

DAC: Ensuring rail freight can play the role it deserves in Europe

Heiko Fischer, President of the International Union of Wagon Keepers (UIP), explores why and how digital automatic coupling (DAC) is an imperative solution to assist Europe, and the rail freight sector, in achieving Green Deal objectives.

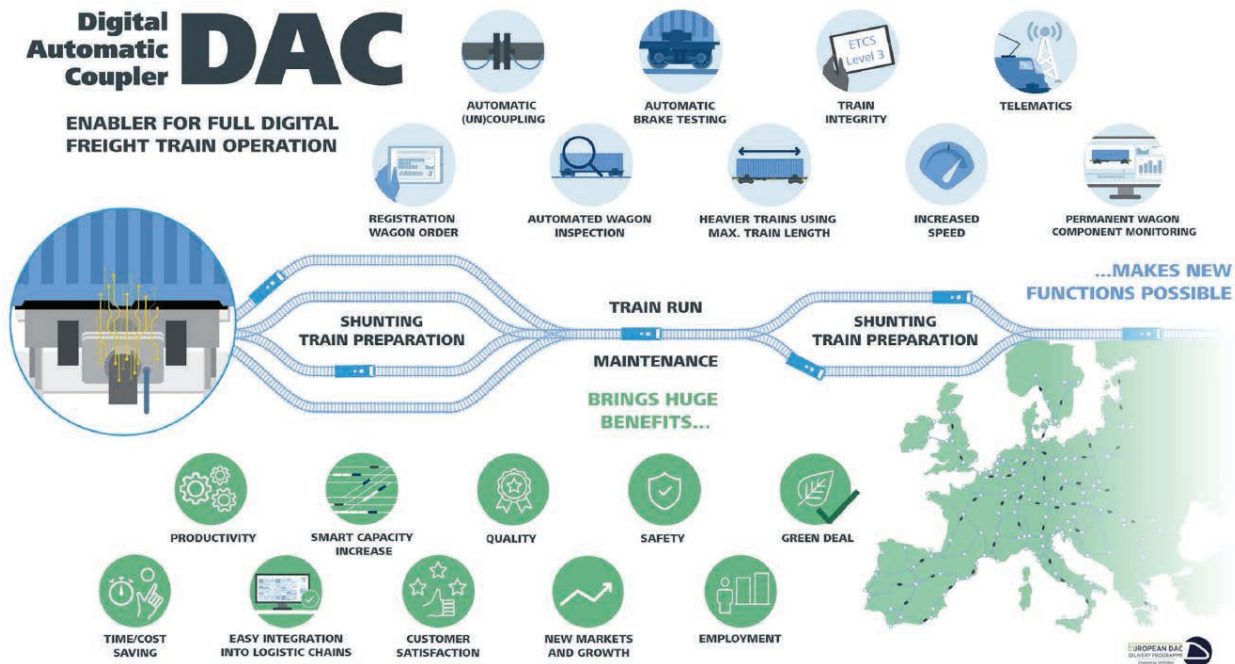


...investing in the future of the rail freight sector is the linchpin to successfully change the modal split and effectively tackle climate change.”

Why?

As freight volumes will continue to grow, with the knowledge that rail is by far the most environmentally friendly mode of transport, investing in the future of the rail freight sector is the linchpin to successfully change the modal split and effectively tackle climate change. Freight trains emit up to nine times less CO₂ and particulate matters than road transport. In fact, even if road transport reduces its externalities, rail freight will continue to consume six to seven times less energy than road transport.

In its Sustainable and Smart Mobility Strategy, the European Commission (EC) targets an increase of rail freight transport in Europe of 50 per cent by 2030, bringing rail's share to 30 per cent of the modal split. Achieving such an ambitious objective in less than a decade requires a system transformation and a huge technological leap. Some may even call it the “Freight Revolution”. The future of transportation needs more rail freight, and we need to revolutionise the way we work.



Digital automatic coupling (DAC)

In this context, the introduction, deployment and speedy rollout of digital automatic coupling (DAC) at a pan-European level will be the game changer. The current works of the European DAC Deployment Programme (EDDP) thus far structured under Shift2Rail and today under its successor programme, Europe's Rail Joint Undertaking, represent both an incredible challenge, but also a unique opportunity to ensure rail freight can play the role it deserves as the backbone of goods mobility across Europe.

Rail freight must dramatically boost its productivity, increase its efficiency, simplify its offer, and enter the age of digitalisation and automation without reserve. A key reason why Europe has been lagging behind almost all other larger rail freight markets is the antiquated and outdated way freight cars are coupled, having a tremendously negative effect on transport times, reliability and cost efficiency. Every other major rail freight market in the world has enjoyed the benefits of an automatic coupling of one kind or another for a long time – a technological leap in rail freight transport in Europe is obviously long overdue.

The rail freight community needs to address key challenges on the path to more competitiveness, attractiveness, flexibility, and reliability. Even if a large-scale digitalisation project like the DAC won't 'solve it all', it's the essential building block of a repositioning of rail freight as the future transport mode of choice. The whole sector will finally have the tools to re-

engineer its products, operations and service delivery. If all stakeholders interested in Europe's rail freight come together and rise to the occasion the 'rail freight revolution' may just finally happen.

