



9TH INTERNATIONAL

CFK-VALLEY STADE CONVENTION

16-17 June 2015, STADEUM Stade (Germany)

INDUSTRY 4.0 FOR COMPOSITES



CFK VALLEY STADE
CONVENTION™

Efficient Automation
Production

CFRP

Automated Composites Manufacturing **Company Forum**

Industry 4.0 Composites

Advanced Analytics

Exhibition **Intelligent Machines**

Match & Meet
New Markets

Self-Enhancing
Composite Processes

Components



GREETINGS



CFK-Valley celebrated its 10th anniversary last year. The reason for the founding of CFK-Valley in 2004 was to automate the CFRP production chain. CFK-Valley has been the main technology driver in this field and today you can find a high degree of automation technologies in CFRP production. So now it is time to take the next step.

We therefore have put this year's convention under the title "Industry 4.0 for composites". The term "Industry 4.0" originates from a high-tech strategy project of the German government which promotes the computerization of the manufacturing industry. It refers to the fourth industrial revolution. The first industrial revolution was the mechanization of production using water and steam power; it was followed by the second industrial revolution which introduced mass production with the help of electric power which, in turn, was followed by the digital revolution with the use of electronics and IT to further automate production.

The term was first used in 2011 at the Hanover Fair. In October 2012 the Working Group on Industry 4.0, chaired by Siegfried Dais (Robert Bosch GmbH) and Kagermann (acatech), presented a set of Industry 4.0 implementation recommendations to the German federal government. On 8th of April 2013 the final report of the Working Group Industry 4.0 was presented at the Hanover Fair.

Industry 4.0 is a collective term for technologies and concepts of value chain organization. Based on the technological concepts of cyber-physical systems, the Internet of Things and the Internet of Services, it facilitates the vision of the Smart Factory. Within the modular structured Smart Factories of Industry 4.0, cyberphysical systems monitor physical processes, create a virtual copy of the physical world and make decentralized decisions. Over the Internet of Things, Cyber-physical systems communicate and cooperate with each other and humans in real time. Via the Internet of Services, both internal and cross-organizational services are offered and utilized by participants of the value chain.

So let us start to bring together the three elements for composites, which embody the essence of the Industrial Internet: INTELLIGENT MACHINES, ADVANCED ANALYTICS and PEOPLE AT WORK for Composites!

Yours sincerely,

A handwritten signature in black ink, appearing to read 'A. Herrmann'.

Prof. Dr.-Ing. Axel S. Herrmann

CFK-Valley Stade e.V. – CTO Chief Technology Officer



09:45

Opening Speech from CFK-Valley Stade Convention GbR and the Company Partners, CFK-Valley Stade e.V. & innos - Sperlich GmbH

Dr. Gunnar Merz, CEO - Chief Executive Officer and Chair of the Board CFK-Valley Stade e.V. (Stade)

10:00

Keynote Speech: Horizon 2020 – Purpose, Structure and Funding Opportunities

Eva Brockhaus, National Contact Point for Materials (for EU-Program "Horizon 2020") at the Project Management Agency Projektträger Jülich (Jülich)

10:30

Keynote Speech: Industry 4.0 – Vision vs. Practical Solutions

Prof. Dr.-Ing. Berend Denkena, Head of The Institute of Production Engineering and Machine Tools (IFW) – Leibniz Universität Hannover (Hanover)

11:00 - 11:45 Coffee Break & Exhibition

SESSION: AGILE PRODUCTION



Chairman:
Prof. Dr. Richard Degenhardt, PFH Göttingen / DLR (Brunswick)



11:45

The 4 x 4 Strategy in the Automation of Processes for Composite Processing

Wilhelm Rupertsberger, Fill Gesellschaft m.b.H. (Gurten, Austria)

12:10

Intelligent Process Control for Advanced Composites Manufacturing

Dr. Nikos Pantelelis, Synthesites Innovative Technologies Ltd. (Piraeus, Greece)

12:35

Self-Configurable Production of CFRP Aerospace Components Based on Multi-Criteria Structural Optimization

Dr. Carsten Schmidt, Leibniz Universität Hannover - IFW (Stade)

13:00

Industry 4.0 – A (R)evolution for the Automated Composites Manufacturing?

