

evs | 27

The 27th INTERNATIONAL
ELECTRIC VEHICLE
SYMPOSIUM & EXHIBITION

BARCELONA
17th-20th November 2013



Crash Design

Organized by



Hosted by



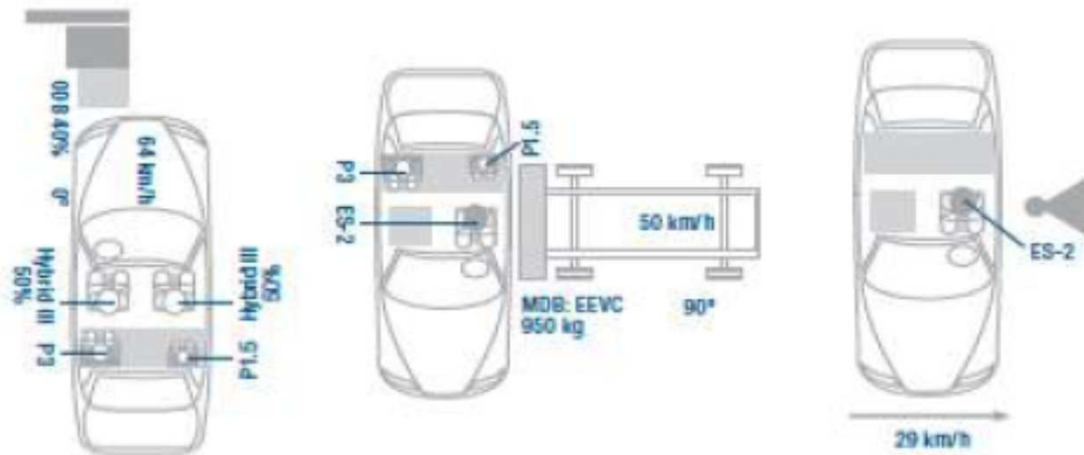
In collaboration with



Supported by



European
Commission



In order to increase the safety, e-Light has applied crash criteria and performed crash simulations to increase the safety of the Urban EV design.

Organized by



Hosted by



In collaboration with



Supported by



European
Commission

VEHICLE in ALUMINIUM

ALUMINIUM: ELASTIC-PLASTIC MATERIAL

E: 67.6 GPa

Density: 2.700 Kg/m³

CURVE: (0, 205 Mpa) (16%, 270 Mpa)

MASS: 720 Kg

MASS ADDED: 384 Kg



Organized by



Hosted by



In collaboration with



Supported by



European
Commission

VEHICLE ALUMINIUM & CFRP

CARBON FIBER: ELASTIC-PLASTIC MATERIAL

E: 78 GPa

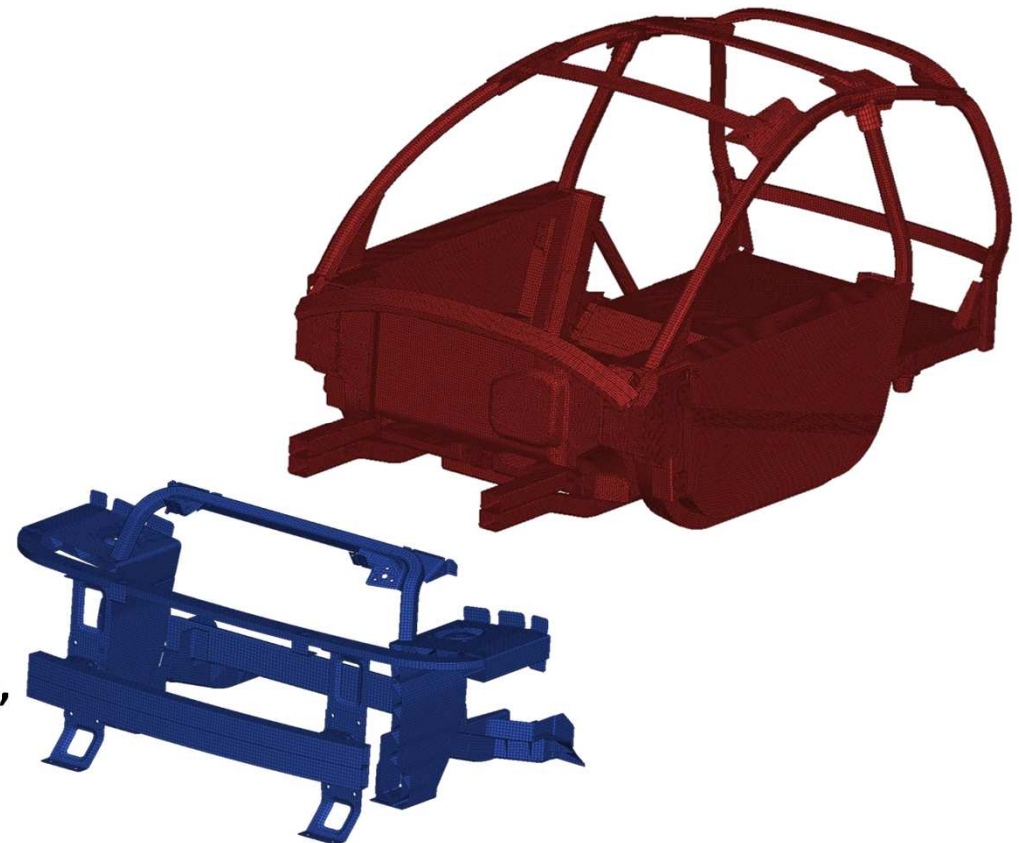
Density: 1.560 Kg/m³

CURVE: (0, 497 Mpa) (1%, 499 Mpa)

