Agenda

- Background
  - ASTOC
  - Rail traffic in Sweden
  - Liberalization

- What are the main opportunities and challenges?
  - Infrastructure
  - EU-Regulation
  - Digitalization

- Boosting the rail mode competitiveness
43 members of which 10 are associate members

Quality - Capacity – Competitiveness

Associate members

ABELLIO
Arlanda Express
BLÅ TÅGET
Keolis Sverige
proTrain

Nordiska Tåg AB
TMRail AB
Ansaldo STS Sweden AB

HSR
Inlandsbanan
DHL
tågkompaniet

Dvn
green cargo
HECTOR RAIL
TÅGFRAKT

transdev
Tågåkeriet i Bergslagen AB

SJ
Keolis Sverige

LKAB
Sandhems Bolagen

Real Rail AB

CargoNet
baneservice
CAPTRAIN
The liberalised railway

- Business Administration SJ
- Jernhusen
- SJ Ltd
- Green Cargo
- EuroMaint
- SweMaint
- TraffiCare
- Unigrid

Separation and divestment of SJ

Public ownership

Private ownership


Banverket

ASG

Swebus

Royal Viking Hotel

Scandlines

Traffic Restaurants

4RP Political Pillar: Market opening and Governance

Market opening - Yes

Infrastructure - Integrated model

Infrastructure - Separated model

Market opening - No
Institutional vertical separation between infrastructure and train operations

National multi-modal authority Trafikverket (Swedish Transport Administration) is the main (80%) infrastructure manager, with strong focus on procurement from external contractors

Train operating companies (or other organisers of train services) apply for access to the track infrastructure and pay charges

Horizontal separation between passenger and freight operations
Current organisation of the Swedish railway sector – some characteristics (2)

- Decentralised responsibility for regional passenger services to 21 county public transport agencies (controlled by municipalities and counties with their own taxation power)

- Most regional passenger services (and some long-distance) depend on subsidies and are procured by means of competitive tendering (resulting in contracts between public transport agencies and train operating companies)

- For tendered services, the procuring authority typically provides the rolling stock to the train operating company

- Freight services and commercial passenger services are subject to open access competition. For these services, train operating companies have their own rolling stock

- The role of the public sector is still very strong (state controlling the main IM and RUs, county public transport agencies procuring train services)
Increase investments in rail infrastructure

Strong local and regional commitment to develop passenger services

Strong growth in demand

Improvements in (for example) productivity and safety

Innovations, new pricing models

In recent years, decrease in average speed of trains (mainly due to capacity constraints)

Punctuality problems a recurrent issue of concern

Appearance of several new entrants, reducing the market share of the incumbents

Tendering leading to reduced need for operating subsidies but also cases of strategic bidding
Strong growth of railway services

- Since the early 2000’s both passenger and freight services have experienced a strong growth.

- Important factors behind the development:
  - Structural reforms and market opening
  - Infrastructure investments (early years)
  - Low infrastructure charges (level playing field?)
  - Regional traffic development (passenger PSOs)
  - Competition (freight)
  - (Relatively) steady framework conditions
Railway Sector Cooperation Forum (JBS)

Punctuality
12 WS

Maintenance
4 WS

Capacity

Recruiting &
branding

Culture

Innovation

Railway Sector Cooperation Forum

12 WS

4 WS

Recruiting &
branding

Culture

Innovation
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Sweden has more than 12,000 km of railway track
- 2,000 km double tracks
- 10,000 km single tracks
Train operating companies

Source: Jakob Wajsman, Trafikverket
The car is the train’s major competitor, when it comes to traveling further than 10 miles.
Advantage Passenger Rail

Index 1992

Källa: Trafikanalys
Examples of long distance trains
Rail infrastructure investments and maintenance

Source: Trafikverket, and own calculations
Ticket price development

# Market share
- Air and train travel -

<table>
<thead>
<tr>
<th></th>
<th>Train</th>
<th>Air</th>
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<tbody>
<tr>
<td><strong>Gtb-Sto</strong></td>
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<tr>
<td>2001</td>
<td>49%</td>
<td>51%</td>
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<td>2011</td>
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<td>31%</td>
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<td><strong>Karlstad-Sto</strong></td>
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<tr>
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<td>10%</td>
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<tr>
<td><strong>Sundsvall-Sto</strong></td>
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<tr>
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<td>30%</td>
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<tr>
<td>2011</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td><strong>Malmö-Sto</strong></td>
<td></td>
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<tr>
<td>2001</td>
<td>23%</td>
<td>77%</td>
</tr>
<tr>
<td>2011</td>
<td>30%</td>
<td>70%</td>
</tr>
</tbody>
</table>
Regional traffic system 1990-2016

Källa: Oskar Fröidh, KTH
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• Road passengers grows in value added and number of employees.

