

# BeLEADFREE Newsletter

High Strength Bearing for Large-Bore LEAD FREE Engines

## Overview

**BeLEADFREE** aims to develop and promote the next generation of environmentally-friendly large-bore engine bearing products. This two-year project is receiving a total funding of approximate €3 million from the European Union's Horizon 2020 Research and Innovation Programme as part of the Fast Track to Innovation pilot.

It is expected that the successful completion of the project will help generate sales of high value added, low carbon footprint products to supply European and global engine markets while reduce hazardous waste disposal. This would allow the BeLEADFREE Consortium to develop a strong, long term relationship with current and new customers, secure existing jobs and create new, highly skilled employment opportunities in Europe.

## Facts and figures

Total budget	4 M€
EU Funding	3 M€
Duration	24 months
Start date	1 <sup>st</sup> June 2016
Website:	<a href="http://beleadfree.eu">beleadfree.eu</a>

## Main objective

Lead is a heavy metal widely used in bearing materials for large-bore engines but harmful to human beings and the environment. BeLEADFREE aims to deliver novel Lead-free bearing materials by adopting innovative design & manufacturing and applying a multidisciplinary approach involving experts with extensive industrial, research and innovation skills.

## Partners



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**This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691503**

## Project update

The project has now been running for 12 months. During this time, the BeLEADFREE consortium has taken a multidisciplinary approach involving management, research and engineering staff with strong industrial, research and innovation skills in the following areas:

- Engine bearing design, research and manufacturing
- Material and surface engineering
- Material and tribological characterisation

The technical work conducted during the first 12 months of the projects consisted of 4 main stages:

- STAGE 1: Initial work was focused on the definition of a Reference System based on a representative Lead-based bearing material and the evaluation of its environmental and eco-toxicological impact. This was then followed by the characterisation of the novel Lead-free bearing material and its environmental and eco-toxicological impact. Fundamental characterisation and optimisation of the manufacturing process was also conducted as part of this stage.
- STAGE 2: Data generated during Stage 1 was used to develop novel designs to optimise the manufacturing process. These designs are being implemented into the prototype pilot line constructed as part of this stage.
- STAGE 3: This stage is mainly focused on the full-size preparation of prototype large engine bearings with the novel Lead-free materials and their validation under real working conditions. Although this stage will mostly be carried out during the second half of the project, initial work on the prototype pilot line has already started and is currently ongoing.
- STAGE 4: Dissemination of the project results to the large engine industry, environmental policy makers and general public has already started. This included the generation of a project website ([beleadfree.eu](http://beleadfree.eu)), press releases, industry workshops, general dissemination articles, presentation at academic conferences and generation of per-review scientific papers. A dissemination plan was generated and has been recently updated for its application during the second half of the project to maximise the impact of the BeLEADFREE project.

## Meetings & events

In order to ensure the overall supervision and management of the project and the efficient collaboration between the BeLEADFREE Consortium partners in the joint intra-task activities of the project a series of project meetings have been organised during the 12 months of the project:

- Kick-off meeting: London (United Kingdom), 7<sup>th</sup> of July 2016 (with the attendance of Representatives of all the Consortium partners as well as the European Commission' Executive Agency for SMEs - EASME).
- 1<sup>st</sup> Review Meeting: Coventry (United Kingdom), 9<sup>th</sup> of November 2016 (with the attendance of Representatives of all the Consortium partners).
- 2<sup>nd</sup> Review Meeting: Leuven (Belgium), 15<sup>th</sup>-16<sup>th</sup> of March 2017 (with the attendance of Representatives of all the Consortium partners).
- 3<sup>rd</sup> review meeting: Eibar (Spain), 23<sup>rd</sup>-24<sup>th</sup> of May 2017 (with the attendance of Representatives of all the Consortium partners as well as the European Commission' Executive Agency for SMEs - EASME).



BeLEADFREE Consortium representatives attending the 2<sup>nd</sup> Review Meeting in Leuven (Belgium), 15<sup>th</sup> of March 2017.



BeLEADFREE Consortium and EASME representatives attending the 3<sup>rd</sup> Review Meeting in Eibar (Spain), 24<sup>th</sup> of May 2017.

## Dissemination activities

A wide range of dissemination activities (press releases, participation in events and conferences, workshops to related industry, presence in other websites, etc.) have already been completed during the first 12 months of the BeLEADFREE project. More information on some of the dissemination activities can be found in the official project website [beleadfree.eu](http://beleadfree.eu)