



D4.4: Minutes of the 3rd NEAR² Workshop



**SEVENTH FRAMEWORK
PROGRAMME**

THEME 7

***Transport including
Aeronautics***



Project NEAR²

NETWORK OF EUROPEAN – ASIAN RAIL RESEARCH CAPACITIES

Coordination and Support Action

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2	EURNEX e.V.	EURNEX	Germany
3	TECHNISCHE UNIVERSITÄT BERLIN	TUB	Germany
4	CESKE VYSOKE UCENI TECHNICE V PRAZE	CVUT	Czech Republic
5	VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETAS	VGTU	Lithuania
6	Moscow State University of Railway Engineering	MIIT	Russian Federation
7	A-TRANS LLC	A-TRANS	Russian Federation
8	Petersburg State Transport University	PSTU	Russian Federation
9	TONGJI UNIVERSITY	IRRT	China (People's Republic of)
10	EIRC Consulting Private Limited	EIRC	India
11	State Higher Educational Establishment Donetsk Railway Transport Institute of Ukrainian State Academy of Railway Transport	DRTI	Ukraine
12	INSTYTUT KOLEJNICTWA	IK	Poland
13	TRAIÑOSE METAFORES-METAFORIKES YPIRESIES EPIVATON KAI FORTIOU AE	TRAIÑOSE	Greece

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Abstract: _____ D4.4 includes the Minutes of the 3rd Workshop which was held in Shanghai, China on the 10th of July, 2014. The workshop aimed at the identification of market needs and priorities through the involvement of and discussion with industry representatives coming from Asia.

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EXECUTIVE SUMMARY

In the framework of the NEAR² Project, 10 Concept Documents (CDs) were created aiming to examine all the technological, tactical and strategic issues concerning the achievement of interoperability and uninterrupted transport flow along the EU-Asia railway network. The CDs were formulated by the 10 Working Groups that were formed, each one of them dealing with one specific issue and following the categorization of EURNEX in Poles.

In order to evaluate and validate these documents, several actions have been scheduled to be taken by the project partners, the most important of which is the organization of 3 workshops. Several experts are invited in these workshops in order to assess the Documents and provide the partners with their valuable views on the issues examined.

The 1st workshop was organized on February 4th, 2014 in Vilnius, Lithuania with the participation of experts coming from the research community.

The 2nd workshop was organized on June 12th, 2014 in Warsaw, Poland with the participation of experts coming from industry.

The 3rd workshop was organized on July 10th, 2014 in Shanghai, China with the participation of experts coming from industry. Given that the 10 CDs were presented and evaluated during the 1st workshop, it was considered more efficient to ask the industry representatives to present their point of view in regards to the needs and priorities of the Trans-Eurasian railway network. Experts from the industry from Europe and Asia were invited to give presentations, which triggered interesting discussions. The outcomes will comprise significant input to the Final Project Publication.

CONTENTS

1.	Introduction.....	6
1.1.	The NEAR ² project.....	6
1.2.	Objectives of the 3 rd NEAR ² Workshop.....	7
1.3.	Scope of the document.....	7
2.	Organization of the 2 nd NEAR ² Workshop.....	9
2.1.	Procedures followed towards the organization of the 2 nd NEAR ² Workshop.....	9
2.1.1.	Organizational issues.....	9
2.1.2.	Technical issues.....	9
2.2.	List of invited experts.....	10
2.3.	List of participating experts and partners.....	11
2.4.	Workshop Agenda.....	13
3.	Minutes of the 3 rd NEAR ² Workshop.....	15
4.	Conclusions.....	21

LIST OF TABLES

Table 1:	List of invited experts.....	10
Table 2:	List of participating experts.....	11
Table 3:	List of participating Project partners.....	12

ABBREVIATIONS AND TERMINOLOGY

CD	Concept Document
EURNEX	European Rail Research Network of Excellence
TAR	Trans-Asian Railway
TRACECA	TRAnsport Corridor Europe-Caucasus-Asia
WG	Working Group
WP	Work Package

1. INTRODUCTION

1.1. The NEAR² project

The rapid development of Asian economies, particularly China, India and Russia has dramatically increased the trade volumes between Europe and Asia, with the largest trading partners of Europe actually being located in Asia. Nowadays, the most important trade loads are being transported between the two continents by sea.

