



OHP

OCEAN HYBRID PLATFORM

GAUTING, 09.02.2021

SPECIAL THANKS

PARTNERS & ADVISORS

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Gefördert durch:



TEAM HERAKLION (GRE)



TEAM GAUTING (GER)



OHIP ENERGY PRODUCTION



OFHP FOOD PROCESSING



OH P SUPPLY STATIONS



OHPR URBAN EXPANSION



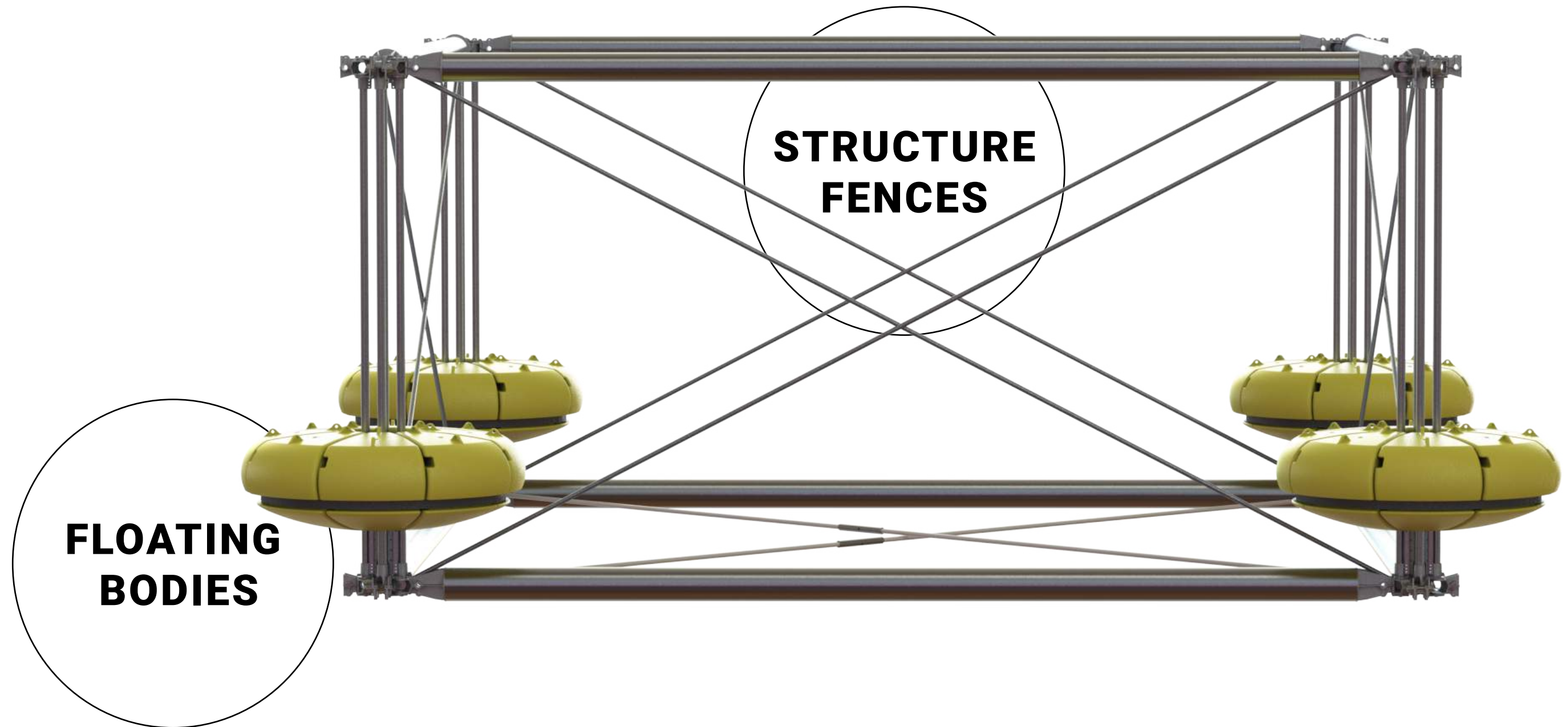
OHPR

ENERGY PRODUCTION



ENGINEERING

MAIN ASSEMBLY GROUPS



ENGINEERING

STRUCTURE FENCES

2x

PRESSURE PIPES

MATERIAL: MARITIME ALUMINUM
DIAMETER: 360 mm - 500 mm
LENGTH: 6.000 mm - 12.000 mm
WEIGHT: 300 kg - 370 kg

+

2x

VERTICAL STRUT

MATERIAL: MARITIME ALUMINUM
DIAMETER: 250 mm
LENGTH: 6.000 mm
WEIGHT: 78 kg

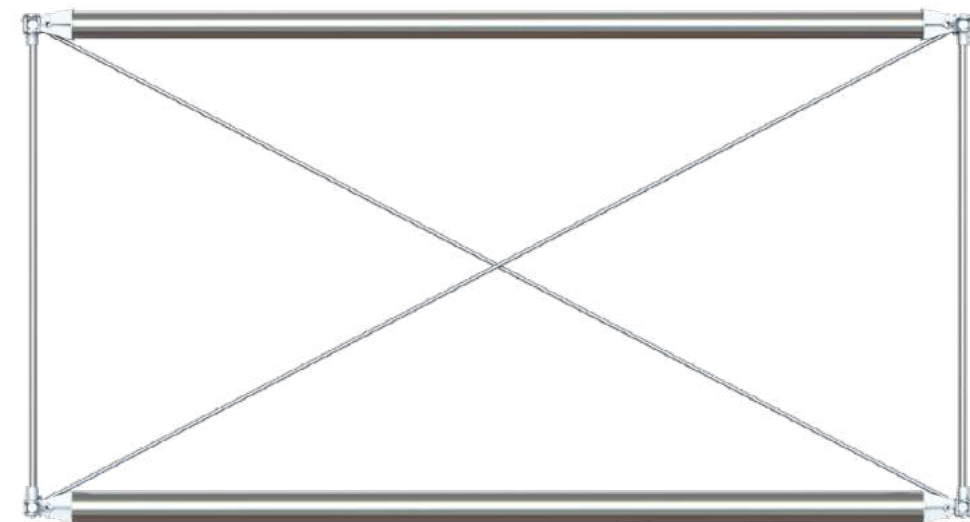
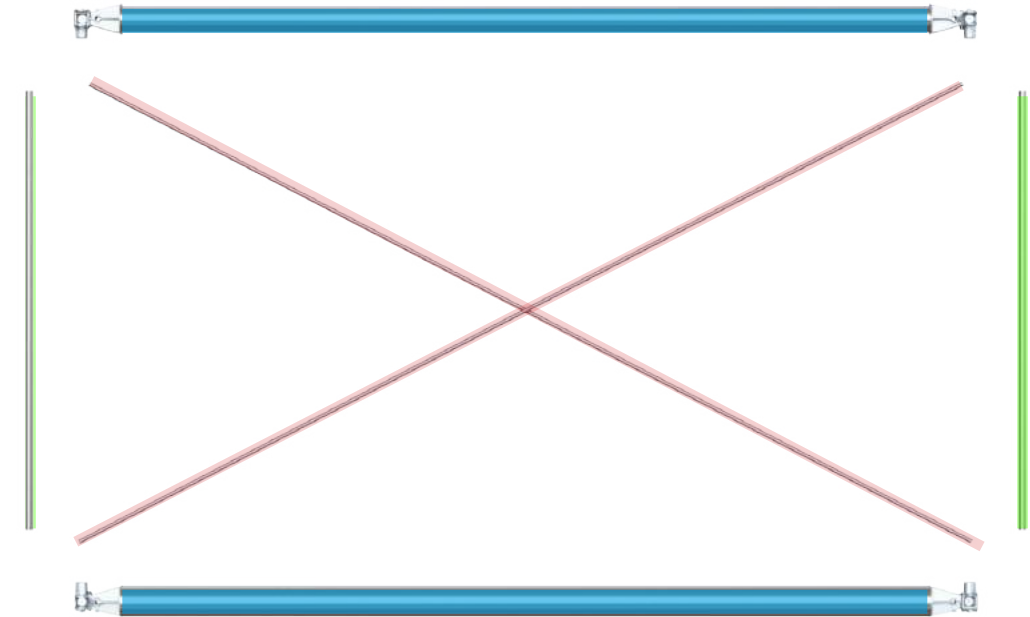
+

