



Capacity for Rail



EU funded project Capacity4Rail

Project Workshop & Training

Digital operations for enhanced performance and capacity in European railways

27 & 28 April 2017

OLTIS Group Headquarters

Dr. M. Horáková 27A

Olomouc, Czech Republic

Detailed Programme & Practical Information



An event co-organised by:





Digital operations for enhanced performance and capacity in European railways



EU funded Capacity4Rail Project Workshop & Training

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OLTIS Group Headquarters,

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On behalf of the FP7 EU-funded project Capacity4Rail we would like to invite you to a

Project Workshop & Training

Digital operations for enhanced performance and capacity in European railways

to be held on 27 & 28 April 2017

OLTIS Group Headquarters,
Dr. M. Horákové 27A, Olomouc, Czech Republic

This public event is open for experts from all across Europe's rail infrastructure industry and academia. The workshop will focus on planning & management of railway operations and will showcase the key outputs from the EC FP7 funded project Capacity4Rail, namely:

**“Operations for enhanced capacity”
to achieve an automated, resilient, robust, adaptable and affordable railway system**

It will offer an excellent opportunity to hear about the latest developments in advanced tools for railway planning, simulation of railway operations, railway traffic management and innovative data architectures to enable the digitalisation of railway systems.

Round tables with representatives of the main European railway industry and academia will be held in the context of potential take up of these innovative solutions by the railways.

**Join us! It will be a fantastic time for looking at the future scenarios
for railways in 2030/2050 and of course, to boost networking**

Register online at:

<http://www.capacity4rail.eu/workshop-training-digital-operations-for-enhanced-performance-and-capacity-in>

Registration is mandatory and free of charge but only a limited number of participants can be welcomed on a first-come-first-served basis

An event co-organised by:

Programme

26 April – Welcome in Prague

12:00 – 19:30 **Welcome Drink**

Venue:
Washingtonova 25, Nové Město,
Prague, Czech Republic

19:44 – 21:59 **RegioJet trip to Olomouc**

Venue:
Prague Central Station

27 April – Morning Session

06.30 – 07.30 **Running session (voluntary)**

07:30 – 09:00 **Breakfast**

Venue:
Hotel Clarion
Jeremenkova 36, Olomouc, Czech Republic

09.00 – 10.00 **Registration and Welcome**

Venue: OLTIS Group Headquarters,
Dr. M. Horákové 27A, Olomouc, Czech Republic

10.00 – 10.30 *An Overview on Operations for enhanced capacity*

Egidio Quaglietta, Network Rail

- Criticalities and opportunities to improve operations in today's railways
- Introduction to the main objectives of the subproject "Operations for enhanced capacity"
- Creating a digital platform to manage train operations

10.30 – 11.30 *An automated tool to assess railway capabilities*

Vijay Ramdas – TRL
Aaron Barrett – TRL
Gemma Nicholson – Birmingham University
Petr Kroča – OLTIS Group

- Planning railways by means of a "whole-system" approach for a high-capacity, affordable, automated and resilient network.
- Capability Trade-Offs assessment tool: framework description
- Using the tool: application to a real case study

11.30 – 12.30 *Optimal strategies to manage major disturbances*

Paola Pellegrini – IFSTTAR

- Large disruptions in European railways
- Formalisation of disruption handling process by means of SysML
- Automating traffic management: opportunities and roadmap for automation increase
- Improving traffic management by automating delay prediction: algorithms and case studies
- Conclusions and recommendations on handling large disruptions in European railways

12.30 – 14.00 **Lunch**

Venue:
(to be confirmed)

