

Panel 1 – Energy Efficiency Management

The Standard Service Profiles – Specification and Verification of Energy Consumption

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Comparable Consumption values...

... for cars:



**Fuel consumption
(Ltr. per 100 km):**

e.g. VW Passat:
FSI 4 Motion

77 kW, BlueMotion

184 kW, V6,

urban:

6.3

14.1

extra-urban:

4.3



Comparable Consumption values...

... for railway vehicles:

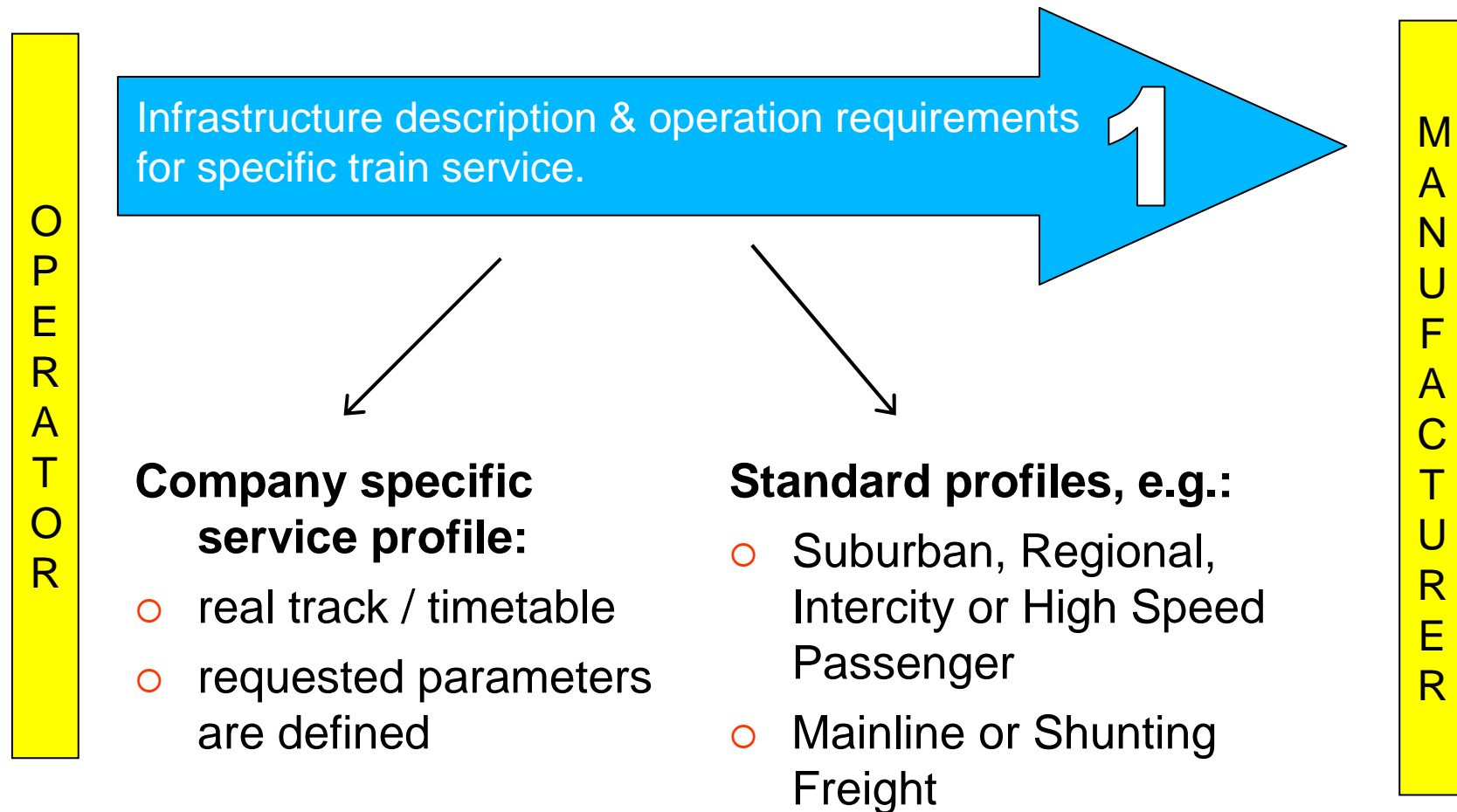


- Objectives of Railenergy WP 2.2:

Defining a standard process for specification and verification of energy consumption of rolling stock.

