Bridge weight and traffic loads as well as braking and wind forces generate a number of different forces that must be transmitted to the ground through bridge piers and abutments. This is the task of bridge bearings, designed, manufactured and installed to permit movements and torsional effects caused by traffic, temperature variations, pre-stress, shrinkage and creep. Bridge bearings are therefore critical components of a bridge structure and demand high quality standards.

An ongoing increase of traffic volume, higher cruising speeds and more flexible structures result in a redefinition of requirements for bearing systems. Furthermore the ambitions and challenges of bridge engineers to exceed not even finalised constructions in their dimensions and technical performances are also transferred to bridge bearing manufacturers.

The lack in reasonable technologies to meet these extreme product specifications mainly results in expensive custom-made products with reduced lifetime performance. To encounter the current situation with sustainable life-cycle costs (LCC) for structures, the bridge bearing manufacturers agree on the potential of reconsidered sliding bearings.

Therefore a consortium initiated the EU-funded project MOBILE to develop a new generation of sliding bearings with higher performance, advanced materials, better constructability and maintainability as well as significantly extended lifetime.

Two higher-ranking objectives characterize the MOBILE Project:

Objective 1: Design and Development of an advanced sliding bearing system to overcome future support requirements:
Since the first artificial bridges were built, the evolution of bridge engineering was characterized by the performance of available materials, state-of-the-art of the construction techniques and the technology of support systems. The MOBILE project is a major step forward in respect of durability, capability and serviceability of bridge bearings as well as their installation, handling and production. The developed support system should achieve a tolerance of integration of sliding bearings into bridge structures not known before and catch up with the advancement of materials and construction.

Objective 2: Europe-wide launch of the new generation of sliding bearings:
For the participating manufacturer not only the product development stated in objective 1 but also a rapid product launch is essential for overall project success. For this reason main examinations which are necessary for European approval and also product dissemination and demonstration for customer approach will be part of the project. After the start of the
Europe-wide launch of the advanced sliding bearings within the project, the participating manufacturers plan to proceed with international marketing strategies.

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