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#GREENDEAL
#MOBILITY

CHALLENGES FOR EUROPEAN RAIL
GETTING SOLUTIONS ON TRACK

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This Memo contains my personal opinion and binds nobody else. It draws on my experience but is in no way connected to my mandate as European Coordinator for TEN T (ERTMS)

Executive summary

Trains were born in Europe. This European Year of the Railways should be an opportunity to make rail transport the major player in clean European mobility, even though its overall share of the various modes of transport has become relatively low. The railways do not have a problem with decarbonisation but with attractiveness.

Strengthening this attractiveness requires, at the European level, improving the conditions of equality with other modes of transport according to the polluter-pays principle. This also requires significant public investment, which the European recovery plan should facilitate. Making railways a major provider of mobility and logistics also requires that it be able to operate within a single European framework and that the digitalisation of the sector be accelerated, particularly in terms of rail signaling and traffic management. Europe's major role in the railway industry must be protected against unfair competition from the rest of the world. Finally, the railways must be attractive to users, in particular through better interconnections and the ongoing revival of night trains. The extension of the dedicated infrastructure should contribute to this, making these network corridors our European "silk road". The ambition is also to build a more crisis-resilient European rail network in order to avoid disruptions in freight supply chains.

A European Year will not be enough to bring about major upheaval. However, if taken seriously, 2021 could become the year to launch key actions for the renaissance of rail in Europe as a major player in the transport network.

1 . 2021 IS THE EUROPEAN YEAR OF RAIL[1]

"European Years" are often empty slogans, much hyped at the beginning and forgotten almost before the year ends.

The European Year of Rail 2021 has a prospect of staying in the memory of the European citizen for much longer. This is because we are at a turning point on mobility in Europe. Transport will be much more multi-modal, based on the concept of mobility and logistics as a door-to-door (or b2b) service.

Green deal and digitalisation will be the major drivers disrupting transport post COVID, while the pandemic itself has already produced impressive changes of mobility. Rail can prominently feature in this major, customer-oriented transformation of mobility and logistics in the next ten years. But rail can also be the looser.

Major focus is now more on making other modes of transport as green as rail, rather than on increasing the share of rail in transport and making rail more efficient and more responsive.

Rail industry (operators, infrastructure managers and suppliers) needs to grasp the coming opportunities, forge a strong alliance with citizens and public authorities. We need to put flesh on the bones of the European Year of Rail and make rail a prominent actor with an integrated approach on transport, rapidly advancing with digitalisation and building on its climate credentials.

BOX 1 .

The European Year has been preceded by a Commission communication on sustainable and smart mobility (December 2020)[2] , with announcements of a revision of the TEN T Regulation, EU rail (passenger and freight) corridor initiatives (in 2021) and revised digitalisation standards for signalling, traffic management and automatic train operations (in 2022) . This is accompanied by substantial resources being made available for rail under *NextGenerationEU* and the EU Multiannual financial framework[3].

1. Decision on proposal of the European Commission of the Council of Ministers and the European Parliament December 2020 https://data.consilium.europa.eu/doc/document/PE-48-2020-INIT/en/pdf, and link to-European-year-of-rail websites: Commission: https://europa.eu/year-of-rail/index_en and EP: https://www.europarl.europa.eu/news/en/headlines/eu-affairs/20210107STO95106/2021. See also 7th Monitoring Report Rail market report ,COM (2021) 5 fin and EU Agency for Rail, Fostering the Railway Sector through the European Green Deal, July 2020: https://www.era.europa.eu/content/report-fostering-railway-sector-through-european-green-deal_en

2. COM(2020)789 final of 9.12.2020 ; and staff working document, SWD(2020)331final, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0331&from=EN

3. However, no specific EU resources were earmarked for the European Year.

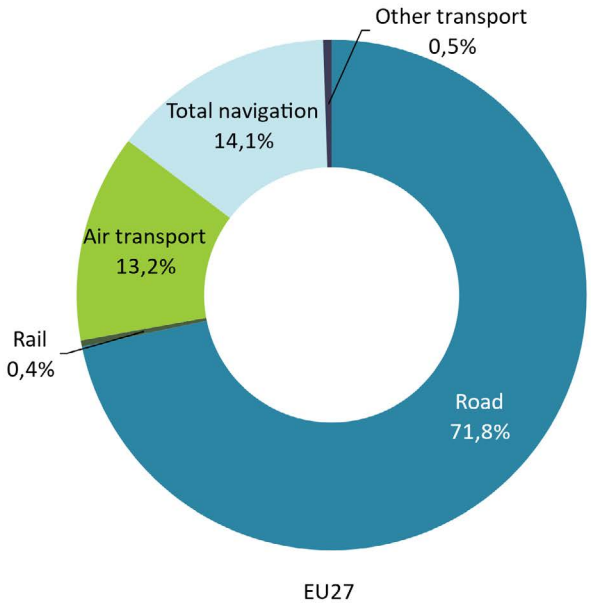
2 . RAIL HAS MANY ADVANTAGES BUT RISKS LOSING OUT IN THE GREEN DEAL

The European Union is about to set itself a goal of reducing greenhouse gases by 2030 by at least 55% and to reach climate neutrality by 2050.

