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Fraunhofer Institute for Chemical Technology ICT



International Encounters

**Mobilis**



**2012**  
Mulhouse - France  
13<sup>th</sup> and 14<sup>th</sup> november

[www.mobilisconference.com](http://www.mobilisconference.com)

# Leaner and lighter

## Benz Patent-Motorwagen (1886)



Source: Mercedes Benz

Vehicle mass	265 kg
Fuel consumption	9 l/100km
Max. speed	16 km/h

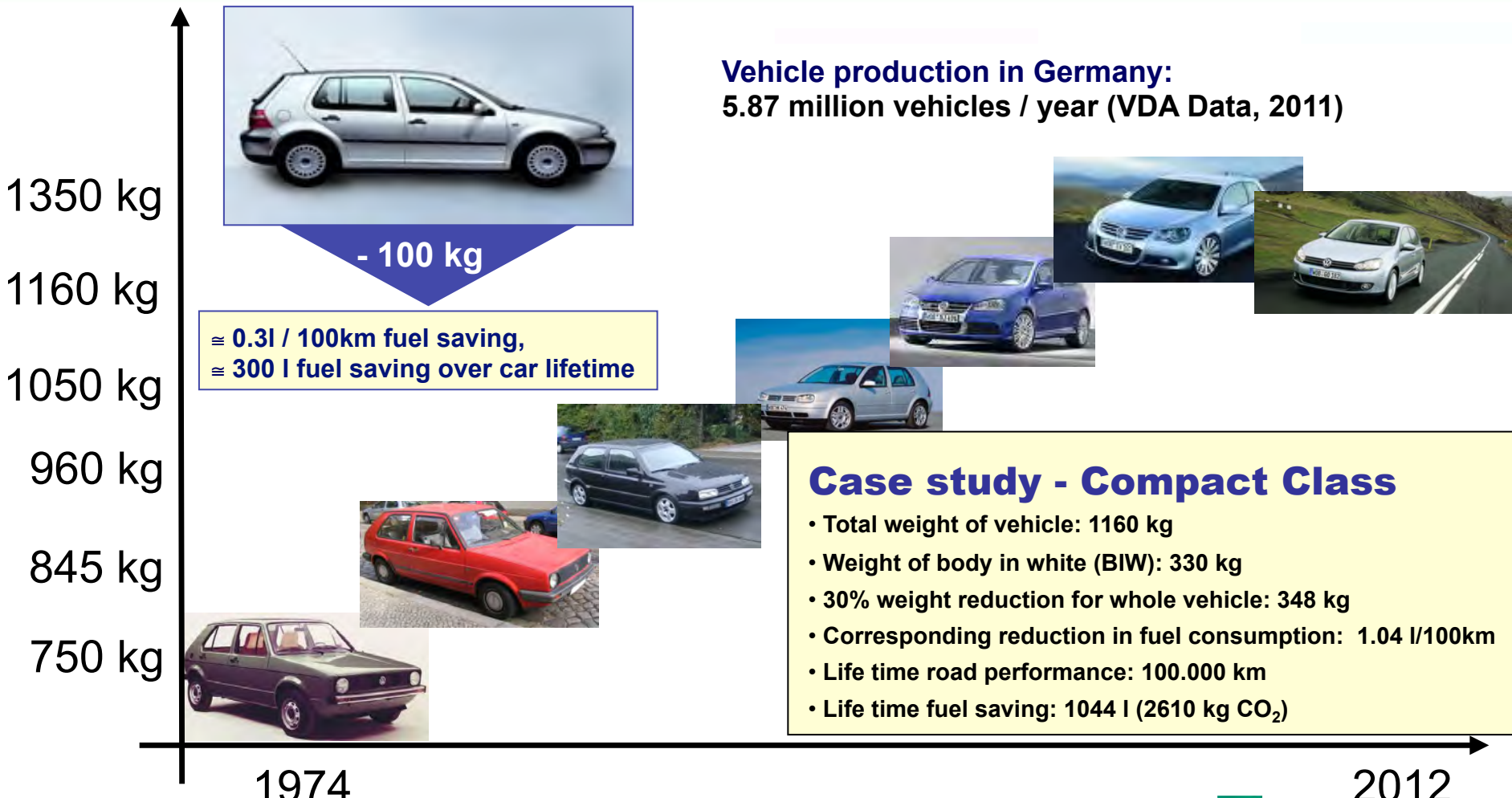
## Volkswagen 1-liter car (2002)