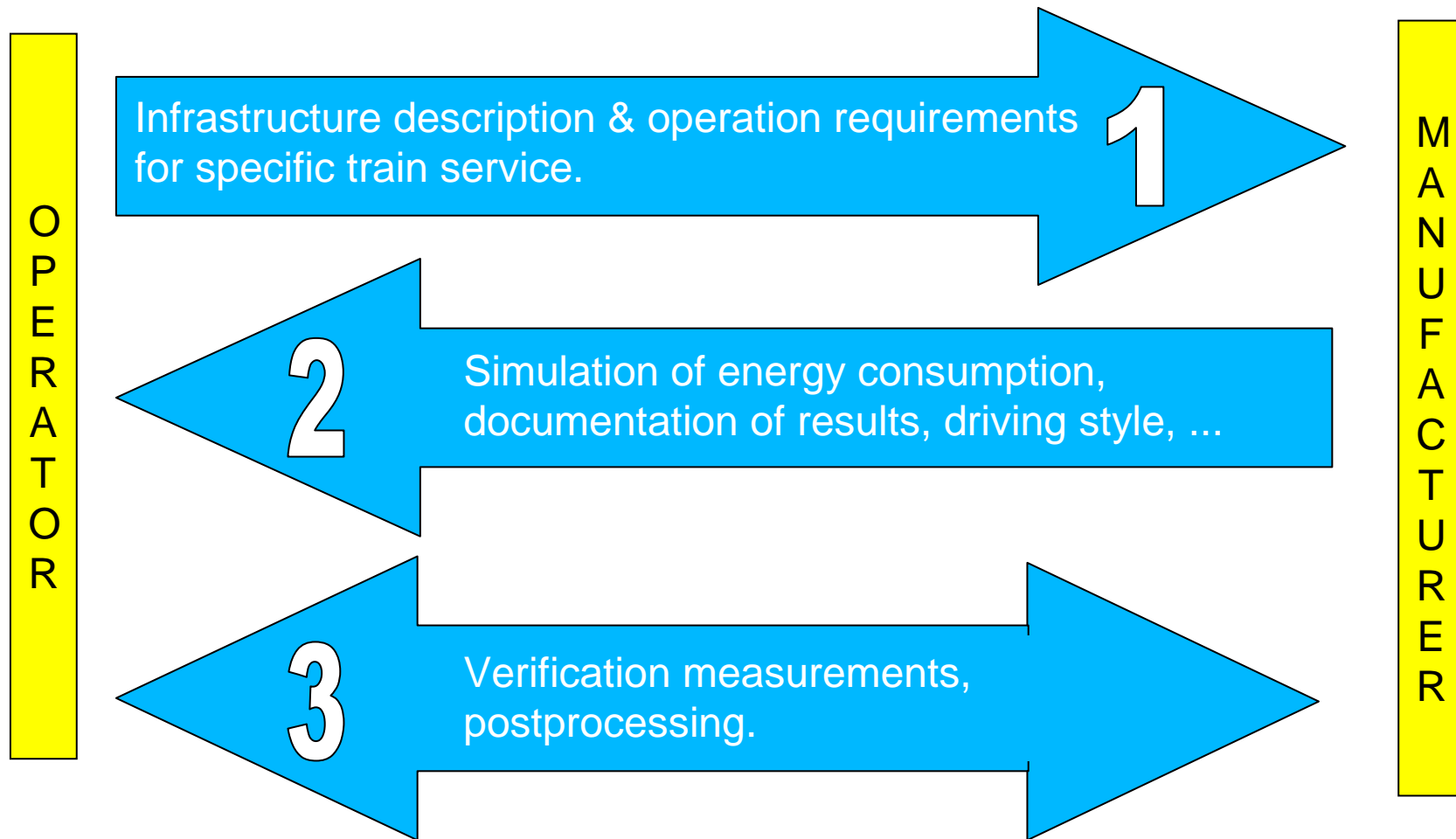


Standard Process





Standard Process



Activities performed & Status

Work done since March 2007:

