Capacity Booking – Way forward to network optimization and competitive European SWL

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Capacity booking is an important lever of capacity management and aims to manage demand to better match supply.

**LEVERS TO MANAGE CAPACITY**

**Capacity demand**
- Key levers to adapt demand to given supply:
  - ✔ Pricing (yearly basis)
  - ✗ Capacity booking system
  - ✗ Yield Management

**Capacity supply**
- Key levers to adapt supply to given demand:
  - ✔ Planning & forecasting
  - ✔ Flexible production system (to cover peaks)

✓ Applied but only to a limited extent by most European SWL RUs without a booking system
✗ Not applied by RUs with open systems

Source: Xrail
Developing a capacity booking system is a requirement and a typical first step for both, pro-active capacity and yield management.

**Network Optimization**

- **Basic process & system prerequisites**
  - Realistic plan and reliable execution → stable production

- **Customer booking patterns, preferences & traffic data**
  - Sophisticated products, active capacity mgmt. & forecasting

- **Customer segmentation & price sensitivity**
  - Differentiated pricing strategy (capacity constraint influence)

- **Train level yield management**
  - Control, simulation & optimization (decision support)

- **Capacity booking system**
  - Reach 1st level of capacity management through booking control

- **Full network optimization!**

**Focus of today**

Source: Xrail
Today’s open production systems with “uncontrolled” capacities lead to very low demand stability for railway undertakings (RUs).

EXAMPLE OF HIGH DEMAND VOLATILITY IN SINGLE WAGON LOAD (SWL)

Source: XRail
A trade-off between quality & utilization of employed resources usually occurs in a fully “open” SWL system – risk of downward spiral

Classic (quality) open system: Flexible but negative

- RU flexibility appreciated by customers but mostly neither needed nor paid
- Low utilization of (vast) resources resulting from guaranteed availability and punctuality even in peak times
- Owners don’t accept anymore to subsidize → RUs react by reducing the network or closing it down

Pure cost focus doesn’t lead to a sustainable optimization, too

- An “uncontrolled” reduction of costs with primary focus on utilization of employed resources in many cases leads to a low quality level...
- ...followed by a reduced price level and/or a drop in volumes (or limited potential to acquire new business)
- Resource need still defined by peaks

Source: Xrail
An overall optimization is possible through a transparent system with booked & controlled capacities

HOW CAN A SUSTAINABLE OPTIMIZATION BE REACHED?

A “managed capacities” system features planning on limited total capacity without compromising on quality as booked slot will be executed as foreseen.

It reaches low need / high utilization of resources by redirecting demand:
  - to the planned network offer (supply)
  - from capacity constrained slots (times/dates) to less utilized ones (leveling peaks off)

Source: Xrail
Positive experiences of freight RUs show that implementing a capacity booking system is an important step towards network optimization

SUMMARY OF EXPERIENCES BY GREEN CARGO, EWS AND CANADIAN NATIONAL

1. Higher transparency, better control of traffic and earlier involvement of customer support; better planning and reliable execution of production

2. Enabling RUs to smooth demand / cut off peaks and to have a more stable production (train supply)

3. Basis for optimization & better steering of resources, e.g. higher loco / wagon utilization, less resources, optimized dispatching, etc.

4. Basis for improved customer segmentation with better differentiated price and service levels → basis for future yield management

5. Realization of (future) market requirements, e.g. ETA promise on international level, enabling RUs to gain more market share

Source: Xrail
Implementing capacity booking is much more than just a new IT tool – it requests a change of RU processes, production philosophy and culture

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<thead>
<tr>
<th>From</th>
<th>Change</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>One customer, one product</td>
<td>Customer segmentation</td>
<td>Different products for different customers (flexibility isn’t for free)</td>
</tr>
<tr>
<td>Trains</td>
<td>Unit focus on</td>
<td>Shipments (global optimization instead of local optimization)</td>
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<td>Capacity seems unlimited</td>
<td>Capacity</td>
<td>Capacity is given</td>
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<tr>
<td>First in, first out</td>
<td>Execution of plan</td>
<td>First booked, first out</td>
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<td></td>
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<td>Commitment to plan</td>
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<td>Updated plan = reality</td>
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Source: Xrail
Managing SWL network capacities in a geographic setting like Europe can only succeed if the international perspective is taken into account.

CONNECTION OF RU BOOKING SYSTEMS NEEDED ON INTERNATIONAL LEVEL

- Up to 50% European single wagonload is spread over the different networks (Import, export, transit)
- Int. SWL wagon runs must also be booked into affected RU systems (based on available capacity) to make RU booking systems work properly & deliver intended benefits
- It is thus mandatory to connect RU specific booking systems via European broker solution (with aligned processes, rules, minimum requirements, standards)

Participating RUs will be able to offer a seamless available & bookable product with reliable ETA promise to international customers

Source: Xrail