Adjunct Prof. (Clemson University) Dr. Yves-Simon Gloy, RWTH Aachen University - ITA (Aachen)

13:25 - 14:45 Lunch Break & Exhibition

SESSION: EFFICIENT PRODUCTION



Chairman:
Prof. Dr.-Ing. Berend
Denkena, IFW – Leibniz Uni-
versität Hannover (Hanover)



14:45

Low-Cost Manufacturing Process of Carbon Fiber and Composites

Dr. Henry (Hyun Kyu) Shin, KCTECH - Korea Institute of Carbon Convergence Technology (Jeonju, Republic of Korea)

15:10

Automated Manufacturing for Mass Production and Low-Cost Materials – Latest Works from Coriolis Composites

Dr. Johannes Treiber, Coriolis Composites GmbH (Augsburg)

15:35

High-Speed-Cutting of CFRP

Andreas Frank, Hufschmied Zerspanungssysteme GmbH (Böbingen)

16:00

Efficient Core Production for Low-Cost and Integral Automotive Structures

Uwe Lang, Evonik Industries AG (Darmstadt)

16:25

Automated Direct Fiber Placement Processes for Wind Turbine Rotorblade Production

Dr.-Ing. Felix Kruse, German Aerospace Center (DLR) - Center for Lightweight-Production-Technology (Stade)

16:50 - 17:30 Coffee Break & Exhibition

SESSION: PARTNER COUNTRY BELGIUM



Chairman:
Dr. Markus Kaufmann, Program Manager Composites & SLC-Lab Manager (Heverlee)



17:30

Keynote Speech: Overview on Belgium Activities in the Target Field of CFRP

Julie Leroy, AGORIA (Brussels, Belgium)

18:00

“Can a Dream of Self-Sensing Composite Material Become Reality?” – Current and Future Possibilities for Embedded Fibre Optic Sensing

Dr. Eli Voet, Com&Sens bvba (Zwijnaarde, Belgium)

18:25

Addressing the Design Challenges in Composite Product Development and Manufacturing

Delphine Carrella, Siemens Industry Software NV (Leuven, Belgium)

19:00 EVENING EVENT

Location: Gut Deinster Mühle

A shuttle service will bring all participants from the STADEUM directly to the manor and back to the hotels later in the evening.



EVENING EVENT 16 JUNE 2015

All participants are warmly welcome to the „Gut Deinster Mühle“ in Deinste as a special way of concluding the first day of the Convention.

Relax and unwind together with the speakers, exhibitors and participants at this 800-year-old manor and savor the summer atmosphere of a manifold buffet with jazz music in the background.

Enjoy the fascinating contrast of the traditional and modern world and take advantage of the opportunity for more in-depth conversations on your first day of the Convention in a relaxed atmosphere such as in the traditional manor stables.

A shuttle service will bring you from the STADEUM directly to the manor and back to the hotels later in the evening.

Come join us!

Gut Deinster Mühle



Gut Deinster Mühle
Im Mühlenfeld 30
21717 Deinste
www.allesistgdm.de



53° 31' 51.564" North
09° 25' 55.955" East





09:00

Opening

Dr. Gunnar Merz, CEO - Chief Executive Officer and Chair of the Board CFK-Valley Stade e.V. (Stade)

09:05

Keynote Speech

Hermann Rosen, Founder and President of the ROSEN Group (Stans, Switzerland)

SESSION: SELF-ENHANCING COMPOSITE PROCESSES (PART 1)



Chairman:
Prof. Peter Chivers, National
Composites Centre (Bristol,
England)



09:35

Sensor Controlled Open and Closed Mould Composite Production

Dr. Markus Kleineberg, DLR - Institute of Composite Structures and Adaptive Systems (Brunswick)

10:00

AFP-In-Process-QA – A Key Enabler for Digitalized CFRP Manufacturing

Dr. Christian Weimer, AIRBUS Group Innovations (Taufkirchen)

10:25

Composite Production 4.0 – Are Solutions Already Available?

