

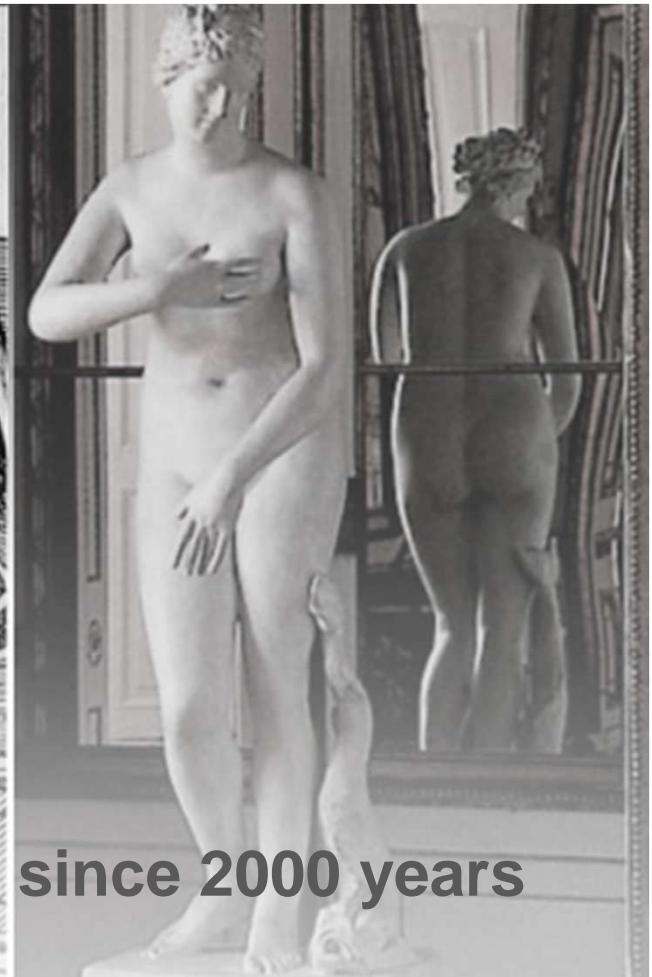
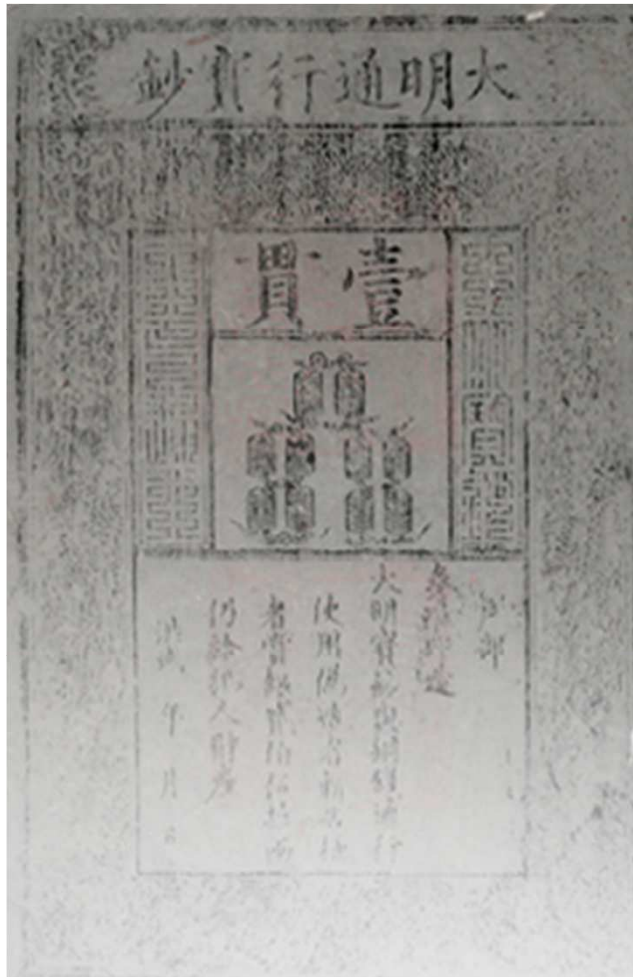


Recent and Future Challenges for the Paper Industry

40th International Annual Symposium DITP, Bled

Frank Miletzky, PTS

Paper: old-fashioned or HighTech?



