



2022 DAC Sector Statement

Digital Automatic Coupling - a key element for the digital transformation of the European railway system

This Sector Statement on the Digital Automatic Coupler (DAC) showcases the need and the advantages to roll-out this innovative device across the European railway system in an accelerated and concerted manner, presents the commitment of the European railway sector and calls the European Commission, the Member States and the European Union Agency for Railways (ERA) to action.

A political vision

The Sustainable and Smart Mobility Strategy 2020 sets out the EU vision for the transport system of the future and the action plan that will make it happen with sustainable, smart and resilient mobility. The main challenge for the European transport sector is to significantly reduce its emissions and to become more sustainable comprising the reduction of 55% greenhouse gases by 2030 and climate neutrality by 2050.

Greening mobility must be the driver for the transport sector to grow and digitalisation will become an indispensable driver for the modernisation of the entire system, making it seamless and more efficient.

A vision for the European railway system

In order to deliver these political objectives of greening mobility and climate neutrality, the railways need to strive towards a digital, automated and connected railway system. The Digital Automatic Coupler (DAC) opens the door to automation and digitalisation of railway freight transport by providing power supply and data communication on the freight entire train. The DAC is an

- **accelerator for railway freight transport** enabling a smart capacity increase of the network allowing longer and heavier freight trains as well as faster handling in terminals and marshalling yards;
- **enabler and innovation driver to replace manual processes** by automated solutions like automatic brake testing/control or train integrity proof and to **introduce modern services** like derailment detection, data for predictive maintenance and conditions of load like temperature measurement and tracking and tracing.

The DAC is not a simple upgrade programme for the rolling-stock for railway freight transport, it is the key element for the digital transformation allowing the **entire railway system** and society to benefit:



- improving **railway safety** by safer shunting processes for railway staff and other involved persons (e.g. in customer sidings);
- fostering **modal shift** from other modes of transport to rail;
- considerably **reducing the operational time** for shunting manoeuvres and freight train preparation compared to the current processes,
- providing up to 15 % **additional infrastructure capacities** for additional trains by increasing, among others, the length and weight of the freight trains within existing infrastructure limitations (less trains for the same tonnage);
- providing up to 40 % capacity increase in marshalling yards and terminals by faster handling of trains;
- stimulating the introduction of **ETCS Level 3** allowing moving-block operations with higher network capacity and moreover the elimination of cost-intensive track-side technologies such as axle counters and track circuits;
- **offering customers & shippers** of rail freight transport to integrate railway freight seamlessly into their digital supply chains. The availability of power and data lines using sensors and telematics applications will open up new opportunities e.g. load monitoring, condition-based maintenance of the wagons, as well as monitoring of safety-relevant aspects for operations.

Commitment of the European rail sector

- The European railway sector is fully committed to contribute to the **successful development and stepwise deployment** of the DAC until 2030 - upon the condition that appropriate funding is secured, the economic viability is given, a sound migration and financing concept is collectively developed, and mature technology is available to allow a rapid roll-out in the European countries concerned.
- The European railway undertakings and the European locomotive and wagon keepers are fully committed to proactively engage in the development and preparation of the **DAC deployment plan**, this includes fleet preparedness, retrofitting capacity, harmonisation of operational procedures, coordination, etc.).
- Based on the harmonised operational procedures, the European railway manufacturing industry is fully committed to **deliver ready-to-market products on time**, build up necessary cooperation within legal boundaries between manufacturing and preparing respective production capacities.
- The railway sector has already joined forces for the **European DAC Delivery Programme (EDDP) since 2020** and will additionally continue its **intensive cooperation** also under the **Flagship Area 5 of Europe's Rail JU** in articulation with the related System Pillar activities, including the harmonisation of operational rules and processes.
- The sector should aim at ensuring that any DAC delivery is carried out in a coordinated and synchronised manner, allowing for some flexibility in the roll-out for specific cases (e.g. different track gauge) where a DAC delivery will be conditional upon a case-by-case cost benefit analysis to determine whether



necessary conditions are met, amongst them economic viability being given, appropriate funding being secured, a sound migration & financing concept plan, and a mature and cost efficient technology being available, among others.

The signatories of the DAC Sector Statement call

the European Commission

- to support the European railway sector in **promoting** the scheduled implementation of the DAC towards national ministries in the event of a sound migration plan and clear economic viability;
- to ensure all necessary funding with the highest possible rate and a non-discriminatory access to the funding. This should enable a pan-European roll-out of the DAC based on a sound, profound and commonly agreed CBA, the European DAC Investment Plan and the DAC deployment plan; in particular for the procurement, distribution and installation of standardised digitalisation equipment and the couplers for wagons, locomotives and on-track machines and necessary infrastructure adaptations as well as compensation of additional operational expenditures;
- to set up - in close cooperation with the European railway sector and in coordination with the EU Member States concerned and the European rail sector - the European structures needed for the DAC roll-out facilitated by an **EU DAC deployment management**;
- to support the European railway sector by **aligning European legislation** to the needs of a smart and efficient roll-out of the DAC, e.g. a pragmatic approach for vehicle authorisation of the upgraded fleet.

the EU Member States

- to **support and enable the funding of the pan-European roll-out of the DAC** to accelerate the break-even point by taking into account the societal benefits and enhance DAC deployment by every rail freight undertaking to contribute to the European structure needed for the DAC deployment. Funding should be equal for all EU Member States concerned, ensuring a non-discriminatory access to the funds, which guarantees that the competitive balance of individual railway undertakings and transport modes is maintained.
- to support the European Commission and the European railway sector in their efforts to implement any DAC implementation in all European countries concerned.
- to continue therefore, advocating the Ministerial Declaration “Rail Freight Corridors: The Future of Rail Freight in Europe”, signed at the Ministerial Conference in Berlin on 21.09.2020, in particular the commitment to the DAC.
- to **ensure that the necessary infrastructural preparations and adaptations** are undertaken (incl. integration into respective financial plans, legal



framework or contract), based on the DAC deployment plan delivered by the European DAC Delivery Programme.

the European Union Agency for Railways

- to proactively engage in the development of the authorisation strategy to ensure that the vehicle authorisation framework facilitates an accelerated and efficient DAC roll out for the existing rolling stock (incl. wagons, locomotives, on-track machines);
- to ensure completing all relevant DAC related requirements in all concerned Technical Specifications for Interoperability (TSI) and publish all relevant harmonised Acceptable Means of Compliance (AMoCs) before deployment (including technical and operational specification) in a practicable and realistic manner.

PKP and CD support all initiatives for developing the railway sector. It is acknowledged that for Czech railway undertakings associated in the railway sector organisation (ZESNAD.CZ), Czech association of railway wagon holders and operators (SPV) and for PKP uncertainties remain regarding the deployment of DAC. Technical maturity, the financing, the degree of funding, the planning, the authorisation of retrofitted vehicles, the viability and the acknowledgement of national specificities remain open points that shall be tackled and closed before of the start of implementation. The same applies to the business case where benefits due to capacity increases need to be adapted as they will materialise only if infrastructure upgrades are carried out before. On the cost side, the scrapping and replacing of locomotives and wagons, which cannot be retrofitted, must among other things be taken into account. All above mentioned issues have to be set and clarified before starting the implementation and before official involvement in implementation process of PKP and CD.