Programme

27 April 2017 – Afternoon Session

14.00 – 15.00	<i>Simulation and models to support planning and management of railway traffic for improving capacity</i>	<p><i>Magnus Wahlborg—Trafikverket</i> <i>Anders Peterson— Linköping University</i> <i>Rasmus Ringdahl—Linköping University</i> <i>Petr Kroča—OLTIS Group</i></p> <ul style="list-style-type: none">• Main challenges of traffic planning and management in today's railways• An integrated tool for railway traffic planning and management: the CAIN/LiU framework• A real case study: The Malmö-Hallsberg corridor in Sweden• Outcomes, recommendations, and conclusions on use of modelling tools for automated traffic planning and management.
15.00 – 16.00	<i>Ubiquitous data for railway operations</i>	<p><i>John Easton—Birmingham University</i></p> <ul style="list-style-type: none">• Development of existing data models: multimodal concepts and the ON-TIME data dictionary• Models and architectures for handling diverse dynamic data resources: the RaCoOn framework and associated implementation, best practice.• Linked Open Data in support of multimodal transport operations, and asset monitoring devices.• Crowdsourced data for improved situational awareness
16.00 – 17.00	<i>Wrap up and conclusions</i>	<p><i>Egidio Quaglietta – Network Rail</i></p> <ul style="list-style-type: none">• Main achievements & lessons learned from Capacity 4 Rail Subproject 3 “Operations for enhanced capacity”• Interactive discussion: how to bring forward C4R tools and outcomes in railway industry.• Interactive discussion: Future direction of research and innovation in European railways?• Q&A
17.30 – 18.00	First official Capacity 4 Rail Geocaching, see www.geocaching.com	
18.00 - 19.00	City tour: History of Olomouc	
19.00 – LATE	Workshop dinner	

See next page for 28 April 2017

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Programme

28 April 2017 – Morning

06.30 – 07.30 **Running session (voluntary)**

07:30—9:00 **Breakfast**

Venue:
Hotel Clarion - Jeremenkova 36, Olomouc

09.00 – 11.00 **Technical visit I: Central Traffic Control Přerov**

Venue:
Tovární 3286, Přerov

11.00 – 12.00 **Technical visit II: Railway museum**

Venue:
Táborská 26, Olomouc

12.00 – 13.00 **Lunch at Restaurace Mačák**

Venue:
Elišky Krásnohorské 1, Olomouc

13.56 – 16.12 **Train trip back to Prague with RegioJet train**

RegioJet Train

Speakers



Egidio Quaglietta, Dr. Ing.

Egidio Quaglietta is currently Senior Network Optimisation Engineer in Network Rail where he mainly works as modeller and technical expert for the Digital Railway programme which aims at bringing cutting-edge technological solutions to improve the entire GB railway network. Egidio is leading the sub-project on “Operations for enhanced capacity” of the EU FP7 project Capacity for Rail.

He has worked for Ansaldo STS first as an engineer and then as a PhD student for a joint research project with University of Naples “Federico II” on simulation-based optimisation of railway signalling layout. After his PhD degree he has joined Delft University of Technology as postdoctoral researcher, significantly contributing to the delivery of the EU funded project ON-TIME where he was involved in the development and integration of advanced tools for optimal timetabling and real-time management of railway traffic.



Petr Kroča, Ing.

Born in 1967, Analyst, Project Coordinator, Marketing Director, President of the IRFC/ERRIC Conferences and Director of Research and Innovation at OLTIS Group. Earned his Master’s degrees at the Transport University in Žilina, Slovakia, specialisation Operation and Economy of Railway Transport with focus on Informatics. Worked for Czechoslovak and Czech Railways and went through various positions: Station Dispatcher, IT Administrator, Chief-Analyst of freight IT systems and Head of IT teams. In 1993 co-founder of the company JERID (now part of OLTIS Group). Responsible and coordinator of R&D projects in 7th Framework Programme, EUREKA, Horizon 2020, Shift2Rail (Open Calls) and CEF (Connecting Europe Facility) Transport.



Ramdas Vijay, Dr.

With over 20 years’ experience gained in the transport arena, Vijay has a vast knowledge and understanding of the UK railway industry and in the successful delivery of technical and strategic programmes of research and advice for the Department for Transport and other public and private sector organisations. She is an experienced scientist and manager with associated problem solving and analytical skills with a keen focus on developing innovative solutions and implementation plans to realise benefits of completed research and contribute to a step change in the industry.



Aaron Barrett, Dr.

Aaron is a researcher in the Asset Management division of Transport Research Laboratory Limited. Aaron has 5 years’ expertise in primary research, experimental design, implementation, data collection and data analysis. He is currently part of two railway research based EU consortiums Destination Rail and Capacity4Rail.

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Gemma Nicholson, Dr.

Gemma Nicholson is currently a Research Fellow in the Birmingham Centre for Railway Research and Education. Her background is in mathematics and its application to a range of applied research problems. Gemma has worked on a number of railway projects using modelling, simulation and analysis techniques, with a particular interest in the performance evaluation of railway operations.



Paola Pellegrini, Dr.

