



DELFT HYPERLOOP VI
Power & Electronics



<https://www.youtube.com/watch?v=c4U2q3QtWHI>



DELFT
HYPERLOOP

CO₂ Emissions 2016

36%



Electricity & Heat

31%



Transport

8%



Buildings

7%



Manufacturing & Construction

6%



Agriculture

5%



Fugitive emissions

4%



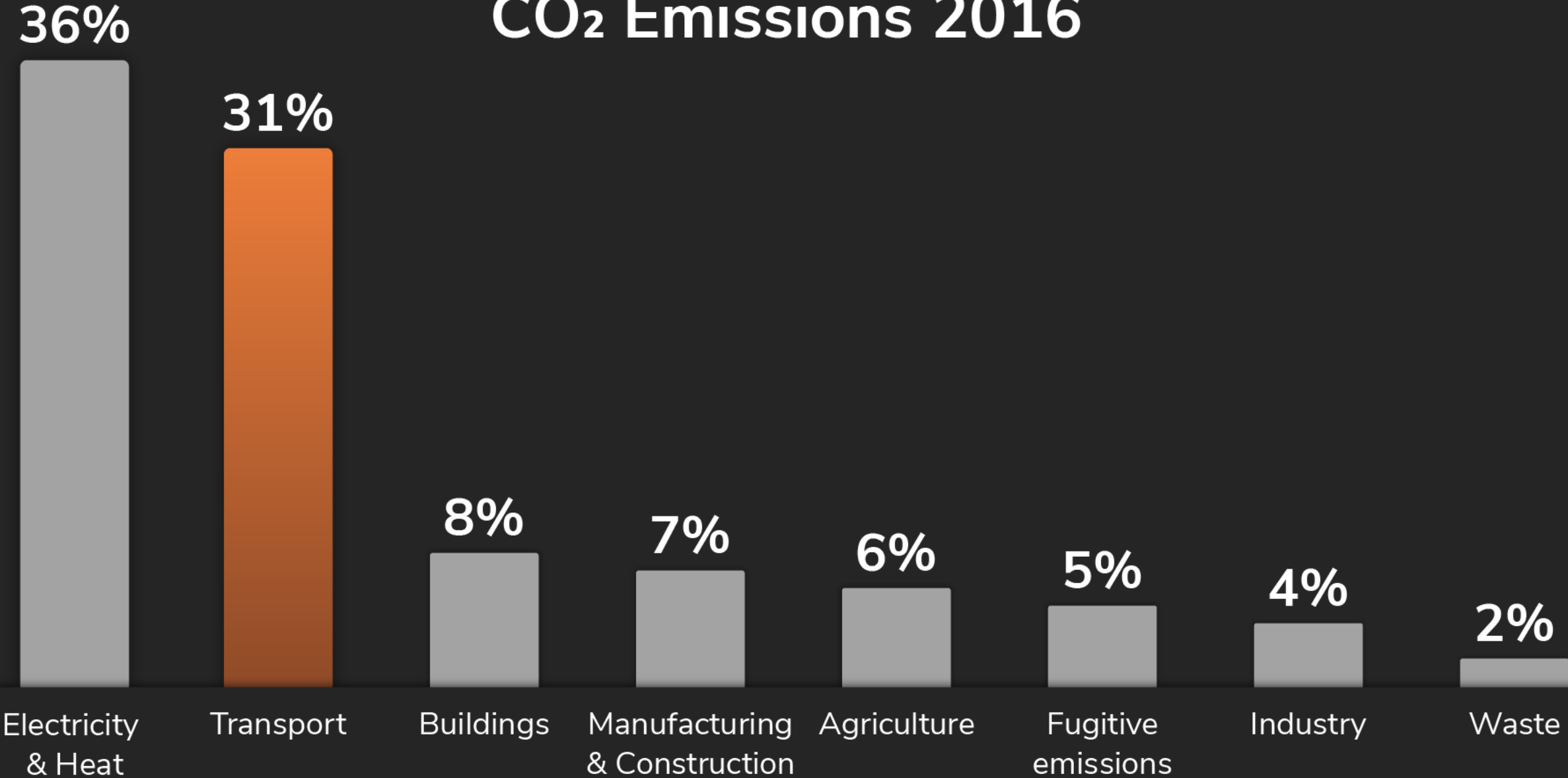
Industry

2%

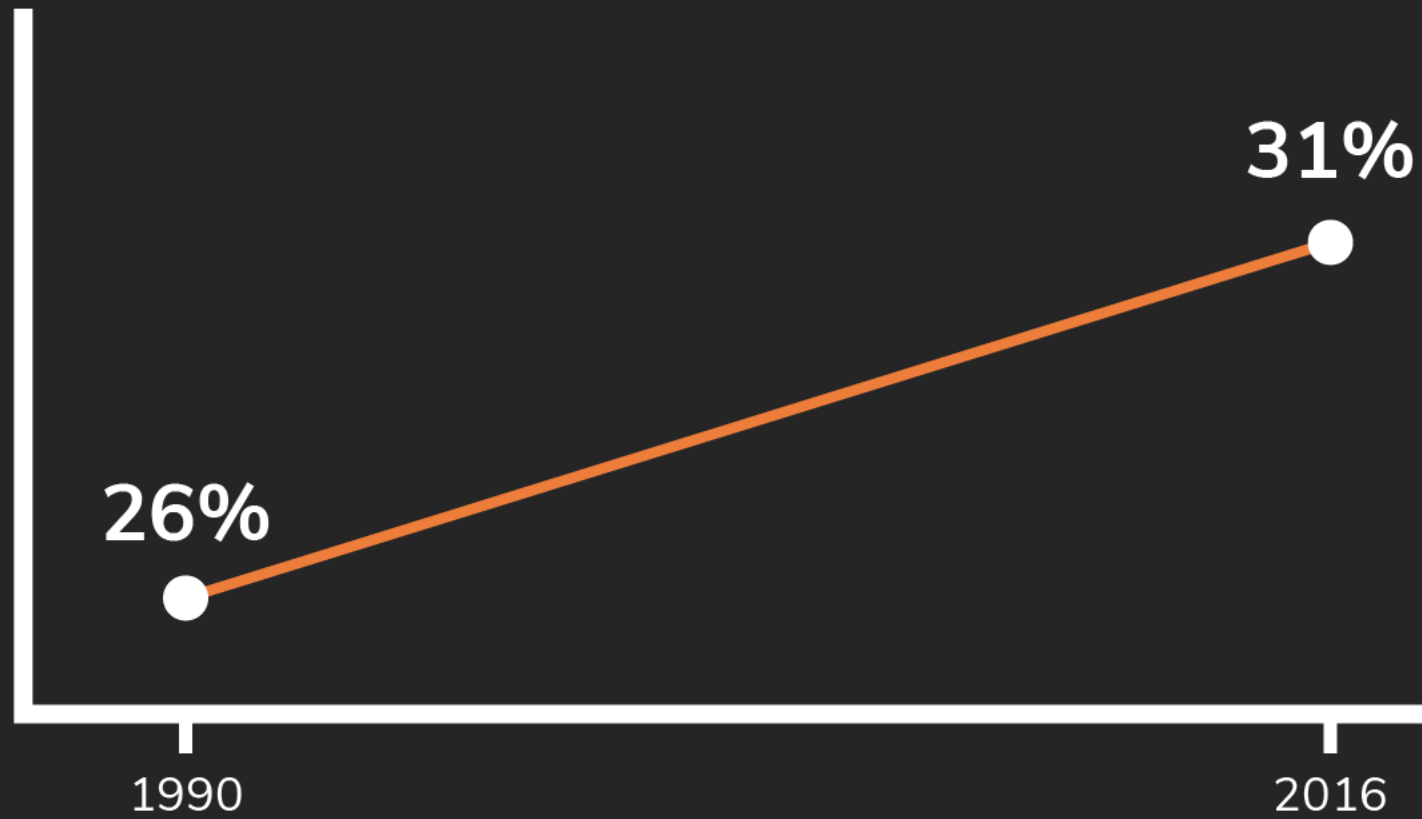


Waste

CO₂ Emissions 2016



CO₂ Emissions Transport





Delft Hyperloop VI Speaker



Hidde de Bos
Chief Engineer

Speed

kilometers / hour

50

130

250

850

Boat

Car

HS train

Airplane

Energy use

Wh / kilometer / passenger

250

450

116

515



DELFT

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HYPERLOOP

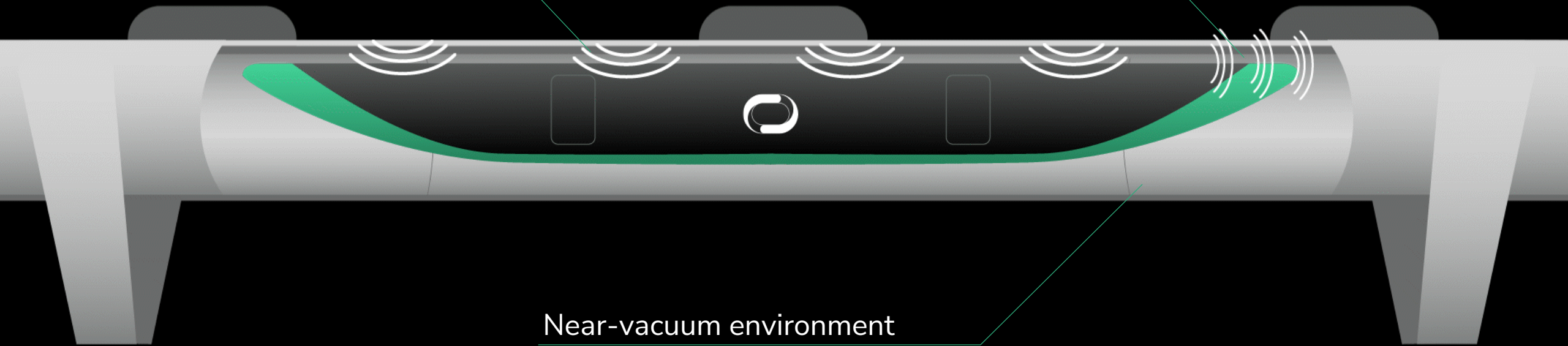
DELFT

$$P_{drag} \propto v^3$$

Magnetic levitation

Magnetic propulsion

Near-vacuum environment



Speed

kilometers / hour

50

Boat

130

Car

250

HS train

850

Airplane

1000

Hyperloop

Energy use

Wh / kilometer / passenger

250

Boat

450

Car

116

HS train

515

Airplane

40

Hyperloop

*“Our mission is to develop the **desire, technology and infrastructure** for the future implementation of the hyperloop system”*

A scenic view of a Dutch water town. In the foreground, a canal reflects the sky and surrounding greenery. A white drawbridge crosses the canal, leading to a large brick tower with a dark spire. The tower has two smaller towers on either side. The background shows more buildings and trees under a blue sky with scattered white clouds.

