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Study on passenger rail markets and services

Report
Full version



Photo: NS

Introduction of the task

The Finnish Ministry of Transport and Communications has asked Ramboll to do research on rail markets and services. Research has been done by desk-top analysis, interviews and by roundtable-meetings in Ramboll's expert-panel. The goal is to give some recommendations to support the ministry's preparing to fulfil the up-coming EU regulation for passenger rail transport in its demands and intentions.

The rail operations looked into, are

- Only passenger traffic, not freight at all
- Only traffic at the national level, meaning the nationally owned rail network
- Only regional and long-distance rail. Not metro, light-rail, city-networks etc.

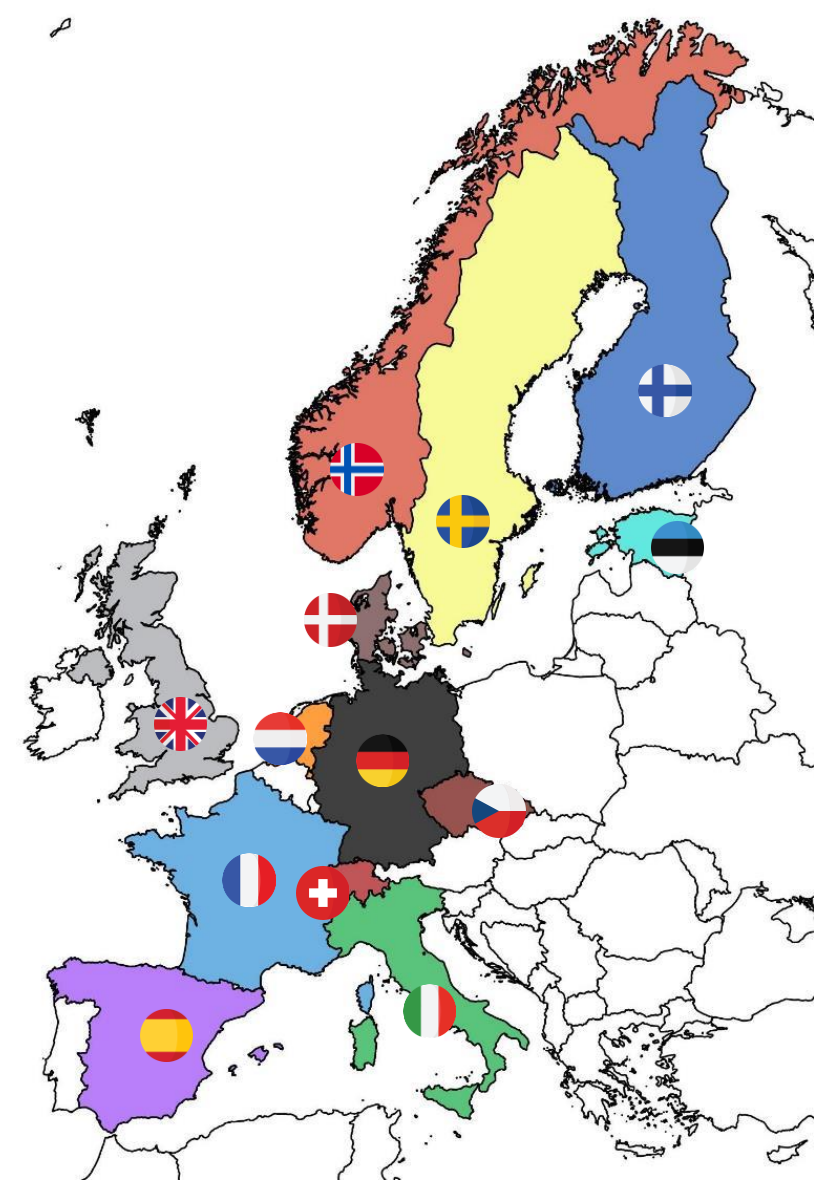
Together 12 countries were chosen for the research (presented in the map), in which the development regarding introducing competition in the sector has been investigated.

The investigation has concentrated on three main issues:

- The tendering of traffic
- The open access traffic
- The organizational and regulatory framework around this

Many detailed statistics and information are assembled but it has been a clear objective to present it in an easily readable way and concentrating on the main lessons and tendencies. Trying to give a clear picture, also means to hide the many nuances, that are always there, and should be remembered before taking concrete decisions. The details and documentation can be found in the attachments.

The report was made by senior consultant Ove Dahl Kristensen as project manager with assistance from designer Juulia Hyvärinen. Quality assurance by chief consultant Alex Landex. Backing from Ramboll's team of experts under lead of Jukka-Pekka Pitkänen with Hinrich Brümmer, Mirja Mutikainen, Alex Landex and Michael Stevns and assisted by Tytti Viinikainen.



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Giving the overall observations on the European development and status by:

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The attachments (separate document):

- A snapshot of each of the countries
- A snapshot of each of the interviews
- Score of incumbent train operators going abroad in the European competitive market
- Articles from the International Railway Journal
- Version 2 of "the historic development of the railways"

Background

- The organizational development of the railways
- EU-legislation and definitions
- The degree of fulfilment of the EU-regulations
- The countries doing best and progressing most
- What Finland should consider and decide on

The historic organizational development of the railways

(an alternative version 2 is seen the attachments)

1825-1880

The wild west organisation

- Many private local rail companies were melted together in a national rail company after the first more private and more strayed take-off
- As an example: two competing rail companies built each their railway line (tracks) between Oxford and London
- A rail mania bubble burst at the UK-stock market in the 1840s

1880-1980

The integrated model

- The old traditional model where all the world railways (minus US) were organized in the exact same way: every aspects or element of the sector, including both all the regulatory, planning, operation, infrastructure, maintenance and safety issues was organized in one organization.
- Integration was both vertical and horizontal. As an example, the Swiss Railway still have its own power stations
- The most stable period for rail organization, where rail became the most important transport mode. The rail to high degree lost importance to the car from 1950, and (as reason as well as consequence) the investment in the rail sector almost halted in many countries, and lines were closed.

1980-2020

Search for new dynamics

The base case: old integrated model

- In Europe Switzerland is the clearest example but some other countries have kept it in many ways and much of the integration is left
- Common model in most Asian countries
- Favoured model for most local railways, metro and light rail systems, though without the regulatory role

Japanese: integrated (created commercial) passenger regional model

- The national rail split in 7 regional companies
- All still vertically integrated including the infrastructure. Commercially supported by owning areas around stations
- Freight traffic is still in one national company but uses mostly the infrastructure belonging to passenger companies

US: integrated (commercial) regional freight model

- A basis with a huge number of integrated freight companies within large regions/networks
- Relatively few big companies are left due to merges and acquisitions. All with own infrastructure and commercial departments.
- The passenger traffic combined in one national company, but the infrastructure owned by the freight companies

EU: dis-integrated competitive passenger and freight model

- The infrastructure is separated from the operating companies based in the philosophy of competition-model
- The philosophy model is based on the well proved similar models in other sectors, such as the air and tele

EU-legislation and definitions

The basic EU-legislation is from 1991 but has since been stepwise tightened nearing the goal. The philosophy behind this has been to improve service quality and efficiency in the national rail-sector by challenging the train operators by creating a competitive environment. This philosophy is based on earlier successful experiences from the air sector.

The next important step will be that in principle all new contracts for public-supported (PSO*-supported) train services from 2024 shall be tendered out in a competitive tendering. Contracts entered before this date can run for up to 10 years before the tendering is required. There are exception possibilities, when a direct award is better fitting to the network properties and will ensure improvement of quality or efficiency (see EC 1370/2007 art 4bis).

So, all traffic should be held in a competitive environment. Either **off-track** competitions (means in tendering), or **on-track** between operations in parallel.

* PSO = Public Service Obligation

In the past

One national train operator in each country, integrated with all rail-functions in one body and 100 % state-owned

At the moment 4
different frameworks for
the train operation are
allowed

Interim period:

**PSO traffic can be directly awarded
specified in a contract**

**Non-PSO traffic can be operated
without a contract as commercial traffic
and as a monopoly**

In the future only two
greens

**In the future only
two ways will be
allowed:**

**PSO traffic can be
contracted after a competitive
tendering or direct award under
conditions
(off track/for tracks competition)**

**Non-PSO traffic can run
freely as open access traffic in
competition with others
(on track competition)**

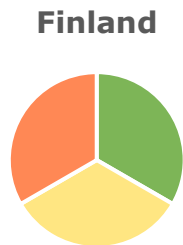
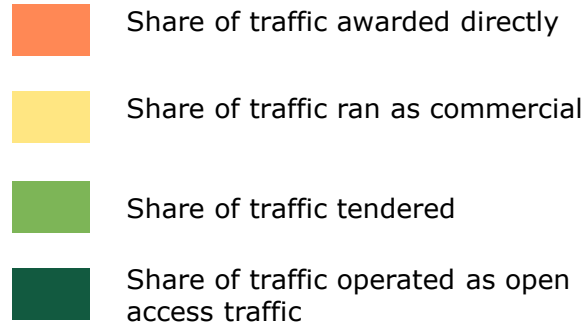
The degree of fulfilment of the EU-intention

The figures* shown are rounded and shown on a principal and illustrative level based on Ramboll's knowledge and desktop analysis.

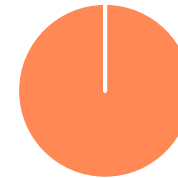
* An unspecified mix of passenger-km, passenger numbers, train kilometres, revenue etc.

Country	Degree of split between infrastructure and incumbent operator
Finland	100
Switzerland	0
Estonia	100
France	50
Italy	50
Spain	50
The Netherlands	100
Czech Republic	100
Denmark	100
Norway	100
Germany	50
Sweden	100
The United Kingdom	100

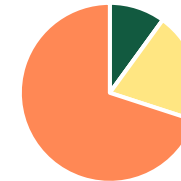
Share of traffic between different types



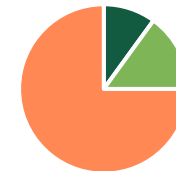
Switzerland



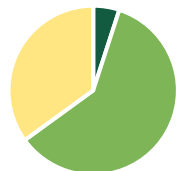
Italy



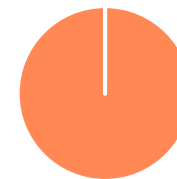
Czech



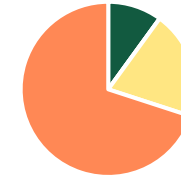
Germany



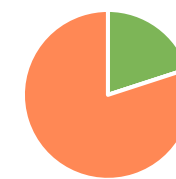
Estonia



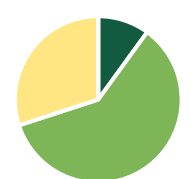
Spain



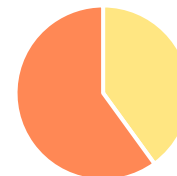
Denmark



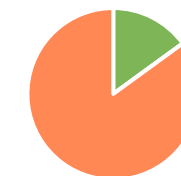
Sweden



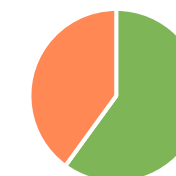
France



The Netherlands



Norway



UK



The countries doing rail best and progressing the most

The tables show the scores given to each country based on their data about each of the parameter listed in the first column. Scores have been given in a scale of 1-5, 5 being the best. If multiple countries have the same total score, the order is alphabetical.

The best rail country:

Switzerland is in its own league with a 20 % market share almost double as high as the next on that parameter, the 12 % in The Netherlands. Most of the other countries are very close in comparison.














The best progress:

The Czech Republic and Estonia have done an impressive improvement (although from a low level) in the chosen 10-year period, in which Denmark and France have lost.

In general:

UK and Sweden, the two frontrunners on fulfilling EU-policy, have both a high level, and done progress.

The best rail country

													
Pax-km/inhabitant	5	3	4	3	3	4	2	4	3	3	2	1	2
Market share compared to other transport modes %	5	3	3	2	3	2	2	3	2	2	2	1	1
Average PSO-compensation €/pax-km	4	4	3	5	3	3	5	1	3	2	3	2	1
Total score	14	10	10	10	9	9	9	8	8	7	7	4	4

The best progress

													
Improvement of pax-km 2010-2019	5	5	4	3	3	3	2	2	2	2	2	1	1
Market share development 2010-2019	5	5	3	3	3	3	2	2	2	2	2	1	1
Total score	10	10	7	6	6	6	4	4	4	4	4	2	2

What Finland should consider and decide on

As a minimum **all the PSO-supported traffic** shall be tendered. This can be done


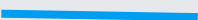
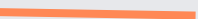

- in one or more packages
- product-wise or geographically

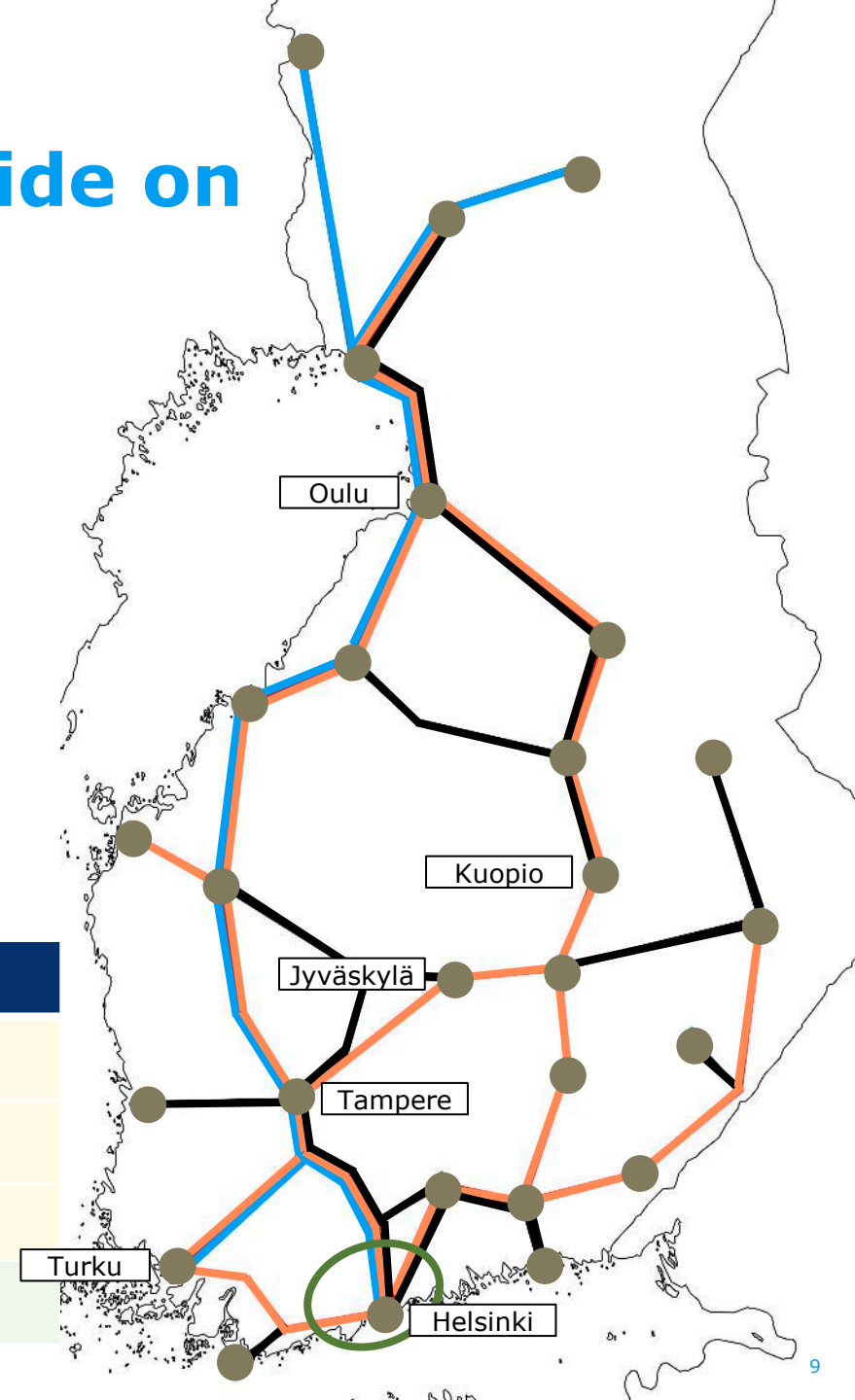
The **commercial traffic** can either be

- tendered separately or
- tendered integrated with regional traffic or
- run as open access

And it could all more or less be done at

- a regionally and/or
- a nationally level

	Finnish passenger trains	Operator	Status
	PSO-traffic	VR	<ul style="list-style-type: none"> • Directly awarded in a PSO-contract • Current PSO-contract until 2030
	PSO-traffic, night trains	VR	<ul style="list-style-type: none"> • Directly awarded in a PSO-contract • Current PSO-contract until 2030
	Open access -traffic	VR	<ul style="list-style-type: none"> • Commercially by VR
	Regional HSL-traffic	VR	<ul style="list-style-type: none"> • Tendered in competition • Current PSO-contract until 2030



The European status

- The overall tendencies seen 1-4
- Countries to investigate – open access traffic
- Countries to investigate – tendered traffic
- The European rail-divisions: similarities and differences
- Statistics: use of rail, licences and access charge, economy and country structure
- The rail-system and conditions in Finland in comparison

The overall tendencies seen 1/4

The main lessons from Ramboll's studies in 12 European countries on the development in the sector of passenger rail transport, regarding the intentions in the EU-regulation by improving innovation and efficiency via enforced competition:

1. An unstable situation with ongoing changes

The clearest and the most overall lesson of the European development to be aware of is that there is a continued development. The EU regulation has developed stepwise in a clear and logical way since 1991, but in the real-world things have changed in different ways, and with very different timing in different countries, and sometimes quite abruptly. And this is ongoing.

This is an argument for staying connected, but also for realizing, that it is not certain what is best to do. There are similarities and lessons that are relatively clear, but exactly how it ends and which solutions will be the most successful, is not easy to predict. The market still develops as well, both in positive and in negative directions.

Besides the unstable situation, it is clear that there are a lot of conditions that differ between the countries and therefore should be considered in the right context. Primary examples of this are

- the changing priorities of local politicians ,
- the market situation, meaning the position of the rail,
- the geographical conditions,
- the structure and capabilities in the rail network,
- how densely the country is populated,
- the size of the country and
- the balance of power between national and regional authorities.



