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QUALITY SPECIFICATIONS FOR ROADWAY BRIDGES,  
STANDARDIZATION AT A EUROPEAN LEVEL

# **WG3, WG4 and WG5 WORKSHOP OF COST ACTION TU1406**

23 – 24 November 2017

Riga, Latvia



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# WG3, WG4 and WG5 Workshop Sustainable Bridge Management

## **COST ACTION TU1406**

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STANDARDIZATION AT A EUROPEAN LEVEL

23<sup>rd</sup> and 24<sup>th</sup> November, 2017

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### **ACTION CONTACTS**

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# 1. INTRODUCTION

## 1.1. OBJECTIVES

The sixth workshop of COST Action TU1406 “Quality specifications for roadway bridges, standardization at a European level” ([www.tu1406.eu](http://www.tu1406.eu)), will be held in Riga, Latvia, at the Scientific Library of the Riga Technical University on the 23<sup>rd</sup> and 24<sup>th</sup> of November 2017.

In the first year of COST Action TU1406 the main focus was on the screening process of existing European documents and establishing a database for performance indicators (PI). The next step in the project was focused on technical and non-technical bridge performance goals (PG), followed by the establishment of quality control plans (QCP) and recommendations for guidelines. Therefore, the workshop will be dedicated to the following topics:

- Bridge management systems;
- Methods and experiences of bridge Life-cycle Assessment;
- Quality control plans;
- Quality control measurements, techniques and methods.

During the 2-day workshop selected manuscripts will be presented and discussed, followed by WG3, WG4 and WG5 meetings.

## 1.2. PROGRAMME

<b>Thursday, November 23<sup>rd</sup>, 2017</b>	
08:30 – 09:00	Registration
09:00 – 09:15	Welcome and opening session by José Matos, Chairman of COST TU1406 Juris Smirnovs, Dean of Faculty of Civil Engineering, Riga Technical University, Latvia
<b>Session 1</b> <b>Moderators: Ainars Paeglitis, José Matos</b>	
09:15 – 09:45	Keynote Presentation <i>Achievements of bridge management in Latvia</i> by Roberts Auzins, Latvian State Roads, Latvia
09:45 – 10:15	Keynote Presentation <i>Experiences with management and structural performance assessment of highway bridges in South Africa</i> by Pilate Moyo, University of Cape Town, South Africa
10:15 – 10:30	<i>Robustness of the MAUT model applied to bridge maintenance planning</i> by Zaharah Bukhsh, University of Twente, The Netherlands
10:30 – 10:45	<i>Assessment of reliability of bridges exposed to local scour</i> by Nikola Tanasić, University of Belgrade, Serbia
10:45 – 11:15	Coffee break

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**Session 2**
**Moderators: Janis Barbars, Rade Hajdin**

11:15 – 11:30	<i>A cost-based quality control plan for a sustainable bridge maintenance scheduling</i> by Mariano Angelo Zanini, University of Padova, Italy
11:30 – 11:45	<i>Bridge quality appraisal methodology: application in the Strimonas bridge case study</i> by Dismosthenis Kifokeris, Aristotle University of Thessaloniki, Greece
11:45 – 12:00	<i>Deusto bridge. Study and diagnosis for rehabilitation</i> by Ignacio Piñero, Fundación TECNALIA, Spain
12:00 – 12:15	<i>Benchmark study frame bridge Glattfelden – an intermediate report</i> by Khurram Mumtaz, Bauhaus-University Weimar, Germany
12:15 – 12:30	<i>Recent developments and remaining challenges with the use of vibration based scour methods in determining unique scour performance indicators</i> by Kenneth Gavin, Delft University of Technology, The Netherlands
12:30 – 13:30	Lunch

