



Jernbane-
direktoratet

Norwegian Railway directorate

June 2018 – Norwegian tunnel safety conference

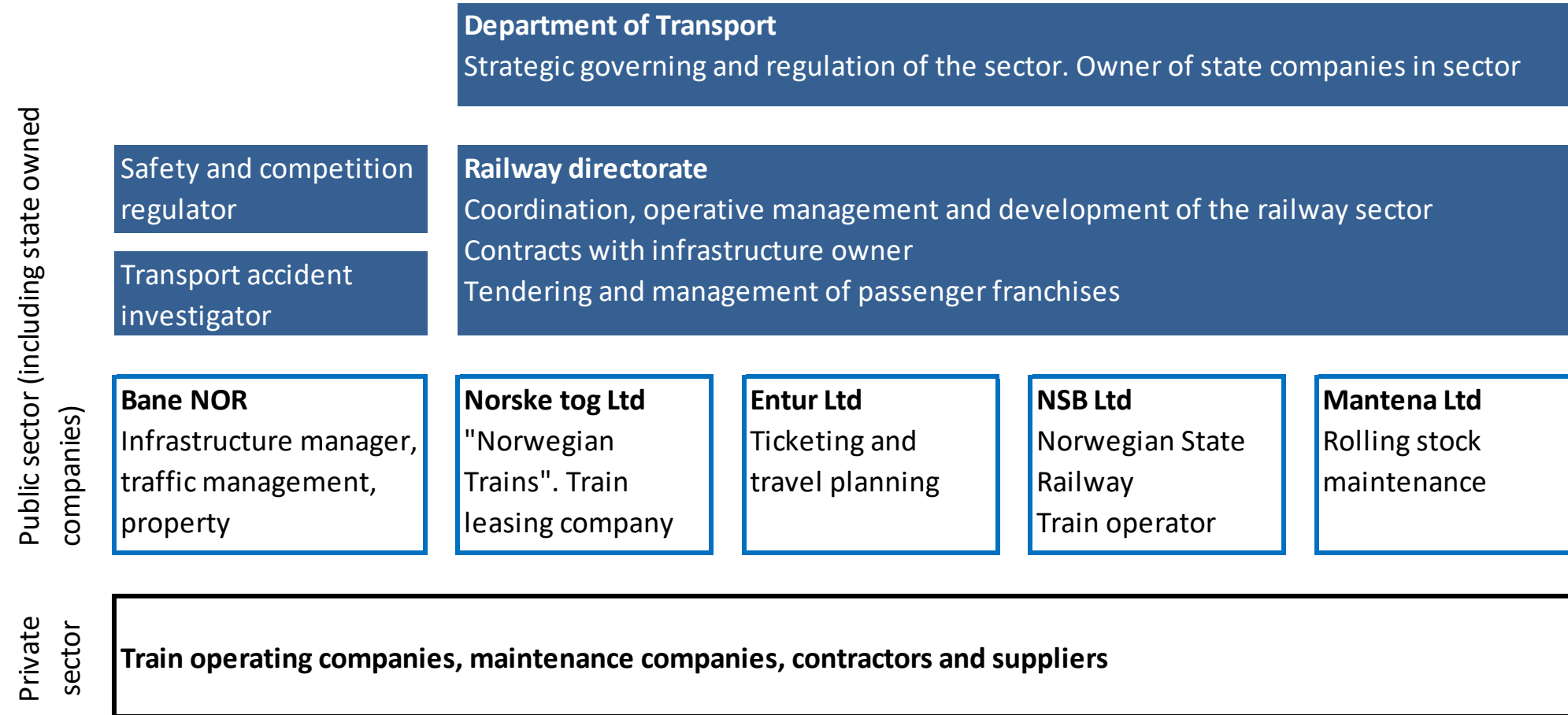
Our role and mission

«The Railway Directorate shall ensure that the railway sector is operated as efficiently, safely and environmentally friendly as possible in the interest of passengers, freight transport and society in general»

«To initiate, develop and present proposals concerning the development of the railway and public transport system in light of the transport needs identified by the Railway Directorate»

The railway reform

Norwegian railway sector from 2017



The railway reform objective

- Government White Paper 2015 states:
 - Increased customer focus
 - More efficient sector
 - Better coordination and management of the sector
 - Less political «interference» in details