The overall tendencies seen 2/4

2. A clear one-way movement to meet the intentions in the ever-tightened EU-legislation

A clear movement is that all EU-countries, with one exception, go in the same direction regarding ensuring that the legislation and the organizational set-up lives up to the ever-tightened EU-legislation which is based on the approach of competition.

The one exception is **France**, that some years after the frontrunners, separated the infrastructure organisation from the operations of the incumbent operator, but then later reversed it. Although it still fulfils the minimum requirement of the EU-legislation, it now again has the infrastructure and the national passenger (and freight) operator under the same holding company.

But 3 other exceptions are also worth to notice, although they are seen in 3 non-EU-countries. In particular the development in the UK is remarkable. Both Norway and Switzerland, in general, follow the EU-regulation and the EU intentions in almost all areas to very high degree, and the UK has until recently been following the regulation.

In **Norway**, it was decided to tender the whole traffic in 5 separate packages. 3 packages were tendered out before a new government brought the plans to a stop, although it seemed as if the plan was well running. The EU-regulation is not broken, but a backlash seems to happen for some period at least.

In **Switzerland** they - regarding the passenger traffic - too many

degrees have chosen not to follow the EU-regulation in this field, and not at all for the rail-infrastructure organization.

Over 100 years old practice of organizing the rail sector has remained almost unchanged, meaning that the infrastructure and the operation are still in the same companies, and without a separate accounting as required as minimum by the EU-regulation. They also don't tender their operations, but do allow open access, and have established a separate regulator-function, meaning that only the freight traffic operates in a principally open market.

The reason that this case is worth mentioning is that measured on almost any quality parameter, the Swiss rail system is extraordinary with a market share almost double of the second best in Europe. And although the Swiss motorway system is now also fully developed, the market share continues to grow, and the rail system continuously has a very high priority at all political levels and in all elections. Only Japan is comparable to Switzerland regarding the quality and the use of trains.

The most remarkable exception is the **UK**. On the one hand they in all aspects have been frontrunners regarding EU-regulation, and for now close to 30 years have fully implemented not only the organizational intentions, but also have tendered all the traffic in several rounds and closed the original incumbent rail-operator BR from the very beginning.

The rail-sector was invented in the UK, then regulated fully as the first and only according to end-intentions in the EU-legislation, and now, it seems, UK is going for a totally new approach again.

The overall tendencies seen 3/4

Many lessons have been learned in the UK during the 30 years, and now they to a relatively high degree intend to go back to the original set-up, where the whole system is controlled in one organization. It's called BR for British Rail, but now with a Christian name, almost referring to the past: **Great British Rail, GBR.**

Although the whole system will be controlled in one body, the competitive approach will be kept, and the number of employees will be kept down, by letting all the operations be done by private companies. It's still done with tendering, but with gross contracts, which means taking the biggest risk out of the competition. There's an intension to coordinate ticketing, timetabling and how to prioritize the investments, and letting this body also be the experts in the tendering process.

Could this be a signal for a development in Europe in general?

The reasons behind this instability is further discussed in the conclusions-chapter.

3. The risk is increasingly taken out of the tendering processes

The third clear direction of the development is that risk is being taken out of the tendering processes.

This has been the direction seen for some years in many countries but got further speed with the Covid 19.

The two countries with most tendering besides the UK, are **Germany and Sweden.** They have clearly stabilized with this approach, and although a few countries have had success with net contracts, Denmark in particular, it is becoming clear that the number of operators willing to bid for net-contracts will be very small in the coming years. Those operators will almost certainly not be real private companies.

This is also one of the interesting lessons from the Norwegian process, which started very well, but were Covid changed the playing field. This picture is also seen in Germany and The Netherlands.



Photo: Pixabay

Photo: Swiss SBB international train at Milan station.

Gross and net contracts

Gross contract: the operator is paid for the total cost by the authority, while the authority collects the revenue
Net contract: the operator keeps the passenger revenue and is only compensated for the difference in costs.

The overall tendencies seen 4/4

4. Open access is actively in development and achievable when the traffic environment is right

The fourth lesson is, that open access traffic - besides on rail freight - only has a clear positive development

- in long-distance highspeed traffic,
- in countries with more large cities,
- and best with a separate infrastructure with high degree of free capacity.

Open access traffic in smaller countries, in smaller markets, running more or less in parallel with PSO-supported traffic is not gaining ground for. That's because there is no room for making either attractive traffic in parallel or covering the costs of service.

Although the possibilities are still in trial and development with the Austrian Westbahn as the longest living and intense case, it still is a concept that not definitely has shown its viability, and currently primarily is tested by state-owned operators, with a single private Italian operator as the good exception.

Again, **Sweden** has been seen as an interesting case and as a frontrunner, but it don't seem to be a viable situation with competing open access operators, and less so, with the now cancelled ambitious plans for investments in a high-speed network.

5. Incumbents have benefits in competition

It seems very difficult to ensure a development of private companies in the sector.

It was ensured in the UK by laying down the state-owned incumbent BR, whereby several private companies were established. Within the home market 5 bus-based operators have been continuously in the market and have also made several attempts in going abroad in the European market, when tendering opportunities have been seen. But only for shorter periods.

Outside the UK the market has been dominated by daughter companies from the incumbent state-owned operators, and this to a very high degree.

The French, the Dutch, the Danish and the German incumbents have been active in many years, and for the moment in particular the Italian, but also the Finnish, Swedish and Norwegian incumbents are expanding abroad.

SPAIN's first private high-speed operator Iryo began carrying fare-paying passengers on November 25, when it launched a service of 12 trains a day each way on the Madrid - Zaragoza - Barcelona route.

Following its launch on the Madrid - Zaragoza - Barcelona route, on December 16 Iryo will start operating from the Spanish capital to Cuenca and Valencia.

Services will also be extended from Madrid to Córdoba, Antequera, Málaga and Seville on March 31. The Iryo network will be completed on June 2 with the start of operations on the Madrid - Albacete - Alicante route.

"Iryo, Ouigo of France and Renfe of Spain are already competing on an equal basis on the Spanish rail network, within the framework of the liberalisation process recently undertaken by our country, which has made us the first on the continent to have three top-level companies providing high-speed services," say Sánchez.

Source: Article from International Railway Journal, 25.11.2022 <https://www.railjournal.com/passenger/high-speed/iryio-makes-inaugural-run/>

Countries to investigate – open access traffic

Interesting open access cases:

Country	High speed traffic	Long distance traffic	Regional traffic	Private operator	Public operator	Strength 1-5 of operation	Comments
Italy	X			X		4	Well established
Spain	X				X	5	Comparable to the air sector
Germany		X		X		2	Niche products
Sweden		X			X	2	Not sustainable / niche products
Czech Republic		X		X	X	3	Well established, relatively small, expanding
Austria (not one of the 12 countries benchmarked)		X		X	(X)	3	Well established, aggressive, relatively small
Other		X	X			1	Niche products



Photo: Italian private operator Italo high-speed train

Italy and Spain have the strong and presumably viable cases. And France is under way.

Countries to investigate – tendered traffic

Interesting tendered cases:

Country	National authority	Regional authority	Net contracts	Gross contracts	Long distance + regional traffic	Regional traffic only	All regional traffic	Rural regional traffic	City regional traffic	Comments
UK	X		X		X		X			In review
Norway	X		X		X		(X)			In pause
Germany		X		X		X	X			Stable
Sweden		X		X		X	X			Stable
Denmark	X		X			X		X		Stable
Czech Republic	X		X			X			X	Stable
Netherlands		X	X →	X		X		X		Stable
Finland		X		X		X			X	Stable

Quite similar are: UK and Norway (light blue), Germany and Sweden (darker grey). Relatively similar are Denmark, the Netherlands, Czech Republic and Finland (lighter grey).

The European rail divisions

Similarities and differences, based on the statistics given on the next pages

Italy, Spain and France

Markets with

- Separate and large high-speed network
- Big cities with long distances (particular France and Spain)
- No competitive tendering done
- Related culturally

Germany, Sweden

Have done a very similar approach with both

- tendering all regional traffic, regionally
- having a commercial long-distance system

UK

- In many aspects it's own case
- The forerunner in rail development and change

Denmark, the Netherlands and Czech Republic

- Very similar approach to tendering the simpler parts
- Keeping the incumbent's role and core network together
- Equal country structure, though particularly dense in the Netherlands

Norway (until 2018), Finland (until 2018) and Estonia

- Structurally very equal (see statistics on next pages)
- Low use of rail
- No competitive tenderings (until recently)

Switzerland

- Outstanding and doing no changes.
- Also, culturally very conservative.

The use of rail

Rail Market share 2019

Country	%/pax-km
Switzerland	20
Sweden	12,2
The Netherlands	11,2
France	10,2
Czech Republic	10
Germany	9,3
UK	8,5
Denmark	8,2
Spain	7,1
Italy	6,3
Finland	6,2
Norway	4,9
Estonia	2,2

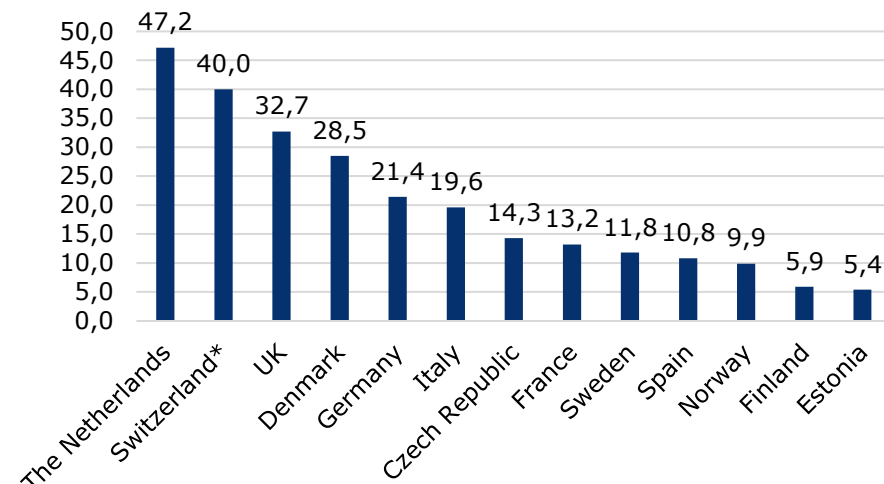
Utilisation in km pr inhabitant in 2018

Country	pax-km /inhabitant
Switzerland	2362
France	1396
Sweden	1339
Germany	1207
The Netherlands	1161
Denmark	1069
UK	1043
Czech Republic	969
Italy	895
Finland	823
Norway	702
Spain	577
Estonia	325

Average rail trip length 2019

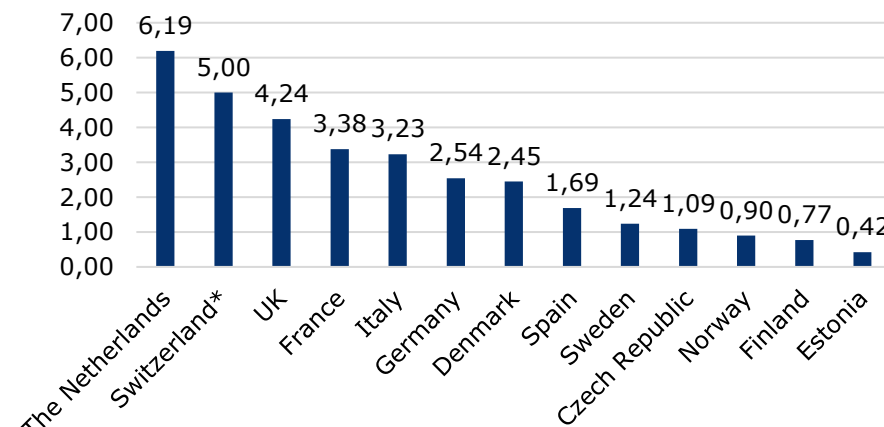
Country	km / pax
France	76,30
Italy	62,51
Czech Republic	56,08
Sweden	55,24
Finland	53,06
Estonia	46,82
Norway	46,21
Spain	45,20
UK	39,10
Germany	34,12
Switzerland	31,96
Denmark	29,88
The Netherlands	29,20

Network utilisation 2018 (k train-km / line-km)



* = based on Ramboll's assessment

Utilisation of rail infrastructure for passenger transport 2018 (m pax-k / line-km)



* = based on Ramboll's assessment

Licences and access charge

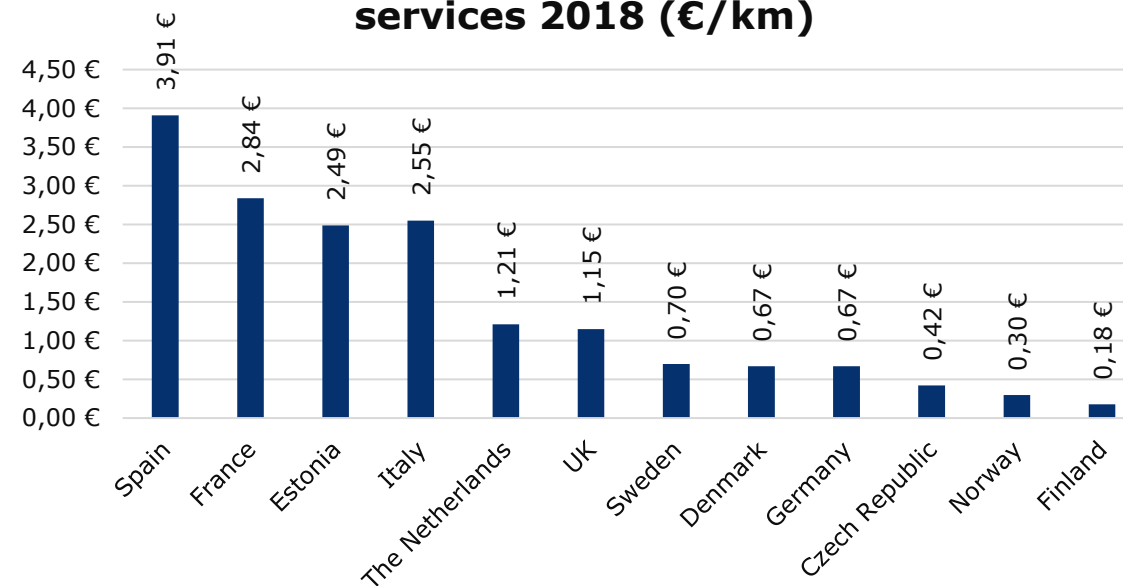
Average fee to obtain a licence for operating 2018

Country	€
Denmark	13 375
Spain	11 721
The Netherlands	5770
Germany	5000
Italy	5000
Estonia	2880
Sweden	1620
Finland	1000
Czech Republic	780
UK	183
France	0
Norway	0
Switzerland*	No data

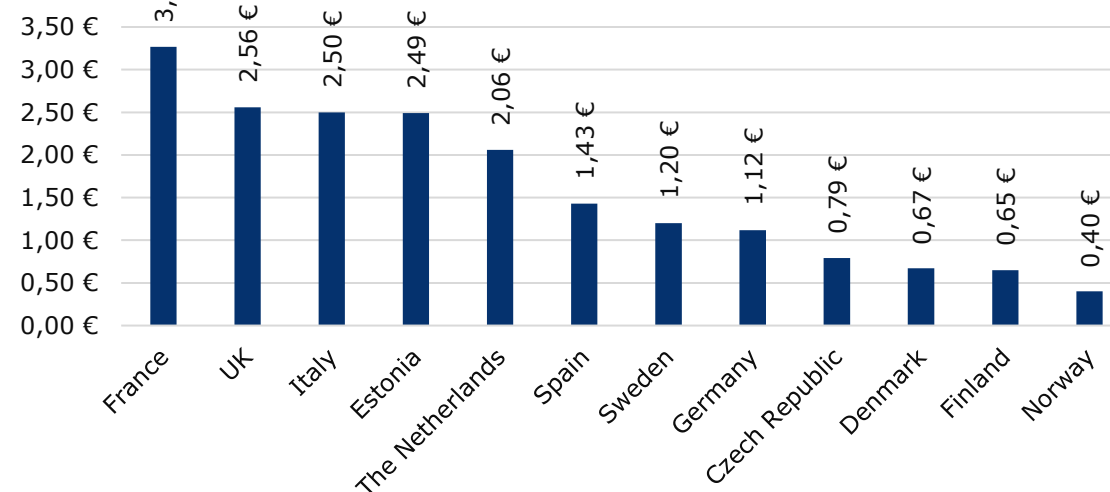
Average time to obtain a licence 2018

Country	Days
Spain	120
UK	108
Italy	90
Sweden	73
The Netherlands	60
France	60
Finland	30
Czech Republic	30
Estonia	27
Denmark	23
Germany	3
Norway	0
Switzerland*	No data

Access charges, suburban and regional services 2018 (€/km)



Access charges, conventional long-distance services 2018 (€/km)

