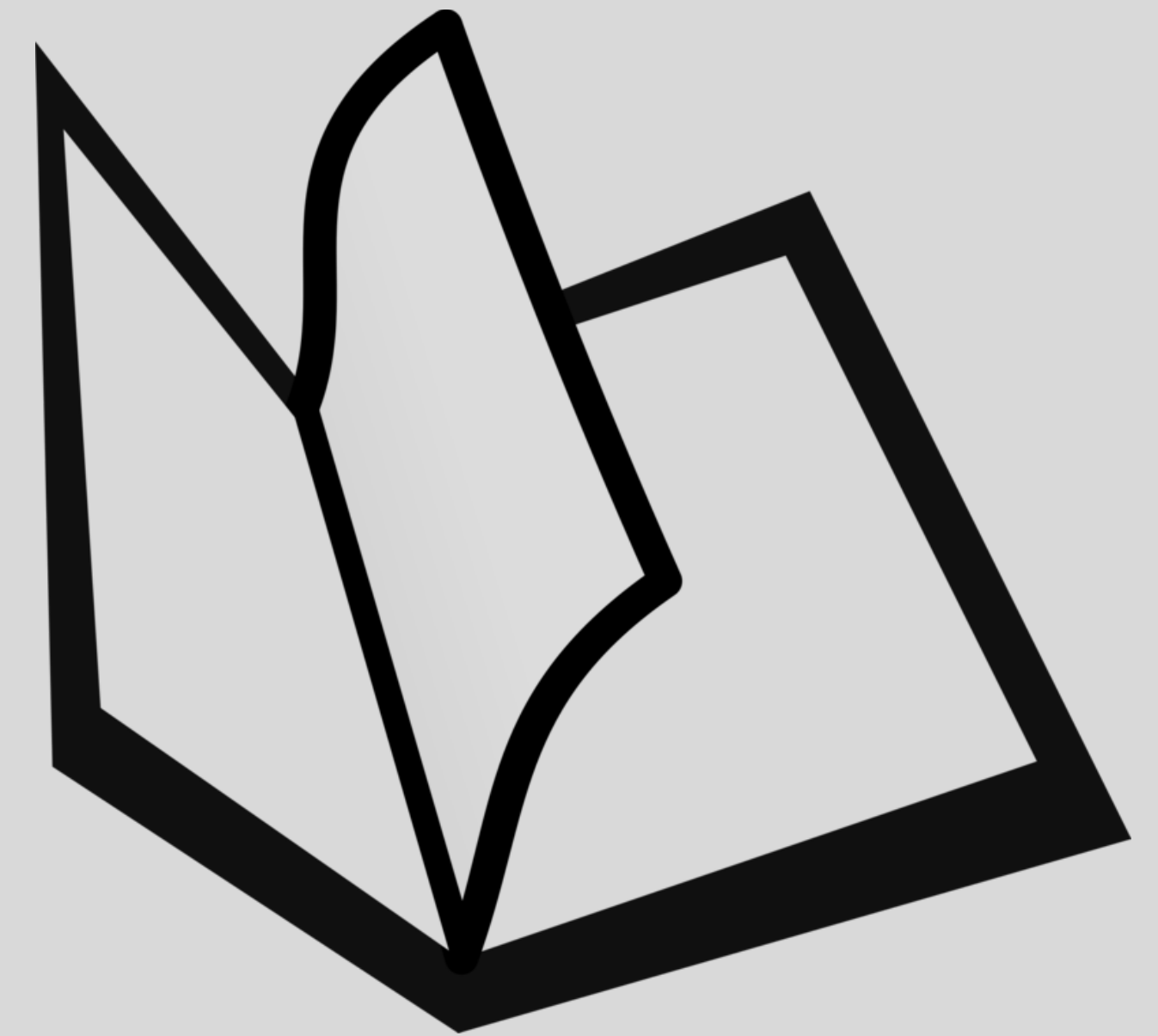
- The information that needs to be available for the capacity allocation procedure can be categorised in three groups:
 - information about the railway infrastructure and the available railway capacity
 - information about the train path requests and their railway capacity consumption
 - information about the objectives and forcing points for train path allocation
- The Infrastructure Manager is forced to publish information about its railway infrastructure. Otherwise, it would be impossible for the railway undertakings to formulate their train path requests.
- The railway undertaking submits their train path requests and thus the information about the need for railway capacity.