MAXIMUM PLASTIC STRAIN: EPMX 1%

MASS: 536,3 Kg

MASS ADDED: 361 Kg (Mass added is 23 Kg less,
by a reduction of battery and engines)



Organized by



Hosted by



In collaboration with



Supported by



European
Commission

Aluminum 64km/h



Organized by



hosted by



in collaboration with



supported by



European
Commission



Organized by



hosted by



in collaboration with

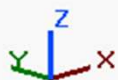
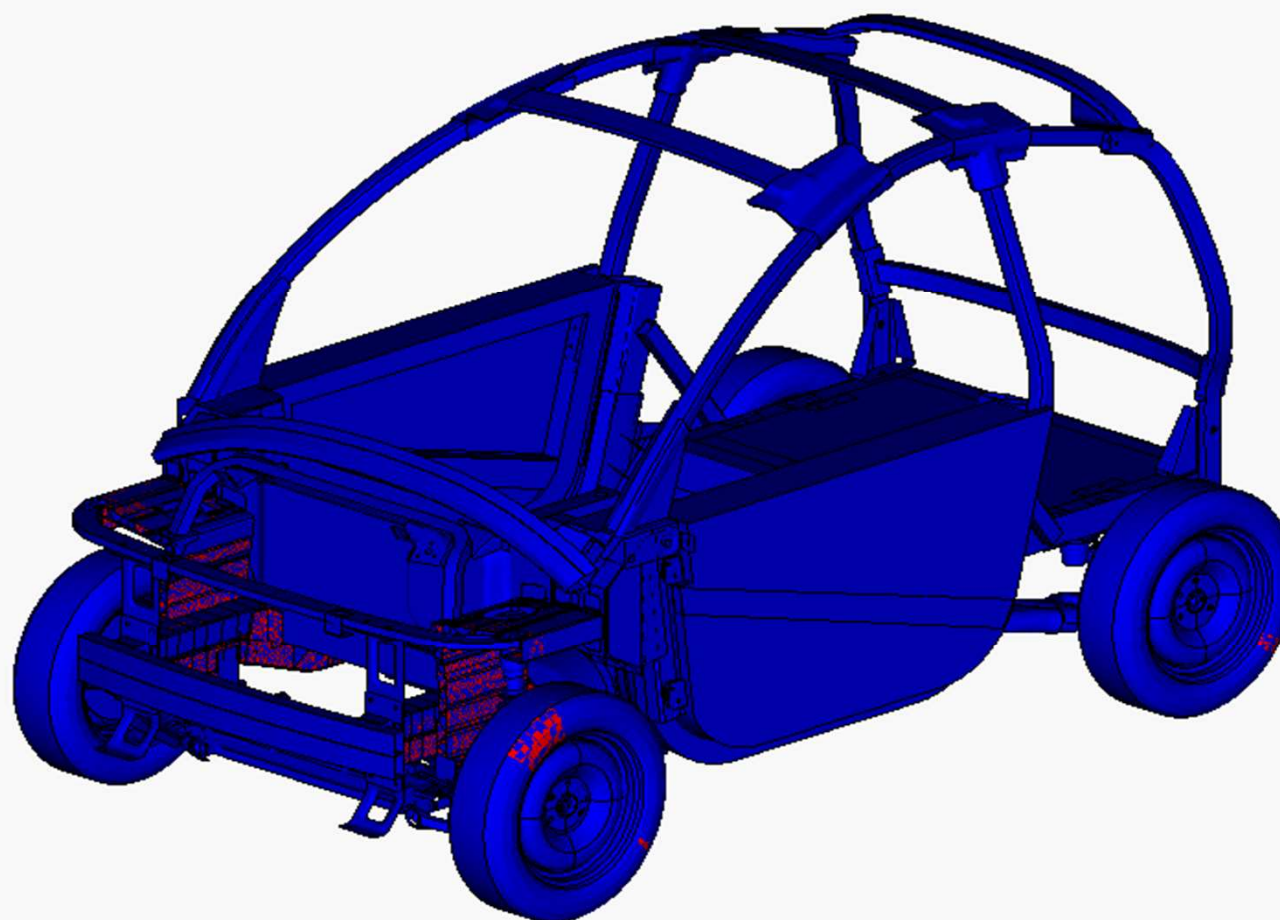


