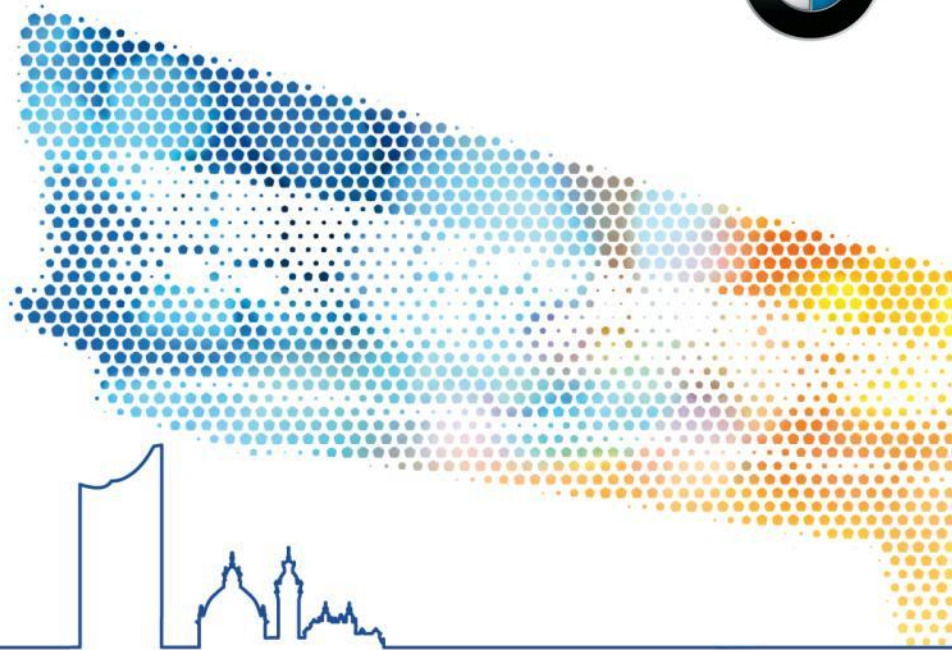
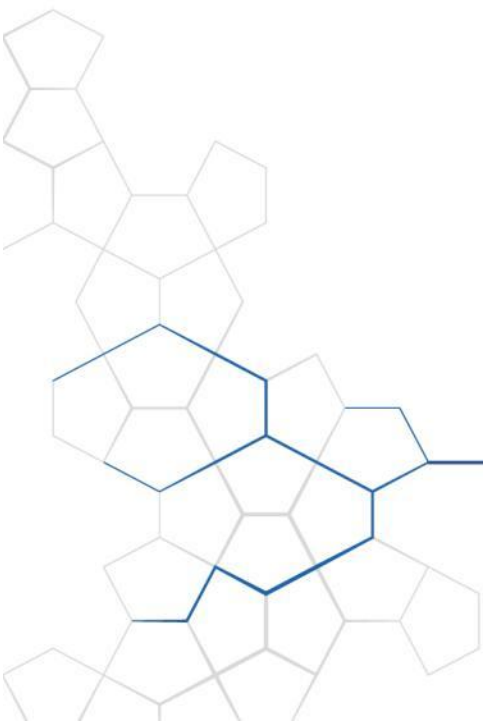


BRINGING A REVOLUTION TO LIFE.

BMW i INNOVATION DAYS 2013.



ENERGY AND RESPONSIBILITY.



SUSTAINABILITY PLAYS A MAIN ROLE FOR BMW GROUP – AND EVEN MORE SO FOR BMW i.

The BMW Group is the most sustainable company in the automotive industry.



