

**Hofer Vliesstofftage – 09.11.-10.11.2016**

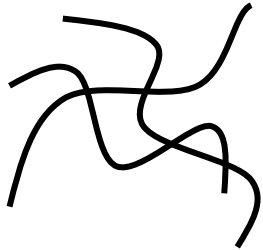
# **Biomass-Balance – A BASF Approach for sustainable Solutions**

Marcus Seibert – Marketing Fiber Bonding EMEA

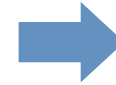
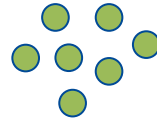
# Typical Binders and Fibers

for chemical bonding

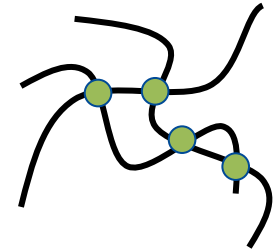
## Fiber



## Binder



## Product



### Natural fibers

- hemp, wood, ...
- cellulosic

### Man made fibers

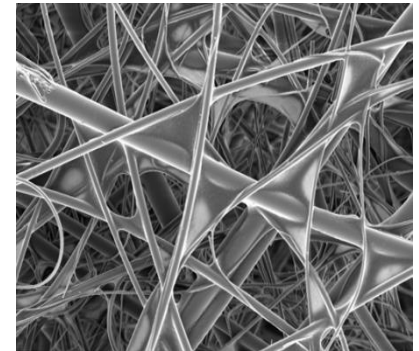
- synthetic (PET)
- glass
- carbon

### Dispersions

- (styrene-)acrylic
- styrene-butadiene

### Resins

- acrylics based
- formaldehyde based (UF/MF)



