### INTERNATIONAL MEDIA LAUNCH BMW i8 ROADSTER

# ErG Private Banking BMW i AND TEAM MALIZIA COPERATON







#### YACHT CLUB DE MONACO MAIN RACES 2018 - 2020

Bermuda

Guadeloupe

4

(2)

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New York

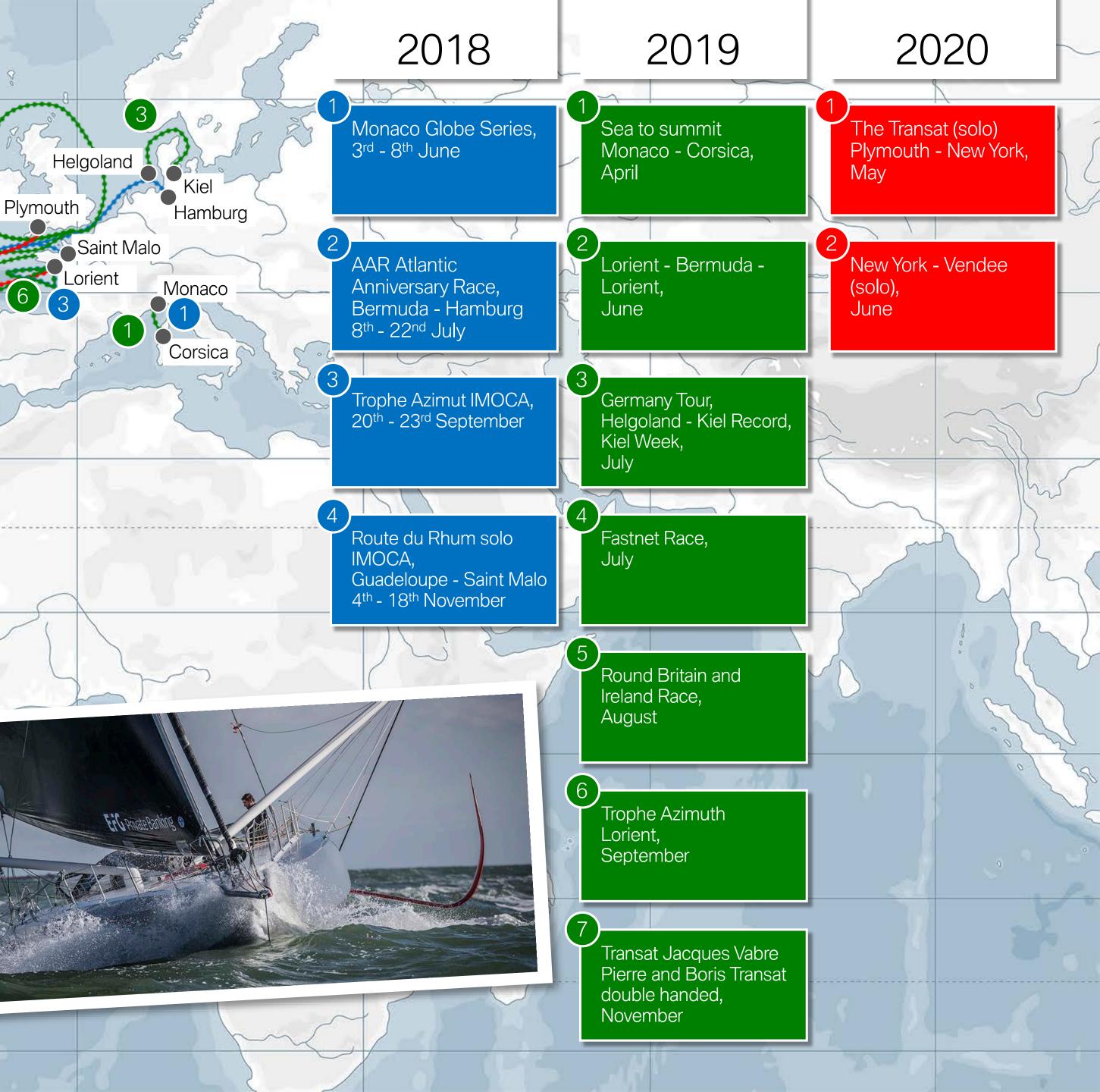
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### MALIZIA IMOCA OPEN 60

