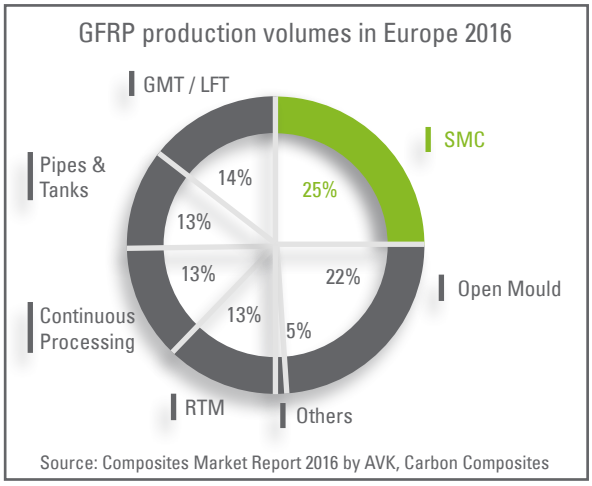
AZL AACHEN
EXCELLENCE IN LIGHTWEIGHT PRODUCTION
PARTNERSHIP

HIGH-PERFORMANCE SMC
AZL WORKGROUP



POTENTIAL OF SMC

- Proven technology for trucks and cars
- 25 % of EU market in GFRP
- Capable for mass production
- Capable of on-line painting, Class A
- Cost competitive to metals

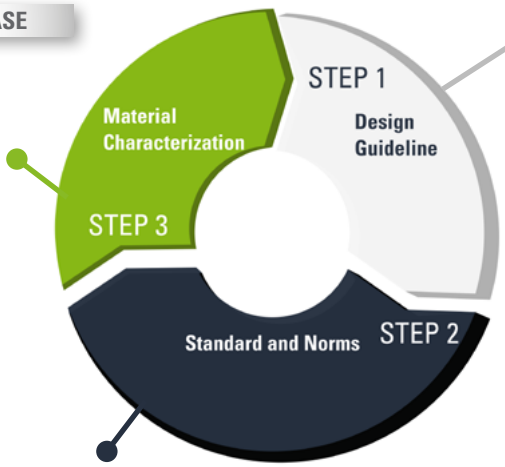
"HIGH-PERFORMANCE SMC" – WHAT IS NEW?

- New Fibers: Carbon, Glass (continuous)
- New Resins: UP, VE, EP
- Continuous reinforcements
- Local/ tailored reinforcements
- Combination of material systems

Three Work Packages for a High-Performance SMC Toolbox

CURRENT PROJECT PHASE

DATABASE FOR SMC



STANDARD & NORMS

- Applied SMC test methods at AZL partner companies
- Review of existing norms for testing SMC
- Initial results of IKV benchmarking study
- New test methods

THE MARKET AND TECHNOLOGY STUDY

- The state of the art of SMC and HP-SMC technologies and their readiness
- Use cases & value chains incl. best practice solutions for structural and Class A applications and other markets like electrical and building and infrastructure
- FMEA, key challenges and fields of action for development to establish HP-SMC
- Next-level solutions and new business opportunities
- Basis for development of design guidelines, simulation tools
- Specification of requirements and content with the help of OEMs such as BMW, General Motors, MAN Truck & Bus AG, Volkswagen AG and Toyota

Missions of AZL Workgroups

- Technology-Oriented Networking
- Building Trust in Technology
- Impulses for Research Insitutes
- Identification of Pre-Competitive Topics
- Initialization of Projects
- Meeting every 6 Months

Workgroup History

AZL Aachen GmbH in cooperation with
Aachener Zentrum für integrativen Leichtbau
RWTH AACHEN UNIVERSITY

INSTITUT FÜR KUNSTSTOFFVERARBEITUNG
IN INDUSTRIE UND HANDWERK AN DER RWTH AACHEN

INITIAL WORKSHOP WITH 60 PARTICIPANTS (OEMS INVOLVED)

