CER position

Brussels, 26 April 2017

European Data Economy

Background

Digitalisation is one of the top priorities for the rail sector. The objective for the rail sector is to offer highly efficient and attractive transport options and services around it to its customers and to make the most of the opportunities offered by digital transformation.

At the sector level, railways are exploring all opportunities, and adapting to and integrating in the new digital ecosystem in order to maintain their strong economic position in Europe. Better collaboration, both within the sector (RU/RU, RU/IM and IM/IM), with other complementary transport modes and beyond (together with manufacturers, suppliers, customers, end-users and other third parties) will bring added value and offer better solutions for customers enhancing their ability to integrate rail travel into their experience.

With this paper, CER would like to contribute to the main objectives of the Commission's Communication on 'Building a European Data Economy' (COM(2017) 9 final) in addition to responding to the launched public consultation on this issue.

In general, CER welcomes the possibilities which data-driven business models, IoT and smart sensor equipped machines can provide. CER therefore encourages a "positive" discussion on using data and data-driven models, rather than a restrictive view of using data.

General comments

CER's objective, as defined in the 'Roadmap for Digital Railways' presented by the railway community (CER, CIT, EIM and UIC) in April 2016, is to maximise the use of data and create and develop interoperable and interconnected services, leading to economic growth, innovation and significant benefits for the rail sector, its customers and the European economy.

The different aspects of opening up data and data sharing need to be better explored in order to create clear added-value for the rail sector and society. Sharing transport data based on voluntary contracts should enable the emergence of additional innovative solutions generated through co-creation. In order to increase railway attractiveness and competitiveness, a number of railway undertakings and infrastructure managers have opened their data and developed several pilot projects and trials in order to foster innovation and built win-win partnerships within the sector and with third parties (such as start-ups, app developers and technology providers) developing new, personalised and flexible solutions for customers.[1]

The 'Full Service Model' (FSM) is a great example of such a voluntary business model. FSM was launched to enhance the capabilities of both railway undertakings and their commercial partners in the field of distribution. It concentrates on the functional requirements and specifications for an open, interoperable IT framework designed to be used by a wide number of applications and software developers. These requirements and specifications will be shared widely with technology and service providers, so that they may be used by a wide diversity of parties to develop new interoperable applications and tools.

1. Access to data

CER has a positive view on accessing data and supports the distribution of public data by open data, especially in the form of open service, based on voluntary contracts with terms and conditions. Open service ensures that partners, external developers and service providers can enrich customer-oriented offers.

However, it is also crucial that those in possession of data retain the power to determine the usage rights of their data when shared with third parties and are free to decide on the best technical way to share their data in a dialogue with data users, e.g. through access to raw data or processed data and whether the access will be to static or real-time data.

Cost of data

One should also bear in mind that the term "open data" does not imply that data must be made available free-of-charge. Those in possession of data must be free to decide about usage rights, since they bear the costs for agreed service levels as well as the costs of data transmission. Data exchange between railways and third parties leads to a much higher utilisation of IT networks (within rail companies) and therefore costs, even if only existing data are made available.

Therefore cost elements also need to be taken into account. Data generation, processing and quality assurance have very tangible costs for all data producers. Data should therefore

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[1] A few examples of open data platforms of CER members: data.sncf.fr, data.sbb.ch, data.deutschebahn.com

only be distributed in a controlled manner in accordance with the interests of those who possess the data. Those in possession of the data should retain the right to adapt their pricing policies for data access/usage to fit their specific constraints.

General constraints

Railways face numerous potential partners with different business models and strategies. If data were made freely available to third parties, the resulting competitive impact would have to be considered:

—   If the business model is negatively affected by data transfers, railways should have the freedom to restrict data access/exchange.

—   Data exchange is accompanied by optimisation opportunities in other transport markets e.g. carsharing and ridesharing. Transport companies, especially those which have set up complementary forms of transport, should have the freedom to restrict the data transfer to competitors in order to support their own business cases instead of those of private competitors.

Opportunities and risks of open service / open data are assessed based on analyses and evaluations carried out by the responsible rail companies. They have to consider local or regional circumstances. The transfer of data to third parties must comply with the product and service portfolio and the strategy of rail companies as well. So the decision-making should be placed in the sphere of influence of railways. Questions of data exchange must be assessed individually with bilateral data usage agreements, whereby standardised, available licensing models can help to reduce the complexity.

It should be valued that also as part of the sector's commitment to transparency numerous national and international projects already exist with regard to the goal of data-based customer information provided by the rail sector itself. On a case-by-case basis, railways have decided to share some of their data with the public through "Open Data" platforms. By providing public access to this data, railways encourage the development of new products of interest to those who use railways.

With regard to the public consultation on building European economy, the questionnaire does not make a differentiation between different types of data. It is therefore difficult to provide the Commission with clear answers, which can vary based on the type of data.