EHW

EUROPEAN
HYPERLOOP
WEEK

Winning **all awards** in the European Hyperloop Week





3 Giant Leaps



• Amsterdam

• Brussels

• Paris



• Amsterdam

• Brussels

• Paris



• Amsterdam

• Brussels

• Paris



• Amsterdam

• Brussels

• Paris



• Amsterdam

• Brussels

• Paris

Conventional train



Conventional train



Hyperloop





Rolling resistance



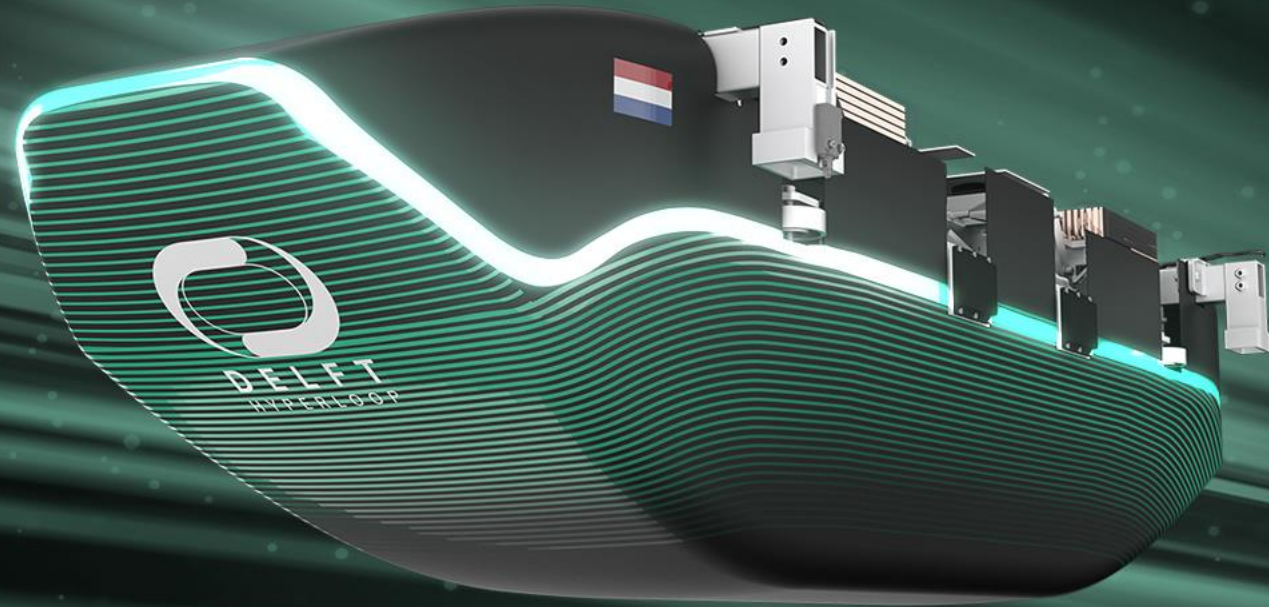
Magnetic levitation



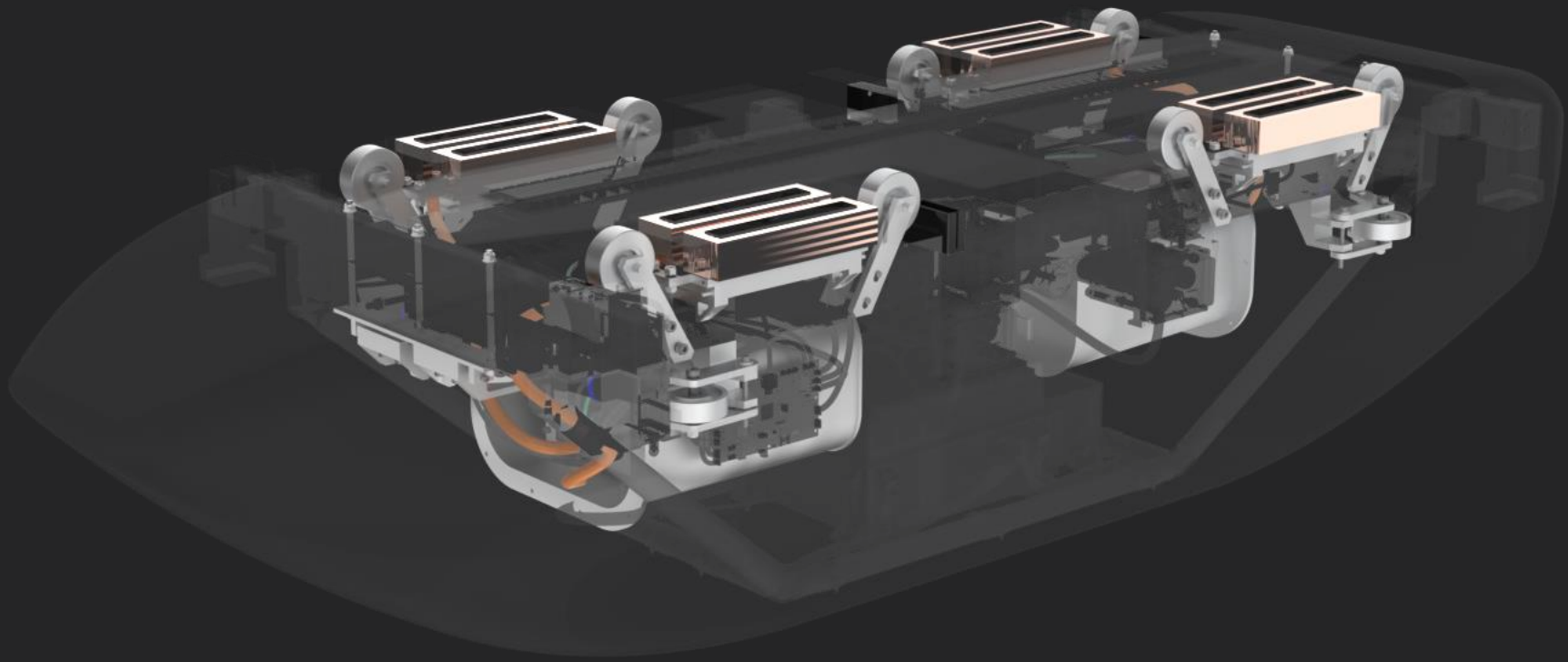
Magnetic levitation

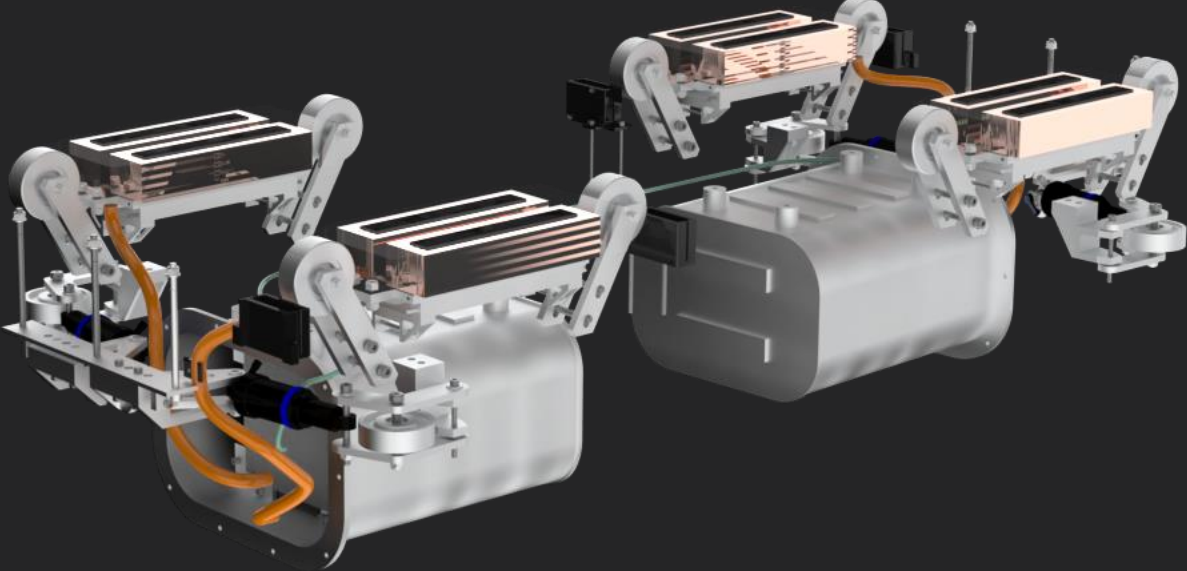
Magnetic propulsion



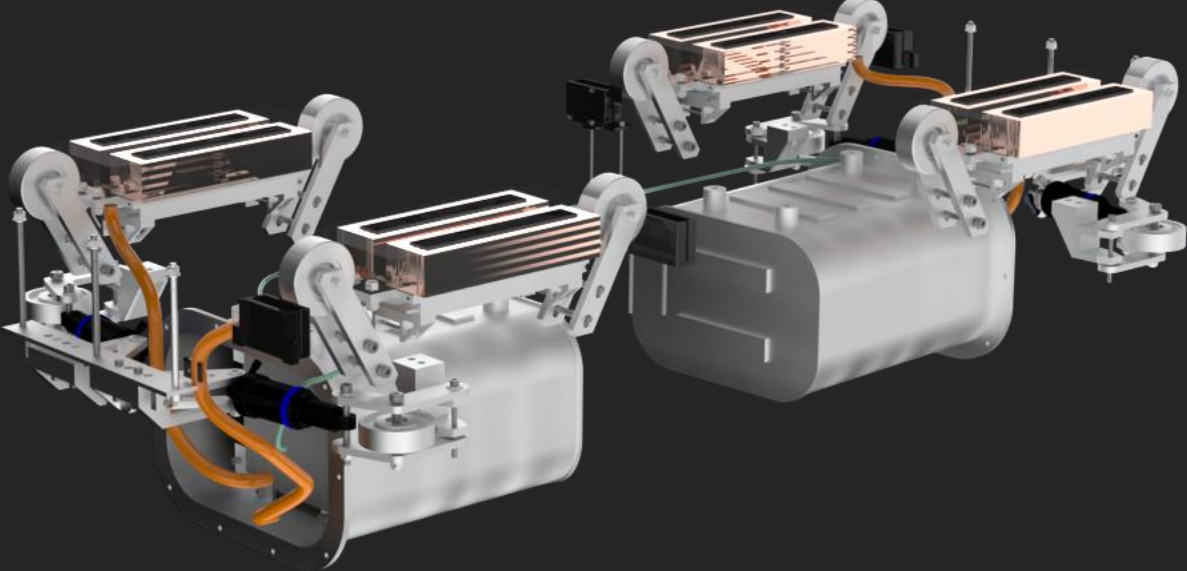


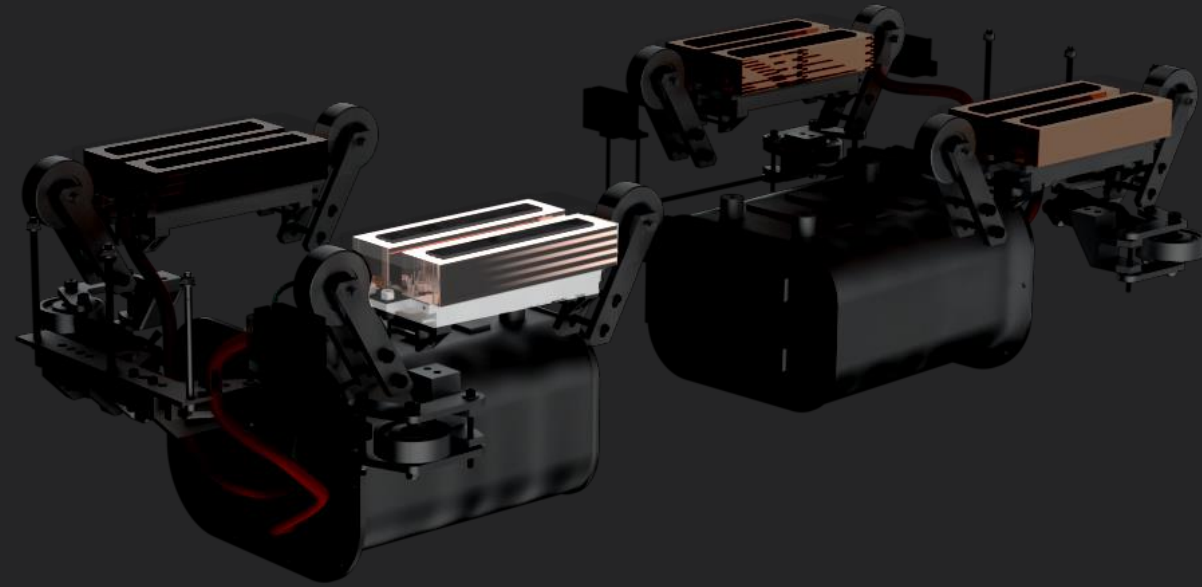
HELIOS I

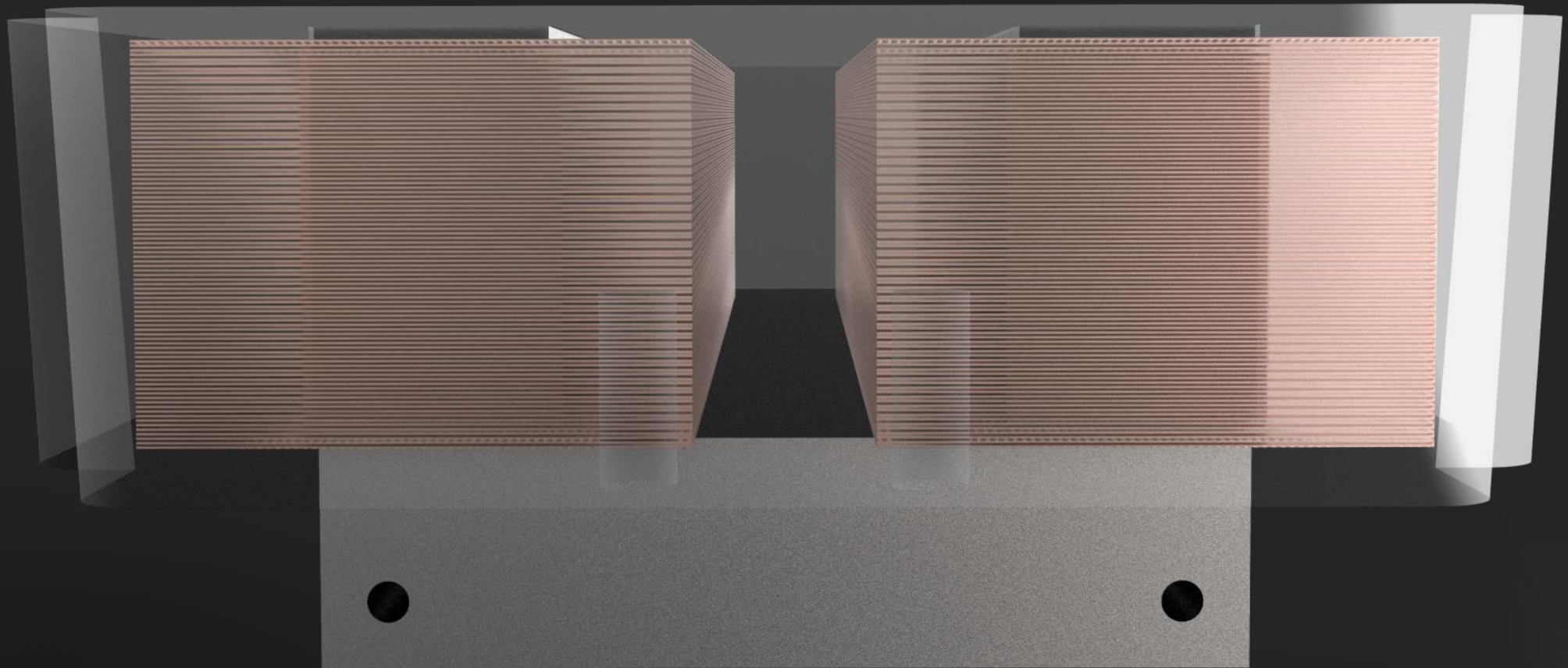




Hybrid Electromagnetic Suspension (HEMS)







