Full Service Model Initiative

September 2017
Agenda

1. What FSM is about
2. How FSM works in detail
3. How to get started with FSM
Market needs for one-stop-shop distribution services: Customers expect easy and seamless travel solutions

- Customers expect simple solutions for traveling
- Rise of digital services increases expectations towards travel and distribution service providers
- Ultimate goal: seamless travel solutions

⇒ Cooperation between travel and distribution service providers is necessary
In recent years market demands have driven increasing numbers of interconnections in railway distribution with a variety of solutions ...

Current situation

- schematic representation -

- Historically, the national railways defined the national standards
- Distribution was organised by the respective national railway or its distribution partners on a national level
- These starting conditions are still inherent in many of today’s systems and processes. These are working well within the initial context ...

... but:
- Lack of enough multi-carrier offers/ bookings
- Seamless sales process not covered (info/ offer/ booking/ settlement, etc.)
To overcome those diverse proprietary solutions a group of railways and distribution service providers initiated Full Service Modell

Full Service Model (FSM)

... is an Industry Initiative founded in 2013 aiming at developing an Open IT Specification

... enables B2B data exchange along the online distribution value chain

... relies on and goes upon European ticketing and distribution regulation (TAP-TSI)

... complements costly individual bilateral IT-solutions between distributors and rail service provider

... follows a step-wise approach, i.e. it focuses on rail products in the beginning so as to manage complexity

... considers at the same time the context of multi-modality and allows, future enhancements in the direction of other modes of transport
FSM simplifies distribution as it complements diverse individual and bilateral distribution solutions between business partners

What FSM is about

... the goal of FSM is to offer an **alternative to the patchwork** of individual and bilateral IT-solutions

... FSM provides specifications that can be implemented in every distribution IT-system

... FSM co-exists with other IT-solutions, companies can choose if they want to apply FSM specifications or any other IT-solutions

... FSM can be used for any distribution **business model**, that is, the content /the offer remains unchanged

**FSM functions like a common language** - companies can learn it, they can offer or order translation services, and they can continue speaking diverse other languages too
To meet market demands, we need to improve the connectivity in rail distribution

**Today’s situation**

- **Heterogenous standards**

**Challenges**

- Complex IT legacy
- No support for seamless multi-carrier offers
- Travel agents need detailed rail distribution expertise in order to provide customers with appropriate offers

**Due to a limited use of state-of-the-art IT solutions, international ticket distribution is technically comparatively complex and the resulting cost of sales is high.**
FSM approach: provide improved interoperability by specifying standardised B2B IT interfaces

FSM interface specifications

- Innovative basis to interconnect rail distribution systems
- As a result, this will reduce the boundaries of the current ecosystem
- Framework enables maximum choice of business models
- Thus, railways retain control of their own distribution strategies, while customers benefit from improved service and choice
- Business relationship based on commercial agreements
While respecting different business models of companies the objective of FSM is to facilitate journey planning and booking for customers.

Full-Service-Model

- Generic IT framework allows application to and control of various business agreements/rules
- Distributed IT ecosystem based on standardised interfaces
- Supports also alternative business and architecture models, encapsulated by content aggregators
- Decoupled booking, customer payment and fulfilment possible
- Provides for horizontal (i.e. multi-carrier) and vertical (i.e. add-on products) combination logic over all sales channels, including self-served channels

Customers get an easier and faster access to end-to-end journey information as well as ways of booking on a diversity of distribution channels.

*Retailers may have both a direct relationship with the travel service provider or indirect using the service of a distributor.*
Example: Multi-carrier distribution calculated on horizontal combination rules which are based on commercial agreements

Customers want to go from A (Frankfurt) to B (Vienna) and chooses between various booking platforms/distributors providing competing user interfaces and product ranges (based on bilateral agreements with content providers).

The distributors calculate viable journeys to identify the service providers concerned.*

The service providers send back suitable offers (based on itinerary, actual availabilities of fares/seats and passengers preferences).

It will be possible to define offers freely combinable (e.g. „Sparpreis+Standard C“) or such dependent on each other (e.g. „Euro-Spar RSP-A +Euro-Spar RSP-B“).

* The Passenger Rights Regulation applies
FSM is based on six key principles

**Collaborative**
17 Partners

**Interoperable**
Web connectivity of existing distribution processes

**FSM Members**
- Members of the FSM initiative
- Includes various partners across different sectors

**Customer-focused**
One-Stop-Shops: access to best value for money offering

**Business-neutral**
Agnostic to diversity of business models across Europe

**Exhaustive**
Complete distribution value chain and ultimately multi-modal

**Open**
"Plug-and-play" IT standards

- Master Data
- Offering
- Booking
- Payment, Fulfillment
- After Sales
- Revenue Protection
- Settlement, Accounting

- "Plug-and-play" IT standards
- "Open" architecture

- "Interoperable" network connections
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FSM specifies an online interface between rail distribution players to improve customer access to rail tickets.
FSM defines how to communicate during all distribution processes...