2x

PULL ROD

MATERIAL: MARITIME ALUMINUM
LENGTH: 8.000 mm - 13.000 mm
WEIGHT: 60 kg - 100 kg

=



ENGINEERING

FLOATING BODIES

8x

+

4x

+

1x

PEM SEGMENT

MATERIAL: POLY ETHYLEN
BUOYANCY: 0,75 m³
HEIGHT: 1.500 mm
DIAMETER: 3.200 mm
WEIGHT: 60 kg

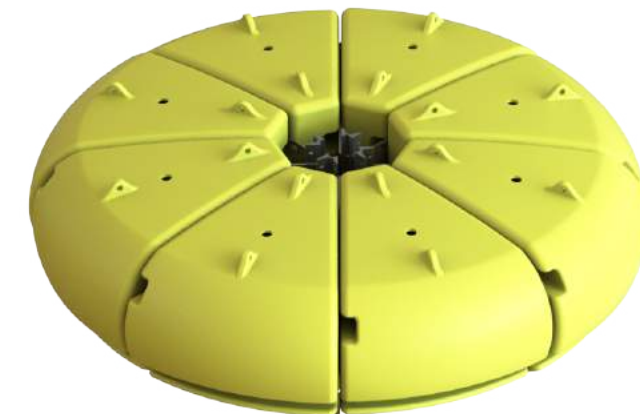
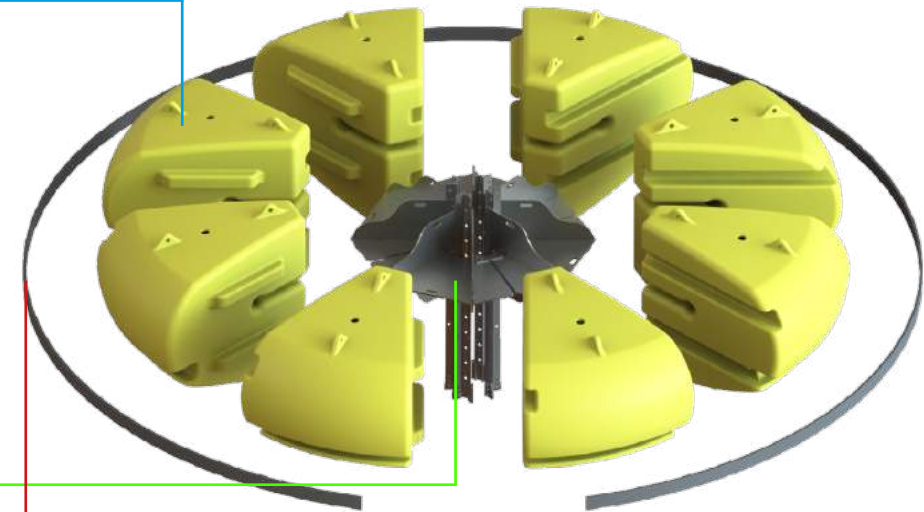
CONNECTION HUB

MATERIAL: MARITIME ALUMINUM
DIAMETER: 1.600 mm
WEIGHT: 200 kg

BELT

LENGTH: 11.000 mm
WEIGHT: 5 kg

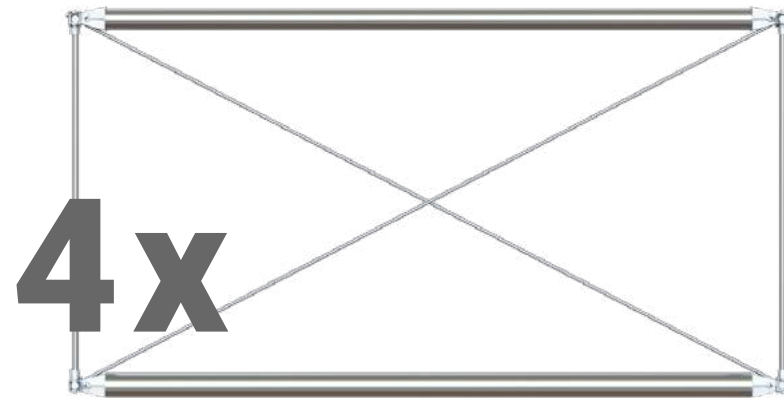
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ENGINEERING