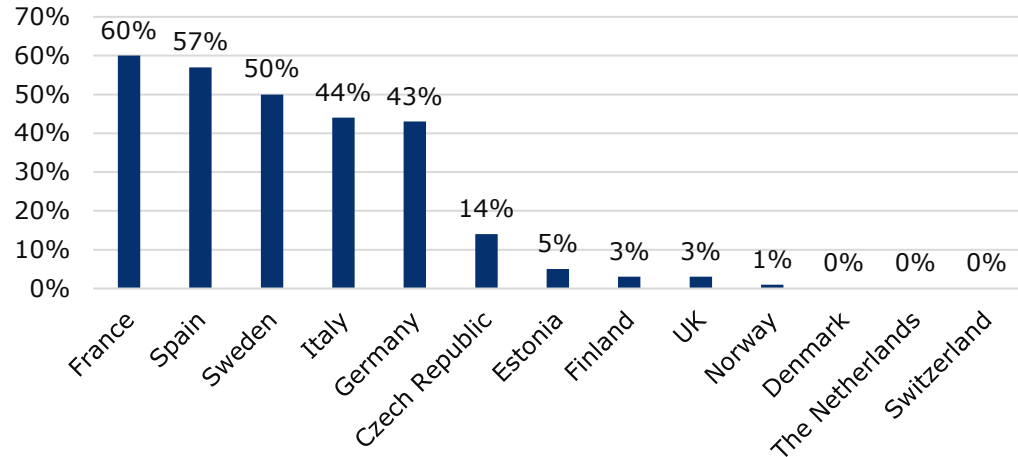


Access charges of Switzerland not known

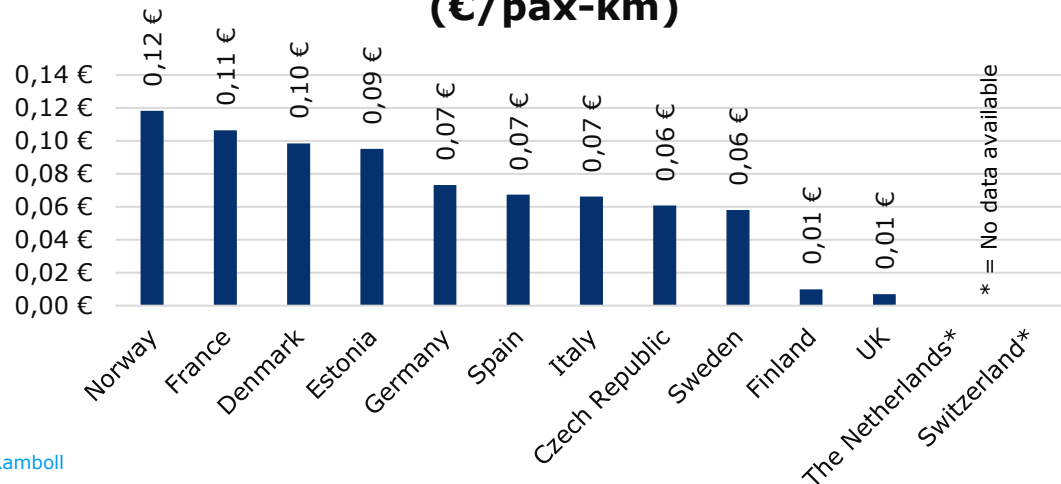
Economy

Share of passenger traffic offered under commercial rail services 2018 (% of pax-km)

Since 2018 the definitions have changed in Finland



Average PSO compensation 2018 (€/pax-km)



Revenues from passenger transport services 2018

Country	€/pax-km
Switzerland	0,30
Norway	0,25
Denmark	0,23
United Kingdom	0,19
Czech Republic	0,16
Germany	0,16
France	0,15
The Netherlands	0,14
Estonia	0,13
Spain	0,13
Italy	0,12
Finland	0,09
Sweden	0,09

Expenditure on old and new infrastructure 2018

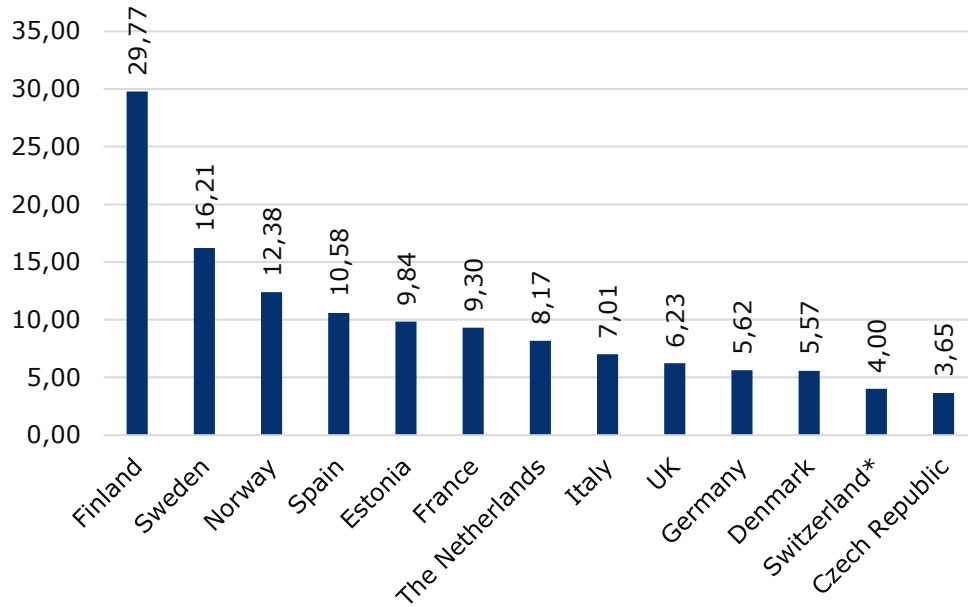
Country	€/inhabitant
Norway	387,74
Switzerland*	<300
Sweden	175,34
Denmark	162,49
Czech Republic	155,48
United Kingdom	133,75
The Netherlands	111,98
France	109,34
Germany	105,10
Finland	96,50
Italy	80,25
Spain	49,96
Estonia	49,03

* = based on Ramboll's assessment

Statistics 4/4

Country structure

**Average distance between stations
2018 (km)**



* = based on Ramboll's assessment

Densities of rail network relative to surface area and population

Country	Density of rail network relative to surface area 2018 (km of line / k km ²)	Country	Density of rail network relative to population 2018 (km of line / m inh)
Switzerland*	>150	Sweden	1078
Czech Republic	122	Finland	1075
Germany	111	Czech Republic	887
The Netherlands	94	Estonia	783
United Kingdom	67	Norway	781
Denmark	60	Germany	475
Italy	59	Denmark	436
France	44	France	412
Spain	32	Spain	341
Sweden	27	Switzerland*	300
Estonia	24	Italy	277
Finland	19	United Kingdom	246
Norway	13	The Netherlands	187

* = based on Ramboll's assessment

The rail system and conditions in Finland in comparison

Seen on all structural parameters in the EU-statistics, Finland is very similar to Norway (and Estonia):

Regarding the use of rail:

- the low market share of rail , the low pax-km pr inhabitant and the middle average trip length
- the low train-km pr line-km, and the low pax-km pr line km

-and naturally related to that: Regarding the country structure:

- the low km of line per square-km, the high km of line pr mio. Inhabitant, and the long distances between stations

In economics Finland differ to high degree from Norway:

- The PSO-support in Finland is extremely low, and this in parallel with a similar low fare/passenger-revenue, where Norway is opposite in both.
- Finland also have spent far less (and little) on rail-infrastructure
- But both have low infrastructure charges

Although Finland has some degree of commercial long-distance traffic running, the amount is small compared to the other (and bigger) countries. The structural data clearly don't support the basis for a strategy based on open access traffic.

Regarding tendering and the structural data included, it seems that Finland very much looks like Norway in 2018.

Observations on awarded contracts, commercial traffic, open access and tendered traffic

- The overall observations on awarded contracts
- The overall observations on commercial traffic
- The main topics and solutions seen in competitive open access traffic 1-2
- Open access in a Finnish perspective
- Detailed observations on tendered traffic, and the framework within it shall function 1-5

The overall observations on awarded contracts

Awarded contracts have typically been the favoured choice

- in smaller countries,
- where the core network was judged to be difficult to split,
- the longer-distance traffic is closely related to or integrated with the shorter distance's regional services, and
- where there was no readiness or willingness to risk that the incumbent would lose its whole living-base.

It could also be

- risky to let a country's core network be operated by a private company in almost monopoly position, or
- risky because it would be difficult to contractually steer a private operator in a process, where fundamental parts of the infrastructure are under rebuild, as with electrification or implementation of ERTMS.

Both in The Netherlands and in Denmark awarded 10 year contracts have been used at least twice, and new similar contracts will presumably soon be awarded again.

In parallel to this, the more isolated and rural lines have been tendered. Tender processes have also been used as a "learning by doing" in preparation for further tendering's. The same philosophy has been seen used in Czech.

In other countries it has to a higher degree been possible to isolate some long-distance traffic from the regional traffic and operate this as commercial without PSO-support, as seen in Sweden, Germany, France, Italy, Spain and Finland.



Photo: NS

Photo: Dutch double-decked VIRM-train which are the backbone of the Dutch NS-fleet.

The overall observations on commercial traffic

Operating **commercial traffic** is often seen to give some logistical, transportation and commercial problems and conflicts. That's because if there are many overlaps between the operations of PSO-supported traffic and commercial traffic, with running on the same tracks, and possibly stopping to some degree at the same stations, and not least serving the same passengers, those traffics can easily eat into each other's living fundament.

Because the commercial traffic has the possibility to adjust continuously, it will then give problems for the PSO-supported traffic and will often tend to give an indirect support to the "commercial" traffic.

Even if the traffic can run without PSO-support, there on the other hand often will be

- a political wish and expectations of a certain level of services, including covering hours with few customers, and anyhow
- a coordination of the timetabling would both be preferable for the customers and from a capacity allocation point of view, and as
- a political wish regarding ensuring, that large investments in the infrastructure, are followed up by a certain level of utilization/service.

A way to support a commercial traffic is to keep the track access charges at a minimum level, meaning to ensure that only the short-term marginal cost of use is covered.

It would also be fair to presume, that much of the known commercial traffic on one hand is operated without support, but on the other hand is based on investments done in the past, and relying on that the operator is running supported traffic as well at the same time or in parallel. Whereby it would be relatively easy to let the commercial traffic run only paying the marginal costs of certain support-services.

But the commercial traffic in Finland has the privilege, that the "risk" of having competition is almost non-existing, and thereby could be re-defined as an open access traffic. The market conditions aren't there for competition and investing in rolling stock with broad gauge is far too risky given the limited market size.



Photo: Renfe

The main topics and solutions seen in competitive open access traffic 1/2

Open access issue	Situation
Legislation and organizational set-up	<p>Has been a problem in some countries, but now almost everyone has principally opened their markets.</p>
A market – in general	<p>Open access traffic clearly needs to run between bigger towns and long distance.</p> <p>There is seen a lot of examples with small niche-players, typically using very old and cheap rolling stock or spare rolling stock from other operations. This can be night-train products or ski-trains or trains going with low frequency with cheap tickets competing with bus traffic. They have been operating in particular in Germany and Sweden.</p> <p>Then there are the more interesting cases where heavy investments in new rolling stock are done. See below.</p>
A market – Italy and Spain	<p>On the Italian market, private investors have taken a huge risk investing in both many expensive high-speed trains, and maintenance facilities, ticket systems and so on, and have been able to get reasonable return on investment.</p> <p>Now the same is seen in the Spanish market, where the government clearly has welcomed the competitors, ensuring a more efficient use of the very high investments in the high-speed network, which has plenty of capacity, and runs without and interference of the other rail-products, simply because the track gauge is different.</p> <p>So, both Italy and Spain have a highspeed network connecting very big cities. And now it seems that the French market is becoming the next battlefield.</p>
A market – Czech Republic	<p>There are two private operators in Czech, who have invested in new rolling stock, but limited number of new trains have been running for several years. They have until now not been able to expand, and lost huge amounts of revenues during the Covid period, with very few or no customers, but now one company is partly sold to the national Spanish operator (Renfe). Their survival was doubtful, but now Renfe wants to support an expansion. And this even when they now get competition from a third company, Westbahn from Austria, who is expanding into both Germany and Czech.</p>

The main topics and solutions seen in competitive open access traffic 2/2

Open access issue	Situation
A market - Austria	Although until recently with a limited amount of rolling stock, the private company Westbahn has successfully operated between Vienna and Innsbruck with a half-hourly frequency, and thereby clearly enhanced the attractiveness of rail in Austria on this line. It seems very efficiently driven and sustainable, and thereby looks like an exception, but also partly owned and supported by SNCF. They are now buying more trains and expanding into Czech and Germany.
A market - Sweden	For 5 years MTR from Hongkong has been competing with SJ between Stockholm and Gothenburg. They have bought trains, similar to the trains used in Norway, and the Norwegian VY-company has given them their backing. They are operating a ½-hourly service. But is very doubtful that it will survive. Rumours in the market says, they are up for sale, and the strategic reasons behind entering the market has eroded with the new government's decision to cancel the plans for a high-speed network. Running commercially between those two cities is possible for one operator, but difficult for two.
Rolling stock	<p>Getting rolling stock is the main issue for new entrants in this market.</p> <p>Either it is done with very cheap and old rolling stock, or it need some investors being willing to take huge risks. Many of the market players have been or become foreign state-owned companies.</p> <p>Going into a market means that it is important that the rolling stock can be sold afterwards, - should the business fails.</p>
Maintenance	Maintenance is a second order problem related to the rolling stock. But there typically is a market for maintenance in most countries
Infrastructure, depots and stations	Sufficient capacity on tracks and platforms should be available, but will often be an issue. Admission to depots and to ensure facilities at stations is a necessity.
Ticketing	Establishing a national ticketing system as eq. in Switzerland, the Netherlands and Denmark is always good, but has no meaning for open access traffic, were ticketing and pricing is an essential competition parameter, and always self-developed and differentiated from the national system. But there should legally always be possibilities for anyone to be part of a (or more) common system(s).

Open access in a Finnish perspective

Open access issue	Situation in Finland
Legislation	No problem. Finland is ready.
Market	<p>It is very doubtful that there is a market for open access traffic in Finland. There are only a few potential connections, and too little attractive infrastructure (high speed like, and free capacity).</p> <p>But when the border between Finland and Russia reopens, and the Russia market situation normalizes, St Petersburg and Helsinki represents two such big cities. With a distance very optimal for trains. But this route is independent of the other connections between the biggest (and much smaller) cities in Finland, so it is an isolated case.</p> <p>Smaller niche-players can be good for the market, but it is not something a long-term strategy can be built on. That's a possible supplement.</p> <p>Only one of the persons interviewed, believed in open access traffic in Finland.</p>
Rolling stock	<p>It doesn't seem probable that huge investments could create a proper basis for competitive open access traffic</p> <p>It is very difficult to see anyone interested in taking the risk of investing in rolling stock for the Finnish market. Not only because it is doubtful if there is a sufficient big market regarding numbers of passengers, but anyway, because a special gauge is needed for the trains. Not in itself a problem, but exactly in the case of being willing to invest in rolling stock, it is. A killer-argument.</p> <p>And imaging a public company owning rolling stock with no ensured purpose, is unrealistic, and would be against the whole philosophy behind open access. It is not a viable solution.</p>
Maintenance	No major issue or problem for Finland.
Infrastructure, depots and stations	Sufficient capacity on tracks and platforms should be available, but this could be an issue in Finland. Access to depots and to ensure facilities at stations should be possible but needs to be ensured.
Ticketing	A common ticketing system in Finland could be good for many reasons, but not for attracting open access traffic, because the pricing and the ticketing is the most important factors behind there differentiating from the incumbents. But an open digital platform is recommendable

→It is a clear conclusion, that clean-cut open access traffic will not be viable short-term solution for the internal Finnish traffic, and Ramboll's recommendations will be formed on this base.

Detailed observations on tendered traffic, and the framework within it shall function 1/5

Tendering issue		Countries	Arguments for	Comments regarding Finland
Services tendered	Mostly only regional services	DE, SE, NL, DK, CZ; FI and UK	Regional traffic is never real commercial. It is also often the simpler operations, with stable conditions.	The only tendering done in Finland was regional around Helsinki. Other regional traffic is awarded directly.
	Mostly regional services but long distance integrated	UK and NO	Combining regional and long-distance in the same tender is done usually in UK. The often-commercial long-distance services could support the PSO-demanding regional services. This philosophy is since followed in Norway. In UK it primarily was a learnt lesson, that not having two operators in the same area, and within the main London station, prevented much arguing around responsibility for quality-issues, but also to avoid that commercial decisions taking by one company influenced another.	Long distance seen as commercial.
	Seldom long distance only	UK and SE	In the UK long-distance still is also tendered solely, and with surplus. Bidders pay for running a de facto monopoly. In Sweden night trains are tendered isolated.	Night trains have a separate awarded contract.
	Not competitively tendered at all	CH, FR, EE, ES and IT	There has been no political wish, and incumbent and unions have argued, that it is best to avoid.	
Tendering authority	Regionally	SE, DE, FI, NL, UK and CZ	Most natural in big countries, or countries with strong regions. In Sweden more regions (Len), up to 4, does it together. All regions here together own a rolling-stock company. In Germany a similar set-up is used for some regions (Länder). In The Netherlands, the tender sometimes is done combined with bus-traffic.	In Finland it was a tender done by the biggest region, Helsinki (HSL)
	Nationally	DK, CZ, UK and NO	Tendering is complicated, - an argument for concentrating expertise.	

Detailed observations on tendered traffic, and the framework within it shall function 2/5

Tendering issue	Countries	Arguments for	Comments regarding Finland	
Net or gross contracts	Mostly gross contracts	DE, SE, CZ, FI and NL	A clear way to reduce risk for bidders. Could be supplemented with incentives for parameters like customer satisfaction, more passengers, punctuality etc.	HSL contract is Gross.
	Mostly net-contracts	NL, DK, NO and UK	More dynamic is ensured when more parameters are left to differentiate offers, and more incentives is left to the bidder. Has been well functioning in Denmark and The Netherlands in very stable/un-dynamic surroundings, but it becomes clearly more common to choose the gross contracts, not least after the Covid experiences.	
Length of contracts	Typical 5-8 years with 1- or 2-year prolongment options	NL, DK, NO, SE, CZ, FI, UK and DE	Too short a period will only attract few bidders, and on the other hand authorities will fear them too long.	HSL contract is 10 year (to 2031)
	Also, longer 15-25-year contracts	NL, CZ + in PPP: UK, SE and NL	Common when tenders should finance new rolling stock, or in PPP-projects when also infrastructure has been financed as part of an integrated project, as the Arlanda Express in Stockholm	
	Also, 1-2-year examples	SE and UK	Only used when operators fail before contracts are fulfilled and others must take over for a short period. Has happened often in both Sweden and UK	

Detailed observations on tendered traffic, and the framework within it shall function 3/5

Tendering issue		Countries	Arguments for	Comments regarding Finland
Rolling stock	Normally offered by the authorities or "roscoe's" (private leasing companies owning trains in UK)	DK, NL, DE, CZ, UK, FI, NO and SE	Rolling stock is normally not part of the tendering process. The same conditions thereby is given to all, and for free. But there are different ways to ensure that the bidder is keeping it in a good standard.	The owners of HSL have established a separate rolling stock company, which rents on commercial and equal terms the rolling stock to the operators.
	but sometimes to be financed by bidders	DK, NL, DE, UK, SE and CZ	Either in long term contracts, or integrated in long term PPP including infrastructure, and by given exclusive traffic rights. But the tendency is clear: the rolling stock is more and more owned by the authorities, and in UK always by roscoe's'.	
Maintenance facilities	Normally ensured admission to facilities by authorities, "roscoe's" or train manufacturers	All.	In Norway each of the bidders should ensure a contract with a maintainer. To high degree dependent on the type and manufacturer of the rolling stock. In UK this is also the case.	HSL had ensured admission to maintenance
	but in the few cases financed by bidders.	DE and SE		
Infrastructure, depots and stations	There normally is not many issues here, because the traffic substitutes other traffic	All	Sufficient capacity on tracks and platforms, and admission to depots and facilities at stations should be ensured in advance of the tendering.	