Railway transport, using the existing and new land routes for the Trans-Eurasian land bridge presents a viable alternative to the maritime routes, which is gaining significant momentum. Due to the origins and current nature of this rail land bridge, numerous issues need to be resolved to bring the system to a modern state of infrastructure, services and operations. Furthermore, to build the capacity to fully exploit the systems potential, adaptation of new technologies, interoperability solutions and optimized operations should be considered. In order to support this objective, NEAR² proposes the creation of a Rail Research Network along the Trans-Eurasian land bridge, exploiting the structure and leveraging the achievements of the existing European Rail Research Network of Excellence (EURNEX), engaging this way all the existing research centres in a continuous and fruitful international cooperation.

One of the core activities of NEAR² is the formulation of 10 Concept Documents (CDs) that will map all the technological issues that concern the achievement of interoperability along the EU-Asia railway network. The gaps in the existing knowledge in terms of barriers and potential solutions are also being investigated, thus resulting to the identification of research needs and priorities. Each Concept Document covers a specific thematic area, based on the 10 EURNEX Poles of excellence, and is supported by a project partner, member of the NEAR² Working Group (WG). The 10 WGs of the project are the following:

1. Strategy and Economics
2. Operation and System Performance
3. Rolling Stock
4. Product Qualification Methods
5. Intelligent Mobility
6. Safety and Security
7. Environment and Energy Efficiency
8. Infrastructure and Signalling
9. Human Factors and Societal Aspects
10. Training and Education

Each one of the Working Groups identifies and analyses the relevant in each case topics of interest, while a more in depth analysis of the most prominent of them follows. The goal of this analysis is the identification of needs, barriers and research recommendations in relation to the Euro-Asian railway corridors.

Three workshops will be organized in the framework of the Project, in which a selected group of research representatives and industry parties will participate, having the goal to finalize and prioritize the initial topics of interest and the identified needs, barriers and recommendations.

1.2. Objectives of the 3rd NEAR² Workshop

The 3rd NEAR² Workshop was held in Tongji University's International Conference Center in Shanghai, China on the 10th of July, 2014 and was the last one of a series of 3 workshops foreseen in the framework of the Project.

As explained in D4.2 "Minutes of the 1st Workshop", the scope of all 3 workshops was initially set to be the evaluation of the 10 Concept Documents that were formulated in the framework of WP3 and following the categorization of EURNEX in Poles. Given that the 10 CDs were evaluated during the 1st workshop by the research community, it was considered more efficient to have the 2nd one and the 3rd one focus on examining the industry's point of view in regards to the needs and priorities of the Trans-Eurasian railway corridors. In this respect, the goal of the workshop was on one hand to inform the invited experts on the project outcomes achieved so far and on the other hand to listen to their opinions in regards to the issues on which focus should be placed.

Based on the above, the project partners presented the overall scope of the project and the results achieved;

The invited experts on the other hand, focused on:

- The chances and challenges of the railway in the supply chains between East-Asia and Europe;
- The experience of specific organizations in the Trans-Eurasian corridors and
- Existing bottlenecks and future projects in the Trans-Eurasian corridors.

The input gained through the above presentations and the discussions that followed will comprise significant input to the Final Project Publication.

1.3. Scope of the document

The scope of the present document is to report the outcomes of the 3rd workshop. More specifically, the present introductory chapter includes general information on the NEAR² Project and on the objectives of the workshop.

The second chapter aims to introduce the reader to the procedures that were followed during the organization of the workshop, including the list of the invited experts, the list of the experts that actually participated, as well as the agenda followed.

The third chapter comprises the core of the document presenting the minutes of the workshop, including all the discussions that took place among the project partners and the invited experts.

The final, fourth chapter includes the conclusions drawn through the presentations and the discussions that took place.