Dr. Fabian Schreiber, ark Industrie AG (Aachen)

10:50 - 11:30 Coffee Break & Exhibition

SESSION: SELF-ENHANCING COMPOSITE PROCESSES (PART 2)



11:30

The Technical Economic Potentials of Optimally Adaptive Process Management in the Manufacturing of Composite Structures and Products in the Context of Digital Information Processing
PD Dr.-Ing. habil. Jörg Wollnack, Hamburg University of Technology - IPMT (Hamburg)

11:55

Quality and Quantity! – Dynamic Infusion Processes with a Communicating Infusion System
Jens Boelke, Hilger u. Kern / Dopag Group (Mannheim)

12:20

Metrology-Assisted Stringer Integration
Alexander Schönberg, FFT Produktionssysteme GmbH & Co. KG (Fulda)

12:45

Revolutionizing Lightweight Composites Development through Integrated Simulation, Manufacturing and Test
Dr. John Klintworth, Dassault Systemes UK Limited (Surrey, United Kingdom)

13:15 Summary & Closing Remarks



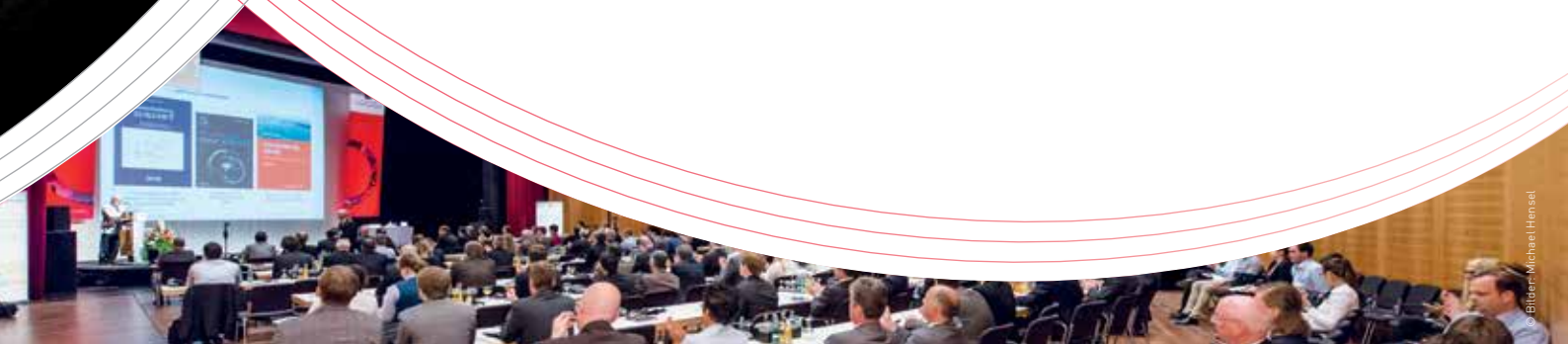


VENUE

Stade has a lot to offer. No wonder, with a history that dates back a thousand years! History that can be seen not only in museums, but also living history that can be experienced in the beautifully renovated old town. Since completion of the STADEUM culture and congress center in 1989, Stade, the town on the Schwinge, has continued to develop as a cultural center of the Elbe-Weser Triangle. The secret of the avant-garde building's success is an effective synthesis of atmosphere, experience, organisation, and engineering.