- Agreement on general methodology
- Collection and analysis of data for description of standard service profiles
- Definition of methodology for calculation and verification of energy consumption.
- Pilot use case in Italy (simulation and measurement of consumption)
- Draft of preliminary standard document



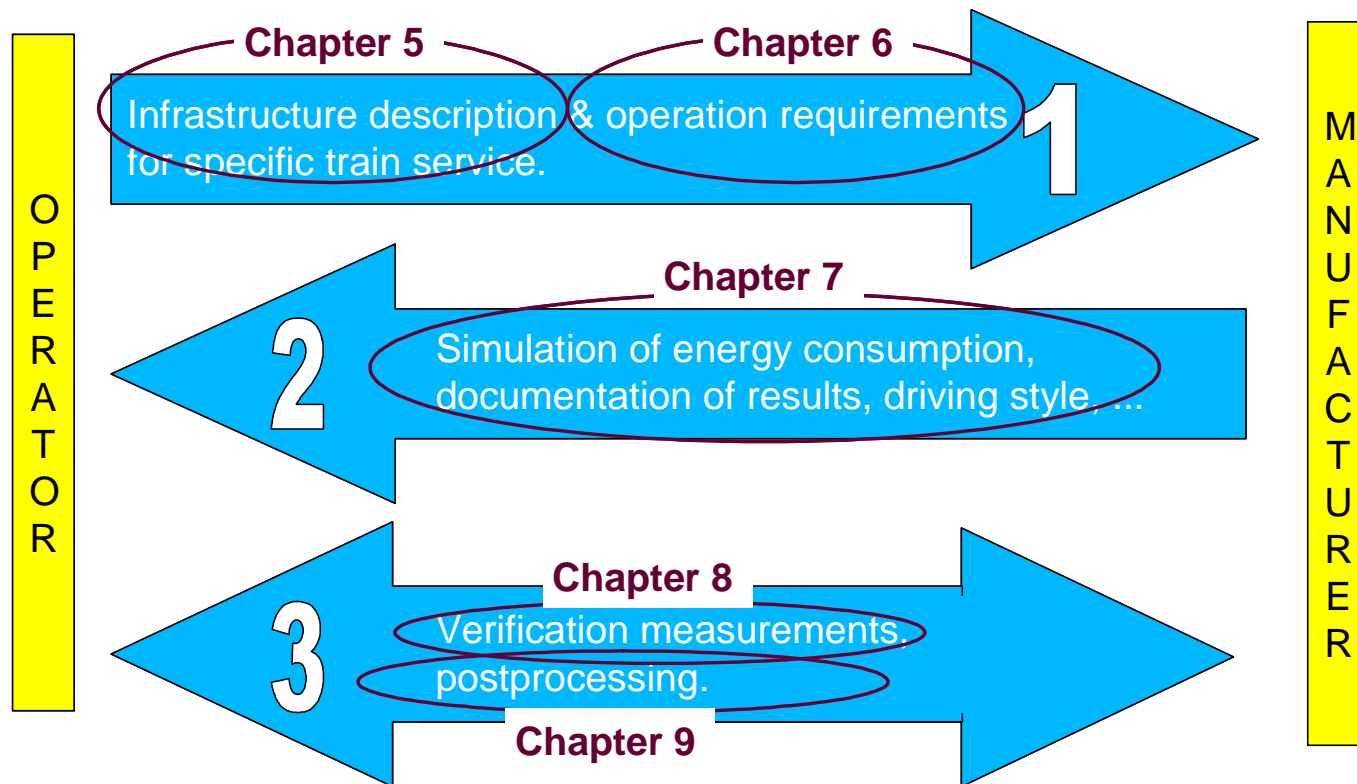
prStandard (draft)

