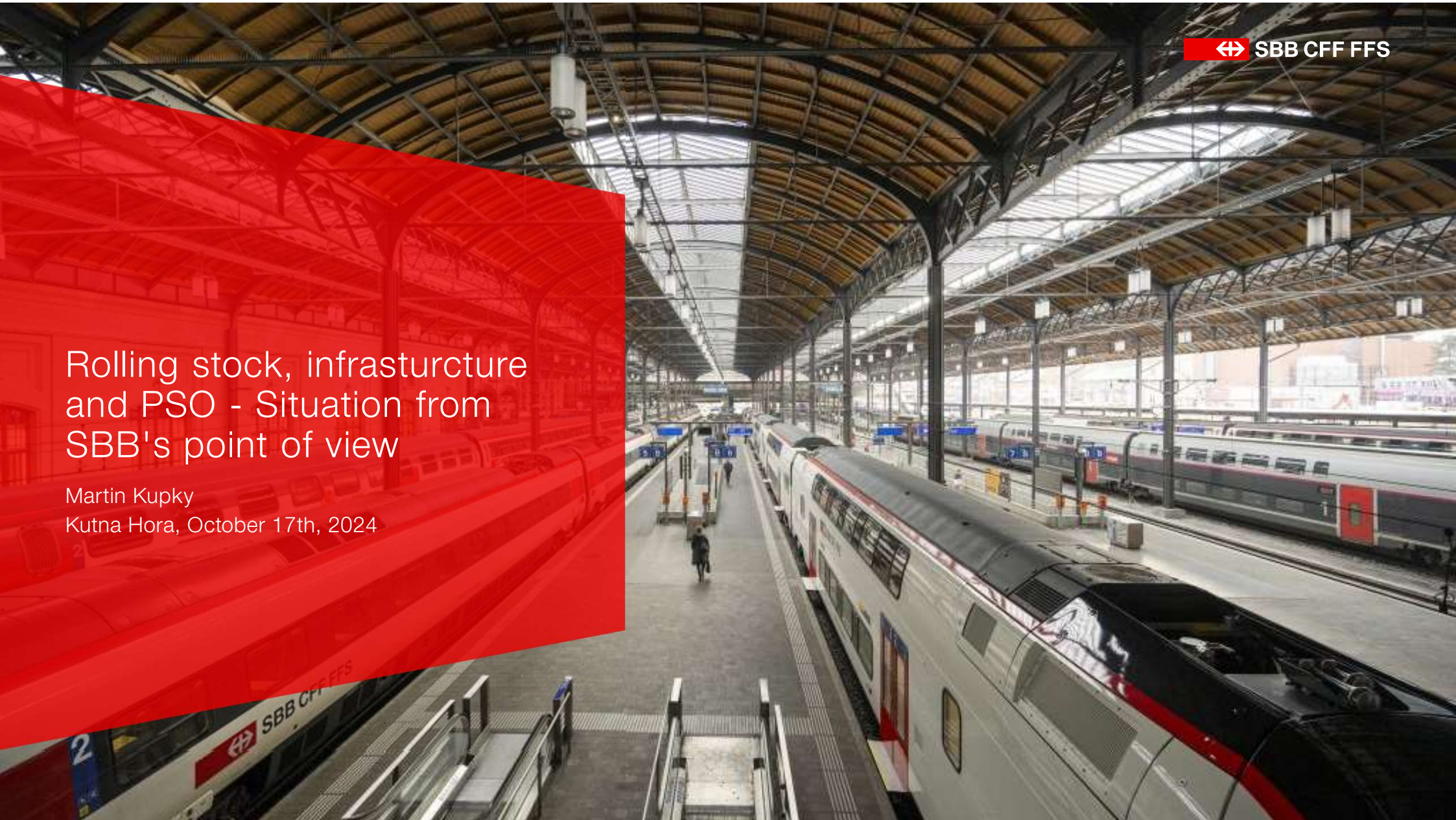
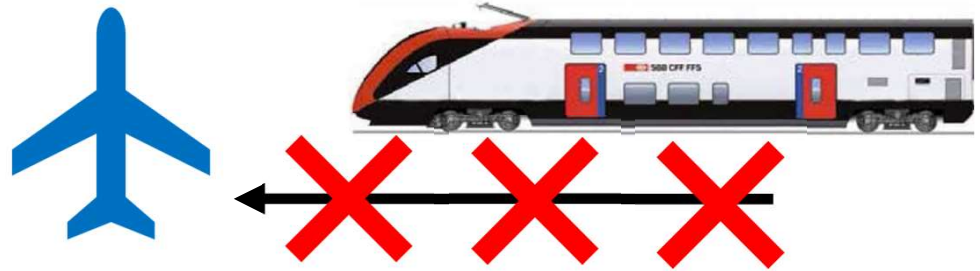
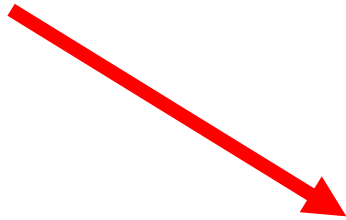