STADEUM KULTUR- UND TAGUNGSZENTRUM GMBH & CO. BETRIEBS KG

Schiffertorsstraße 6
21682 Stade
www.stadium.de



BELGIUM – PARTNER COUNTRY 2015

In the context of **international networking**, the upcoming CFK-Valley Stake Convention will present a Partner Country for the very first time. **Two big players** (AGORIA, sirris) will represent the CFRP-Competencies of all branches of industry in Belgium – with their own session and a joint booth with about 10 companies and institutes.



AGORIA brings together and defends companies in the technology industry.

The federation is committed to the future of these companies and the 275,000 people or so they employ.

With its 1,700 member companies, Agoria is the largest sectoral federation in Belgium.

It supports its members active in 10 industry domains (Information and Communication Technology, Building Technology, Contracting, Materials Technology, Subcontracting, Production Technology & Mechatronics, Transport Systems & Solutions, Energy Systems & Solutions, Environment Systems & Solutions, Aeronautics, Space, Security, Defence technology) in the development of their activities in terms of markets, products and technologies both in Belgium and abroad.

Through its Centres of expertise, the federation also assists its members on issues of education/skills building, labour market, innovation, energy, environment, social legislation, regulations and standards (both technical and general). And to defend its members' interests before public authorities, it relies on public policy groups that are active at federal and regional levels.



sirris is the Belgian collective centre for and by the technological industry.

We offer Belgian companies three key assets to help them remain innovative:

years of experience and comprehensive expertise in a wide range of industries; high-tech testing infrastructure spread across the country; and an extensive network of partners. This way we help large and smaller players in Belgian industry make the right technological choices and achieve sustainable economic growth.



YOUR FUTURE

COMPETENCE IN COMPOSITES



HOTELS

Some hotel recommendations (sorted by distance to venue "STADEUM") for your stay.

We offer all participants - **till 22 May 2015** - a room contingent at reduced rates (prices incl. Single Bed & Breakfast). Please book under the **keyword "CFK"**.

PARKHOTEL STADER HOF

Distance to Convention: 0.1 km
starting from 89.00 EUR
Schiffertorsstr. 8
21682 Stade
Tel. +49 4141 499-0
www.parkhotel-staderhof.de

HOTEL „ZUR EINKEHR“

Distance to Convention: 1.7 km
starting from 65.00 EUR
Freiburger Str. 82
21682 Stade
Phone +49 4141 2325
www.hotelzureinkehr.de

“VIER LINDEN KIEK IN” HOTEL

Distance to Convention: 1.9 km
starting from 82.00 EUR
Schölischer Str. 63
21682 Stade
Phone +49 4141 92702
www.hotel-vierlinden.de

HOTEL AM HOLZHAFEN

Distance to Convention: 1.1 km
starting from 69.00 EUR
Salztorscontrescarpe 8
21682 Stade
Tel. +49 4141 529088
www.hotel-in-stade.de

HOTEL GARNI AM OBSTHOF

Distance to Convention: 1.7 km
starting from 49.00 EUR
Freiburger Straße 86a
21682 Stade
Phone +49 4141 40040
www.am-obsthof.de

GOLF-HOTEL „GUT DEINSTER MÜHLE“

Distance to Convention: 10.5 km
starting from 70.00 EUR
Im Mühlenfeld 30
21717 Deinste
Phone: +49 4149 925250
www.allesistgdm.de



www.innos-perlich.de

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Wegbereiter für Innovationen.

Pathfinder for Innovations.

MATCHMAKING EVENT

The CFK Convention offers all registered participants the chance to **meet potential business partners in pre-arranged meetings**. This Matchmaking Event is the new meeting point to establish technology co-operations, partnerships for R&D and commercial agreements.

In order to take part in the event you just have to

- complete the registration form by providing a profile of your company/ your organisation
- browse the online catalogue to identify interesting profiles
- book one-to-one meetings with your preferred contacts and monitor the number of meetings organised for your company.

The event is organised by the Enterprise Europe Network of the NBank and **is free of charge for participants** of the CFK-Valley Stade Convention.