Network statement: Capacity allocation

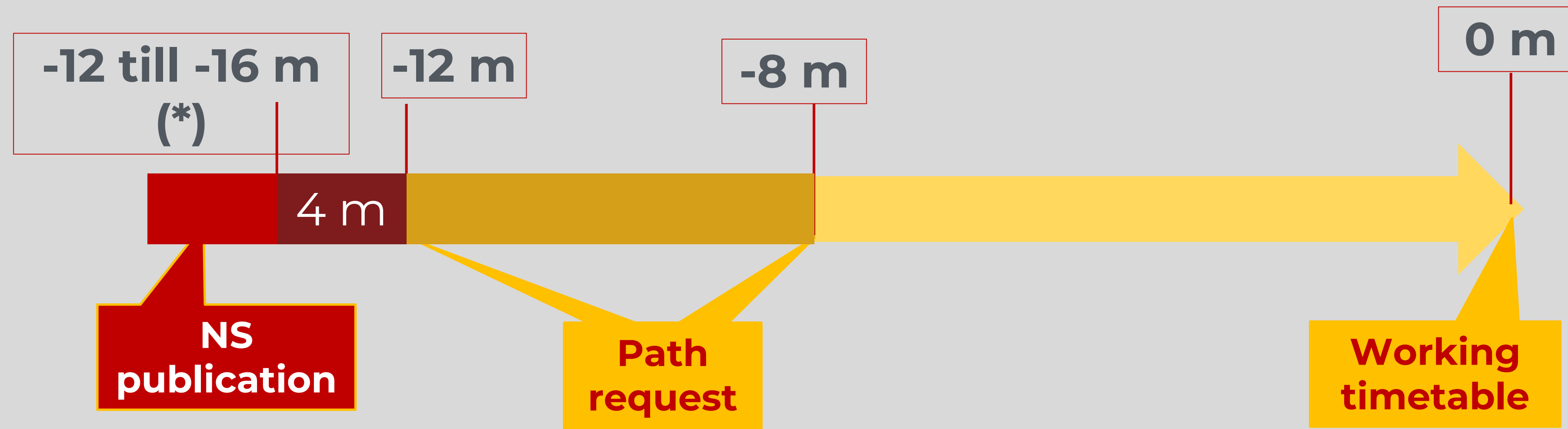
(Dir. 2012/34 - recast)

- In Article 3 (Definitions) is referred
 - *“network statement” means the statement which sets out in detail*
 - *the general rules,*
 - *deadlines, procedures and*
 - *criteria for charging and capacity-allocation schemes, including such other information as is required to enable applications for infrastructure capacity”*



1. The infrastructure manager shall, after consultation with the interested parties, develop and publish a network statement
2. The network statement shall set out the nature of the infrastructure which is available to railway undertakings, and contain information setting out the conditions for access to the relevant railway infrastructure. The network statement shall also contain information setting out the conditions for access to service facilities connected to the network of the infrastructure manager and for supply of services in these facilities or indicate a website where such information is made available free of charge in electronic format.
3. The network statement shall be kept up to date and amended as necessary.

