This project is carried by the following organizations:

University of Cantabria (UNICAN)

Technische Universität Braunschweig (TUB)

Empa

Royal BAM Group

SINTEF AS

Veidekke Industri AS

This research is carried out as part of the

CEDR Transnational Road Research Programme Call 2017

New Materials: Usability of Super Materials

The Call was funded by the following countries:
Austria, Belgium (Flanders), Denmark, Finland, Germany, Ireland, Netherlands, Norway, Slovenia, Sweden and the United Kingdom.

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FIBRA

Fostering the implementation of fibre-reinforced asphalt mixtures by ensuring its safe, optimized and cost-efficient use

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FIBRA

Fostering the implementation of fibre-reinforced asphalt mixtures by ensuring its safe, optimized and cost-efficient use

As the amount of heavy traffic increases and changing climatic conditions are expected to affect the pavements durability, reliable solutions improving both sustainability and cost-efficiency are being developed for the asphalt pavement industry.
Among solutions, fibres have been shown to provide a life extension up to 50 % for pavements and up to 200% for asphalt mixes. However, their use remains limited principally due to the existence of knowledge gaps that inhibits their adoption.

The scope of the FIBRA project is to overcome the technical barriers for the safe and cost-efficient implementation of fibre-reinforced asphalt mixtures (FRAM) by NRAs with which an increase in the asphalt pavements durability could be achieved.

Project Organization:

WP1 Project Management

WP2 Literature Review and Informed Selection of Fibre-Reinforced Material

WP3 Design and Oprimization of Fibre-Modified Asphalt Blending

3.1 Evaluation and optimization of the blending procedure

3.2 Chemo-mechanical understanding of fibre-asphalt blends

WP4 Optimal Design of FR Asphalt Mixes and Pavements

4.1 Design and mechanical characterization of asphalt mixtures

4.2 Study of the potential recyclability of the FRAM

4.3 Assessment of the potential positive effect on asphalt mixes with high RAP content

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WP5 Up-Scaling and Environmental and Economic Validation

5.1 Scaling up of the production process and implementation of test sections.

5.2 Environmental effects

5.3 Life Cycle Assessment (LCA)

5.4 Life Cycle Cost Analysis (LCCA)

WP6 Dissemination, Exploitation and Further Implementation of Project Results

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The concept of the project lies in the optimal design and full scale production of FRAM that extend the service life of pavement structures, by considering their long-term performance as well as economic, health, safety and environmental aspects. To support NRAs in the efficient use of FRAM, the FIBRA consortium will specifically address those issues that may result in uncertainty when considering the use of FRAM in their road network. The most promising material in terms of cost-efficiency and technology readiness will be selected and optimized at mixture and pavement level.

Important dates:

July 2018	**Start of the project**
September 2018	**End WP2**
February 2019	**End WP3**
January 2020	**End WP4**
Spring 2020	**Project workshop**
June 2020	**End of the project**