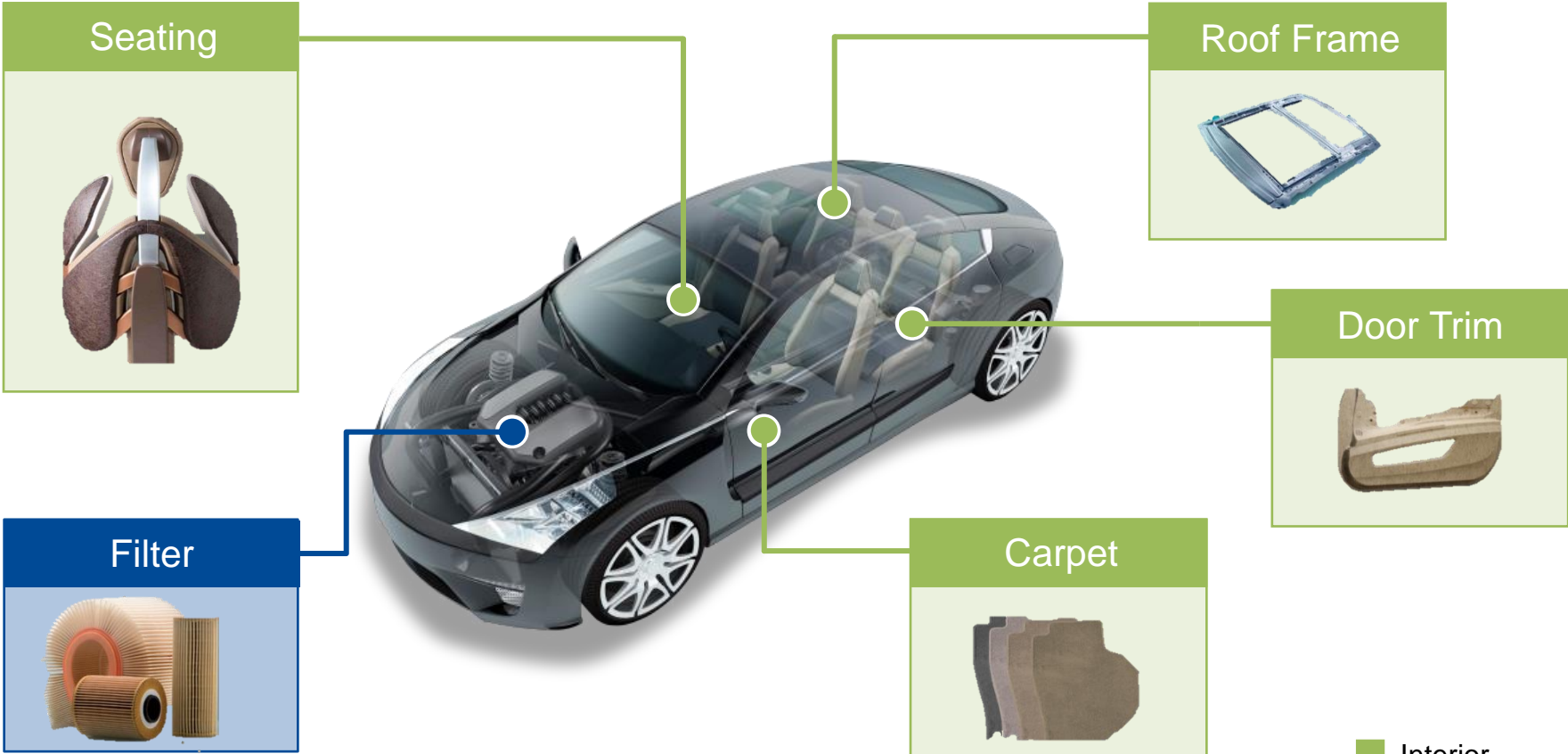
# Selected Applications

for different fiber types



# Automotive Industry

selected applications




■ Interior  
■ Under the hood

# Furniture Industry

selected applications




### Decor Foils



Decor Foils

### Wall Covering



Wall Covering

### Light Boards



Light Boards

### Natural Fiber



Natural Fiber

Indoor

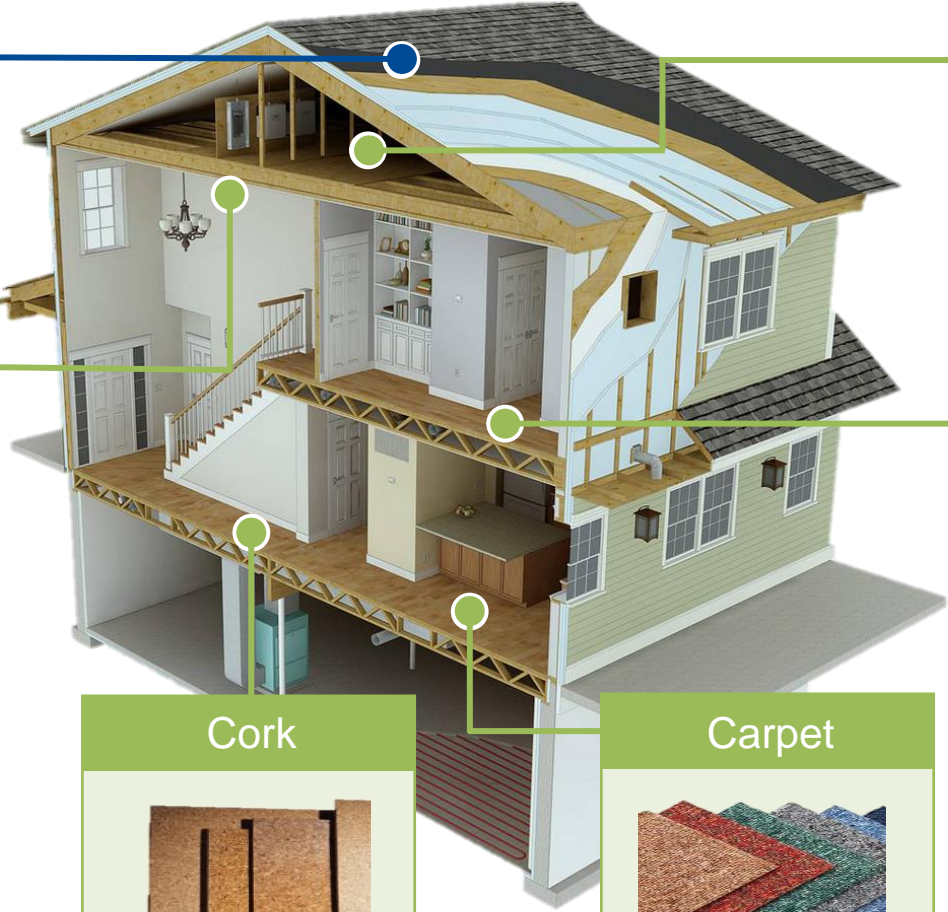
# Construction Industry

selected applications

Roofing



Ceiling tile



Glass insulation



Glass nonwoven



Cork



Carpet



■ Indoor  
■ Outdoor

# Global Market Trends

Target: our products contribute to improved sustainability



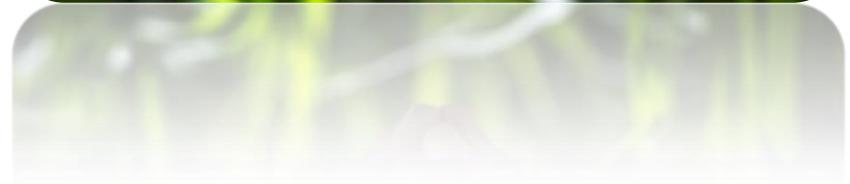
Emission reduction



System cost savings



Renewables



# Global Market Trends

Selected options to meet industry requirements



## Emission reduction

- Formaldehyde-free technology
- Low VOC products



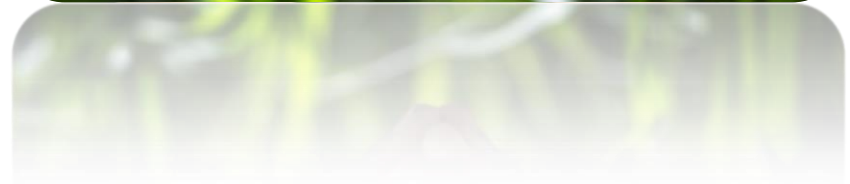
## System cost savings

- Resource efficiency
- Process efficiency



## Renewables

- ???





# Limitations in usage of Renewables

to meet established process ability and property expectations



## Renewables

- Renewable raw-materials needed
- Formulation compatibility
- Process ability
- Meet customer requirements
- Durability



Customers are increasingly interested in solutions based on renewables but often request same performance.

# Limitations in usage of Renewables

to meet established process ability and property expectations



## Renewables

- Renewable raw-materials needed
- Formulation compatibility
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**BASF Solution: Biomass Balance Approach**