**Session 3**
**Moderators: Irina Stipanovic, Amir Kedar**

13:30 – 14:00	Keynote Presentation <i>Challenges of bridge management in Estonia</i> by Sander Sein, Estonian Road Administration, Estonia
14:00 – 14:30	Keynote Presentation <i>Russian bridge management systems - state of the art and further risk-based development</i> by Anton Syrkov, Transmost, Russia
14:30 – 14:45	<i>Carbonization and service life protection of a historical reinforced concrete bridge</i> by Naida Ademovic, University of Sarajevo, Bosnia and Herzegovina
14:45 – 15:00	<i>Bridge monitoring with harmonic excitation and principal component analysis</i> by Viet Ha Nguyen, University of Luxembourg, Luxembourg
15:00 – 15:30	Coffee break

**Session 4**
**Moderators: Vikram Pakrashi, Poul Linneberg**

15:30 – 15:45	<i>Inspection processes of Sustainable small bridges: a case study</i> by Odysseas Manoliades, Democritus University of Thrace, Greece
15:45 – 16:00	<i>On the Potentials for Synergy Between COST Action TU1406 and the JCSS</i> by Michael Faber, Allborg University, Denmark
16:00 – 16:15	<i>Sustainability assessment of civil engineering works</i> by Antonio Burgueño, FCC Construcción, Spain
16:15 – 16:30	<i>Open Discussion – Collecting findings from the Workshop</i> <i>Note: all attendees can contribute to open discussion. The moderator will collate the notes</i>

**Social Events**

17:00 – 19:00	Bus tour in Riga
19:00 – 22:00	Networking dinner in “Lido Leisure Centre”

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**Friday, November 24<sup>th</sup>, 2017**

08:30 – 09:00	Registration		
09:00 – 10:45	Joint WG meeting (inc. presentation of WG2 report by Irina Stipanovic)		
10:45 – 11:15	Coffee-Break		
11:15 – 12:30	WG3 meeting	WG4 meeting	WG5 meeting
12:30 – 13:30	Lunch		
13:30 – 15:00	WG3 and WG4 case study discussions	WG5 session on standardization	_____
15:00 – 15:30	Coffee-Break		Industry Advisory Board (IAB) - WG6 meeting
15:30 – 16:00	WG3 and WG4 case study discussions	WG5 session on standardization	Industry Advisory Board (IAB) meeting
16:00 – 17:00			

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**Joint WG Meeting**

09:00 – 09:20	<i>WG2 Report</i> by Irina Stipanovic
09:20 – 09:40	<i>WG3 Report</i> by Rade Hajdin
09:40 – 10:00	<i>Case Studies</i> by Amir Kedar
10:00 – 10:15	<i>A proposal for classification of Research Performance Indicators</i> by Maria Pina Limongelli
10:15 – 10:45	<i>Discussion, future steps</i>

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**WG3 Meeting**

11:15 – 12:30	<i>Application of the Quality Control Framework</i> by Rade Hajdin
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**WG4 Meeting**

11:15 – 11:35	<i>WG4 suggested procedure for case study preparation</i> by Amir Kedar
11:35 – 11:45	<i>Case studies database updates</i> by Amos Duke
11:45 – 12:00	<i>Girder bridges sub group &amp; discussion open items</i> by Panagiotis Panetsos
12:00 – 12:15	<i>Arch bridges sub group &amp; discussion open items</i> by Naida Ademovic
12:15 – 12:30	<i>Frame bridge sub group &amp; discussion open items</i> by Sander Sein

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**WG5 Meeting**

11:15 – 11:30	<i>Presentation of WG5 progress and future plans to date</i> by Vikram Pakrashi
11:30 – 12:00	<i>Discussion around responses from factsheet templates and report template</i> by all participants
12:00 – 12:30	<i>Discussion around Liaison of TU1406 WG5 with normative bodies</i> by all participants

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**WG3 & WG4 Meeting**

13:30 – 14:00	<i>WG3 Frame bridge case study example</i> by Poul Linneberg
14:00 – 14:30	<i>Strimonas bridge case study example</i> by Panagiotis Panetsos
14:30 – 15:00	<i>WG3 Arch bridge case study example</i> by João Amado
15:00 – 15:30	Coffee-Break
15:30 – 16:00	<i>4-031 Most přes řeku Skalice u obce Nerestce arch bridge</i> by Pavel Ryjacek
16:00 – 16:30	<i>Scour example</i> by Nikola Tanasic
16:30 – 17:00	<i>Glattfelden SBB Unferführung Frame bridge</i> by Sander Sein