A story of success – since 2000 years

Paper Industry: the Quest for Innovation



17.10.2013

Today's paper world ...

- Productivity on highest level for technical products
- Well performing products for manifold applications
- Runnability oriented
- Wider – faster – cheaper
- Innovation hiding („tons“)
- Closed paper network preferred

... and basic challenges to survive ...

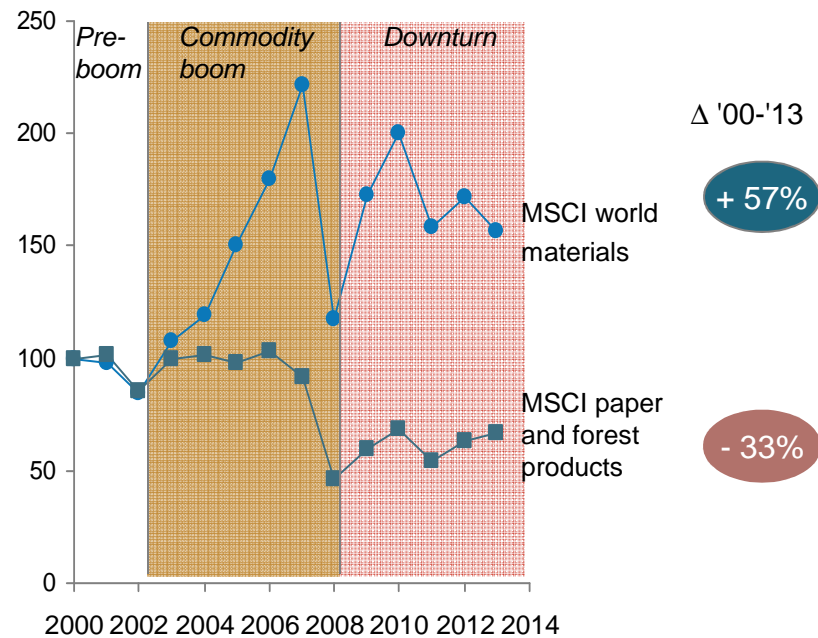
- Availability of affordable energy

- Availability of raw materials

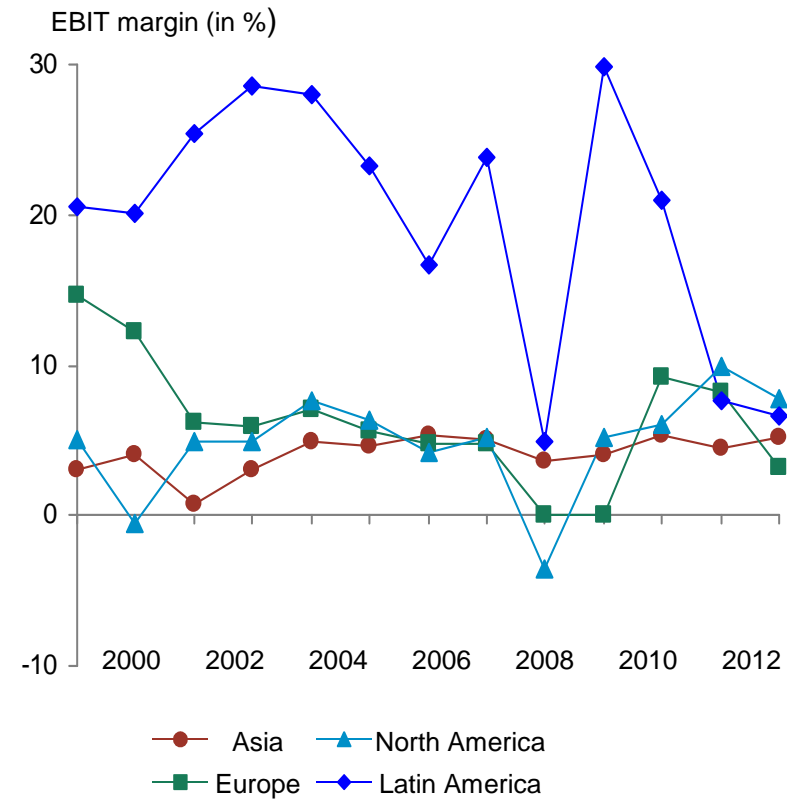
... is getting dark ...

Declining share prices ...