Rolling stock, infrastructure and PSO - Situation from SBB's point of view

Martin Kupky

Kutna Hora, October 17th, 2024





Legal framework long-distance transport Switzerland



- Self-financing
- Solidarity principle: Financially strong lines subsidise weak lines
- Good long-distance services also in the area
- Quality requirements (frequency of trains, customer services) regulated by federal licence
- Multi-railway licence under the umbrella of SBB



Regional networks operated by SBB



S-Bahn Basel
Basel Commuter Railway System
CH → DE, after 2030 CH → FR



S-Bahn Aargau-Mittelland
Argovia and Midland Commuter Railway System



S-Bahn Zürich
Zurich Commuter Railway System



RER Vaud
«ArcLemanique»-Commuter Railway System
Including some Services in the Canton Fribourg



Stadtbahn Zug/S-Bahn Zentralschweiz
Zug Urban Railway/ Central Switzerland
Commuter Railway System



«Léman Express»
Geneva – Savoy Commuter Railway System
CH → FR



S-Bahn Ticino – Lombardia
Ticino-Lobardia Commuter Railway System
CH → IT



Regional transport on standard gauge – other Players



The map shows the following regional transport players and their locations:

- TransN**: Regional Traffic in the Canton of Neuchâtel. Located near Basel.
- Travys**: Regional Traffic in the Jura Vaudois. Located near Zürich.
- Thurbo**: North Eastern Switzerland. Subsidiary Company of SBB. Located near Zürich.
- BLS**: Bern Commuter Railway System & Regional Lines in the Bern Midlands. Located near Bern.
- SOB**: Südostbahn. Eastern and Central Switzerland. Located near Bern.
- TPF**: Regional Services in the Canton Fribourg (also Neuchâtel, Vaud and Bern). Located near Lausanne.
- Region Alps**: Wallis region. Subsidiary Company of SBB. Located near Genève.

Other locations marked on the map include Locarno and Brig.

Restrictions for new rolling stock to be procured



«**Disability Equality Act**» (**BehiG** – in German: Behindertengleichstellungsgesetz):

- Doors suitable for 55 cm platform height
- Wheelchair-accessible WC and catering zone (where offered)

Maximum length of platforms:

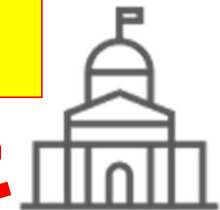
Long-distance transport

- **IC** 400 metres («Jura south foot»-line 380 m) – not yet achieved everywhere today
- **IR**, RE 300 metres

Regional transport: 300, 225 oder 150 metres



Based on the financing agreements defined by/ with BAV



Maximum speed and acceleration:

- **IC**, particularly **IR*** 200 kmh --- 0.6 m/s²**
- **IR**, RE and regional transport 160 kmh --- 0.8 to 1.1 m/s²



Based on (future) service concepts defined by/ with BAV

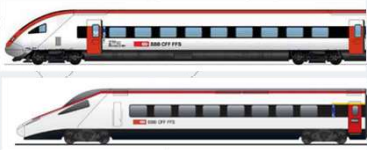
* **IR** 15 Geneva-Lucerne and **IR** 16 Bern-Zurich using the high-speed-line Mattstetten-Rothrist (Bern-Olten)