Detailed observations on tendered traffic, and the framework within it shall function 4/5

Tendering issue	Countries	Arguments for	Comments regarding Finland	
What the tender covers	Normally all production aspects	All.	Operating, cleaning and maintenance of rolling stock. Personnel in operation. Responsibility for all operating and qualitative aspects regarding this including safety. By this, a clear responsibility is ensured	Also, in the Finnish HSL-case all production factors.
	and - when net-contracts - also many of the commercial tasks	UK, NL, DK, CZ and NO	Selling tickets, special tickets/products, sales, and marketing. But ticket sales could also be organized nationally by others and where everybody is allowed to participate.	
	but very little timetabling	All.	In many tenders the bidders are awarded if they have some good recommendations.	
Economics	The tendering has for sure reduced some direct costs and forced incumbent to new thinking. But...	UK, SE, DE, DK, NL, CZ, FI and NO	In general, it is not possible to find clear conclusions regarding the resulting development of the economy or the quality in or after the tendering processes, including cost for both tendering, bidding and other costs.	
The market players	State owned companies dominate	DE, IT, NL, FR, NO, FI and SE	The big state-owned players, - actually are TrenItalia (FS), Deutsche Bahn (DB), in abroad markets with Arriva, Nederlandse Spoorwegen (NS) - only - in abroad markets with Abellio, and SNCF only in abroad markets with different companies. DB has scaled down, and together with NS is heading for further reductions, while VY from Norway, VR from Finland and SJ from Sweden and latest Renfe from Spain are expanding. See attachments for full listing and score for incumbents going abroad.	
	Very few private players	UK, NO, DE and SE	The total closing of BR in 1995 created a series of private UK-operators, based on bus-services. GoAhead, National Express, Stagecoach and FirstGroup. All of them have also had experiences abroad, but typically in smaller periods.	
	Public-private partnerships seen	UK, NL and DE	Both done between operators and operators together with more passive capital-companies.	

Detailed observations on tendered traffic, and the framework within it shall function 5/5

Tendering issue	Countries	Arguments for	Comments regarding Finland	
Issues with very little influence	-License fees, number of authorities, time to obtain license and infrastructure access charge All.	All.	The level of the fees, and the time taking for approval are different, but it never makes any important difference in the tendering processes.	
	-level of pricing, and degree of PSO-support All.	All.	None of this have any big impact in the tendering.	
Other factors to attract bidders	A long-term plan. A clear policy, a big market, a long-term solution	SE, DE, UK and NO	In Sweden and UK there for a long time has been a clear policy, and now also for many years in Germany. Norway as well had a very clear and almost total plan for all the train traffic in the country. This worked, but was not broad founded politically, so a new government changed the poli The incumbent SJ, has for periods not participated in even the domestic tendering's, but now goes for it both at home and abroad. In Norway and Germany, the incumbent operator generally participates in the tendering's.	
	-and fewer bidders when the opposite	DK, FI, NL and CZ	When only slowly enhancing the number of lines tendered it reduces risks, but also the number of bidders. In Denmark and the Netherlands, the incumbents don't participate in domestic tenders any more	
Other factors to ensure a successful implementation	Keep it simple, take small steps	NL and DK	In Denmark and The Netherlands, it has been a clear path, to tender the smaller, simpler, and not so integrated parts of the network. And increasing it incrementally. In both countries the incumbent previously participated in the tendering's but have since chosen to abstain.	

Tendering in Finland 1-6

- Structuring the packages
- The authority-level of tendering
- Organizational issues regarding tendering
- Other conditions for tendering
- Special Finnish circumstances: the broad gauge
- A summary of the important issues about tendering

Tendering in Finland 1/6

Structuring the packages

Based on the clear conclusion, that competitive open access is not an option as part of a Finnish rail-strategy, that leaves the following 3 solutions left for a possible competitive approach in Finland by tendering:

Three principal different ways to structure packages for tendering:

A. The German and Swedish model

- Tendering the regional traffic in one or more packages
- Tendering the night trains either separately or together with some parts of the Long-distance traffic and/or some parts of the regional traffic

Presuming that the whole or parts of the long-distance traffic can or is allowed to run as open access traffic and could be economic viable because the market cannot attract competitors.

B. The UK-model 1

- Tendering the long-distance traffic separately
- Tendering the regional traffic in one or more packages

C. The UK-model 2 and the Norway-model

- Tendering the regional and long-distance traffic combined in geographical packages

It seems not to be a possibility to follow the Danish and Dutch model, with learning by starting only with the rural regional traffic, since it is presumed, that the current contracts will be fully respected. The learning could be said to already been fulfilled with the HSL-tendering. It although did not give any experiences with new operators.

The number of packages depends also on above decisions, but it seemed well-sized with 5 packages for the whole Norwegian traffic.



Photo: Ramboll / Henri Luoma, hlp.fi

Tendering in Finland 2/6

The authority-level of tendering

The tendering's could take place at national or regional authority-level.

Three different possibilities for doing the tenders nationally and/or regionally:

A. The UK, Danish, Norwegian and Czech model

- All on national level

B. The German, Swedish and Dutch model

- All on a regional level

C. The not so common, but regarding night trains, a variant of the Swedish model

- The regional traffic on a regional level
- The long-distance traffic on a national level

This issue depends on Finnish tradition and what is politically preferred, but what could be said is:

Tendering of train traffic is special and complicated, and the number of tenders for a period is small. So, the competences should be concentrated, and it should be ensured, that process learnings are carefully saved.

At the regional level experiences from tendering bus-services could be an argument, -strengthened - if it would also involve a rebalancing between the level and character of services given by the trains and buses.

Generally, for smaller countries, it seems most obvious to do it at a national level.

In Norway that was never a discussion, and neither in Denmark.

In the UK it is discussed from time to time, as there is some movement to go more regional, but only regarding Scotland and Wales.

In other bigger countries, as Germany, the regional level is more natural. That's the case also in Sweden, with relatively strong regions, although 3-4 regions do it together.



Photo: Ramboll

Photo: Finnish train in the train of the city of Lappeenranta, Finland.

Tendering in Finland 3/6

Organizational issues regarding tendering

For the part of the tendering's done at a national level different authorities could be involved, also depending on how the sector is further developed.

Some lessons to be learnt from others:

- In Norway they have split the rail organization in many different companies, being responsible for trains, maintenance, stations, track-infrastructure and ticketing, besides the regulatory bodies.
- This is done for ensuring focus, and for opening the market as much as possible. It is quite like the Swedish model. It has to a high degree complicated the process for the bidders, and – not least – when negotiations on compensation was needed during the Covid pandemic. Here specially the non-incumbent state-owned operators went into trouble.
- This could to high degree be avoided with gross instead of net-contracts.

Many different organisational units have also in general given unclear responsibilities and thereby complicated the process for the coordinating authority. It gives a high degree of infighting, to many small "kingdoms", without a clear focus on the end-customers and without taking responsibility in the many different bodies.

- That could give inspiration to a model inspired by the UK-development, where as much as possible is kept together with only one body to take responsibility for the coordination. This body could in Finland be e.g. VR, if they at the same time give up participating in the tendering as operator. Presumably a very unwelcome suggestion now, but it is VR that have the best expertise in this field. Timetabling, customer knowledge, understanding of the infrastructure and the players in the market etc. But this would clearly be steps in another direction that the current also changing the role or existence of other authorities such as e.g. Fintraffic etc.

As part of the future planning, it will be necessary to consider the future of VR, realizing that they could possibly lose almost all their domestic traffic.

As part of this consideration, the whole organizational structure should be evaluated. How to ensure that bidders can be served in an easy way regarding rolling stock, maintenance, ticketing, and sales systems. Also, in this last issue lessons can be learned from Norway, where the incumbent's brand with apps and sales channels were so strong, that the winner of the bid afterwards needed to buy their services, although this obviously was not the intension. The customers are not that quick to turn around.

Tendering in Finland 4/6

Other conditions for tendering

Gross or net contracts	Both solutions are possible, and with advantages, but should the tender be done within a relatively short time, only gross contracts are realistic. If UK is deciding for a longer period of gross contracts, the market has moved in that direction.
The length of the contracts	To attract bidders the period should be at least 7 years, and of a period up to 10 years, partly as options, seems common and reasonable.
The content in the tender	Clearly all parts of the production, so that the operator will be in control. The degree of commercial elements depends on the net/gross question.
Rolling stock	Ensuring rolling stock, either be using existing or buying and financing new rolling stock, should in all senses be done by the authorities, giving the same and easy conditions for all bidders.
Maintenance	This would normally be coupled to the rolling stock but depending on the market situation for maintenance in Finland, it could also be a parameter for the tendering.
Infrastructure, depots and stations	Sufficient capacity on tracks and platforms, and admission to depots and facilities at stations should be ensured in advance of the tendering.
Ticketing	At least ticketing may not be more difficult for the customers than before the tendering. If Finland don't have a common national ticket system, that is of course a consideration independent of this. It also has a connection to the question of letting the long-distance traffic to be part of the tendering or not.
In general, and the customers	It is important to think the tendering process through to ensure, that it not in itself causes troubles or disadvantages for the customers. The takeover by a new operator includes by itself a lot of risk, and the authorities will be kept responsible.

Tendering in Finland 5/6

Special Finnish circumstances: the broad gauge

There seem not to be any particular principal conditions in Finland, that have not been seen in other places. The railway gauge could be a matter of concern.

Ramboll sees this as follows:

Broad gauge, means

- that open access, with competition between operators, which is already unrealistic because of a to small market, is a no-go because of the need to invest in rolling stock which only could be used in Finland.
- for tendering it doesn't give any problems as long as the rolling stock is financed by the authorities.

So, is the broad gauge a problem? For sure not. To some degree it will enhance the cost of buying new rolling stock, but that is presumably well given out, because it also gives possibility for a broader profile and thereby more space, and all in all an efficient obtained amount of capacity.

Will it be a problem in the future ? No, not as long as Finland is so relatively rail isolated, and hopefully the connections to Russia one day will be re-established. Should some foresee a tunnel from Helsinki to Estonia with European standard gauge, then only the freight traffic could suffer from the need to reload. Passengers would have to change trains in Helsinki anyway, because international trains would for sure start from Helsinki because the main part of the customers will come from there.

So, the broad gauge doesn't disturb the tendering possibilities, and is not the first reason that hinders open access traffic.



Photo: Ramboll

Photo: Track in Leppävaara station in Espoo, Finland. The train in the picture is Sm5-train used in the commuter traffic in Helsinki area.

Tendering in Finland 6/6

A summary of the important issues about tendering

Issue	Choices or possibilities
Principal ways of constructing the tender packages	3 different solutions: <ul style="list-style-type: none">• only tendering PSO-traffic• tendering long-distance and regional separately• combine long-distance and regional geographically
Number of packages	Depends also on above decisions. Norway choose 5.
National and/or regional tendering authorities	3 different solutions which requires different organisational set-ups and adjustments: <ul style="list-style-type: none">▪ All on national level▪ All on regional level▪ The regional traffic on a regional level and the long-distance traffic on a national level
Organizational considerations	A balance between the number of bodies and ensuring smooth conditions for the process of tendering
What the tender should contain	All parts of production. Commercial parts only when net-contracts, but ticket control is part of the production/operation.
Rolling stock	The right amount of rolling stock should be ensured by the authorities, giving the bidders equal and simple conditions. Different organisational set-ups possible.
Maintenance	Facilities should be ensured by the authorities, but different solutions can be chosen also depending on the market conditions, and to a higher or lower degree be a parameter in the tender.
Infrastructure, depots and stations	Sufficient capacity on tracks and platforms, and admission to depots and facilities at stations should be ensured in advance of the tendering.
Ticketing	The roll of the bidders in the collecting of revenue must be specified in the tender-material. Establishing a national digital open platform could be a solution.
Special Finnish conditions: broad gauge	The only special condition in Finland, is the broad gauge. But it won't influence the possibility for tendering and is not the basic reason for why open access traffic isn't possible to rely on as part of a Finnish rail strategy.
In general	Ensure that the decisions taken in the tender process not in themselves will give troubles for the customers. There are risks enough in change of operator.

Development in Europe

- Why is the situation in Europe's rail market so unstable? 1-3
- Finland is not alone in needing changes before 2030 - thinking needed elsewhere in Europe
- The presumed needed thinking elsewhere in Europe 1-3

Why is the situation in Europe's rail market so unstable? 1/3

-further development of the EU-model including the latest development in the UK

The model chosen by EU has never been tested before and is not chosen anywhere else.

Not in Japan, not the US with respectively successful passenger and freight services.

Neither many metro- and light-rail systems in Europe are run under the EU-philosophy for splitting apart the system-responsibility for operations and infrastructure.

All regional train services need support, just as the metro- and light-rail-systems do, and societies cannot afford not to ensure coordinated timetables, and efficient use of the infrastructure. Hardcore planning is needed for the sector.

This would all be impossible (not allowed) to mention, had it not been for the latest development in the UK.

Here the conclusion seems to be after many different set-ups during 30 years of experience with competition; that a well-defined, clear and single system-responsibility is needed

- to ensure both the necessary coordination between investments in infrastructure and rolling stock,
- to ensure an easy-to go customer orientated simple access to tickets and trains,
- and to create a simple market for operators concentrating on the efficiency and the quality of the operation.

THE Netherlands Federation of Transport Companies (FNM) has instigated an urgent lawsuit against the Dutch government, seeking to immediately stop preparations to directly award Netherlands Railways (NS) the 15-year Main Line Network concession from 2025.

This covers 95% of total rail passenger-km in the Netherlands, including inter-city services and international routes.

They are insisting that the government respects EU law regarding PSO contracts, and in particular the requirement to carry out market testing to determine which services can be operated commercially before making a direct award.

These concerns are shared by the European Commission (EC), which has been closely following developments since the Dutch government first revealed its plans for a direct award to NS.

Source: Article from International Railway Journal, 1.11.2022.
<https://www.railjournal.com/policy/urgent-lawsuit-seeks-immediate-end-to-ns-direct-award>

Why is the situation in Europe's rail market so unstable? 2/3

-further development of the EU-model including the latest development in the UK

UK-development continued:

Competition is still preferred there with tendering, but there are also pit falls and further tendencies underlining the unsteadiness around this:

- To very high degree, the market for operators is dominated by state-owned companies going abroad. This presumably was not the intention. Most remarkable is that the French market has been totally closed for competition, while French companies - mostly authority-owned - are the biggest players in the public transport market all over the world.
- The state-owned incumbents that went first and strongly into the international markets (DSB, DB and NS) have either withdrawn or are busy with it. Only the French primarily bus-companies are keeping on.

That could pose the question: for how long will the newer entrants FS, VR, VY and SJ be in this market?

Figure to the right:

The degree the incumbent state-owned operators have went abroad. **T** for tendering, **OA** for Open Access-traffic, **()** for previously

Country	Incumbent	Tender T, open access OA	Score 1-5
Finland	VR	T	3
Czech Republic	CD	-	1
Denmark	DSB	(T)	1
Estonia	Elron	-	1
France	SNCF	T + OA	5
Germany	DB	T (+OA)	5
Italy	Trenitalia (FS)	T + OA	5
Norway	VY (former NSB)	T	2
The Netherlands	NS	T	5
Spain	Renfe	OA	4
Sweden	SJ	T	3
Switzerland	SBB / CFF	(T)	2
The United Kingdom	BR (closed)	-	-

Why is the situation in Europe's rail market so unstable? 3/3

-further development of the EU-model including the latest development in the UK

All in all, it could be concluded, that the tendering's have not created a strong private market.

- **The ways many tendering's have been done, have required very huge bidding-budgets. There has been high costs on the authority side as well, both parties typically using external consultants.** Money has not been used to improve the rail-system, but to fulfil legal requirements in the hope, that it will ensure efficiency and innovation.
- **There seems to be a tendency that the first round of tendering a certain amount of traffic, attracts relatively many bidders and ensure typically lower costs.**
But then the improvement fizzles out when the traffic is retendered, because the incumbent has so much better chances to judge on the costs and steer their risk-profile, that others are scared away. So, the first round could be seen as "the nuclear option" as one interviewed expressed it, meaning that the positive effects come in the first round, but then you must stick to it, without getting much further.
- **Because the tendency is to go for gross-contracts, with fixed timetables and many deliverables fixed as well, the product innovation is limited in mostly cost-driven tenders. This leaves it as a competition on efficient staffing and operation.** Even in the UK, the train-driver's strong position via unions have only been strengthening through the 30 years of competitive tendering.

So, if the current EU-legislation is so to say, against nature, - the physical laws, that for sure will mean continued instability and development.

This is only a theory, which at least could be good to be aware of, and it should not be forgotten that the development also could turn positive, with the new UK-approach and development seen around high-speed services, in the bigger markets, with potential for nearing the successes of the air-sector.

Rail-freight traffic is under improvement and seems to be given new opportunities when frontiers are laid down and private companies are let in, although this sector is also still heavily dominated by the incumbent state-owned rail operators.

But all the above mentioned is not on the Finnish agenda now. Fortunately, the Finnish government can learn from other experiences, and Ramboll can give some relatively solid recommendations.

Finland is not alone in needing changes before 2030

- thinking needed elsewhere in Europe

The narrowing of the EU-legislation for a more competitive approach is going to demand a lot of thinking in many European countries.

- This presumably will create new possibilities and perhaps even - taking the reservation chapter into account - give changes in the requirements.
- That could give some the reason to lean back, but it could also give considerations around do some of the thinking together. The competitive approach is not required the governments in-between.

