Railways data collection at the UIC

- Overview
- Infrastructure
- Train movements
- Data consistency
- Dissemination & Publications

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favre@uic.org
The UIC is a worldwide association currently has about **200 members**.
~ 100 Railway companies participate to the statistics group of which 70 are in Europe

At least one statistics correspondent per company

Steering committee:
Chairman
16 collaborators from 9 railway companies
+ CER (Communauté Européenne du Rail)

Meeting twice a year

Plenary meeting in December open to all our statistics correspondents.
4 online questionnaires

Three languages: English\French\German

- **Monthly data**
  Traffic data: Passenger – Freight – Trains
  8 variables collected

- **KPIs – provisional annual data**
  Network infrastructure - Rolling stock – Staff – Traffic (passenger, freight and trains)
  40 variables collected

- **Final annual data**
  560 variables collected

- **5-yearly data**
  Infrastructure – Transport Stock
  200 variables collected
Infrastructure data is given according to the type of gauge

- Annual data: lines, tracks and level crossings
  - Length of electrified / not electrified lines and tracks
  - Level crossings (Automatic / Manual / Type of equipment)
Data collection


- Length of electrified **lines** by type of current
- Length of lines by type of block system
- **Tracks** length by type of rail
- Tracks length by maximum authorized speed
- Number of **signal boxes**
- Number of **stations** and **stops** by type (passenger and freight)
- Number and length of rail **bridges** and **tunnels**
Train movements – Data provided by:

- Infrastructure managers
- Operators

Type of trains >>> **Freight** and **Passenger**

- **Annual data**

>>> by type of traction: **Diesel** – **Electric** – **All** (including steam)

2 units → **train.kilometers** and **gross hauled tonne.kilometers**
Data collection

Infrastructure Managers

Type of traction
Type of train (Passenger/Freight)
Type of gauge

Train movements

Operators

Freight and/or Passenger

Type of traction
Type of train:
Freight
Passenger >>> - short distance
- long distance

Train.km & Gross hauled t.km

Step 1: data entry
Data collection

Train movements

- Monthly Data: Train.kilometers on the network (passenger and freight trains)

Railway Undertaking

Passenger Traffic
- Passenger carried
- Passenger-kilometres

Wagon load freight Traffic / Global
- Tonnes carried
- Tonne-kilometres

Wagon load freight Traffic / Trafic international
- Tonnes carried
- Tonne-kilometres

Infrastructure manager

- Passenger trains
- Freight trains

Step 1: data entry

<table>
<thead>
<tr>
<th>Months</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 - January</td>
<td>14,549</td>
<td>13,95</td>
<td>14,292</td>
<td>14,292</td>
<td></td>
</tr>
<tr>
<td>02 - February</td>
<td>13,534</td>
<td>13,591</td>
<td>13,283</td>
<td>13,283</td>
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<tr>
<td>03 - March</td>
<td>14,949</td>
<td>14,521</td>
<td>14,923</td>
<td>14,923</td>
<td></td>
</tr>
<tr>
<td>04 - April</td>
<td>14,262</td>
<td>14,167</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05 - May</td>
<td>14,595</td>
<td>14,604</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>06 - June</td>
<td>14,338</td>
<td>13,667</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07 - July</td>
<td>14,776</td>
<td>14,444</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08 - August</td>
<td>13,78</td>
<td>13,772</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09 - September</td>
<td>13,703</td>
<td>14,24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 - October</td>
<td>14,235</td>
<td>14,426</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - November</td>
<td>14,001</td>
<td>14,174</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 - December</td>
<td>13,857</td>
<td>13,965</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>170,579</td>
<td>169,521</td>
<td>42,498</td>
<td>42,498</td>
<td></td>
</tr>
</tbody>
</table>

Comment:
All monthly data of Adif in 2017, included Adif Conventional and Adif High Speed

Back Save comment Compiled report

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Data consistency

Verification

Control: Absolute difference with the previous year above 10% = red signal

Railway Undertaking

Passenger Traffic
- Passenger carried
- Passenger-kilometres

Wagon load freight Traffic / Global
- Tonnes carried
- Tonne-kilometres

Wagon load freight Traffic / Traffic international
- Tonnes carried
- Tonne-kilometres