2016 — Identification and definition of joint R&D initiatives, marketing, funding opportunities

2016 — definition of roadmap

WORKGROUP MEETINGS

30 Jun

Definition of most important subjects for R&D: material characterizations of various SMC types, methods for fast and reliable pre-design of components and processes, an improved bonding of reinforcing fibers to the resin matrix as well as the development of new resins

DEFINITION OF 3 WORK PACKAGES

2016 — discussion of workpackages

24 Nov

Presentation of draft proposal for the public funded project "ComMat-Base" (program "KMU NetC" from BMBF), review results of applied SMC test methods, development of a design guideline for how to work with HP SMC and discussion on different requirements, presentation of framework of HP-SMC Business Platform

2017 — Study

17 Feb

Intermediate Meeting with Automotive OEMs: presentation of Joint Market and Technology study on HP SMC, discussion of OEM requirements.

31 May

Open workgroup & information event involving companies outside the AZL Partner Network on the Joint Market and Technology Study: Proposal of use cases and parts of interest

15 Nov

Review of objectives, key conclusions from keynotes, update on the progress of the HP SMC study, summary of next steps

12 Sep

Kick-Off: Study on HP SMC

2018

6 Jun

Overview on design and engineering in SMC, potentials of a SMC data base in form of workshop session

UPCOMING ACTIVITIES

visit www.lightweight-production.com/dates

SPEAKERS

- Dr. Götz Krüger & Thorsten Kröller | BYK Chemie
- Arne Böttcher | IKV
- Michael Polotzki | Menzolit
- Reinhard Schäfer & Mark Zimmermann | Plastic Omnium
- Hartmut Häberle | MAN

- Luuk Groenewoud | Aliancys
- Peter van de Flier | A.Schulman
- Arne Böttcher | IKV
- Klaus Kierig | A.Schulman

- Jaap van der Woude | EuCIA
- Jiuheng Cheng & Arne Böttcher & Andreas Ülpenich | IKV
- Dr. Erwin Bauer | M-Base
- Luca Torlaj | Polynt

- Arne Böttcher | IKV
- Steven Bakker | Saertex
- Dr. Stefan Fliescher | Textechno Herbert Stein
- Marcel Remp | Mitsubishi Chemical
- Michael Ochs | Schmidt und Heinzmann
- Romed Ladstätter | ALPEX Technologies

- Dr. Volker Gorzelitz & A. Büttgenbach | MTEC
- Dr. Didier Muller | Sintex
- Nicole Stöß | Polynt

& VARIOUS PRESENTATIONS ON STATE OF THE ART BY AZL

- Proposal for establishing a database for SMC materials
- Suitable simulation tools
- Proposal for testing methods
- Joint partner projects for specific applications

More than 40 involved AZL Partner Companies

3M, aliancys, Ashland, BASF, BYK, cannon Deutschland, code, CONBILITY, Connectra, covestro, ENGEL, EVONIK, Fitech, FAGOR ARRASATE, faurecia, Gurit, HELM, HUNTSMAN, JSL, Krauss Maffei, M-Base, Mahr, menzolit, MITSUBISHI, Mitsui Chemicals, Mubea, OP, Polynt Composites, sabic, SCHULER, Siempelkamp, SIMPATEC, SINTEX NP, SSDT, TENCATE, TOYOTA, plus anonymous partners

Business Platform "High-Performance SMC"

SOON! high performance smc

Visit us soon at www.high-performance-smc.com

OTHER AZL BUSINESS PLATFORMS

thermoplastic composites, high speed rtm, SOON! composite pipes and vessels

AZL Business Platforms were built in addition to the r&d activities of AZL workgroups and provide you with details on lightweight technologies: Get focused information on highlight lightweight technologies, find a broad range of service and products along the entire value chain, explore use cases to learn on present realized applications and technology solutions, contact your business partners for your individual lightweight solution.

YOUR CONTACTS AND MORE INFORMATION

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