Degree of needed thinking regarding EU-2030 legislation requirements:

	Tender to do (or rethink)	Thought to do regarding long distance or commercial traffic	Thought about open access traffic
To low degree	CH, NO, DE, SE	CH, EE, NO, UK	UK, FI, EE, NO
To some degree	DK, NL, CZ	SE, DE, DK, NL, IT, FR, ES, CZ	CH, DK, SE, NL, CZ
To high degree	FI	FI	IT, ES, DE
To very high degree	ES, FR, IT, EE, (UK)		FR

The presumed needed thinking elsewhere in Europe 1/3

In Italy, France and Spain as big countries, the regions will have to do much of the same thinking as Finland. They could obviously look to Germany, who on this question already has fulfilled the legislation.

Some regions in France have begun, but don't necessarily expect fast solutions. The positions of SNCF and to lower degree of Renfe and FS are strong, not to mention the position of the unions.

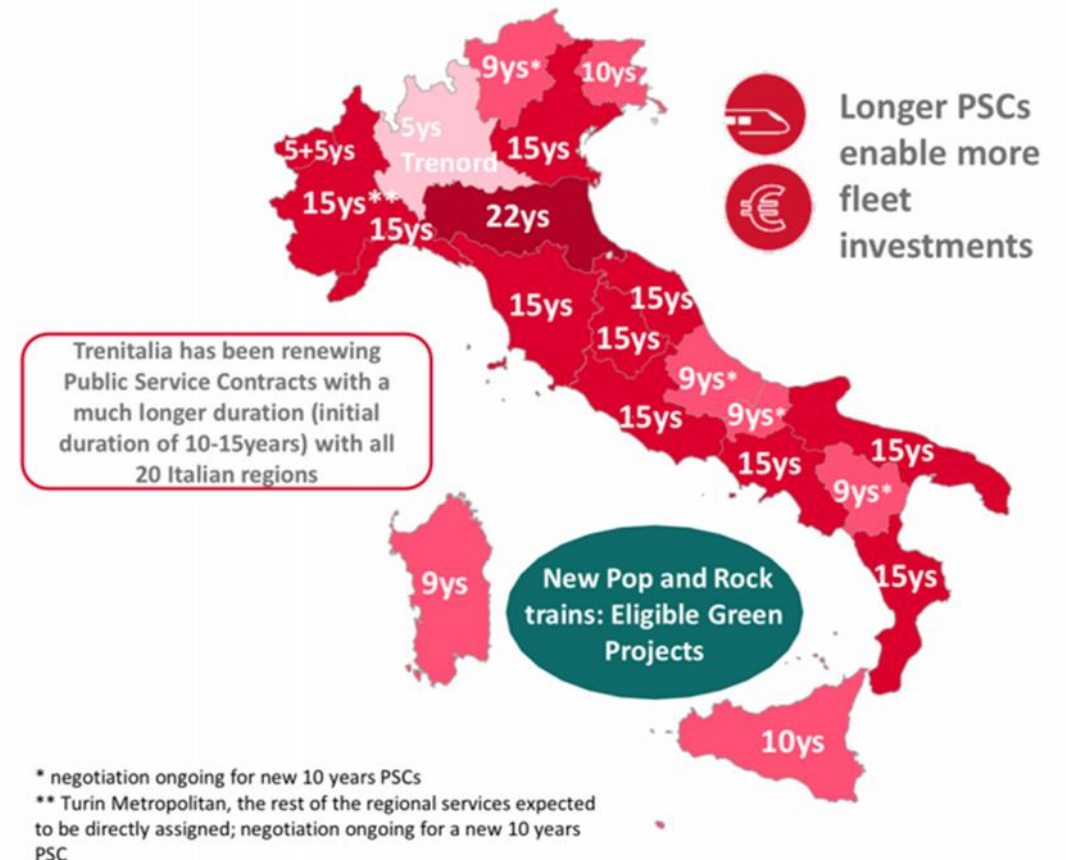
The countries could also have issues regarding the commercial traffic, which presumably not all is that commercial, and they must have many of the same considerations as Finland.

An issue to consider in any places will be how to ensure a reasonable level of public services, also in the most rural parts, and in late evenings and so on.

Whether this should be covered by some tendering's, and then how. Or whether it can be "hidden" in some way and financed by the real commercial parts of the same traffic.

FS (Trenitalia) has been busy doing what they could to delay the development. Remark the text in the red circle at the left side at the figure to the right. And the good excuse in the circles to the right.

Trenitalia regional services portfolio as of today:



The presumed needed thinking elsewhere in Europe 2/3

If the big operators DB, FS, Renfe, and SNCF are really going to compete in the open access, that will mean consequences not experienced in the past.

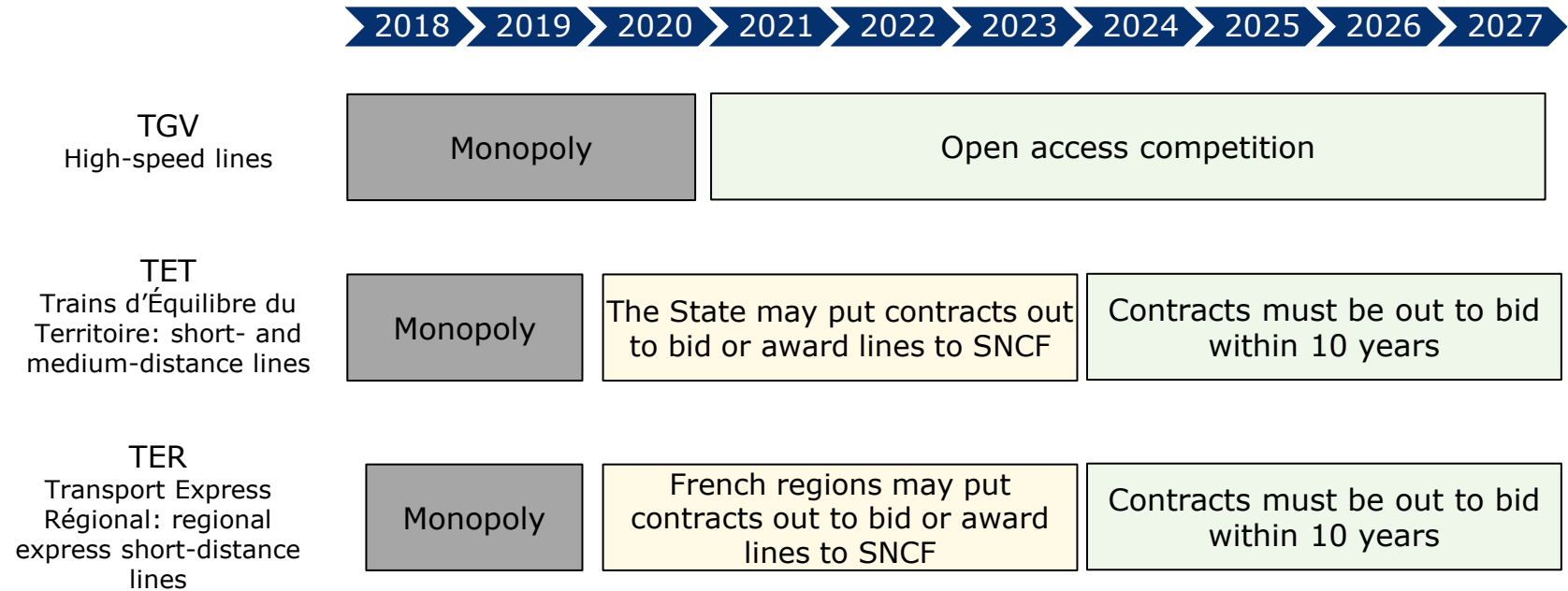
It seems to be the now for a period in Spain, and now also in France.

It will open for a lot of different kinds of fighting, besides raising issues around eq. capacity, not least at stations.

It only requires dual-voltage high-speed trains to be part of the game.

SNCF has realized that something has to happen as seen in the figure to the right. And at the latest Renfe has decided to enter the French market for high speed as the first real competitor.

The liberalization of the French rail system:



Source: SNCF. Rail market liberalization.

<https://www.sncf.com/en/group/profile-and-key-figures/about-us/opening-up-to-competition>

The presumed needed thinking elsewhere in Europe 3/3

In **the Netherlands** and in **Denmark** the incumbents are busy with ensuring new 10-year contracts, so that the discussion of how to handle the core networks, can be given more time.

Neither the politicians or the customers would like to see those networks split up, besides giving such a vital part of the countries public service to one private company has not been wanted until now.

The **Czech** situation can be presumed to be quite similar.

In Denmark, there even are suggestions of enhancing the contract-period to 15 years, because of the need to ensure sufficient financing of a very huge investments in new rolling stock. That at least will need some workarounds to fulfil the EU-legislation. On the other hand, there is the intension and hope, that by having cut off a lot of direct connections to the capital from the rural parts of the country, a more sustainable core system of long-distance trains has been created. At least if competitors are avoided, and the customers be hanging on.

In **Norway**, they seem to be home-safe. Having done so much in short time, based on many years of experience in the other countries means that the almost has finished the process for now.

In **Estonia**, as in Finland, there are no experiences with non-incumbent operators, and Estonia will presumably look to Finland. They also try to go for the possibilities in the EU-legislation to avoid competition in very small networks, while seeing what the Rail Baltica project will mean for the rail development.

The coming process in the **UK** will be both a hard fight between the government and the private operators. That might be worth looking into. The actual situation in the public sector calls for action. And everyone will be watching, not least in Brussels.

The Finnish considerations regarding both the needed tendering of regional PSO-supported traffic, and how to handle the long-distance, not so clear open access traffic, is very similar to the thinking needed in almost all countries.

Perhaps even in **Sweden** depending on the robustness of the Swedish commercial network, and that the open access competition won't survive.

In **Germany** it looks stable for now, but DB has not yet been given real competition on the long-distance traffic.

Switzerland for sure calmly will continue to concentrate on the passengers and leave competition to all others.

Recommendations for Finland

- Recommendations for the further process in Finland 1-3

Recommendations for the further process in Finland 1/4

How to tender

As stated previously, the situation or the framework under which in the European rail markets work, are still under continuous change.

That means

- that an actual update is always needed and
- that a chosen solution not necessarily will be as long term as ideally to prefer in a sector which generally requires long term decisions.

As also seen, the conditions are different between the countries, but if Finland soon would go for enhancing competition in respect of the EU-legislation, then Norway is the country that seems obvious to look into, because it is the most comparable case, regarding

- the traffic,
- the size of both the country and the rail-system,
- and the structure of both the country and the rail-system.

Finland and Norway come very close to each other, and they have done a lot of things very well in Norway.

Firstly, they made a coherent plan for the total Norwegian rail-system, including taking decisions on

- the organising and
- how to split the traffic in consistent and attractive tendering-packages.

Doing that they ensured a very big and thereby attractive field for several bidders.

And secondly, they did it in a well-known time-plan, and with enough time for the bidders to easily do a continued planning without bottlenecks or pauses.

All together this gave in total 7 bidders competing, of which 3-4 were chosen as preferred to continue the process further.

Recommendations for the further process in Finland 2/4

While Norway is also the latest to have done this process, they could learn the lessons from everybody else.

They did it almost from scratch, not that far from the Finnish situation.

→ Finland could build on this Norwegian case as a solid base.

The adjustment needed is primarily to avoid net-contracts - besides the course what is the local political judgements around eq. at which authority-level to do the tendering.

The reasons to avoid net-contracts are because the private companies are very risk averse for the time being, which would limit the potential number of bidders, and because that would simplify and de-risk the process considerably for the authorities.

Another important lesson is that a broad political agreement on the process is to be preferred, because this will ensure a stable process, and thereby also increase the interest for participating.

This recommendation is based on both negative and positive experiences from Finland, Norway, and Denmark. Also, nobody is in doubt about the seriousness of the regional tendering's in Germany or Sweden.

Thirdly, the organizational set-up should be thought through from many perspectives, including the best innovation and development for the sector.

What to do next

As a basis for a further process the next thing is to do an analysis regarding **traffic** itself and the **organizational set-up**.

The traffic analysis is necessary to give input to a structure in possible packages, but also to consider the important issue of the now commercial traffic.



Photo: Ramboll

Photo: Finnish double-decked Intercity-train heading to Joensuu via Kouvola.

Recommendations for the further process in Finland 3/4

Analysis should be done with a combined understanding of the traffic, the customers' needs and economic implications, and could be done deeper and easier with involving VR, who have all the relevant data needed.

VR for sure will have the biggest understanding of the customer's needs, but with VRs participation in the competitive market, an independent view is needed for considering the whole organisational set-up.

The organizational analysis would be more controversial because it could cause big changes for many. It is important to ensure a professional set-up, both for the tendering itself, but also for ensuring that the sector afterwards can run smoothly and agile.

The analysis should include the future role and status of VR, but that will all be easier to decide on, when there is a clearer picture of the way to split the traffic in packages.

A couple of possible scenarios should be created, considered and analysed.

In order to attract many bidders, it is necessary that

- there is a clear plan for the tendering,
- the amount of tendered traffic is the biggest possible, and
- the authorities can demonstrate a professional organization to handle the process, backed by a well-planned process with plenty of time build in.

As a last lesson learnt from Norway, it also would be helpful

- if there is a broad political agreement on the process to ensure that the process can be expected to go on continuously.

Recommendations for the further process in Finland 4/4

The Ramboll's recommendations in short:

- use the latest done similar process in Norway as base case which means
 - decide for the total process in a coherent and long-term plan, with a ensuring political backing
 - ensure that the tendered amount is big
 - build several equal sized and logical packages. The base for this could be a previous study done.
 - ensure a timing in the process that makes a good planning for the bidders easy
- adjust on basis of the Norwegian lessons learned and the forever changing tendering environment by:
 - going for gross- instead of net-contracts
 - ensuring a broad founded political backing for the plan, making the Finnish market competitive attractive

As part of the preparation:

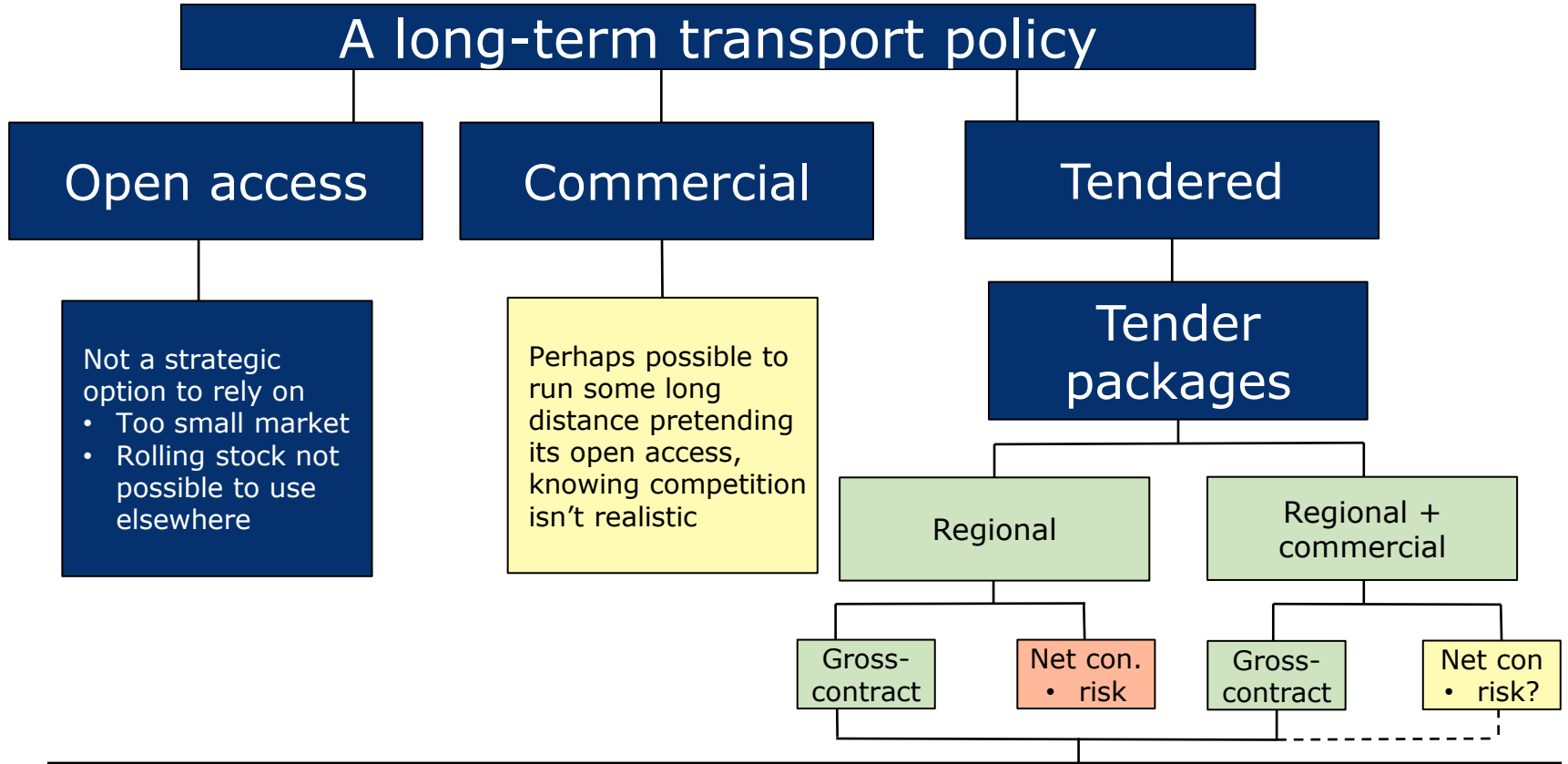
- do a traffic analysis

for constructing possible packages and clarify how to tackle the current commercial traffic in the total picture and

- do an organizational analysis

to ensure a good future environment for the sector including scenarios for the future of VR.

In the past	One national train operator in each country, integrated with all rail-functions in one body and 100 % state-owned
Interim period:	PSO traffic can be directly awarded specified in a contract
	Non-PSO traffic can be operated without a contract as commercial traffic and as a monopoly
In the future only two ways will be allowed:	PSO traffic can be contracted after a competitive tendering or direct award under conditions (<u>off</u> track/for tracks competition)
	Non-PSO traffic can run freely as open access traffic in competition with others (<u>on</u> track competition)



Net con
• risk

Net con
• risk?

The market conditions are unstable currently regarding the passenger revenues and it's even more difficult than previously to estimate the level of income in advance during the bidding processes. At least private operators will be unwilling to take part in those big risks.