supported by



European
Commission

Comparison



Organized by

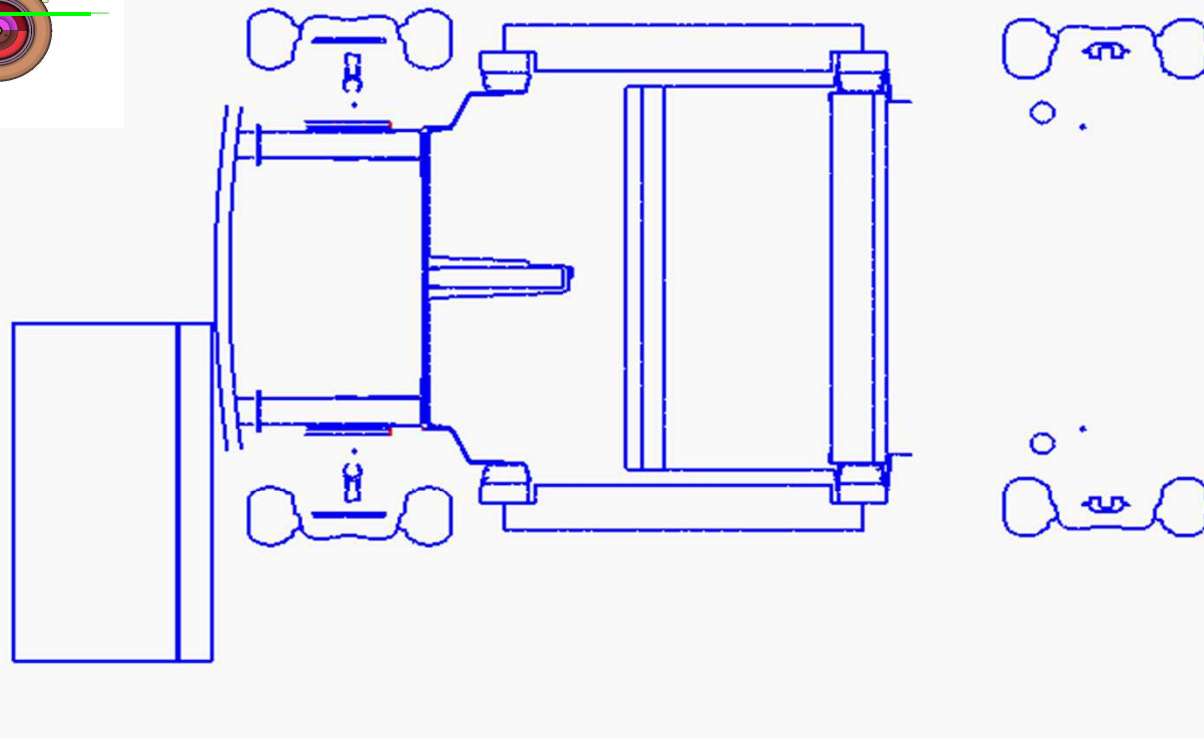
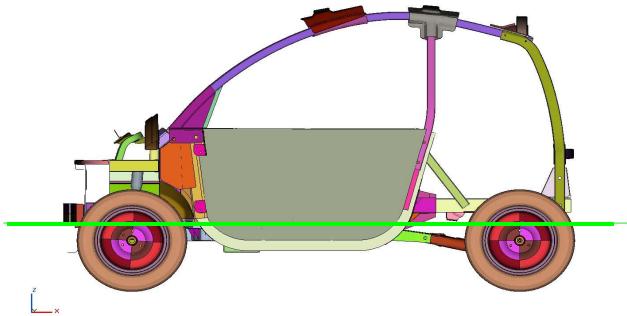
hosted by