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**WG5 Session on Standardization**

13:30 – 14:00	<i>Discussion with presenters in Session 4 on recommendation and guidelines (challenges, liaison aspects and lessons on the topic)</i> By all participants
14:00 – 14:30	<i>Queries from core committee on existing and planned works on WG5</i>
14:30 – 15:00	<i>Summary of follow-up activities for WG5</i>

*Note: This session will be more interactive and the timelines are indicative.*

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**Industry Advisory Board (IAB) – WG6 Meeting**

15:00 – 15:20	Barcelona/Owners meeting
15:20 – 15:40	Industry owners booklet
15:40 – 16:00	AOB

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**Industry Advisory Board (IAB) Meeting**

16:00 – 16:10	Follow-up from previous (IAB-WG6) meeting
16:10 – 16:20	Progress on owner contacts
16:20 – 16:35	Planning of IAB review of reports from WGs
16:35 – 15:50	Go through previous MoM and update task-list
16:50 – 17:00	AOB

## 1.3. LOCATION, DATES AND TRAVELLING

### 1.3.1. LOCATION AND DATE

The workshop will take place at Riga Technical University (RTU), Scientific Library conference rooms, location: **Paula Valdena street 5, Riga, Latvia.**



Fig. 1. RTU Scientifics Library

Workshop dates are Thursday 23<sup>rd</sup> and Friday 24<sup>th</sup> November 2017.

Riga Technical University is the largest technological university in the Baltic States with rich history and clear future vision aimed at promoting excellence in student academic results, research, and global issues in cooperation with the industry and foreign partners. We believe that together we can make a better world.

The exact meeting rooms will be signed at the location.

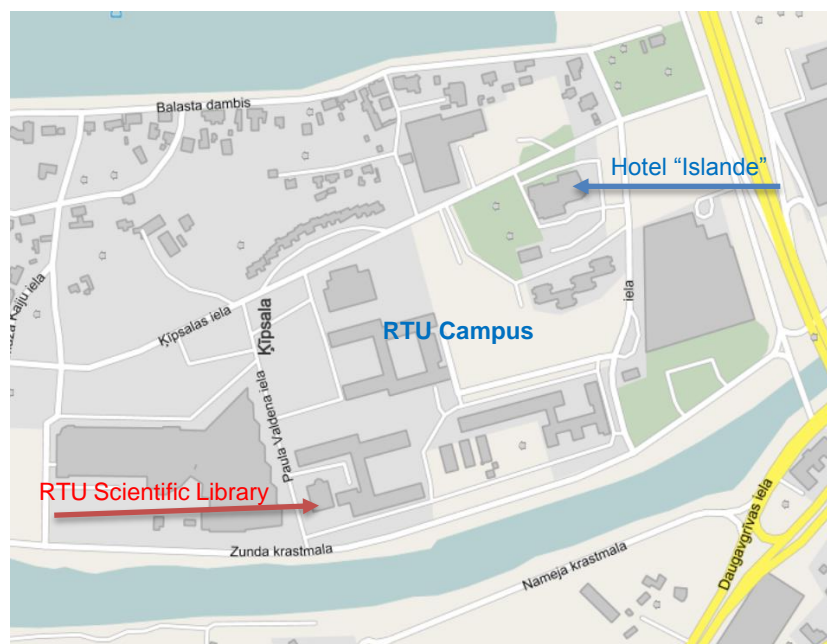


Fig. 2. Location scheme of Workshop Venue



Frequent busses and trolleybuses run from city centre to University buildings located on Ķīpsala island of River Daugava:

- Bus 13, 30, 37, 41, 53, 57 to stop Ķīpsala
- Trolleybus 5, 12, 25 to stop Ķīpsala

Tickets can be bought on the bus by driver or in "Narvesen" newspaper stall (cheeper).