Rolling stock	To be ensured by authorities. Often to be in a separate unit, a roscoe*
Maintenance	Either by authorities or perhaps market-based
Stations / depots	Admittance by authorities
Ticketing / sales	To be organised by authorities*
VR	Organisation and framework to be decided, both in general and in accordance too the above aspects

* = many different solutions possible for how train ownership and ticketing/sales are organised.

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- Flags: icons made by Roundicons from www.flaticon.com

- Other references are listed on the pages which the reference concerns.



Photo: DB high-speed train ICE at Frankfurt station.

Bright
ideas.
Sustainable
change.

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Bright ideas.
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Study on passenger rail markets and services

Attachments



A snapshot of each of the countries

Attachment 1

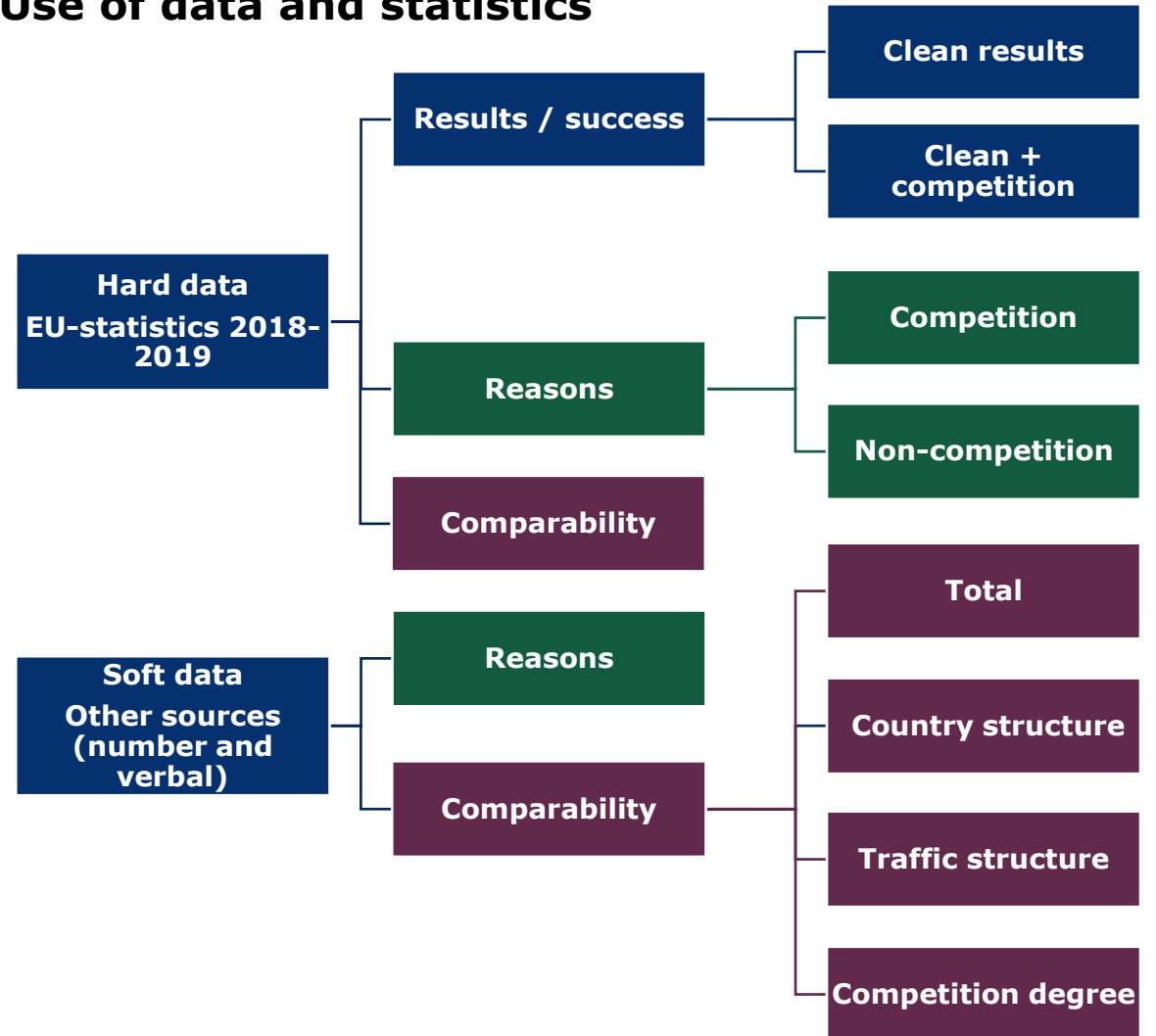


A snapshot of the most interesting observations from each country

- A lot of hard and soft data has been collected from the 12+1 countries. "Hard data" means data from the EU-statistics (the European commissions seventh Rail Market Monitoring Report from 2021) from the latest available and not-Covid-related years 2018 and 2019. By "soft data" we refer to a summarize of Ramboll's expert knowledge, desktop research, and information from the interviews done.
- The data have been divided into 3 groups, called results, meaning data on which to judge the success of the sector, and then data on which those results could possibly be founded. And thirdly we have collected data on which a structural comparison between the countries could be judged.
- The hard and soft data are coupled as shown in the figure to the right.
- The clean results are the very few hard-core data, and they are then combined with data showing to which degree competition has been introduced. And in the same way with the possible reasons behind.
- The structural comparing is divided between what is seen as regarding the country and regarding the traffic, and to which degree the countries are similar regarding competition introduced.
- **All the data and the scorings in a scale of 1-5 presented in the next country pages are purely a theoretical way to look into the countries. Other data, or other weightings of them, would give other results.**

None of the judgements and analysis in the report are purely based on this, - it has been only a support and background check.

Use of data and statistics





Finland

Name of the incumbent: VR

Degree of dominance: 4

Pure statistical based scoring on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	7
Possible explanations (based on traditional measurement parameters)	11
Best overall including competition introduction	11
Possible explanations (that can be referred to for the introduction of competition)	7

Overall

- Train traffic has stagnated for a number of years, and the market share has fallen.
- There are large expansion plans for improvements to the existing infrastructure, including expansion with ERTMS.
- The tracks are broad gauge (1524 mm) and electrified.

Finnish characteristics

- VR operates some long-distance traffic without subsidy.
- The traffic between Russia and Finland is part of this commercial long-distance traffic but is currently closed.
- The infrastructure charges are set at a low level,
- The non-tendered part of the regional traffic is awarded in a national contract to VR, with a relatively low contract subsidy.
- The regional traffic in the Helsinki area is offered regionally by HSL. All facilities including trains and staff were made available. A gross online contract has been used, as sales, marketing etc. are carried out by the region through HSL.
- The state also has a contract with VR for night train traffic.

Competition and the Finnish strategy about EU-rules

- EU regulations met with split between infrastructure and operator and free access for all.
- There is no open access traffic, and there has only been one tender for the regional traffic around Helsinki, which, however, has a very significant part of the total number of train journeys in Finland.
- Finland is in the process of preparing to offer train traffic, as EU regulations prescribe, within the next 10-year period.

Other experiences

- The major train tender that has been carried out has shown it can be difficult to attract bidders regardless of a great interest in advance.
- That tendering, regardless of the relatively few bidders, can help ensure lower costs
- VR has recently entered Sweden significantly, with the acquisition of Arriva there. Active participation in future Swedish tenders must therefore be expected.

Ramboll's overall assessment of the Finland's degree of (scale 1-5)

Tendering: 2

Open access: 1



Czech Republic

Name of the incumbent: CD

Degree of dominance: 4

Pure statistical based scoring on the best degree of comparison with Finland among the 12 other countries

Geographic structure	3
Traffic structure	5
Introduction to competition	2

Pure statistical based scoring on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	2
Possible explanations (based on traditional measurement parameters)	11
Best overall including competition introduction	1
Possible explanations (that can be referred to for the introduction of competition)	6

Overall

- Train traffic and the market share of trains have increased significantly in the past 10 years, but from a relatively low starting point.
- Czech infrastructure is improving relatively slowly, including electrification and ERTMS, and the first high-speed line is being planned.

Czech characteristics

- The Czech Republic has largely been a test area for open access traffic, with 2 private risk-averse investors. Recently, Covid has been a significant challenge, and one company has now been partly bought by Spanish Renfe.
- In terms of tendering, it is the state that has tendered the traffic in a region.
- Trains and facilities, or the possibility of financing the leasing of it has been secured.

Competition and the Czech strategy about EU-rules

- The Czech Republic was one of the first places where open access traffic was carried out, and even with 2 private operators, so that on sections there could be up to 3 competing operators.
- The private Austrian-French Westbahn now also plans to run cross-border services into the Czech Republic.
- Tenders have also been held several times, but only on a part of the network in which Arriva mostly has been winning.
- Ramboll is not aware of plans for how the EU's future demands will be met.

Other experiences

- Experiences with tenders:
 - Ramboll is not familiar with the detailed experiences from the tenders held, but notes that CD is still very dominant. The further plans are not known to Ramboll.
- CD has not been active on foreign markets.

Ramboll's overall assessment of the Czech Republic's degree of (scale 1-5)

Tendering: 3

Open access: 4

Lessons for Finland: 3



Denmark

Name of the incumbent: DSB

Degree of dominance: 3

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	10
Traffic structure	6
Introduction to competition	3

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	12
Possible explanations (based on traditional measurement parameters)	7
Best overall including competition introduction	12
Possible explanations (that can be referred to for the introduction of competition)	4

Overall

- Train traffic has stagnated over the past 15 years, with ever-growing car traffic.
- The main part of the Danish infrastructure will soon be rebuilt to European standard, with 25 KW electrification and ERTMS signalling system, and thus open to everyone.
- The plans during the last 20 years for the large investments in new trains and in track facilities have been greatly delayed, while the expansion of the motorway network has proceeded rapidly.
- The stations, both ownership and operation, have throughout the period been the operator's responsibility, in an attempt to ensure maximum customer orientation.

Competition and the Danish strategy about EU-rules

- The EU regulations were fulfilled already in 1998 with a split between infrastructure and operator and free access for all and securing 2 freight channels per hour for Swedish-German freight traffic.
- Tendering of the simple part of the regional traffic in 2003, and after that this network has been successively expanded and DSB has been successively reduced. DSB's main network traffic is agreed in 10-year contracts. A new 10, or perhaps 15-year, contract is expected to be agreed for 2024-2039.
- Regardless of the free access, since 1998 there have only been sporadic attempts. SJ operates traffic from Sweden as a boarder traffic, and only for a very short distance. However, it has ensured that the formal options have been tested.
- There are no other known plans.

Danish characteristics

- The more rural regional lines will also be equipped with ERTMS, but here the future operation will be based on battery trains.
- The infrastructure charges are designed to use capacity sensibly (extra payment at bottlenecks), special bridge charges, and to ensure a certain amount of payment for the Swedish-German freight traffic. For a period, an environmental subsidy was given for freight transport on local tracks.
- The Danish Ministry of Transport has had, and continues to have, a decisive role in ongoing operations of both operation and infrastructure.

Other experiences

- A lot of experience has been gained with tenders. E.g. that:
 - it is necessary to specify all the traffic you want, because nothing can pay for itself
 - very sensitive or complicated traffic is difficult to offer
 - the ownership and timing of the trains must rest unambiguously with the authorities
 - it is difficult to attract new bidders when the 1st bidding round has expired. Arriva has won all tenders held
 - net contracts have worked fine
- DSB was particularly active in participating in tenders on the foreign markets from 2003-2010 in both the UK, Germany, and not least Sweden. But after financial challenges right here, DSB was forced to leave this market entirely.

Ramboll's overall assessment of Denmark's degree of (scale 1-5)

Tendering: 3

Open access: 2

Lessons for Finland: 4



Estonia

Name of the incumbent: EVR (Elron)

Degree of dominance: 5

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	1
Traffic structure	2
Introduction to competition	7

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	8
Possible explanations (based on traditional measurement parameters)	8
Best overall including competition introduction	8
Possible explanations (that can be referred to for the introduction of competition)	11

Overall

- Train traffic has grown noticeably over the past 10 years, but from a very low starting point, and the market share remains very low.
- The traffic to Russia, which has otherwise been quite significant, is closed at the moment.
- It is pretty much only EVR who operates.
- The Rail Baltica project will eventually be able to create new opportunities, by strengthening the rail-sector, and by standard gauge giving access to direct trains from the rest of Europa.

Estonian characteristics

- In Estonia, the Russian gauge of 1520 mm is used, which is convertible with the Finnish gauge of 1524 mm.
- Long-distance traffic across the borders is operated in traditional cooperation with the state operators.
- Moreover, the traffic is mostly regional.
- There is primarily diesel operation, but a smaller section is being electrified. A number of new train-sets are used, and electric train sets are being delivered

Competition and the Estonian strategy about EU-rules

- Estonia complies with the European rules, but no traffic tenders have been carried out in competition.
- EVR has been assigned the traffic.
- There has been open access traffic, but it has been closed with the closure of the connection to Russia
- Ramboll is not aware of plans for the future development of tenders.

Other experiences

Ramboll's overall assessment of Estonia's degree of (scale 1-5)

Tendering: 1

Open access: 2

Lessons for Finland: 1



France

Name of the incumbent: SNCF

Degree of dominance: 5

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	11
Traffic structure	9
Introduction to competition	10

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	11
Possible explanations (based on traditional measurement parameters)	2
Best overall including competition introduction	9
Possible explanations (that can be referred to for the introduction of competition)	12

Overall

- Train traffic has stagnated over the past 10 years, with ever-growing car traffic.
- The French infrastructure is characterized by a focus on the development of a high-speed network. The expansion has taken place on new tracks with 25 KW between the cities, while still using the old station facilities, and the use of 2-current trains is thereby assumed in order to be able to use the high-speed network.
- In addition to the high-speed trains and the regional trains, there is also an intercity system operated commercially by SNCF.

French characteristics

- In France, as in most major countries, there is a very sharp division between long-distance and regional traffic, which each have their own trains, and each have their own ticket system and price level.
- The stations are owned and operated by SNCF.
- The infrastructure charges are relatively high on the high-speed lines and may thus limit interest from other operators. There is plenty of capacity, apart from the Parisian stations.
- On the commercial long distance network, the infrastructure charges are relatively low.

Competition and the French strategy about EU-rules

- In France, SNCF's monopoly was maintained until recently. There has therefore been neither a tender nor open access traffic.
- The infrastructure was separated from SNCF relatively late, but after a few years it was reassembled in an overall holding structure.
- Now the market is basically open to competition, and over the coming 10-year period, the regional traffic is expected to be tendered. It will happen regionally. The specific conditions are not yet clear, e.g. regarding ownership of trains etc. The strong French trade unions will make the conditions of competition difficult. And presumably given delay.
- Spanish Renfe seems to enter the market in short time.

Other experiences

- Throughout the period, SNCF has invested heavily in gaining a foothold in the European markets (and in other parts of the world). In Europe, the strategy has been to let SNCF establish high-speed traffic in collaboration and in company structures with the foreign state-owned operators, while SNCF wholly owned subsidiaries have participated in tenders within regional train and bus traffic.
- The private Veolia has similarly participated in European tenders.
- France is thus the world's largest operator within public transport on the world market, and can thus use the experience from here, the day the market really opens up in France.

Ramboll's overall assessment of France's degree of (scale 1-5)

Tendering: 1

Open access: 1

Lessons for Finland: 2



Germany

Name of the incumbent: DB

Degree of dominance: 4

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	8
Traffic structure	11
Introduction to competition	6

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	6
Possible explanations (based on traditional measurement parameters)	9
Best overall including competition introduction	6
Possible explanations (that can be referred to for the introduction of competition)	5

Overall

- The development in both the amount of passengers and market shares has been stagnant for train traffic in Germany over the past 10-year period up to 2019.
- The expansion of the German train infrastructure is going relatively slowly. As the only country, it does not develop high-speed lines according to the common European standard of 25 KW, but this means that in the whole of Germany there is only one current system, and thus no need for 2-current trains. Expansion with ERTMS is slow.
- In Germany there is a clear distinction between long-distance and regional traffic, which each have their own trains, and each have their own ticket system and price level.

Competition and the German strategy about EU-rules

- In Germany, EU regulations are met, and expertise has continuously built-up to promote competition by offering regional traffic under the auspices of the individual regions (länder) for many years.
- Today, all regional traffic is offered competitively.
- In contrast, experiences with open access traffic have been more limited. But with Flix-train, a private operator, has been created and operates some long-distance traffic and which can be expected to want to expand.
- DB also operates the German long-distance traffic as commercial traffic, without contract and without contract payment. Only in some niches they get a subsidy where long-distance trains have been taking over some regional train functions (i.e. Dresden – Görlitz).

German characteristics

- In the case of regional tenders, where typically the entire region's regional traffic is either tendered in one package or in a number of route groups.
- The authorities tend now to make all trains and production facilities available in the regional train-tenders, but different solutions are still used.
- Tendency to go all in for gross contract. Although still some net contracts exist. Typically, of 7-10 years duration.
- The state does not make any train tenders.
 - There is satisfaction with the principle of net contracts, which is more and more common, not least acerated in the period with Covid.

Other experiences

- A lot of experience has been gained with tenders, e.g. that many different bidders have participated: both many state-owned foreign operators, the English private companies, and also a few German private companies. There is an ongoing replacement of who participates, and the trend is that fewer will bid.
- DB has been a very active in foreign tenders with Arriva, who has been dominant in Denmark, Sweden, the Netherlands and the Czech Republic, in addition to being a major player in the UK. Now they are vending down, and have at now sold the Swedish and Danish part of Arriva, and presumably are going to sell it all.
- DB has previously been in competition with SNCF for traffic to France and had plans to do so for traffic to the UK but has abandoned it in favor of a more cooperative model.

Ramboll's overall assessment of Germany's degree of (scale 1-5)

Tendering: 5

Open access: 2

Lessons for Finland: 4



Italy

Name of the incumbent: FS / Trenitalia

Degree of dominance: 4

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	5
Traffic structure	7
Introduction to competition	4

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	9
Possible explanations (based on traditional measurement parameters)	5
Best overall including competition introduction	5
Possible explanations (that can be referred to for the introduction of competition)	10

Overall

- Train traffic has grown over the last 10 years, with an increasing market share.
- The development of the Italian infrastructure has been focused on the establishment of new high-speed lines, while the regional network has been relatively neglected.
- The high-speed network is built according to EU standards, but the trains still have to a large extent enter stations that have not been rebuilt, and therefore 2-stream trains are assumed
- In terms of quality, Italian operational stability remains of a very low standard, with delays as a far to general rule.