Environment

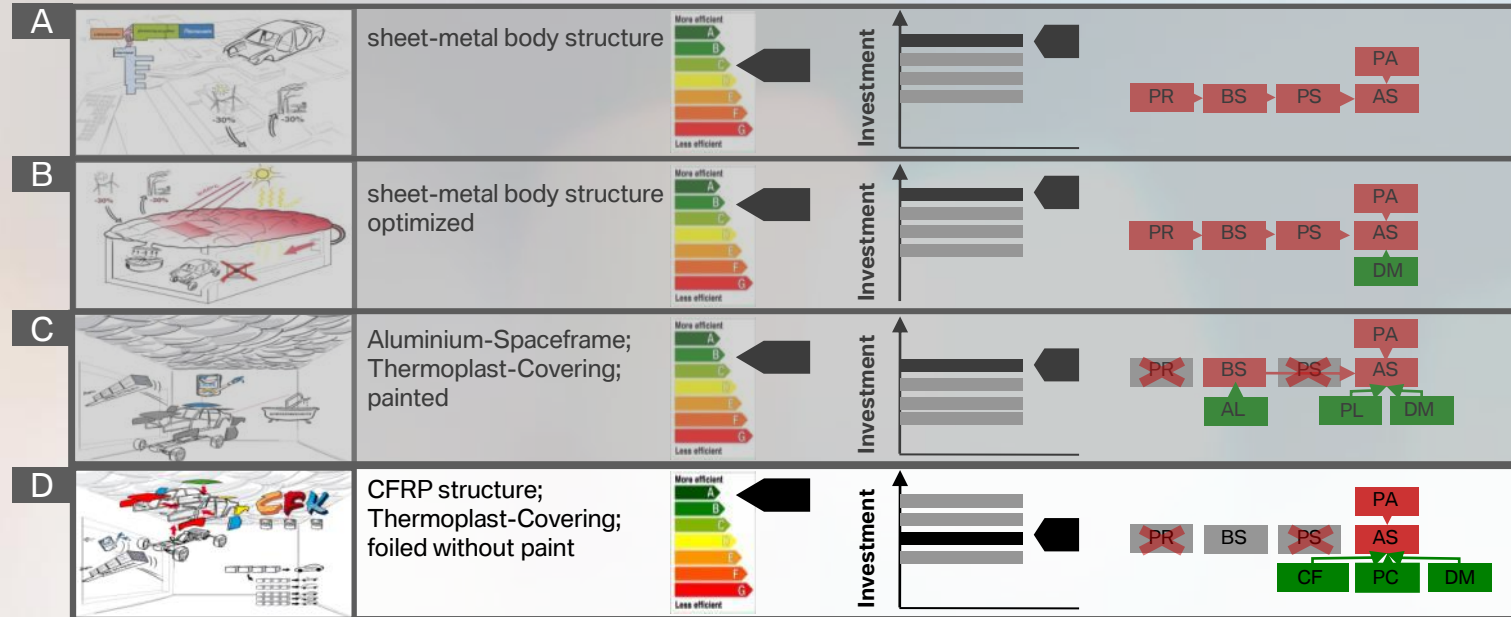


Economy



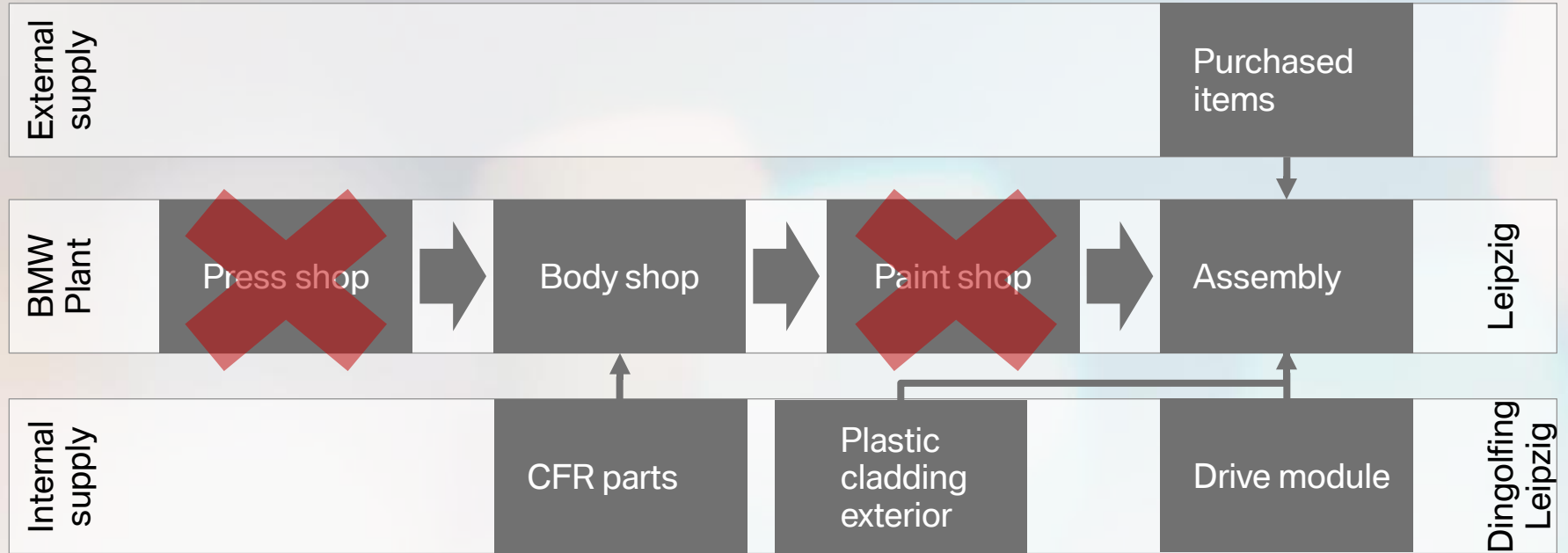
Society

PRODUCTION CONCEPT DECISION BASED BOTH ON SUSTAINABILITY AND PROFITABILITY.



PR = press shop
 BS = body shop
 PS = paint shop
 AS = assembly
 PA = assembly parts
 DM = drive module
 AL = aluminium structure
 PL = plastic parts painted
 CF = CFRP parts
 PC = plastic cladding exterior

NEW PRODUCTION CONCEPT.



PRODUCTION OF BMW i MODELS IN LEIPZIG IS SETTING BENCHMARKS IN THE AUTOMOTIVE INDUSTRY.

– 50% energy



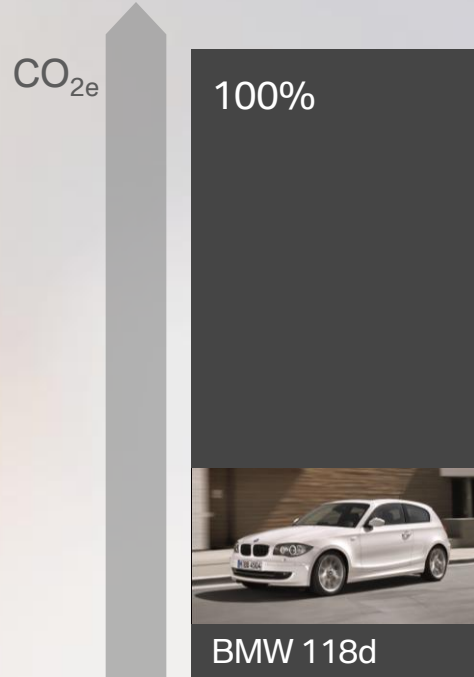
– 70% water



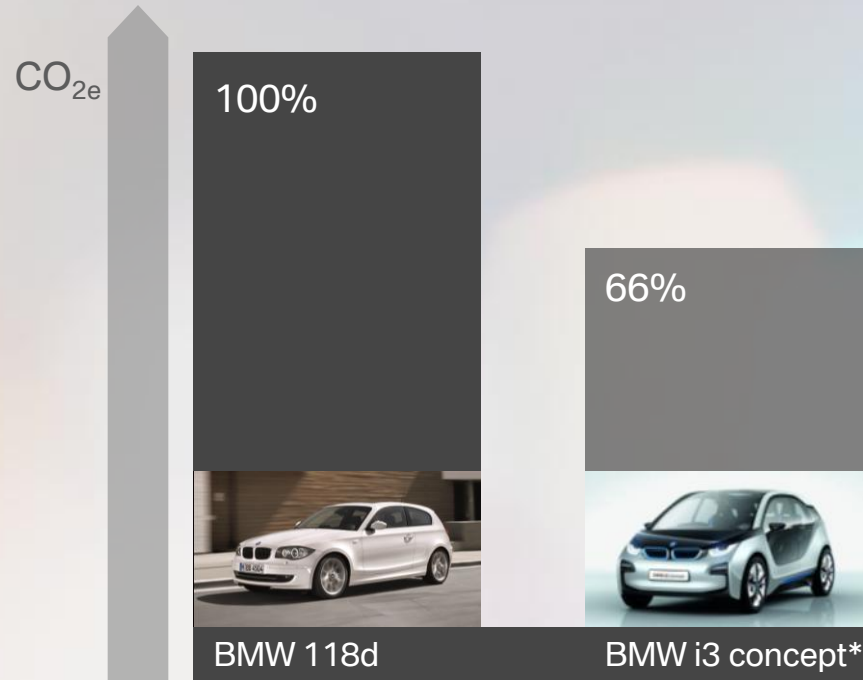
100% renewable energy



GLOBAL WARMING POTENTIAL IN THE PRODUCT LIFE CYCLE SIGNIFICANTLY LOWER.