Share price index (2000 = 100)

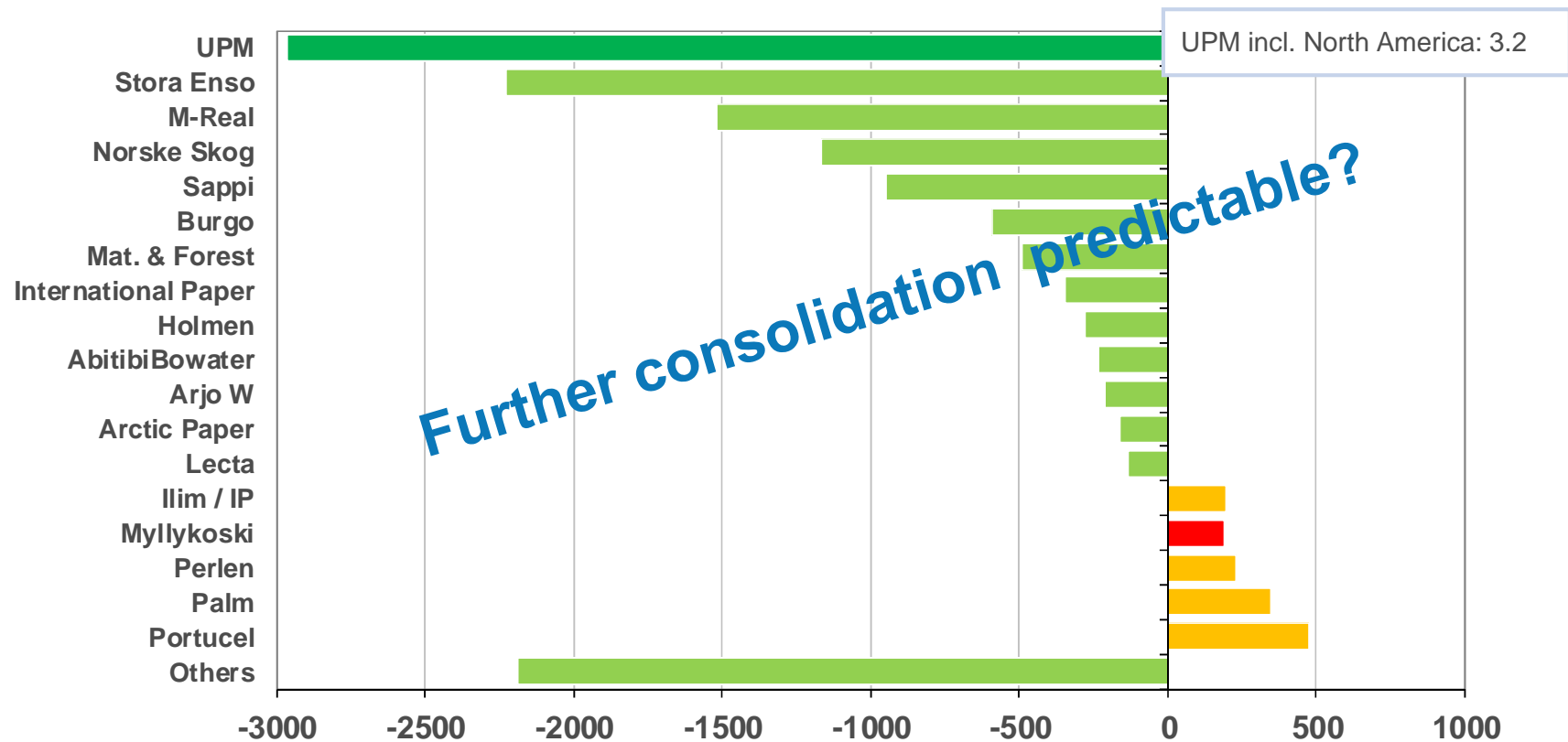


... and declining margins



Source: Thomson Reuters Datastream; BCG analysis
Courtesy of Roland Haslehner

... (e.g. Graphic Paper) ...