Transport generates 25% of all greenhouse gases in the European Union [4] and should reduce GHG emissions by at least 90% by 2050. Indeed, transport is the only sector which has increased its share of GHG emissions since 1990 (from 15% to 25%) in relation to other sectors and industries.

The ***rail*** share of GHG emissions is very low (0.4%[5]). The major contributor is road (passengers and freight) with a share over 70% of transport GHG emissions.

FIGURE 1 . The rail share of GHG emissions in Europe



Share of GHG emissions of transport EU 27 in 2018 (rail, road, domestic aviation, domestic navigation, pipelines)

Source : EC 7th RMM Report

4. Excluding international maritime, Statistical Pocketbook 2020 https://ec.europa.eu/transport/facts-fundings/statistics/pocketbook-2020_en

5. This low figure is in part explained because GHG emissions of electricity are catered for elsewhere under the heading "energy" which is already subject to the emissions trading system (ETS). However, overall, this depends on transforming electricity generation to a no-emissions scenario.

Moreover, rail is also one of the most energy efficient modes of transport. However, **rail's overall modal share of transport is relatively low** with 7.8% for passengers and 18.7% for freight[6]. Progress over the years (2007 to 2018) has been slow with the share of passenger rail increasing in the EU by only 0.5% and for freight even sometimes falling[7]. If this share is not considerably increased, rail risks remaining relatively marginal and the task of reducing GHG emissions will be for road, maritime and aviation.

BOX 2 . Modal share of rail in selected Member States

Average EU 27 figures hide wide differences between Member States:

- In **passenger** transport (EU average: 7,8%) Austria (12,1%) , Netherlands(11,1%), and France (10,5%) perform best with a modal share of over 10%, followed by Slovakia, Sweden, Germany , the Czech Republic, Hungary, Denmark, Belgium, and Poland, all above or at the EU 27 average.

- In **freight** (EU average 18,7%) the three Baltic republics stand out (over 45%) followed by Slovenia, Slovakia, Austria, and Sweden with freight volumes of over 30%. Finland, Romania, Czech Republic, Hungary, Poland, Croatia, Germany, and Bulgaria are all above average. France (9.93%), Spain (4.97%) and Belgium (10.48%) are very far away from the average and even more from the benchmark of 30% share set by industry itself for 2030.

6. EU 27 tkm/pkm; Figures for 2018, modal share of rail in relation to all land transport modes. In absolute terms, rail traffic volume increased in the years from 2015 to 2018 by 2.5 % for passenger and 4.1% for freight.

7. The share of metro and trams would increase this figure by 1.7%; freight varies over the years from 17.3% to 19.2%.

3 . RAIL NEEDS TO INCREASE ITS MODAL SHARE CONSIDERABLY TO BE THE BACKBONE OF A NEW MOBILITY STRATEGY.

The major issue for rail is therefore to **increase the modal share** rather than to reduce GHG[8]. *Rail does not have a decarbonisation but often an attractiveness problem.*

Ideally, the best way to increase the share of rail would be to make rail more attractive, more innovative , to ensure that rail is more reliable and punctual , that the offer of rail services is better and more varied, that costs are lower, and that rail is better integrated in a multi-modal system where the last mile connection is also assured.

Rail also needs to be more attentive to the use of other green modes of transport such as cycling etc. . This is already part of the recently agreed changes to the rail passenger rights regulation (in the process of adoption) and should be a major focus of the revision of the urban mobility package announced by the Commission for this year[9].

If these are the **goals**, what are the **levers** from a European perspective?

3.1 . Lever ONE : Better level playing field: Polluter – user pays principle.

The cost of transport needs to be fairly reflected. The external and infrastructure costs of each transport mode need to be measured and internalised: *the user or polluter pays principle*. This is not an easy task since cohesion and social concerns intervene. The Commission announced recently a 'comprehensive set of measures to deliver fair and efficient pricing across all transport modes' [10] including the extension of the ETS system, phasing out fossil fuel subsidies, progress on effective charging of infrastructure use[11] and better information on the most sustainable choice of transport mode. Putting a price on CO2 for all modes of transport (not necessary through the extension of ETS) will indeed contribute to create a more level-playing field for rail transport[12]. However, other external cost elements are even more significant such as accidents and congestion.

