



## UNIFE R&I ACTIVITIES



UNIFE has an extensive and diverse experience with European research and innovation (R&I) projects. During our 30 years of operating in Brussels, this association has served as both an advocate for increased EU funding for rail research and as a partner and coordinator of dozens of projects dealing with various railway subsystems such as rolling stock, infrastructure, signalling, energy, freight and more. We are actively involved in the **European Rail Research Advisory Council's** (ERRAC) secretariat, our sector's European Technology Platform and a trusted partner of the **European Commission**.

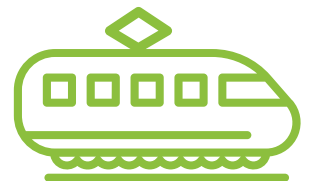
Based on the successes of Shift2Rail, UNIFE advocated for the establishment of its successor – now known as the **Europe's Rail Joint Undertaking** (EU-Rail) - within the framework programme for Research & Innovation **Horizon Europe** 2021-2027. EU-Rail was officially launched at the end of 2021, with a budget of roughly €1.2 billion after its official regulation was adopted by **the Council of the European Union**. At the present, 12 UNIFE members are involved in the Joint Undertaking as Founding Members.

# € 483 174 208

Total value of European rail R&I projects with UNIFE involvement since 2002

### Regarding rail R&I, UNIFE seeks to:

- ▶ **Advocate** for sufficient European funding for collaborative research;
- ▶ **Advise** members on all European Level R&I opportunities, including providing relevant information on Horizon Europe, Europe's Rail and other R&I programmes concerning for instance satellite technologies, batteries, cybersecurity and digital applications
- ▶ **Coordinate** EU R&I projects essential for the European Rail Supply Industry;
- ▶ **Facilitate** discussions between stakeholders interested in setting up consortia;
- ▶ **Represent** the rail industry within ERRAC and foster communication between members and railway undertakings, infrastructure managers and academia.



### 94 M €

Total Value of UNIFE Shift2Rail projects with the participation of UNIFE



### 27

Number of Shift2Rail projects where UNIFE is involved



### 14

Number of Shift2Rail projects coordinated by UNIFE



### 73%

UNIFE success rate (proposals selected/proposals submitted) in Shift2Rail



## UNIFE R&I PROJECTS



**DAYDREAMS** (Development of prescriptive Analytics based on Artificial Intelligence for iAMS) is a project within Shift2Rail's 3rd Innovation Programme (IP3). It started its activities in December 2020.  
**Learn more:** <https://daydreams-project.eu/>



**RECET4Rail** (Reliable Energy and Cost-Efficient Traction system for Railway) is a project under S2R JU's 1st Innovation Programme (IP1).  
**Learn more:** <https://recet4rail.eu/>



The **GEARBODIES** project, which started in December 2020, seeks to develop new methods and technology for the inspection of new materials in carbody applications, as well as to employ innovative approaches for developing novel concepts with enhanced lifetimes for key running gear components.  
**Learn more:** <http://www.gearbodies.eu/>



**RIDE2RAIL** is a project directly linked to S2R JU's 4th Innovation Programme (IP4). The project started in December 2019 and works to develop solutions and tools that will facilitate the efficient combination of ride-sharing and scheduled transport services - for example, bus and rail.  
**Learn more:** <https://ride2rail.eu/>



**IN2ZONE** (The next generation of railway transition zones) is a Shift2Rail Innovation Programme 3 (IP3) project that seeks to enable infrastructure to boost the economic viability, sustainability and resilience of the European rail network.  
**Learn more:** <https://in2zone.eu/>



**Safe4Rail-3** (Advanced safety architecture and components for next generation TCMS in Railways) is a Shift2Rail IP1 research project that seeks, in collaboration with the Shift2Rail CONNECTA-3 project, to increase the flexibility and reliability of the Train Control and Monitoring System (TCMS) communications.  
**Learn more:** <https://safe4rail-3.eu/>



**IP4MAAS** is a project under S2R JU's 4th Innovation Programme (IP4). The project was launched in December 2020. IP4MAAS will assist IP4 projects in demonstrating the technologies at an unprecedented level at 6 different locations in Europe and with the cooperation of more than 10 transport operators.  
**Learn more:** <https://www.ip4maas.eu/>



**SILVARSTAR** (SoL Vibration and AuRalisation Software Tools for Application in Railways) is a 2-year collaborative project that fits into the "Cross-Cutting Activities" category of Shift2Rail.  
**Learn more:** <https://silvarstar.eu/>



**NEXTGEAR** (NEXT generation methods, concepts and solutions for the design of robust and sustainable running GEAR) is a Shift2Rail Innovation Programme 1 (IP1), which saw its activities commence in December 2019.  
**Learn more:** <https://nextgear-project.eu/>



**STREAM** (Smart Tools for Railway work safety and performance iMprovement) is a S2R JU IP3 project dedicated to delivering a resilient, consistent, cost-efficient and high capacity European rail infrastructure.  
**Learn more:** <https://streams2r.eu/>



**OPTIMA** (Communication Platform for Traffic Management Demonstrator) is a Shift2Rail Innovation Programme 2 (IP2) project began its work in December 2019.  
**Learn more:** <https://www.optima-project.eu/>



**TRANSIT** (TRAIn pass-by Noise Source characterization and separation Tools for cost-effective vehicle certification) is a research and innovation project being conducted within the wider S2R JU's "Cross-Cutting Activities".  
**Learn more:** <https://transit-prj.eu/>



**RAILGAP** (RAILway Ground truth and digital mAP) is a Horizon 2020 project that started in January 2021. It is tasked with developing innovative High Accuracy, High Precision Ground Truth and Digital Maps, essential elements of an EGNSS train positioning system and a Validation & Verification Environment.  
**Learn more:** <https://railgap.eu/>



**5GRAIL** is a Horizon 2020 EU-funded project that consists of eight Work Packages and was organised to validate the first Future Railways Mobile Communication System (FRMCS) specifications by developing and testing prototypes for the technology's ecosystem on both trackside infrastructure and on-board use.  
**Learn more:** <https://5grail.eu/>



Learn more about our research activities from our website!



[www.unife.org/activities/research/](http://www.unife.org/activities/research/)



@UNIFE



UNIFE



[www.unife.org](http://www.unife.org)