2. ORGANIZATION OF THE 3rd NEAR² WORKSHOP

2.1. Procedures followed towards the organization of the 3rd NEAR² Workshop

2.1.1. Organizational issues

The Institution of Railway and urban Rail Transit of Tongji University (IRRT) was the organizer of the 3rd Workshop of NEAR² Project. Prof. Xie Weida was the responsible of the organization. Dr. Gong Dao and Dr. Tu Yingfei were responsible for the contact and specific preparation issues.

The workshop was held at the International Conference Centre in Jiading campus of Tongji University in Shanghai, China. The promotional material for 50 persons (notebooks, pens, chest cards, Agendas of workshop and maps about hotel and meeting venue) were prepared by Nuokang Commercial Development Company who is experienced in organizing conferences. IRRT arranged a “First-hand experiment of China High Speed Railway” by taking high speed train on the next day of the workshop as well. The preparation of the coffee break is prepared by IRRT. The tea is served by the International Conference Centre. The lunches were delivered by the “Lihua Food”.

The hotel of “Crowne Plaza Shanghai Anting Golf” was chosen as an accommodation place for the invited experts since it can provide a shuttle bus to the conference venue and can give a favourable price to the University’s guests.

Invitations for the acquisition of visa were sent to the project partners and experts who required them. Except A-Trans from the Russian Federation, all other partners attended the workshop as planned without any problems.

2.1.2. Technical issues

The ultimate goal of the workshop was the identification of the railway market needs and priorities in the Trans-Eurasian corridors (mainly in Asia) and to receive the experts’ views and potential input. The agenda was organized in such a way so as to ensure the achievement of the goal. At the beginning of the meeting, IRRT which is the leader of WG3 provided a draft document of CD3 (Rolling Stock) and expected every expert to mark their professional comments down in the document which would be collected after workshop for then improving the document based on the suggestions.

Prior to the workshop, two project partners (MIIT, EIRC) had suggested two industry experts from Russian Federation and India respectively to prepare presentations including the current situation and future prospects of the Europe-Asia rail corridors. Likewise, CERTH assisted IRRT with the invitation of the other four experts from railway industry. The invited industry experts were asked to prepare presentations regarding the chances and challenges of the Trans-Eurasian corridors. Four presenters were chosen from China, Austria, and Hungary.

2.2. List of invited experts

Given that the representatives of the research community were invited and participated in the first NEAR² Workshop, the 2nd and 3rd one mainly aimed to involve experts from the industry. In this respect, most of the invited experts were from industry, especially the Chinese experts were mostly from the two largest railway vehicle manufacturers of China, i.e. CSR and CNR. An academican of the Chinese Academy of Engineering was invited and attended the workshop. It should be noted that emphasis was given to the experts coming from Asia, as the ones from Europe had been invited to the 2nd workshop which took place in Warsaw.

An official letter was sent to the selected experts by the Coordinator, Dr. Boile, inviting them to the workshop and letting them know that all the costs for their trips to Shanghai will be covered by the project. Table 1 below includes the list of invited experts and advisory board members:

Table 1: List of invited experts

	Name	Organization	Country
1	Robert Godward	ERA	Belgium
2	Klaus Jurgen Uhl	Mobility Consultants	Austria
3	Stefan Eisenbach	UBIMET	Austria
4	Andras Schmidt	AWT Rail HU LTD	Hungary
5	Valeriy Samsonkin	DNDC UZ	Ukraine
6	Dr. John Betak	Collaborative Solutions	USA
7	Pavel Chichagov	JSC Trans-container	Russian Federation
8	Sergey Ustinov	JSC Trans-container	Russian Federation
9	Ryuji Tsuchiya	Railway Technical Research Institute	Japan
10	Ganesan Raghuram	Indian Institute of Management	India
11	Liu Youmei	Chinese Academy of Engineering	China
12	Chen Qi	CSR Central Academy	China