in collaboration with

supported by



Comparison



Organized by

hosted by

in collaboration with

supported by





Organized by



Hosted by



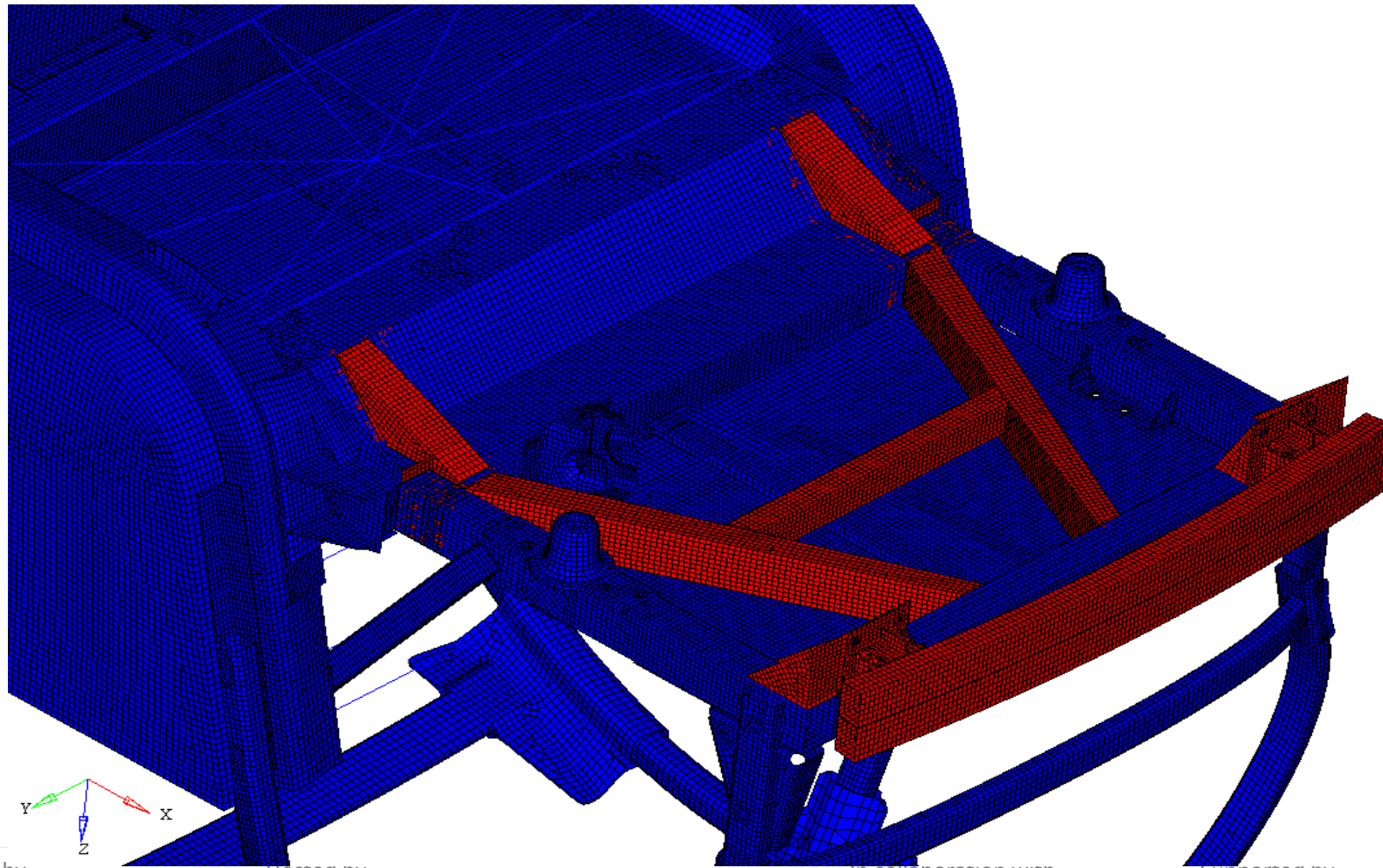