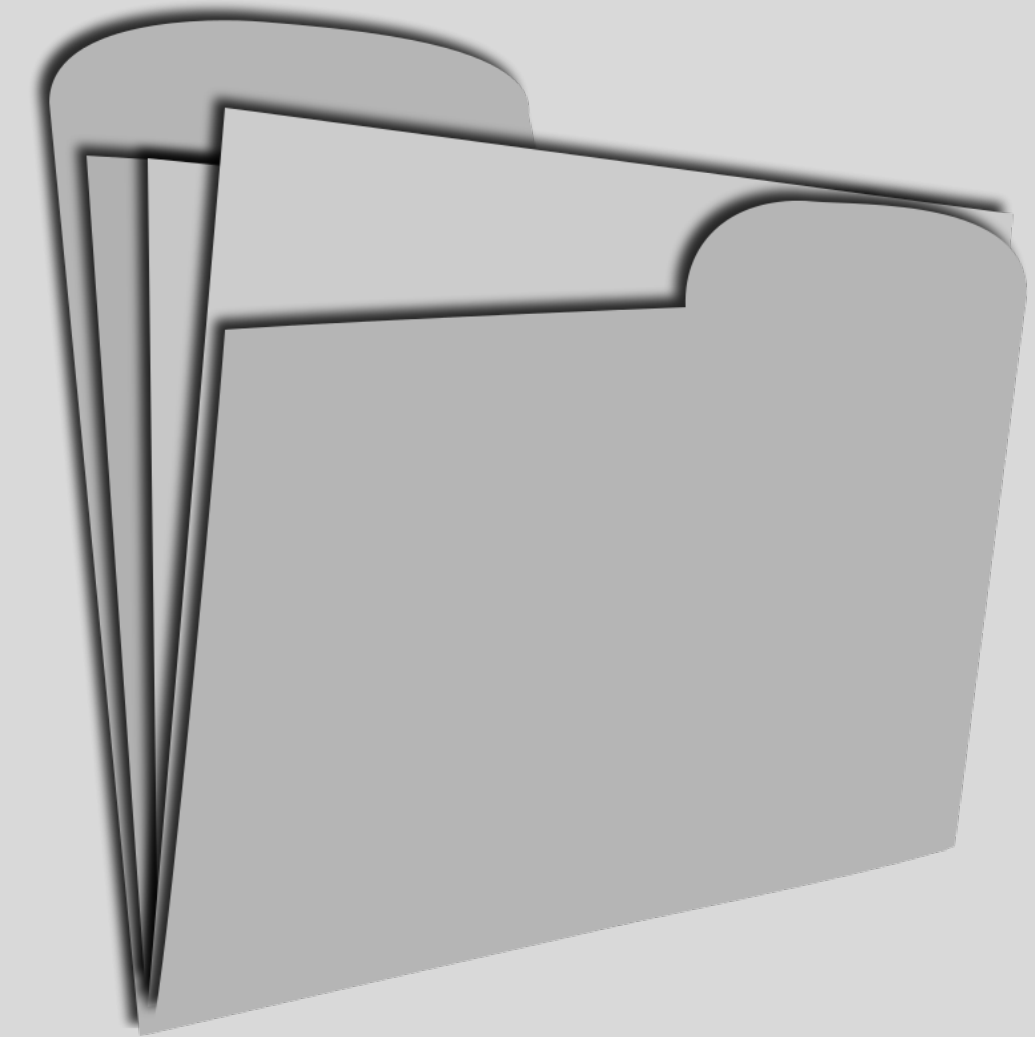
4. The network statement (NS) shall be published no less than four months in advance of the deadline for requests for infrastructure capacity.



(*): depending on the date for path request to be set up by the IM (in the period -8 to -12 months before issue of working timetable)

Documents needed to apply for train paths

- Every railway undertaking which wishes to use infrastructure, usually requires
 - a network access licence
 - a safety certificate, and
 - a network access agreement (which is to be concluded with the Infrastructure Manager).