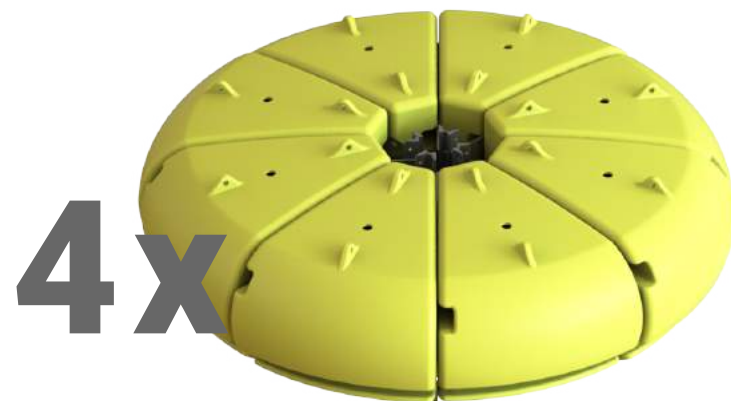
SMALLEST FLOATING UNIT

STRUCTURE FENCE

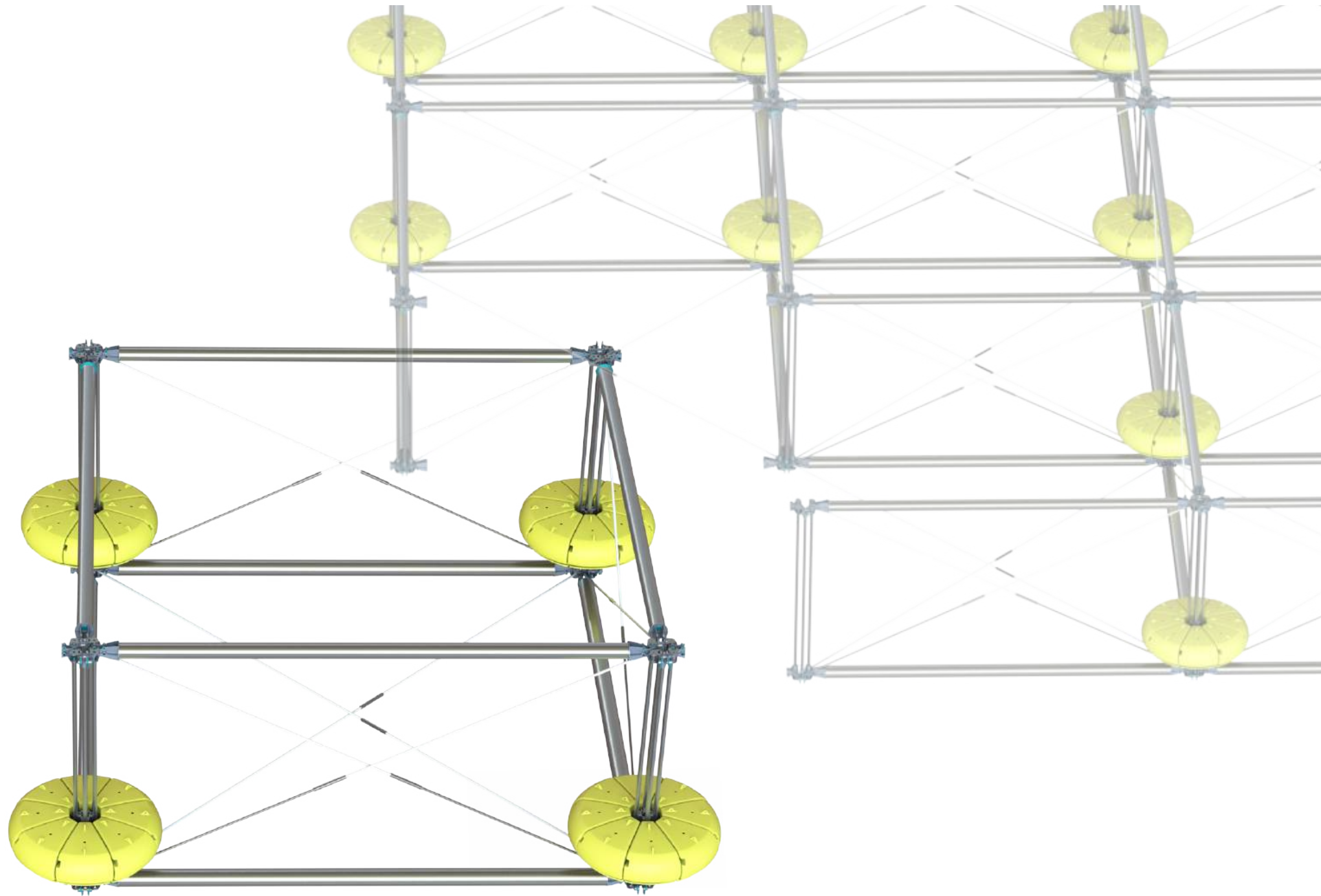


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FLOATING BODY



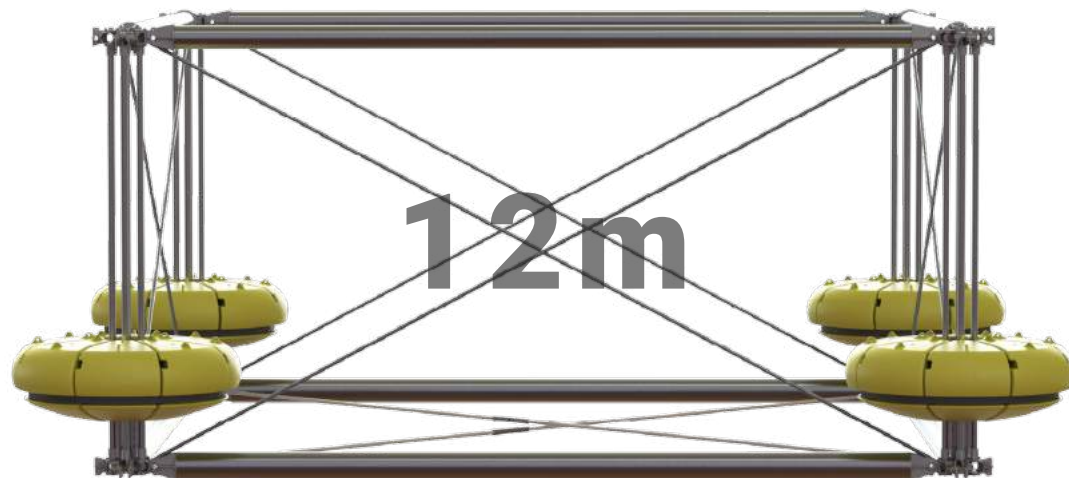
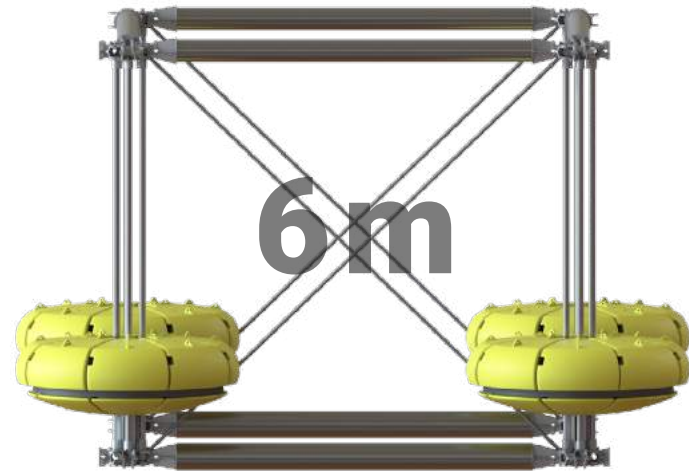
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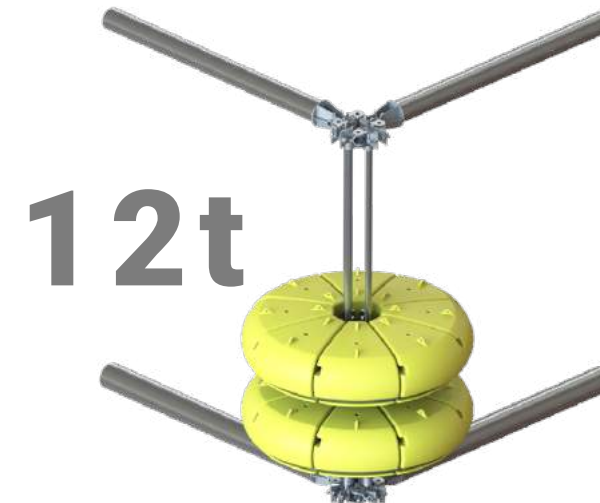
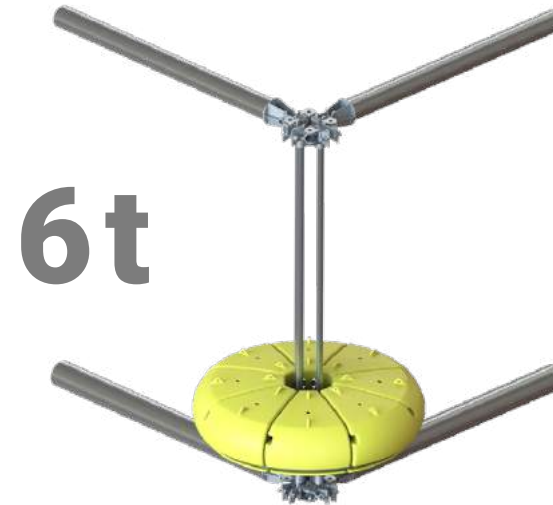
ENGINEERING