In collaboration with



Supported by



Rear design



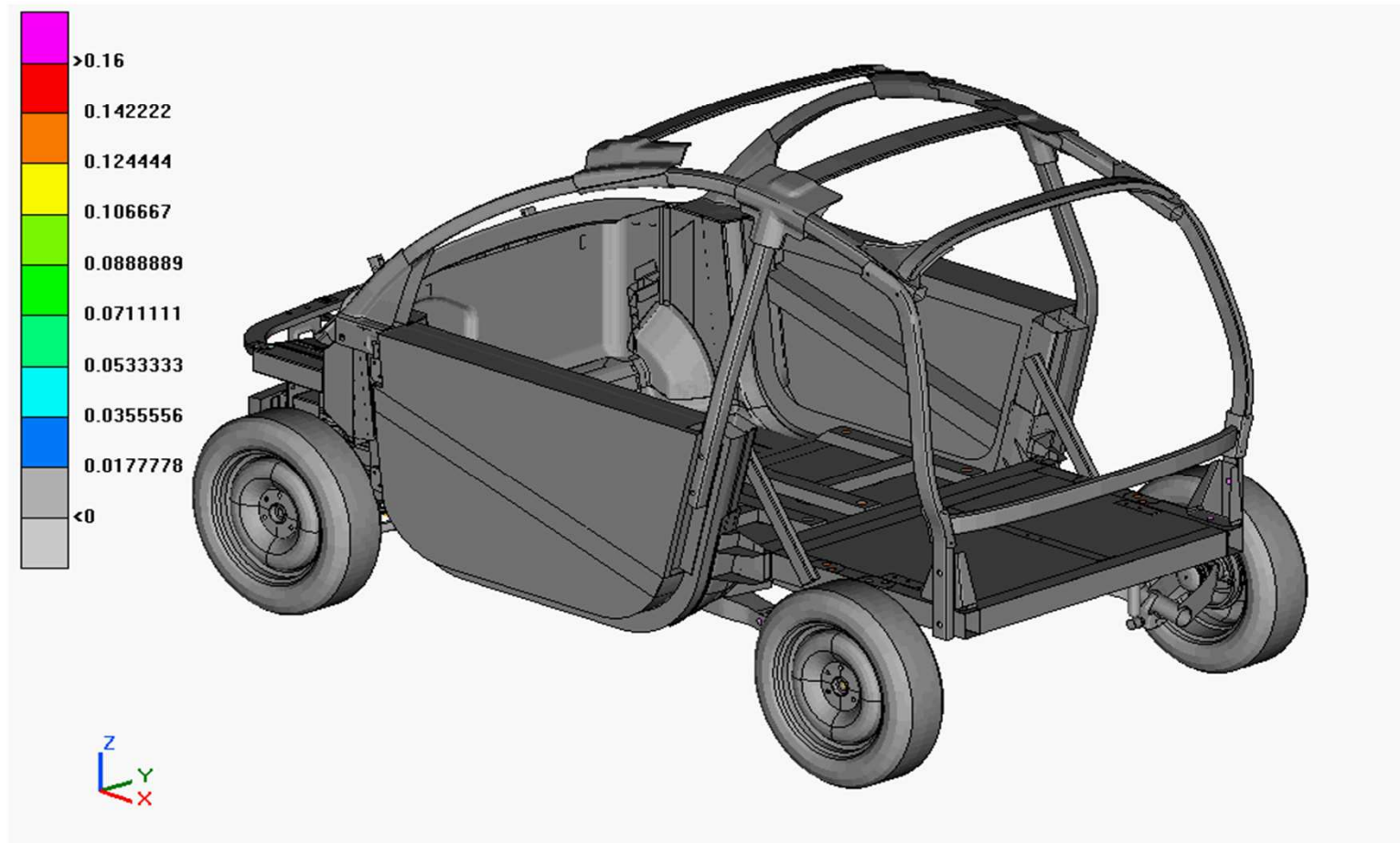
Organized by

Hosted by

In collaboration with

Supported by

Aluminum



Organized by