Track



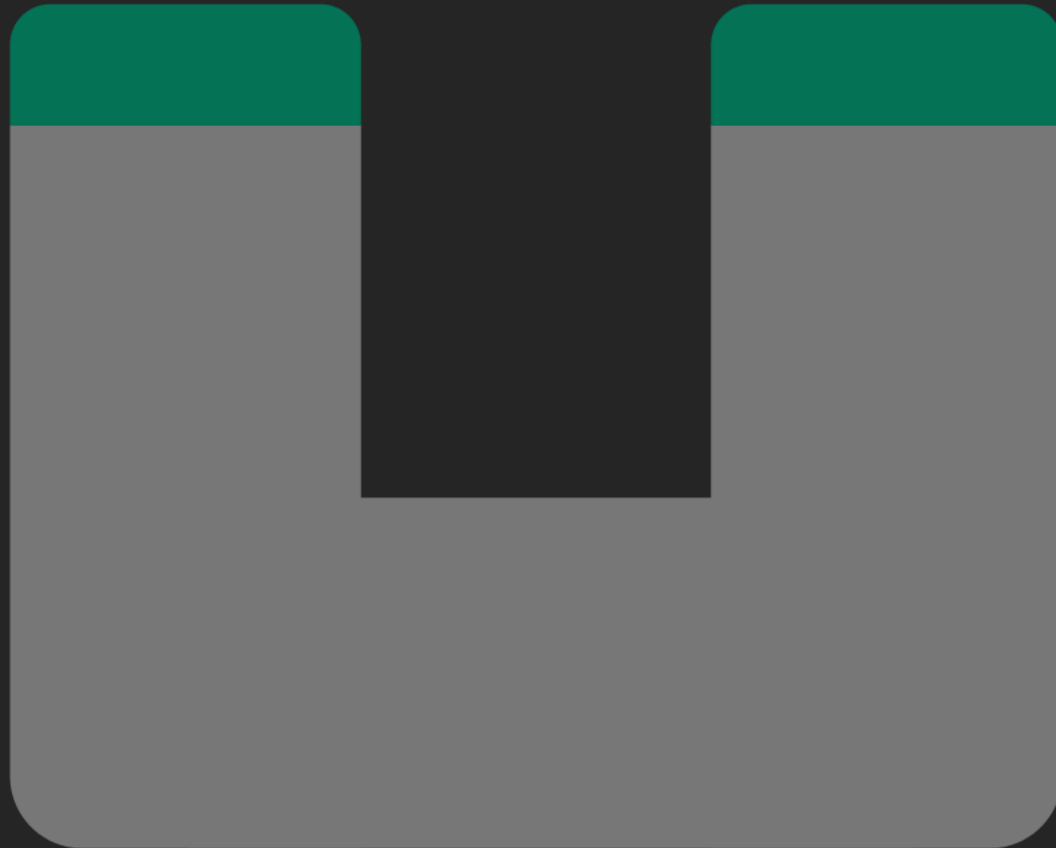
U - core



Track

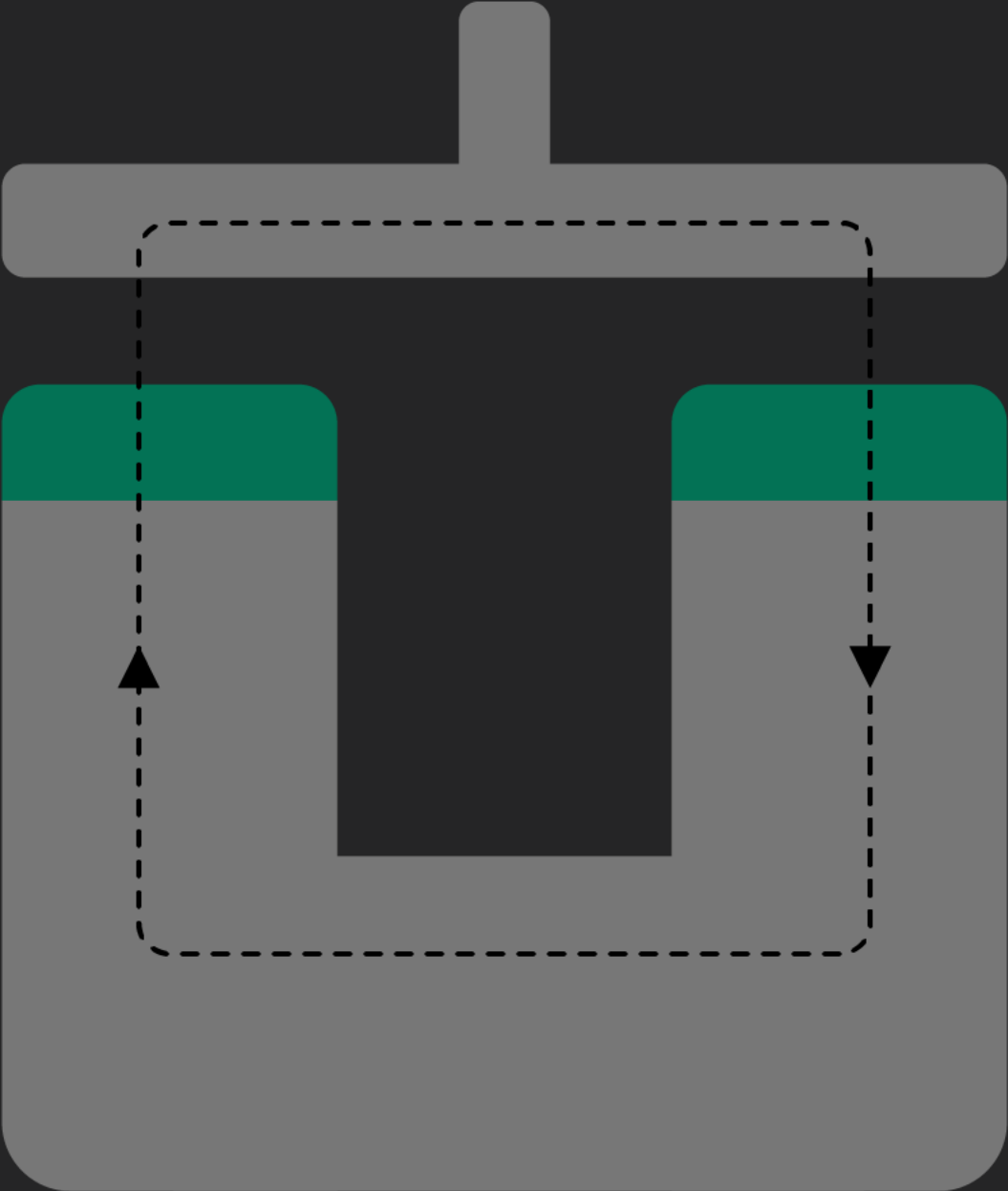


Add Magnets



U - core

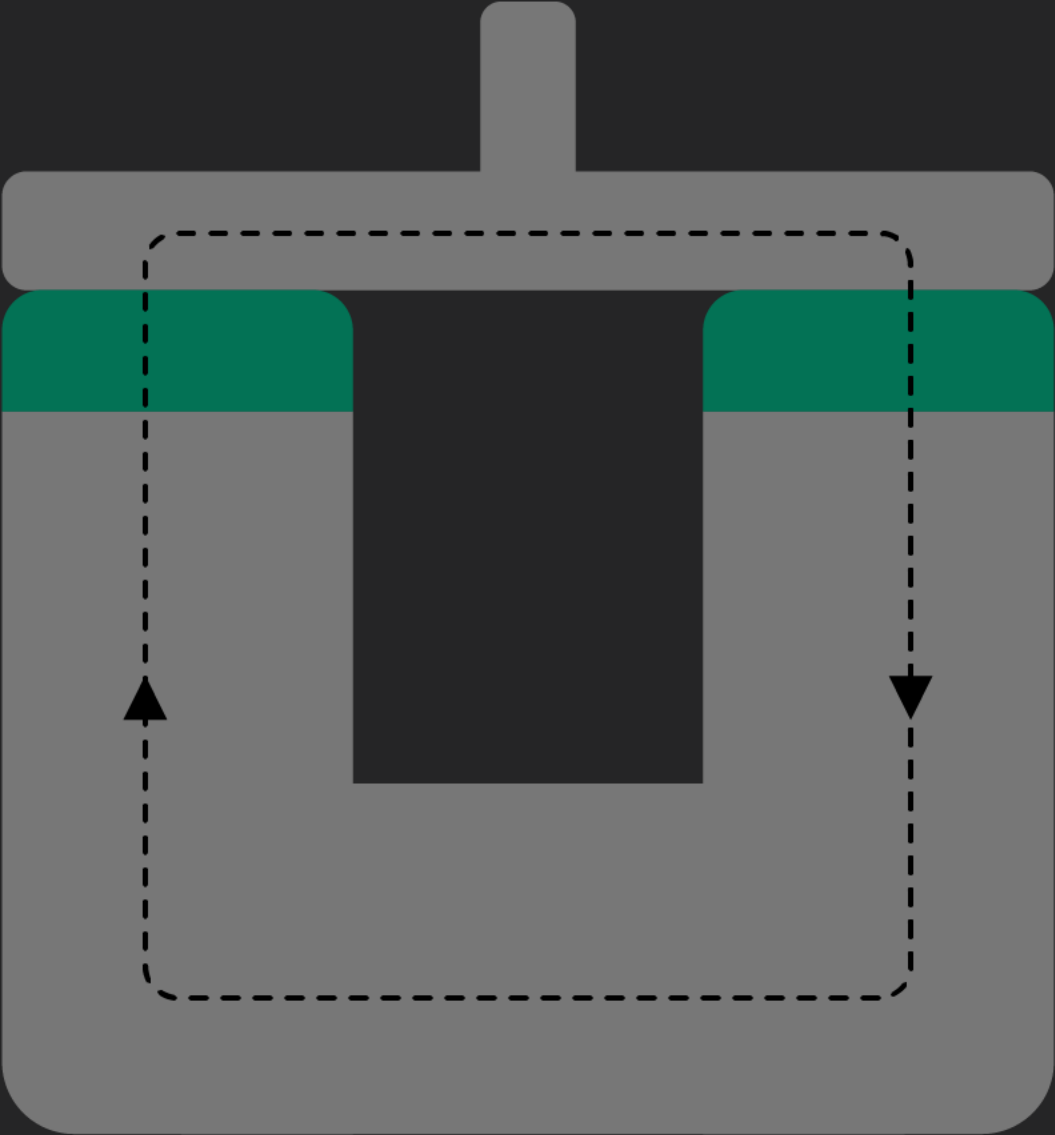
Track



Magnetic field

U - core