CUSTOMIZATION

DIMENSIONS

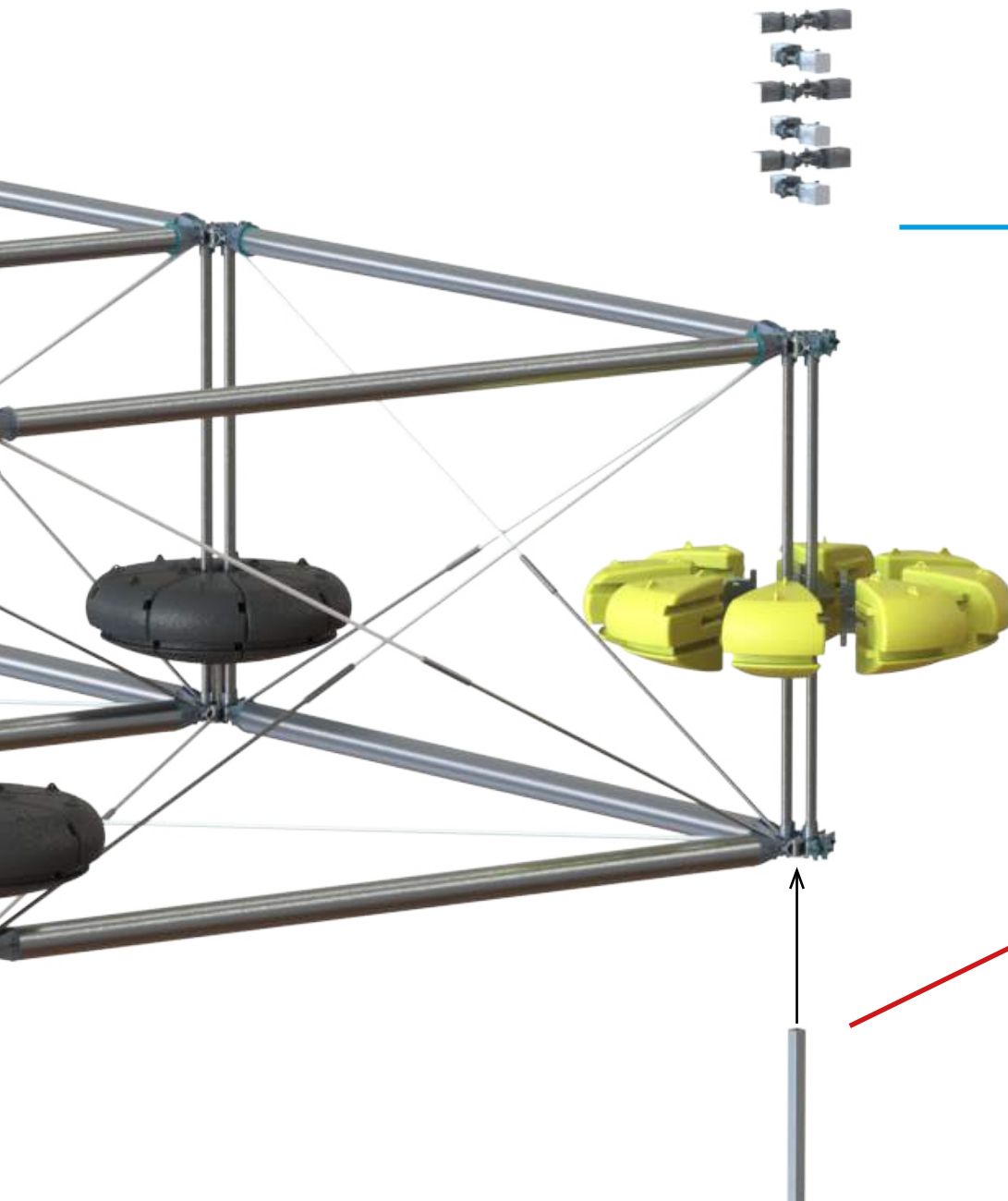


BUOYANCY



ENGINEERING

WAVE ENERGY



POWERTRAINS

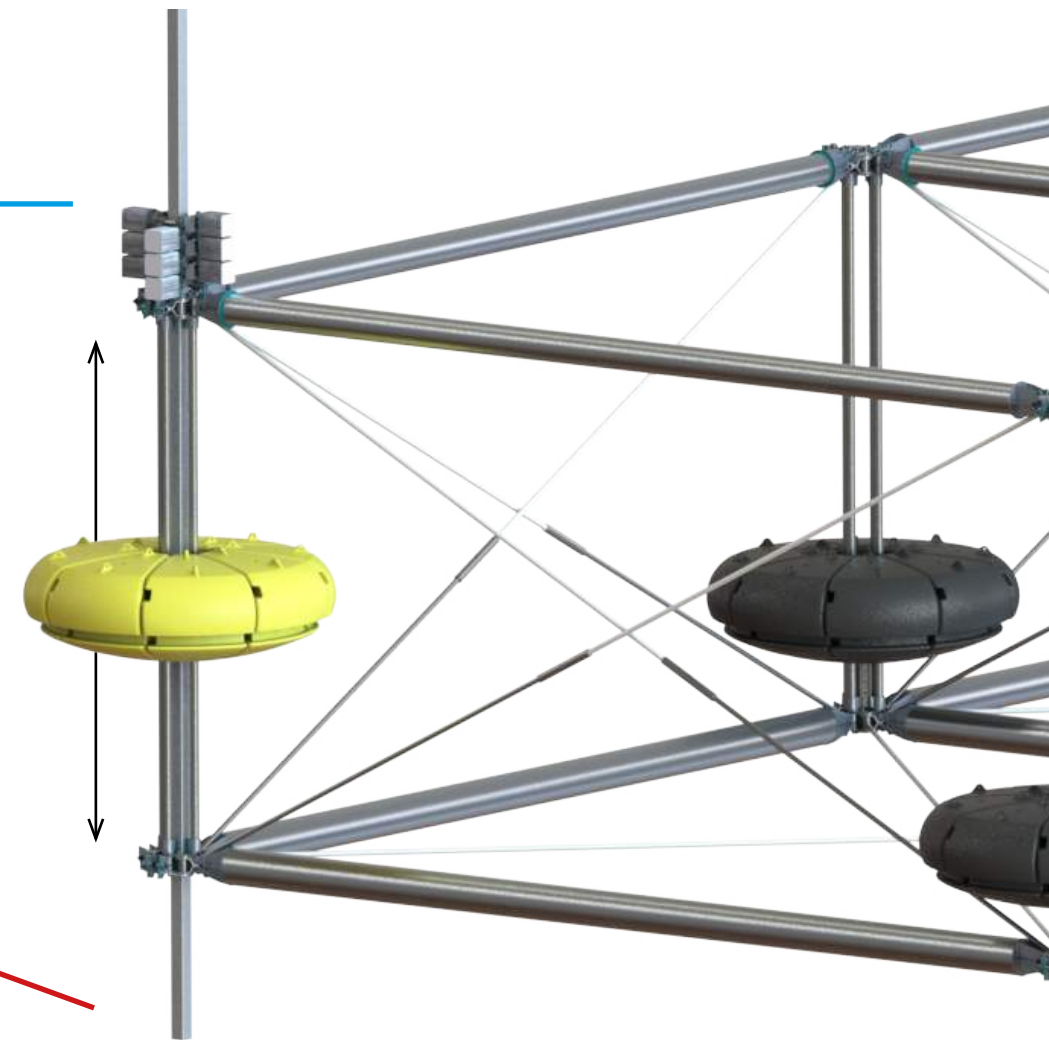
IP68 BI-DIRECTIONAL GENERATORS
INTEGRATED POWER ELECTRONICS
RATED POWER 5 kWp / POWERTRAIN