13	Fan Yunxin	CSR ZELC	China
14	Huang Dalei	COSCO e-logistics	China
15	Qiu Weidong	COSCO container lines	China
16	Wang Shengkun	Qigihar Rolling stock Co.Ltd	China
17	Zhang Zhiqiong	CNR Dalian Locomotive and Rolling Stock Co. Ltd.	China
18	Zhang Hongxin (ZH)	Xian Railway Bureau	China
19	Luo Shengxi	Xian Railway Bureau Research Institute	China

2.3. List of participating experts and partners

Table 2 and Table 3 below present the list of participating experts and participating partners respectively:

Table 2: List of participating experts

	Name	Affiliation	Country	Email
1	Klaus-Jurgen Uhl (KJ)	MC Mobility Consultants GmbH	Austria	office@vienna-mc.com
2	Dr. John Betak (JB)	Collaborative Solutions	USA	john@collaborativcesolutionsllc.com
3	Andras Schmidt (AS)	AWT Rail HU LTD	Hungary	Schmidt@awt.eu
4	Pavel Chichagov (PC)	JSC Trans-container	Russian Federation	chichagovpk@trcont.ru
5	Sergey Ustinov (SU)	JSC Trans-container	Russian Federation	shanghai@trcont.ru
6	Ryuji Tsuchiya (RT)	Railway Technical Research Institute	Japan	tsuchiya.ryuji.06@rtri.or.jp
7	Stefan Eisenbach (SE)	UBIMET	Austria	seisenbach@ubimet.com
8	Valeriy Samsonkin (VS)	DNDC UZ	Ukraine	samsonkin@1520mm.com

9	Ganesan Raghuram (GR)	Indian Institute of Management	India	graghu@iimahd.ernet.in
10	Liu Youmei (LY)	Chinese Academy of Engineering	China	liuym@csrzelc.com
11	Wang Shengkun (WS)	Qigihar Rolling stock	China	shkwang@163.com
12	Chen Qi (CQ)	CSR Central Academy	China	
13	Fan Yunxin (FY)	CSR ZELC	China	Fan.yunxin@csrzelc.com
14	Huang Dalei (HD)	COSCOe-logistics	China	huangdl@cosconetwork.cn
15	Qiu Weidong (QW)	COSCO container lines	China	qiuwd@coscon.com
16	Zhang Hongxin (ZH)	Xian Railway Bureau	China	

Table 3: List of participating Project partners

N ^o	Name	Organization	Country
1	Prof. George Giannopoulos (GG)	CERTH/HIT	Greece
2	Dr. Maria Boile (MB)	CERTH/HIT	Greece
3	Ms. Annie Kortsari (AK)	CERTH/HIT	Greece
4	Prof. Wolfgang Steinicke (WS)	EURNEX	Germany
5	Dr. Robin Kellerman (RK)	TUB	Germany
6	MSc. Vitek Malinovsky (VM)	CVUT	Czech Republic
7	Prof. Gintautas Bureika (GB)	VGTU	Lithuania
8	MSc. Stasys Steisunas (SS)	VGTU	Lithuania
9	Nikolay Putsko (NP)	MIIT	Russian Federation
10	Ass. Prof. Natalia Ivanova (NI)	PSTU	Russian Federation
11	Mr. Karthik Kumar Sidramappa (KK)	EIRC	India
12	Prof. Xie Weida (XW)	IRRT	China

13	Prof. Han Bin (HB)	IRRT	China
14	Dr. Gong Dao (GD)	IRRT	China
15	Dr. Tu Yingfei (TY)	IRRT	China
16	Prof. Hu Jingtai (HJ)	IRRT	China
17	Ass Prof. Qian Cunyuan (QC)	IRRT	China
18	Ass Prof. Zuo Jianyong (ZJ)	IRRT	China
19	Ass Prof. Pu Qi (PQ)	IRRT	China
20	Dr. Hu Hao (HH)	IRRT	China
21	Sergey Tsykhmistro (ST)	DRTI	Ukraine
22	Prof. Cheptsov Mykhailo (CM)	DRTI	Ukraine
23	Ms. Ismini Chatzilamprou (IC)	TRAINOSE S.A	Greece

2.4. Workshop Agenda

The agenda of the workshop is presented below:

10:00 – 10:30 Welcome coffee and registrations

Opening and keynote presentations

10:30 – 10:40 Welcome and opening remarks Han Bin PhD. Prof., Dean of IRRT

10:40 – 11:00 Scope of the workshop and general information on the NEAR2 Project – Findings of the Project up to date Dr. Maria Boile

Session 1: Presentations on the Trans-Eurasian corridors by invited experts and discussion (20min presentation and 10min discussion) Moderator: Prof. Wolfgang Steinicke

11:00 – 11:30 The chances and challenges of the railway in the supply chains between East-Asia and Europe Mr. Klaus Jurgen Uhl, Mobility Consultants

11:30 – 12:00 The views of shippers and operators in India – Current situation and challenges in the Prof. Raghuram Ganesan, Indian Institute of

Trans-Eurasian continental railway lines Management-Ahmedabad

12:00 – 12:30 Coffee Break

Session 2: Presentations on the Trans-Eurasian corridors by industry representatives and discussion (20min presentation and 10min discussion) Moderator: Dr. Maria Boile

12:30 – 13:00 Problems and prospects of railway transport corridors between Asia and Europe. The view of the operator Mr. Chichagov Pavel

13:00 – 13:30 COSCO’s Practice on Eurasian Land Bridge Dale Huang,
COSCO China

13:30 – 14:30 Lunch and Networking

Session 2 (continue) Moderator: Prof. Wolfgang Steinicke

14:30 – 15:00 Natural Hazards Management for Eurasian Transport Routes Stefan Eisenbach

15:00 – 15:30 What is the liberalization of the rail transport in the EU? What does this mean for the EAST-WEST railway transportations? Logics and practice of private rail undertakings Mr. Andras Schmidt,
AWT Rail HU ZTR, Hungary

15:30 – 16:00 Coffee Break

16:00 – 16:30 Final discussion and workshop conclusions Dr. Maria Boile, All

16:30 End of Workshop

3. MINUTES OF THE 3rd NEAR² WORKSHOP

XW opened the workshop and welcomed all partners, as well as the AB members and experts. Following, the dean of IRRT, HB gave a welcome speech and introduced IRRT to all the guests.

Since there were new members in the conference room, MB invited all the participants to introduce themselves. MB thanked everyone and placed emphasis on the fact that even though this was the last workshop, there are still new people that are getting involved. This proves that one of the main goals of the project, the creation and continuous update of a network of experts in the railway domain has been achieved.

Following, MB gave a presentation on the NEAR² Project and specifically on the following issues:

- basic information on the NEAR² project
- The NEAR² Network and online inventory
- Review of the first two workshops
- Preparation towards the final publication of the project
- Final conference

Then WS took the floor to host the following sessions.

KJ gave a speech on “The chances and challenges of the railway in the supply chains between East-Asia and Europe”, which came as a continuation of his speech in the workshop in Warsaw. The presentation covered the following issues:

- Introduction of MC (Mobility Consultant);
- comparison of railway transportation to transportation by air and by sea and by air/sea in terms of cost and time;
- waybill;
- multimodal transportation;
- border crossing;
- 3D printing’s impacts on logistics.

He mentioned that the export of goods from China to Europe became increasingly complex and more costly. Transport process is expected to become more attractive and costs are expected to decrease.

Regarding waybills, he mentioned that China has not yet signed the agreement for a combined SMGS waybill. For multimodal transport operators, a big challenge is the insurance. The shipping companies are not prepared to pay the insurance of railways which is higher.

The problem related to the customs and police at the border is critical for the transportation, which increases the overall travel time. 3D printing will change the role of logistics companies, since goods can be sent electronically.

WS, SA, WX and DH discussed the border crossing problem and exchanged some information. WS mentioned that it is necessary to solve the issue of standardized containers and asked KJ his opinion. He mentioned that it is necessary to find a material lighter than aluminum but equally resistant and that railway cars must be well-equipped and have the same storing system as the airplanes.