Hosted by



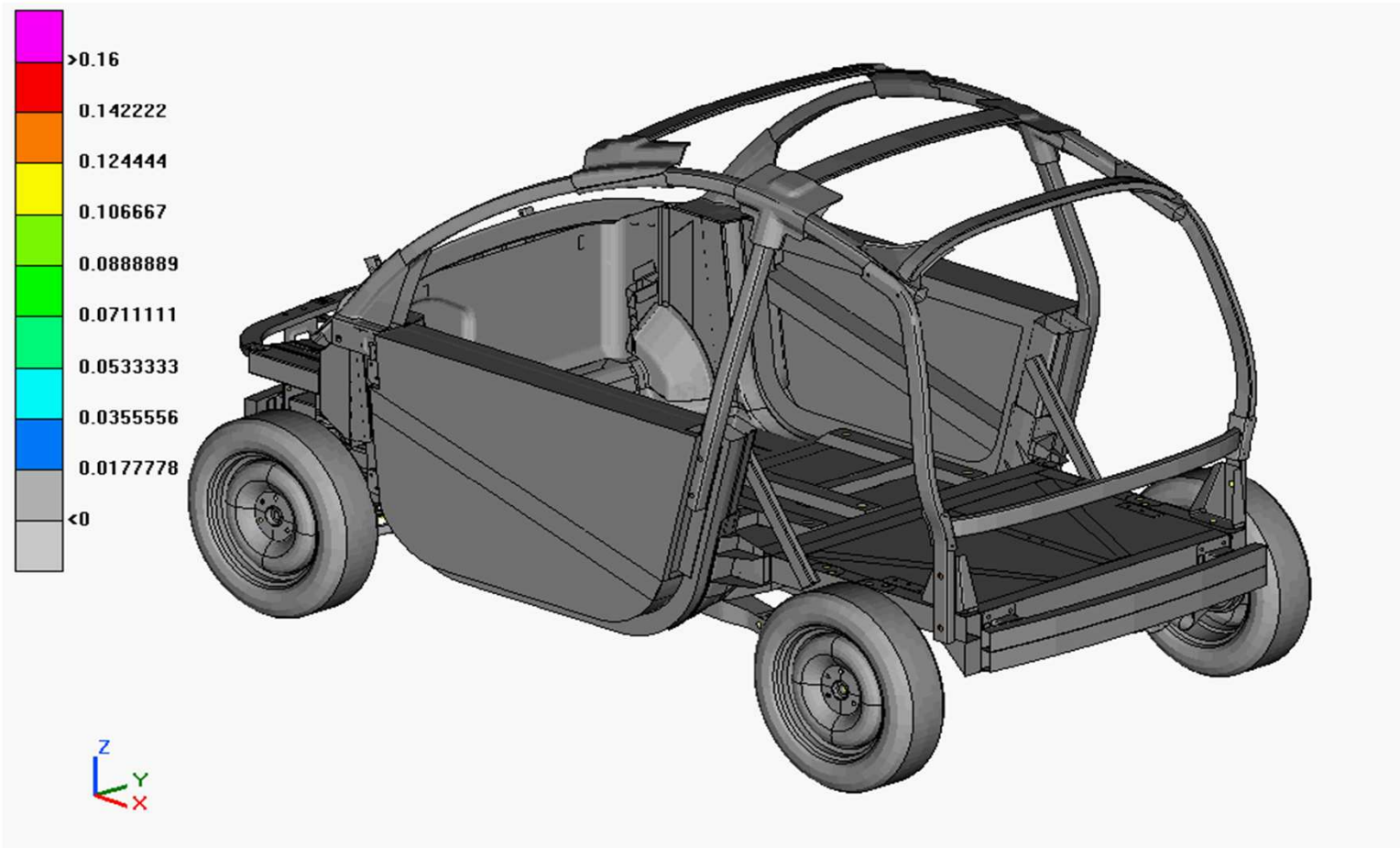
In collaboration with



Supported by



European
Commission



Organized by



Hosted by



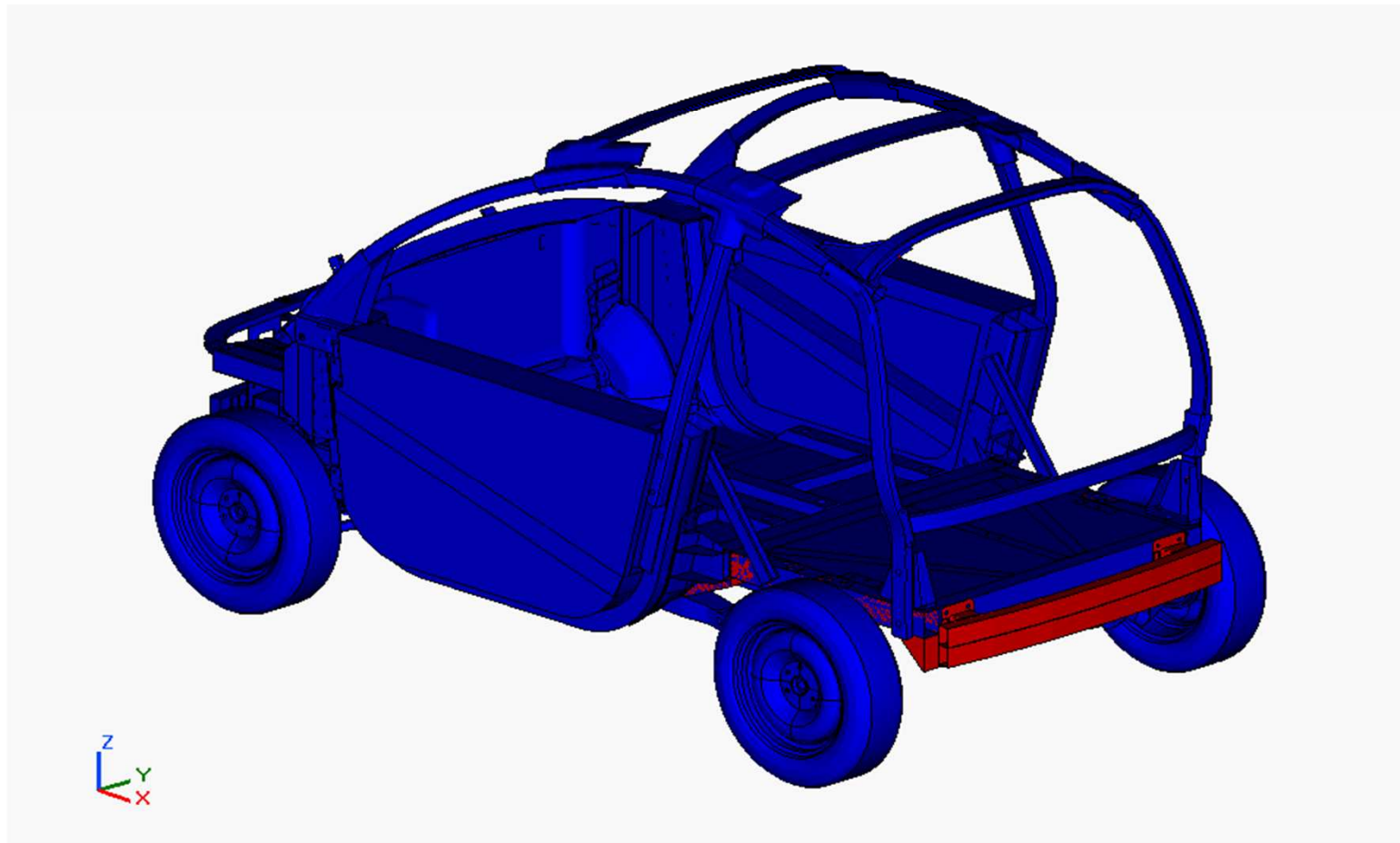