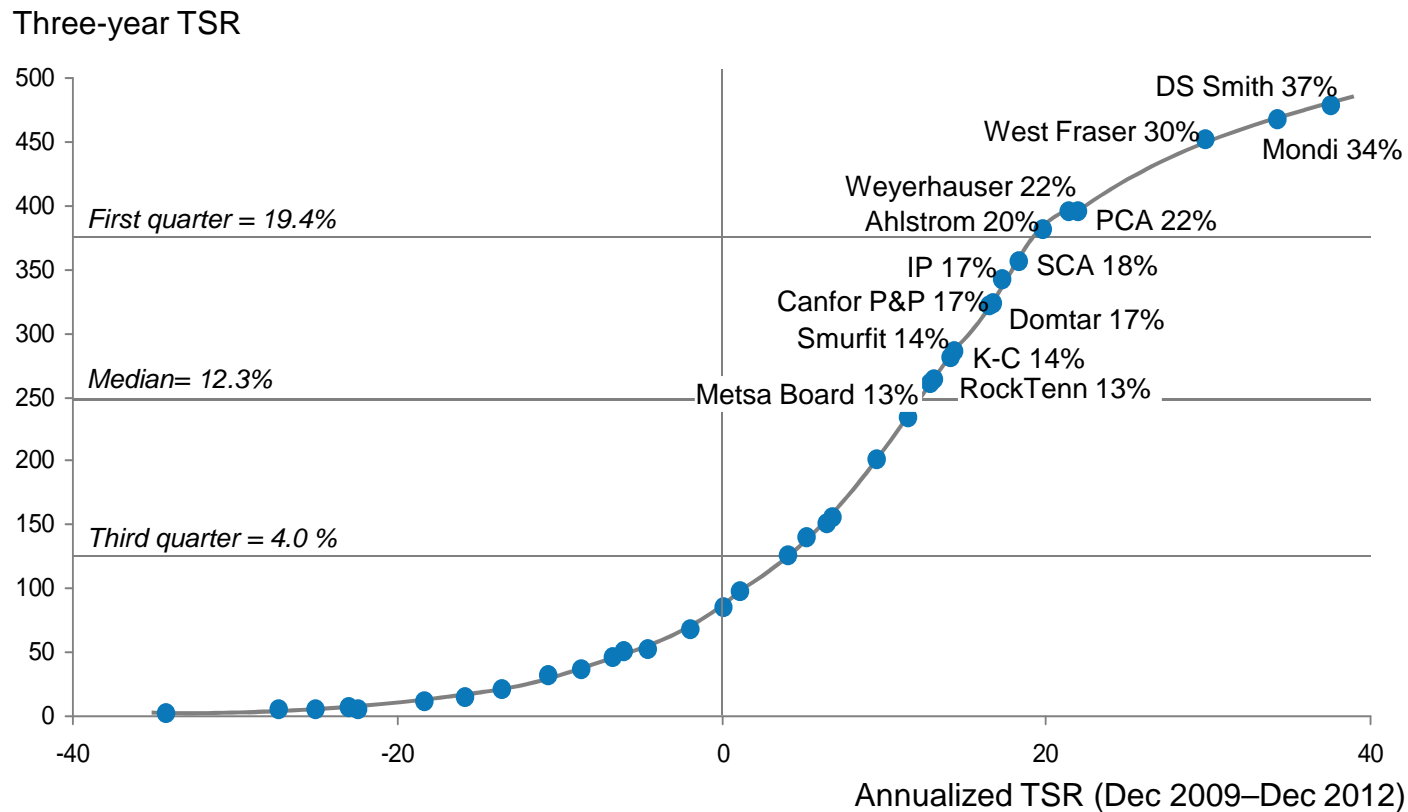
Source: Pöyry, UPM, public sources

Courtesy of Jussi Pesonen, Hartmut Wurster, UPM

Net capacity reduction during 2005-2013e in Europe: 11.7 Mill. Tons (-22 %)

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... but there must be light as well!



Source: Compustat; BCG ValueScience Center

Courtesy of Roland Haslehner

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The CEPI 2050roadmap

unfold the future



The forest fibre industry,

drawing as it does largely
on EU raw materials, will have
a central role to play

in the bio-economy,

where the focus
will be on sustainable, renewable and
recyclable raw materials, used in the
most optimal way, and creating the
highest possible added value.

50% more value,
80% less fossil CO₂,
40 years from now
in a mature European
market
in a broad sector
scope

the forest fibre sector

www.unfoldthefuture.eu



What does the CEPI Roadmap mean for the entire paper value chain?

