



# filtertechnik.Europe

## Better Function in Metal Mesh

### News Update I/2017

#### Digital is coming

Through our platform News Update we keep you - our partners - updated on current activities and developments around filtertechnik.Europe. On a quarterly basis, we report about four topics to give insights and an impulse for further thoughts, ideas, and discussions with you.

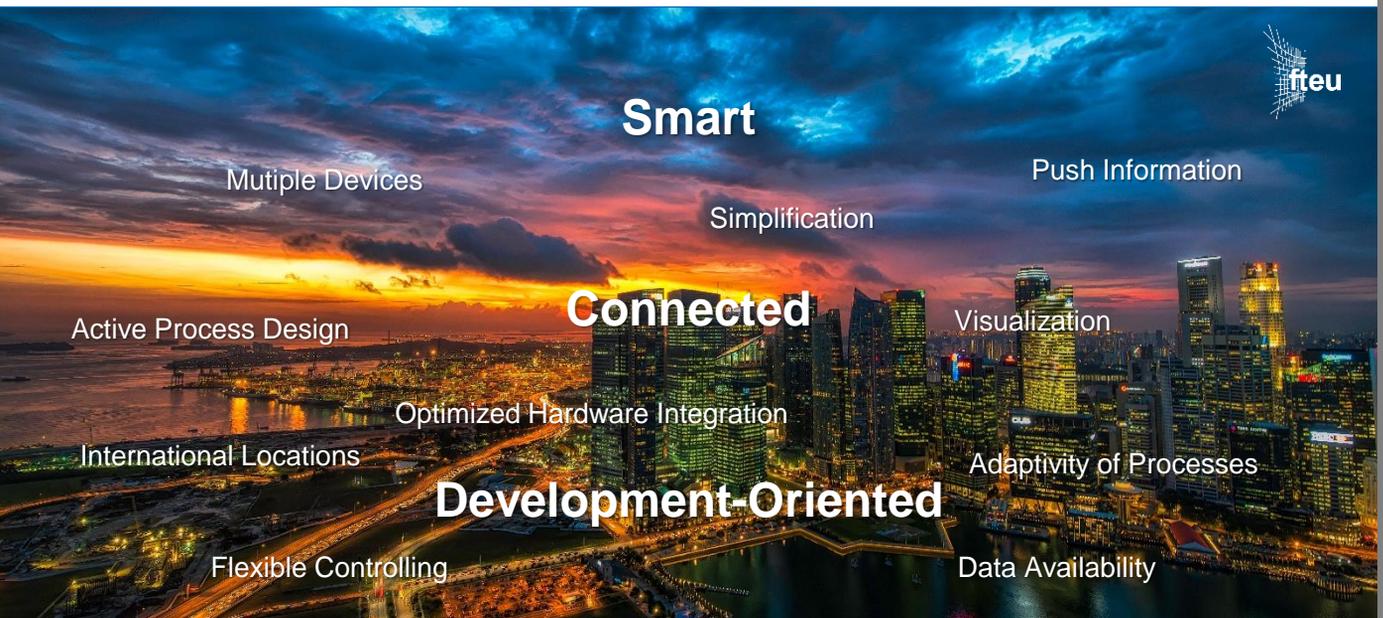
In the manufacturing sector, we usually abide by the conservative principals quality, reliability, speed, and economic viability. At the same time, we learn through the internet or the younger generation on a daily basis that digitalization opens entirely new perspectives (ranging from „innovative“ to „hardly necessary?!“). While the true potential is impossible to grasp at this time, the basic ingredient is consistent for any new digital system: organize data simply. The concept behind an ERP-system mirrors exactly that. However, in reality the path to the right restaurant in an unknown city feels often much smarter than keeping track of engineering costs for a new product release.

In the first edition of 2017 we explain how we are digitizing our processes at fteu® Group. Also, we are introducing improved production technology, our activities for the automotive sector, as well as our latest publication on sound absorption.

## Industry 4.0: Smart, Connected, Development-Oriented

Through process management and development of standards we bring quality into metal mesh products. While in a niche we supply a great variety of different industries with various products. This creates potential for smarter processes with comprehensive and consistent data. At the same time this increases the demand, as any system – as smart as it may be – solely relies on the information it was fed initially.

In the fteu® Group we have been running our processes with ERP-systems for 15 years. We now take the next step towards our Industry 4.0: A system that allows us to operate smarter, more connected, and development-oriented. That means situation-based availability of relevant information; consistent data and information regardless of department, location, or device; and process based routines that allow for convenient adaptations in accordance with the actual practice (instead of running parallel systems with different logics in the virtual world and in reality). We are taking matters into our own hands in cooperation with Novabit to merge business operations competence with IT competence. Using the open-source technology Nuclos we are building an ERP-system that is defined by our vision of process excellence – i.e. encompassing business intelligence, standardized claim management, or paper-free logistics. We are developing our system in direct interaction with our users and will successively try out, optimize, and roll out the new system in defined stages.



Vision of an fteu® ERP-system for smarter, connected, and development-oriented processes



## Welding: Precision Seams with Plasma Technology

We are improving our state-of-the-art production technology for metal mesh solutions further. We have engineered and manufactured the plasma welding technology for the precise jointing of cylindrical shapes. Any cylindrical screen or candle filter of metal mesh requires welding to create a cylindrical shape. The size of the seam should be as small and precise as possible – welding seams reduce the effective functional area across the surface of a cylindrical shape. Conventional overlapping seams result in a significant reduction of the functional area.