Our responsibilities

The Railway Directorate's responsibilities

- Developing the future railway in Norway. This includes
 - infrastructure
 - passenger rolling stock
 - railway specific skills
 - other necessary inputs to facilitate a good train service
- Strategic documents and plans, input to the National Transport Plan, programme for the implementation of railway enhancements planned in the NTP
- Contracts with Bane NOR for the operation of existing infrastructure and development of new infrastructure

The Railway Directorate's responsibilities

- Competitive tendering of passenger services and contracts with Train Operating Companies
- Contribute to a coordinated total public transport offering including through ticketing with other modes
- Contribute on behalf of the state in «city environment» and «city growth» agreements with local authorities (focus on sustainability)
- National Railway Academy and National Railway Museum

Managing and coordinating the sector

«The Railway directorate is, on behalf of the state, responsible for holistically managing and coordinating of the railway sector»

Safety and preparedness in the rail sector

- Safety and security management is the individual operator's responsibility.
- Safety and safety management includes emergency preparedness, social security and security related to unwanted incidents in related to rail transport.
- The Directorate requires requirements for the sector's level of safety and development.

Safety and preparedness in the rail sector

Bane NOR is in charge of:

- Coordinate work on safety and preparedness within the sector.
- Responsibility for handling sensitive information related to safety and preparedness in a proper manner
- Responsibility for establishing and maintaining an overview of potential risks on the track
- In case of excessive risk, measures must be taken as a basis for national security and efforts to strengthen this.

Bane NOR

- The Norwegian Railway Authority provides Bane NOR with safety approval as infrastructure manager for the national rail network, including its own rail traffic to operate and maintain the infrastructure.

Directorate for Civil Protection guide

The guide is based on:

- Design
- Renewal
- Operation and maintenance



ERTMS – changes the railroad in Norway

ERTMS changes the railroad in Norway

- Increased safety as the train is continuously monitored
- The signalling system itself does not limit the capacity and punctuality
- Information about objects and operations
- A system across the country
- The agreements are signed
- Delivery from 2022-2030

