



Linear infrastructure efficiency improvement by automated learning and optimized predictive maintenance techniques

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BACK ISSUES



Newsletter no.1 (April 2016)



Newsletter no.2 (April 2017)

EDITORIAL

Welcome to the third issue of the INFRA ALERT newsletter!

With this issue, we would like to inform the wider audience about the work done so far, and also take a look at the latest project events and meetings. This newsletter focuses on the Second Project Workshop to which you are kindly and sincerely invited. Last but not least, we offer you the interview with Maria-Cristina Marolda, from the EC Directorate General for Mobility and Transport, who has kindly provided her expert opinion on issues related to infrastructure maintenance.

During the last year, we have worked hard together to move the project from its requirements phase through an intensive implementation phase. Using the methodologies (toolkits) for asset condition, alert management, RAMS & LCC, and decision support, which were jointly developed by the INFRA ALERT partners, a carefully planned integration has been almost completed. As a result, an ICT platform (eIMS) will provide the system architecture and functional design to enable the communication among the different toolkits, with external data bases and end-users. The INFRA ALERT Team is testing the system at two trial sites: a meshed road network in Portugal owned and managed by Infraestruturas de Portugal (IP) and a rail corridor in Sweden owned by Trafikverket.

The project is now approaching its end, and in the coming months we shall discover whether the project has succeeded in its objectives.

Preliminary results look promising...

For more information and news, please see our [website](http://www.infralert.eu/).

SECOND PROJECT WORKSHOP

The INFRA ALERT consortium is pleased to announce the realization of the Second Project Workshop. The main objective is to present the results achieved by the INFRA ALERT project and to serve as a discussion forum for researchers and professionals interested in the field of asset maintenance.

The **INFRA ALERT Workshop** will be held during the Transport Research Arena 2018 (TRA 2018), that will take place in Vienna (Austria), in a special session organized at this Conference on **Tuesday, 17 April 2018, 8:15-14:45** (Reed Messe, Room Galerie 9+10). This Conference attracts researchers, companies and public authorities active in the field of transport. It welcomes policy makers and stakeholders framing research and transport policy.

The Workshop session will be open to all TRA 2018 attendees. Of course any person interested in our workshop is welcome after filling the TRA2018 booking form, which is on the website of the conference. <https://www.traconference.eu/>

Moreover, four scientific papers derived from the work done in INFRA ALERT will be also presented at TRA 2018, as well as a Marketplace poster. If you are in TRA, we will be delighted to show you the INFRA ALERT results.



For more information, kindly visit the News and Events section of our website: <http://www.infralert.eu/>



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INTERVIEW WITH MARIA CRISTINA MAROLDA



Maria Cristina MAROLDA – Roma (Italy)

She is a Senior Policy Officer in charge of Research and Innovative Transport Systems in the EC Directorate-General for Mobility and Transport. Since 2011 she coordinates R&I activities in the transport infrastructure sector and in logistics. She is also responsible for long-term R&I strategy design in sustainable mobility, caring in particular the aspects of logistics and infrastructure.

She is graduated in Technology of Architecture at the University of Rome, where she started her professional career. In 1991 she joined the Directorate General for Research and Technology Development at the European Commission.

The European Commission's Directorate-General for Mobility and Transport (DG MOVE) works in concert with the European Union Member States, European industry, citizens and stakeholders to promote a mobility that is efficient, safe, secure and environmentally friendly and create the conditions for a competitive industry generating growth and jobs. The issues and challenges connected to this require action at European or even international level; no national government can address them successfully alone.

Q1. You have been aware about the INFRA ALERT project from its origins, which were your first impressions about it?

The project was selected under the Topic "Smarter design, construction and maintenance" on the basis of its potential contribution to the impacts foreseen in the call, and in particular "Monitoring and management systems increasing infrastructure capacity and optimising maintenance costs for all transport modes".

The proposal presented plans to collect and analyse data to predict and plan optimal maintenance intervention to keep the level of performance of the network at the needed level.

Q2. Could you tell us something about your vision related to the role of effective maintenance systems in transport safety?

This approach is at the basis of the concept of "prevention by design" indispensable to increase safety and reduce costs and resources as well as disruptions caused by maintenance works.

The performance of the transport infrastructure will increase its importance in future transport systems; construction and maintenance techniques must adapt to new vehicles and functions that will characterize the transport of tomorrow. New services will be delivered to users and customers, new roles will be played by transport infrastructure managers..... Overall the concept of "prevention by design" will need to be applied also to

(Q3 cont.)

infrastructure: prevention of failure, prevention of incidents, prevention of early ageing.

Q3. What other developments in the field of linear asset maintenance do you think will be the most necessary in the next years?

In future it would be advisable to look at all the possibility for R&I throughout the different phases, from more basic research on materials and techniques, to fast deployment of market-ready solutions, by means of collaboration in larger consortia to meet the grand transport challenge of the future.

Q4. DG MOVE is a big player in the field of Mobility and Transport. What role does the European Commission play in research projects such as INFRA ALERT?

The European Commission will continue playing its role in fostering the search for innovative solutions and in facilitating their implementation via adequate funding sources and innovation-friendly regulatory framework.

Q5. What new opportunities can the Research Programs like Horizon2020 (or the following FP9) offer to railway and road infrastructures?

We need different approaches, different partnerships, different results that will all together contribute to innovate the sector of transport infrastructure as it deserves.

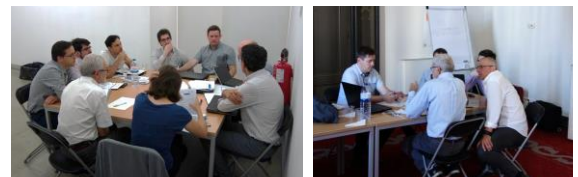


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THIRD GENERAL MEETING

The 3rd General Meeting of the INFRA ALERT project took place in Lisbon (Portugal) on June 8-10, 2017. During the meeting the partners presented the developments achieved so far and discussed about the next steps. They have also taken the opportunity to organise small meetings to debate specific topics.