Chapter 1: Scope and Purposes

Chapter 3: Terms and References

Chapter 2: Normative References

Chapter 4: General Methodology



Annex A: parameters

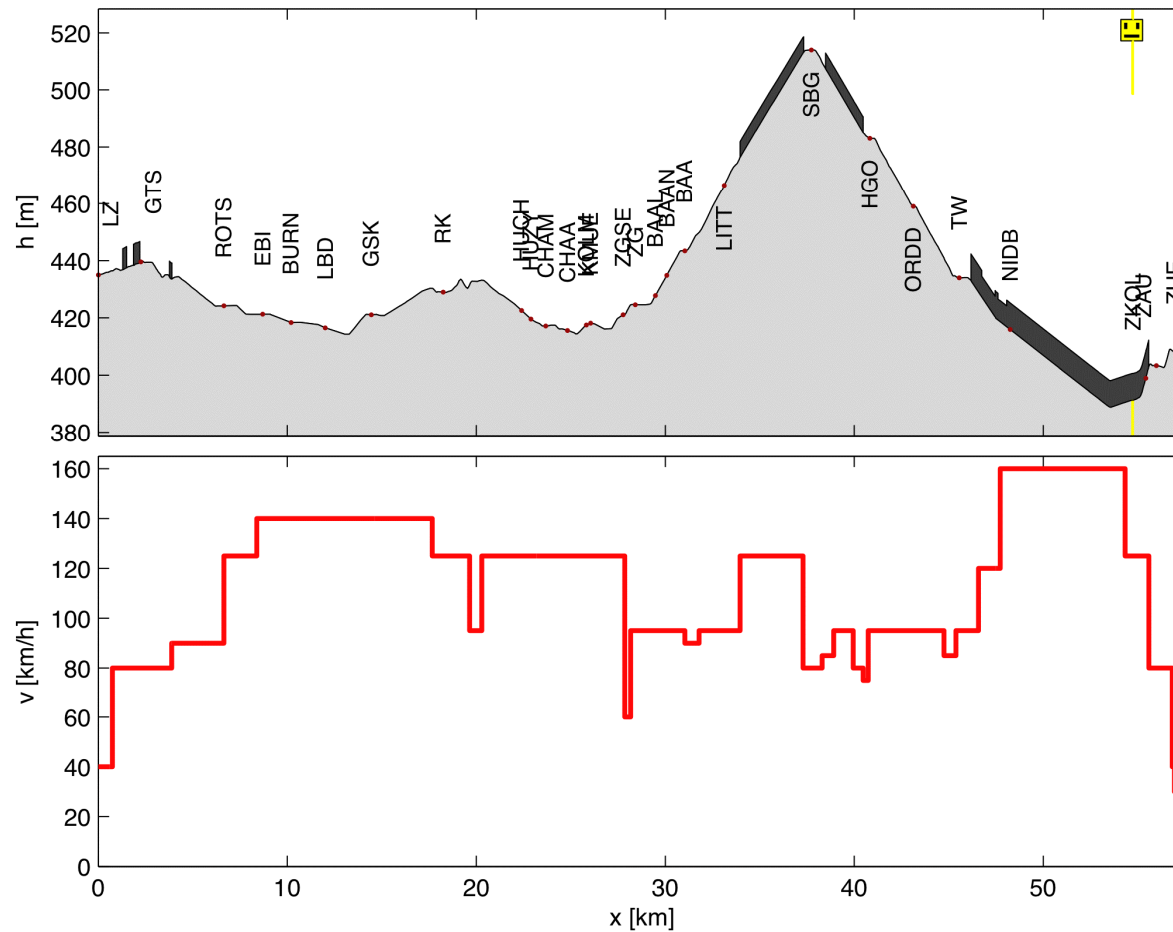
Annex B: standard profiles

...