In collaboration with



Supported by



Comparison



Organized by



Hosted by



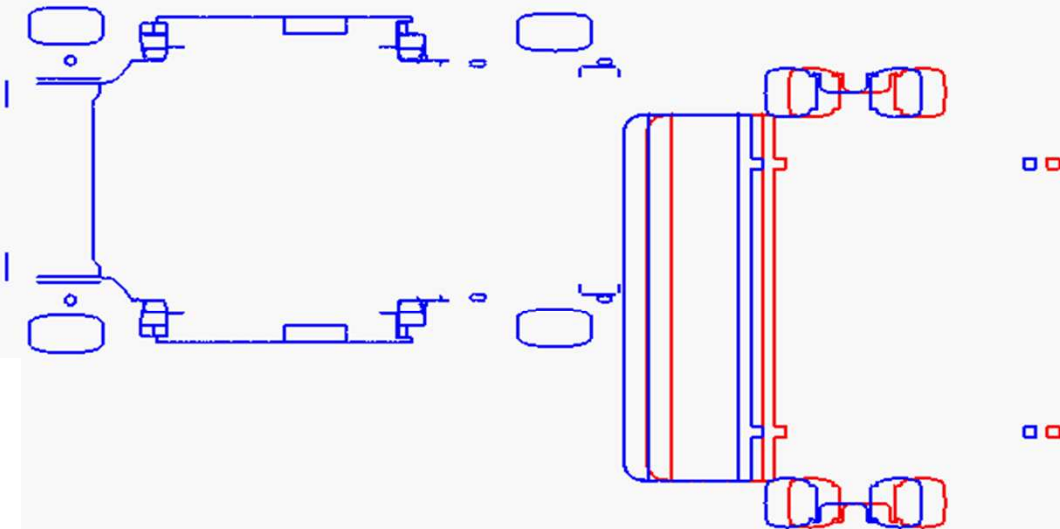
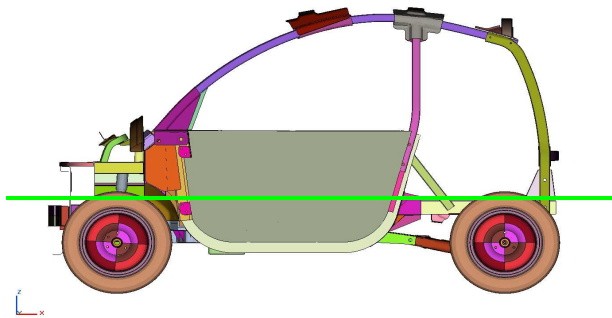
In collaboration with