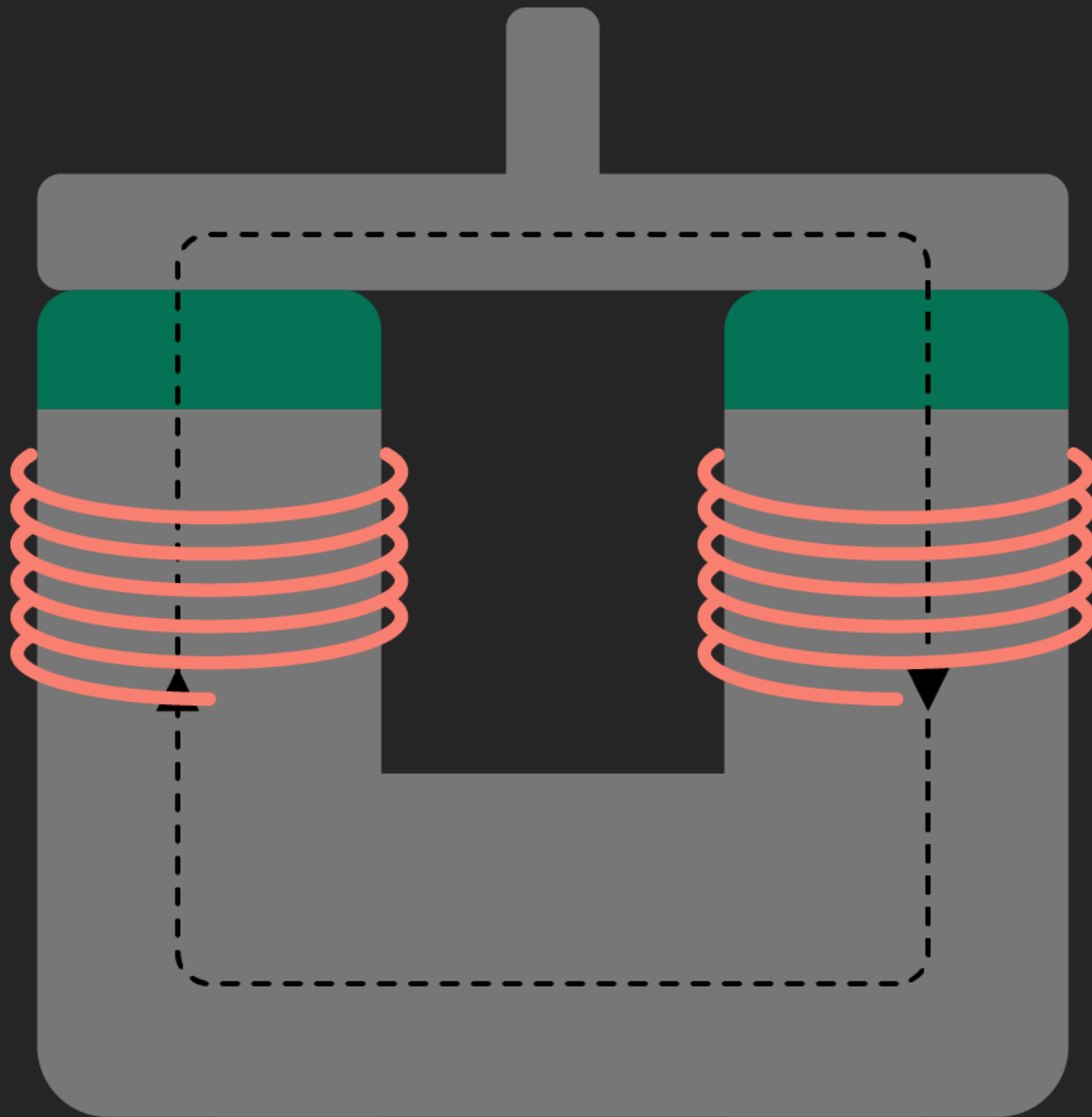
Track



Magnetic pull

U - core

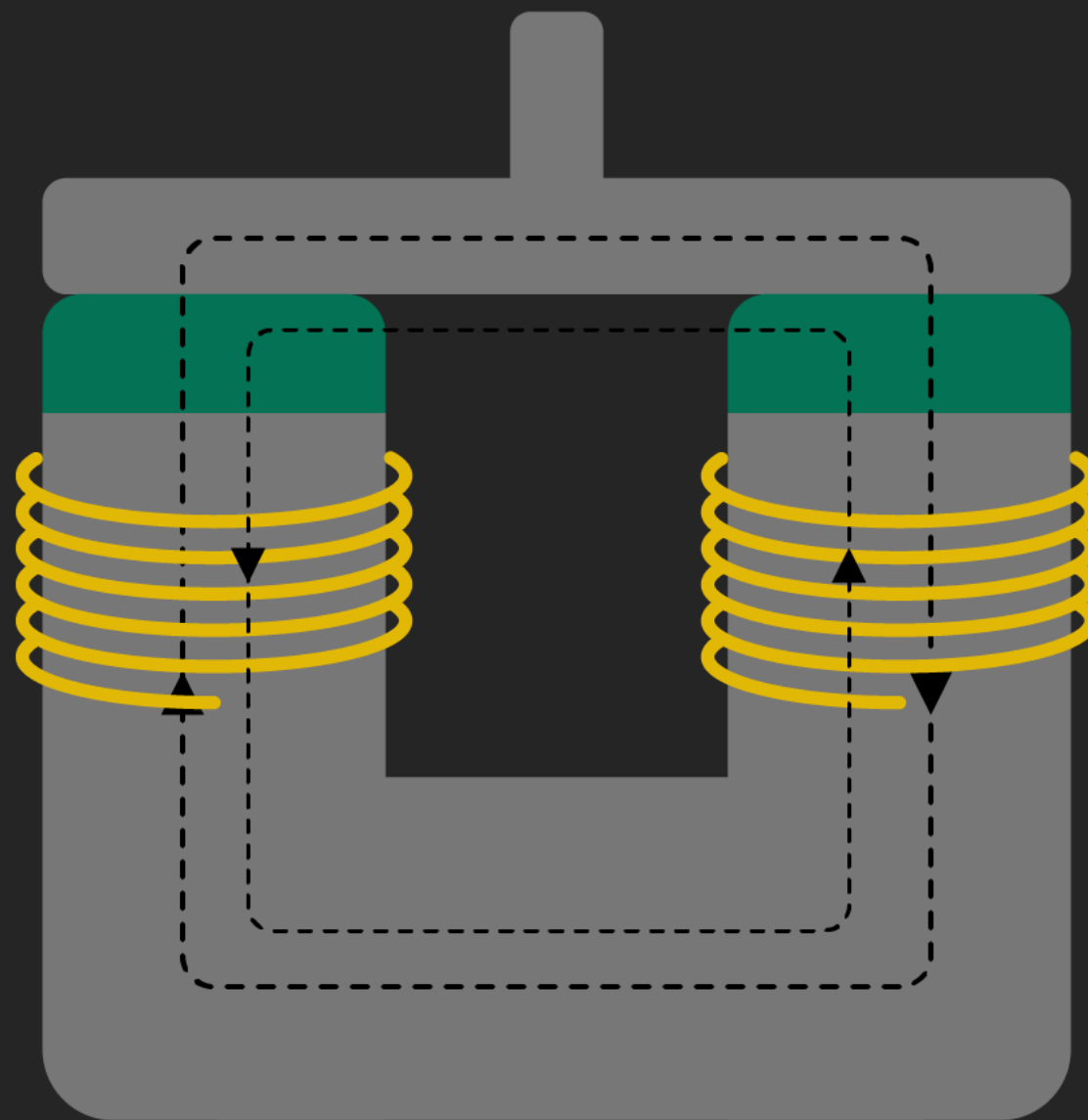
Track



Add Coils

U - core

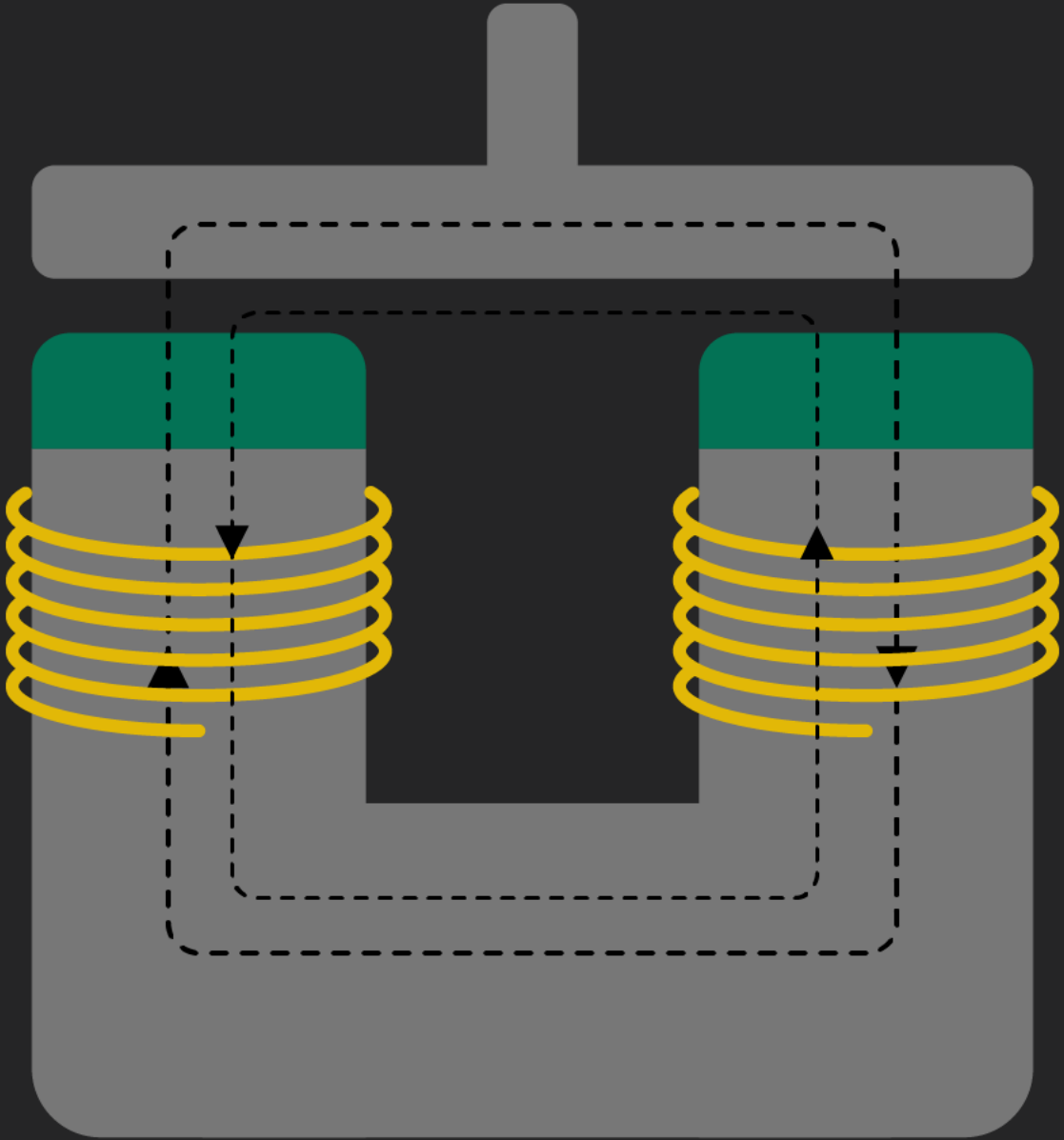
Track



Power on

U - core

