11th PRIME Plenary
16 November 2017
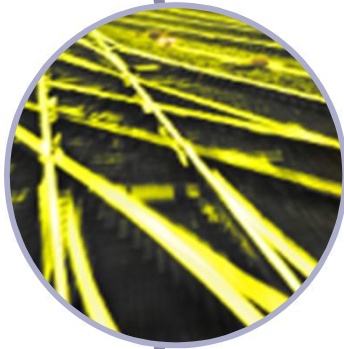
Interoperability – Possibilities and limitations
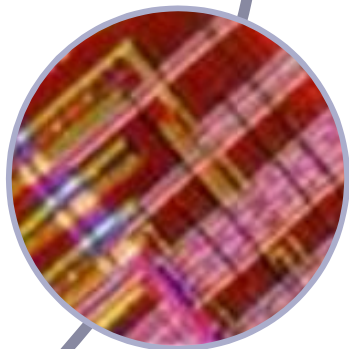
SBB, Georg Schmalz

SBB CFF FFS

Agenda.

SBB Infrastructure part of the European IOP-rail network.

On-going work with challenges.

Saving cost in interoperabilty.

SBB is committed to interoperability.

→ **Swiss rail network part of the European interoperable rail network.**

→ **Promoting rail freight corridors.**

→ **Investments to the benefit of Europe.**

→ **Unanimous decision of Swiss Parliament to adopt EU IOP directive.**

Clearing legacy obstacles is not enough.
Avoid new ones – as with ETCS DMI.

- Every pixel specified.

- New safety requirements multiply the cost.

- No visibility – no safety.

→ Solutions available but not allowed or practical.

Missing harmonisation may stop interoperable trains during operation.

- No ETCS L2-traffic without crypto keys.

- Different national renewal interval for cryptokeys.

- Missing harmonisation.

- Increasing number of RBC and locomotives
  → more changes of keys required
  → risk for missing keys increase
     (organisational/human errors).

- Increasing risk that trains are blocking the track due to authentification errors.

→ Systematic cryptokey change only when suitable on-line keymanagement system available and supported by both trackside systems and vehicles.
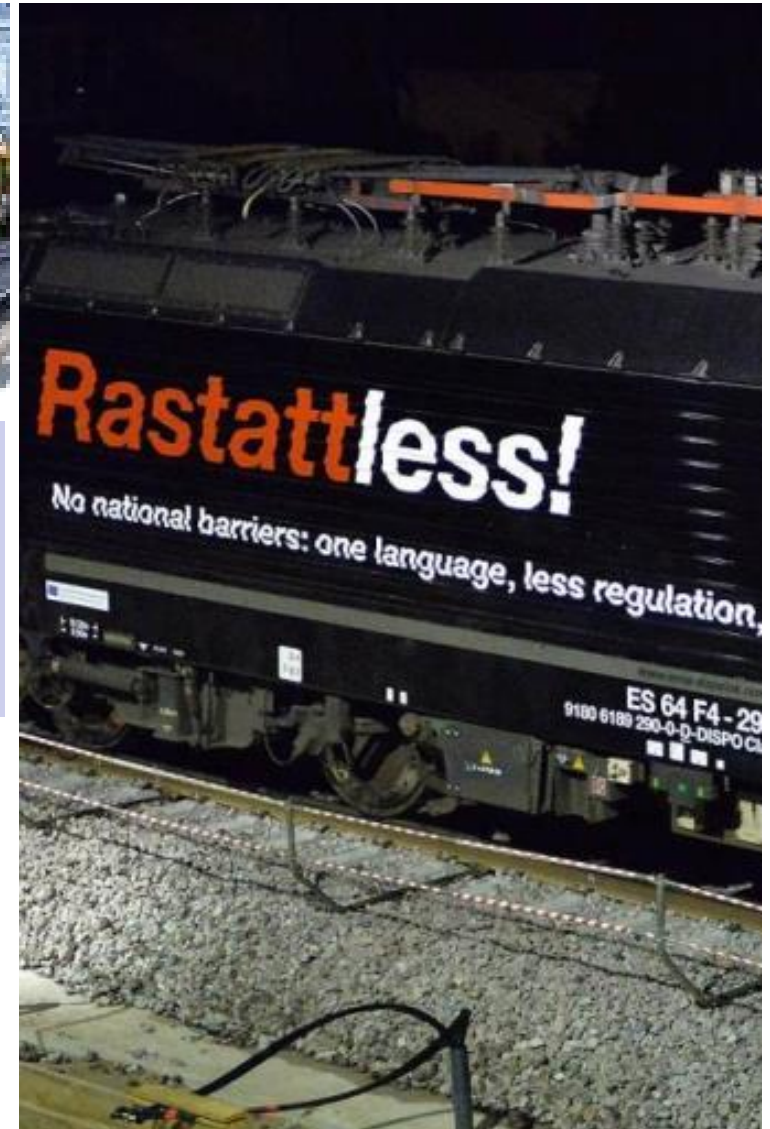
Listen to the dreams of our customers, but staff don't have to tell theirs during work.
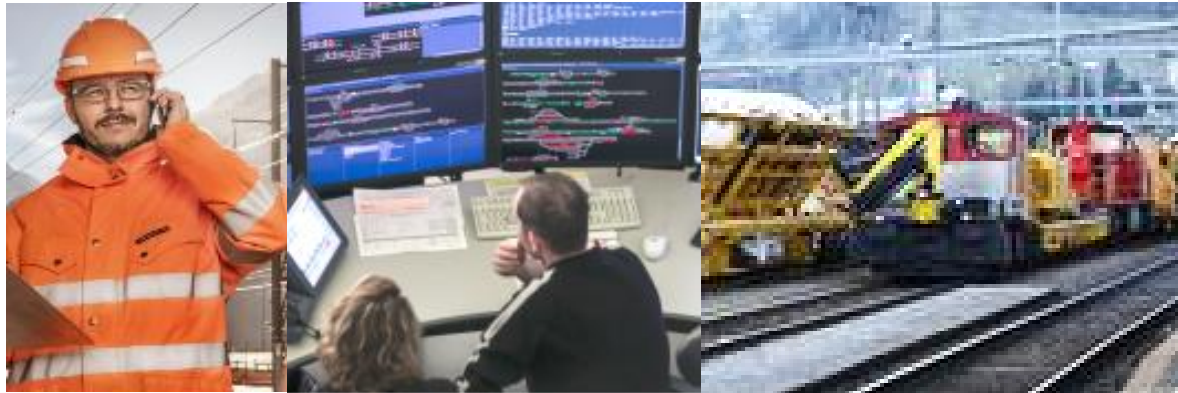
Official Common Reference Level, B1:

"[...] Can **describe experiences and events, dreams, hopes** *& ambitions and briefly give reasons and explanations for opinions and plans."*

→ Does B1 improve rail's competitiveness?

→ Rail specific communication must be ensured
   → Define a more appropriate level plus a common rail vocabulary.

→ Single operational language might be a long term solution.

Our vision.

Highest capacity

Lowest cost

Highest safety

Fastest migration