Supported by



Comparison



Organized by

Hosted by

In collaboration with

Supported by



Side Aluminum 50 km/h



Organized by



Hosted by



In collaboration with



Supported by



European
Commission

Side Hybrid 50 km/h



Organized by



Hosted by



In collaboration with

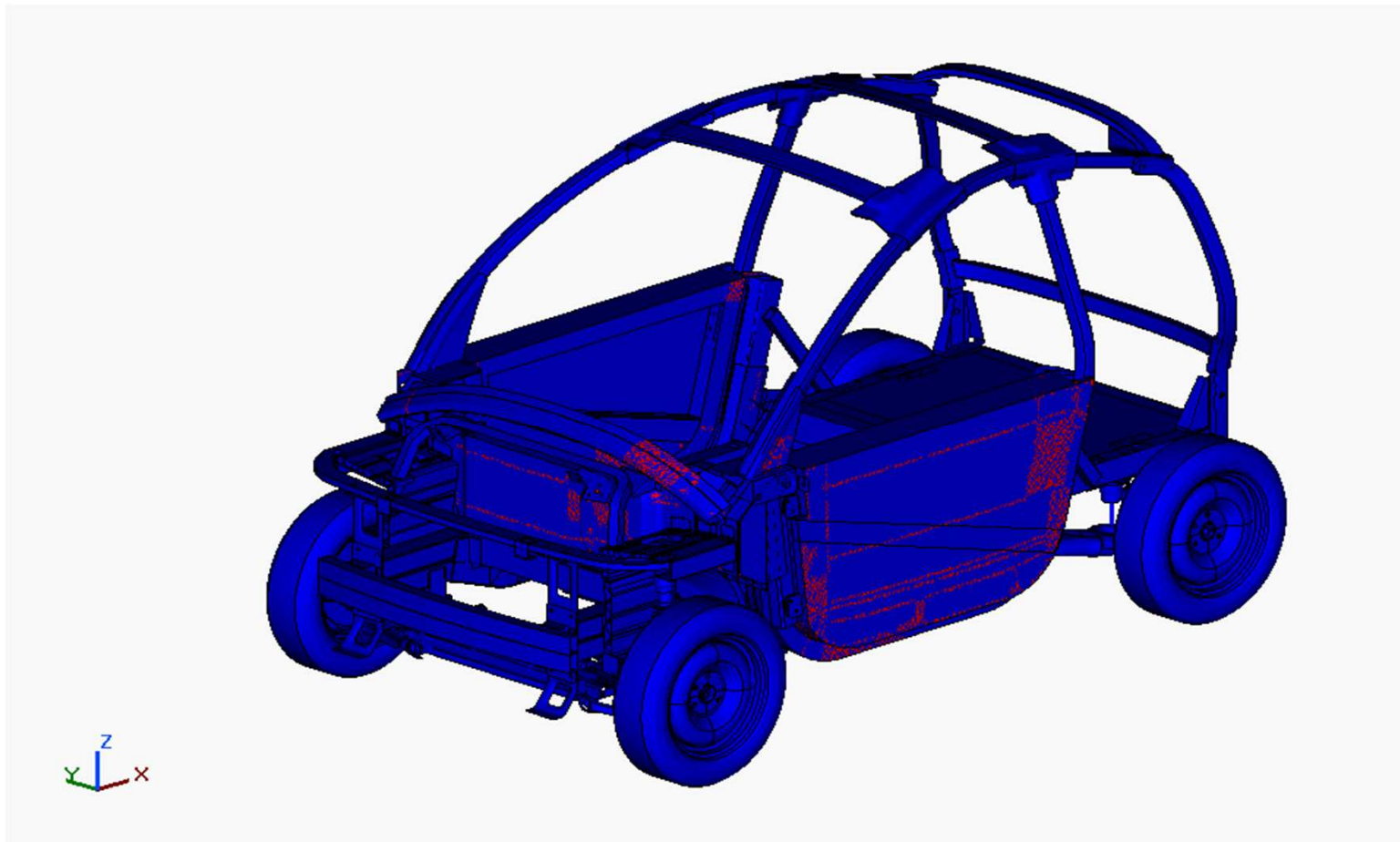


Supported by



European
Commission

Comparison



Organized by



Hosted by



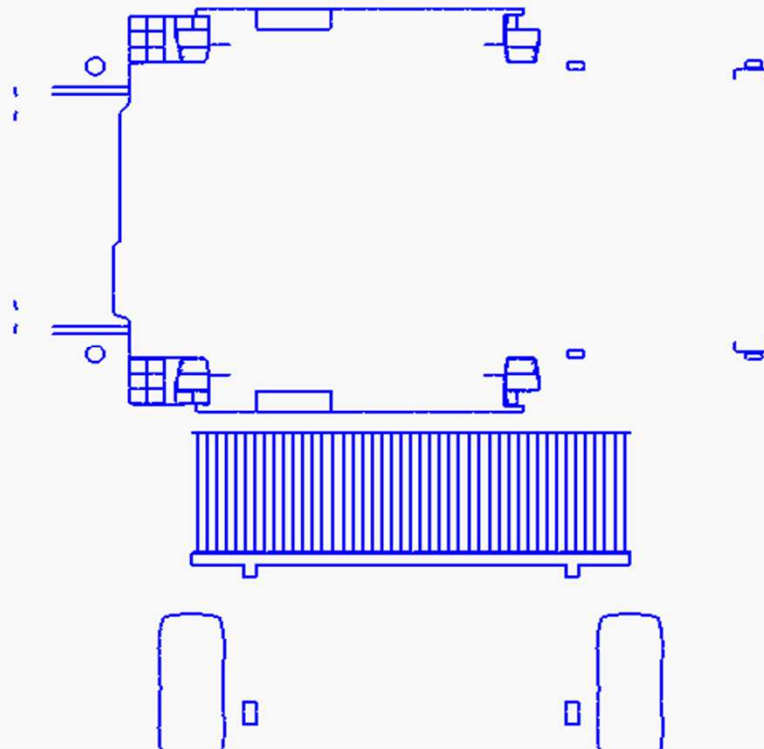
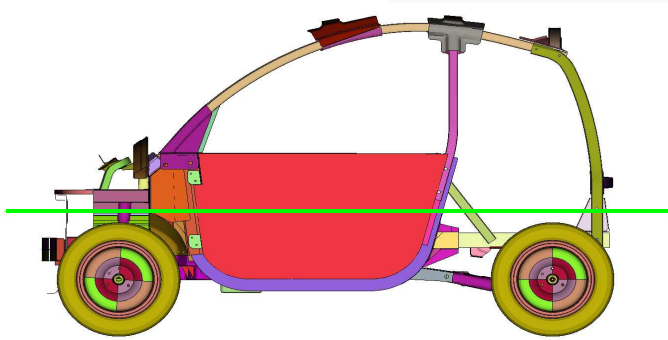
In collaboration with



Supported by



Comparison



Organized by



Hosted by



In collaboration with



Supported by



evs | 27

The 27th INTERNATIONAL
ELECTRIC VEHICLE
SYMPOSIUM & EXHIBITION

BARCELONA
17th-20th November 2013



Thanks for your attention

Organized by



Hosted by

AVERE



In collaboration with



Supported by



European
Commission