8. However, for non-electrified lines the move to clean hydrogen and other alternative propulsion systems replacing diesel should also be pursued.

9. See SWD on the evaluation of the 2013 Urban Mobility Package (SWD (2021)0047 https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52021SC0047

10. Com (2020)789 of 9.12.20 p. 12

11. This is one of the objectives of the ongoing negotiations on a revision of the EUROVIGNETTE directive which has started in 2017.

12. Given that electricity is already covered by the EU ETS scheme. Rail is, even more than inland navigation, one of the two transport modes to reduce considerably emissions over recent years from 12.7 (1990) to 4,3 (2018) million tons p.a..

BOX 3 ▪ External costs in Transport

According to the most recent study, external costs of transport [13] in the EU in 2016 amounted to €987 billion (for EU 28 without infrastructure costs), with road causing more than 80% (€ 820 bill) and rail less than €20 bill (2% , essentially noise). Most significant costs for road transport are accidents[14], congestion and GHG emissions. Infrastructure costs amounted to around €265 bill for road and rail, essentially 66% for road and 33% for rail.

Passenger Rail pays much more of its external costs than road transport. Excluding fixed infrastructure costs, passenger rail covers about 80% of its costs through taxes and charges whereas passenger road transport pays for around 58%. Rail freight on the other hand only paid for 39% and road freight covered between 36% (heavy good vehicles) and 44% (light commercial vehicles) of its cost.

3.2 ▪ Lever TWO : Ensuring sufficient public funds.

The COVID pandemic has also affected the rail sector through falling passenger and freight volumes. It is too early to give a full picture but nevertheless it is clear that also the rail sector, and in particular private operators and recent entrants to the market, will be needing some form of national public support (as the aviation sector) to make sure they survive and are capable to ensure rail's future expansion. Some larger rail companies have already been giving preliminary figures for losses due to COVID (and other factors) such as SNCF (€ 3 billion in 2020), Deutsche Bahn (€ 5, 6 billion), SNCB (€ 400 million), ÖBB (around €800 million)[15]. Some Member States have foreseen to provide aid to companies.

Additional public service contracts might also be necessary to cater, at least initially, for innovative services. There is also an ongoing debate on reducing track access charges for operators[16], which should however not be to the detriment of investments by the infrastructure managers.

Public aid will be subject to state aid control and several procedures are already ongoing. At the same time, EU state aid rules for railways are being revised and should also cater for the new post-Covid transport world. A multitude of EU funds are available for funding rail in the next financial period (2021-2027) (see box beside).

Rail projects clearly fulfil the criteria of public recovery and resilience spending, combating climate change and very often also contributing to the digitisation of rail. However, rail projects will be competing with other transport modes and in most cases project maturity will be important.

13. Accidents, congestion (for road), environmental costs (pollution, climate, noise, habitat, well to tank) . Study on sustainable transport infrastructure charging and internalisation of transport externalities https://op.europa.eu/en/publication-detail/-/publication/e0bf9e5d-a386-11e9-9d01-01aa75ed71a1

14. With 23374 road deaths in 2018 compared to 13 rail related deaths

15. CER (Community of European Railways) estimates in its recent annual report that the COVID related loss of revenue for EU 27 for passengers was 35% and for freight 15% in the first half of 2020.
https://www.cer.be/sites/default/files/publication/CER_Activity-Report-2020_0.pdf

16. Regulation 2020/1429 allows reducing the financial burden on the rail sector by temporarily easing rules on charges, to mitigate the economic impact of the COVID-19 pandemic.

BOX 4

The Connecting Europe Facility II (around € 25 billion) will continue to provide significant funds for rail but there will also be a call on these funds for the deployment of alternative fuels infrastructure and digitalisation of other modes of transport.

Member States will, under the *Recovery and Resilience Facility*, allocate some EU funds to rail. It remains to be seen at what level and whether this is limited to rail infrastructure or also includes renewal and retrofitting of the fleet.

Cohesion and regional funds also contribute to funding rail (including fleet up-grade and renewal), in future there will also be a strong focus on urban transport.

The France-based *European Rail Agency* (ERA) will have an increasingly central role in the renaissance of the rail and sufficient budget for ERA will be crucial.

The *Horizon Europe* research fund will earmark a large sum for research and development for climate, energy and mobility and should therefore also contribute to the rail sector (in particular through the joint undertaking "Europe's Rail").

Finally, the *European Investment bank* (EIB) will also, through diverse instruments such as *InvestEU*, mobilize funds for rail projects.