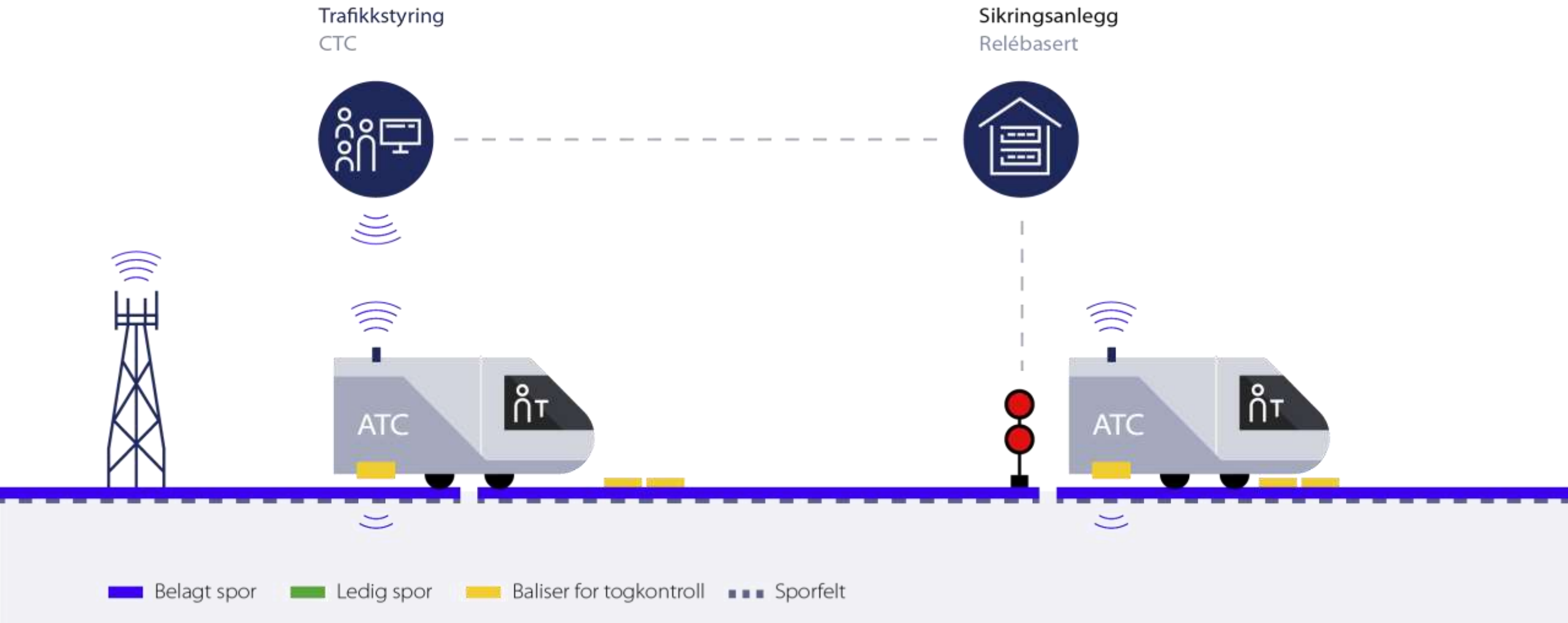


ERTMS is an important decision for Norway

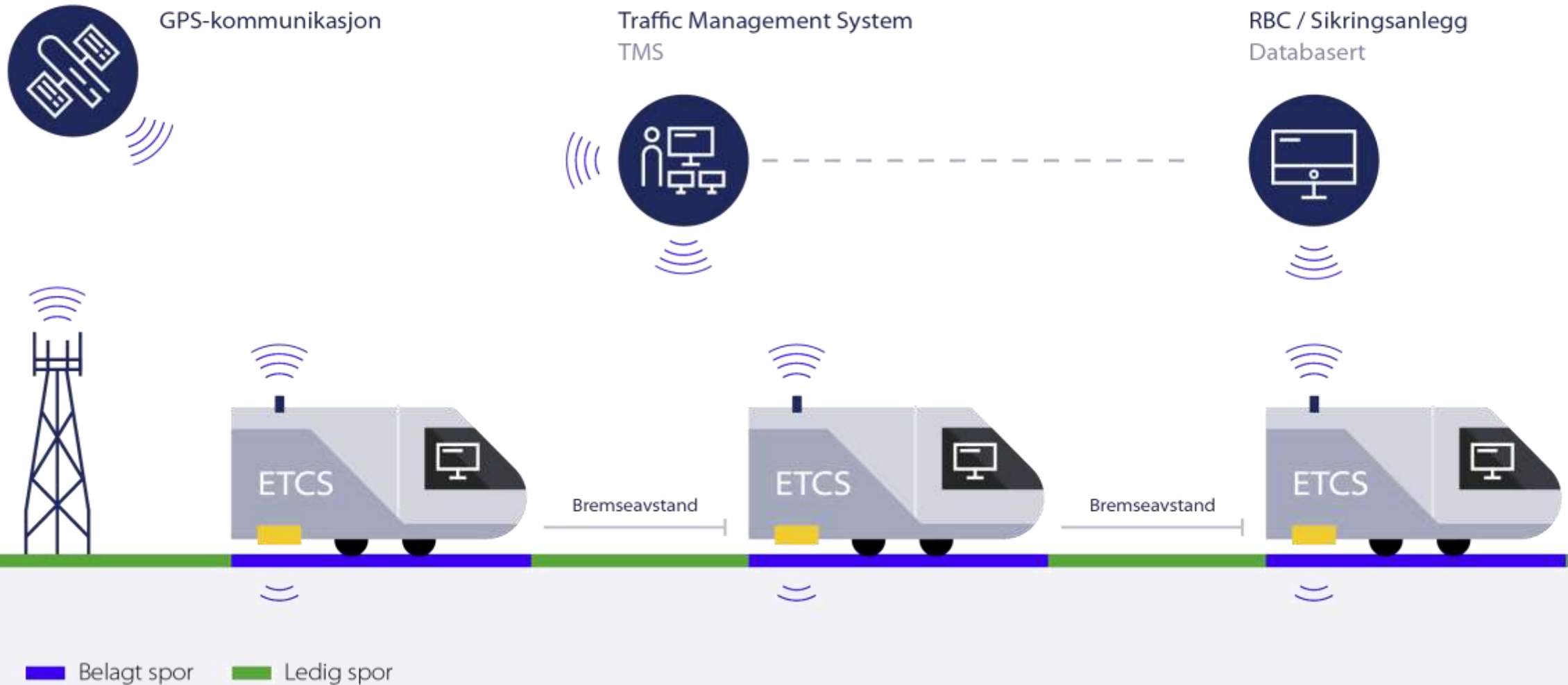
- Safety
 - Continuous monitoring of speed and position
 - Technical barriers to all trains
- Need for renewal
 - No more spare parts
 - End of service
- Standardization
 - Limit the number of variants
 - Simplify training
- Modern foundation
 - Important part of the digital railroad
 - Fewer objects in the track give fewer errors and simplify maintenance