### 1.3.2. HOW TO GET TO RIGA

A useful link for airway connections to Riga is: [www.riga-airport.com](http://www.riga-airport.com); [www.airbaltic.lv](http://www.airbaltic.lv).

#### By public transport

**Bus No.22** (frequency 10 - 30 minutes) has direct services between the airport and the city centre. You will get out straight at the terminal on the 2nd level. To get on the bus at the airport look for bus stop located opposite the terminal behind the car park P1.

Take the **bus No. 22** ([schedule](#)) till the bus stop "RMR" (journey time ~10 minutes), then change to the bus **No. 53** ([schedule](#)) or minibus **No. 236** and continue your trip till the bus stop "**Preseš nams**" (journey time ~7 minutes). Then cross the road using the underpass **Journey time** to city centre or conference venue about 30 minutes.

A ticket for an unlimited number of trips is valid 24 hours from its first usage and costs 5.00 EUR. A regular ticket for one trip can be bought from the bus driver 2.00 EUR, but if you buy it before commencing your trip at the airport services and tourism information bureau "Welcome to Riga", a regular one-way ticket will cost you 1.15 EUR.



## 1.4. ACCOMMODATION

The accommodation is the responsibility of participants and the organizers do not offer apartments.

As a good option advice the **Islande Hotel** that is about 5 min walk from conference venue. Additional hotels in Riga can be found through <http://www.latvia.travel/en/city/riga-8>.

## 1.5. COMMITTEES

An executive scientific committee as well an organizing committee were defined.

### 1.5.1. SCIENTIFIC COMMITTEE

<i>Name</i>	<i>TU1406 Position</i>	<i>E-mail</i>
<b>José Matos</b>	Chair	chair@tu1406.eu
<b>Irina Stipanovic</b>	WG2 Leader	wg2@tu1406.eu
<b>Rade Hajdin</b>	WG3 Leader	wg3@tu1406.eu
<b>Amir Kedar</b>	WG4 Leader	wg4@tu1406.eu
<b>Vikram Pakrashi</b>	WG5 Leader	wg5@tu1406.eu

### 1.5.2. ORGANIZING COMMITTEE

<i>Name</i>	<i>TU1406 Position</i>	<i>E-mail</i>
<b>José Matos</b>	Chair	chair@tu1406.eu
<b>Rade Hajdin</b>	WG3 Leader	wg3@tu14906.eu
<b>Amir Kedar</b>	WG 4 Leader	wg4@tu1406.eu
<b>Vikram Pakrashi</b>	WG 5 Leader	wg5@tu1406.eu

### 1.5.3. SECRETARIAT

<i>Name</i>	<i>TU1406 Position</i>	<i>E-mail</i>
<b>Eleni Chatzi</b>	Technical Secretariat	tecsec@tu1406.eu
<b>Lara Leite</b>	Administrative Secretariat	admsec@tu1406.eu
<b>Ilze Paeglite</b>	Local support	ilze.paeglite@rtu.lv

### 1.5.4. LOCAL ORGANIZERS

<i>Name</i>	<i>TU1406 Position</i>	<i>E-mail</i>
<b>Ainars Paeglitis</b>	MC member	ainars.paeglitis@rtu.lv
<b>Janis Barbars</b>	MC member	janis.barbars@lvceli.lv

## **2. PARTICIPATION**

### **2.1. FUNDING AND REIMBURSEMENT**

COST organization provides a certain amount of financial means for organizing such meetings and to reimburse participants. This includes for example accommodation costs, meals, transport expenses, etc. For more information about travel reimbursement request please visit the following [webpage](#). Please book your flight and hotel as soon as possible in order to find cheap solutions.

### **3. SOCIAL EVENTS**

#### **3.1. BUS TOUR & NETWORKING DINNER**

Networking dinner will be organized on the 23rd of November. The expected costs are around 20 EUR per person.

To attend the programmed social events registration is required.

**Please fill in the [Doodle](#) no later than 15<sup>th</sup> of November** if you intend to participate in the events in order to book accordingly.

Details about the meeting point and dinner location will follow.



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[WWW.TU1406.EU](http://WWW.TU1406.EU)