** **IC** 1 is currently a hybrid line and needs rolling stock for 200 kmh and 0.8 m/s²

Specific infrastructure requirements in the Long-distance transport



Titling Trains on **IC** and **EC** Services



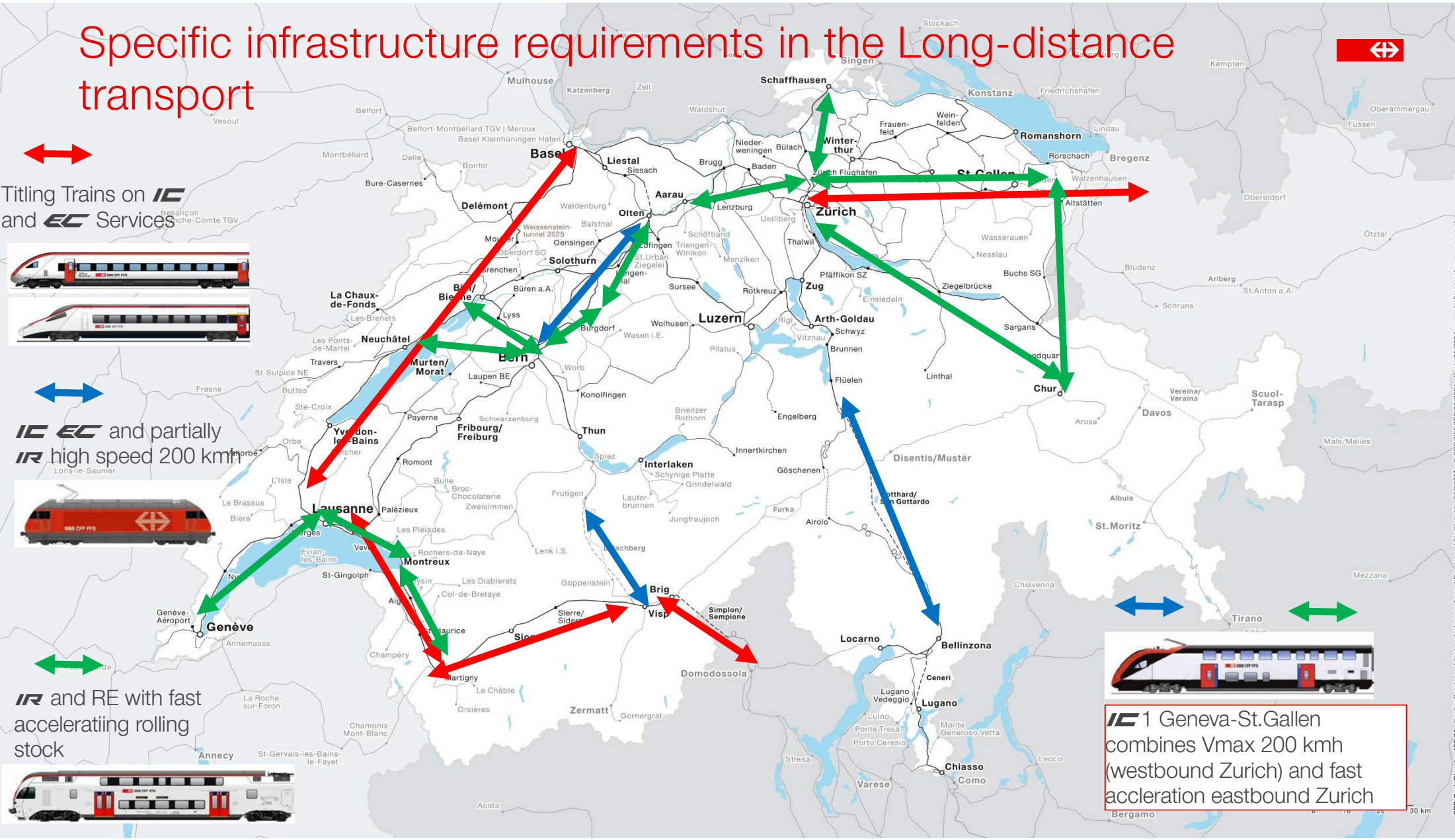
IC EC and partially **IR** high speed 200 km/h