Current signalling system



In the future: ERTMS L3 with ATO for optimal driving - computer controls computers f)

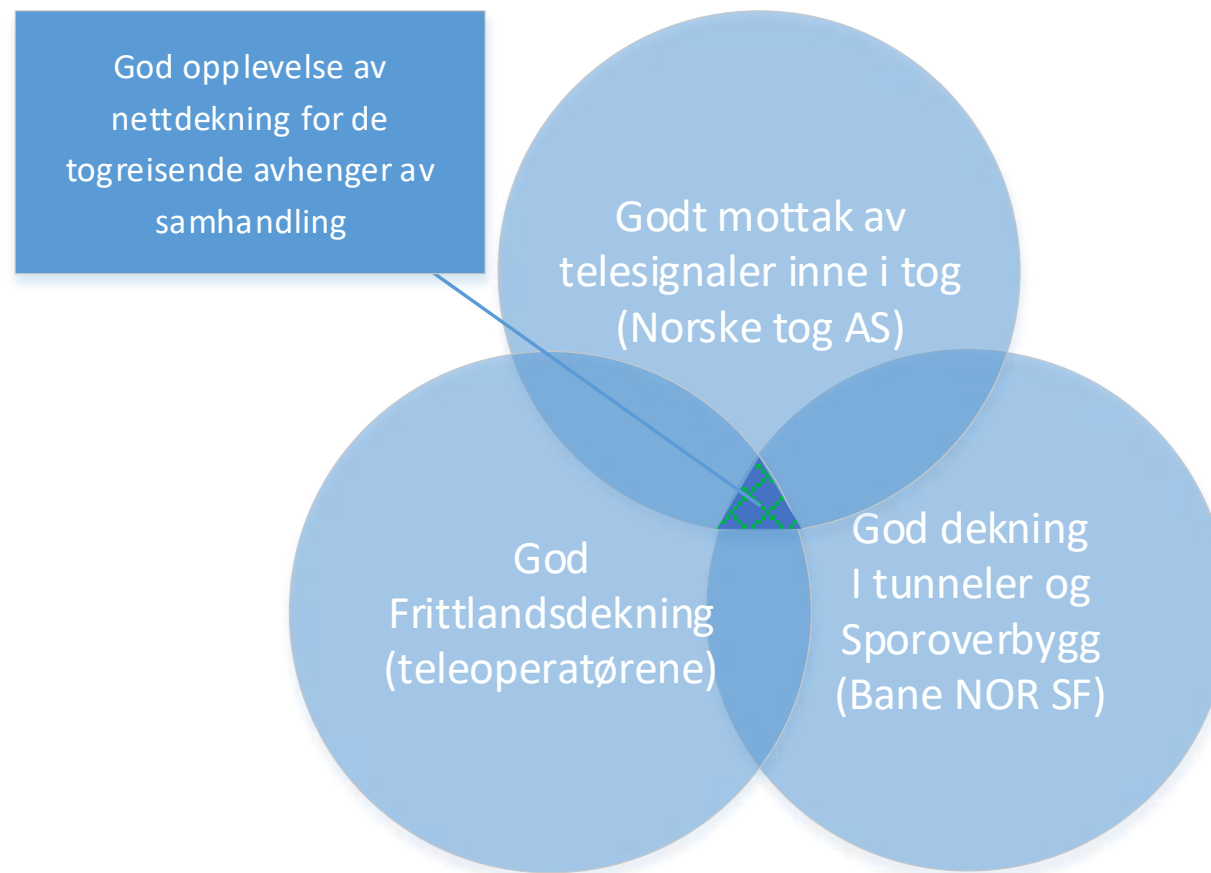


Internet/web access

Internet/web access



The necessity of interaction



Signals must enter tunnels antenna cables (MIMO-technology)



- Holmestrand – nedlagt veitunnel
- Illustrasjon: Berit Sømme