Paola Pellegrini is a researcher at IFSTTAR since 2011. She is an expert in railway planning and operational management who has been working in the field of artificial intelligence and mathematical optimisation in the railway transportation context. She has contributed to projects with industrial partners like SNCF and RFI and in the EC funded FP-7 ON-TIME and Capacity4Rail projects. Her current research field covers the development of optimization approaches to effectively exploit railway infrastructure capacity, aiming to the automation of the processes at both the tactical and the operational level.



Magnus Wahlborg, Ing.

Responsible at Trafikverket for co-ordinating research in Railway capacity and punctuality. Responsible at Trafikverket for traffic simulation Railsys Scandinavian user group. He is directly involved in the European programme Shift2Rail on railway capacity and traffic management. Magnus is also part of the research group KAJT which leads railway capacity research in Sweden. Magnus has actively contributed to several European funded projects on railways such as ON-Time, Capacity4Rail, In2Rail, Plasa and ARCC.



Anders Peterson, Dr., Assoc. Prof.

Associate professor Anders Peterson from Linköping University is an expert in mathematical modelling of public transport and railway. He received his PhD from the same university 2007 on a dissertation estimating travel demand in road networks.

For the last ten years he has been working with various national and international projects on railway timetabling, simulation of major interchange stations and pedestrian flows. He is currently the supervisor of 3 PhD students.

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Rasmus Ringdahl, MSc

Rasmus Ringdahl is a research engineer at Linköping University specialized in macroscopic traffic flow models and geographical information systems. He received his MSc. From Linköping University 2016 and has been involved in several research projects related to modeling traffic flows on highways. Rasmus has been involved in Capacity4Rail since 2016 and it is the first railway project he has contributed to.



John Easton, Dr.

Dr. John Easton is a Lecturer working with the Birmingham Centre for Railway Research and Education at the University of Birmingham. His research interests centre on methods for the storage, processing and display of railway related datasets – in particular data representation and exchange via ontologies, manipulation and integration of data relevant to the multimodal transport system, and cyber security in industrial control systems. John sits on the IET's Rail Technical and Professional Network executive team, and the NSAR Routes into Rail group.

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Practical information

Venue

OLTIS Group Headquarters
Dr. M. Horákové 27A
779 00 Olomouc
Czech Republic
Tel +420 588 208 555
www.oltisgroup.com

Accommodation

IMPORTANT:

There is large fair trade taking place in Olomouc at the same time.

To secure your accommodation, Oltis has pre-reserved rooms at the Hotel Clarion to be booked via this link only

<http://www.capacity4rail.eu/workshop-training-digital-operations-for-enhanced-performance-and-capacity-in>

Hotel Clarion

Jeremenkova 36,
779 00 Olomouc
Czech Republic
Tel +420 581 117 117

Information and contact:

To know more about Capacity4rail, visit: <http://www.capacity4rail.eu/>

For more information on the workshop, please contact:

OLTIS Group:

Petr Kroča
petr.kroca@oltisgroup.cz

Network Rail:

Egidio Quaglietta
Egidio.Quaglietta@NetworkRail.co.uk

UIC:

Isabelle De Keyzer
dekeyzer@uic.org

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Wednesday 26 April 2017

Welcome drink will be served during the whole afternoon at premises of the company RPP International (5th floor) at Washingtonova 25, Prague (just 3 minutes walk from the main railway station). After your arrival, you can store your luggage there and take an individual walk/dinner in Prague.

How to get from the Prague airport

PUBLIC TRANSPORT – BUS AND METRO

Alternative 1) from the airport take the bus line 119

(1 ticket / 90 minutes / CZK 32 / cca EUR 1.2)

- Bus line 119: Prague Airport – Nádraží Veveřská (metro line A) – 15 min
- Metro line A: Nádraží Veveřská – Muzeum (metro line C) – 15 min
- Metro line C: Muzeum – Hlavní nádraží (main railway station) – 5 min

Alternative 2) From the airport take the bus line 100

1 ticket / 90 minutes / CZK 32 (cca EUR 1.2)

- Bus 100: Prague Airport – Zličín (metro line B) – 10 min
- Metro line B: Zličín – Florenc – 30 min
- Metro line C: Florenc – Hlavní nádraží (main railway station) – 5 min

Alternative 3) From the airport take the bus line Airport Express

A ticket from a bus driver for 60 CZK (EUR 2.2 EUR) (Euro is not accepted)

- Prague Airport – Prague Main Train Station (metro line C) – 35 min

Bus stops are situated in front of the Arrival hall (Terminal 2).

Public transport counters in arrival hall (from 7 am to 10 pm).

