



**SYSTEM FOR VEHICLE-INFRASTRUCTURE
INTERACTION ASSETS HEALTH STATUS MONITORING**

Newsletter

June 2021

Foreword

The SIA project which started on March 1st, 2018 will end in August 2021.

The SIA system is now in the testing phase with the various SIA subsystems. Over the last few months, we have been organising several test campaigns to take place for the wider system testing (this has of course been made a little trickier by COVID-19!). We continue to work remotely on the SIA project and within COVID restrictions.

This newsletter will give a short overview of the testing and dissemination activities recently performed inside the project.

All project results are expected soon, so please follow our social media and visit the project [website](#) regularly to be kept informed on the latest news and progress within the project.

For further information, please contact [Unai Alvarado](#), coordinator of the project at CEIT or [Christine Hassoun](#), dissemination Senior advisor at UIC (Union Internationale des Chemins de fer).

***The SIA final event will be held remotely
in September 2021.***

***Follow our [LinkedIn page](#) and [Twitter account](#) for
future developments.***

FACTS AND FIGURES

EU Contribution: €2.9
million

Duration:
42 months

Project start date:
01/03/2018

Project end date:
31/08/2021

Project coordinator:
CEIT

Partners:
9 from 5 countries

EU H2020 GSA
Project

Grant agreement:
n°776402

Website:
<https://siaproject.eu/>



FGC Campaign

The SIA system will be tested in one of FGC's passenger trains. Installation works are being done in June and will ensure that the testing campaign takes place safely. Among other activities, the pre-installation of the antenna cabling has been completed, this activity requires us to follow the certification protocols for current communications TETRA and ROAMING. Furthermore, certified aluminothermic welding has been carried out to allow the installation of new antennas whilst following internal procedures for passenger unit engineering changes.

VIAS Data Campaign



CEIT and GMV NSL have been recently working with VIAS to install SIA equipment on a VIAS train. The testing has been a two-week campaign to collect validation positioning and other sensor data.

ÖBB Campaign

In October 2020, a SIA hardware system was permanently installed for pilot operation on an ÖBB in-service vehicle (Inlandsreisezugwagen).

The system is collecting monitoring (axle-box acceleration) and EGNSS positioning data for testing and evaluation purposes.

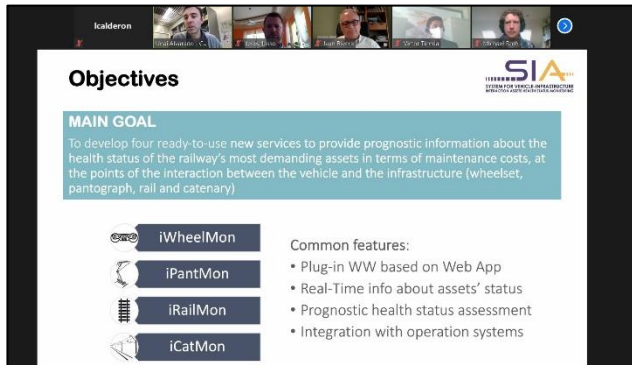


The SIA hardware was installed by ÖBB and is remotely monitored by DLR.

A further ÖBB campaign is scheduled to take place in early July for additional tests of the SIA positioning modules.

SIA Project presented during a webinar organised by the Railway Innovation Hub

On the 21st of May 2021, the Railway Innovation Hub held a webinar to present the project SIA to its members. The webinar was held partly in Spanish and partly in English.



The two presentations delivered during the webinar can be downloaded below:

«[Proyecto SIA: Motivación y lecciones aprendidas](#)». Dr. Unai Alvarado, Centro Tecnológico CEIT

«[EGNSS Positioning within the SIA Project](#)», Dr. Michael Roth, German Aerospace Center (DLR)

The recording of the webinar (first part in Spanish, second part in English) can be found [HERE](#).

Train Wheel Condition Monitoring via Cepstral Analysis of Axle Box Accelerations. An article by DLR.

On the 5th of February 2021, The German Aerospace Center (DLR) published an article in a special issue of the Applied Sciences Journal “Monitoring and Maintenance Systems for Railway Infrastructure”. This article can be downloaded [HERE](#).

SIA held its mid-term event remotely on 9 July 2020

On the 9th of July 2020, over 70 participants attended the SIA mid-term webinar; attendees included Infrastructure Managers, EU representatives, industry and academia from all over the world, including Spain, Portugal, France, Belgium, Germany, Italy, Austria, Japan and the United Kingdom.



Event highlights:

- ✓ Project overview (CEIT)
- ✓ SIA system description (CEIT)
- ✓ Positioning system & EGNSS benefits (NSL)
- ✓ Wheel-Rail interaction (DLR)
- ✓ Pantograph-Catenary interaction (CEIT)
- ✓ SIA Visualisation Platform (Ingecontrol)
- ✓ Q&A

The recording of the webinar can be accessed [HERE](#).

All presentations delivered during this event can be downloaded [HERE](#).



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