IR and RE with fast accelerating rolling stock



IC 1 Geneva-St.Gallen combines Vmax 200 km/h (westbound Zurich) and fast acceleration eastbound Zurich





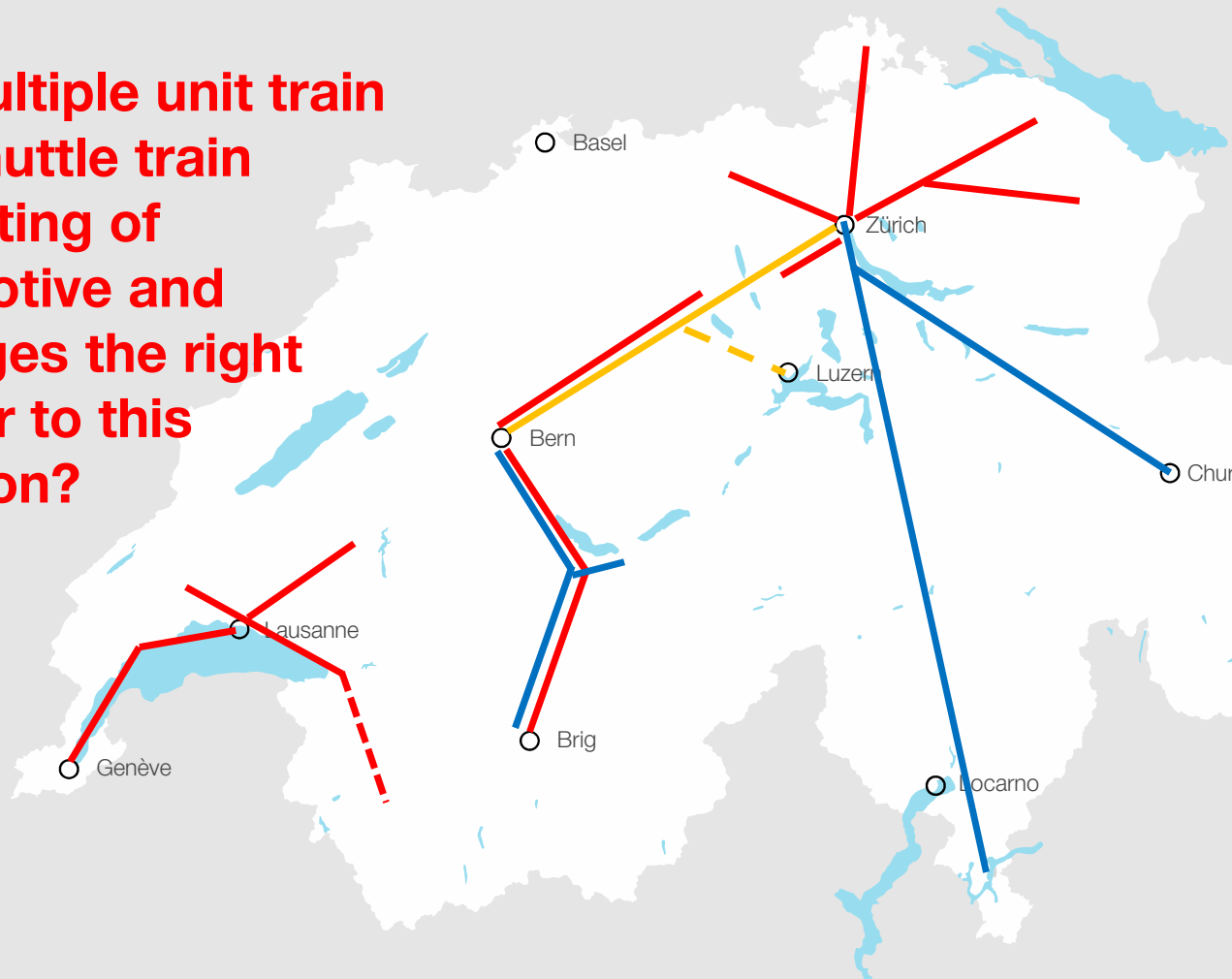
Rolling Stock – Long distance traffic SBB