Slot machines situated at bus stops (CZK cash required): 119, 100

From a bus driver (CZK cash required): Airport Express

TAXI

Contact counters of taxi operators are located at the arriving hall of Terminal 1 and 2. Departure points are displayed in front of arriving halls. The price for the taxi is about 650–850 CZK (24–32 Eur).

UBER

The price for this kind of “taxi” is about 270–320 CZK (10–12 Eur).

Train RegioJet (Private operator)

RegioJet (operated by Student Agency) will be used from Prague to Olomouc on Wednesday and back from Olomouc to Prague on Friday. RegioJet was the first private carrier in the Czech Republic operating its trains since 2011. There are 3 tickets/comfort levels available: STANDARD, RELAX and BUSINESS. We will use the STANDARD with following services on board – Free: WiFi, coffee drinks, 1 bottle of water, Czech newspapers and magazines – Payable (but very cheap) services: tea, sandwiches, beer (CZK 20, cca EUR 0.7), wine (CZK 45, cca EUR 1.7) etc. Euro is accepted.

Train Czech Railways (Czech national operator)

Friday 28 April 2017 from Olomouc (9:10) to Prerov (9:22).

Train Arriva (Private operator)

Friday 28 April 2017 from Prerov (10:29) to Olomouc (10:43).

This private carrier has started to operate its trains since February 2017.

Accommodation – Clarion Congress Hotel Olomouc

The organizer has booked 50 single rooms for the first night (26 April) and 40 single rooms for the second night (27 April). This contingent of rooms is reserved till 20 April 2017. The hotel is fully booked so it is not possible to reserve a room via Booking.com. Participants will pay for accommodation separately (cash or card) at the hotel reception.

Clarion Congress Hotel Olomouc offers exceptional comfort in modern rooms and conference and gastronomy facilities with state-of-the-art equipment.

For more info visit <http://www.clarioncongresshotlolomouc.com/en/>

Hotel services:

Reception services 24/7, Free Wi-Fi in the rooms and in public areas, International payment cards accepted, Wellness centre – Beer Spa, etc.

The hotel is located directly opposite the railway station.

Olomouc City

Olomouc (Czech: [ˈolomouts̩]) is a city in Moravia, in the east of the Czech Republic. Located on the Morava River, the city is the ecclesiastical metropolis and historical capital city of Moravia. Today it is an administrative centre of the Olomouc Region and sixth largest city in the Czech Republic. The city has about 100,000 residents, and its larger urban zone has a population of about 480,000 people.

Founded: 10th century, first mentioned: 1017.

Olomouc is said to occupy the site of a Roman fort founded in the imperial period, the original name of which, Iulimontium (Mount Julius), would be gradually corrupted to the present form. Although this account is not documented except as oral history, archaeological excavations close to the city have revealed the remains of a Roman military camp dating from the time of the Marcomannic Wars of the late 2nd century.

Technical visit I – Central Traffic Control Přerov

Venue: Tovární 3286, Prerov | Friday, 28 April 9:30–10:15 AM



Technical visit II – Railway Museum

Venue: Tábořská 26, Olomouc | Friday, 28 April 11:00–12:00 AM



Geocaching

Geocaching is an outdoor recreational activity, in which participants use a Global Positioning System (GPS) receiver or mobile device and other navigational techniques to hide and seek containers, called “geocaches” or “caches”, at specific locations marked by coordinates all over the world. The CAPACITY 4 RAIL team will have a unique opportunity to officially hide a “C4R Geocache”.

Morning run

The run in the morning on Thursday and Friday is voluntary. It will take about 1 hour and we will have 2 courses – 5 km and 10 km.

The Consortium



Co-funded under the 7th Seventh Framework Programme for research, technological development and demonstration of the European Commission, Capacity4Rail is bringing together a range of 46 stakeholders from 13 nations in an ambitious partnership: infrastructure managers, railway undertakings, logistics developers, research institutes and universities, industrial equipment providers, engineering companies, end-users...

Facts and figures:

Total budget: € 15 million
(€9.9 M€ funded)

Duration: 48 months

Project start date: 01/10/2013

Project end date: 30/09/2017

Partners: 46

Grant agreement: n° 605650

Project coordination:

International Union of Railways

16, rue Jean Rey, 75015 Paris, France

Coordinator: **Álvaro ANDRÉS ALGUACIL**

andres@uic.org

www.capacity4rail.eu

