



**Project MOBILE:  
MOveable Bearings Innovation Launch in enlarged Europe**



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FP6 - 031951

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## Bridges: Heavy weight on small shoulders

### Key Issues

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 of bridge engineers to exceed not even finalised constructions in its dimensions and technical performances are transferring their challenge also to bridge bearing manufactures.

### Priority/Technical Approach

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

new generation of sliding bearings with higher performance, advanced materials, better constructability and maintainability as well as significantly extended lifetime.

### Project Main Goals

*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

Due to cooperative efforts between innovative bearing manufactures and the involvement of experienced RTD performer, essential resources have been concentrated to obtain a considerable improvement in the bridge bearing technology.

Helmut Wenzel, VCE Holding GmbH

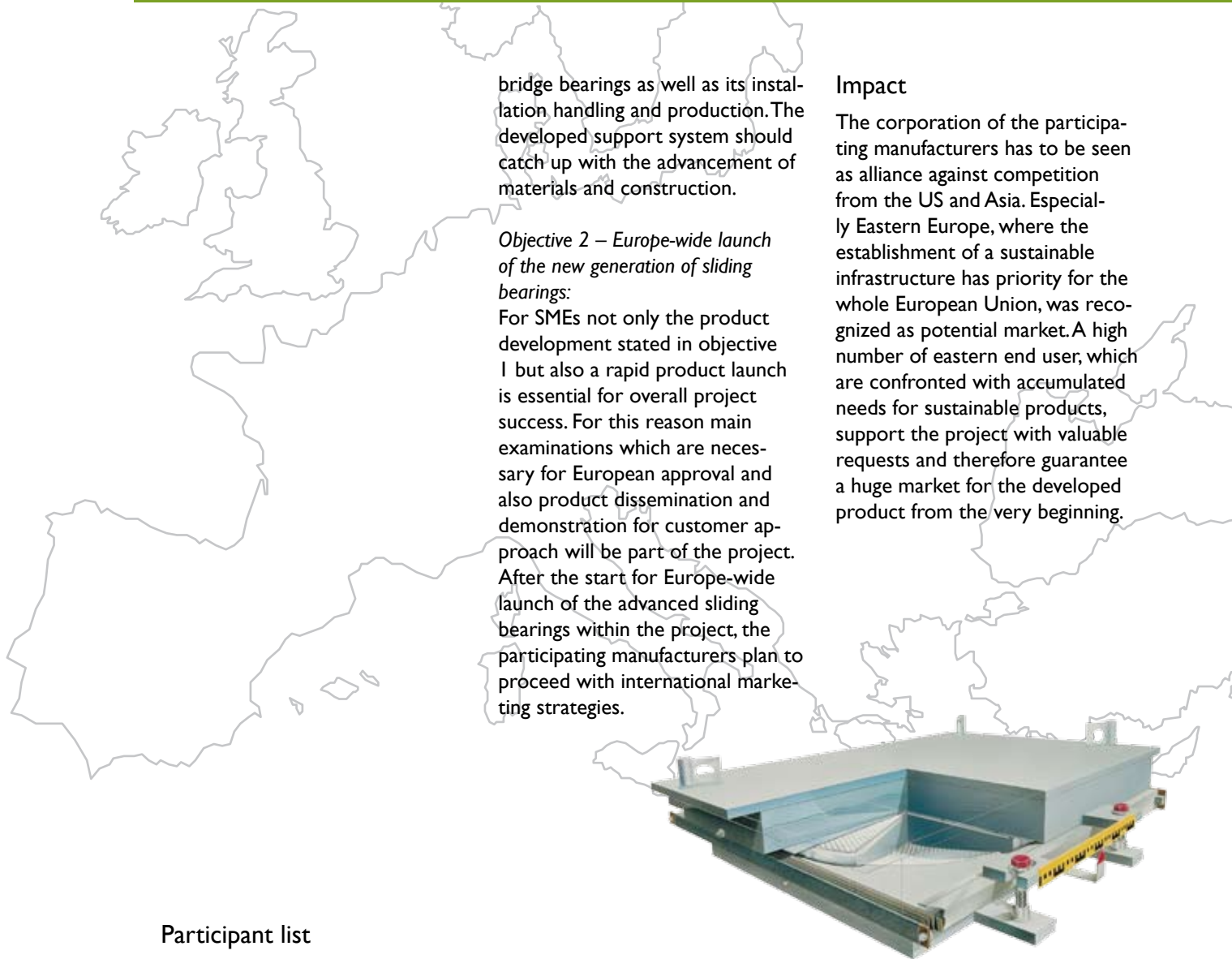
bridge bearings as well as its installation handling and production. The developed support system should catch up with the advancement of materials and construction.

*Objective 2 – Europe-wide launch of the new generation of sliding bearings:*

For SMEs 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 for Europe-wide launch of the advanced sliding bearings within the project, the participating manufacturers plan to proceed with international marketing strategies.

### Impact

The corporation of the participating manufacturers has to be seen as alliance against competition from the US and Asia. Especially Eastern Europe, where the establishment of a sustainable infrastructure has priority for the whole European Union, was recognized as potential market. A high number of eastern end user, which are confronted with accumulated needs for sustainable products, support the project with valuable requests and therefore guarantee a huge market for the developed product from the very beginning.



### Participant list

Organisation	Country
VCE Holding GmbH	Austria
Reisner & Wolff Engineering GmbH	Austria
Mageba SA	Switzerland
RW Sollinger Hütte	Germany
Maurer Söhne GmbH	Austria
Materialprüfanstalt Universität Stuttgart	Germany
Institut für Konstruktiven Ingenieurbau, BOKU Wien	Austria