Coming to another issues, WS mentioned that the Russians are aiming to have high speed trains covering some 700km per day. KJ's comment on that was that in the future, high speed rail will have to use different kind of containers, as normal ones will 'fly off' at such speeds. WX asked KJ if in his opinion China needs to establish new railway system. KJ replied that the important thing for China to do is to participate in Conferences, bodies and Agreements in order to resolve the border crossing issues and make the whole bureaucratic system more efficient and quick. At this point HD mentioned that COSCO participated in a research project, which led to the electronic seal for maritime transport. This is a seal that is put on goods at the origin port and checked only at the destination port. If the railways could establish a similar system, that would facilitate the whole border crossings issue. KJ agreed and stated that if China and Russia in particular worked on this issue, it would facilitate the situation. Finally, RK proposed the reliability problem from the social science point of view. KJ said that it is not speed vs reliability, but the railways should aim for both higher speed and higher reliability.

WS thanked KJ and gave the floor to GR in order for him to make a presentation entitled "The views of shippers and operators in India – Current situation and challenges in the Trans-Eurasian continental railway lines". The presentation consisted of the following parts:

- introduction of Indian Railways (IR)
- Public Private Partnerships in IR
- Modernization of IR

He said IR is the largest transportation and logistics organization and is under the government. The operational conditions were presented with some detailed data, including tons of freight, passenger volume, mode share change trends in freight traffic, etc.

The history of PPPs in IR was presented next. Internationally and in other sectors (road, aviation) services were the first to get privatized. IR thinks it has competitive advantage in managing services given the complexity of railway operations.

When it comes to modernization of IR, he said that to modernize Indian Railways, the focus is on two fundamental drivers which are safety and growth and along a five-pronged strategy. He showed two dedicated freight corridors and the different cargos for each route. Technical issues for developing High Speed Rail by IR were introduced at the end.

After his speech, WX asked about whether the high speed rail is for passenger or freight transportation and what the target the speed is. GR said it is for passenger transportation and the speed is about 300-350km/h.

Break

After the break, MB invited the next speaker, PC from Russia, who presented “Problems and prospects of railway transport corridors between Asia and Europe from the view of the operator”. He introduced himself and his company TransContainer first. Then he showed the major transport gateways between China and Europe. He mentioned that central and western regions of China are developing fast, and these regions geographically gravitate towards the railway transit route through Russia to Europe. The potential volume of transit along this route was given. He said that China-EU trade contains about 35% of high-value goods, which makes the choice of the railways competitive when value of time is considered. Through a table about estimated total costs, the railway transportation is compared with the sea transportation between different parts of China and different parts of Europe. He indicated that for some of the parts, rail transit is competitive. Then, key problems to be solved were listed. As regards the border crossing issue he mentioned the solution of preliminary declaration through the internet. For this to happen, the operator needs to have a preliminary agreement with the customs office. Key measures to be taken to boost the Eurasian continental rail transit were also proposed. He stated that it is necessary to establish long term tariffs suitable to sustain the operators’ business.

MB thanked PC and gave the floor to the participants for questions. WS asked why the solution of pre-declaration through the web which was mentioned by PC is not preferred by customers. PC replied that this is probably because it needs extra effort to be put on their behalf. He expressed the opinion that this is something that should be imposed to them by law both in order to resolve the border crossings issue and in order to ensure safety in the movement of goods. KJ mentioned that one of the problems is that in this case the price will be shown to everyone involved in this procedure. PC agreed that this is very important; but he still supported the opinion that this is a quite good solution to speed up the crossing of borders.