# BASF - Biomass-Balance Approach

is similar to that for green electricity

## Feedstock

## BASF Production Verbund

## Products

Fossil



Renewable



Conventional



Allocated

Use of renewable feedstock in very first steps of chemical production (e.g., steam cracker)

Utilization of existing Production Verbund for all production steps

Allocation of renewable feedstock to selected products

# Independent Certification by TÜV Süd

Scheme globally available



## Feedstock

## BASF Production Verbund

## Products

Fossil



Renewable



Conventional



Allocated

# The most Dispersions & Resins

are as “biomass balance grade” available

## Dispersion

(thermoplastic, soft, flexible)

(Styrene-)Acrylic  
Acronal®

Styrene-Butadiene  
Styrofan®

Polyurethane  
Emuldur® / Luphen®

## Resin

(thermoset, rigid, stable)

Acrylic  
Acrodur®

Urea-Formaldehyde  
Urecoll®

Melamine-Formaldehyde  
Saduren®

## Additives

Thickener, Surfactants, Pigment dispersants

# Opportunities beyond Binders

Nonwovens with 100 % renewable raw material source

## Combination Biomass-Balance Binder with:

### Natural fibers:

Cellulose, Hemp, Cotton, Kenaf etc.

### Synthetic fibers<sup>1</sup>:

Polyamide 6, Polybutylene terephthalate,  
Thermoplastic Polyurethane



<sup>1</sup> BASF Biomass-Balance grades

# Milestones: BASF – Biomass-Balance

Filling the gap between traditional and dedicated production



## Successfully introduced in paint industry

DAW has recently launched two new product lines: Caparol “CapaGeo” and Alpina “KLIMA-WEISS”

## Awarded for Resource Efficiency

German Sustainability Award 2015:





We create chemistry