- **Reference Data**
  - Consistent description of infrastructure, transport services, etc.
  - Reference Data enables consistent and uniform Journey and Passenger data

- **Journey Planning**
  - First step leading to a list of Itineraries and/or Journeys
  - Calculates list of Segments including Stop Places and Vehicles
  - FSM will enable the emergence of a competitive market of journey planning applications

- **Offer**
  - Describes the interactions between a Distributor and one or several Rail Service Providers
  - Covers business processes like combination of Offers
  - Consists of 'Build Request Offer', 'Create Offer' and 'Create Total Offer'

- **Booking**
  - Booking ensures that distributed transactions are executed consistently and completely
  - Abstracts from specifics of Products or contractual obligations
  - Consists of 'Book Offer', 'Revoke Offer', 'Preliminary Book Offer'

Note: capital letters indicate defined FSM concepts
### Full Service Model Initiative

... and FSM addresses several supporting process steps for which there are no multilateral solutions yet

<table>
<thead>
<tr>
<th>Payment</th>
<th>Fulfilment</th>
<th>After Sales</th>
<th>Revenue Protection</th>
<th>Back Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>The handling of customer payment is fully decoupled from rail service providers</td>
<td>Fulfilment is about issuing and handing over a Ticket</td>
<td>After booking operations (e.g. cancel, refund, upgrade, exchange)</td>
<td>Check the validity of a passenger’s ticket, protecting the revenues</td>
<td>Consists of Accounting and Settlement</td>
</tr>
<tr>
<td>Main modes of payment are credit card, mobile device, settlement of invoice and cash</td>
<td>It ensures the materialisation of a contract between the Passenger and the Carrier</td>
<td>Online operations reusing the booking components</td>
<td>A fully interoperable online process could be implemented by members</td>
<td>Invoice-based accounting of individual services is foreseen</td>
</tr>
<tr>
<td>No assumption on when the payment occurs</td>
<td>Link to Booking ensured by Offer data and status of booking operation</td>
<td>Pre- and in-journey information services on basis of customer profiles</td>
<td>Independent from the method of fulfilment</td>
<td>A booking may directly start accounting procedures</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Process independent on customer payment and ticket issuing</td>
</tr>
</tbody>
</table>

**Note:** capital letters indicate defined FSM concepts
FSM covers the business processes between all players interacting to satisfy the needs of the customers

FSM process view

<table>
<thead>
<tr>
<th>Customer</th>
<th>Distributors</th>
<th>Rail Service Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Itinerary</td>
<td>European Time Table</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reference Data</td>
</tr>
<tr>
<td></td>
<td>Offers creation</td>
<td>RSP-A</td>
</tr>
<tr>
<td></td>
<td>Request Offers</td>
<td>RSP-B</td>
</tr>
<tr>
<td></td>
<td>Combine Offers</td>
<td>RSP-C</td>
</tr>
<tr>
<td></td>
<td>Offer updates and selection</td>
<td>RSP-A</td>
</tr>
</tbody>
</table>

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At design level the workflows and activities provide a common model of both computational and organisational processes.

- The activity diagram provides an overview on the sales process:
  - Shopping consisting of journey planning and offering
  - Booking
  - Customer payment
  - Fulfilment

- The most complex process is offering:
  - User profile
  - Subscribed services
  - Price indication and forecast
  - Cache of offers
  - Creation, completion and adjustment of offers
FSM provides business neutral xml-messages enabling the data exchange between distributors and rail companies

Examples
Offering : 1 Passenger – 2 Segments

DISTRIBUTOR REQUEST :

[Railway map with segments and stops]

RSP RESULT :

[Booking and CSI 1 diagram]

Simplified XML
Offer Request Origin Response

```xml
<rsp.offering.messages:OfferingParameters>
  <offering:Itinerary xml_id='Itinerary_01' DIST_ID='DIST_ITL_01'>
    <journeyplan:ServiceTypeId>XXX-TRAIN</journeyplan:ServiceTypeId>
    <journeyplan:Segment xml_id='segment_01' DIST_ID='DIST_1_SEL'>
      <journeyplan:ServiceModelId>XXX-DAILY_REGULAR_SERVICE</journeyplan:ServiceModelId>
      <journeyplan:RouteTypeId>XXX-SINGLE_TRAIN</journeyplan:RouteTypeId>
      <journeyplan:TrainPathTypeId>XXX-HIGH_SPEED</journeyplan:TrainPathTypeId>
      <journeyplan:trip:DayTimeId>XXX-DAY_TIME</journeyplan:trip:DayTimeId>
      <journeyplan:OriginStopPlaceType xml_id='XXXX-RAILSTATION' StopPointName='Stockholm Centralstasjon' IsBorderPoint='false' BorderPoint />
    </journeyplan:Segment>
  </offering:Itinerary>
</rsp.offering.messages:OfferingParameters>
```

```xml
<infrastructure:ScheduledStopPoint ScheduledStopPointId='XXX' ScheduledDeparture='2001-12-31T12:00:00'/>
<infrastructure:ScheduledStopPoint ScheduledStopPointId='XXX' ScheduledArrival='2001-12-31T12:00:00'/>
<infrastructure:CloseOfBoarding '2001-12-31T12:00:00'/>
<infrastructure:EffectiveDeparture '2001-12-31T12:00:00'/>
<infrastructure:GeoPoint SRSName='WGS84' Longitude=-11
<infrastructure:ScheduledStopPoint>
<infrastructure:VehicleAccess Name='CentralPlan-Track1' />
<infrastructure:GeoPoint SRSName='WGS84' Longitude='100
<infrastructure:BoardingPosition VehicleRampSuitable='true

TRACK1-A'/>
```
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For implementation issues you can draw on a wide arrange of deliverables

Interface Specification
Offering and Booking

Rail FSM API User Guide

Version: 1.0
Date: 15/12/2016

Full Service Model Initiative
The FSM deliverables are online available for download

- The FSM deliverables can be found on the following URL-address: tsga.eu/fsm
- To download the documents please get registered
- For questions regarding the FSM initiative and the implementation of FSM please contact: fsm@tsga.eu
- The FSM initiative will set-up a process for change requests. With your registration you get automatically informed on any relevant information on FSM
FSM is driven by the following companies and is supported by a variety of institutions

FSM Members

Advisors

FSM Sounding Board

1) ETTSA (European Technology & Travel Services Association), ECTAA (European Travel Agents’ and Tour Operators’ Associations)

2) Members of the TAP TSI Steering Committee plus representatives of other modes of transport