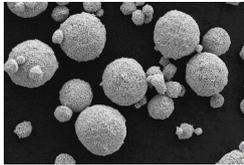


More competitive manufacturing industry in Europe by extending component lifetime

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Consortium led by VTT Technical Research Centre of Finland Ltd up scales novel material solution to extend lifetime of industrial components. Extended lifetime reduces material and energy losses enhancing competitiveness and productivity of Europe's heavy industry, while lowering environmental impact of the manufacturing.

Wear leads to huge material and energy losses in industry causing 3% of the world's total energy consumption. Wear-resistant coatings, such as tungsten carbide, WC-Co, coatings, enhance components' durability leading to significant cost-savings. However, increasing efficiency demands set even higher requirements and materials with increased durability are needed. The EIT Raw Materials funded WEAREND2 project satisfies that need by new material solution based on nano-carbide WC-Co composites developed and patented at VTT. In the project, powder production and coating technology processes will be developed, up scaled and validated with industrial partners,

The WEAREND2 consortium covers the whole value chain from the industrial powder producer, Umicore Specialty Powders France, to the coating end-users, Valmet Technologies Oy and SMS-group GmbH. VTT and the RWTH Aachen University develop the powder and coating technologies. CEA French Alternative Energies and Atomic Energy Commission considers the environmental, health and safety issues to ensure the processes operate according to the stringent requirements.

Commercialization potential of the new composites is high as the wear resistant material and tool markets are globally huge. The components with extended lifetime also save valuable natural resources by reducing the critical raw materials consumption and decrease use of hard-chromium coatings, in which toxic and environmentally unsafe chemicals are used. The new products validated in the project have superior performance characteristics compared to current state-of-the-art hard facing solutions (up to 30% lifetime increase).

The total budget of the WEAREND2 project is EUR 1.5 million for 3 years (2020-2022)

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Further information

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