The Research & Development Center



AUTOMOTIVE



RAIL



AEROSPACE



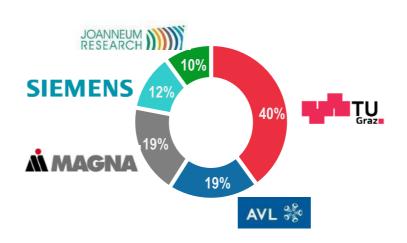
Founded: 2002

Staff: 270

Operating Income: 22 Mio. EUR

Location: Graz

Shareholders





Dr. Jost BernaschManaging Director

Prof. Hermann Steffan Scientific Director



CHALLENGES OF THE OPERATORS



High Density Mainline

- Capacity increase on existing infrastructure
- Guaranteed Availability
- Mixed traffic
- Interoperability
- High safety/security requirements

Low Density Lines

- Low Total Costs of Ownerships
- ROI
- Reduction of equipment (on track & vehicles)
- Capacity optimization (ondemand)
- High safety/security requirements

Freight

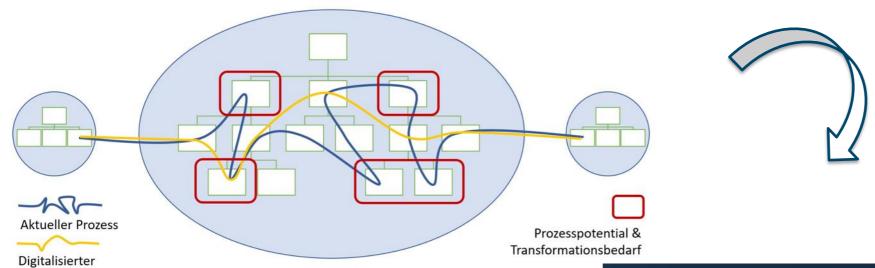
- De-industrialization
- → transported goods structure changes (smaller packages, shorter distances)
- Energy savings
- Interoperability
- Low Noise Transport
- High safety/security requirements
- Asset Intelligence (Wagon electrification)



Ende-zu-Ende Prozess

Why and what do we automate? digitalize?