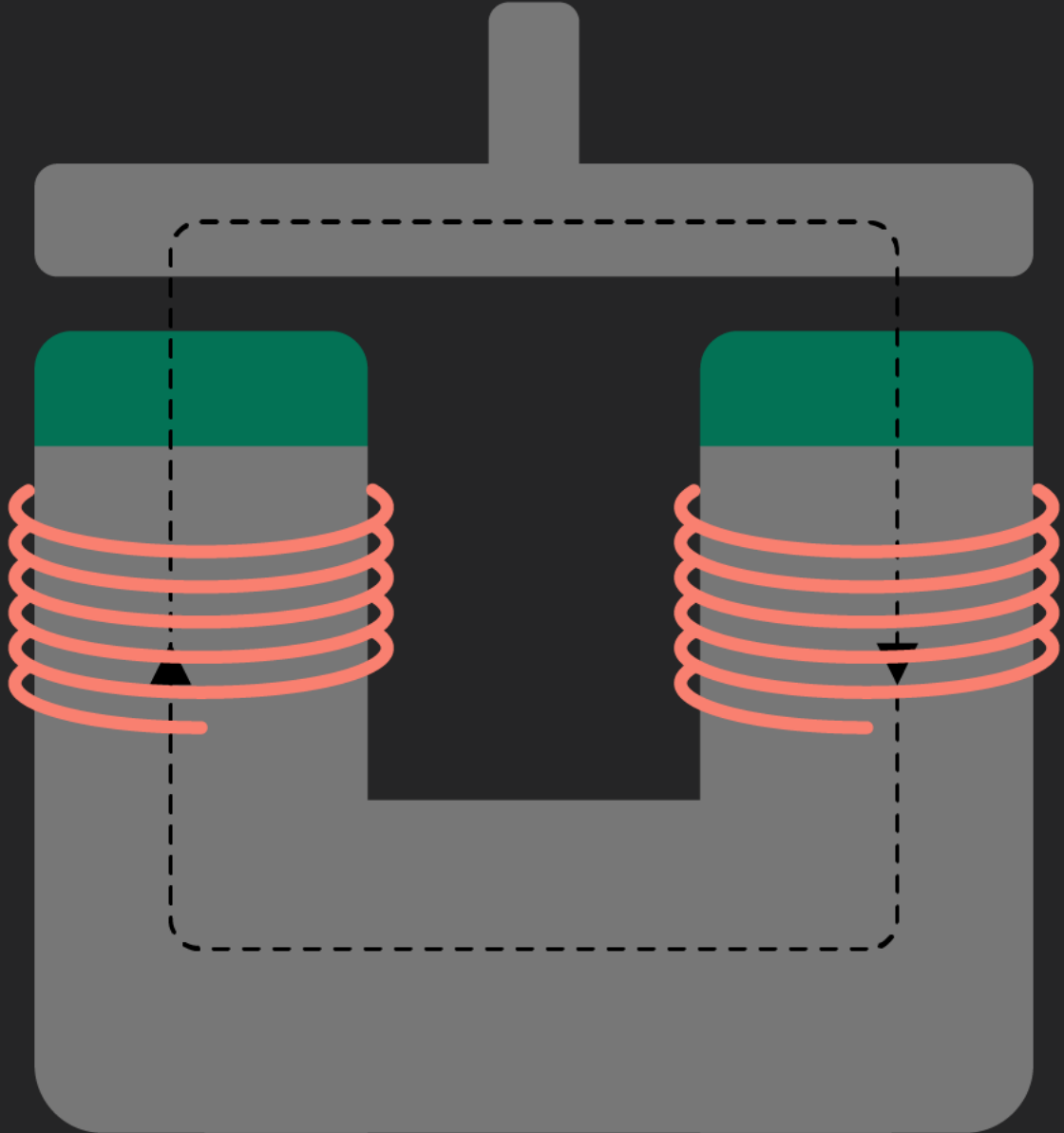
Track



Detach from track

U - core

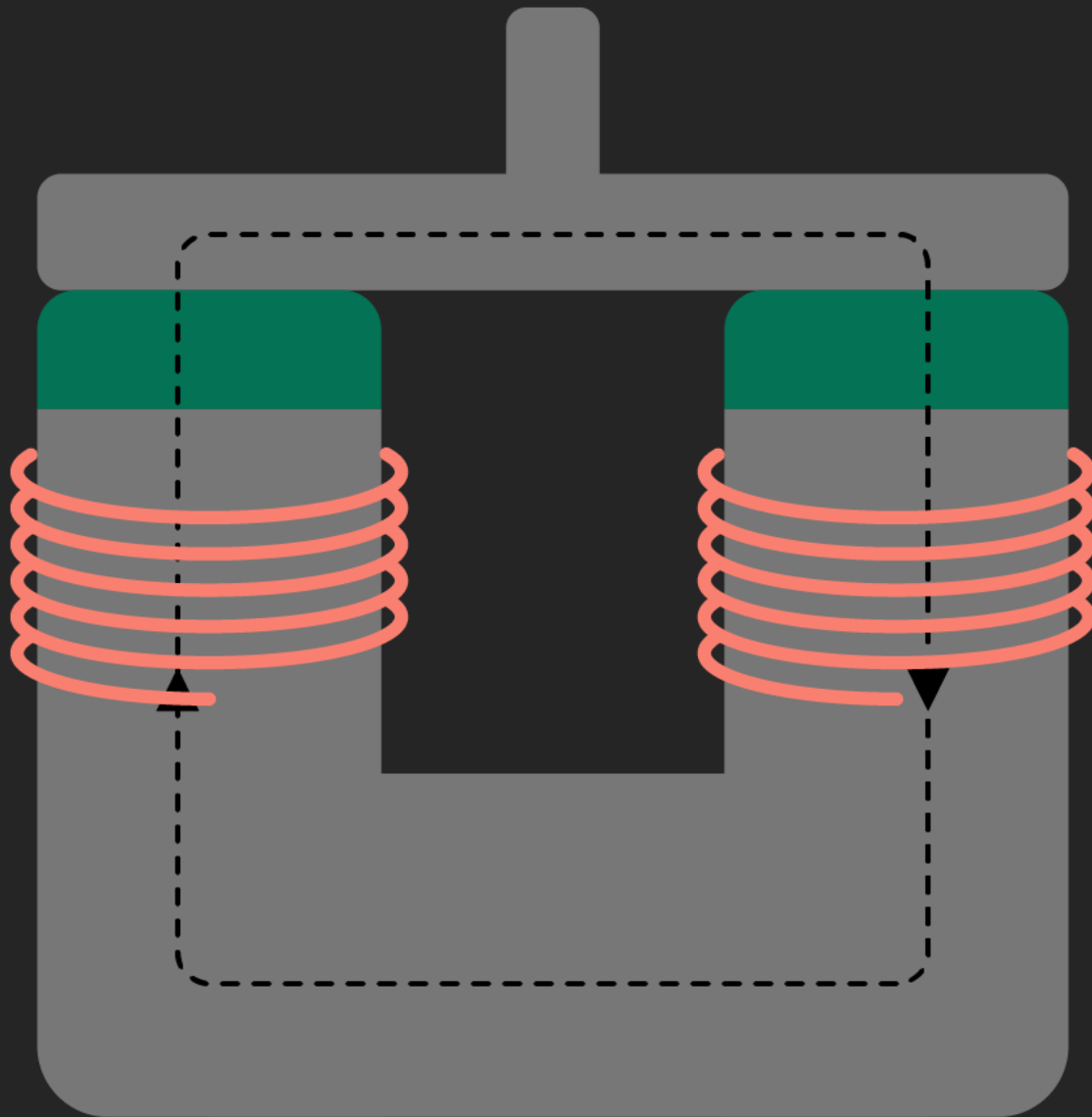
Track



Power off

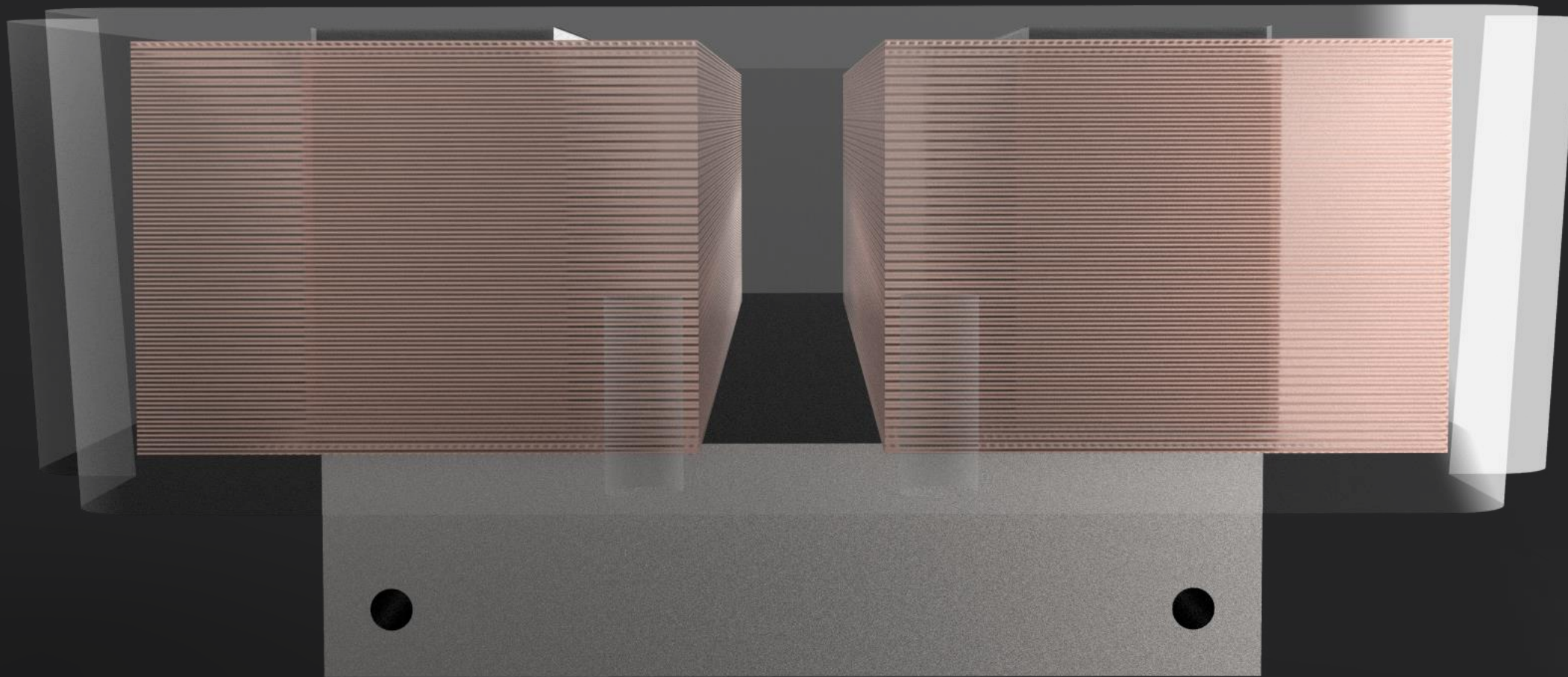
U - core

Track