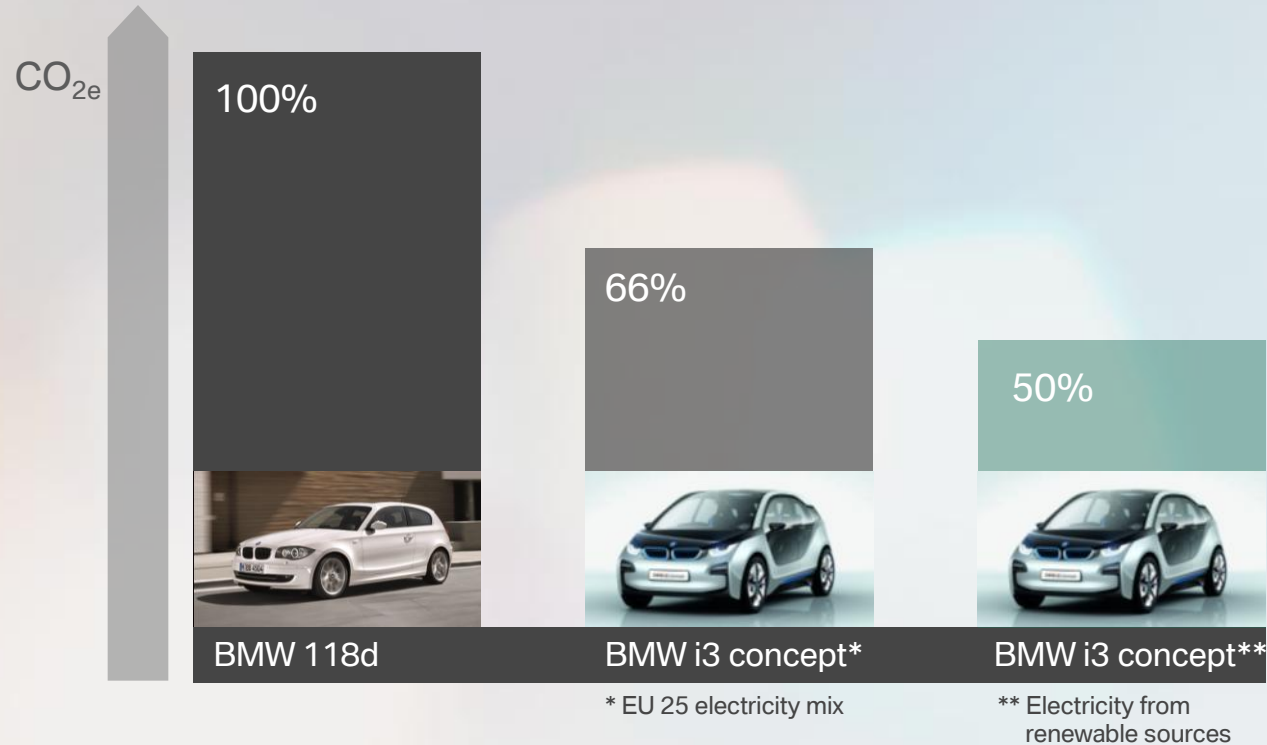


GLOBAL WARMING POTENTIAL IN THE PRODUCT LIFE CYCLE SIGNIFICANTLY LOWER.



* EU 25 electricity mix

GLOBAL WARMING POTENTIAL IN THE PRODUCT LIFE CYCLE SIGNIFICANTLY LOWER.



50% LESS CO₂ (EQUIVALENT) EMISSIONS IN BMW i CFRP PRODUCTION COMPARED TO CONVENTIONAL CFRP PRODUCTION.

Joint venture SGL-ACF



Moses Lake
Carbon fibre

BMW
production network



Landshut and Dingolfing
Components

BMW
production network



Leipzig
BMW i production

BMW PLANT LEIPZIG – BMW i PRODUCTION WITH WIND ENERGY.



**100 % GREEN ENERGY FOR
BMW i PRODUCTION.**

4 wind energy plant à 2,5 MW

Average energy output/ year: 26 GWh/ a

Hub height 140 m + blade length 50 m

BMW PLANT LEIPZIG – BMW i PRODUCTION WITH WIND ENERGY.



Dr. Reithofer, Annual Press Conference
March 19, 2013

“We are revolutionizing how cars are made.”

- 100 % green energy
- LEED Gold Certificate
(Leadership in **E**nergy and **E**nvironmental **D**esign)

SETTING NEW STANDARDS IN THE MANUFACTURE OF BMW i.

The BMW Group is the most sustainable company in the automotive industry.