Example: Real track profile

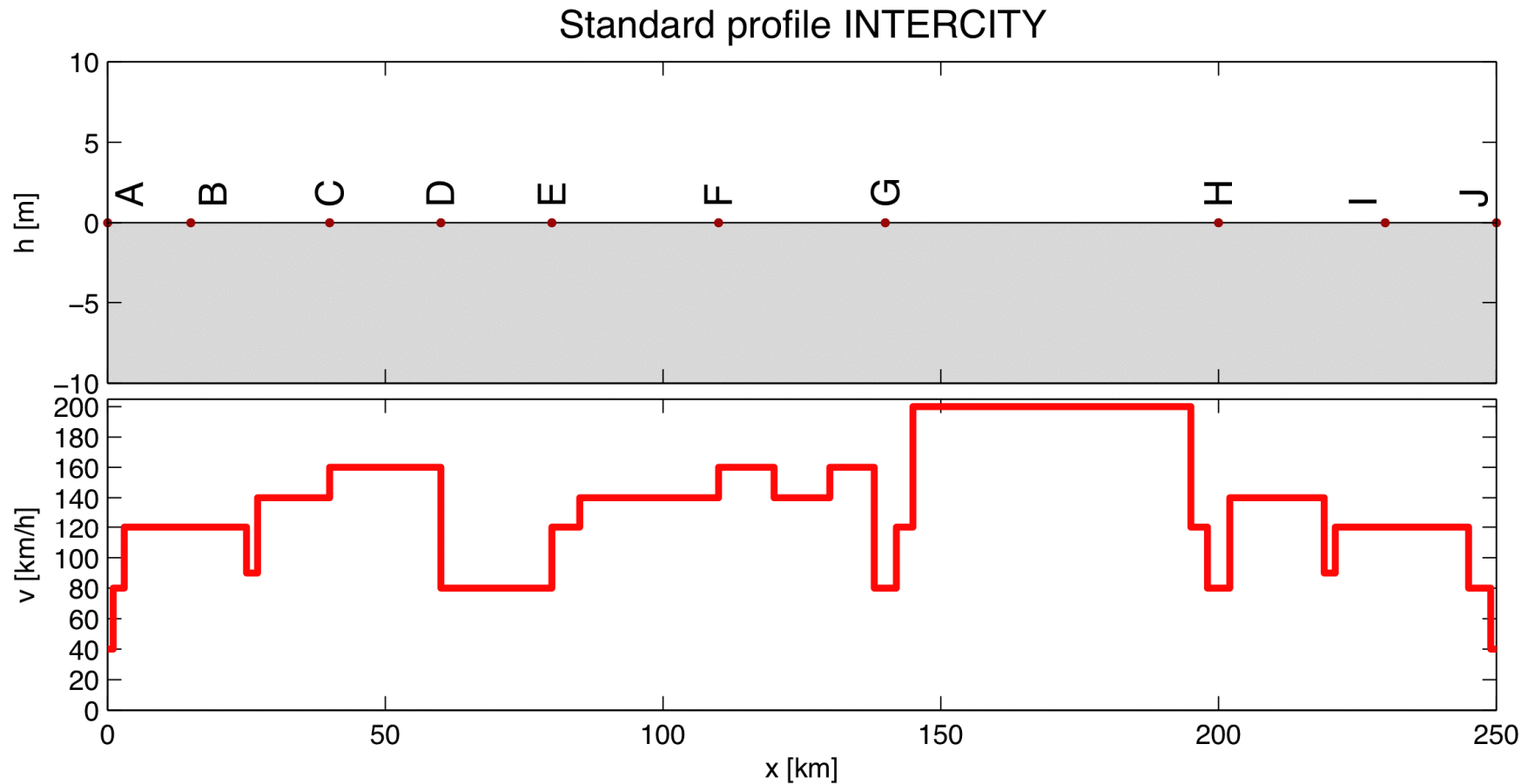
Real track profile of SBB (example)