NBank
Wir fördern Niedersachsen



The Enterprise Europe Network offers support and advice to businesses across Europe and helps them to make the most of the opportunities of the European Union. It is made up of close to 600 partner organisations in more than 40 countries, promoting competitiveness and innovation at the local level in Europe.



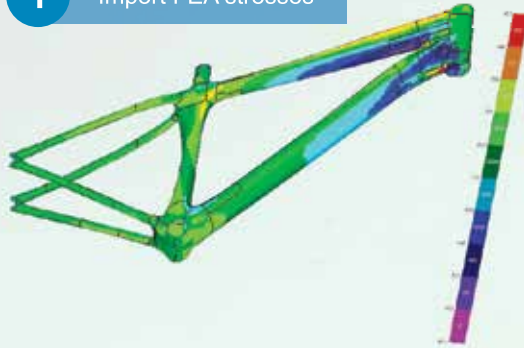
FEM LAMINATES

Automatically optimize laminates on your FEM for any FEA solver (Abaqus, Nastran, Ansys)

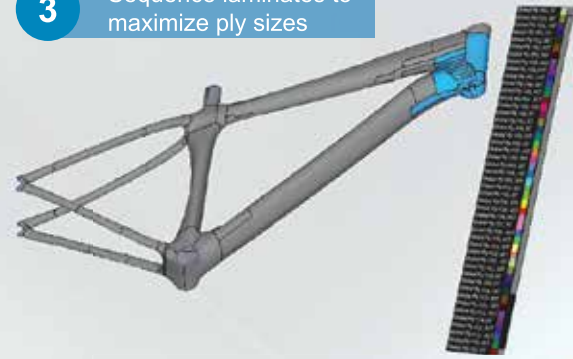
2 Optimize FEM property zone shapes



1 Import FEA stresses



3 Sequence laminates to maximize ply sizes

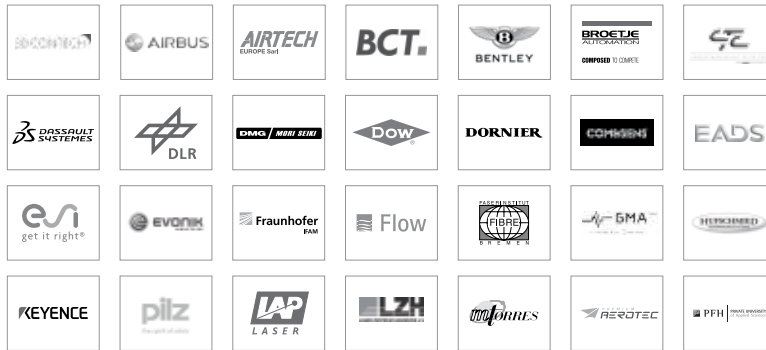


- ✓ 20 years optimizing composites laminates for aircraft and spacecraft
- ✓ Reduce weight and fabrication complexity with less ply drops

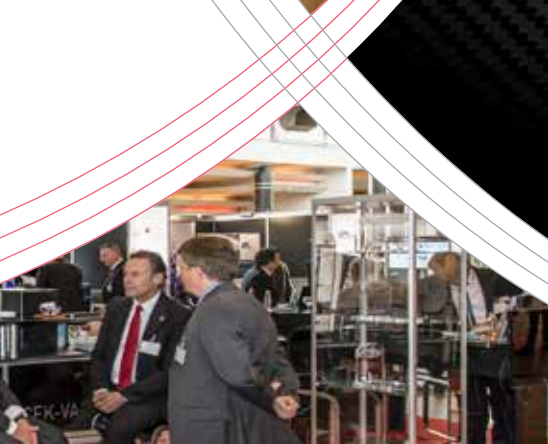
Information and test licenses:
+ 49 931 49708 600
HyperSizer@woelfel.de
www.woelfel.de/hypersizer

EXHIBITION

Almost 40 exhibitors – ranging from manufacturers, specialists for solutions and services to recycling experts – will be presenting their latest developments in two open-spaced exhibition areas. **CFK-Valley Stade e.V.**, a leading network in CFRP technologies with more than 100 members, will be manning a 60 sqm joint booth at the Convention. Up to 10 partners will have the opportunity to present their products and services to a wide range of industry experts at this booth.