3.3 Lever THREE: A functioning Single European Rail Area

The vision of European railways has evolved from a timid attempt to open different national markets to a concept of a single railway area where rail is a major European mobility and logistics provider, permitting railway undertakings to offer rail services throughout the European Union network, based either on public service obligations or on competition, with the same train sets able to operate anywhere in the EU because technical and operational obstacles have been removed. With rail freight services (2007) and international passenger traffic (2010) already liberalised, the fourth railway package(2016) completed the EU legal framework for this single railway area for passengers[17]. At the same time, the role of the European Rail Agency in Valenciennes/Lille was considerably strengthened.

Implementing and using the EU framework for opening railway services is key. Railway operators should become more responsive to customer needs, improve the quality of their services , modernize them, and make them more cost-effective. Competitive tendering of public service contracts should allow better use of public funds.

It is important that this also caters for the social conditions of staff and accessibility. The EU 27 rail services sector–operators and infrastructure – employs over 916,000 people. Recently, the number of young people employed by the sector have been rising slowly but the ageing of the work force is still a concern, as is the predominantly male composition of the work force.

17. Whereas rail freight traffic is international with a 52% share in 2018, international passenger traffic counts for only 6.8% of all traffic in the EU 27.

BOX 5

The **market pillar** of the fourth rail package allows gradual market opening by giving a right for railway undertakings established in one Member State to operate all types of passenger services everywhere in the EU, with rules improving impartiality in the governance of railway infrastructure and preventing discrimination and mandatory tendering for public service contracts in rail. It consists of a directive (2016/2370) on the opening of the market for national rail passenger services and the governance of railway infrastructure, a regulation (2016/2338) on the award of public service contracts for national rail passenger services and a regulation (2016/2337) providing for the repeal of a former regulation on the standardisation of the accounts of certain railway undertakings.

Taking the market share of all but the principal undertakings as an indicator for market opening, the reality in the Member States of the EU is still diverse.

The average *rail freight market* of competitors in the EU27 increased from 34% to 42% (2015-2018). In 2018, new operators were competing with national incumbents in most EU member States (except Greece, Ireland, Lithuania, Luxembourg). The market share of competitors was over 30% in many Member States. Figures for France were 46%, Germany 51.3% and Belgium 18.2%[18].

For domestic *passenger service*, open access and competitive tendering for public service contracts only became obligatory recently. However, some Member States have liberalised their services earlier. On average, competitors had a 10% market share in national commercial passenger markets in EU27 in 2018, and a 16.2% market share in national Public Service contracts. Competitive tendering was used for only 26% of all Public Service Obligation contracts active in 2018 in EU27.

3.4 Lever FOUR: An ambitious digital rail agenda

Digitalisation of rail will be key for increasing the modal share of rail. Digitalisation will contribute to increasing infrastructure capacity, making rail more effective through better dispatching and incident handling, automation and responding better to customer requirements, including multi-modality.

The major game changer in getting to digital rail is the Europe-wide deployment of the European rail traffic management system (ERTMS)[19]. Deployment has been too slow, but most recognise now that there will be no digital rail without the deployment of ERTMS. Some 10,000km of ETCS are deployed now and 50,000 km should be by 2030. Equally, some 4500 locomotives and vehicles are equipped, and this should increase to over 35.000 by 2030.

18. Rail Market Monitoring Report, p.11

19. ERTMS was initially a concept to develop a rail traffic management system comparable to air traffic management. Presently it is the European standard for the Automatic Train Protection (ATP) making rail more efficient and safer and the starting point for future command and control systems. It contributes to making rail operation between the Member States much easier, deals with the issue of some 30 different legacy systems in the EU, contributes to better safety and more capacity and is therefore an essential element of the Single European Railway Area. It is also a major industrial project in Europe and worldwide. See EP own initiative report on ERTMS (March 2021: rapporteur: : MEP Izaskun Bilbao Barandica) and workplan of the ERTMS coordinator: https://ec.europa.eu/transport/sites/transport/files/work_plan_ertms_2020.pdf

Rail has always been a sector open to and driven by innovation. However, renewal cycles (infrastructure and rolling material) are long and costly. Therefore, innovation in other transport sectors[20] often happens more rapidly. Swifter innovation in rail, with appropriate transition management, will contribute to rail's attractiveness, not only for the customer but also as future employer. Innovation in rail is closely linked but not limited to digitalisation. Some other future technology developments which are either already entering the market or are in the process of being developed such as hydrogen trains, lighter materials for trains, means to ensure noise reduction but also the development of the next generation of very high-speed trains and alternative forms of transport such as hyperloop.