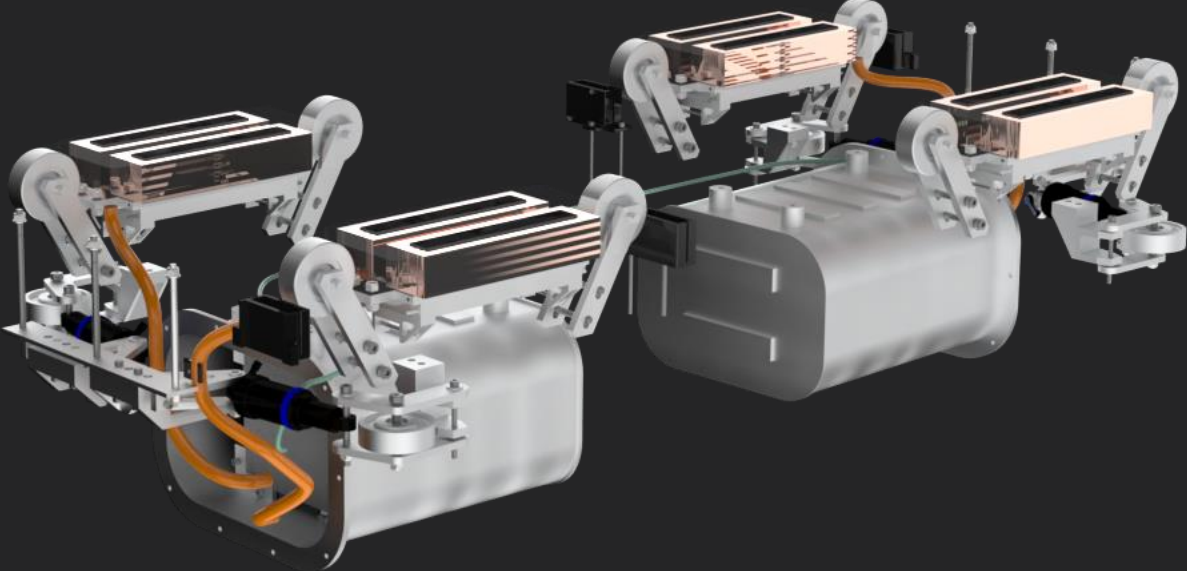


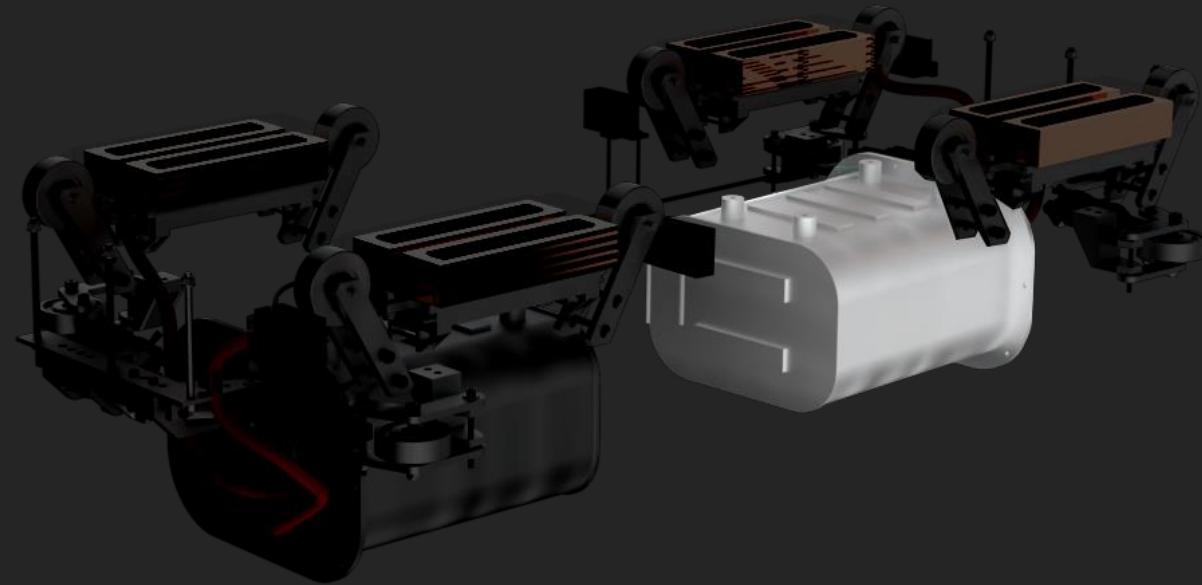
Attach to track

U - core

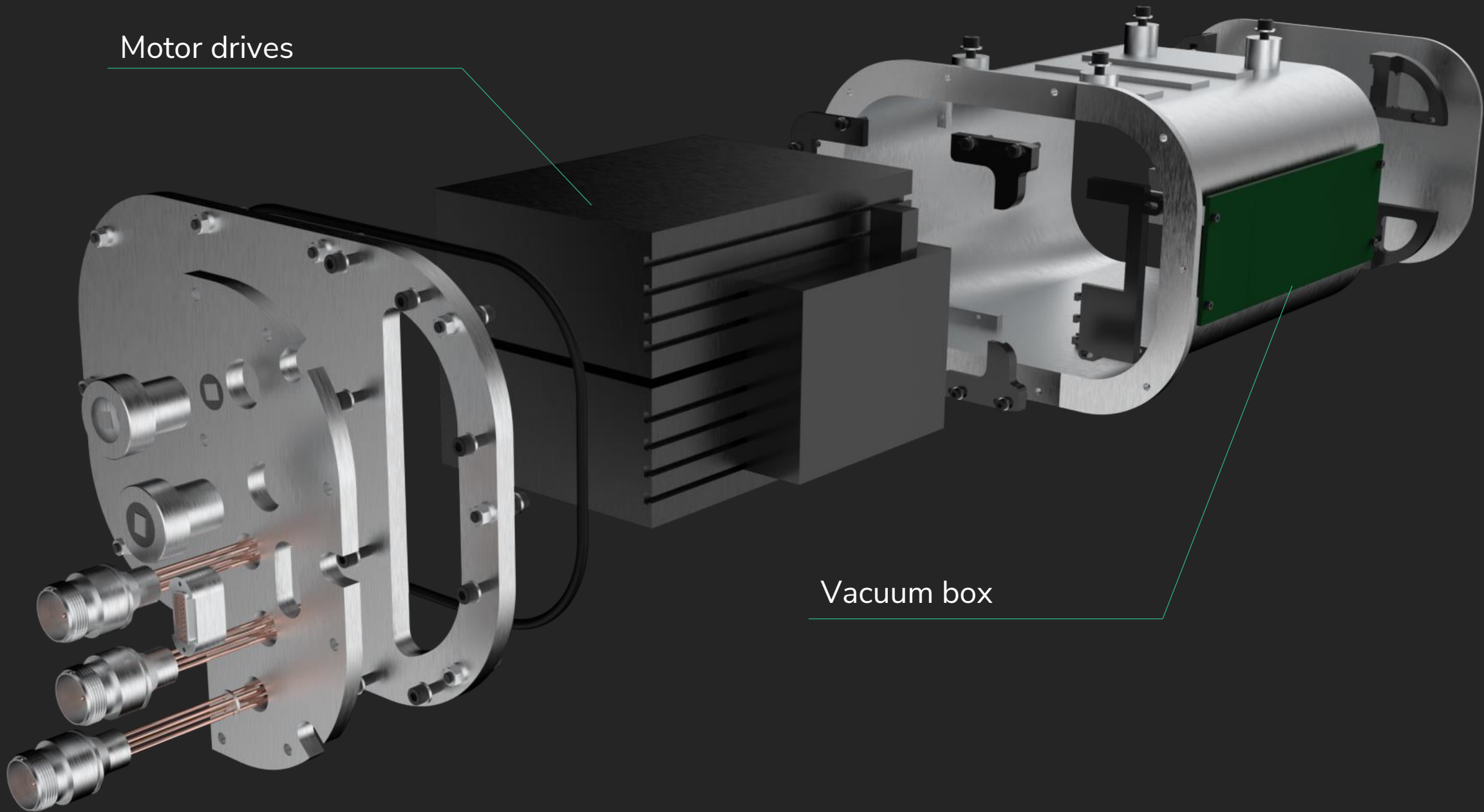




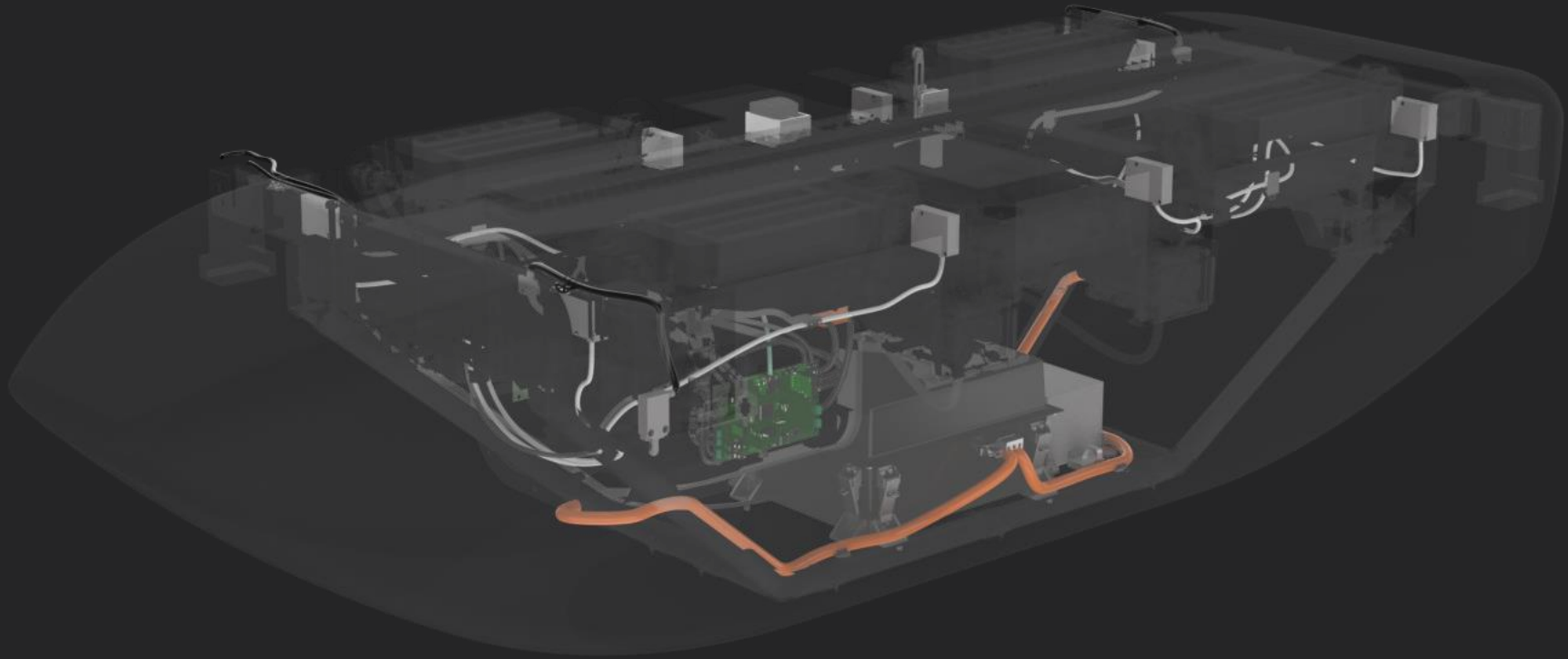


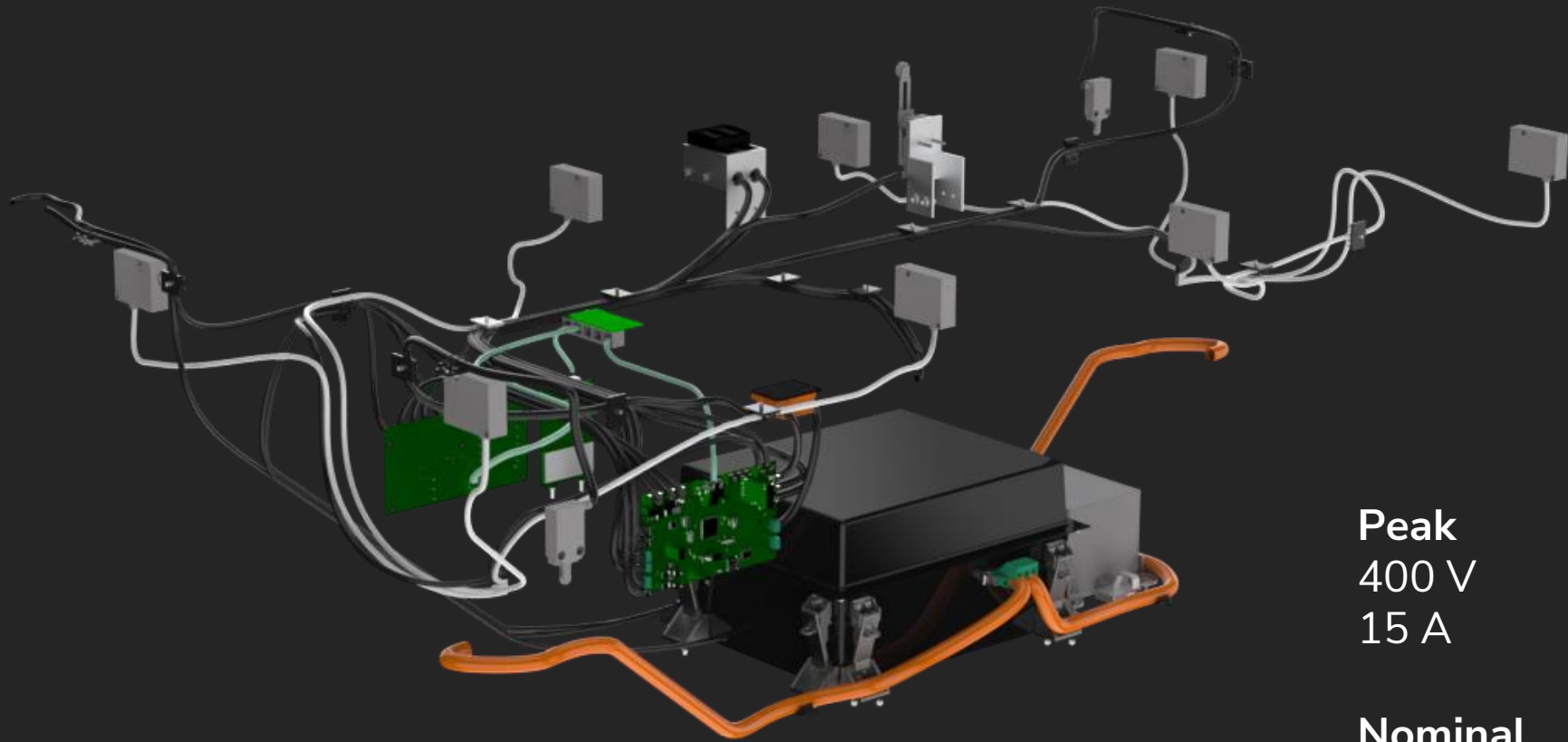