Railways possess a great amount of data and distinctions between the different types of data should be made. The Commission should take this into account when evaluating the input received to the public consultation.

   i   *Timetable data*

The TAP TSI Regulation[2] already foresees that railway undertakings make available their static timetable data to each other and to third parties in a non-discriminatory way.

Timetable data and real-time data are, in principle, proprietary to railway companies or to organising authorities (e.g. regional authorities), which specify the usage rights of third

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[2] Regulation (EU) 454/2011

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parties. Railways must be free to make decisions about the extent of the data exchange in accordance to their digital business models and competition.

With regard to real-time data, railways should have the freedom to determine how and to what extent data is made available, with the ultimate decision being left up to individual railway companies and subject to individual contracts.

ii   Confidential data

Operational data and management data are classified as confidential data and must not be made available. This includes all operational and technical data collected by assets such as vehicles and infrastructure. All listed data categories, which are not yet provided as open service, must be classified as confidential data.

CER would like to highlight the need to protect the business secret (meaning commercial and industrial secrets[3]) and commercial freedom of enterprises, which can choose to conclude or not contracts.

Confidential business data – including the fare structures and pricing models data - must remain in the control of the company.

Machine- and sensor generated data

Switches, elevators and escalators at stations, locomotives, and freight cars are increasingly equipped with modern sensor technology, which allows predictive maintenance for rail operations. This is a high-priority opportunity for railways, as potential problems can be detected at an early stage based on big data and resolved before they can disrupt operations.

With regard to machine- and sensor generated data, there is a potential conflict of interest between users-of-machines (e.g. railway undertakings using rolling stock) and producers-of-machines (e.g. rolling stock, elevator, switch producers). In the current situation, producers-of-machines/manufacturers prefer to grant access to (and price) the data platform, not the technical interface of the sensors. Users-of-machines (railway undertakings) would prefer manufacturers to open the technical interfaces so as to enable "exclusive" and "real" access to raw data instead of access to a data platform, as it is a requirement for predictive and condition-based maintenance.

In the case of competitive market and B2B (like in the freight business), **raw data generated by sensors on rolling stock operated by railway undertakings should also be owned by railway undertakings as those producing the data.** Such raw data need to be protected as these represents confidential business data for railways. Such data belong to the industrial knowledge of companies and are sensitive information. Therefore, they need to be protected and not open to public and hence to competitors.

However, at the moment there is no viable and general solution to the question of ownership of raw data generated by sensors. For example: in a tender for telematics

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[3] Directive 2016/943 on the protection of business secrets shall be transposed by 9 June 2018: For the purposes of this Directive, the following definition apply: (1) 'trade secret' means information which meets all of the following requirements: (a) it is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; (b) it has commercial value because it is secret; (c) it has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret;

devices for freight wagons, railways buy the hardware and the technology. It is implicitly assumed that with the (telematics) technology, the data is also being purchased. As legal rules on data are absent, companies use contracts to deal with these questions.

Even though, railways are seeking access to data in order to develop new businesses, there is **no need for further regulatory measures (such as granting unconditional access to data) since there is no clear market failure.** Forcing a mandatory access to generated data is not an incentive for investment, as it would discourage data collectors to have better storage and collection processes.

2. Liability

After all, security and safety must stay an absolute priority for the railway environment.

With regard to safety-relevant systems, railways face clear liability rules as well as strict processes to authorise systems and reduce the risk of failure which are certified by external auditors (national railway authorities). These **same strict rules and standards apply to all systems which are safety-relevant, e.g. in the case of switches connected via the internet as a part of an all-IP infrastructure backbone.**

However, the question is how to ensure that a system "stays" safe after it has been authorised. Once a system is authorised, changes are not allowed till a new authorisation (i.e. in case of changes the safety-relevant system will stop completely). But updates are often needed for security reasons.

When opening up data, data producers must assess the risk of misuse of data. Data users have to prove a legitimate interest when asking for certain data. Liability for data provided by railways on "Open Data" platforms is regulated in the liability disclaimers and license agreements for each data set and data user. At this stage, this system has proven to work well.

3. Portability, interoperability and data standards

Railways have set up internal rules and standards with regard to retrieving and processing data when using ICT service providers such as cloud services. For example, these rules specify that the data shall be stored at the contractor in a data format which is retrievable and which can be processed by the buyer (railways). However, these are not per se obligatory for ICT service providers (e.g. if railways want to engage Amazon cloud). Instead, it is railways' responsibility to make sure that these standards are implemented. In this regard, introducing a portability obligation for cloud services would be welcome.

About CER

The Community of European Railway and Infrastructure Companies (CER) brings together more than 70 railway undertakings, their national associations as well as infrastructure managers and vehicle leasing companies. The membership is made up of long-established bodies, new entrants and both private and public enterprises, representing 73% of the rail network length, 80% of the rail freight business and about 96% of rail passenger operations in EU, EFTA and EU accession countries. CER represents the interests of its members towards EU policy makers and transport stakeholders, advocating rail as the backbone of a competitive and sustainable transport system in Europe. For more information, visit www.cer.be or follow us via Twitter at @CER_railways.