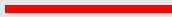
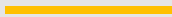



Long-distance transport conditions to be observed for new rolling stock

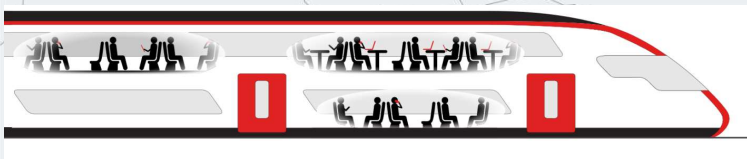


Is a multiple unit train or a shuttle train consisting of locomotive and carriages the right answer to this question?



-  Route with high commuter volume Mon-Fri in 2nd class
-  Route with high commuter volume Mon-Fri in 1st class
-  Route with a high volume of foreign tourists and leisure travellers at weekends

Long-distance transport vision of the future:



IC as a flexible 200-kmh train and average stops every 50 km with catering and service zones - mostly double-decker. International trains can be integrated into the service

IR as a powerful double-decker 160-kmh train with average stops every 25 km



Same vehicle type - different seating standard



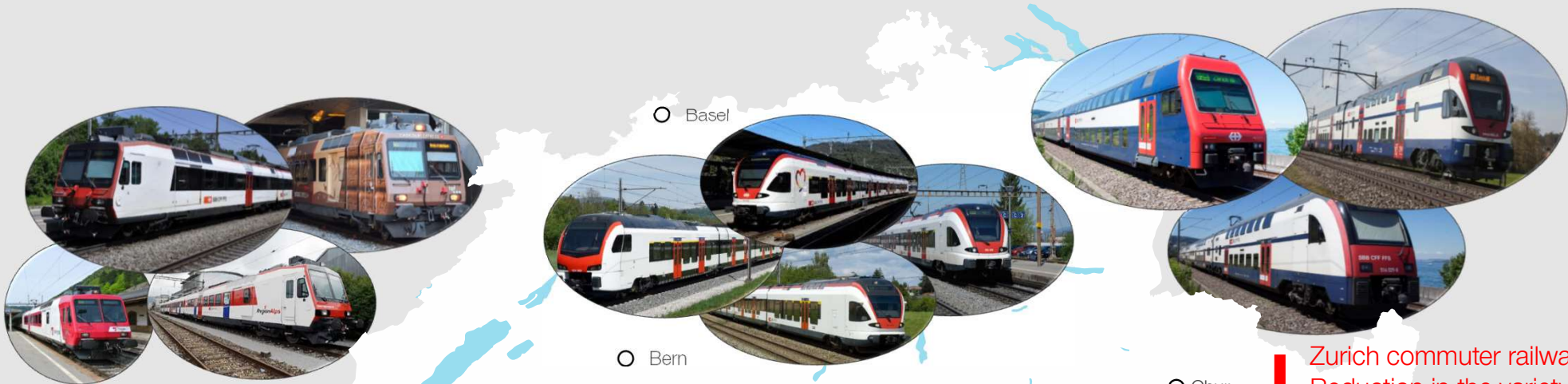
BLS-RABe 515 «Mutz»
60/275 = 335 Seats, First Class 2+2



DB Regio Schleswig-Holstein, Class 445
38/ 367= 405 Seats, First Class 1+2



Regional transport –problems and solutions for the present and the future



○ Basel

○ Bern

○ Chur

FLIRT: A family with lots of children - but not all of them play together

Zurich commuter railway - Reduction in the variety of types. Standardised vehicle 150 m as a solution for the future?

Western Switzerland: identical vehicles at different rail transport companies enable mutual assistance and cooperation

○ Lausanne



○ Genève

Geneva: can the high demand for the Leman Express be met with single-decker or double-decker vehicles?