Sail area upwind: between 240 and 330 m<sup>2</sup>

Sail area downwind: between 460 and 620 m<sup>2</sup>

Combustion engine system: 377 kg

Length: 18.28 m (60 feet) Beam: approx. 5.50 m Draught: 4.50 m

#### Type of keel: Canting

## First IMOCA generation with hydro foils

## Mast height: 29.00 m

MON 10

ErG Private Banking

## Ballast tanks: 2.5 tons of water on each side



#### BMW i8 ROADSTER 374 hp / 275 kW 53 km $\leq 2.0$ ltr + 14.5 kWh 4.6 sec System output Consumption / 100 km\* 0 - 100 km/h Electric range\*

Sports car performance with efficiency of a compact car

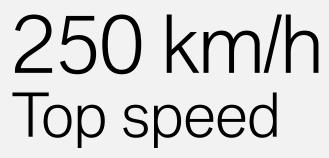
#### BMW electric motor

\* According to WLTP regulations.

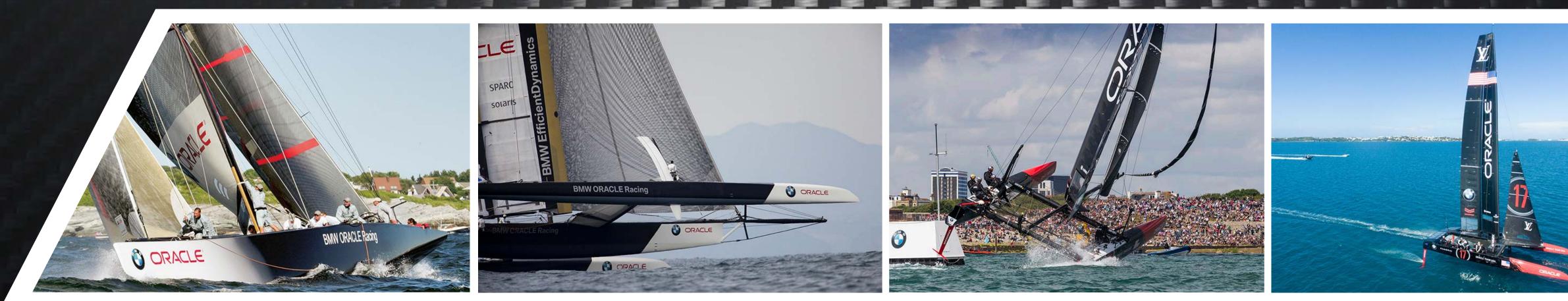


Carbon fibre frame

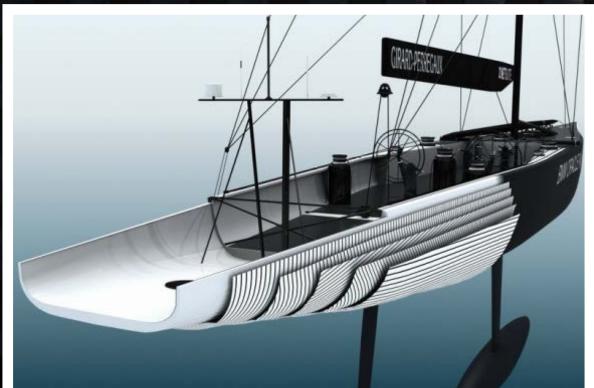
**BMW** three-cylinder high-performance combustion engine







### ACC V5 90 ft Trimaran AC45F AC50 2002 2007 2010 2013 2017 HISTORY BMW HISTORY IN SPORTS TECHNOLOGY - SAILING. HISTORY AMERICA'S CUP.