FLOATING BODY

PEM FLOATING BODY
6 t BUOYANCY / FLOATING BODY

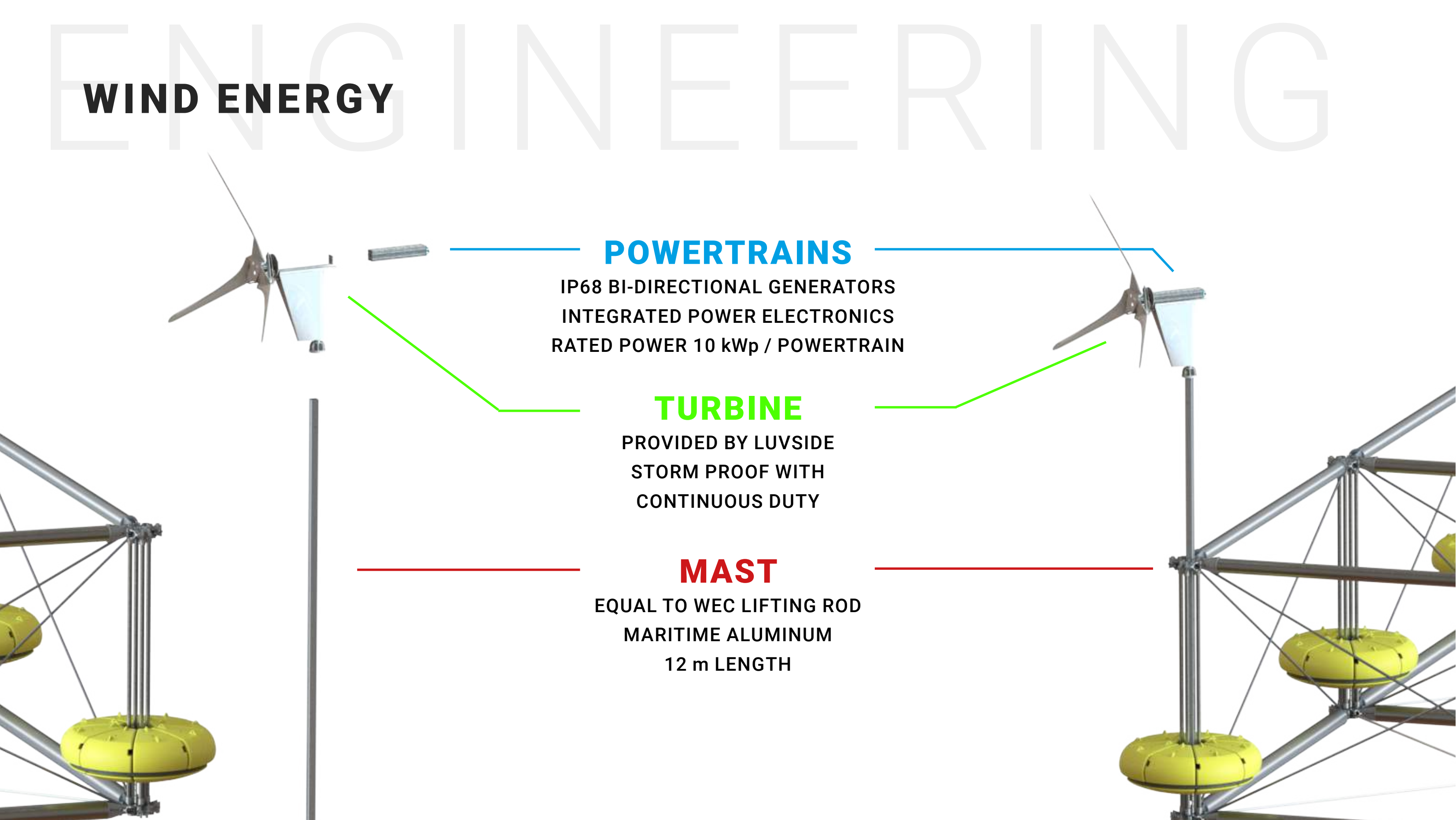
LIFTING ROD

MARITIME ALUMINUM
12 m LENGTH



ENGINEERING

WIND ENERGY



POWERTRAINS

IP68 BI-DIRECTIONAL GENERATORS
INTEGRATED POWER ELECTRONICS
RATED POWER 10 kWp / POWERTRAIN

TURBINE

PROVIDED BY LUVSIDE
STORM PROOF WITH
CONTINUOUS DUTY

MAST

EQUAL TO WEC LIFTING ROD
MARITIME ALUMINUM
12 m LENGTH

ENGINEERING

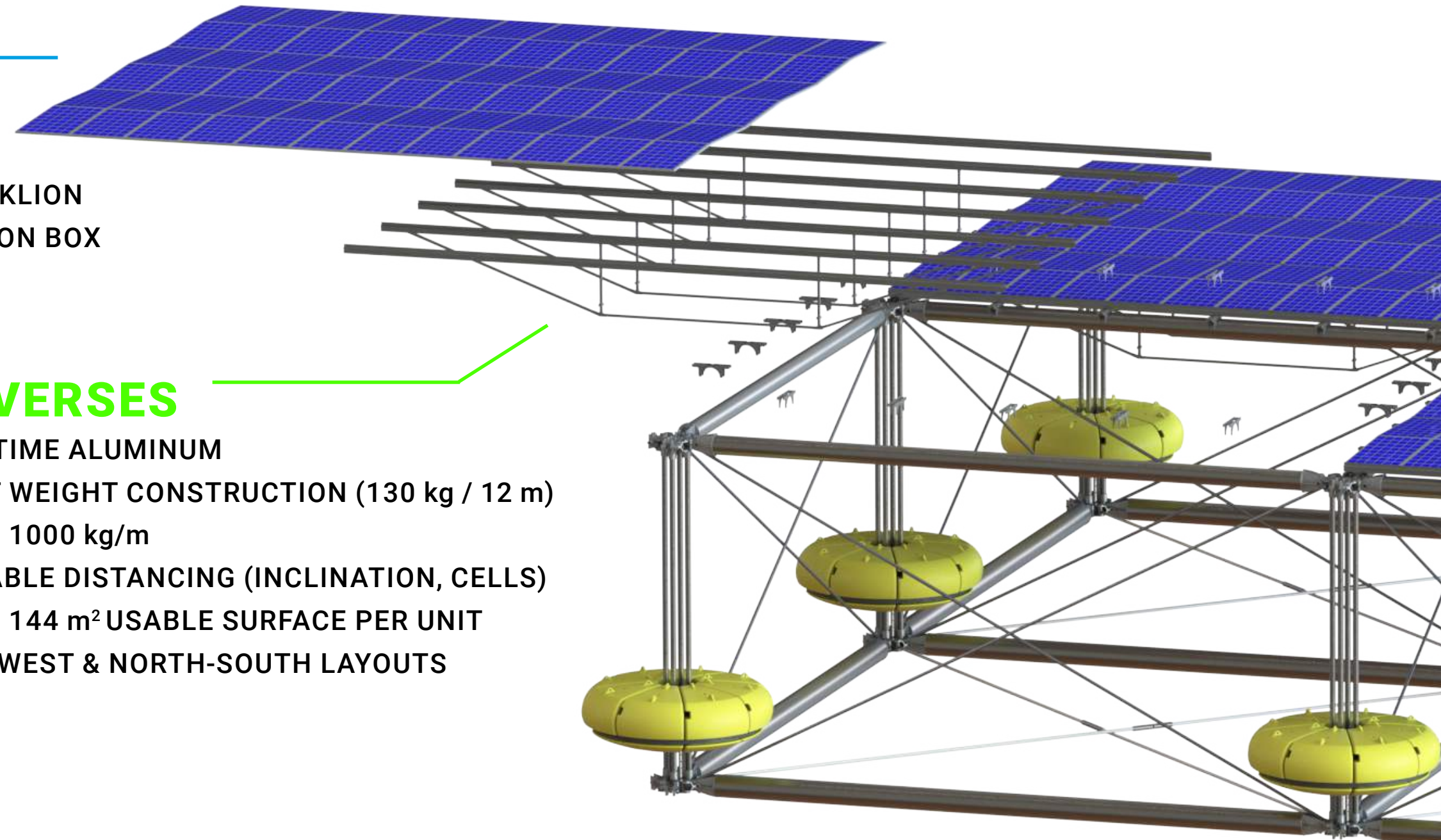
PHOTOVOLTAICS

PV MODULES

- » 60 CELLS & 72 CELLS
- » UP TO 30 kWp PER UNIT (144 m²)
- » SCHMID PEKTINAS SUPPLIER IN HERAKLION
- » SPECIAL MODULES WITH IP68 JUNCTION BOX