Large order for Flirt Evo including subsidiaries and partner companies as a solution. Consideration of interoperable vehicles for border traffic

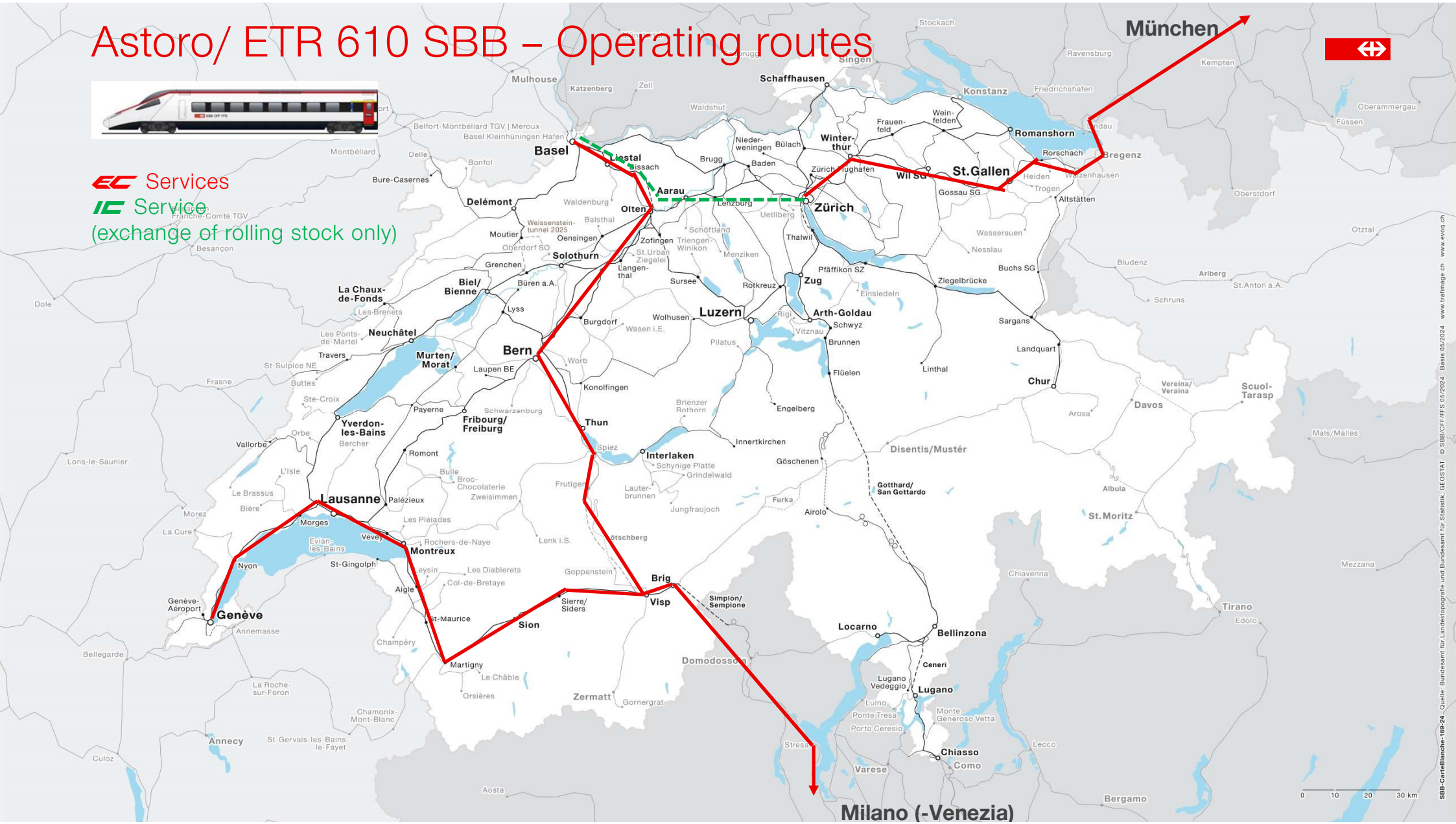
Astoro/ ETR 610 SBB – Operating routes



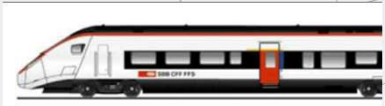
EC Services

IC Service

(exchange of rolling stock only)