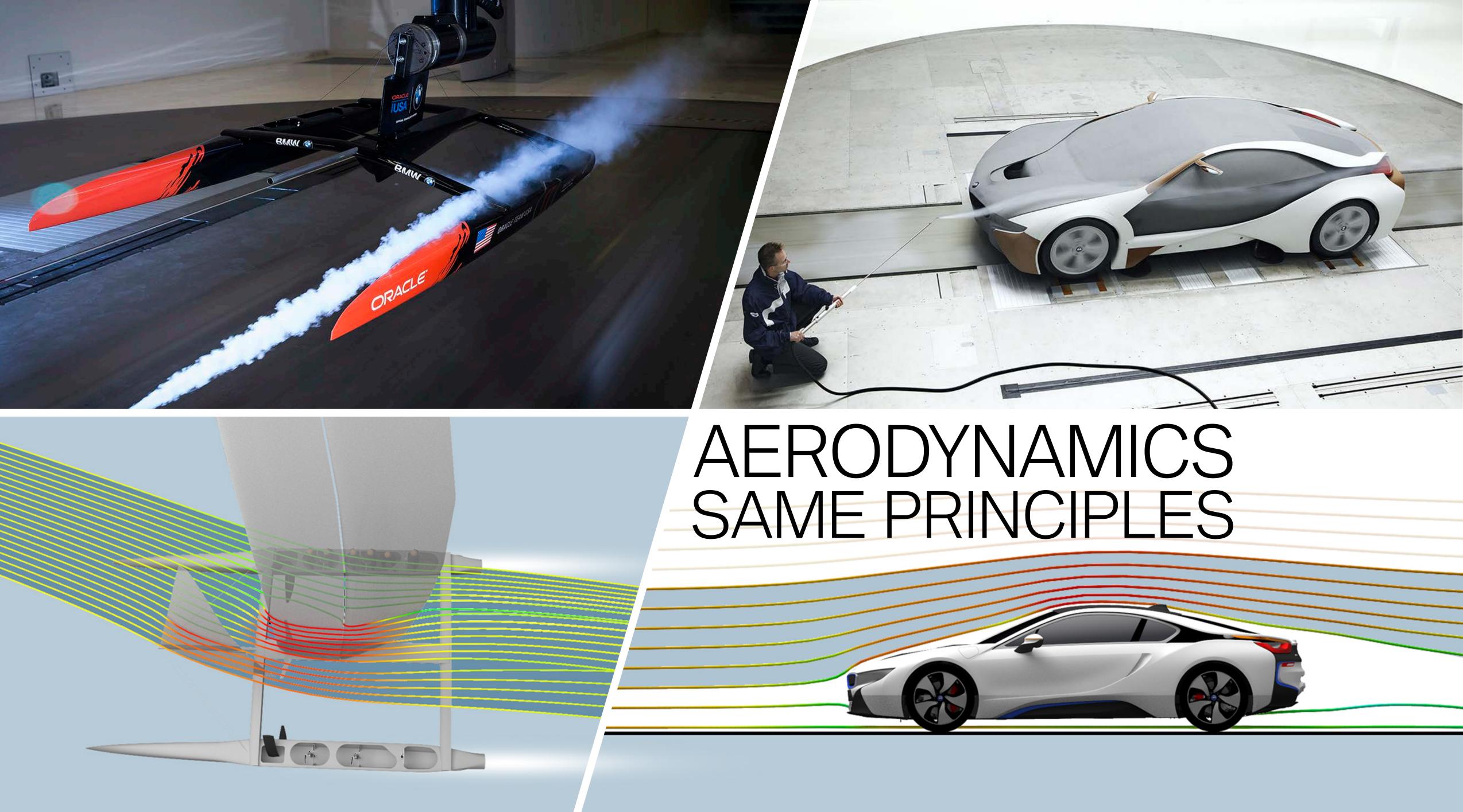


Process & Optimization Stainless Steel Keel Fin



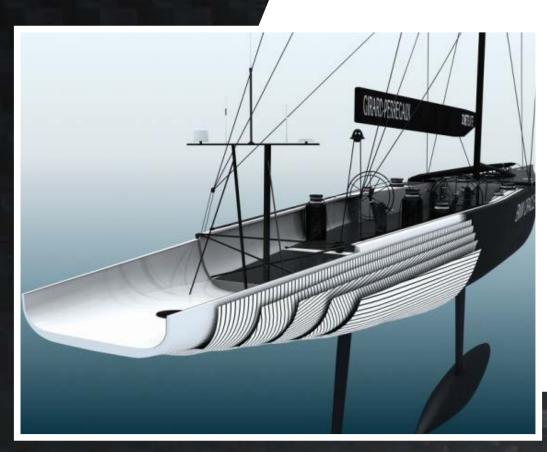
Ceramic Bearings -Winches Aerodynamic Development