Infrastructure manager
- Passenger trains
- Freight trains

Select a company:
Select year:

Infrastructure manager - Trains-kilometres on the network
Train kilometres - Passenger trains - Month x 1 000 000

Step 2: Control data

<table>
<thead>
<tr>
<th>Months</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2017</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 - January</td>
<td>67,466</td>
<td>67,690</td>
<td>68,805</td>
<td>68,805</td>
<td>1.65%</td>
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<tr>
<td>02 - February</td>
<td>61,591</td>
<td>64,444</td>
<td>62,357</td>
<td>62,357</td>
<td>-3.24%</td>
</tr>
<tr>
<td>03 - March</td>
<td>67,597</td>
<td>67,520</td>
<td>68,974</td>
<td>68,974</td>
<td>2.15%</td>
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<tr>
<td>04 - April</td>
<td>66,725</td>
<td>65,891</td>
<td>64,544</td>
<td>64,544</td>
<td>-2.04%</td>
</tr>
<tr>
<td>05 - May</td>
<td>61,977</td>
<td>67,060</td>
<td>80</td>
<td>80</td>
<td>15.29%</td>
</tr>
<tr>
<td>06 - June</td>
<td>61,306</td>
<td>66,676</td>
<td>66,676</td>
<td>66,676</td>
<td></td>
</tr>
<tr>
<td>07 - July</td>
<td>67,765</td>
<td>67,863</td>
<td>67,863</td>
<td>67,863</td>
<td></td>
</tr>
<tr>
<td>08 - August</td>
<td>66,405</td>
<td>67,960</td>
<td>67,960</td>
<td>67,960</td>
<td></td>
</tr>
<tr>
<td>09 - September</td>
<td>66,013</td>
<td>66,323</td>
<td>66,323</td>
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<td></td>
</tr>
<tr>
<td>10 - October</td>
<td>67,620</td>
<td>67,410</td>
<td>67,410</td>
<td>67,410</td>
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<tr>
<td>11 - November</td>
<td>65,467</td>
<td>66,036</td>
<td>66,036</td>
<td>66,036</td>
<td></td>
</tr>
<tr>
<td>12 - December</td>
<td>67,623</td>
<td>68,456</td>
<td>68,456</td>
<td>68,456</td>
<td></td>
</tr>
</tbody>
</table>

Total 787,556 803,358 264,68 264,68

Legend
- Data in Production database
- Data in Application
- Enter nothing for delete data

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Data consistency

Example: **Total length of lines** (in km) – Europe 1970-2015

UIC vs Eurostat


28 Countries (actual EU 28) + CH, NO, TR

UIC 1990: 250,000 km of lines

Eurostat 1990: 247,000 km of lines

Note: Missing values have been assessed by linear interpolation
Data consistency

Infrastructure

Total length of lines

UIC

EUROSTAT

Data consistency

Train movements

Example: **Passenger and Freight Train.km** (in millions) – Europe 2000-2015
Data provided by infrastructure managers

UIC vs Eurostat

**Train.km (2000-2015)**

28 Countries (actual EU 28) + CH, NO, TR

**UIC 2004:** 4 250 millions of train.km
**Eurostat 2004:** 4 150 millions of train.km

Note: Missing values have been assessed by linear interpolation
Data Dissemination & Publications

Online Consultation – UIC members and Public

Railisa Consultation - Schedules

26 MAY 17
Validation
Proof Of Concept

28 JULY 17
End of Acceptance Test

31 AUGUST 17
Public Release

30 JUNE 17
End of Development

04 AUGUST 17
Member Release

Not started
In progress
Completed

Has been delayed
Data Dissemination & Publications

Railway Statistics – Synopsis
Provisional data

http://www.uic.org/

UIC Safety Report

Railway Handbook:
Energy Consumption and CO2 emissions.

In collaboration with the International Energy Agency

2016 version:
http://uic.org/statistics
Thanks for your attention!

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