Environment



Economy



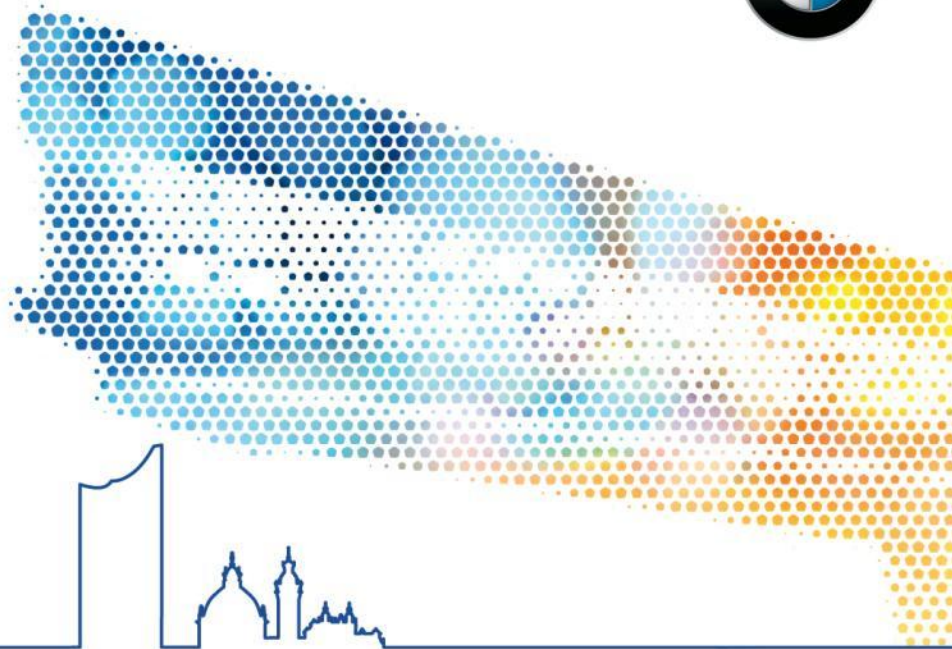
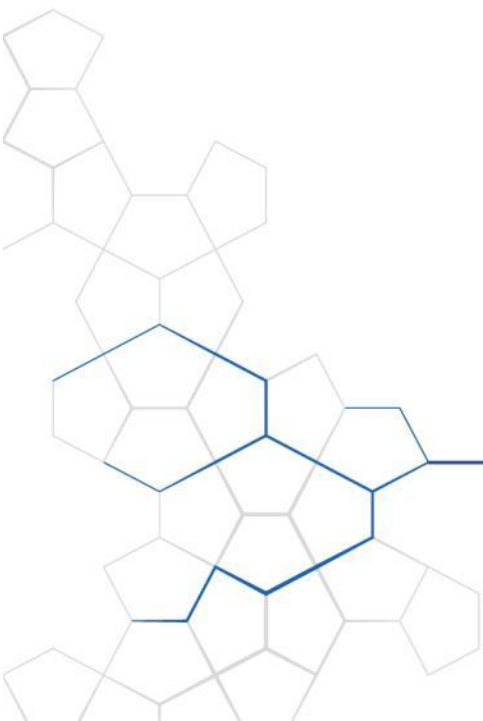
Society

BRINGING A REVOLUTION TO LIFE.

BMW i INNOVATION DAYS 2013.



PRODUCTION.



RETHINKING THE WAY WE LAYOUT AND BUILD CARS. WHY ?