Italian characteristics

- In Italy, as in most major countries, there is a very sharp division between long-distance and regional traffic, which each have their own trains, and each have their own ticket system and price level.
- The private company Italo has succeeded in securing real equal competitive opportunities, and there have been positive accounts until Covid. Italo has financed all investments in trains itself, at stations with ticket machines and waiting facilities, etc. Trains and maintenance have been purchased from the train manufacturer.
- It is still FS that owns and operates almost the entire system.

Competition and the Italian strategy about EU-rules

- Regulatory Italy meets EU requirements.
- Regional traffic has not yet been tendered in competitive tenders, but it is also only to a certain extent that the regional authorities have any role regarding regional traffic.
- In contrast, for 10 years there has been real open access traffic on the high-speed network. FS and the private company Italo have intense competition with modern high-speed trains. Italo has changed ownership, but has always been truly private.
- Ramboll is not familiar with how the tightened EU requirements are planned to be met.

Other experiences

- In recent years, FS has become particularly active abroad. In the UK, together with private English operators, they participate in tendering for both regional and long-distance traffic, and they participate in tenders in several other countries.
- In Spain, a large investment has been made in 20 high-speed trains in direct competition with Renfe.
- In addition, FS is also active in providing offers for bus services in the Netherlands and Germany, among others.

Ramboll's overall assessment of Italy's degree of (scale 1-5)

Tendering: 1

Open access: 4

Lessons for Finland: 1



The Netherlands

Name of the incumbent: NS

Degree of dominance: 4

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	7
Traffic structure	8
Introduction to competition	1

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	5
Possible explanations (based on traditional measurement parameters)	3
Best overall including competition introduction	10
Possible explanations (that can be referred to for the introduction of competition)	8

Overall

- Train traffic has grown steadily over the years, and with 11 % has a very large market share.
- The railway network is dense in the NL and majority of it is electrified with 1,5 KC DC. ERTMS is on its way.
- The market is formally open to all traffic.
- The less trafficked local network is mainly diesel-based.
- Long-distance traffic is largely integrated with regional traffic, also considering the very short average distances.
- NL has built a railway line solely for freight traffic (between Rotterdam and Germany)

Dutch characteristics

- The stations, both ownership and operation, have throughout the period been the operator's responsibility, in an attempt to ensure maximum customer orientation.
- Originally, it was primarily net contracts, but regional contracts are increasingly switching to gross.
- A lot of experience has been gained with tenders also that it is difficult to attract new bidders when the 1st bidding round has expired. However, 3 different operators have each won their local routes, often in connection with bus contracts.

Competition and the Dutch strategy about EU-rules

- Splitting between infrastructure and operator and the first tenders took place early on.
- The tenders have taken place on the smaller local sections, and successfully expanded, so that NS part of the traffic has been reduced. The tenders have taken place regionally. There have been several re-tenders.
- NS has run the traffic on the main network awarded in 10-year contracts. A new contract is expected to be concluded for 2024-2033.
- 3 different state-owned foreign operators have won contracts, and all three have also won a number of tenders for bus services.
- The international long distance traffic is carried out in traditional cooperation between the state operators.

Other experiences

- NS has for many years been particularly active in foreign tenders with the subsidiary Abellio. Abellio is very big in the UK, and the only originally state-owned operator that has had significant success here. Abellio has also won contracts in Germany but is on its way out here.
- Abellio UK is expected to be sold in a management buy-out before long and will thus become a purely private company.
- There have been sporadic attempts at open access traffic, and more may be on the way.

Ramboll's overall assessment of the Netherland's degree of (scale 1-5)

Tendering: 3

Open access: 2

Lessons for Finland : 4



Norway

Name of the incumbent: VY (NSB)

Degree of dominance: 3

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	6
Traffic structure	3
Introduction to competition	8

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	13
Possible explanations (based on traditional measurement parameters)	5
Best overall including competition introduction	13
Possible explanations (that can be referred to for the introduction of competition)	3

Overall

- Train traffic and market share have stagnated over the past 10 years.
- There has been invested heavily in the Norwegian infrastructure over a number of years. The tracks are electrified and ERTMS is being installed.
- Norway, both regarding the country structure and size, number of inhabitants, and the rail-system is the country that most looks like Finland

Norwegian characteristics

- The Norwegian approach:
 - Making a comprehensive plan. It has then been adjusted for purely political reasons.
 - Geographical packages are used, thus integrating long-distance and regional traffic to a certain extent, as is also done in the UK.
 - You offer successively, i.e. one tender at a time.
 - The state (Railway Directorate) oversees all tenders.
 - 3 different operators have won the first 3 packages. Two are state-owned and the third is private.
 - The state provides all production facilities, including trains.
 - Net-contracts are used.

Competition and the Norwegian strategy about EU-rules

- Until 5 years ago, Norway shied away from introducing competition in train traffic, but has only established a special, also state-owned company, to operate the traffic between the airport and Oslo (Flytoget).
- Organizationally, however, they have long prepared to enable competition with separation between infrastructure and train operation, and established a number of units with stations and workshops, and with train maintenance and train ownership.
- Then the policy was completely changed, with an overall plan to offer all the country's train traffic in tendering's in 5 geographical packages over a short period of years.
- 3 of these tenders have been completed, while it has been newly decided to award them directly to each of the two state-owned operators, VY and Flytoget.

Other experiences

- VY has become active on the Swedish market and has bid for and won regional traffic here.
- Border traffic from Oslo to Stockholm and Gothenburg is carried out by SJ on a contract with the national authority in Norway.

Ramboll's overall assessment of thNorway's degree of (scale 1-5)

Tendering: 4

Open access: 1

Lessons for Finland : 5



Spain

Name of the incumbent: Renfe

Degree of dominance: 4

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	4
Traffic structure	4
Introduction to competition	5

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	10
Possible explanations (based on traditional measurement parameters)	4
Best overall including competition introduction	7
Possible explanations (that can be referred to for the introduction of competition)	9

Overall

- Train traffic has been growing during the period, and correspondingly with the market share
- The Spanish infrastructure has generally been heavily upgraded over many years. In particular, there has been a construction of a completely independent high-speed network, incl. stations, with very high capacity, and according to European standards.
- The rest of the track network is broad gauge (1,668 mm). Only travel to Portugal is possible without either changing trains or with trains equipped with variable wheel spacing.

Spanish characteristics

- In Spain, as in most major countries, there is a very sharp division between long-distance and regional traffic, which each have their own trains, and each have their own ticket system and price levels.
- A significant high-speed infrastructure with large capacity 100 % isolated from the rest of the operation. It doesn't exist anywhere else and makes it the most obvious place for competition. It will therefore be interesting to follow the development here, from a European perspective, because here you really have a competitive opportunity that corresponds to the conditions that apply to aviation, and which is to a large extent the basis for the philosophy behind the EU's rules.

Competition and the Spanish strategy about EU-rules

- The EU-rules have been implemented, but no tenders have been made in competition.
- Competition is supported on the high-speed network where there is capacity. Both SNCF with older French TGV-trains in a low-cost high-speed train Ouigo, and FS with a traditional high-speed concept IRYO, and completely new trains.
- Renfe continues to dominate and control all of the system
- Ramboll is not familiar with how the EU's upcoming set of regulations regarding the provision of regional traffic is expected to be met.

Other experiences

- With the expanded high-speed network, with a very high quality and stability, it will also be to a large extent be the air traffic trains are competing against.
- Renfe was, remarkably, not active abroad until recently, but has now bought one of the two Czech private open access operators, and is in short time entering the French market with high-speed trains, as the first real competitor to SNCF, and must therefore be presumed to have further plans.

Ramboll's overall assessment of Spain's degree of (scale 1-5)

Tendering: 1

Open access: 3

Lessons for Finland : 1



Sweden

Name of the incumbent: SJ

Degree of dominance: 3

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	2
Traffic structure	1
Introduction to competition	12

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	3
Possible explanations (based on traditional measurement parameters)	13
Best overall including competition introduction	3
Possible explanations (that can be referred to for the introduction of competition)	1

Overall

- Train traffic has grown steadily over the past several years.
- The infrastructure has been continuously improved. Most lines are electrified, and are being successively equipped with ERTMS

Competition and the Swedish strategy about EU-rules

- Sweden was the first country in Europe to separate infrastructure from operations, and also station operation, stock maintenance, sales system/tickets and IT were separated from SJ.
- All regional traffic has thus been offered for a long time and many times. The tenders have taken place regionally, where typically a number of Regions (Len-s) join together. The Len-s have also all jointly established a train purchasing company.
- The night train service has been tendered several times on a national level, while the other long-distance services run commercially.
- Long-distance traffic was until 5 years ago almost only operated by SJ, although with some long-distance train departures carried out by private companies.
- In the past 5 years, there has been open access competition for trains running between Sweden's two largest cities, Stockholm and Gothenburg, as the Chinese MTR operates high-frequency trains here with new-manufactured trains-sets. The German private Flix train also now operates with a smaller number of train departures.
- Express trains from Arlanda Airport to Stockholm City Center have been operated privately, as a PPP, for a number of years.

Swedish characteristics

- In Sweden there is a very sharp division between long-distance and regional traffic, which each have their own trains and each their own price level.
- With the fairly complete separation of units from SJ, a clear signal was given that competition was desired and open to all. But at the same time, it has succeeded in maintaining a coherent national network, with SJ's commercial running.
- Both the Len-s and the operators have been very active in terms of associations and thus lobbying. (Train Operators and Swedish Public Transport).
- The Swedish Ministry of Transport has virtually no role in ongoing operations.
- The original tender principle has largely been maintained throughout the process. This means that there is a great deal of stability.
- Gross contracts have worked well.

Other experiences

- SJ has operated long distance trains to Copenhagen for many years. This has required conversion of existing trains to 2-current operation, etc. SJ has also tried actual open access operation in Denmark, but quickly gave it up. SJ has also participated in bidding in Danish tenders, but never won. In contrast, a tender have been submitted and won in Norway.
- The authorities have experienced winning operators who have not been able to meet expectations in the long run, and who have therefore withdrawn along the way. However, it has always been possible to find alternative operators.

Ramboll's overall assessment of Sweden's degree of (scale 1-5)

Tendering: 5

Open access: 4

Lessons for Finland: 5



Switzerland

Name of the incumbent: SBB / CFF

Degree of dominance: 5

Scoring based on the best degree of comparison with Finland among the 12 other countries

Geographic structure	12
Traffic structure	12
Introduction to competition	8

Scoring based on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	1
Possible explanations (based on traditional measurement parameters)	1
Best overall including competition introduction	4
Possible explanations (that can be referred to for the introduction of competition)	13

Overall

- Train traffic has slowly but continuously grown over many years, from a very high starting point. The market share is 20%, and thus twice as high as in any other European country.
- The Swiss infrastructure is of very high quality and is continuously being improved and expanded. In recent years with some colossal tunnel projects to ensure that an increasing part of the transit-freight traffic can be done by rail
- Traffic is handled with a consistently high level of punctuality not seen elsewhere in Europe.

Competition and the Swiss strategy about EU-rules

- Regardless of the fact that Switzerland generally follows EU rules, the rules have been bent in the railway sector. The infrastructure has not been separated from the traffic operator, not even in terms of accounting, as is an EU requirement.
- They have also not made tenders in competition, but in principle allow open access traffic. But there will be significant capacity challenges if someone were to try.
- Switzerland, on the other hand, has traditional collaborations with the foreign state operators in the many countries Switzerland borders, so that trains from both DB, FS, SNCF and ØBB (from Austria) operates in Switzerland.
- Ramboll is not aware of any plans to follow the EU's current or future regulations.

Swiss characteristics

- SBB continues to sit on the entire system including infrastructure.
- There are many other regional train operators, but only 2, BLS and SOB, which have shares in the national network. They have the same control over their entire system as SBB has, are owned by local authorities, but they are small in comparison.
- The overall Swiss railway network is extremely fine-grained, with tracks to almost everywhere. In terms of customers, it is connected as 1 system, with coordinated timetables, and a unified national price and ticket system, managed by SBB. It also includes bus and ferry traffic. Their customer-facing APP is of incomparably high quality and simplicity.
- The regional and local traffic is financed by and agreed with the regions (cantons).
- The traffic outside the national network is not offered in tenders either but is run by companies owned by the cantons. This also applies to bus traffic, where there is still a national network operated by the postal service.

Other experiences

- SBB had plans to become active abroad, but this was politically prevented. However, they have previously won a single tender for border traffic in a southern German border region.

Ramboll's overall assessment of Switzerland's degree of (scale 1-5)

Tendering: 1

Open access: 1

Lessons for Finland: 1



United Kingdom 1/2

Name of the incumbent: BR (defunct)

Degree of dominance: 1

Pure statistical based scoring on the best degree of comparison with Finland among the 12 other countries

Geographic structure	9
Traffic structure	9
Introduction to competition	11

Pure statistical based scoring on collected data (incl. selected weighting) among the 13 countries

Best overall on pure results	4
Possible explanations (based on traditional measurement parameters)	10
Best overall including competition introduction	2
Possible explanations (that can be referred to for the introduction of competition)	2

UK characteristics

- The railway was invented in UK, and they - far faster and more consequent than anybody else - fulfilled not only the actual EU-legislation, but the end-intensions, from the very beginning.
- So UK is first mover, and there for the steps to be taken, presumably this year (2023) will be followed with interest.
- The suggestion on the table is, basically, to rebuild the one-company philosophy, by establishing (Great-) British Rail, with that big difference from the past, that all operational tasks will be tendered. But all planning, coordination, sales, ticketing, investment, and the tendering processes, will be done in GBR.

Overall

- Train traffic has grown continuously since the great privatization in the 1990s.
- About 5 private companies, and 5 incumbents from abroad are dominating the tenders and the passenger traffic.
- The English infrastructure, now again state-owned by Network Rail, is only slowly being expanded, electrified and equipped with ERTMS, but there are very large differences in standards and equipment all around, and still many diesel-based lines. Many decades will pass before the infrastructure has been updated and more uniform.
- A larger high-speed section is under planning/construction, but the scope of the project is adjusted down and delayed continuously.

Competition and the UK strategy about EU-rules

- The entire UK rail system, all previously organized in British Rail (BR) was divided in a rapid process in the mid-1990s. Both functionally with infrastructure (incl. stations) separated in a national company, Railtrack, the train ownership was sold to 3 Roscos (financing companies, or management buy-out), and all the traffic was offered in 25 line-based packages, with packages of regional traffic, and the long distance traffic in 3 separate packages. Also, the freight was divided in a few companies.
- The entire track network incl. stations and all their maintenance was put into a limited company Railtrack, which was listed on the stock exchange. However, this construction only lasted for a number of years, after which the company was taken off the stock exchange and re-nationalised.
- The operators were originally several bus companies which had previously been formed in connection with a privatization in that sector. These companies have largely survived throughout the period and have taken turns winning the various tender packages. In some cases, in collaboration with foreign state-owned companies, and in a single case in collaboration with a private airline.
- The traffic has been tendered many times, typically in 7-10-year contracts, and always as net-contracts. The packages have since been restructured so that they are geographically composed to a greater extent and have thus integrated the regional traffic with the long distance traffic in several places.

Continues on the next page

Ramboll's overall assessment of the United Kingdom's degree of (scale 1-5)

Tendering: 5

Open access: 2

Lessons for Finland: 4



United Kingdom 2/2

Name of the incumbent: BR (defunct)

Degree of dominance: 1

Continues from the previous page

- All traffic has been tendered at national level. Most recently, however, traffic in Wales and Scotland has been left to the regional authorities, and similarly pure local traffic close to London has been left to the region here.
- There have been a few examples of open access traffic, partly because there have been excess trains at the 3 roscos, and partly because there have been missed direct connections between some larger cities and London. Some of these are still running but have now been bought out and operated in conjunction with traffic won through tenders.

Experiences with tenders

Many different experiences have been made with tenders:

- Those who have the train material are sitting on a very large power. Because without trains, there is no traffic. It has been exploited to a very high extent by the private companies that have leased out the trains. Those who bought the trains in the first rounds have made a lot of money.
- The ownership and timing of the trains can lie with private roscos, but this requires that in the long-term rules of the game are established that prevent a monopoly-based price level

- Too large chains with sub-suppliers are difficult to manage.
- The infrastructure is a monopoly where there are too many conflicts between the interests of society and private owners.
- 100% coverage of the costs by the operators does not work, because they really do not have a position where they can manage the maintenance, which is typically of a very long-term nature
- With several operators in the same geography, and a third party with the responsibility for the infrastructure, responsibility placement of low punctuality makes it very difficult
- It took many years before both operators and infrastructure owners found out that discussions about the allocation of responsibility for operational disruptions can be hopeless and should therefore be solved in a pragmatic collaboration. Large fines are no help, because the discussions then become legal and lengthy, with no aim of finding a solution for the trains' customers.
- The lack of capacity, and the significant level of traffic to the same center, London, very much requires overall planning that only a national authority can handle
- It is necessary to specify all the traffic you want, because not much can pay for itself. Bidders have been able to make proposals, but this has been sporadic
- It has been easy to attract many bidders, in such an extensive market with so many ongoing tenders, and with such large sums of money involved. And that this has to a very large extent ensured tough competition.
- The foreign companies that the market has attracted have all been state-owned.

- Net-contracts have worked throughout the period, but since the winning operator has in several cases been too optimistic in their estimate of the income, it has several times been the reason that the national authorities have had to take over the traffic for several years, before they could be re-offered.
- Many times the bidders over-promised on the income side, and that big risk taken have spoilt too much. Presumably the Covid-19 finally has brought the net-contracts as seen until now, to an end.
- A dynamic that has helped to ensure ongoing positive passenger development has also been created.
- Even after 25 years of tendering and privatized operation, the organizational set-up continues to be adjusted, and that a new major overhaul is thus planned, but
- The total economy of the great experiment is completely beyond anyone's ability to assess economically.

Other experiences

- The private bus and train companies that have dominated in the UK have also largely participated in traffic tenders elsewhere in Europe. Until recently, these have been close to the only real private companies. The state-owned European train companies have largely used the UK market to learn about competition in train operations, either by cooperating with them or by buying them up. German DB thus acquired Arriva, which has since formed the foundation for DB's foreign expansion. Dutch NS, on the other hand, has built an English company from scratch, and is thus the most stable and successful foreign company in the UK.