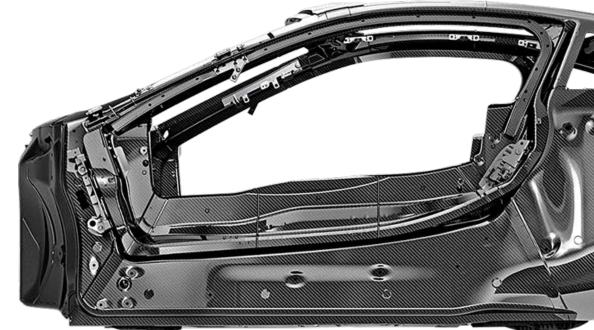






### 2004 2007 2010 THE CARBON STORY HOW CARBON KNOW-HOW EVOLVES.





#### AMERICA'S CUP TECHNOLOGY FOR THE ROAD

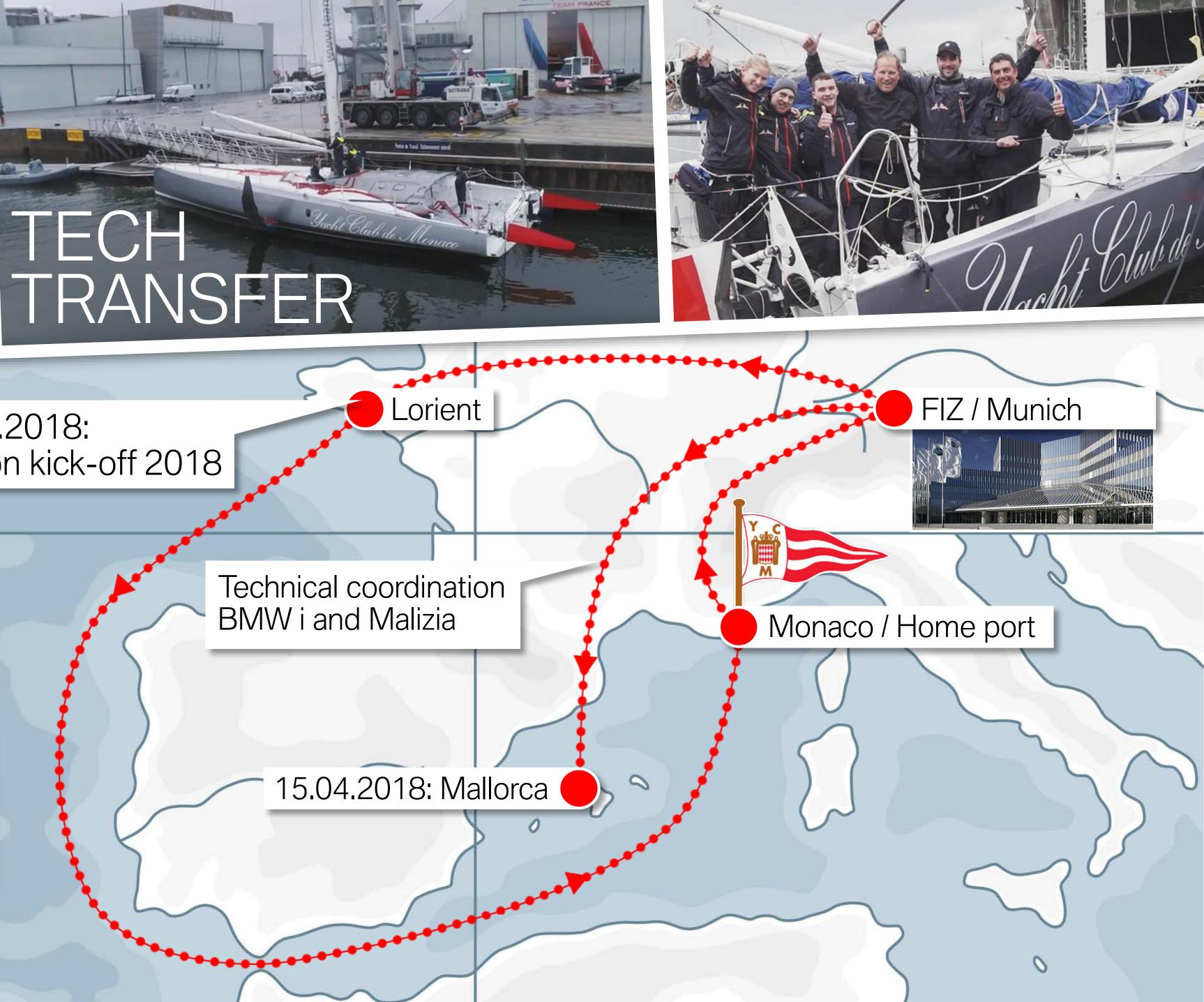
2011

BMW Oracle Racing BMW

> BMW i3 / i8 Development







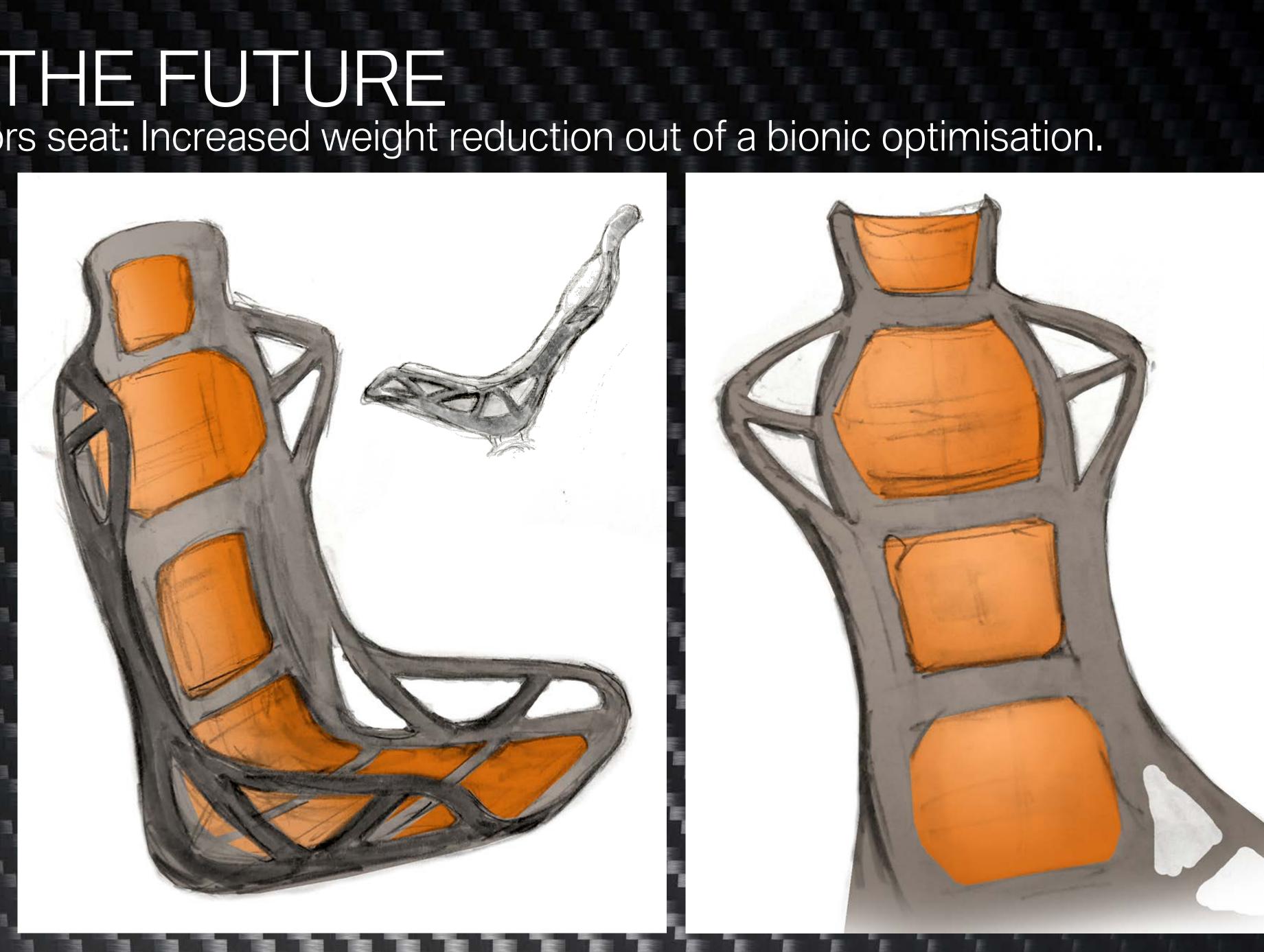
#### 16.03.2018: Season kick-off 2018



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## LOOK INTO THE FUTURE Next generation navigators seat: Increased weight reduction out of a bionic optimisation.





## COOPERATION

- integrated into Torgeedo motor systems.
- available for boating.





## LEADING EDGE BATTERY TECHNOLOGY. TOTOPEDO

#### POWER 48-5000

Taking lithium batteries for boats to a new level.