Bringing rail into the 21st century

At UIP, the representative of independent wagon keepers, we are not afraid of the challenges the introduction of a costly new technology will mean for our industry. We much rather fear the consequences a wait-and-see policy, and further procrastination, would mean for rail freight's modal share. Deploying DAC across Europe provides huge potential to increase the capacity of the rail freight network, making operations more efficient, connecting all players digitally and enabling real-time information to flow freely between participants of the transport chain. With such change, we will finally bring rail as a transport mode, into the 21st century.

While there are still many aspects to be defined and many hurdles to overcome, the benefits the DAC as both an enabler, and a driver, of innovation can bring are clearly visible, including:

- 1) **For policy decision makers:**
 - a) Address climate change
 - b) Fundamentally support the essential shift of freight transport from road to rail
 - c) Eliminate dangerous working conditions and address future labour shortages »



The future of transportation needs more rail freight, and we need to revolutionise the way we work.”



Deploying DAC across Europe provides huge potential to increase the capacity of the rail freight network.



DR HEIKO FISCHER

Heiko began his professional career in 1995 as Head of Office of the Chairman of the Executive Board of VTG Vereinigte Tanklager und Transportmittel GmbH. From 2001, as Head of the Rail Division of VTG-Lehnkering AG, Heiko was responsible for Sales, Market Development and Marketing, the TRANSWAGGON Division and the acquisition and integration of the Brambles European Rail Division. As Chairman of the Executive Board of VTG AG from May 2004 to June 2021, Heiko was responsible for the spin-off and sale of VTG from the TUI Group, the IPO in 2007 and several phases of international growth.

2) For rail stakeholders:

- a) Open the door for comprehensive automation and digitalisation of rail freight transport
 - b) Increase flexibility and reliability of the rail system to address new freight markets
 - c) Develop innovative business models and customer services
 - d) Integrate easily into multimodal logistics chains.
- Delivering a final open design of the selected model, based on use-case considerations, and its interoperability and safety requirements for incorporation into the Technical Specifications for Interoperability (TSI)
 - Identification of necessary add-on automation components and systems integration
 - Identification of migration plans compatible across Europe as well as the necessary resources to match them
 - Communication and dissemination to facilitate DAC deployment in Europe.

The European DAC Deployment Programme

The learnings from the limitations of similar rollout projects in Europe, such as ERTMS or the noise reduction story, led the whole rail sector to launch the European DAC Deployment Programme (EDDP) as a joint initiative with a holistic approach under the umbrella of Europe's Rail Joint Undertaking. With more than 230 experts from 19 countries and 65 different organisations involved, the EDDP is a unique opportunity to collectively drive the definition, testing and deployment of technological and operational solutions related to DAC.

By means of a focused and inclusive system approach, the objectives of the EDDP cover:

- Selection of an open, fully functional, operationally tested, safe, sustainable European DAC as an open model ready for industrialisation and deployment (assessments of available solutions, testing and demos)

Using Europe's Rail Joint Undertaking as an enabler, all the parties involved aim at ensuring technology and oversight independence, with a major role for the railway operating community as the future customer of the operational changes to meet shippers' and forwarders' expectations.

A perfectly prepared migration strategy, a sense of priority and the strength of unity within the rail and logistics sector, as well as consequent public funding to overcome many of the shortcomings of the rail system of the past, will be decisive for the success of the EDDP.

DAC is a milestone on this path. The future belongs to intelligent freight trains, and at their heart – digital automatic coupling (DAC). By deploying DAC, we can lay the foundations for significantly faster and more efficient processes, and open the door to comprehensive automation and digitalisation of rail freight transport. Introducing DAC throughout Europe must be

pursued vigorously, accelerating the development phase, ensuring the necessary financing for a Europe-wide roll-out, and finally drawing up a European roadmap for migration to DAC.

In addition, UIP will continue to advocate for the speedy introduction and deployment of DAC as a system transformation project dedicated to rail freight transport and consolidating the sector and the European Union's commitment to shifting freight to rail, in line with the European Green Deal targets.

Conclusion

A sense of urgency, instilled by growing global protests to take action to mitigate climate change, has become part of our daily lives. The coronavirus pandemic has hit us hard, and brought an acute awareness of how crucial it is to ensure the resilience of the supply chain. The world needs to recover, but it also needs to adapt.

As Benjamin Franklin so aptly observed: "Change is the only constant in life. One's ability to adapt to those changes will determine your success in life". The inherent nature of the rail sector and the way in which it has evolved over time in Europe into the complex and fragmented system we know

today, makes it somewhat difficult to bring about change. Many players sit at the table, and changing even one thing has wide-spread repercussions, let alone technical challenges. A step change such as the introduction of DAC needs unity and commitment from each and every one.

"Old habits die hard," but continuing the way we have for the past 100 years is simply not an option. We always talk excitedly about the future and the need for innovation, but we must admit that taking a step forward also means having the courage to step away from a past that is holding us back.

DAC is the game-changer to deliver on the necessary transformation to fully digitalised rail freight operations in Europe, and on the Green Deal, as well as Digitalisation Package objectives. DAC is also the cheapest investment for Europe to provide the necessary increase in capacity in all continental EU Member States, and its neighbours, at the same time.

We must catch the train to the future; we must deliver on digitalisation; we must dare to imagine a completely new European rail freight system with DAC at its core. Let's come together as the rail freight sector and get it done. Now! 🚂



By deploying DAC, we can lay the foundations for significantly faster and more efficient processes, and open the door to comprehensive automation and digitalisation of rail freight transport."

DAC is the game-changer to deliver on the necessary transformation to fully digitalised rail freight operations in Europe.



© Deutsche Bahn AG