• Passenger rail increases in value added similar to bus but does not grow in no of employees

• Rail freight drops in both employees and value added

• Road freight has huge growth in both employees and value added.

• Freight transport by road is 16 times larger than the freight transport by train
• Sweden is in the frontline of liberalization as well as market opening in Europe, closely followed by the UK. New EU regulations for the railway sector highly affects the Swedish railway, which is different from the European railways.

• The increasing level of regulation, especially on the technical side, might imply *increasing costs and non-optimized solutions*. Sweden has an important role and needs to push towards a market and customer focused development of regulations based on **functional criterias** instead of technical criterias.

• A key to success is to secure that EU regulations are customized to an **open market**. The open market encourages innovation and digitalization.

• The majority of the CER members are represented by state owned companies making the role of ASTOC complex.
Key issues for the European railway from Swedish operators perspective

• Rail is key to reach the objectives of the White Paper and the reduction of CO2 emissions in EU and Sweden.
• Accessibility and availability, drives the need of standards (ERA), simplified administration, investments in bottlenecks
• Functional specifications and less regulation
• ERTMS, verification and funding
• Corridors in Europe, TEN-T, need of a management committee with the right resources
• Funding opportunities of TEN-T
• Taxation, harmonizing the different modes of transportation, climate taxation and VAT
• Implementation of the 4th Railway Package
• Fair competition from trucks
• The increased need for European infrastructure investments (rolling stock, maintenance etc.) requires external funding
Facing full-fledged deregulation

- Customer satisfaction  |  Improved quality of service
- Employee contribution |  Increased participation
- Sustained profitability |  Improved productivity
- Expansion             |  New markets
Incumbent’s journey of change

From TRAIN generics … to SJ specifics
From TRAIN is good for… … to SJ is good for
From TRAIN & sustainability … to SJ & sustainability
From operating TRAINs … to serving people
From information … to dialogue
Digitalization is underway; maturity varies by industry, but most potential is yet untapped.

- Airlines
- Hotels
- Car rental
- Mail, courier, express, parcel delivery providers
- Contract logistics providers
- Rail
- Freight forwarders and carriers

- Efforts to date have mostly digitized the business “as-is”
- Organizations either haven’t recognized the real digitalization opportunities yet, or aren’t capable of implementing them
The rail industry may soon face the tipping point of the digital lifecycle
# Digitalisation
Examples from Passenger operator

Migration from manual to digital channels

**Strategy**
- Meet new customer habits
- More efficient sales & service

**Goal**
94% sales via own digital channels

## Active shift for digitalisation

<table>
<thead>
<tr>
<th></th>
<th>Offline/FullService</th>
<th>Online/SelfService</th>
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<tr>
<td>Direct/Own</td>
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<td>SJ.se, Mobil.sj.se Mobile app</td>
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<td></td>
<td>Vending machines</td>
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<tr>
<td>Indirect/Agent</td>
<td>Travel agency Resellers</td>
<td>Micro sites / widgets Partners / affiliates</td>
</tr>
</tbody>
</table>

94%
Internet of Things
Enabling technologies

- Manufacturing
- Energy
- Transport
- Public Safety
- Health—care
- Media
- Telecom Operators
- Other industries

Monetization of Service
Applications & Analytics
Cloud & Connectivity
Devices & Sensors

IoT
6 disruptions could fundamentally change the travel and transportation industry

- **Online platforms**
  "Traditional TTL companies as capacity providers only?"

- **Asset sharing**
  "The door opener for innovative startups in the industry?"

- **Expansion of large technology companies**
  "Fear of the hungry tech giants?"

- **Autonomous vehicles**
  "Cost structures, opportunities, competitors – will everything change?"

- **Advanced robotics**
  "Fundamental changes to cost structures?"

- **Additive manufacturing**
  "The 'big hit' to the logistics industry?"
Organizing digital mobility
Reconfigure or be reconfigured – Rail as prime mover..?
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New business opportunities created by new capacity

Fehmarn Bält 2024

Ostlänken 2028

New High Speed tracks 2035
Vision Railway 2050!
Summary

- Intentions behind the 4\textsuperscript{th} RP
  - Separation and market opening – it works!

- Balanced track access charges

- Be careful regarding severe consequences of detailed regulation
Thank you!

Quality - Capacity – Competitiveness

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