Our machinery is based on a flexible design that allows for the efficient manufacturing of different batch sizes and metal mesh specifications. As each specification differs in pore sizes and wire diameters the welding parameters must be adjusted accordingly. Additionally, our semi-automatic technology allows the welding with filler metal to create seams that feature no overlapping material and allow for symmetry across the entire diameter of a cylindrical screen. The plasma seams are also being used for pleated material that cannot be welded with conventional roll seam welding because of their height. The improved technologies will allow us to offer more precise solutions to the market that are yet cost effective for a variety of different batch sizes.

### fteu® Plasma Welding Technology



Plasma welding operation and product samples with welding seam



### Automotive: Exploiting the Potential of Metal Mesh

We are expanding our activities for the automotive industry. Metal mesh solutions are used in vehicles for safety systems as well as the power train. For automotive safety systems we create porous absorbers for hot gas generators in airbags. On the basis of metal mesh we manufacture hot gas absorbers that are located around the propellant. The absorbers serve as initial temperature and pressure absorber as well as filter for the propellant residue. The absorber is the critical element for the precise assembly of hot gas absorbers. For the powertrain we manufacture oil strainer for the filtration and dispersion of lubrication oil in the systems. In our development for the automotive industry we engineer improved solutions to improve the function of our products and optimize their use of space to allow more efficient sub-systems in the vehicle. Our developmental activities are collaborative processes in Heinsberg and China. The production is being conducted in our location in China to ensure short production times from the drawn wire up to the metal mesh component and cost effectiveness for our customers. Through our locations in Germany, China and the Czech Republic we offer various logistics solutions for the just-in-time supply to the production of our customers all over the world. The automotive market is growing - especially so in Asia - and we are expanding our activities to participate in this development with quality products of metal mesh.

### fteu® Group Automotive



### Existing fteu® metal mesh products for the automotive industry



Fluid Filtration



Fluid Dispersion



Precision Assembly



Sound Absorption

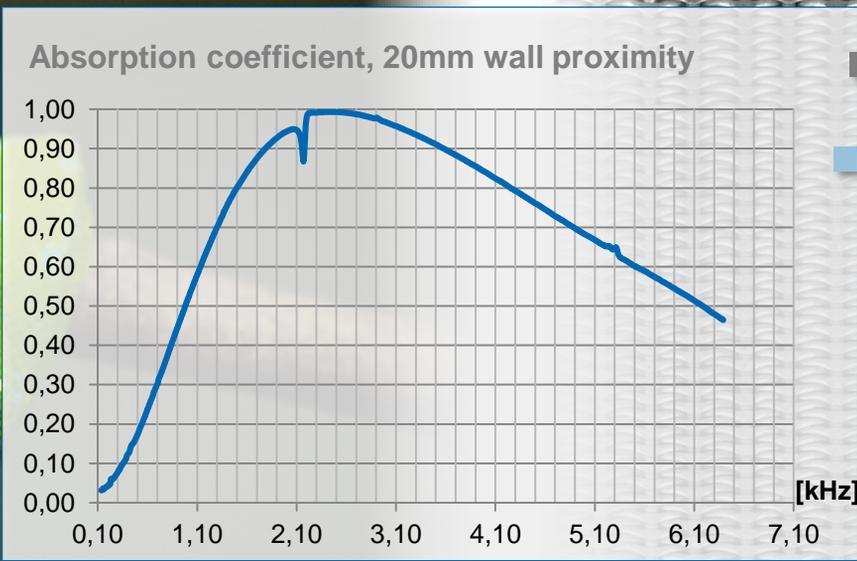


Heat Absorption

## Sound Absorption: MASH® presented @Acoustics Symposium

Through our News Update III/2016 we informed about our ongoing activities to establish our MASH® (Material Absorbing Sound and Heat) as absorber material for fibre-free sound absorption in the marketplace. We have now introduced the technology at the 43<sup>rd</sup> Annual Symposium for Acoustics in Kiel (Germany) through our presentation “Fibre-free Sound Absorption for Corrosive Process Conditions”. This was a platform for us to engage in technical discussions with acoustics engineers and sound specialists from a variety of different industries; such as automotive, aerospace, white goods, or food processing. We used product samples to interact with approximately 70 acoustics experts on the technology of MASH® and its potentials. With us having a strong background in production technology this opened new perspectives for us on fibre-free sound absorption. It also underscored the vital importance of experimental validation of sound absorption solutions for each application specifically: sound parameters, geometries, and process conditions create a multitude of available options that are specific for each case.

The presentation represented a milestone for our development process “Towards the Snake” – our project for engineering sound absorption that ideally allows for conditions as silent as the snake experiences it (an animal with virtually no capability of hearing). We are now looking forward to engaging in developmental projects for MASH® being used in pipe sound absorbers, areal absorbers, and molded absorbers.



Sound absorption capabilities of MASH® (tested in Kundt’s tube) – find more info online



## Outlook

In 2017 we want to expand our visibility on the global marketplace through improved sales and engineering activities. While some industries, such as maritime, are currently struggling, the global economy is going in a positive direction and promises new opportunities. Industries like plastics and automotive are growing especially in the Eastern hemisphere. We look forward to upcoming industry events that will give new impulses and serve as platform to meet with existing and future partners, i.e. the Index in Geneva for the nonwovens sector or the Chinaplas in Guangzhou where our company BDFE will exhibit.

Our engineering will continue to focus on improving function in our products and for our customers. At the same time our MASH® technology illustrates a new direction in our development of function: we are working to create new function – bringing function to applications where existing solutions of metallic material are limited.

We are looking forward to continuing our dialogue with you and will keep you updated on our developments.

Best regards from Heinsberg,

Dr. Nicolas Komorek

## Contact us!

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Fluid  
Filtration

Fluid  
Dispersion

Precision  
Assembly

Sound  
Absorption

Heat  
Absorption