In the context of international networking, the upcoming CFK-Valley Stade Convention will present a **Partner Country Joint Booth** for the very first time. Up to 10 exhibitors from all branches of industry will have the opportunity to present their products and services at the Joint Booth with 80 sqm of exhibition space A.





EXHIBITION – PACKAGE

Booth prices include:

Booth walls incl. set-up and disassembly, work station (table, 2 bar stools, stele with logo print, brochure display stand*) incl. set-up and disassembly, **free admission for 1 person to the Convention** incl. meals (menu or lunch buffet, Convention beverages) and evening event, conference proceedings, 20 Convention program brochures for advertising purposes.

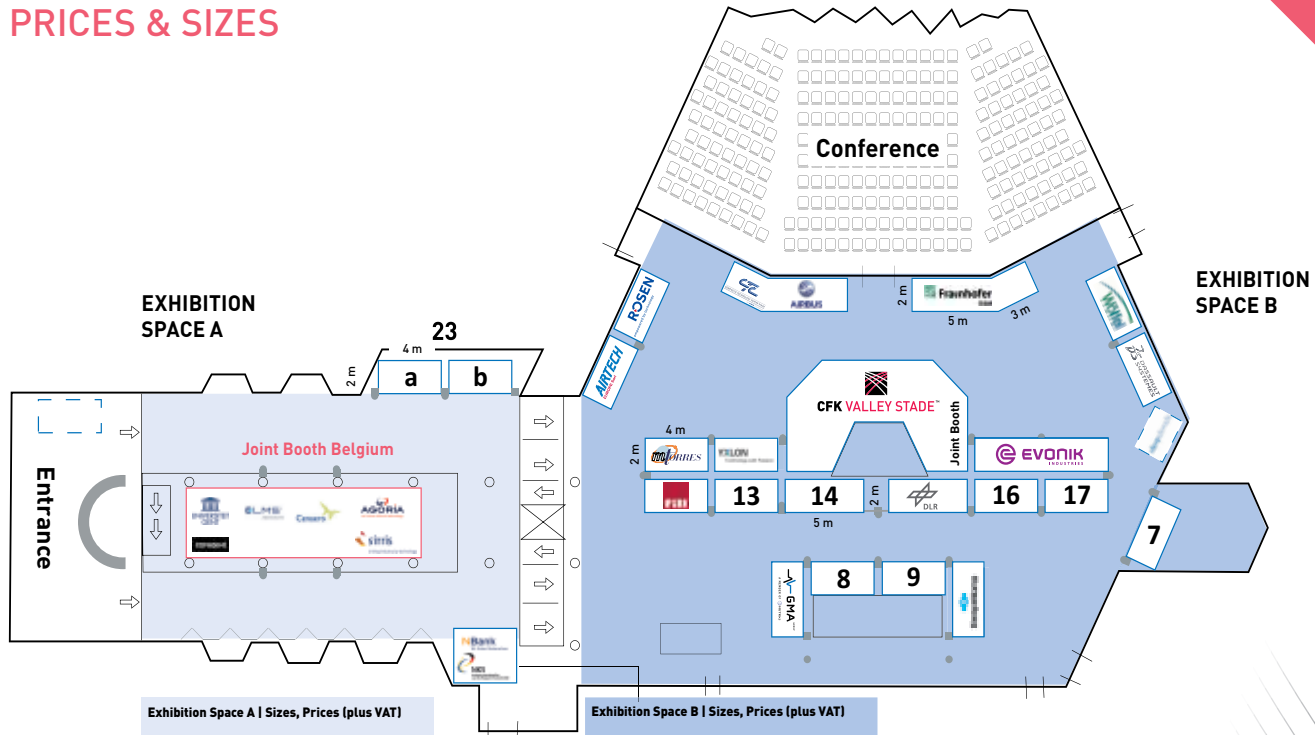
In order for the company names to all have a uniform appearance on the booth signs, the organizer will procure the signs from one source. The booth sign is delivered directly to the exhibition and mounted there. Please send us your company logo as a vector file [EPS] for this purpose and stipulate the colors as well as any supplementary features as a guide line.

