



# Railways are the first choice!

## Manifesto of Future Mobility

The history of humanity is also the history of mobility. People have always striven to improve capabilities for transporting people and goods.

Invention of the wheel made it possible to carry loads over long distances. A later innovation came some 200 years ago with the invention of the railway. Rail transport became the fastest, safest, the most reliable and the most economical land-based transportation mode - a revolutionary system still today, even as demands and requirements for mobility are changing.

Increased demand for mobility results in many challenges all over the world: far too much car traffic on roads, too many emissions, too much usage and waste of resources and energy as well as too many injuries and fatalities.

Many of these challenges can be well addressed by modern railway systems in the centre of a multi-modal mobility approach. Our railways keep cities and regions moving and they enable economic development, create employment, connect places and people. Shared and safe journeys, enabled by highly sophisticated rail traffic control systems are available.

**With this “Manifesto of Future Mobility” ERRAC makes the case that dedicated and focused rail research and innovation will show the way forward to safe, sustainable and seamless multi-modal mobility in Europe with railways as its backbone.**



The European Rail Research Advisory Council (ERRAC) was established in 2001 to serve as a much-needed single European body with both the competence and capability to help revitalise the EU's rail sector and make it more competitive by fostering innovation and guiding research efforts at European level. Since its foundation, ERRAC has managed to gather all major rail stakeholders into its ranks. ERRAC covers all forms of rail transport, ranging from conventional, high speed and freight applications to urban and regional services.



### Railways are sustainable

Rail is the most efficient and is recognised as the least climate affecting way to transport large masses over land and makes the best use of public space when compared to the passenger and freight capacity of other modes. Today's railway systems are sustainable as their propulsion is almost entirely electrified. The low friction between steel rail and steel wheel ensures the lowest energy consumption of all land-based transport systems. Rail thus is one of the most sustainable, comfortable, and safe modes of transport.



### Railways are inclusive

Railways can be used by everyone, whether young or old, including by people with reduced mobility. Rail users do not need a driver's licence. Railway systems connect all the cities and regions of Europe. If public transport is the backbone of urban mobility, railways can be considered its beating heart. Whether for passengers or for any kind of freight, the railway system is available for affordable and reliable transport.



### Railways are individual

Already today passengers can choose from a host of services providing seamless and convenient travel. Passengers are starting to enjoy more on-demand transport services and a tailor-made user experience. Travelling by rail turns travel time into quality time.



### Railways can be the backbone of multi-modal transport

Urban and suburban mass transport, most bulk and long-haul freight transport, as well as long-distance intracontinental transport, should be executed using railway systems. The advantages of railways are also valid for regional and national destinations. To provide door-to-door mobility, rail-based services can be supported for the first and last mile by combined mobility, preferably using shared, automated and electrified vehicles.

To consolidate and improve on these inherent advantages, railways must harness the benefits of **new technological breakthroughs, notably in digitalisation and automation**, to provide even more attractive and affordable services to passengers and freight customers. Collaborative research is essential to developing and delivering these innovative solutions.

Building on the results of its predecessor (Shift2Rail) the new research Joint Undertaking Europe's Rail will accelerate the evolution and transformation of the rail system and increase rail's market contribution, fostering the mobility of European citizens and protecting the natural environment. Yet more investment will be needed to maximise the effective potential of the sector.

**ERRAC strongly recommends that policy makers, regulators, and governments throughout Europe recognise railways' essential role within the overall transport mix, and support its enhancement for the benefit of the environment and of all the citizens of Europe. This includes unleashing the innovative potential of the rail sector by supporting and resourcing increased research and innovation at a European level.**

ERRAC has produced for this purpose a series of fundamental reference documents: The "ERRAC 2050 Vision", the "ERRAC 2030 Research & Innovation Priorities" as well as the "Rail Strategic Research & Innovation Agenda" (SRIA).