BOX 6

A Europe wide **innovation strategy** is facilitated by the technical pillar of the fourth EU railway package (fully operational in 2020) with the **European Rail Agency** having a central function as systems authority. Other elements are supported by the EU R&D programme. *The* ***shift²rail Joint Undertaking*** *has been federating rail research in Europe.* Its future successor (***Europe's Rail*** under the Horizon Europe Programme) should inter alia also provide the necessary platform to coordinate the future evolution and its input to ERA as systems authority towards a European Rail Command and Control System which goes beyond signalling and safety based train control to a genuine traffic management system.

The Digital Rail Agenda

Digitalisation of rail will help to generate more capacity, quicker innovation cycles, more modularity, better customer orientation, links with the wider transport system and will also lead to transforming the way rail is organised. . It will improve reliability, increase flexibility in service delivery and substantially reduce costs. Some of the next steps in the digitalisation of rail are:

- Europe wide introduction of an interoperable rail traffic management system
- (ERTMS) as backbone of the Digital Rail strategy
- Automatic Train operations (up to the highest level)
- Future Radio Communications System for Rail (5 G)
- Real time position for safety and logistics (including EGNOS/ Galileo)
- Digital interlockings
- Better Cybersecurity
- Artificial intelligence for operations and maintenance
- Digital Automatic coupling
- Digital logistics systems for freight
- Multi-modality ticketing systems and seamless door to door services with interoperable data

A number of these elements would allow to move to a much more integrated traffic and capacity management system on a European level and cater for a Europe wide path allocation, coordination perhaps starting with freight (including the planned revision of the Rail Freight Corridor legislation).

20. Commission 2019, Final report: Study on the competitiveness of the Rail Supply Industry:

Digitalisation will not only create a need to reorganise and, in future, better to coordinate traffic management[21] but will also have transformative effects on public authorities, infrastructure managers and rail supply industry[22] .

3.5 Lever FIVE: A performing European Rail Supply Industry

The world market for rail supplies is enormous[23]. Europe has one of the best, most competitive rail supply industries (manufacture of locomotives and rolling stock, tracks, electrification, signalling and telecommunication equipment, parts, services) in the world, and market access for European suppliers in other countries and regions is of strategic importance. Both SMEs and major industrial leaders are active in the sector. European industry invests some 2.7% of its annual turnover in R&D [24] and represents 46% of the world rail supply market. Rail supply industry employs about 400,000 people in Europe.

BOX 7

> "The rail supply industry (RSI) is a crucial industry for the EU. The turnover of the RSI amounts to fifty billion, while the value-added amounts to one third of the turnover (approx. EUR 49 billion and EUR 15.2 billion in 2017, respectively). Since 2011, the sector has seen a continual growth. The EU RSI is a world leader having continuous net trade balance, but growing competition is visible. Technological and market evolutions have a great influence on the EU RSI."[25]

Europe's strong role in the rail industry needs to be protected against unfair competition from the rest of the world. Whereas the European rail supply industry has clearly shown that it can maintain a strong presence in the world market, industrial policies need to be strengthened to make sure that no unfair subsidies are given to third countries suppliers[26]and that foreign direct investments are in the interest of the European Union[27]. At the same time, policies are needed to ensure that prices are based on competition and that newcomers can come into the increasingly software-based rail supply market. This was the backdrop of the announced merger of Siemens and Alstom, refused by the Commission in 2019 , which now has led to the approved merger of Alstom and Bombardier. Rail industry and in particular its future technologies are strategic assets of the European Union.

21. An ERA papers speaks of a EUROCONTROL for rail: EU Agency for Rail, Fostering the railway Sector through the European Green Deal, July 2020

22. See also Lotz, Ott, Stern, Vandieken, Digitizing Europe's railways: a call to action, 2020, https://www.mckinsey.com/featured-insights/europe/digitizing-europes-railways-a-call-to-action

23. The current annual total rail supply market volume in the years 2017–2019 is estimated at EUR 177 bn per annum.

24. Commission, Study on the competitiveness of the rail supply industry, Sept 2019: https://ec.europa.eu/docsroom/documents/38025. The automotive industry has the highest level of investment in R&D in the transport sector, followed by aviation. See JRC Technical report, Innovation capacity of the transport sector, 2019.

25. Report of the expert group on competitiveness of the European rail supply industry, 2019, https://ec.europa.eu/docsroom/documents/37829

26. See also Commission White Paper on levelling the playing field as regards foreign subsidies COM/2020/253

27. Regulation 2019/452 and Guidance to Member States concerning foreign direct investments, C(2020)1981

3.6 Lever SIX: Making rail more attractive to citizens and customers

Mobility as a service has become a key driver for transport of passengers , as is logistics for freight. Europe is still one of the best performers in logistics worldwide, but relies mostly on modes of transport other than rail[28] .