BMW typical
handling and performance



Clean Production



Optimum integration
of electric drive train



Visionary design
language



More freedom in design
features



LIFE DRIVE

CFRP as an highly
innovative technologie



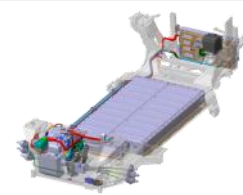
Easy updates with
evolving technologies



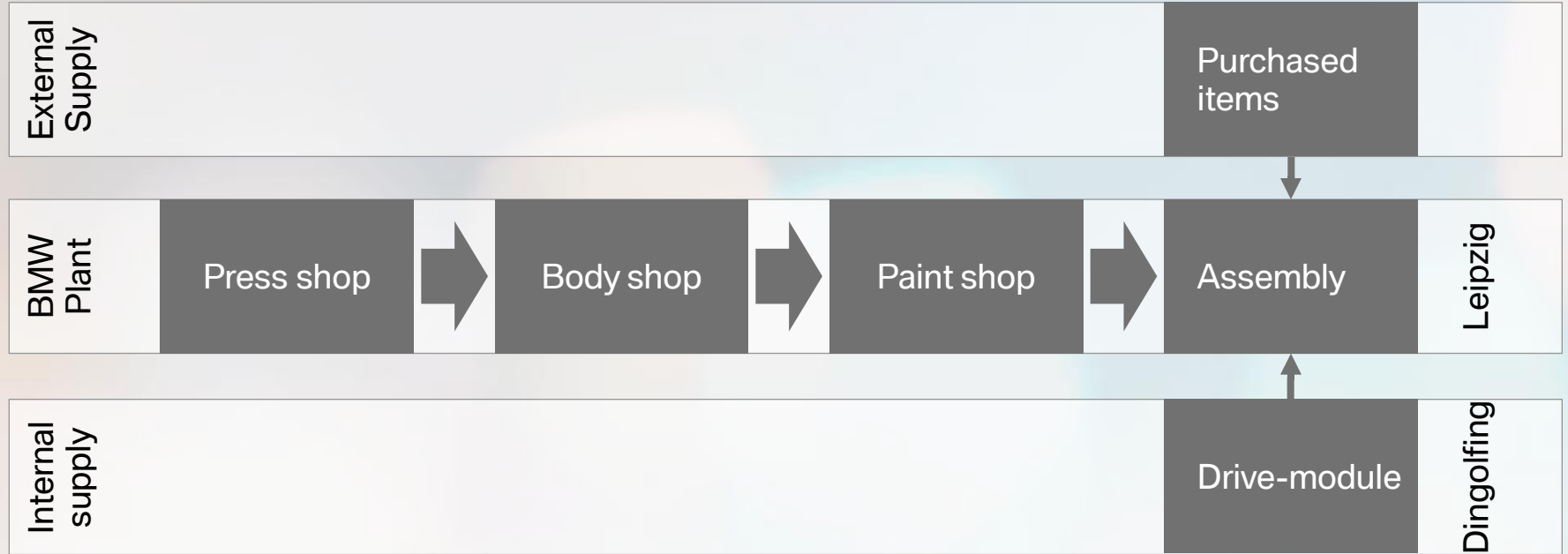
Social sustainability



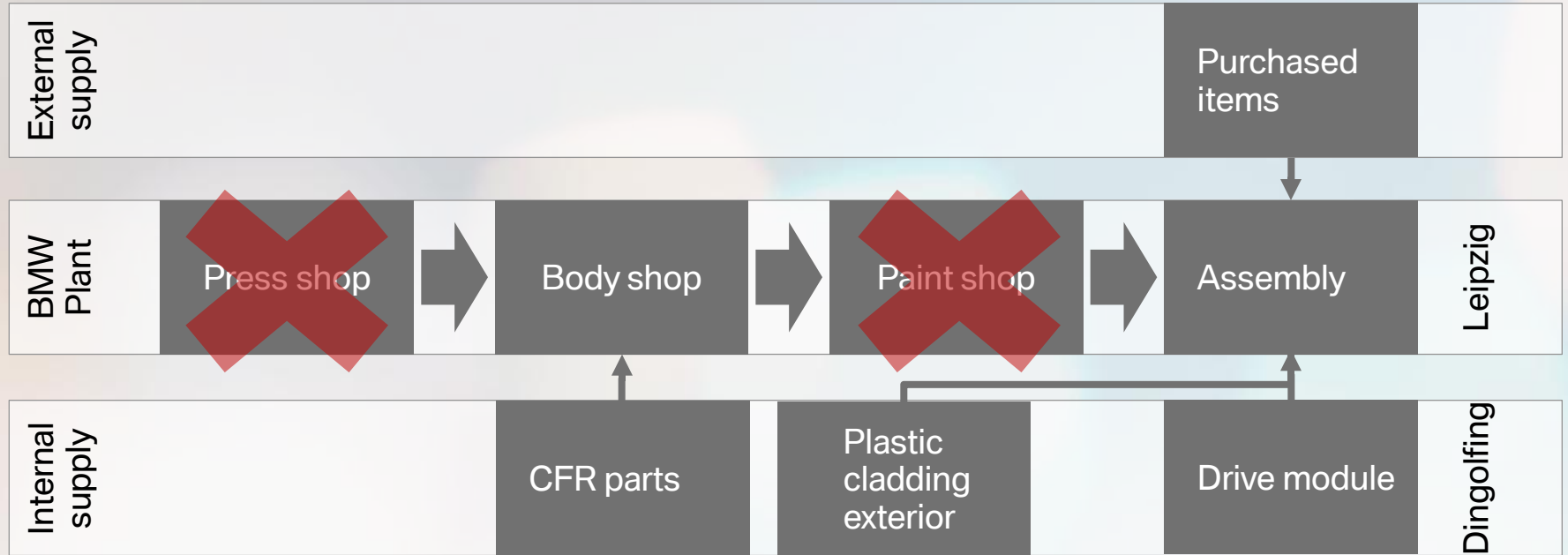
Optimum safety concept
for passengers and battery



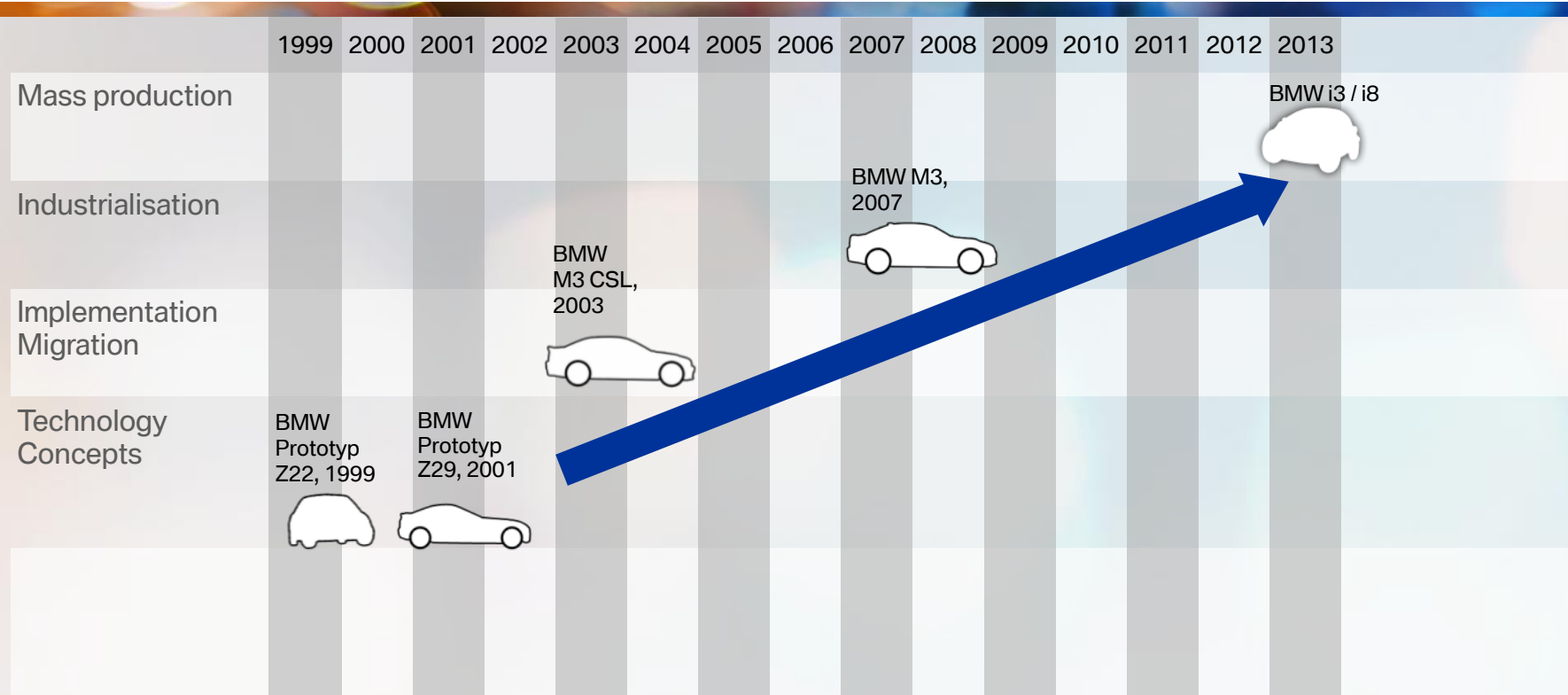
CONVENTIONAL PRODUCTION CONCEPT.