Motor drives



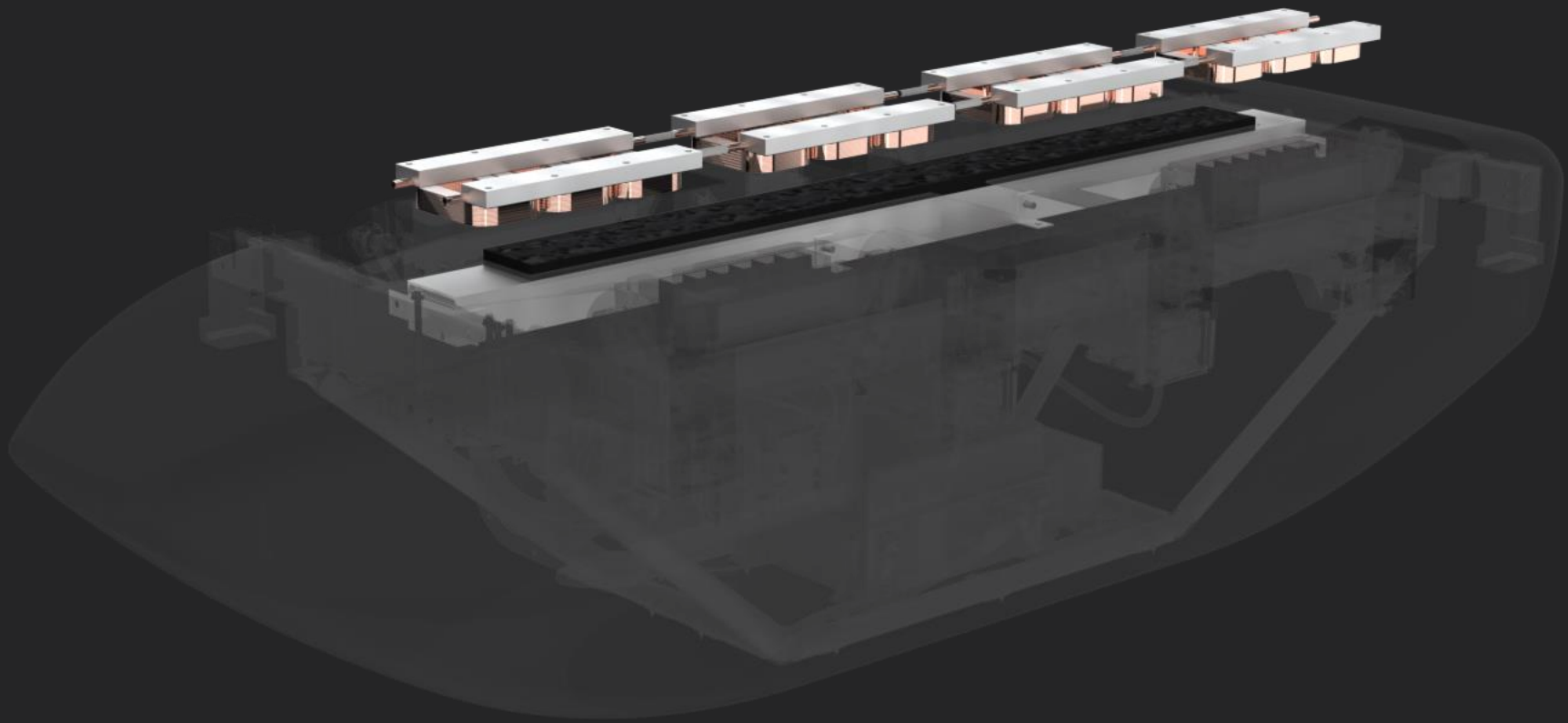
Vacuum box



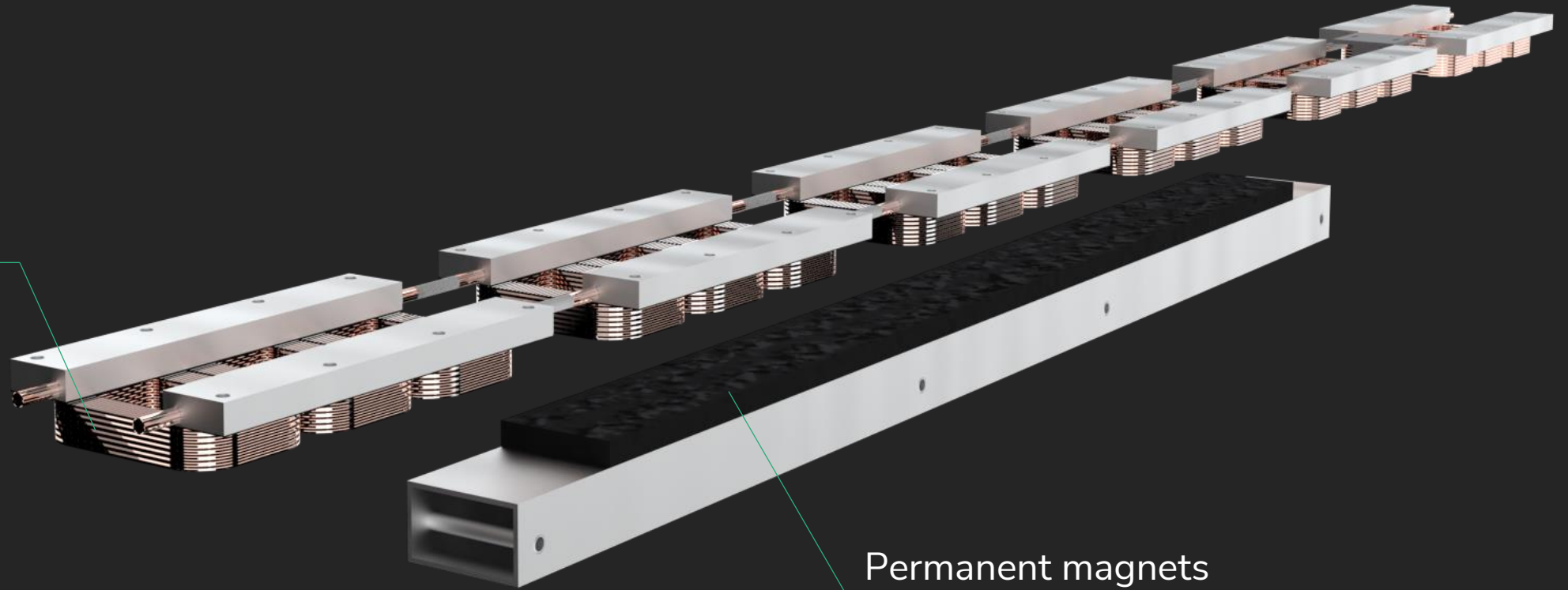


Peak
400 V
15 A

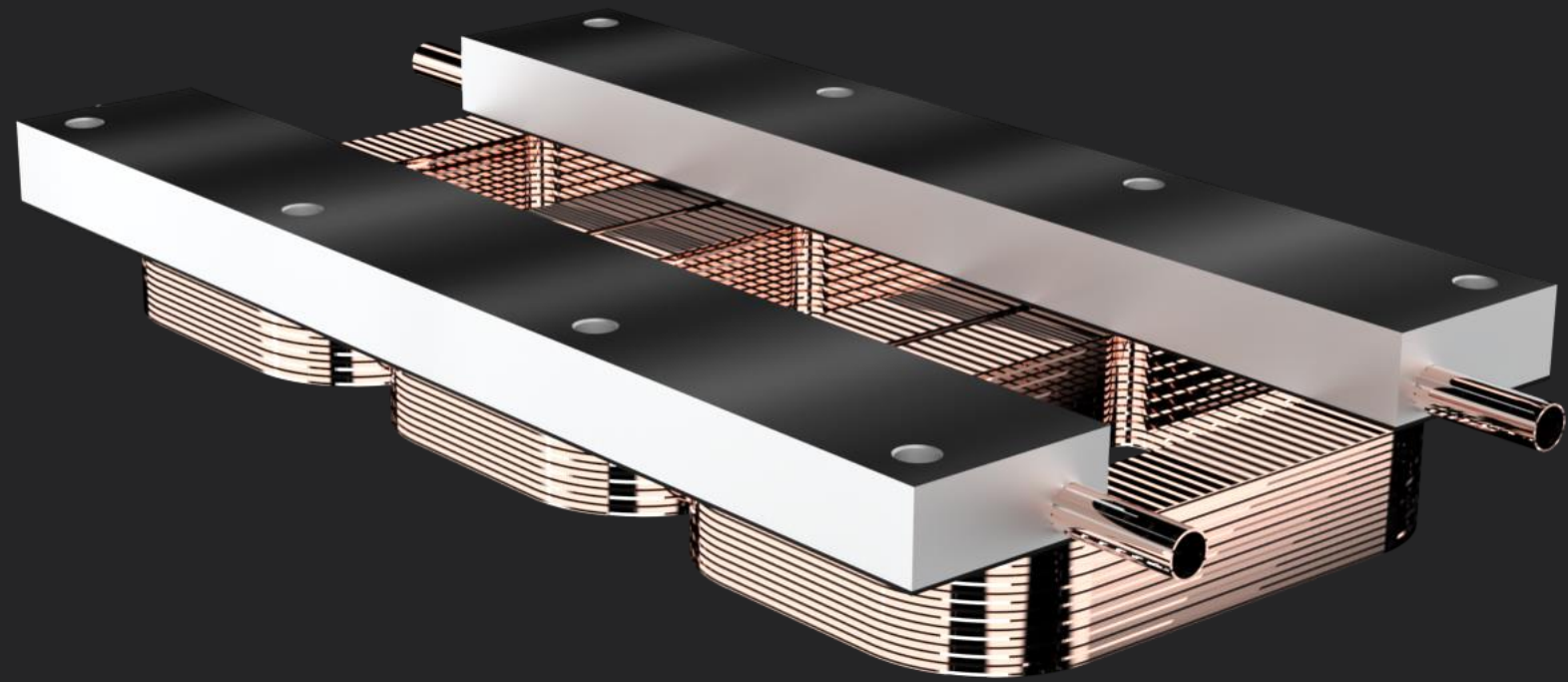
Nominal
400 V
2 A