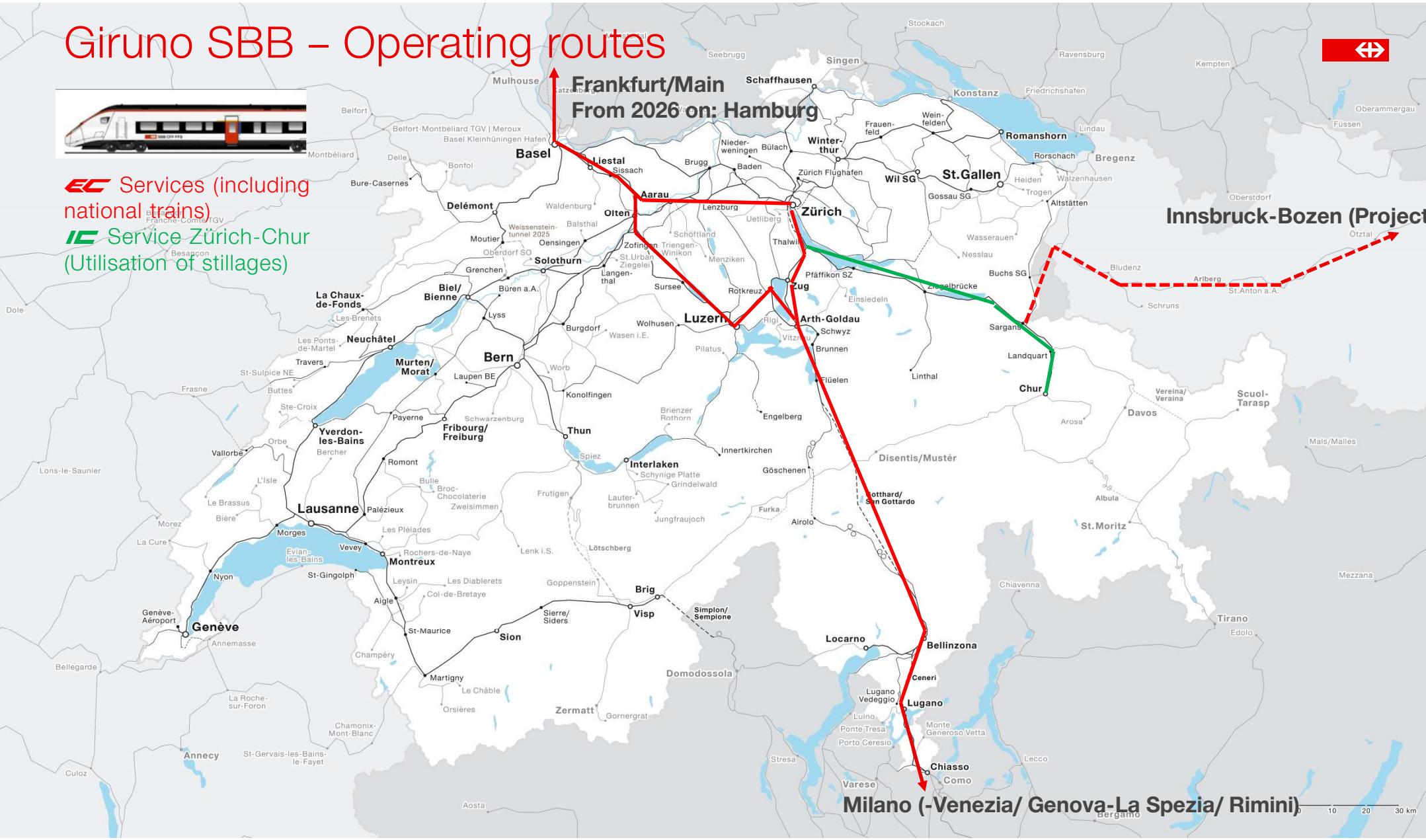
Giruno SBB – Operating routes



EC Services (including national trains)
IC Service Zürich-Chur (Utilisation of stillages)