Infraestruturas de Portugal (IP), partner of INFRA ALERT, hosted this meeting and guided the rest of the consortium through the Asset Management Strategy that IP executed on the road network in Portugal, one of the two demonstration sites of the project.



Exploitation Strategy Seminar

During one of these 3 days, the partners also worked together to identify and define the key exploitable project results through to Exploitation Strategy Seminar, coached by Ana Dias Daniel, EU External Expert. This seminar, provided by the Support Services for Exploitation of Research Results (SSERR), is an initiative of the EC Directorate-General for Research and Innovation, whose aims is to brainstorm and discuss on how the projects address exploitation opportunities, risks and potential obstacles, enhance the team awareness on the importance of connecting with customers and better communicating project result.

Visit to the Ponte 25 de Abril

The project's sessions were complemented by a visit to the Ponte 25 de Abril. With a total length of 2,277 m, it is the 20th largest suspension bridge in the world. The upper platform carries six car lanes, the lower platform two train tracks.

It was really amazing!!



INTEGRATION MEETING

On the 6th, 7th and 8th of February 2018 there was a 3-days meeting at the Fraunhofer Institute for Transportation and Infrastructure Systems IVI in Dresden (Germany), headquarters of the INFRA ALERT Coordinator.

The main purpose of the meeting was to check last progress in the prototype and the demo activities. As a result, next steps to be performed in the final stage of the project were defined.

During this meeting there were scheduled several parallel workshops aimed to discuss specific technical issues for a successful integration.





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PRESENCE AT CONFERENCES AND RELATED EVENTS

For promoting and sharing project results, the INFRA ALERT partners have participated in:

May 3 – 4, 2017:

Global Technology Conference ([IR 2017](#)) in New Delhi, India.

May 30 – June 1, 2017:

27th Int. Exhibition for Track Technology ([IAF 2017](#)) in Münster, Germany.

June 12 – 16, 2017:

World Conference on Pavement and Asset Management ([WCPAM 2017](#)) in Milan, Italy.

Infraestruturas de Portugal presented the project at this conference.

September 6 – 8, 2017:

International Conference on Operations Research ([OR2017](#)) in Berlin, Germany.

Fraunhofer IVI gave a talk on the optimization model used in the decision support for tactical planning of maintenance activities.

September 21 – 22, 2017:

Building up Efficient and Sustainable Transport Infrastructure ([BESTInfra 2017](#)) in Prague, Czech Republic.

Three scientific papers were presented by CEMOSA and University of Sevilla in a session related to Management of Transport Infrastructure.

They are published online in IOP Conference Series: Materials Science and Engineering <http://iopscience.iop.org/issue/1757-899X/236/1>.

October 30 – November 1, 2017:

AIPCR/PIARC - World Road Association - Technical Committee D.1

Infraestruturas de Portugal made a presentation on INFRA ALERT for all the members which attended the meeting.

January 7 – 11, 2018:

Transportation Research Board 97th Annual Meeting ([TRB 2018](#)) in Washington, D.C., United States.

Results of the Alert Management system were presented by University of Sevilla in a Poster Session, being the corresponding paper accepted for publication in the 2018 Transportation Research Record.



UPCOMING EVENTS

April 16 – 19, 2018:

Transport Research Arena ([TRA 2018](#)) in Vienna, Austria.

INFRA ALERT will be very active during the TRA2018.

As announced in this newsletter, the Second INFRA ALERT Workshop and the last meeting of the consortium will be held at TRA2018. Moreover, four scientific papers derived from the work done in INFRA ALERT as well as a Marketplace poster will be presented in this event. If you attend TRA2018, we will be delighted to show you the INFRA ALERT results.

Below you can check the sessions where they will be presented. For Final Programme and Registration, please visit the TRA2018 website: <https://www.traconference.eu/>

- ❑ Towards efficient linear transport infrastructure maintenance. Final developments of the INFRA ALERT project – [Session MPP1: Marketplace Day 1](#)

Time: Mon, 16/Apr/2018: 8:00am - 7:00pm | MarketplaceAccept

- ❑ Improving Linear Transport INFRAstructure Efficiency by Automated LEaRning and Optimised Predictive Maintenance Techniques (INFRA ALERT) – [Session ST18: 7.1 Transport Infrastructure](#)
Time: Tue, 17/Apr/2018: 3:15pm - 4:45pm | PaperAcceptPODIUM

- ❑ Automatic Prediction of Maintenance Intervention Types in Transport Linear Infrastructures using Machine Learning – [Session ST18: 7.1 Transport Infrastructure](#)
Time: Tue, 17/Apr/2018: 3:15pm - 4:45pm | PaperAcceptPOSTER

- ❑ Combined RAMS and LCC analysis in railway and road transport infrastructures – [Session ST42: 7.3 Transport Infrastructure](#)
Time: Wed, 18/Apr/2018: 5:00pm - 6:30pm | PaperAcceptPODIUM

- ❑ Decision support for tactical planning – a use case for the INFRA ALERT project – [Session ST48: 7.8 Infrastructure as a Part of the Mobility/Society System](#)
Time: Thu, 19/Apr/2018: 8:30am - 10:00am | PaperAcceptPODIUM



Need more information

For any feedback, questions or more detailed information about INFRA ALERT project, please contact:

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Or visit our website:

<http://infralert.eu>

which contains general information about the project, news and upcoming events as well as dedicated pages for most important dissemination documents and press releases (including public deliverables).