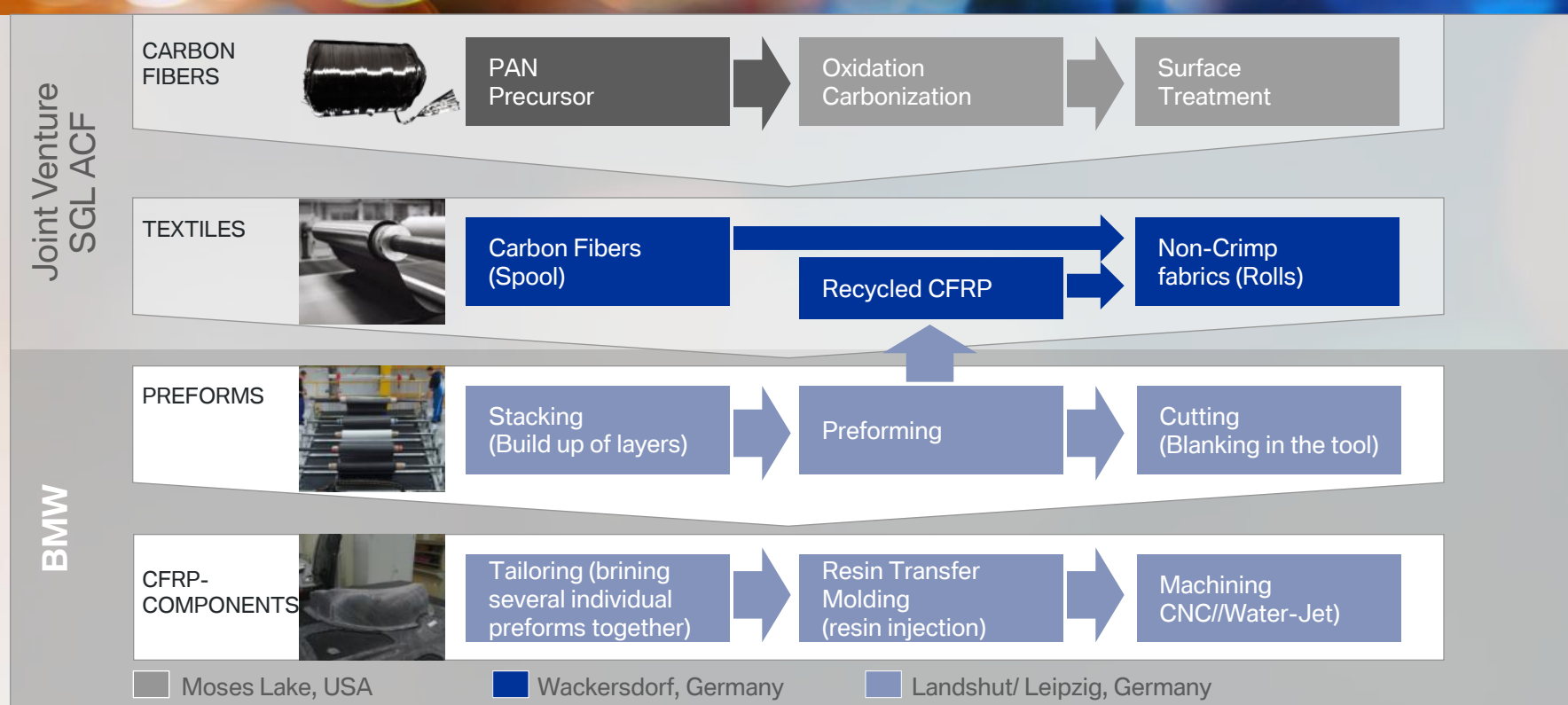
NEW PRODUCTION CONCEPT.



BMW HAS MORE THAN 10 YEARS EXPERIENCE IN CARBON FIBRE PRODUCTION AND ASSEMBLY.



BMW GROUP AND SGL ACF “OWN” ALL CFK PRODUCTION STEPS.

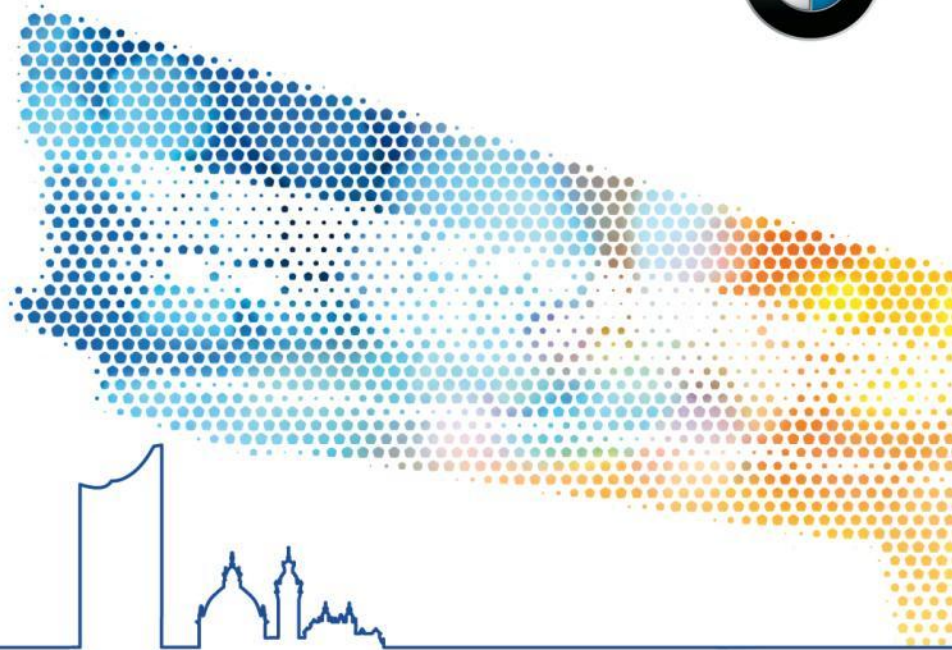
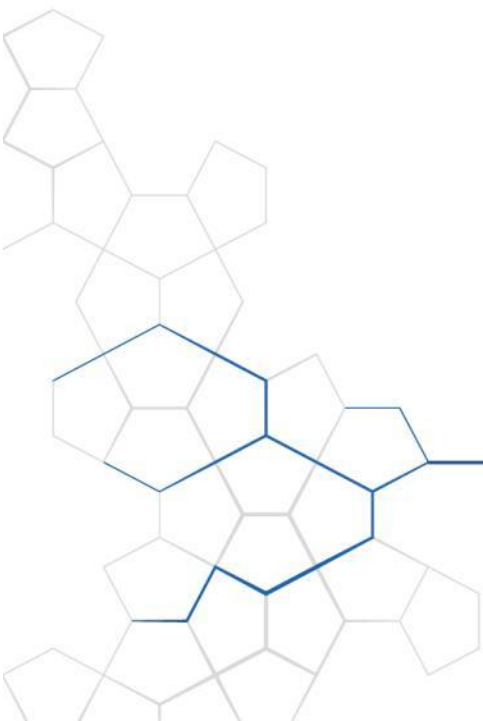


BRINGING A REVOLUTION TO LIFE.