Source: Volkswagen

Vehicle mass	290 kg
Fuel consumption	0.99 l/100km
Max. speed	120 km/h

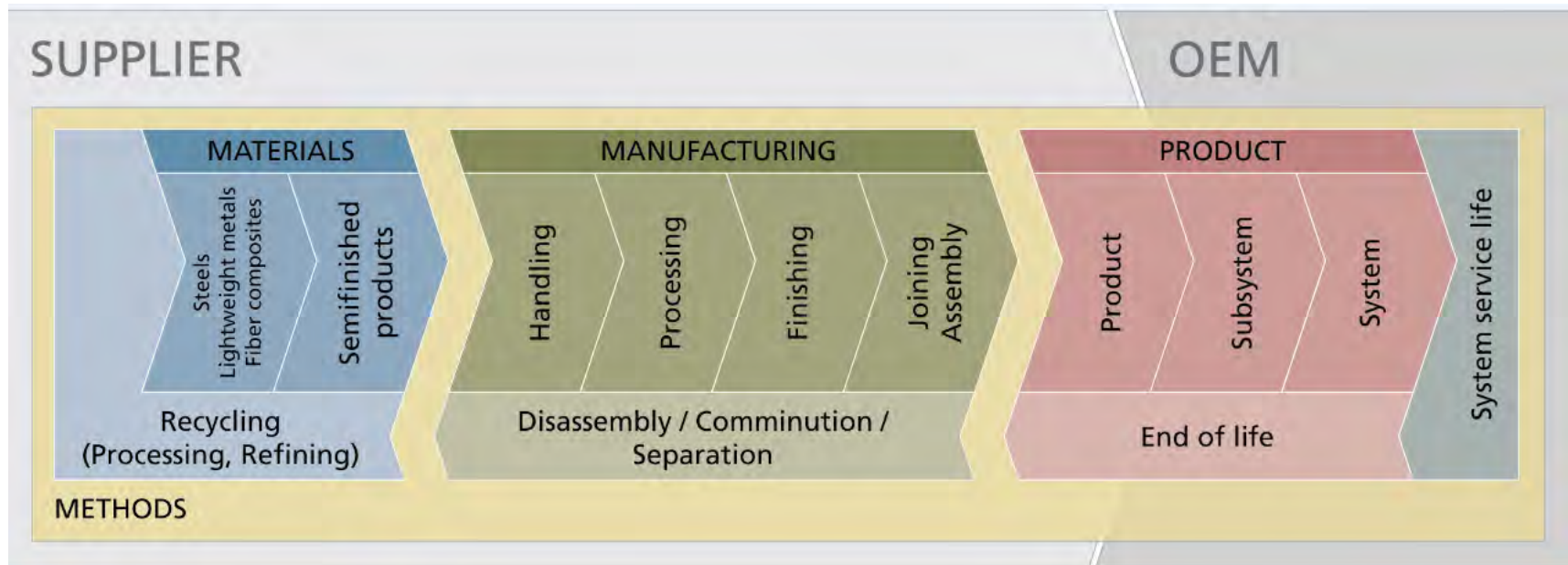
# Motivation



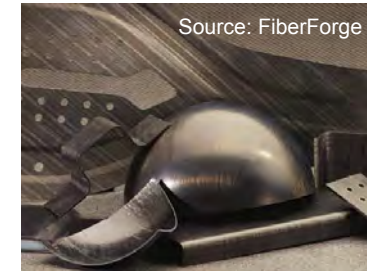
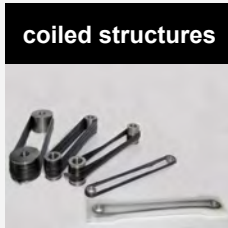


# Lightweight design as interdisciplinary challenge

Transferring the **system approach** to serial production requires extensive competences along the **entire value chain**



# Hybrid technology for large series production



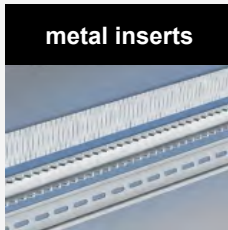
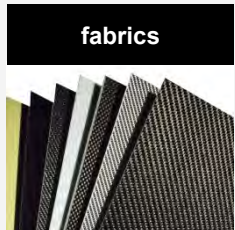
local  
reinforcement  
structures



technologies for high  
volume production



final hybrid  
part



# Composite technologies

Long-fiber-reinforced  
thermoplastic



Thermoset sheet  
molding compound



Fiber-reinforced  
polyurethane



Thermoplastic and thermoset  
RTM process

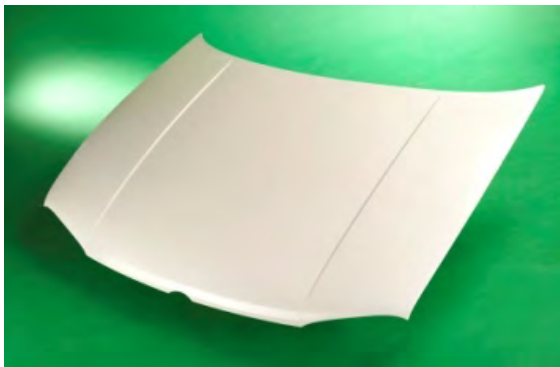
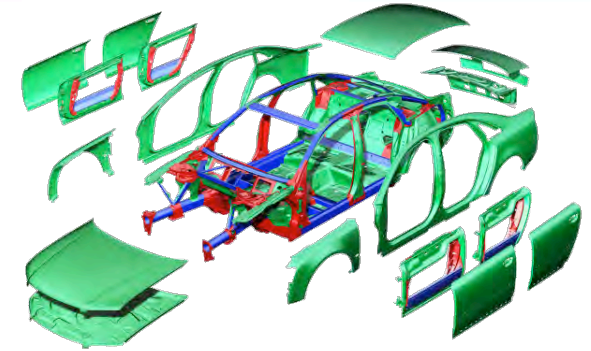
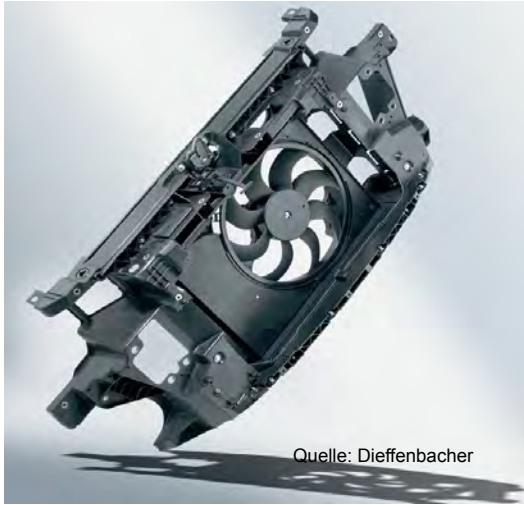


## Composite technologies

Automated, high-volume production chains



# Applications



# Thank you for your attention

## Contact

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