Next, MB invited HD from COSCO to give the speech. DH presented “COSCO’s Practice on Eurasian Land Bridge” taking HP’s logistic solutions as an example. First, he introduced COSCO Logistics, which belongs to COSCO Group. Then he continued with the introduction of its land-bridge business. He mentioned that Chinese President Mr. Xi has mentioned a lot about the ancient Silk Road, which is important for the development of the business of transportation in related areas. He showed a COSCO land bridge transport radian network which starts from Qingdao in east China. COSCO Logistics specializes on international railways transport business, based on New Asia-Euro Landbridge, and handling railways transport between China and Middle Asia. He then presented several typical cases of their company. He mentioned that they develop more landbridge routes from middle and west China rather than just east side of China, such as Yu (Chongqing)-Xin (Xinjiang)-Ou (Europe) landbridge. He took HP Global Supply Chain as an example to explain their new route explored based on intermodal transportation. He compared several logistic routes from China to Europe and analyzed the advantages and disadvantages. He specifically mentioned the case of the Piraeus port which is currently used by COSCO. He said that it is big port with great potential, as goods can go from there to Turkey, Africa and the Balkans. COSCO calls it the southern gate of Europe and is investing big amounts in order to build all the necessary facilities. Hewlett Packard, one of the companies that use the specific port, has seen its trade to increase since they started doing business with Piraeus. Other companies such as SONY

are starting to use this port. Finally DH mentioned that one of COSCO's major problems is empty containers and they are currently trying to select routes in order to minimize this issue.

KJ asked HD on his opinion about NYK Logistics and the use of the Northwest Passage through the Arctic. DH replied that this is quite a costly choice as there is need for icebreakers. In the future however it is probable for the companies to find a solution to this issue and the specific route to comprise a good alternative. AS commented that the choice of Piraeus is indeed a good one, there is no train connection however to the Czech Republic and Central Europe and that is a huge problem. DH agreed and mentioned that COSCO is working closely with the Hellenic Railways in order for them to build the missing links and give a solution to this problem.

Lunch

Coming back from lunch, WS referred to the difficult situation that occurred in global transportation some 4 years ago when the Eyjafjallajökull volcano erupted and ceased all air transport in Europe for a week. He mentioned that climate conditions are very important when it comes to transport and we need to try and predict them. Following he gave the floor to SE from UBIMET to make his presentation on the topic of weather monitoring and alert systems for rail corridors. SE first made a brief introduction of the Institute for Ubiquitous Meteorology (UBIMET) and then came to the main points of the presentation which included the following:

- Natural hazards, how is it possible to monitor long distance transport corridors?
- Problem, no meteorological sensors & only few information;
- Solution, remote sensing methods;
- Risk analysis, where do I have to expect a high risk of natural hazards?

At the end of the presentation, he expressed that UBIMET was very open for joint research projects. After his presentation, RT and SE agreed that there are still further important aspects that should be considered. RK asked one question about the historical research resources of natural hazards on railway and SE mentioned that normally there were many books and documentations of flash flood coming down, trees falling down and sand drifting etc. RT mentioned that most people that deal with climate conditions focus on when to stop the transport operation due to specific weather event. It is equally important however to decide when to re-start the operations, once the event has been terminated. SE agreed that they mostly focus on when to stop; this however could be a very interesting topic for a future research project.

Coming to the final presentation, WS invited AS from AWT Rail HU LTD to make his presentation which was entitled "What is the liberalization of the rail transport in the EU? What does this mean for the east-west railway transportations? Logic and practice of private rail undertakings." In the presentation, he first introduced AWT, which is one of the largest private rail transport operators in Europe and then presented the situation of rail market in European Union. He mentioned that the situation of the state-owned freight rail companies,

rail freight forwarders, and rail infrastructure management has changed since the liberalization; many rail experts moved to the private rail companies, state-owned rail operators lost a significant part of the market, pressure on the management of state-owned rail companies continuously increases due to the state budget. Then he analyzed why rail transport cannot be as competitive as road transport in the EU, and provided several suggestions on promoting competitiveness of rail transport, e.g. the rail freight undertakings need new regulations, new collective forms of cooperation. At the last part of his presentation, he introduced the current situation of rail freight corridor no. 6 (Mediterranean corridor) and listed several aspects that need to be harmonized, i.e. different track gauges, signaling systems, electrification systems, limitations of train lengths, maximum train speeds, different axle loads, different systems of operational rules and capacity issues, etc.