+50 % value creation

-80 % foss. CO₂

The obvious „hard“ factors

Improved
Paper products for
current markets

Materials for new
applications in
innovative markets

BAT =
basic condition

New
Processes and
Technologies

Resource
Integration/
Bio refinery

Additional essential „soft“ factors

Personnel and
Innovation culture

New Education
profiles

Industrial
networks

R&D
networks

Funding

Source: Cluster Paper Research

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Basic challenges of the paper industry in Europe

- Availability of affordable energy

- Availability of raw materials

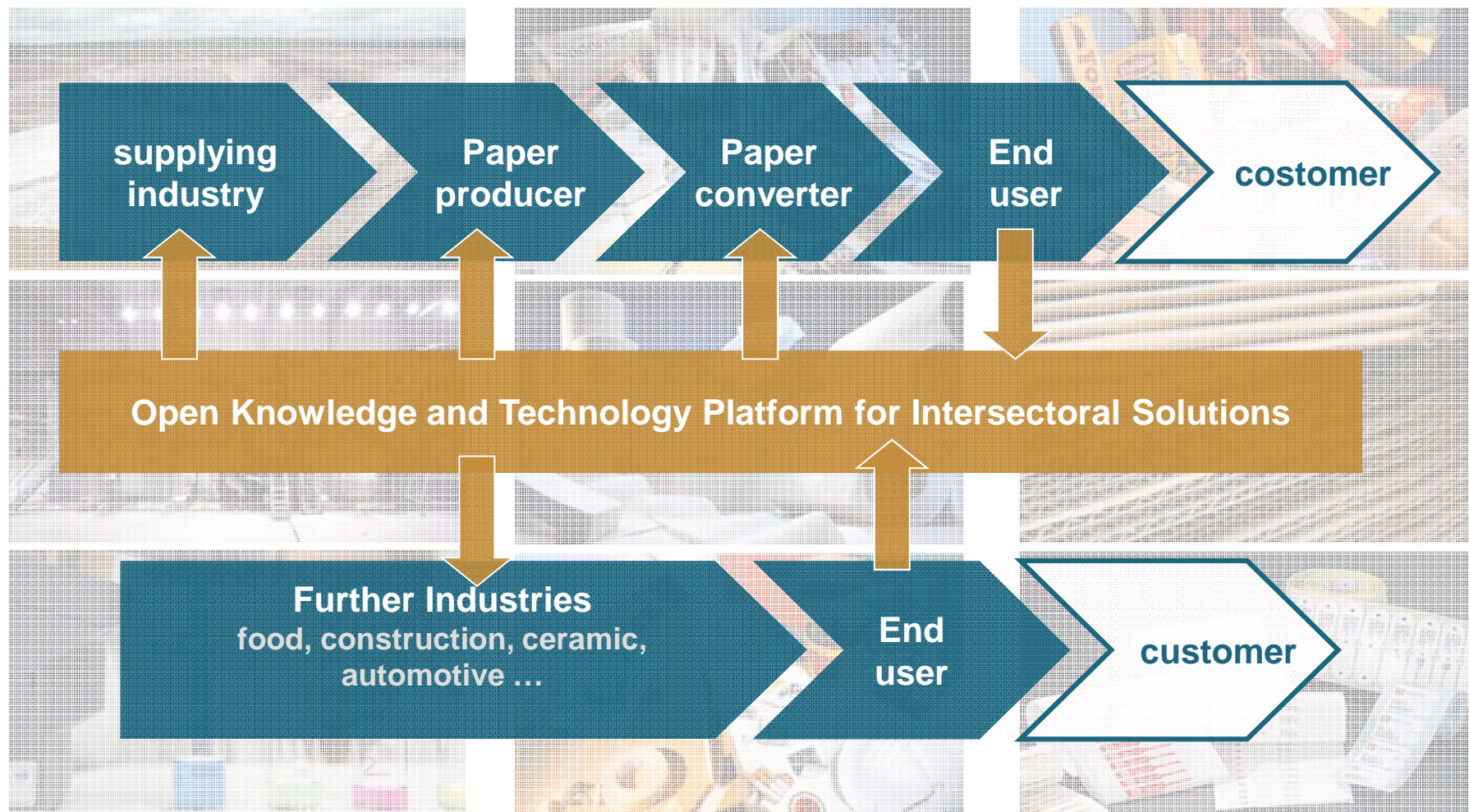
- Higher level of value creation

Bridging the Gap: Value creation!



