



**The European Technology Platform for Advanced
Engineering Materials and Technologies – EuMaT**

Strategic Research Agenda

3rd Edition – 2017

Executive Summary



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**Steinbeis Advanced Risk
Technologies GmbH**

Imprint

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The European Technology Platform for Advanced Engineering Materials and Technologies – EuMaT
Strategic Research Agenda. 3rd Edition – 2017

1st edition, 2017 | Steinbeis-Edition, Stuttgart
ISBN 978-3-95663-125-2

Layout: Steinbeis-Edition
Cover picture: ©Marco Falzetti

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182472-2017-04 | www.steinbeis-edition.de

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Executive Summary

Introduction

The world is standing at a tipping point. The supply of resources of the Earth is becoming critical. Global warming is the most important problem our society is facing. Our society must adapt a resilient strategy. Materials technology is fundamental for such sustainable, responsible societal development. The transformation of material into something useful and functional to provide a specific service is key for such development. Large parts of the innovative functionalities of our day-to-day products owe their existence to advancements in materials in various sectors such as electronic, medical, construction, transport systems, energy production and mechanical engineering.

Europe still represents one of the most advanced cultural, technological and industrial environments where materials science and technology is at the highest international levels. Nevertheless Europe is less able, compared to others, to benefit and transform new scientific knowledge into economic value. Due to its fundamental enabling role, materials science and technology is one of the best engines for creating economic wealth and social well-being.

There are global megatrends that strongly affect the industrial sectors within the European Community. One of these is globalization – the integration of economies and societies around the world. The emerging economies' share of production, trade and investments continue to grow and the movement of people, ideas, and influences are also increasing. Globalization has led us to a situation in which the use of global resources is both possible and cost efficient. Global economy covers now more geographical areas and countries than ever before. New players have entered the global economic field. At the same time, cost efficient solutions in logistics and information sharing have made it possible to utilize all the resources so that they add value in various fields of industries. Apart from a supercycle around 2010, mainly due to geopolitical issues, the relative price for raw materials has decreased because of the vast improvements in resource productivity. The more actors in the field of competition, the more there are players that can perform rou-