After AS's presentation, WS thanked him and mentioned that the liberalization of the market is very important indeed and EURNEX has also been working on this issue for some years now. The EC must provide support on this matter so as to make the railways competitive against other modes. KJ commented as one looks at the east/west freight transportation there are mostly consortia that are doing business. If one looks at the regulations, it is easy to understand that there are illegal cartels forming monopolies and preventing other countries to enter competition. Since liberalization doesn't exist in the Asia (Russia, China, Mongolia, etc) every forwarder from the EC may actually be breaking the law.

After the discussion, MB opened the floor to any comments that the participants would like to make about the project and the discussion that took place WS stated that railway researchers must look not at the current situation of maritime transport, but on the conditions that will prevail in the future. Future railways must compete with future maritime.

Following, JB from Collaborative Solutions took the floor to make some overall comments, which are summarized below:

1. It is important to identify who handles the through rate issue. In the US, it is only one subsidiary that handles it. One can get a train from the East Coast all the way to Europe.
2. Intermodal operations must address terminal throughput. In the US, more than 10,000 trains are handled by moving containers in terminals in very short time. Inland ports have been built, where containers are taken and unloaded.
3. In the US one train may travel from coast to coast. Drivers will get off of course, as they cannot drive for such long times, but the locomotives stay unchanged. This saves a lot of time and hence money to the companies.
4. Coming to railway costs, JB mentioned that it would be efficient to separate the infrastructure and allocate it to a state owned company which will undertake all the associated costs.
5. 2 speakers mentioned in their presentations that there is need to examine what will happen when the market changes (eg. 3D Printers). It is necessary however to look

at the future in total and examine also demographics, population, future production, new emerging markets, etc.

JB also mentioned some issues that did not come up during the workshop:

1. Apart from issues that have to do with weather conditions that may interfere with the railway operations, it is important to examine when the lines may actually break, a fact that will also cause major disruptions at the services. Currently there are some systems that are being developed that can predict, based on the existing defects of the network, when the lines may reach a breaking point. This is actually an excellent opportunity for research.
2. Another important issue is the human factor. JB mentioned that in the US, 50% of the people dealing with the railways are going to retire in the next few years. It is therefore very important for experts to figure out a way to attract new people to enter the railway business.
3. The climate risk factor is of great importance especially in relation to resilience of the railway networks. For example, in northern US the railway lines have been constructed taking under consideration climate conditions that no longer exist. Climate risk must be examined under the interdependencies of all, current and future weather conditions. Although it is difficult to make predictions as data don't always exist, it is actually a fascinating topic to deal with.

At this point, MB made a brief summary of what was discussed during the day and mentioned that very good input was acquired that will help in the formulation of the final report. She then thanked all the participants for the fruitful discussion and closed the workshop.

END OF WORKSHOP

4. CONCLUSIONS

The 3rd NEAR² Workshop took place in Shanghai China on the 10th of July, 2014 with the twofold scope to inform the invited experts on the project results achieved so far and to identify the needs and priorities of the industry, in regards to the Trans-Eurasian railway corridors. Plenty of experts from industry were invited to participate, such as Mobility Consultants from Vienna, Indian Railway, JSC TransContainer from Russia Federation, COSCO Logistics from China, CSR and CNR from China, UBIMET from Austria and AWT Rail HU LTD from Hungary.

The participation of these high level experts, along with the expertise gained through the project by the project partners had as a result presentations of great interest which serve as an added value to the project. The fruitful discussions that followed enable the participants to identify and highlight the major needs and priorities of the corridors under study.

The conclusions can be drawn as:

1. The main problem is the border crossing in aspects of policy, legislation, custom and police work modes, etc.
2. The railway transportation is competitive for high-valued goods' transportation between some certain areas.
3. 3D printing technology will impact the logistics industry.
4. Intermodal solutions are preferred by industry.
5. The railway transport, especially for the long distance transport corridors, is mainly faced with natural hazards, so, researches for the system monitoring, forecasting, processes and information exchange are the most important aspects to be considered.
6. To be successful, the railway transport in Eurasian needs better regulations, better collective forms of cooperation.

According to above conclusions, it can be summarized that: the interoperability of railway transportation system and the transport train safety are the bottlenecks for Eurasian Railway Transportation Corridor, and the future research should focus on both of these topics.