TRAVERSES

- » MARITIME ALUMINUM
- » LIGHT WEIGHT CONSTRUCTION (130 kg / 12 m)
- » UP TO 1000 kg/m
- » VARIABLE DISTANCING (INCLINATION, CELLS)
- » UP TO 144 m² USABLE SURFACE PER UNIT
- » EAST-WEST & NORTH-SOUTH LAYOUTS



ENGINEERING

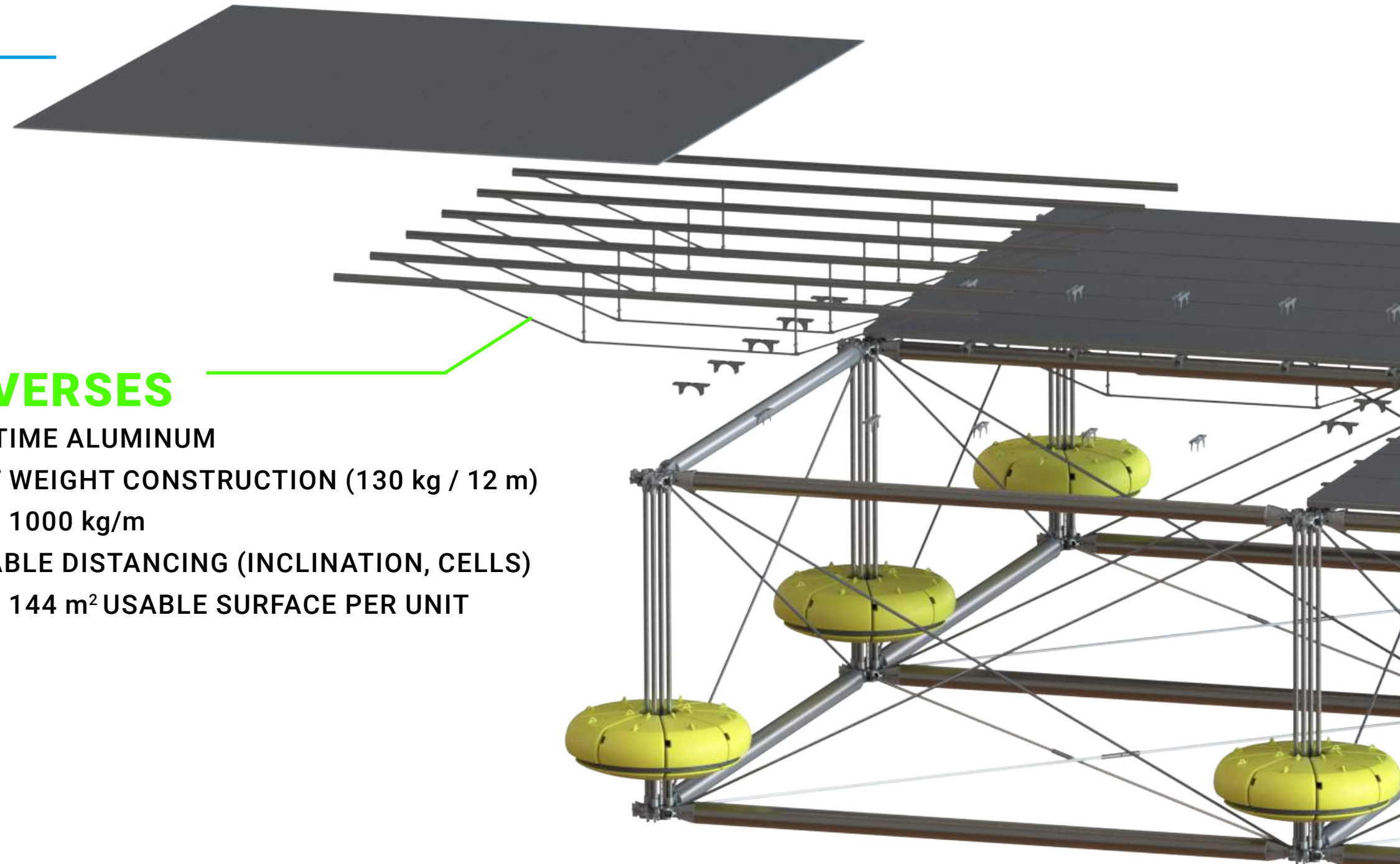
SOLID FLOORING

FLOORS

- » VARIOUS FLOORS AVAILABLE
- » UP TO 1000 kg/m

TRAVERSES

- » MARITIME ALUMINUM
- » LIGHT WEIGHT CONSTRUCTION (130 kg / 12 m)
- » UP TO 1000 kg/m
- » VARIABLE DISTANCING (INCLINATION, CELLS)
- » UP TO 144 m² USABLE SURFACE PER UNIT