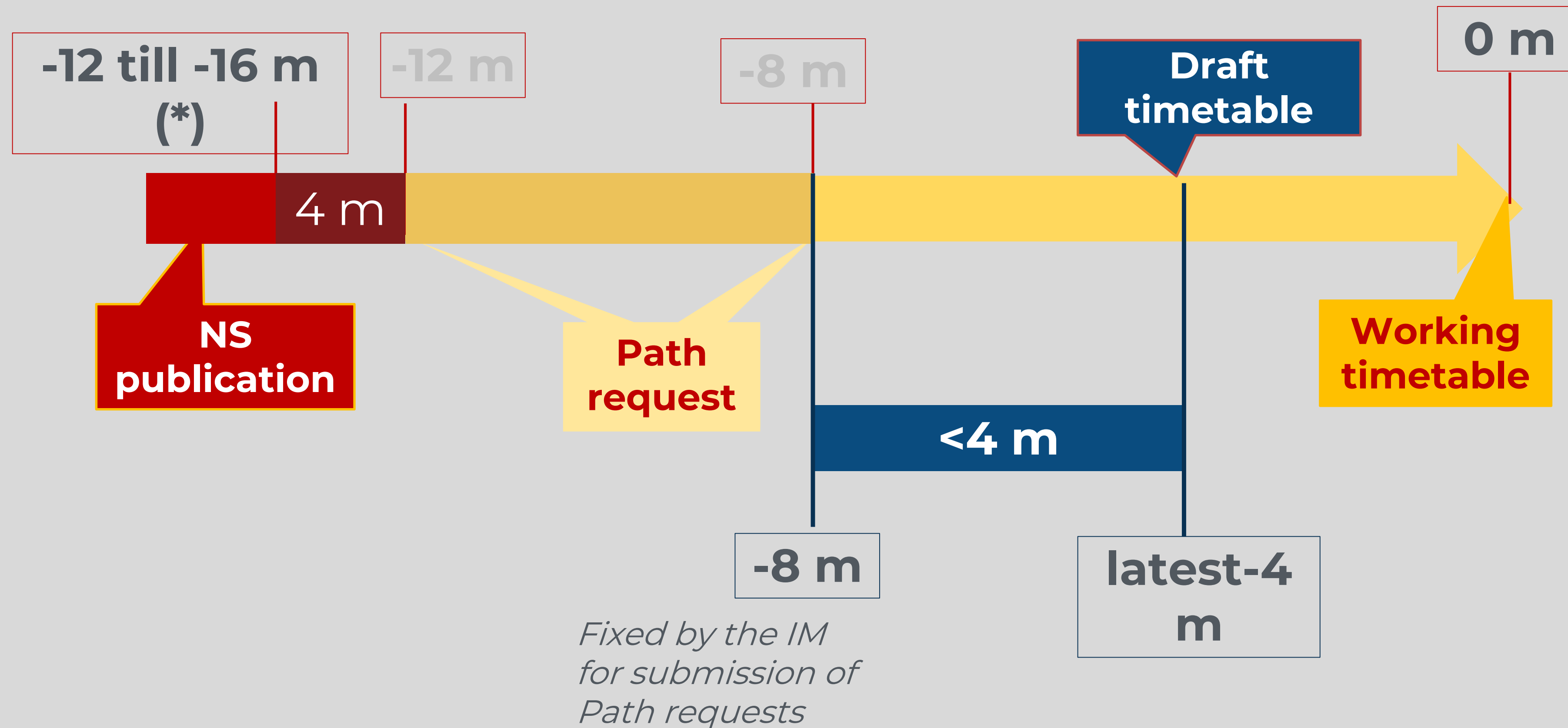


Schedule for the allocation process

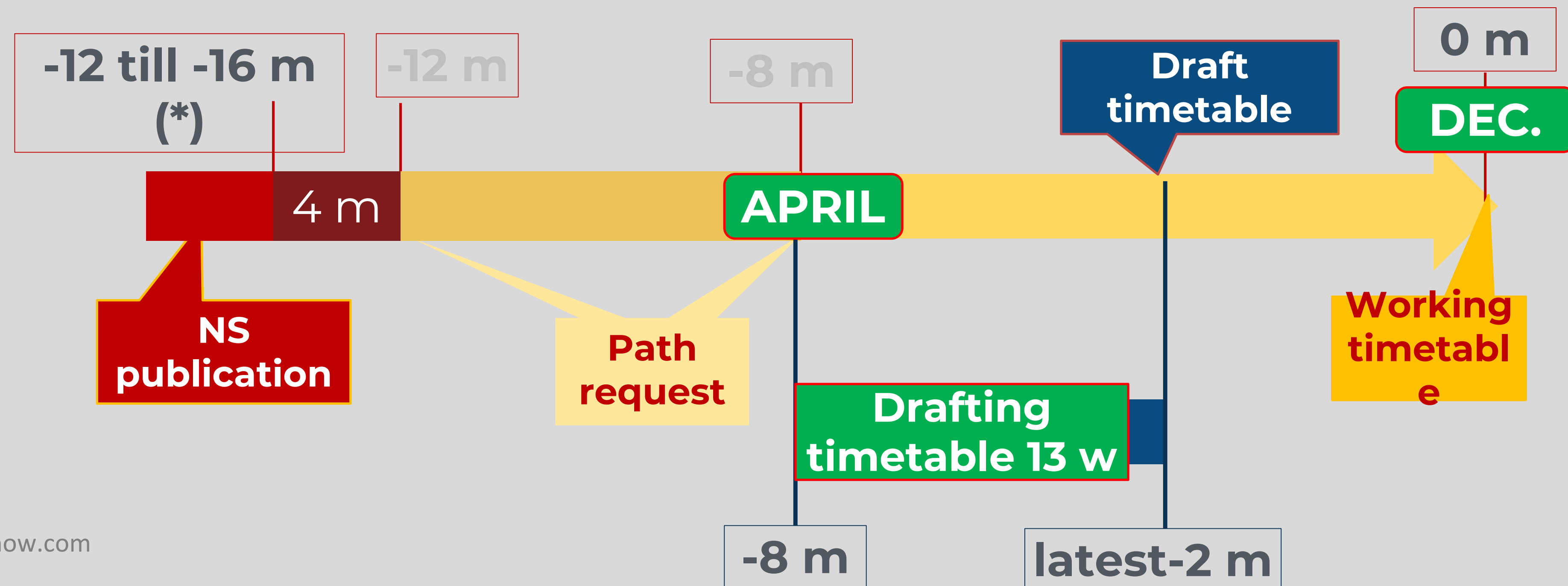
(Annex III Dir. 2001/14 – Annex VII dir. 2012/34)