- >> Build with BMW i3 battery module technology.
- Record level energy density: 145 Wh/kg on battery level - 68 % better than typical LiFePo4 batteries.
- >> Record level cycle life: 80 % capacity remaining after 3000 cycles.
- Superior safety based on Torqeedo's 5-step safety system.
- >> Specifications:
  - > Useable energy: 5,000 Wh.
  - > Nominal capacity 5,275 Wh.
  - > Waterproof IP67.
  - > Weight: 36.5 kg.



## LEADING EDGE MOTOR TECHNOLOGY. TOTOPEDO

#### CRUISE 10 i / 20 i

Lightweight high efficiency electric motor.

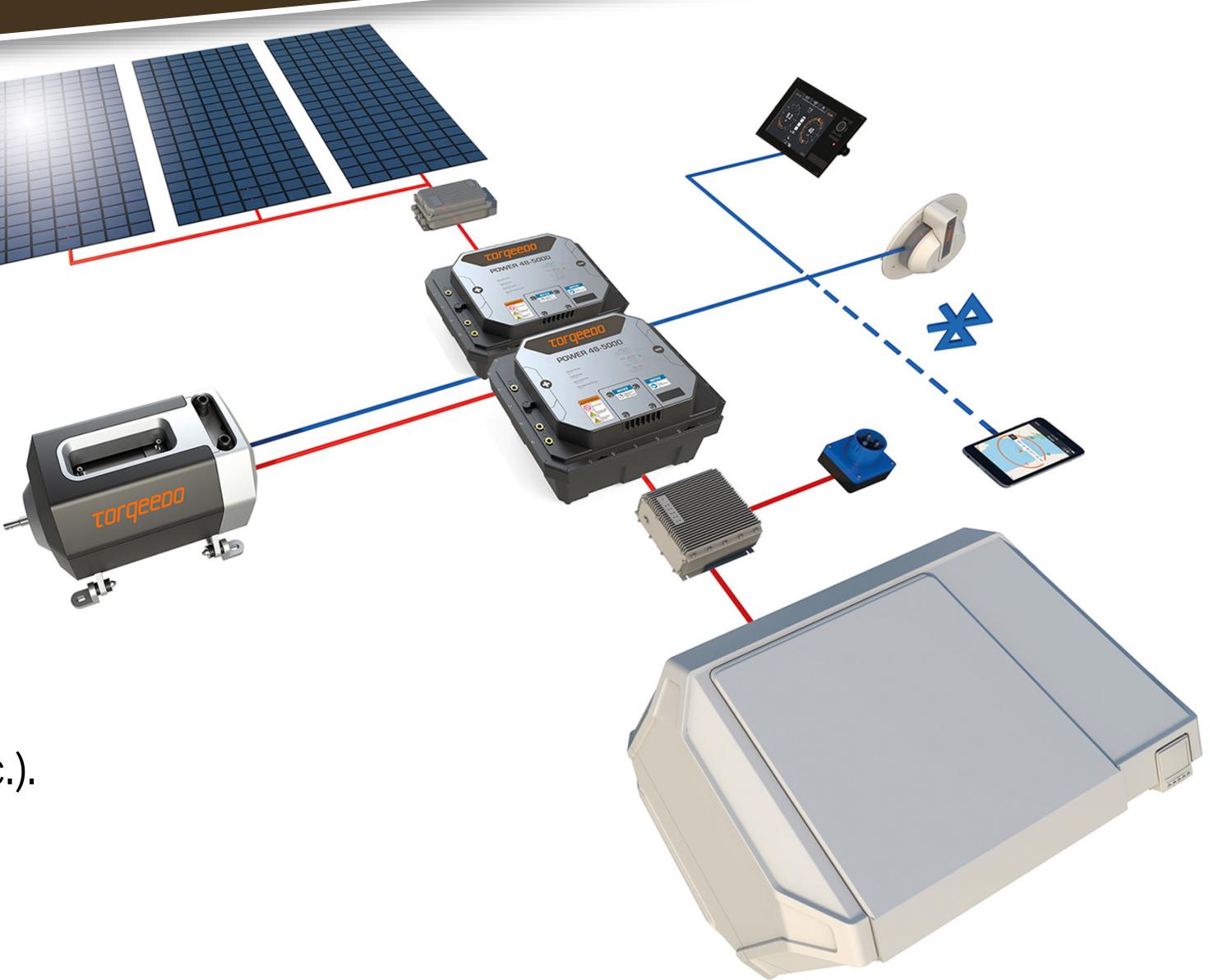
- >> Field-oriented control, electronically commutated brushless motor, rare-earth magnets.
- Peak efficiency (motor and motor electronics combined) 92 %.
- >> Motor RPM: 7000.
- >> Propeller RPM: 1400.
- >> Gear: 5:1 with 98 % efficiency.



