



# ENERGY OPTIMIZATION



MEMBER OF  
BASQUE RESEARCH  
& TECHNOLOGY ALLIANCE



## ALL ENCOMPASSING OPTIMIZATION FOR RAILWAY SYSTEMS

Energy accounts for a significant amount of the overall costs of railway systems. Minimizing energy consumption is a complex task, as there are many different factors involved. A wide variety of vehicles circulating over different types of infrastructures with demanding operations must coexist while maintaining high levels of safety and availability. Therefore, new holistic approaches are needed. You can significantly reduce your operation costs with our energy optimization technologies.



## AD-HOC SOLUTIONS

Energy-efficient Driver Assistance Systems (DAS), software tools to support decision making for the minimization of energy-related costs, energy modeling, High-efficiency power converters and actuators. We also offer consultancy services about your energy requirements, from a specific asset up to the an all encompassing global.





## KNOWLEDGE AND EXPERTISE

- System modelling and simulation (vehicles, infrastructure and operations) for support with decision making.
- Speed-profile optimization algorithms for efficient driving.
- Positioning algorithms for precise real-time operation.
- High-power high-efficiency electronics with intrinsic fault tolerant capabilities (e.g. supply of ancillary equipment in remote locations).
- On-board embedded electronics.
- Real-time energy consumption monitoring.
- Electric consumption optimization.



## PARTNERS & CUSTOMERS



## PROJECTS