The Challenge

solutions for the entire value chain of paper and moreover

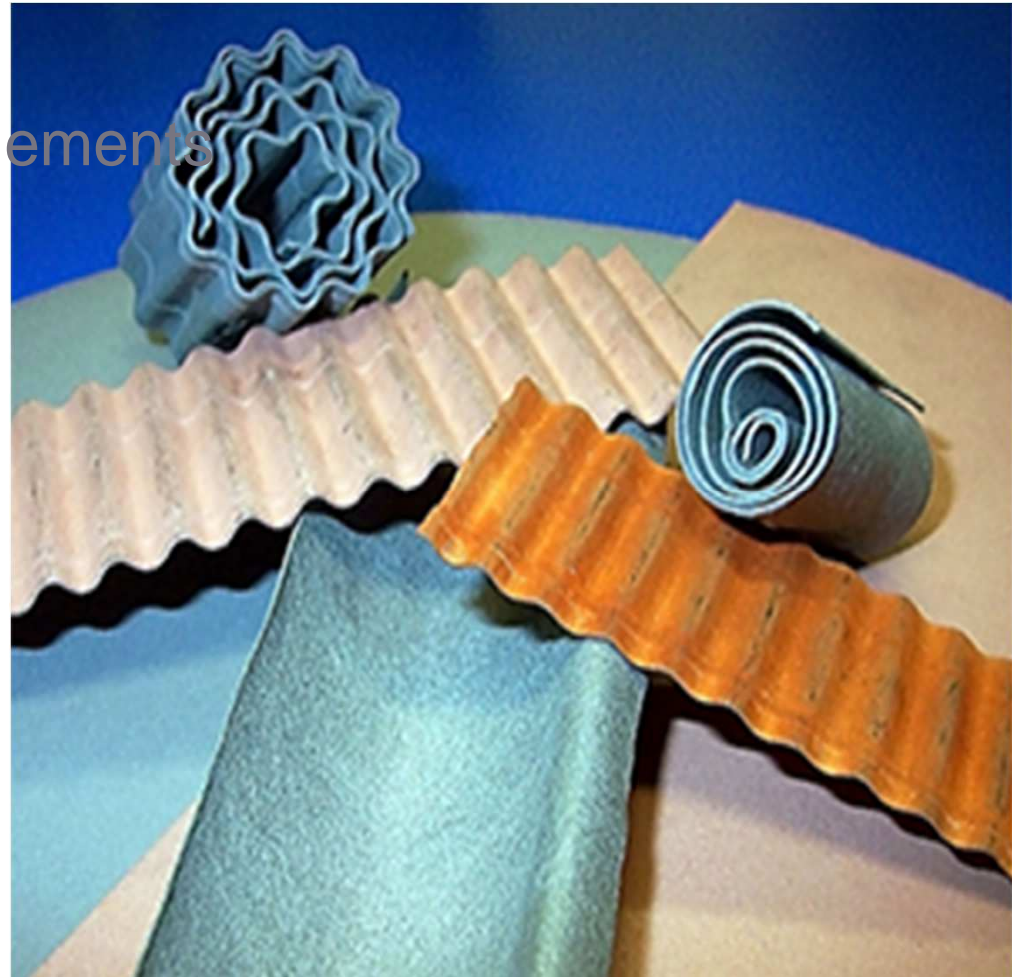


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PTS: Innovative fibre-composites for industrial applications

Metal-filled papers

- Lightweight construction elements
- Filters
- Membranes
- Electromagnetic shielding
- Nozzles and evaporators
- Unique haptic experience