OHP

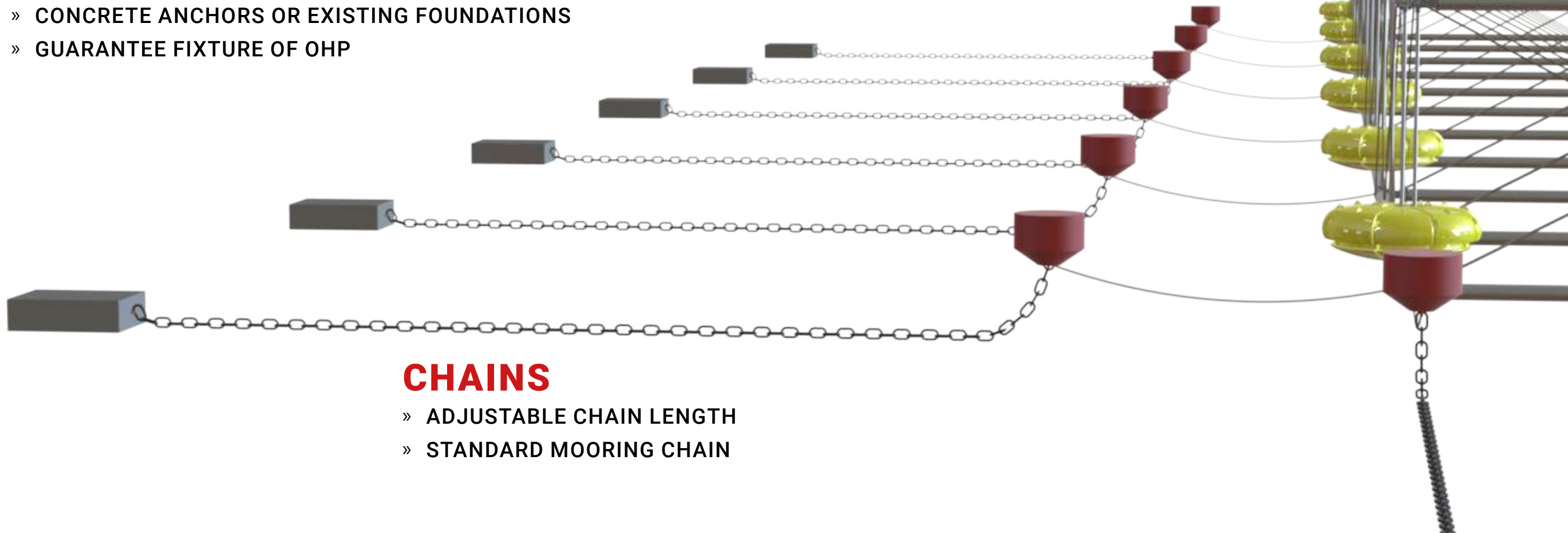
MOORING

SUPPORT BUOYS

- » ENABLE CORRECTIVE MOVEMENT
- » REDUCE TENSION FROM MAIN STRUCTURE

ANCHORS

- » CONCRETE ANCHORS OR EXISTING FOUNDATIONS
- » GUARANTEE FIXTURE OF OHP



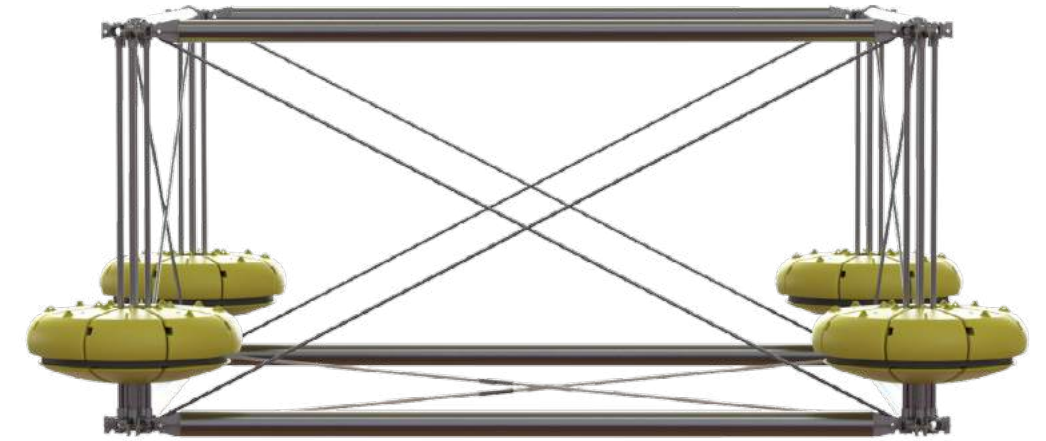
CHAINS

- » ADJUSTABLE CHAIN LENGTH
- » STANDARD MOORING CHAIN

TRANSPORT & LOGISTICS

LOGISTICS

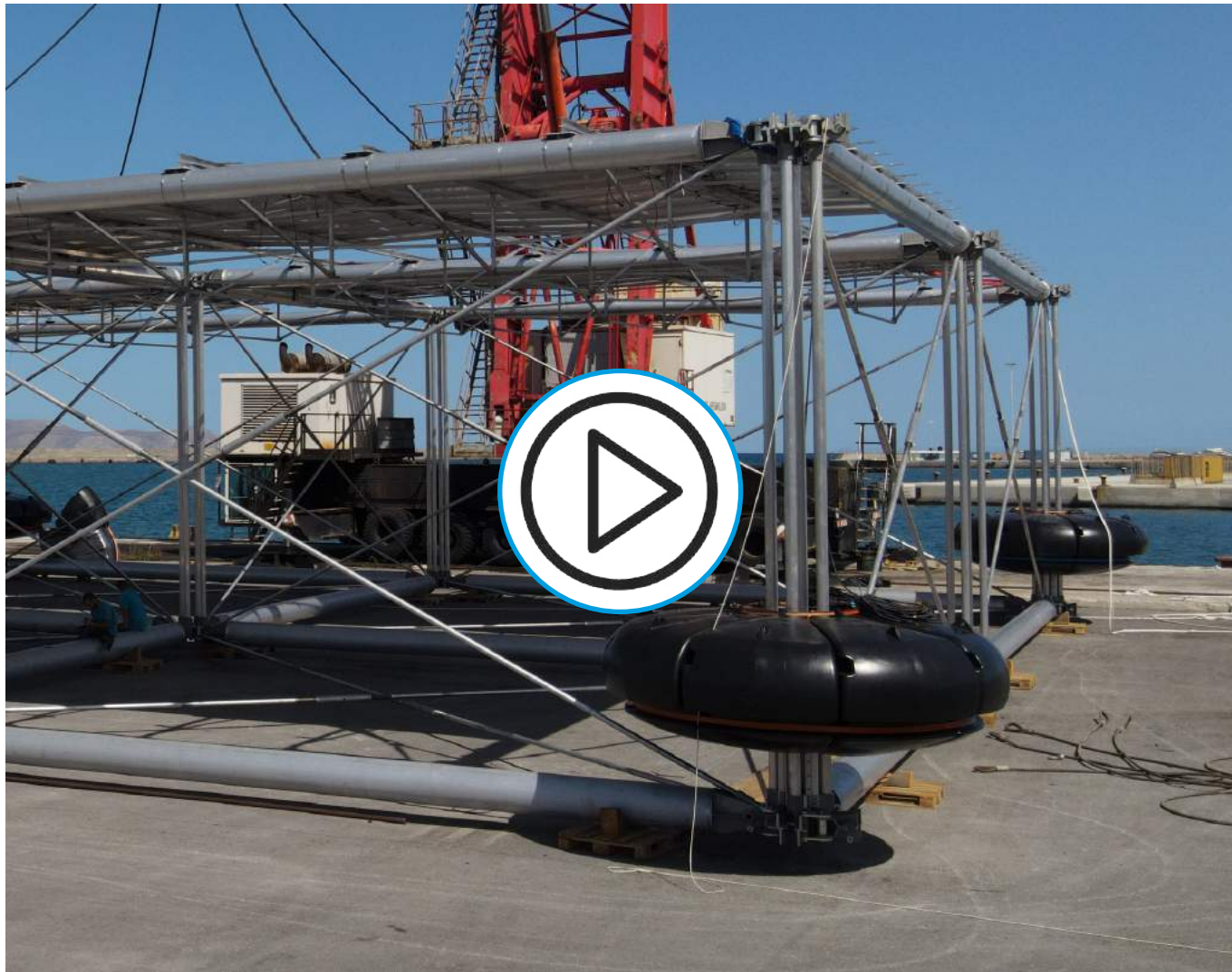
- » COMPONENTS FIT 40' CONTAINERS
- » EASY TO TRANSPORT & SHIP WORLDWIDE