BMW i INNOVATION DAYS 2013.



BATTERY AND CHARGING.



THE MINI E AND BMW ACTIVEE SERVE AS KEY LEARNING PROJECTS FOR ELECTRIFIED SERIES PRODUCTS SUCH AS THE BMW i3.



Renewable energy



Market-potential



Transfer scenarios



User behaviour



Acceptance



e-infrastructure



Strengths and weaknesses

MINI E 2008



BMW ActiveE 2011



BMW i3 2013



BRINGING A REVOLUTION TO LIFE.

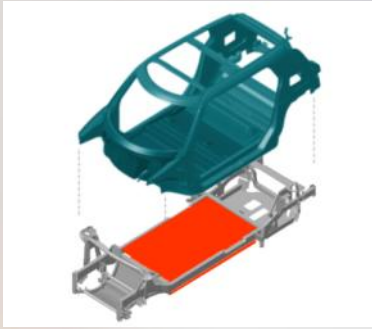
BMW i INNOVATION DAYS 2013.



SAFETY AND SERVICE.



WHY LIFEDRIVE ?

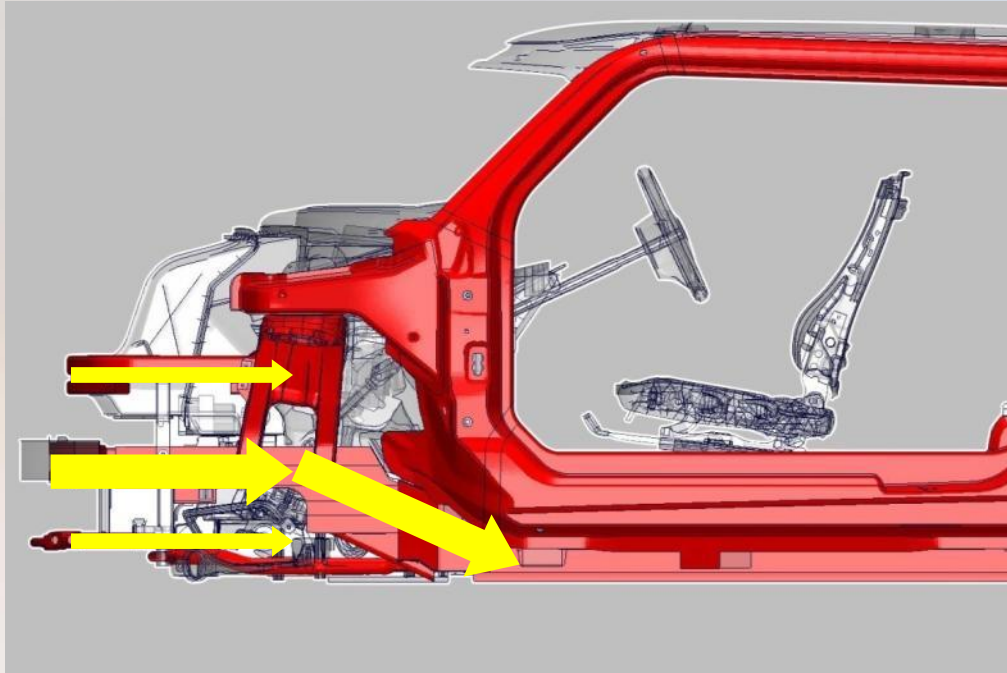


Many advantages

- Easy to create variants.
- Weight reduction by lightweight design.
- Specific structure to house the battery.
- Optimum integration of eDrive powertrain
- Low centre of gravity - good rollover resistance.
- Optimum safety concept.



FRONTAL IMPACT.



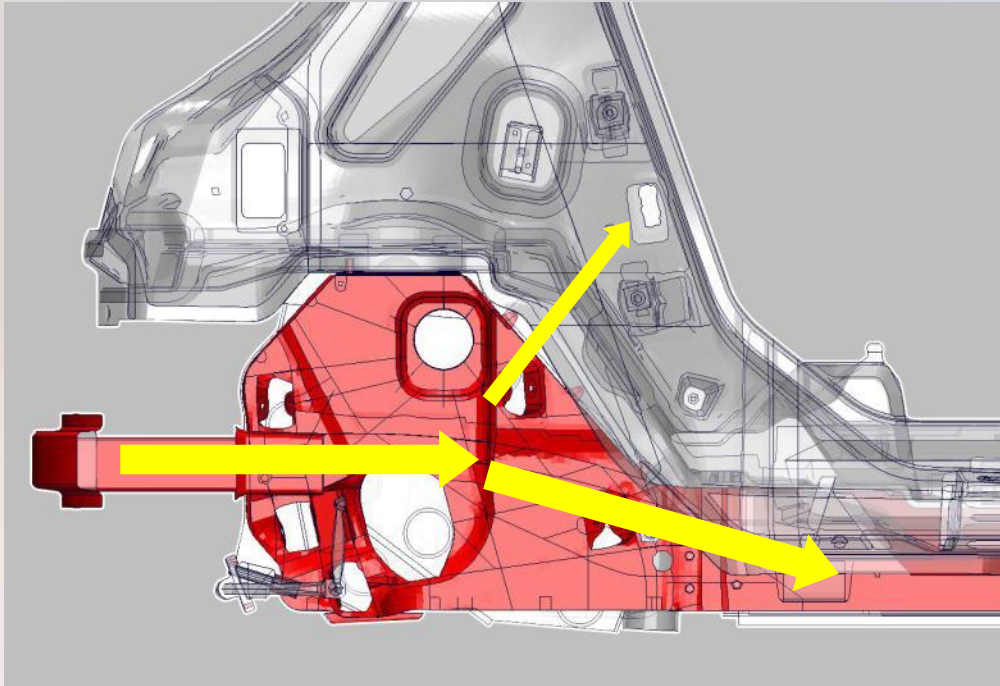
Impact energy is distributed optimally through the Drive and Life modules.