Additional persons that want to participate in the Convention **must register separately at a cost of EUR 450.00** (plus VAT) which includes conference, exhibition, conference proceedings, lunch, refreshments during breaks and evening event.

The booking of booth spaces is based on a “first-come, first-served” principle.

Book your own booth now!

PRICES & SIZES



Exhibition Space A | Sizes, Prices (plus VAT)

Booth 23a-b	8 qm, max. height 2,50 m	2.240 €
Joint Booth "Belgium"	upon request	

Exhibition Space B | Sizes, Prices (plus VAT)

Booth 10-11, 14-15	10 qm, max. height 2,50 m	3.800 €
Booth 1-2, 5-9, 12-13, 16-21	8 qm, max. height 2,50 m	3.040 €
Joint Booth "CFK-Valley Stade"	upon request	



A MEMBER OF  MISTRAS

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GMA-WERKSTOFFPRÜFUNG.GMBH



NADCAP CERTIFIED SERVICES FOR COMPOSITE TESTING

GMA offers **INNOVATIVE SOLUTIONS FOR TESTING** of **COMPOSITE MATERIALS**. We are one of the leading companies for **ACCREDITED DESTRUCTIVE** and **NON-DESTRUCTIVE TESTING** methods of composites for Aerospace, Wind Energy and Automotive components.

GMA-WERKSTOFFPRÜFUNG.GMBH, RÜDIGER VOLLMERHAUS, JULIUS-LEBER-WEG 24, 21684 STADE,
PHONE: +49 (0)4141 7944-0, FAX: +49 (0)4141 7944-299, E-MAIL: R.VOLLMERHAUS@GMA-GROUP.COM

COMPANY FORUM

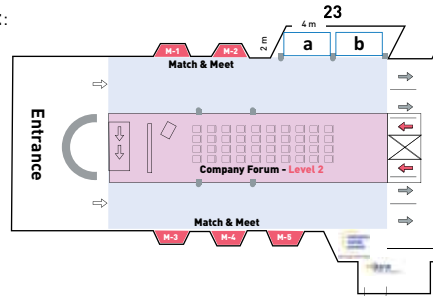
This year the CFK-Valley Stade Convention is providing for the first time **a platform for companies and institutes to present their portfolios** in the context of black fibers to an international audience. This will take place parallel to the framework program.

Here is an overview of the key data:

- lecture area on the gallery (Exhibition Area A)
- platform for (image / company) presentations
- contact point for all registered Convention visitors
- deal supplement to the presence as exhibitor
- presentation slot: 15 minutes
- participation fee for presenters: registration and payment of min. 1 paying participant (member or non-member fee)
- limited number of presentation slots (first come, first serve)

Interested partners please contact:

CFK-Valley Convention GbR
Phone: +49 4141 40 740 22
info@cfk-convention.com



WHOLE EVENT “ALL INCLUSIVE” (16-17 JUNE 2015)*

450 EUR | Member of CFK-Valley Stade e.V./AGORIA/sirris

600 EUR | Non-Member

450 EUR | Every additional person (same Company/Institute)

90 EUR | Students

2ND-DAY-TICKET (17 JUNE 2015)**

240 EUR | Member/Non-Member of CFK-Valley Stade e.V.

EVENING EVENT (16 JUNE 2015)***

180 EUR | only Evening Event on 16 June 2015 at “Gut Deinster Mühle”

Whole Event*: fees include conference, exhibition, conference proceedings, lunch, refreshments during breaks, Evening Event (prices excl. VAT)