Frankfurt/Main
From 2026 on: Hamburg



Milano (-Venezia/ Genova-La Spezia/ Rimini)

Innsbruck-Bozen (Project)

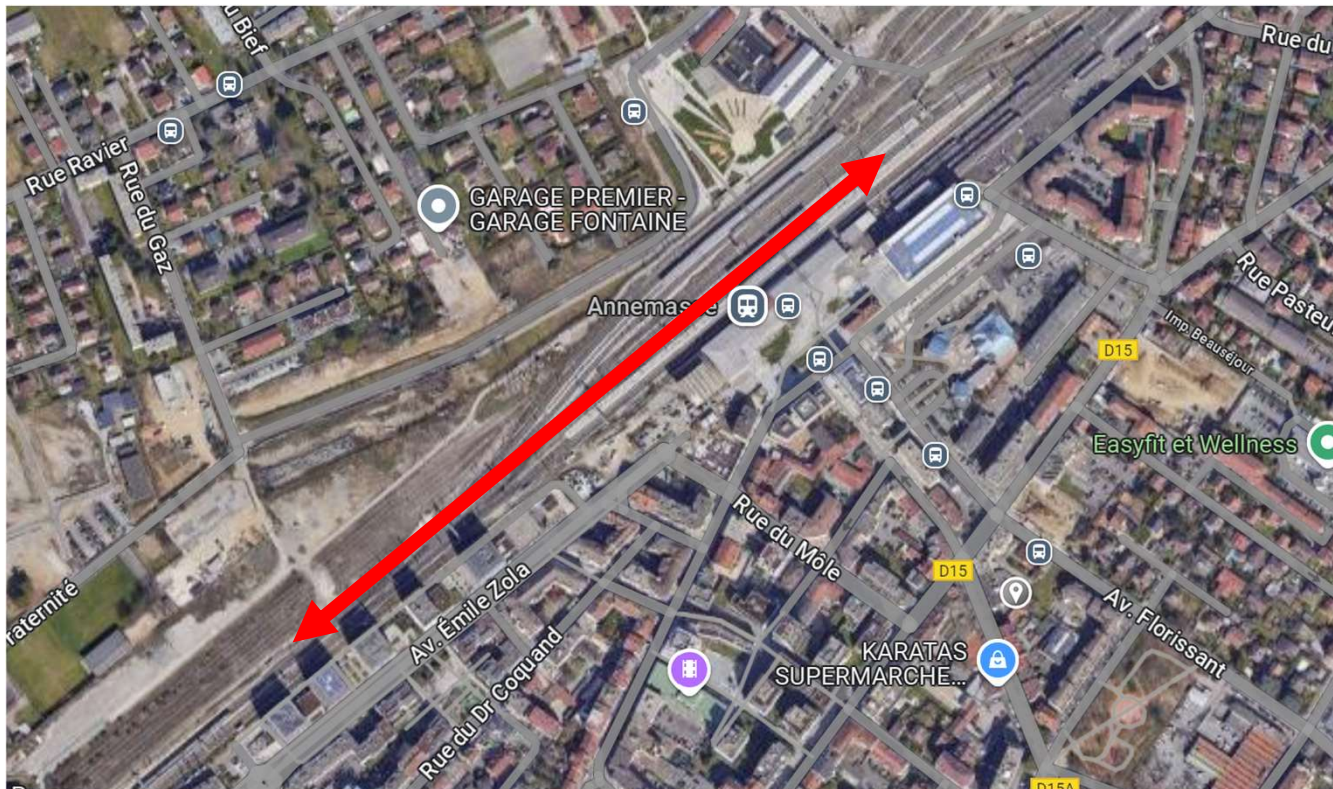


It took 3 years before this photo became possible





Annemasse – 2 years for an authorisation to ride about 500 metres with 3x Stadler KISS 100m



A photograph of a group of people sitting on the floor, looking at a smartphone held by one of them. The scene is captured from a high angle, focusing on the hands and the phone. The background is slightly blurred, showing the legs and clothing of the other people in the group.

Děkuji, merci
& thank You