High-strength CFRP passenger cell remains almost free of deformation:

- Survival cell remains intact.
- Doors do not get jammed.

Rear-mounted motor allows low crash pulse and therefore low occupant loading in a frontal crash.

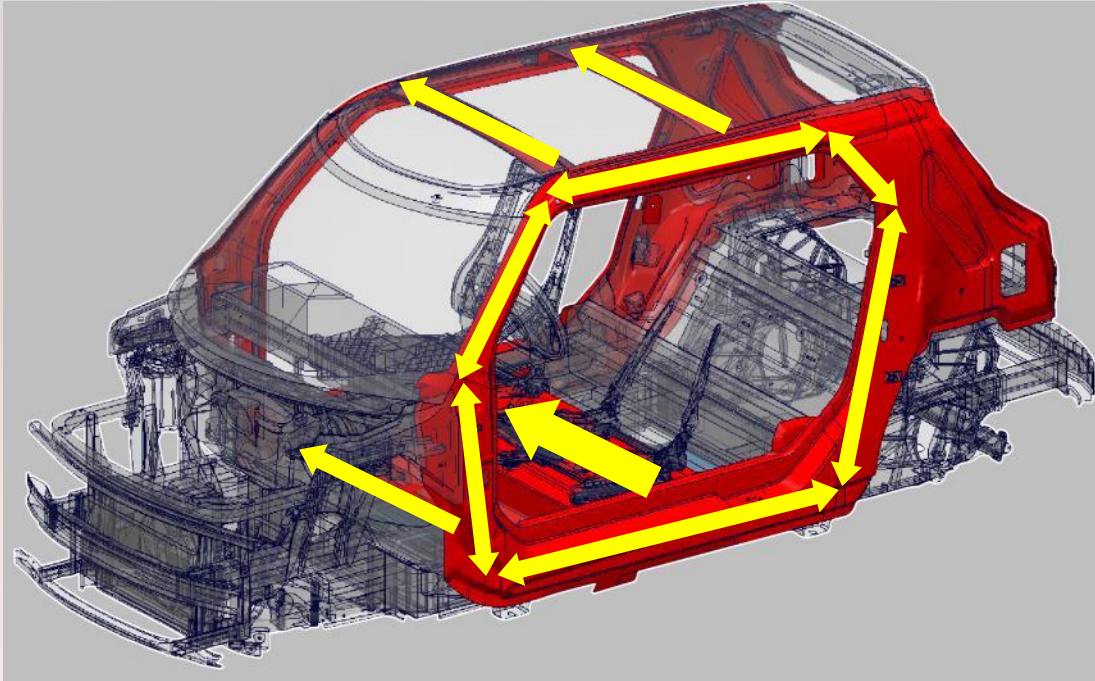
REAR IMPACT.



Impact energy is absorbed mainly by the Drive module.

Impact-resistant rear end structure protects high-voltage components.

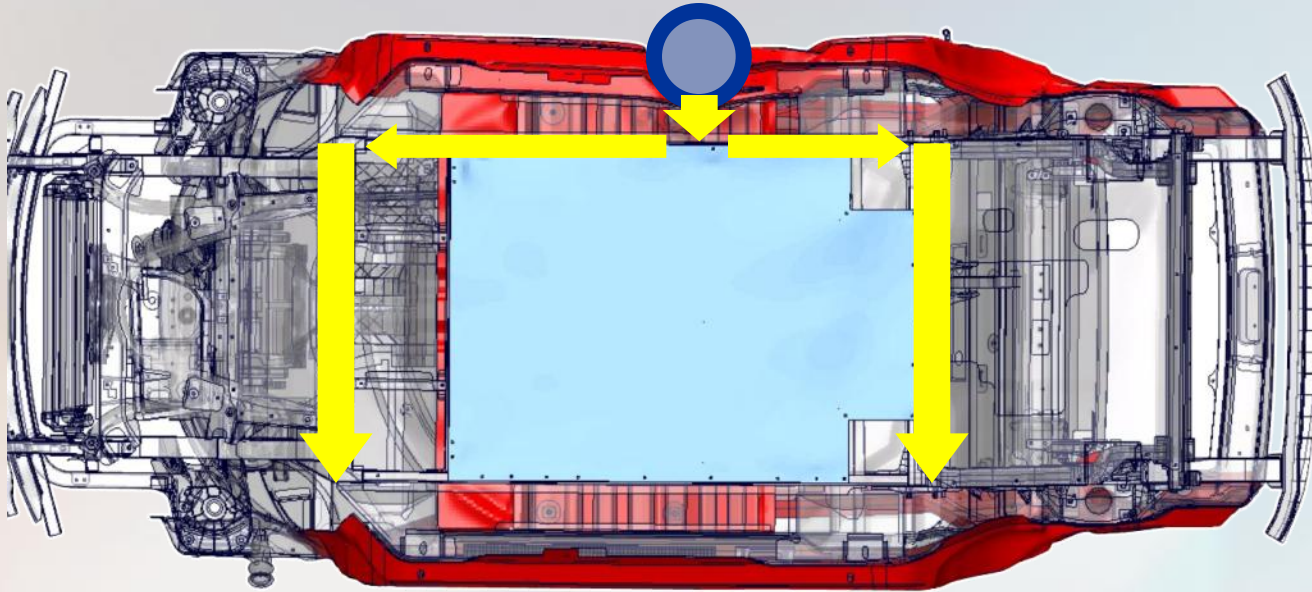
SIDE IMPACT.



Honeycomb-elements in the sill absorb the impact energy and divert it over the Drive module.

High-strength CFRP passenger cell allows major reduction in intrusion and therefore provides a good basis for occupant protection.

HIGH-VOLTAGE BATTERY (HVS) IMPACT.



Intrusion of pole is stopped before reaching the HVS.

Optimum position of the HVS outside the deformation zones.

RESCUE.



“[we] had the opportunity to confirm in standardised cutting tests that the rescue of passengers from a crashed BMW i3 is similar to a conventional vehicle.”

Munich Municipal Fire Brigade, March 2013

SAFETY.

The BMW i safety is on eye-level
with conventional BMW.

SERVICE.

The BMW i total repair costs will be on eye-level
with conventional BMW.