Quality of rail services still need to improve considerably in the EU 27. Digitalisation, passenger rights[29], interoperability and market opening should contribute considerably to better quality rail services[30].

BOX 8

According to the **7th Rail Market Monitoring report**[31] :

- "the average **punctuality** (less than 5 minutes late) of regional and local **passenger** services in EU27 decreased slightly from 93% in 2015 to 90% in 2018. The average punctuality of long-distance and high-speed passenger services decreased from 85% in 2015 to 79% in 2018.
- The average **reliability** of local and regional passenger services decreased between 2015 and 2018, with the share of cancelled services rising from 1.4% to 1.9%. The average reliability of long-distance and high-speed passenger services increased between 2015 and 2018, with the share of cancelled services decreasing from 1.5% to 1.3%.
- The average **punctuality** (less than 15 minutes late) in 2018 for rail **freight** in EU27 was 60.0% for domestic and 53.2% for international services: 7.3% of domestic and 11.0% of international services were cancelled."

To increase its modal share, rail must also innovate in terms of offer. Regional connectivity is often poor. Moreover, passenger services at present are limited largely to national travel; international passenger travel needs to be boosted. Presently, the following initiatives are being seriously considered by European institutions , Member states and /or rail operators :

- Doubling high speed rail traffic by 2030
- Rail freight to increase by 50% by 2030
- Better regional connectivity of urban centres.
- Creating a network of night trains to connect major cities.
- Linking major cities through regular rail services.
- Giving multi-modal information, promoting through ticketing and allowing multi-modal ticketing for a variety of providers.
- Providing integrated door to door services
- Initiatives to promote rail travel for young people such as DiscoverEU and more widespread use of EurailPass for all.
- Reviewing the regulatory framework for intermodal transport, including the Combined Transport directive.

28. World Bank, Logistics Performance Index, https://lpi.worldbank.org/international/global

29. Rail Passenger Rights exist on the EU level since 2009 (Reg 1371/2007) and have been strengthened early 2021 to deal with rights of passengers with disabilities or reduced mobility and rules on through-ticketing.

30. See Eurobarometer on satisfaction with passenger rail services , 2018: only 66% (EU 26) satisfied with frequencies of train, 59% satisfied with punctuality and reliability, 41% with availability of Wi-Fi ; 56% with cleanliness and maintenance. https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/survey/getsurveydetail/instruments/flash/surveyky/2172

31. 7th Rail Market Monitoring Report 2021, p. 10

BOX 9

Austrian Federal Railways (ÖBB) has recently introduced a night train service ('nightjet') from Austria to several European cities including Brussels. Following up on this, four European rail companies (Germany's Deutsche Bahn (DB), Austrian Federal Railways (ÖBB), France's SNCF and Swiss Federal Railways (SBB)) announced further links. First up on the agenda are four new nightjet lines, which will connect 13 of Europe's largest cities via overnight services in the coming years:

- December 2021: Vienna–Munich–Paris and Zurich–Cologne–Amsterdam
- December 2023: Vienna/Berlin–Brussels/Paris
- December 2024: Zurich–Barcelona

Source : UIC electronic news letter 9 December 2020

3.7 Lever SEVEN : Infrastructure to connect Europe (TEN Transport)

From the beginning of the EU, the need for a transport infrastructure policy was an important element in the discussions, however it was only in the Maastricht Treaty of 1992 that an article on Trans-European Network (TEN) gave a (limited) competence to deal with transport, energy and telecommunications networks and the 'missing links' between Member States. From the very beginning, European TEN transport policy focussed on the development of rail infrastructure, initially focussing strongly on high-speed rail.