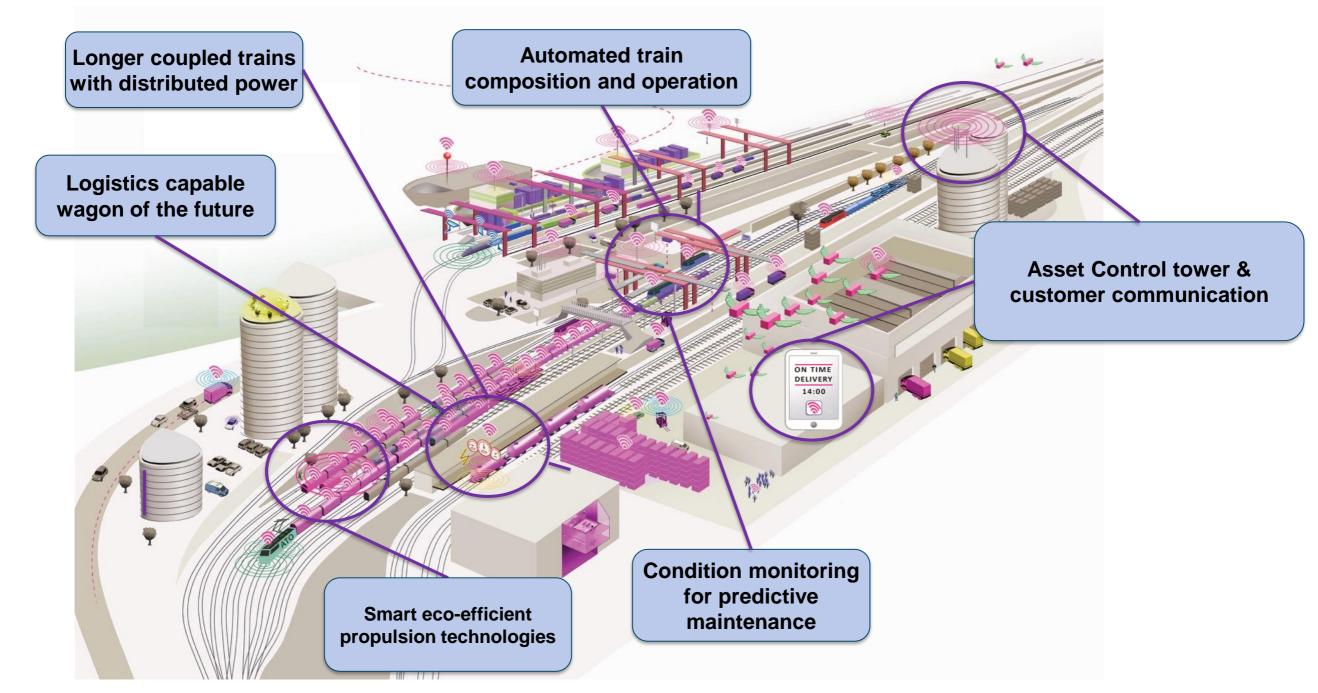




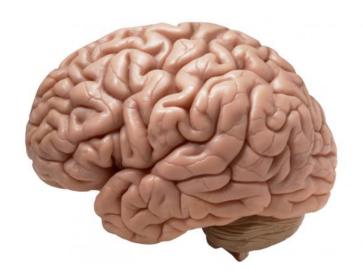




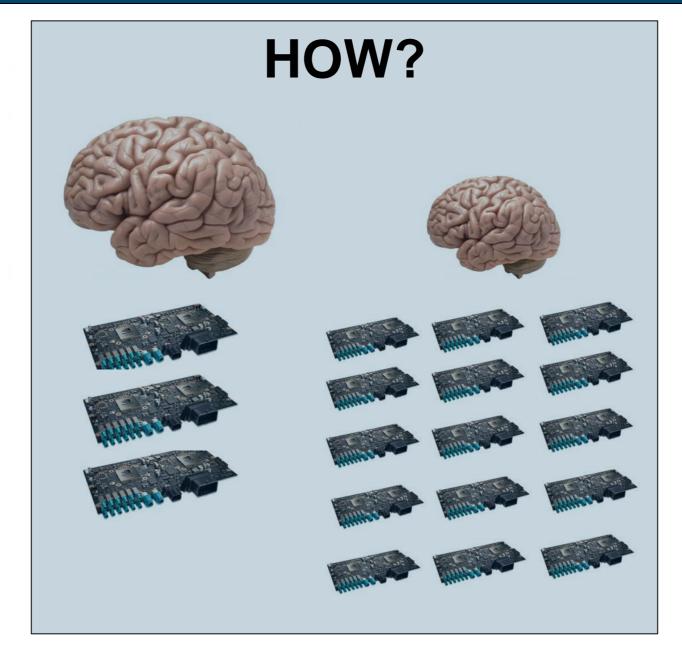




GRADES OF AUTOMATION













Distributed power for Longer Trains

Testing of push-pull operation btw. Rotenburg & Buchholz

Automated couplers

Demos in Europe (Switzerland,Germany and Sweden)

Selected IP5
Demonstrators

Condition-based and predictive maintenance

Live-data from locomotives fleet integrated in asset dashboards

Automatic Train Operation in Freight

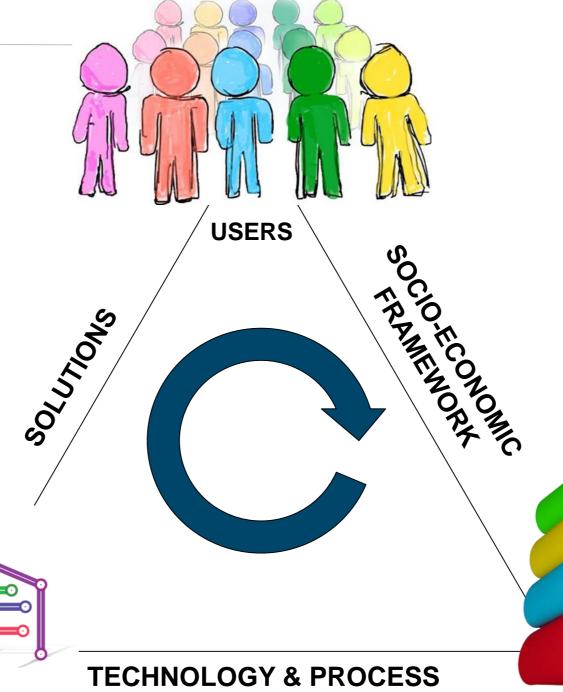
Plug & Play GoA2 demonstrator currently in request for testing authorization

Intelligent Video Gates

Installation of gate to demonstrate detection of incoming and outgoing assets

It works only together





OPERATORS

MANAGEMENT

REGULATORS & POLICY MAKERS

REGULATIONS