1-Day-Ticket**: fees include conference, exhibition, refreshments during morning-coffee-break (prices excl. VAT)

Evening Event***: only Evening Event from 19:00 - 22.30 on the 16 June 2015 at “Gut Deinster Mühle” (incl. transfer from STADEUM to “Gut Deinster Mühle” (price excl. VAT)

Students: please include copy of student I.D. with registration form

LEGAL NOTICE

You will receive an invoice for the participation fee upon receipt of your registration. The number of participants is limited due to organizational reasons. In justified cases, e. g. due to the cancellation of speakers or too few participants, we reserve the right to cancel the convention up to one week before the appointed day. The paid fees will be reimbursed in this case. Any further claims to CFK-Valley Stade Convention GbR will be excluded. Any cancellation of participant registration received after 29 May 2015 will require full payment (100%) of the participation fee. A legally valid cancellation (as participant) must be submitted in writing.

**** The undersigned/participant furthermore agrees that photos and film material concerning him or her may be produced and published and that photos of him or her may be published (in further print/online publications). With your signature, you consent that your data may be entered into the CFK-Valley Stade Convention GbR database. Your data will be treated confidentially and will not be disclosed to third parties. Detailed “Terms and Conditions”: www.cfk-convention.com/tac

BINDING REGISTRATION (please check appropriate item):

.....
WHOLE EVENT "ALL INCLUSIVE" (16-17 JUNE 2015)*

- 450 EUR | Member of CFK-Valley Stade e.V./AGORIA/sirris
- 600 EUR | Non-Member
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2ND-DAY-TICKET (17 JUNE 2015)**

- 240 EUR | Member/Non-Member of CFK-Valley Stade e.V.

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EVENING EVENT (16 JUNE 2015)***

- 180 EUR | only Evening Event on 16 June 2015

.....
Complete Name (incl. title, if necessary)

.....
Company / Organisation

Street / P.O. Box

Postal code / Town / Country

E-mail

Date

Signature****

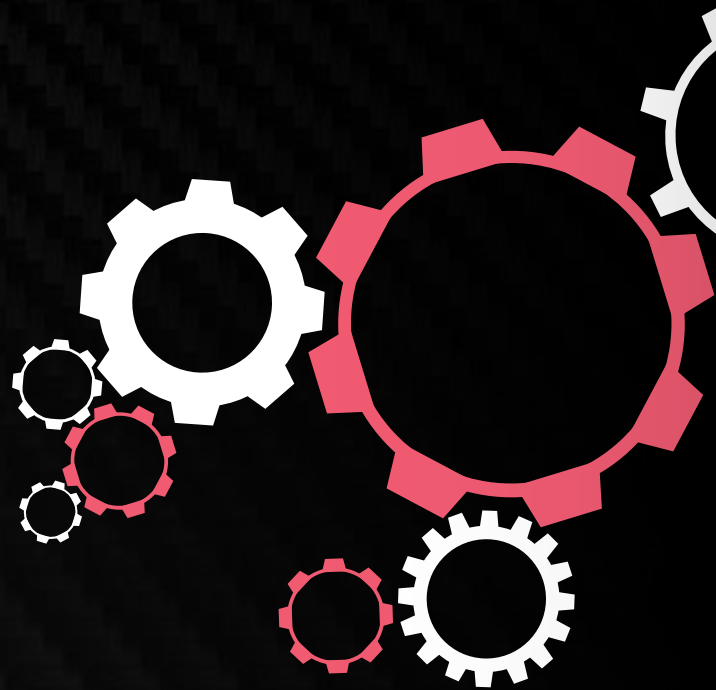
Registration also possible:

www.cfk-convention.com/registration

Deadline
29 May 2015

REGISTRATION

WWW.CFK-CONVENTION.COM



COMPANY PARTNERS

MEDIA PARTNER 2015