1. The working timetable shall be established once per calendar year.
2. The change of working timetable shall take place at midnight on the second Saturday in December.
Where a change or adjustment is carried out after the winter, in particular to take account, where appropriate, of changes in regional passenger traffic timetables, it shall take place at midnight on the second Saturday in June and at such other intervals between these dates as are required.
Infrastructure managers may agree on different dates and in this case they shall inform the Commission if international traffic may be affected.
3. The final date for receipt of requests for capacity to be incorporated into the working timetable shall be no more than 12 months in advance of the entry into force of the working timetable.
4. No later than 11 months before the working timetable comes into force, the Infrastructure Managers shall ensure that provisional international train paths have been established in cooperation with other relevant allocation bodies as set out in Article 15. Infrastructure Managers shall ensure that as far as possible these are adhered to during the subsequent processes.

5. No later than four months after the deadline for submission of bids by applicants, the Infrastructure Manager shall prepare a draft timetable.

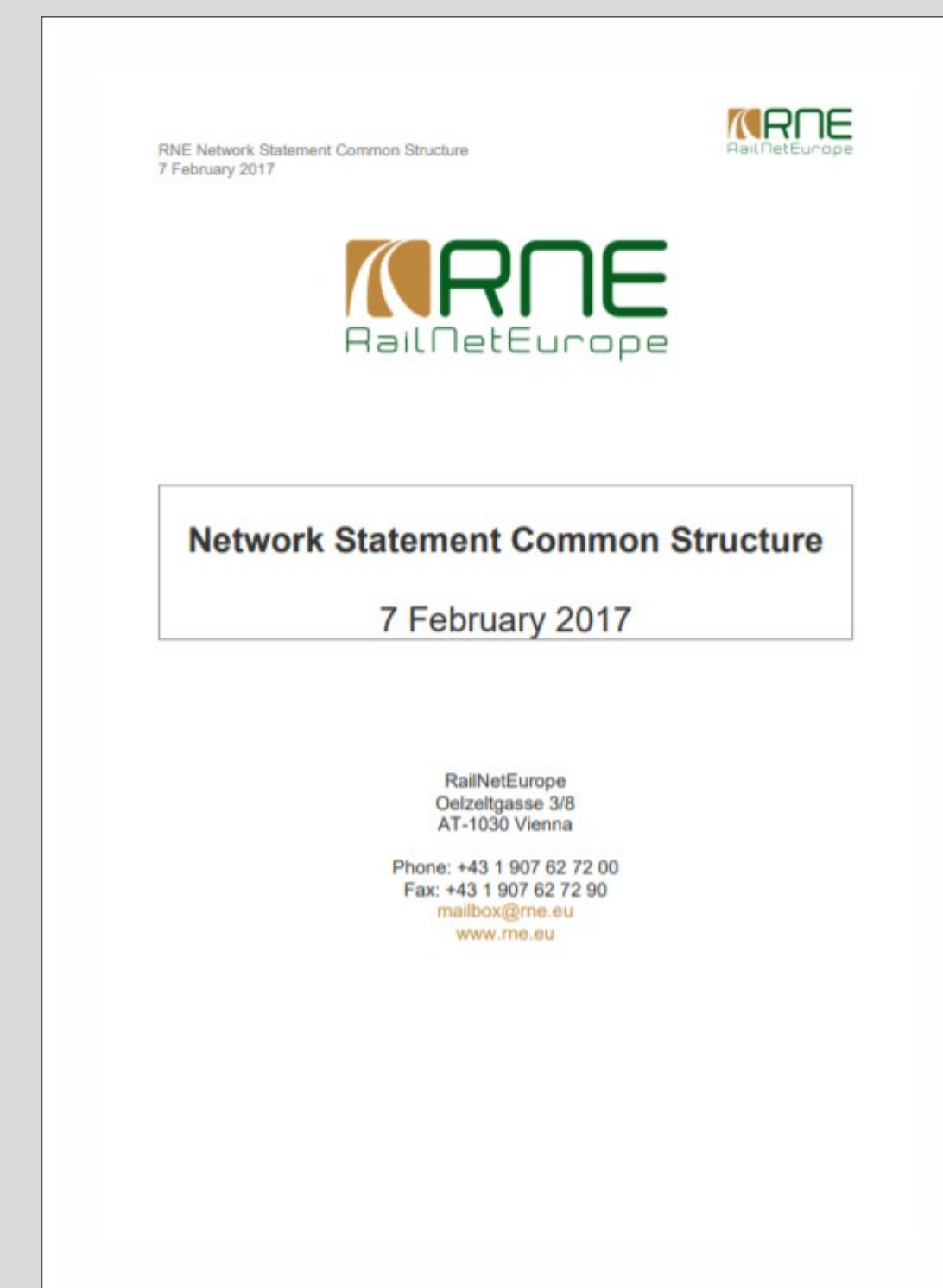


- RNE has harmonised the major deadlines within the international timetabling process for the annual timetable:
- Deadline for path ordering for the annual timetable:
every year on the second Monday in April
- Deadlines for drafting the international timetable:
every year on the Monday at the beginning of the 13th week after the path request date
- Deadlines for final answers to customers:
every year on the Monday at the beginning of the 19th week after the path request date



Structure of the Capacity Allocation procedures

- The structure of capacity allocation procedures follows the “RNE Network Statement - Common Structure & Implementation Guide”