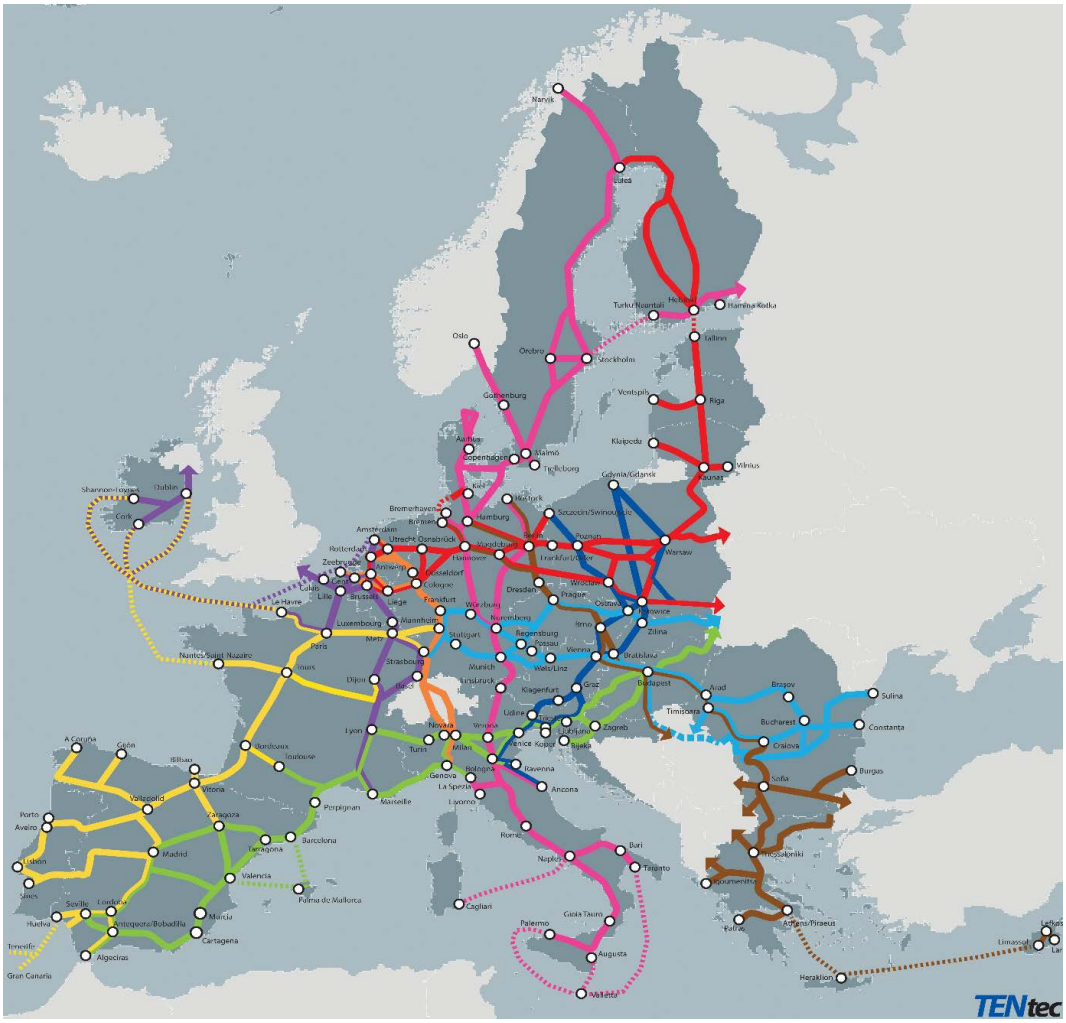
After the first TEN T guidelines for the development of the trans-European transport network of 1996, the second generation TEN T guidelines (adopted together with the Connecting Europe Facility in 2013) aimed to develop a genuine trans-European network policy that incorporated the imperatives of the common transport policy, going beyond scattered prestige projects. The concept of a core network with multi-modal core network corridors was born. The amount available for the period 2014-2020 for transport infrastructure was for the first time large enough (EUR 26 billion) to position the Union as an important player in the development of the network (figure beside).

The TEN T policy has always also provided a launching pad or support for major green field projects such as the Oresund bridge between Denmark and Sweden, the Paris-Brussels-Cologne- Amsterdam-London (PBKAL) high speed connection, the rail Baltica project (from Tallinn to Warsaw), the connection between Lyon and Turin, the Fehmarn Belt or the Brenner base tunnel to name but a few.

The third generation of TEN T guidelines is being prepared for 2021[32]. This has been preceded by a proposal for a renewed Connecting Europe Facility adding a «dual/military use» dimension to future infrastructure finance and accompanied – in terms of EU finance – by considerable funds available under cohesion, EU Invest and the Recovery and Resilience Fund.

32. See also the EP Report of MEP Jens Gieseke on the revision of TEN-T guidelines of 10.12.2020.

MAP 1 . Core network corridors 2021 (according to Connecting Europe Facility II)



Source: Commission, DG MOVE/TENtec

The Connecting Europe Facility II (agreed in trilogue in March 2021) envisages an extension of present core network corridors from around 49,000 km to 58,000 km (EU 27) with major parts being added in France (Bordeaux – Toulouse -Narbonne; Nantes- Tours- Dijon; Nantes-Cork (Ireland) ;Marseille – Ventimiglia) but also in Spain, Poland, Finland, and Sweden. The Commission also has announced a revision of the rail freight corridor regulation for 2021, in order to have the same geographical configuration for TEN T and the Rail Freight Corridors. In line with the current approach to setting Europe-wide standards for ERTMS, length of freight trains etc., it is to be expected that the next proposal for guidelines will focus on reinforcing and adding perhaps additional standards (loading gauge, speed of trains), creating the conditions for better rail connectivity, and strengthening the role of terminals and urban nodes.