In cooperation with



Funded by

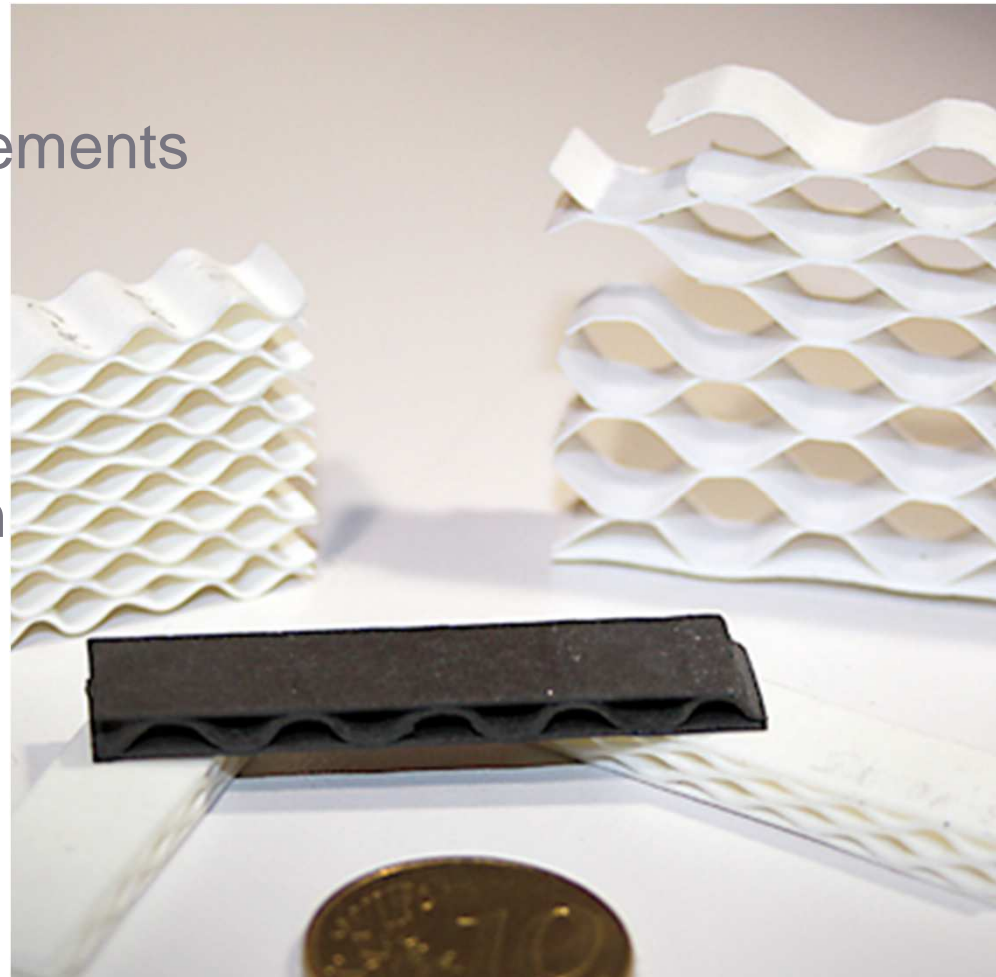


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PTS: Innovative fibre-composites for industrial applications

Ceramic papers

- Lightweight construction elements
- Filters and membranes
- Nozzles and evaporators
- Catalytic converters
- High temperature insulation



In cooperation with



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PTS: Innovative fibre-composites for industrial applications

Fire-resistant lightweight building board

- Fire protection classification A2
- Covers
- Door panels
- Body housings
- Containers
- Booth construction

In cooperation with



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Tailoring to customers' needs

Paper as material for the building sector

- Lightweight construction materials
- Paper
 - As fire protection material
 - As electromagnetic shielding
 - As temperature- and moisture control
 - As filters
 - With designed adsorptive properties
 - With antibacterial functions
- Decor and functional interior design



Does it work? Yes, it does!

Bridge over Gardon River, France
(2007)



Emergency Shelters, Kobe, Japan (1995)



Shigeru Ban



Cathedral, Christchurch, New Zealand
(2013)



Emergency Shelters, Byumba
Refugee Camp, Rwanda (1999)



17.10.2013 http://www.ted.com/talks/shigeru_ban_emergency_shelters_made_from_paper.html

„Soft design“ architecture

- Smooth shape,
- Valuable creation
- Well-being
- Multiple use
- Flexibility and functionality



Pictures: Eriko Horiki

Automotive and paper: An old friendship



Statistically 20 kgs of paper per car

Beyond the material: Passion



Picture: Büttenpapierfabrik Gmund

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Experience Paper anew...

Paper glows....

Illumination (OLEDs)

Paper is audible....

Acoustic design

Paper is fragrant....

Aroma design

Paper feels good...

Haptics

Conclusions

- Global trends determine behavior of individuals and it becomes more obvious from their side, what is really needed.
- Paper industry has to change from a commodity producer to an integrated part of industries supplying HiTec-fibre based solutions.
- Considering outstanding attributes of paper in terms of availability, sustainability, technical performance as a biobased, lightweight material but also positive emotional reflection creates new product ideas.

Great future for fibre based solutions!



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Najlepša Hvála!

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