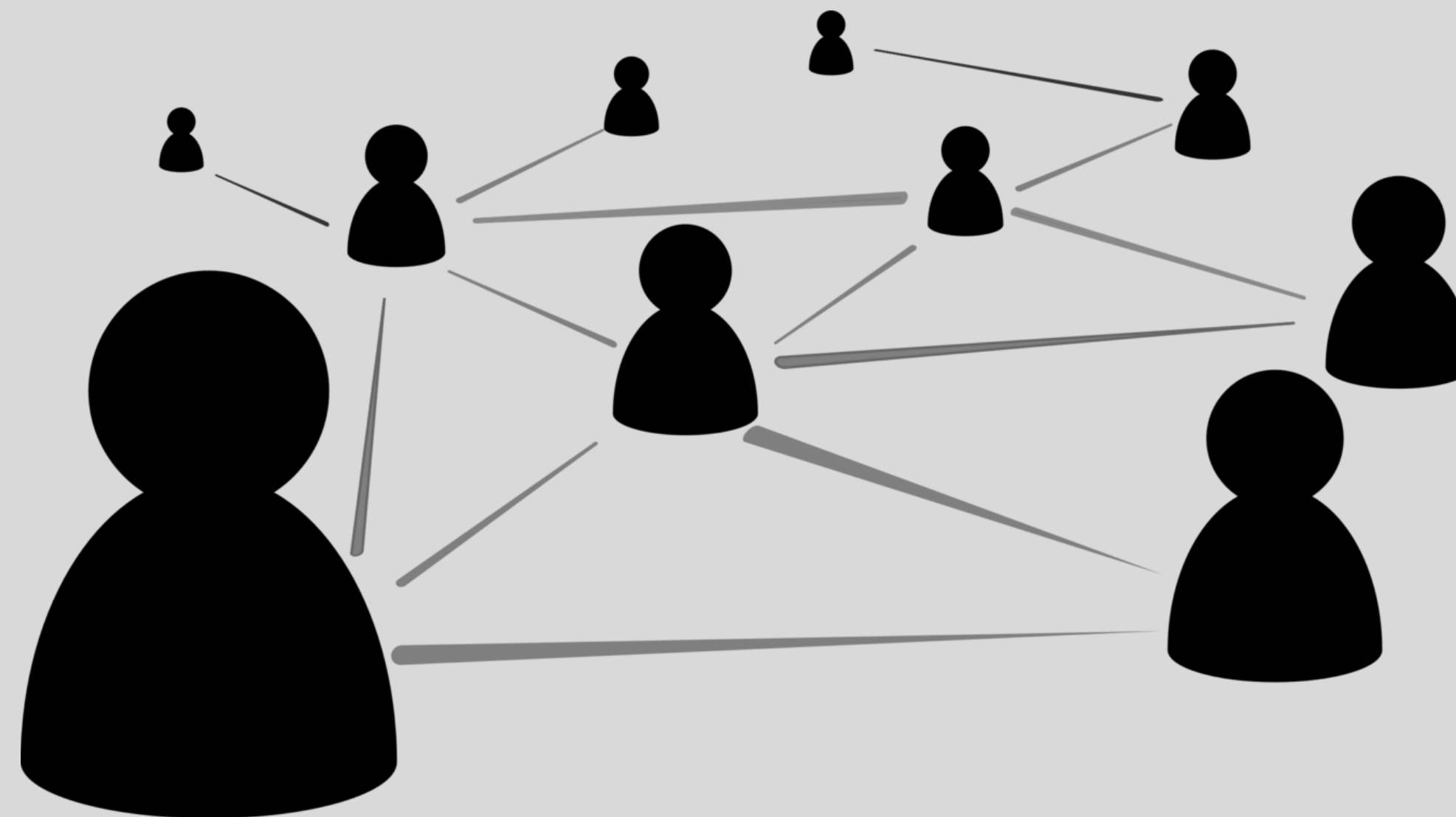


http://www.rne.eu/rneinhalt/uploads/RNE_NS_Common_Structure.pdf

One Stop Shop (OSS)



- The European railway Infrastructure Managers (IMs) and Allocation Bodies (Abs) who joined RailNetEurope have set up One Stop Shops that work as a network of customer contact points under the RNE umbrella.
- When applying for an international path customers only need to contact one of these Ones Stop Shops, which initiates the whole international path co-ordination process.