At the same time, inter-connections with neighbouring countries (in particular with the Western Balkans where a Transport Community Treaty already exists) should be part of the revision, also in view of the geo-strategic dimension that infrastructure policy has increa-

singly acquired in the recent past. Moreover, the TEN T governance should be improved. **Europe has for long had its own Belt and Road Policy – it is time to draw elements together and to make them more visible.**

3.8 ▪ Lever EIGHT : Coping with crises (resilience dimension)

The COVID-19 situation has revealed how important continuous supply chains are in Europe. Whereas both passenger and freight traffic came to a halt or were considerably slowed down in the first reactions , based on national borders, the Commission and the European institutions managed to take a more integrated approach. The creation of green lanes, the continuity in terms of provision of rail freight services, but also rules on temporary suspension of certain EU regulations and directives enabled at least the continuous provision of the European citizens with essential goods and permitted industry to operate in difficult circumstances to a certain extent. The Commission, in its Communication on upgrading green lanes[33], set the ambitious target for rail freight to also respect the maximum 15 minutes border dwelling time. The Council in October 2020 adopted conclusions calling on the Commission to swiftly draw up a pandemic and other major crisis contingency plan for the European freight transport sector.

The EU has already in the past faced smaller crises such as the volcanic ash crisis or terrorist attacks which were however limited in scope and time. The EU has now become very conscious of the need to guarantee the continuity of supply chains through a robust transport system which is more resilient. Indeed, this applies not only to the present pandemic but also to challenges through hybrid threats and the need to protect against effects of climate change.

33. Communication from the Commission on upgrading the transport Green Lanes to keep the economy going during the COVID-19 pandemic resurgence ,COM/2020/685 final (Oct 2020)

4 . BENCHMARKS FOR THE EUROPEAN YEAR OF RAIL

Several actions and benchmarks have been defined for the European Year of Rail and beyond. More will certainly come. It would be too much to expect a major upheaval to take place in one year. However, if taken seriously, 2021 may become the year where essential actions were launched for the renaissance of rail in Europe as a strong actor in the European transport system.

It is important to realise how important rail is from three perspectives : a major contributor in the fight against climate change, a sector which is in the process of transforming itself through digitalisation and one of the major industrial assets in the European Union.

The EU Commission has proposed several useful benchmarks for the next years and decades for Rail[34]:

BOX 10 .

- 100 European cities will be climate neutral (by 2030)
- high-speed rail traffic will double across Europe (by 2030)
- scheduled collective travel for journeys under 500 km should be carbon neutral
- automated mobility will be deployed at large scale (by 2030)
- rail freight traffic will double (by 2050)
- a fully operational, multimodal Trans-European Transport Network (TEN-T) for sustainable and smart transport with high-speed connectivity (by 2050)

To measure the success of the European Year of rail, we suggest the following ten benchmarks which should be realized or at least be started in the Year of Rail:

1. The rail sector is financially stabilised (including appropriate state aid rules) post COVID.
2. EU funds for rail have increased in relation to the previous period and provide adequate funding for the modernisation of rolling stock.
3. EU Rail Corridor Initiatives for passengers and freight are launched, including the removal of cross-border obstacles and better path allocations for freight and night trains combined with a vision of how to better coordinate international rail traffic (including city connections).
4. A revision of Trans European Transport Network is proposed, including objectives for future infrastructure policies and additional standards, better governance and integration of urban nodes and terminals.

34. Com (2020)789 ; The European rail agency suggests the following for a rail renaissance: Connect major urban areas in Europe by rail/ Connect top 30 airports to the railway network/Develop a European network of night trains/Eliminate the railway bottlenecks/Foster an industrial railway policy/Create a 'Eurocontrol' for rail/Finance railway projects.

5. The objective of doubling high speed rail traffic by 2030 and of doubling freight on rail by 2050 is endorsed by the Member States.
6. The regulatory framework for intermodal transport, including the Combined Transport is reviewed to facilitate use of combined transport in the EU.
7. Initiatives to increase acceptance of rail also by younger citizens are launched or confirmed.
8. An appropriate framework for ticketing across modes and for interoperable data sharing in rail transport is proposed.
9. Major steps in terms of deployment of the European Rail traffic management system as backbone for digital rail are undertaken.
10. Plan(s) for better coordination and management of rail transport (freight and passengers) are developed for times of crisis.

Europe is the birthplace of rail; Europe has a rail system which is the envy of many. We now need to build on what we have inherited from previous generations, especially in the European Year of Rail. ■

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