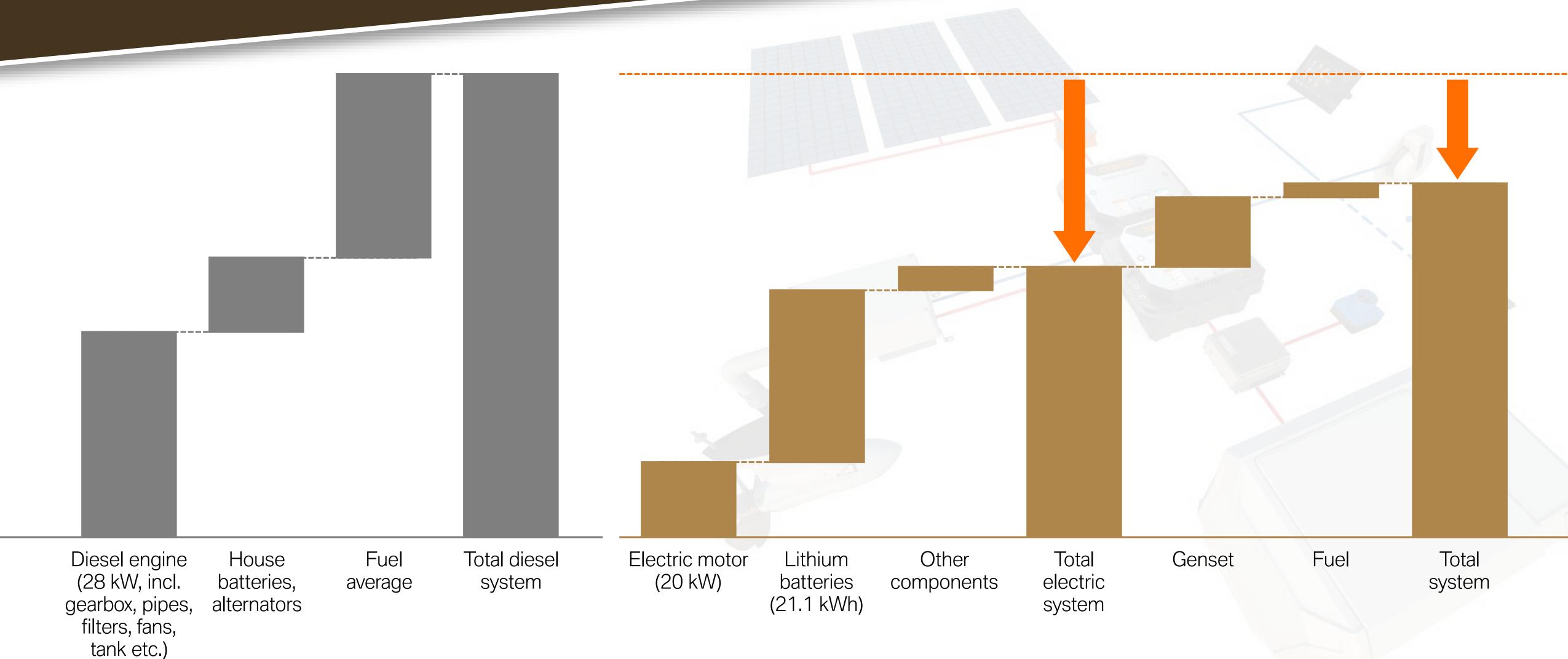
### FULLY INTEGRATED SYSTEM. TOrgeedo

- >> Components:
  - Batteries.
  - > Motor.
  - > Throttle with on-/off- and kill-switch.
  - > Onboard computer.
  - > DC-to-DC converter (24 V system).
- >> Functionalities provided:
  - > Propulsion.
  - > Energy management for 24 V network (autopilot, canting keel, watermaker etc.).
  - > Power generation via hydrogeneration.
  - Integration of solar.





## THE LIGHTEST DRIVETRAINS ARE ELECTRIC.



## BMW I AND TEAM MALIZIA COOPERATION ZEROEMISSIONS