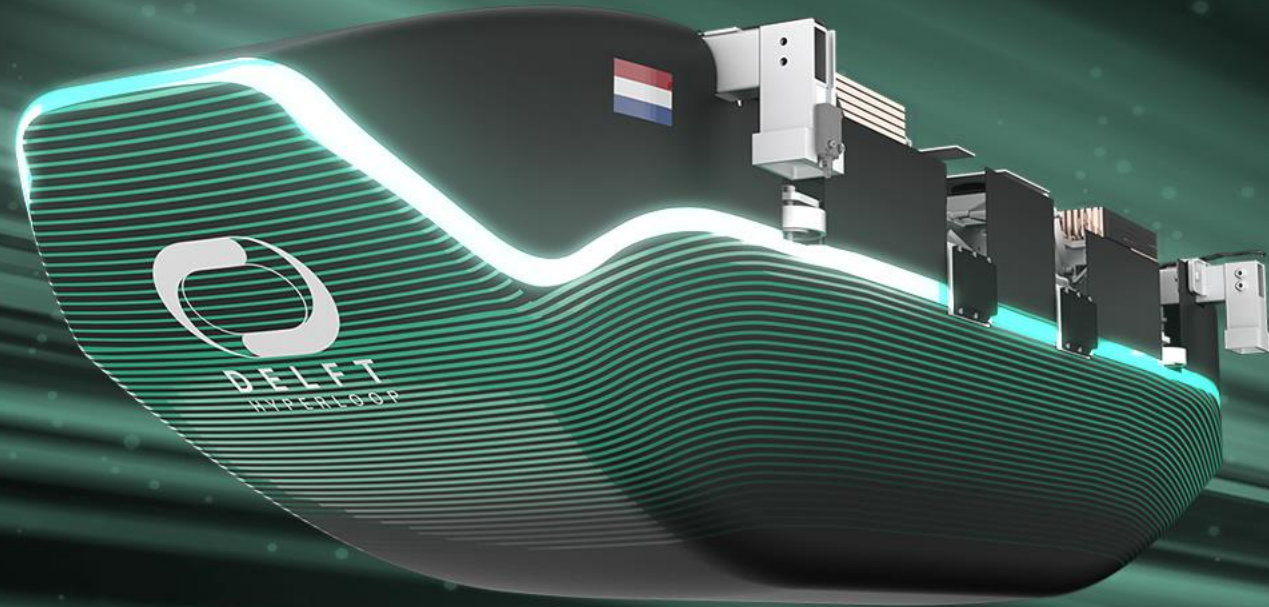


Coils



Permanent magnets





HELIOS I

JUNE 25TH | 14:00



DELFT
HYPERLOOP

DELFT HYPERLOOP VI PRESENTS

THE HYPERLOOP EXPERIENCE

Galileistraat 15, 3029 AL Rotterdam



DELFT
HYPERLOOP