Zurich -
Lucerne



Example: Standard Profile INTERCITY

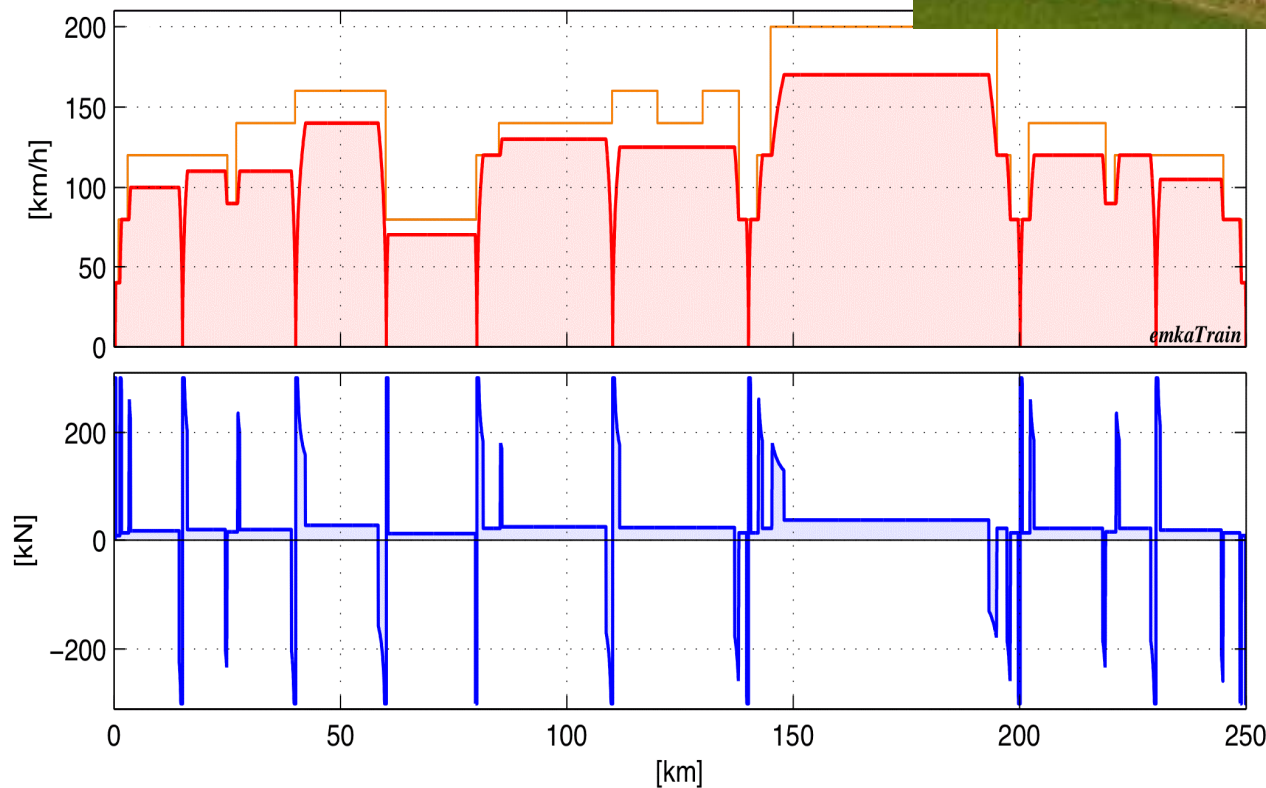




Example: Simulated train run with IC 2000



Train run with IC 2000:



INTERCITY
standard profile



Example: Results of Simulation



| Train | Consumption for the INTERCITY train run | Δ |
|--|---|----------|
| IC 2000 (as existing) | 2485 kWh | |
| IC 2000 optimised (motor flux, DC link voltage) | 2400 kWh | -3.4 % |
| IC 2000 optimised plus IGBT instead of GTO inverter | 2305 kWh | -7.2 % |

Next Steps & Outlook

- Final version of preliminary standard and WP reports: begin October.
- Preliminary standard can already now be used for procurement processes.
- Standard will be first TecRec, to be approved by the UIC-PTR steering board in October.
- Suggestion: user conference in one year time to adjust standard.