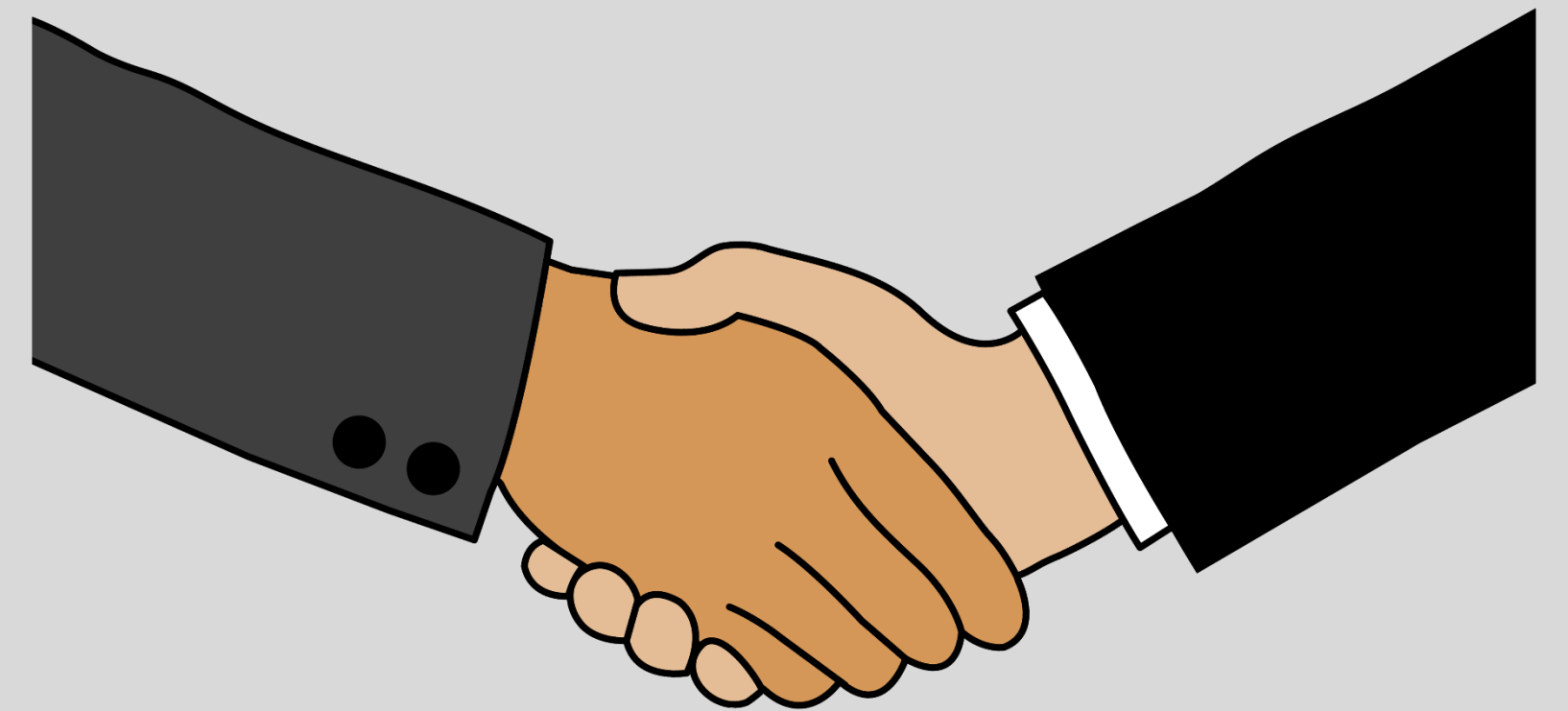


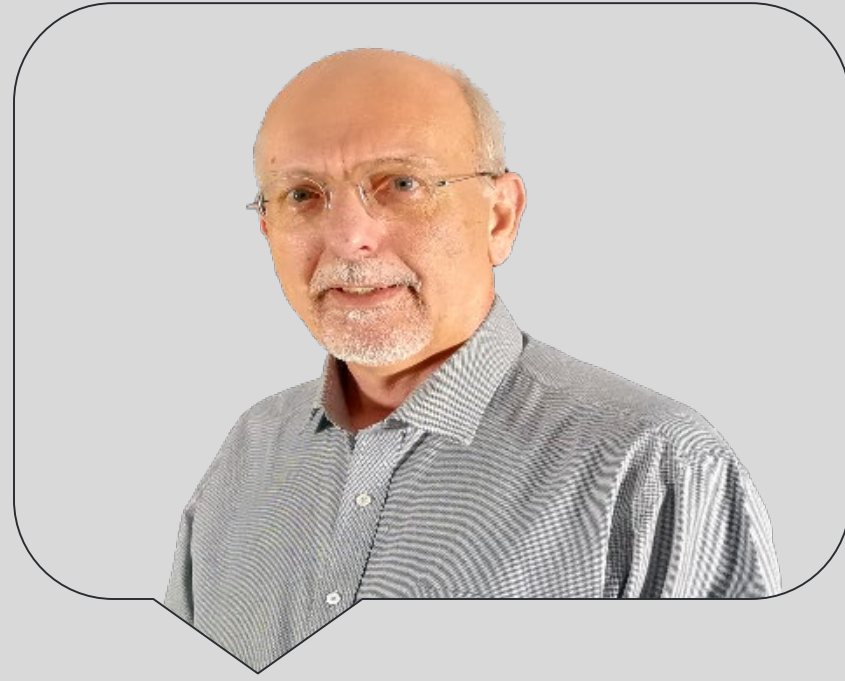
- The contacted OSS in close co-operation with the concerned IMs:
 - offers the customer support and information on the product and service range of the Infrastructure Manager;
 - supplies the information required to gain access to the infrastructure of any Infrastructure Manager participating in RNE;
 - coordinates requests for any international train path within RNE, including requests for the next timetabling period, so that they can be duly taken into account in the annual timetabling process;
 - provides train path offers for the whole international journey; the path coordination is mainly done via the RNE Path Coordination System (PCS).

- The OSS also provides information on infrastructure charges and train movements, including quality monitoring.
- The functions are supported by RNE's information tools:
 - the Charging Information System and
 - Train Information System.
- The OSS philosophy stands for competent and efficient assistance across all borders based on transparent, confidential and non-discriminatory procedures.
- A list of OSS contacts is available at the website of RNE: <http://www.rne.eu>.

OSS – state of the art in modern service organisations

- SINGLE POINT OF CONTACT
 - „one face to the customer“
- SINGLE POINT OF INFORMATION & TRUTH
 - instead of different inroads and answers/outputs
 - no parallel work on same requests
 - All customer data
 - Single „status-Information“
- ONE SALES-CHANNEL FOR ALL SERVICES
 - Enhanced Cross- and upselling opportunity
 - clear internal procedures
 - „lean production“
 - get faster through different departments
- SHORT RESPONSE TIMES
- BETTER SERVICE QUALITY → CUSTOMER SATISFACTION





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A few words about me....



- Civil Engineer (MSc.) - University of Hannover in Germany
- Master Executive MBA degree - Athens University of Economics & Business.
- Over 30 years of experience in the railway sector, including eight years in Director positions at Greek Railways Organization
- 2006 - 2013 the Head of the Railway Systems Directorate.
- 2013, 2014 development of the Omani National Railway Network.
- Senior Railway Expert at the Ministry of Transport and Communications in Oman.

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