



**Infraestruturas**  
de Portugal

Ligamos destinos / Connecting destinations

## **MAXBE - “Interoperable Monitoring, diagnosis and maintenance strategies for AXle BEarings”**

**WP8 – Public Workshop**

Porto · 27<sup>th</sup> october 2015

**Francisco Ganhão**



**MAXBE**

Interoperable monitoring, diagnosis and maintenance strategies for axle bearings



# Session 3

## ESTARREJA WAYSIDE SYSTEM

(IP, UPorto, Mermec, UoB, Krestos)



# MAXBE

Interoperable monitoring, diagnosis and maintenance strategies for axle bearings

## Index

1. IP objectives
2. IP involvement in the Maxbe project/tasks
3. IP contributions
4. IP expectations for the future



## MAXBE

Interoperable monitoring, diagnosis and maintenance strategies for axle bearings

**As an infrastructure manager our main goal is to provide a safe, reliable and high capacity infrastructure.**

### 1. Infraestruturas de Portugal (IP) objectives

- Have information about rolling stock condition;
- Have the information about potential problems with rolling stock as soon as possible;
- Reliable tools that support the necessary measures in order to avoid accidents, damages and service disruptions.



## MAXBE

Interoperable monitoring, diagnosis and maintenance strategies for axle bearings

## 2. IP involvement in the Maxbe project/tasks

### **WP 2: TECHNOLOGY ASSESSMENT AND SPECIFICATION**

- Task 2.8 - Identification of sites for testing

### **WP 4: WAYSIDE SYSTEMS**

- Task 4.4 - Remote centers and central database

### **WP 6: TESTING AND VALIDATION OF SYSTEMS**

- Task 6.1 - Installation of the systems at preselected rail networks sites and onboard rolling stock
- Task 6.2 – Testing
- Task 6.3 - Assessment of results and final system adjustments

### **WP 9: DISSEMINATION**

- Task 9.1 - Dissemination of the project results and tools
- Task 9.2 - Web portal
- Task 9.3 - Workshop
- Task 9.4 - Exploitation plan of foreground knowledge
- Task 9.5 - Technical recommendations



## MAXBE

Interoperable monitoring, diagnosis and maintenance strategies for axle bearings

### 3. IP contributions

#### WP 2: TECHNOLOGY ASSESSMENT AND SPECIFICATION

- Task 2.8 - Identification of sites for testing
  - ✓ Deliverable D2.9 – Testing sites in Portugal – Month 6



- Definition of requirements;
- Rules and conditions for installation of equipment;
- Assessment and choice of site;

Estarreja site – Linha do Norte, pk 291,950



## MAXBE

Interoperable monitoring, diagnosis and maintenance strategies for axle bearings

### 3. IP contributions

#### WP 4: WAYSIDE SYSTEMS

- Task 4.4 - Remote centers and central database
  - Integration and compatibilization of the developed system with the existing systems at Portuguese infrastructure, namely the ones in use in the traffic management centers.



## MAXBE

Interoperable monitoring, diagnosis and maintenance strategies for axle bearings

### 3. IP contributions

#### WP 6: TESTING AND VALIDATION OF SYSTEMS

- Task 6.1 - Installation of the systems at preselected rail networks sites and onboard rolling stock
  - Task 6.2 – Testing
  - Task 6.3 - Assessment of results and final system adjustments
- 
- Build and supply all the technical infrastructures needed to the installation of the sensors and equipment (shelter, communications, power supply,...);
  - Coordination of all the activities related to the access to the infrastructure;
  - Establish and guarantee the safety measures in order to allow the realization of the works;
  - Assessment of the installed equipment in order to guarantee the compatibility with infrastructure and rolling stock;
  - Participation on the trials and data analysis.







## MAXBE

Interoperable monitoring, diagnosis and maintenance strategies for axle bearings

### 3. IP contributions

#### WP 9: DISSEMINATION

- Task 9.1 - Dissemination of the project results and tools
- Task 9.2 - Web portal
- Task 9.3 – Workshop
- Task 9.4 - Exploitation plan of foreground knowledge
- Task 9.5 - Technical recommendations



## MAXBE

Interoperable monitoring, diagnosis and maintenance strategies for axle bearings

### 4. IP expectations for the future

- The next step:
  - Refinement and optimization of the work done in order to evolve into product;
  - Demonstration of the feasibility of these technologies as product.
- Creation of a new generation of systems, developed within a cooperation basis allowing the optimization of main requirement for infrastructure managers:
  - Increase safety levels;
  - Guarantee low Life Cycle Costs;
  - Give answer to infrastructure managers and operators of real problems.



**Infraestruturas**  
de Portugal  
Ligamos destinos



# Thank you

[francisco.ganhao@infraestruturasdeportugal.pt](mailto:francisco.ganhao@infraestruturasdeportugal.pt)  
[www.infraestruturasdeportugal.pt](http://www.infraestruturasdeportugal.pt)