



Study Kick-Off Meeting during FAKUMA







Potentials and Challenges of Thermoplastic Tapes for SME Injection Molders

Kick-Off Meeting of Joint Market and Technology Study

October 18th, 2018

Thursday 11:00 – 13:30 h **During FAKUMA 2018**

Messe Friedrichshafen Conference Room "Paris" Neue Messe 1 88046 Friedrichshafen, Germany **Your Contact: Maren Daniels**

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Potentials and Challenges of Thermoplastic Tapes for SME Injection Molders

Joint Market and Technology Study

MORE DETAILS

- » Visit the Project Website
- » Download the Project Description



Using thermoplastic tapes as local reinforcements enables efficient material usage and improved properties of injection molded parts: As local reinforcements, tapes allow for increased stiffness and strength, cost savings, higher surface hardness or enhanced optics. Small and medium-sized injection molders in particular can achieve great advantages from tapes.

The AZL and the IKV are jointly developing scenarios with companies on how thermoplastic tapes can be increasingly used in the production of injection molded parts. Technological aspects as well as use cases will be addressed.

SCOPE AND BENEFIT OF THE STUDY

The study will

- » support the understanding of thermoplastic tapes in the injection molders base,
- » systematically identify injection molding applications that are particularly suitable for being optimized with the use of thermoplastic tapes, focus is particularly on conventional injection molded parts and
- » provide an extensive documentation of the state of the art methodologies and technologies for the development and the production of parts

Through the active involvement of the entire supply chain, all companies involved will benefit from the knowledge and exchange generated: Development and manufacturing processes will be analyzed and developed that help **injection molders** in particular to use thermoplastic tapes in their production and to evaluate the potential of the technology. **Tape manufacturers** and **machine and tool builders** will gain insight into the requirements and challenges of using thermoplastic tapes from the perspective of processors. **OEMs and Tier 1s** benefit from the direct exchange with suppliers for communicating their needs and requirements and jointly evaluating applications.

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6-MONTHS WORK PROGRAM



Status at Typical Injection Molders:

- Know-how about thermoplastic composites? (Especially tapes / inlays)
- Barriers, chances & risks?
- Standard procedures in innovation projects; facility setups and material flows
- Expert interviews at injection molders/ visitations
- Classification of SME injection molders (tool technology, dimensioning capabilities, company sizes, competences, value chain position Tier4 ... OEM)

Development of an Education Program:

- Material and processing technology
- Wo delivers what?

Identification of Application Potentials and Development of a Systematic Methodology:

- Pros and cons of hybrid thermoplastics compared to conventional plastics (in parts and manufacturing)
- Derivation of application clusters (Where does it makes sense?)
- Economical benchmarking (classification of parts)
- Material substitution approaches
 - Substitution of thermoplastics
 - Substitution of composites (thermoset-based)
 - Substitution of metal inlays

Deriving Recommendations for Action:

- Documentation of the systematic procedure to find business cases for hybrid thermoplastic parts
- Barriers and how to overcome them in SMEs for thermoplastic composites
 - Technical barriers
 - Organizational barriers
- Practical guiding principles
 - · How to initiate projects
 - Easy-to-use design guidelines
 - Manufacturing guidelines
 - Planning guidelines
- Best practices in "fast & easy cost calculation"

Additionally: Workshops at injection molders with technology providers

PARTICIPATION FEE

Small companies (<10 employees): 5,000 Euro

Medium-sized companies (<50 employees): 7,500 Euro

Large companies (<500 employees): 10,500 Euro

Very large companies (>500 employees): 12,500 Euro

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Kick-Off Meeting



SCOPE OF KICK-OFF-MEETING

During Fakuma 2018, AZL and IKV are starting this new Joint Market and Technology Study with a kick-of meeting. During the meeting, the scope and procedure of the study will be presented and discussed and input and demand from the involved companies is discussed.

PARTICIPATION & REGISTRATION

The participation is open to all companies joining the study. We will provide you with a detailed offer before the meeting for you to prepare on the content, procedure and outcome of the study.

Registration for AZL
Partner Companies

Visit the AZL Partner Section

Registration for non-AZL Partner Companies

» Visit the AZL Website > Dates

AGENDA

11:00	Registration at Conference Room "Paris"
11:15	Welcome and Background on AZL and IKV
	Dr. Michael Emonts, Dr. Kai Fischer, Dr. Michael Effing, AZL
11:30	Presentation of Study Scope, Procedure and next Steps
	Thomas Weiler, AZL
12:00	Workshop
	Introducing impulses from injection molders and tape manufactures:
	 Florian Dorin, PCS Composites Automotive Covestro Deutschland AG
	 Injection molder
	Discussion of demands and open questions
	 We invite you to bring your needs, challenges to be addressed as well as markets,

13:30 End of Meeting & optional Get-Together

information and applications of interest.

Your IKV and AZL Experts

Experienced Research Partners in Composite and Plastics Production

In mobilizing the injection molding and composite community the AZL and IKV draw on their strong networks of **more than 370 companies** in total covering the entire value chain from material suppliers and system and tool manufactures, over molders to OEMs. The AZL and IKV both have a strong background in developing a market overview and a profound technological insight into composite processes, materials and applications.

Institute of Plastics Processing (IKV) in Industry and the Skilled Crafts at RWTH Aachen University

The Institute of Plastics Processing (IKV) is Europe's leading research institute in the field of plastics technology. IKV develops solutions for future-oriented technologies in plastics processing and is closely working with a **290 or so international member companies**, most of them small and medium-sized companies, who benefit directly from the research work at IKV and secure their competitiveness in this way.

In the field of injection molding, the IKV draws on more than **60** years of expertise. In addition to standard processes, special processes such as micro injection molding or the encapsulation of inserts, such as functional metal sheets or thermoplastic composite sheets and tapes, are also used. In addition to process development, current investigations also focus on tool technology and semi-finished product handling.



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Aachen Center for Integrative Lightweight Production (AZL) of RWTH Aachen University and AZL Aachen GmbH

The Aachen Center for Integrative Lightweight Production (AZL) of RWTH Aachen University is specialized in research and development of lightweight products, materials, production processes and systems focusing on integrated and combined process chains and multi-material systems.

As a service provider partnering with companies in the field of lightweight production technology, AZL Aachen GmbH provides industrial services in the areas of engineering, consultancy and project management, networking and business development. With the AZL Partnership, AZL Aachen GmbH together with the AZL of RWTH enables the close cooperation between the lightweight industry and nine research institutes of RWTH Aachen Campus along the whole value chain. The AZL Partner Network consists of more than 80 industrial partners from 21 countries representing the entire lightweight production value chain.



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