Ramboll's overall assessment of the United Kingdom's degree of (scale 1-5)

Tendering: 5

Open access: 2

Lessons for Finland: 4

A snapshot of each of the interviews

Attachment 2

Finnish interview 1

- **Main obstacles hindering competition**

- No long-term bidding plan → no visible potential development path
- VR's strong role and an ability to protect their own position, benefits of incumbency
- Gauge and climate affect the competition between the rolling stock suppliers → the rolling stock must be modified
- In theory a multi-operator environment is possible but in reality things that would really open up the competition have not been promoted

- **What is needed to attract competition**

- Long term-plan, vision of the goal
- Large enough total market and investment in the rolling stock etc.
- Rolling stock company and management company for depots and other premises
- Structural change to the direction that an operator is purely an operator

- **Effects of the competition**

- Lowering prices in routes where there is commercial potential
- Competition through tendering might lead to commercial open access

- **Other comments**

- Potential for open access is low in Finland but might be possible if the operator is first able to enter the market via tendering
- Investing in new railway corridors is not as efficient as investing in improving the current system
- There isn't a tendering model that could be copied to Finland as such so the model should be adjusted to the Finnish situation

Finnish interview 2

• **Main obstacles hindering competition**

- No visible development path and thus not attractive market to invest in
- The strong role of VR
- Technical characteristics are European standards but the gauge affects so that the rolling stock must be modified for Finland

• **What is needed to attract competition**

- Long-term plan and vision
- Uniform ticketing system
- Rolling stock company
- Market volume which is attractive enough
- Investment program
- Depot capacity, and depots not under the management of the dominant operator
- Changes to the structure of ownership control

• **Effects of the competition**

- Tendering paves the way to open access. Right now the structure prevents market entry.
- 2-5 competitors/operators give the benefits caused by competition

• **Other comments**

- Finnish legislation has been done well but has not caused effective actions towards competition
- National traffic system plan (Liikenne12) does not really concern the development of the market and sometimes even gives preference to a national operator
- More capacity is guaranteed by solving bottlenecks and developing the current infrastructure
- Volume can be found by including also e.g. light rails in the tenders

Finnish interview 3

- **Main obstacles hindering competition**

- VR's strong role
- Absence of a long-term plan
- The size of the market, access charge or different track gauge width are not significant reasons

- **What is needed to attract competition**

- Long-term plan
- Depot capacity
- Uniform ticketing system
- Separating maintenance from VR
- Rolling stock companies for local transport in other areas besides HSL

- **Effects of the competition**

- Lowers prices for passengers (example can be found in Finland regarding long-distance buses)
- May cause challenges to the capacity in some stations and some routes → most potential route for new operators in open access model is Helsinki-Tampere-Oulu where there might be challenges in Helsinki and Tampere

- **Learnings from freight transport**

- The cooperation forum including the operators and other stakeholders has been helpful

International interview 1 – the Netherlands

• Tendering

- The Dutch government and NS have made an analysis on the lines and concluded that about 30 lines need PSO-support and could be given to regional governments to tender out, and the rest would be the core-network. Around 15-20 lines (15 % of train-km) were accepted by the local authorities, and the rest were included in the core-network.
- Tenders (not all) include both train and bus –lines to decrease the amount of parallel service → buses act as feeder-lines rather than compete with trains and the system is more efficient.
- PSO-level funding has stayed the same and some more service has been added mostly to off-peak hours.
- Some more lines could be given out to tender and maybe split the network into 4-5 parts but that would result to the increase of transfers for passengers between trains and that would be against the policies to improve the conditions. This would also lead logistical impossibilities or bottlenecks on the networks and decreased flexibility.
- If the service overlaps between the commercial, long-distance and regional traffic, and there is a competition between private and government contracts, it should be considered to tender the traffic together.
- Operators are required to finance new rolling stock, but contract clauses can reduce the risks for the operator.

• Open access

- Open access needs a demand that is not in service already (big enough market) and enough capacity preferably in separate tracks.
- In NL the problem with open access is the short distances. Open access works best in longer distances which are international traffic from the Dutch viewpoint. Also, the infrastructure capacity in attractive areas is extremely scarce.
- Open access is difficult even in Germany with a large market, since DB is so dominant.

• Experiences

- In Netherlands, the foreign bidders have started an organization which lobbies for more tender processes.
- First round of tendering is hard since the incumbent is presumed to be difficult to beat. But if the tender process is prepared for reducing costs, it's even harder to go back or achieve much more in the future.
- NL has nation-wide ticket-selling smartcard system, which includes all kinds of public transport. Organized in a separate organization. It is quite a complex system (done in NL before there were many operators) and was expensive to implement. A more modern system is in sight.
- Noticeable is that bidding processes are expensive, and those costs must be covered somehow.

International interview 2 – a private operator

• Tendering

- Tender in Norway was done well: 5 packages and multiple rounds in the process
- 7-8 bidders → choosing 3-4 preferred → feedback about their bids → chance to improve the bids → result is the very best bids from each bidders
- Even though the process was done well, there were some things to improve:
 - Too many organisations included: Jernbanedirektoratet, Banenord (infrastructure), Norske Tog (trains), Norway Tours (ticketing), Mantena (maintaining the trains) and even local authorities. Clear responsibilities are needed.
 - Complicated model where some of the traffic is gross, some net contracts with fixed conditions. Good thing was that long distance and regional traffic were both included.
 - The risk was with the operator which resulted in difficult negotiations about COVID-compensations → the way the tender was constructed would not work today.

• Open access

- Open access won't really be possible in Nordic countries. Sweden is the best bet with its market size but even there have been struggles.
- There needs to be suitable infrastructure for open access (preferably high-speed) but in the Nordics it's hard to find possibilities.

• Experiences

- The state-owned operators are a challenge for private operators. When many state-owned are participating in the tendering, it's not sure whether private operators will continue but concentrate on buses, light rail and other public services.
- In the UK passenger amounts and the income-level are higher, but a long-term plan is still needed.
- There has been struggles in the German market to be profitable.
- In Sweden only SJ has the strength and size to do the tendering's.
- VR's strong dominant role is hindering the competition in Finland and one reason why it was difficult to find bidders in the HSL's tender process.
- Optimal situation would be at least 2 or 3 bidders.

International interview 3 – a Norwegian authority

• Tendering

- Traffic was planned to be tendered in 5 packages but after 3 of them were done, packages 4 and 5 were cancelled because the new government will rather reward the traffic to the 2 state-owned companies.
- Reasons behind the separation into packages were geographical, market and rolling stock. Logical way to do it since e.g., Bergen, Stavanger and Trondheim are kind of their own markets.
- Decentralized tendering has not been discussed since Norway is a rather small country and the regions might be too small entities to handle the tender processes.
- Packages 1-4 had 6, 3, 4 and 6 bidders. About 3 bidders prequalified through first phase of the process in every package.
- Package 3 is profitable enough to run without PSO support, but only before the Covid 19. Since it have been supported as well.
- The evaluation of the tenders is based on quality and price. The relation between those is assessed differently in the packages since the conditions are different: e.g., around Oslo it's more important to have high quality and in more rural areas the price plays a bigger role. In the 3 first packages the price varied from 40 % to 70 %.

• Open access

- There's no open access policy in Norway

• Experiences

- The risk side is important to think through and balance: how much of the risk the state should have to get the right balance? The operator having income risk is not a wrong way since it gives a push to develop the service. But if the risk is too high, then the bids get too high. → Norway has both net and gross contracts in their packages.
- Incumbency gives a big advantage in operating side and also in the maintenance side. Operators must tender out the maintenance companies, and the state-owned Mantena dominates. → In the operating side though, the customers have not noticed even though VY as an incumbent has had the easiest start and others rougher, and the customers rate the service similarly between the operators.
- Organizational set-up is quite complex in Norway. It's right way to separate different organizations (e.g., infrastructure, rolling stock) but it has gone too far in Norway and it's too difficult to handle, too much suboptimizing, contractual relations are complex, etc. Balance has to be found.
- Norway has a national ticket selling company, but the problem is the incumbent's strong foothold: customers know their app the best and the new operators have had to make contracts with VY to sell their tickets in VY's well-used app.
- The development in UK is followed and seems interesting and relevant.

Score of incumbent train-operators going abroad in the European competitive market

Attachment 3

Score for incumbent train operators going abroad in the European competitive market

- for learning to compete and/or to ensure a long-term position in the market

Country	Incumbent	Tender T, open access OA	Score 1-5	Supplement information	Remark
Finland	VR	T	3	Bought Arriva Sweden	Very new, short experience
Czech Republic	CD	-	1	Unknown	
Denmark	DSB	(T)	1	Judged in 2010 the score would have been 5, But DSB since was forced to withdraw after big losses. In Denmark the small local operators, owned by the regions, and not tendered, have been allowed to "eat into" local parts of the Danish Network from incumbent DSB. Going "abroad" so to say.	High activity in UK, Germany and Sweden, but went bust
Estonia	Elron	-	1	Unknown	
France	SNCF	T + OA	5	Westbahn in Austria, Ouigo in Spain and controlling Eurostar Group. Also, Transdev, Keolis (local/city-traffic in particular) active internationally. Keolis pulled out of the German market recently.	Also cooperate with other French groups with abroad activities
Germany	DB	T (+OA)	5	Bought Arriva with activities in Scandinavia, Netherlands, Czech among other.	Gave up competing with Eurostar and Thalys. Are busy selling Arriva
Italy	Trenitalia (FS)	T + OA	5	Won UK-tenders in cooperation with private UK-operators. Runs a few long-distance trains to France with daughter company Netinera. This is presumed to be expanded. Very active in Germany (one of the TOP 3 'private' operators in the German market). Now massively entering open access high speed in Spain.	Relatively new on the market, but now heavily.
Norway	VY (former NSB)	T	2	Won two tenders in Sweden	Relatively new
The Netherlands	NS	T	5	Have built up Abellio from scratch. Heavily involved in tenders in UK and Germany, but now to be sold in management buyout, so NS leaves the international market.	Most experienced incumbent through 20 years activity
Spain	Renfe	OA	4	Have recently bought 50 % of Czech RegioJet, and will actively enter the French high-speed market very soon.	New
Sweden	SJ	T	3	Several attempts in Denmark, but with no success. Won package 2 tendered in Norway. Runs traffic from Göteborg and Stockholm to Oslo on contract with Norway.	Running to Copenhagen open access, but only boarder traffic
Switzerland	SBB / CFF	(T)	2	Once won tendered German boarder traffic	No competitive activities abroad
The United Kingdom	BR (closed)	-	-	UK private operators Arriva, Go Ahead, First Group and National express has in periods participated heavily abroad tendering's.	Only by tendering. No abroad open access. ²⁶

Articles from the International Railway Journal

Attachment 4

Article: Urgent lawsuit seeks immediate end to NS direct award

THE Netherlands Federation of Transport Companies (FNM) has instigated an urgent lawsuit against the Dutch government, seeking to immediately stop preparations to directly award Netherlands Railways (NS) the 15-year Main Line Network concession from 2025.

FNM represents new entrants Arriva Nederland, Transdev, Qbuzz, Keolis and EBS, and believes that the government would be in breach of European Union (EU) law if it awards NS the Main Line Network concession.

This covers 95% of total rail passenger-km in the Netherlands, including inter-city services and international routes.

FNM and its members have already started one court case on this issue, where the final verdict is expected in March 2023. But to avoid any risk that irrevocable facts may come to pass in the relationship between Dutch state and NS before the final verdict, the new lawsuit requires the government to stop negotiations under the framework of awarding the new concession.

The additional lawsuit represents a strong increase in the pressure being applied by FMN. Its members are all keen to compete against the incumbent NS in the most important part of the Dutch passenger market.

They are insisting that the government respects EU law regarding PSO contracts, and in particular the requirement to carry out market testing to determine which services can be operated commercially before making a direct award.

These concerns are shared by the European Commission (EC), which has been closely following developments since the Dutch government first revealed its plans for a direct award to NS.

In a letter European commissioner for transport, Ms Adina Vălean, has warned the Dutch minister of the environment, Ms Vivianne Heijman, that directly awarding the Main Line Concession without undertaking market testing would entail “a serious risk of breaching European Union law.”

Article: Iryo makes inaugural run

SPAIN's first private high-speed operator Iryo began carrying fare-paying passengers on November 25, when it launched a service of 12 trains a day each way on the Madrid - Zaragoza - Barcelona route.

The first service departed from Madrid Atocha at 06.45, with the first Iryo train leaving Barcelona Sants at 07.05. The fastest non-stop journey time between the two cities is 2h 30min.

Prior to the launch of commercial services, Iryo had made an inaugural run from Madrid to Valencia on November 21. Onboard the Frecciarossa 1000 train were minister of transport, mobility and the urban agenda, Ms Raquel Sánchez, and president of Spanish infrastructure manager Adif, Ms María Luisa Domínguez, as well as over 100 business leaders and other stakeholders.

Following its launch on the Madrid - Zaragoza - Barcelona route, on December 16 Iryo will start operating from the Spanish capital to Cuenca and Valencia.

Services will also be extended from Madrid to Córdoba, Antequera, Málaga and Seville on March 31. The Iryo network will be completed on June 2 with the start of operations on the Madrid - Albacete - Alicante route.

Iryo is the first private operator to enter the Spanish high-speed market. Its majority shareholder is Trenitalia with a 45% stake, with 31% held by Operador Ferroviario de Levante (OFL), a subsidiary of Spanish regional airline Air Nostrum, and the remaining 24% by Globalvia.

The new entrant says it will offer passengers "the best journey experience in the railway sector," with a fleet of 20 Hitachi Frecciarossa 1000 trains offering four classes of accommodation tailored according to customer needs.

These range from the basic Inicial to the Singular, Singular Only You and Infinite classes aimed at the business and first-class markets. All seats offer plug and USB sockets, free onboard Wi-Fi and 5G connectivity.

Iryo also hopes to set itself apart from the competition with Haizea, its own onboard catering brand which offers freshly-prepared food including seasonal produce and healthy options, as well as premium drink brands and a changing wine list selected from Spain's premier producers.

Passengers with Iryo tickets will be able to travel free of charge on Spanish National Railways (Renfe) suburban services in the cities the new high-speed operator serves.

Iryo has also signed a code share agreement with Air Europa to offer combined air and rail tickets, as well as a worldwide distribution agreement with Amadeus. Iryo is a full member of International Air Transport Association (IATA) and is continuing to work on new strategic agreements.

"Iryo, Ouigo of France and Renfe of Spain are already competing on an equal basis on the Spanish rail network, within the framework of the liberalisation process recently undertaken by our country, which has made us the first on the continent to have three top-level companies providing high-speed services," say Sánchez.

"Today is a great day for the Spanish liberalisation process as Iryo has made its maiden voyage," says Iryo president, Mr Carlos Bertomeu.

"I feel that this journey began a few years ago when we started to devise what the new mobility should be, and, after months of intense work, this project has become a reality. Personalisation, flexibility, sustainability and integral design are now part of mobility in Spain."

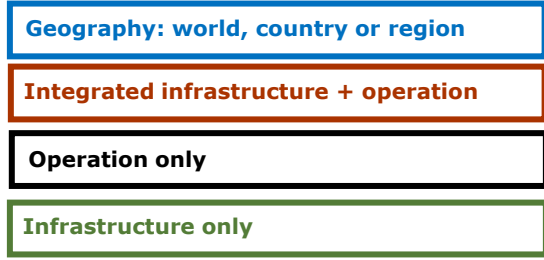
Trenitalia CEO, Mr Luigi Corradi, says that the launch of Iryo was "the result of the coming together of Italian and Spanish experience in high speed and customer service."

"It is a source of pride for me and for Trenitalia to see the Frecciarossa 1000 about to run between the country's main cities."

Version **2** of "historic organizational development of the railways"

Attachment 5

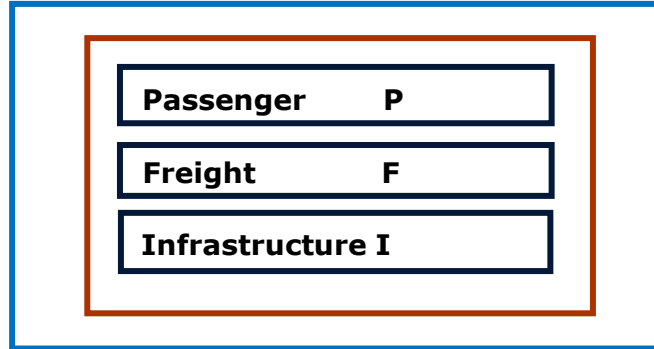
The organizational development of the railways 2/2



1885 - 1985

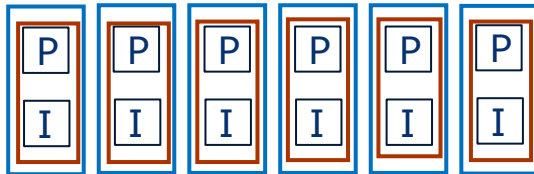
- The operation based integrated model
- 1 pr country
- Almost all countries (- US)
- No splits at all

World



Japan

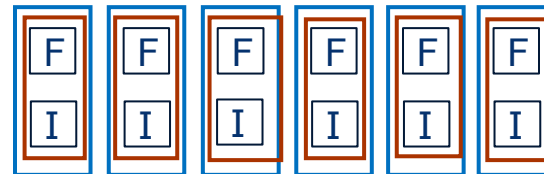
- **Integrated passenger-based operation**
- **Regionally split**



National Freight (F)

US

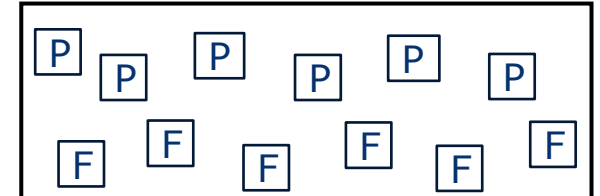
- **Integrated freight-based operation**
- **Line based split**



National Passenger (P)

EU

- **Disintegrated infrastructure-based**
- **Operational split**



National Infrastructure (I)

1985 →

In search for new dynamics

Main competitor:

Road traffic

Road traffic

Train operators

Bright
ideas.
Sustainable
change.

RAMBOLL