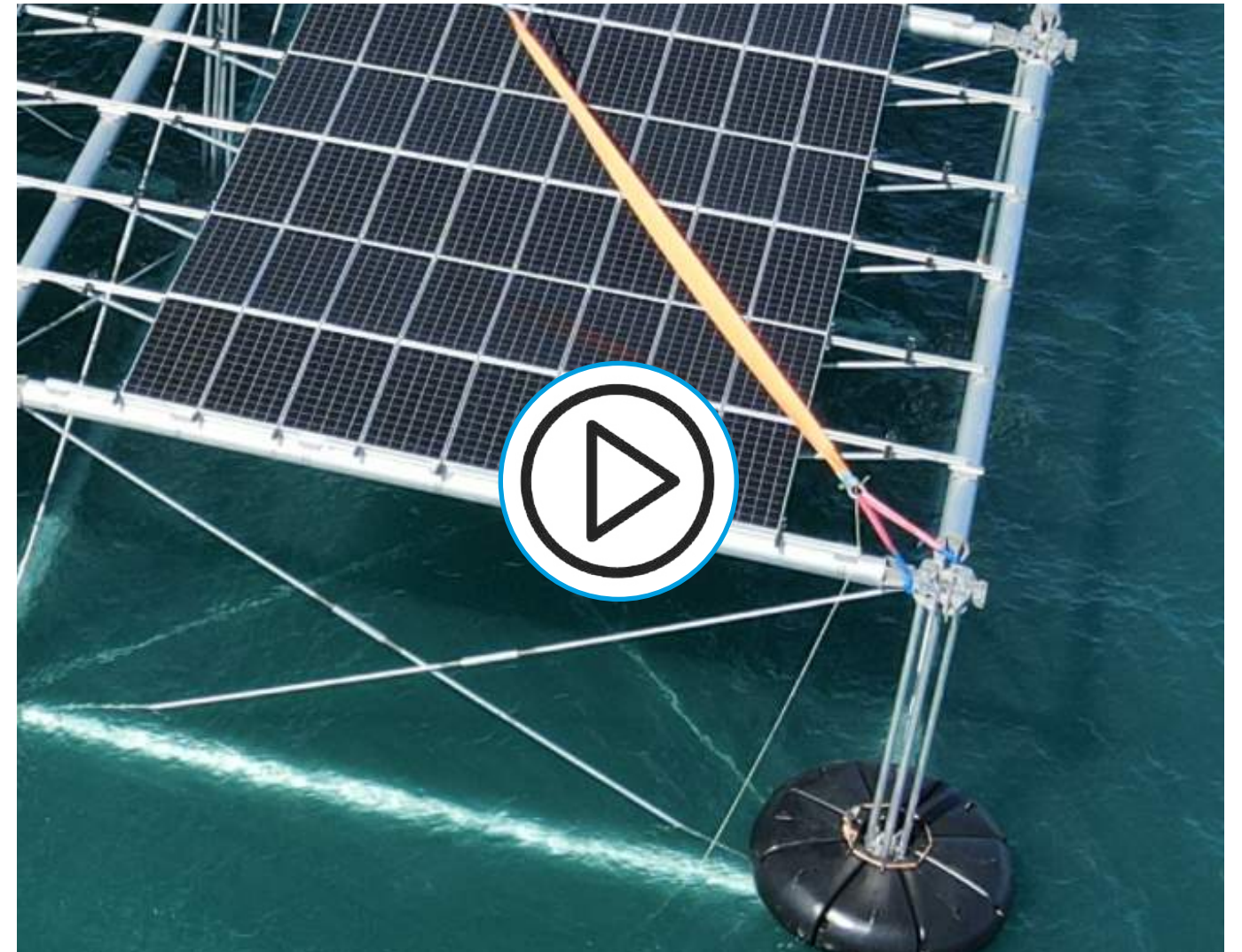
OHP

INSTALLATION

LAND BASED



WATER BASED





VERSATILE.



EASY TO HANDLE.



DURABLE.



EFFICIENT.

MODULAR, SCALABLE, ROBUST



PLUG
PLAY &



4.0

IP 68

800
VDC

ELECTRIC MACHINES

- 5kW - 20kW @ 1000rpm
- 5kW - 20kW @ 8000rpm

POWER ELECTRONICS

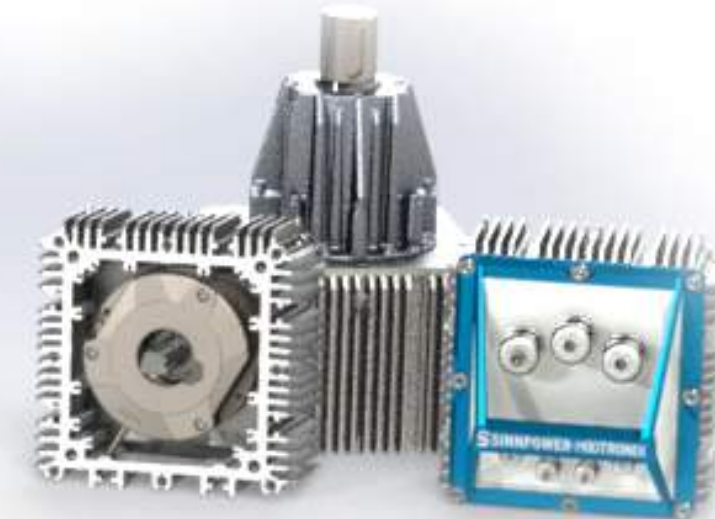
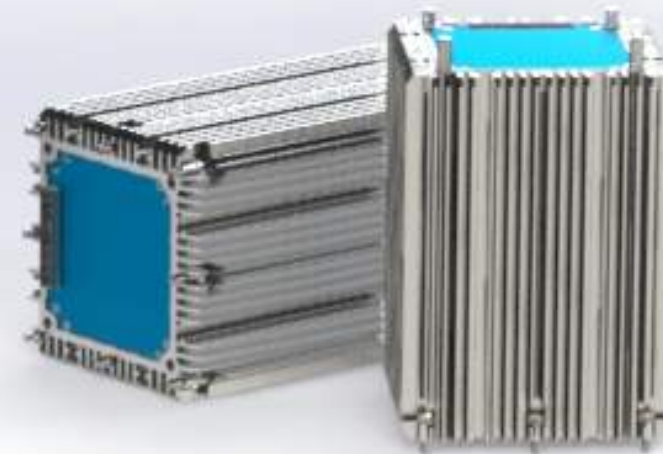
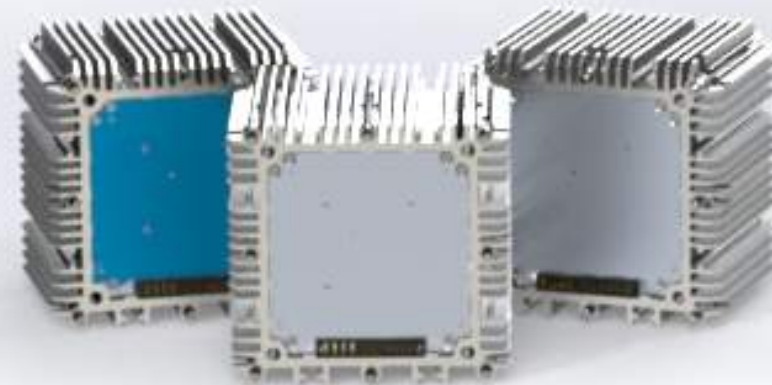
- 7.9kW - 20.7kW Inverters
- 20kW DC Converters
- 5kW - 20kW MotorDrives

STORAGE

- 4.8 kWh - 24 kWh LFP Storage
- XL SuperCap Buffer

POWER UPS

- Power-Off Brakes
- Heavy Duty Shafts & Bearings
- Integrated PLC



MODTRONIX

PLUG & PLAY

E-MACHINE



E-MACHINE



MOTORDRIVE



MOTORDRIVE



JUNCTION BOX



10 kWp PowerTrain (Wind Turbine)

MODTRONIX

UNIT APPLICATIONS

GENERATION & CONTROL

POWERTRAIN | 5 kWp



- » WAVE ENERGY CONVERTERS
- » SMALL WIND TURBINES
- » CONVEYOR BELT DRIVE

DCDC CONVERTER | 20 kWp



- » MPPT TRACKING (PV)
- » CHARGE CONTROL (SUPERCAPS & LFP)
- » 80 VDC - 800 VDC

GRID INVERTER | 20.7 kWp



- » 1-3 PHASE
- » SYMMETRIC & ASYMMETRIC
- » 200 VAC - 400 VAC

STORAGE & PLC

LFP STORAGE | 2.1 kWh



SUPERCAP | 24.2 Wh



PLC

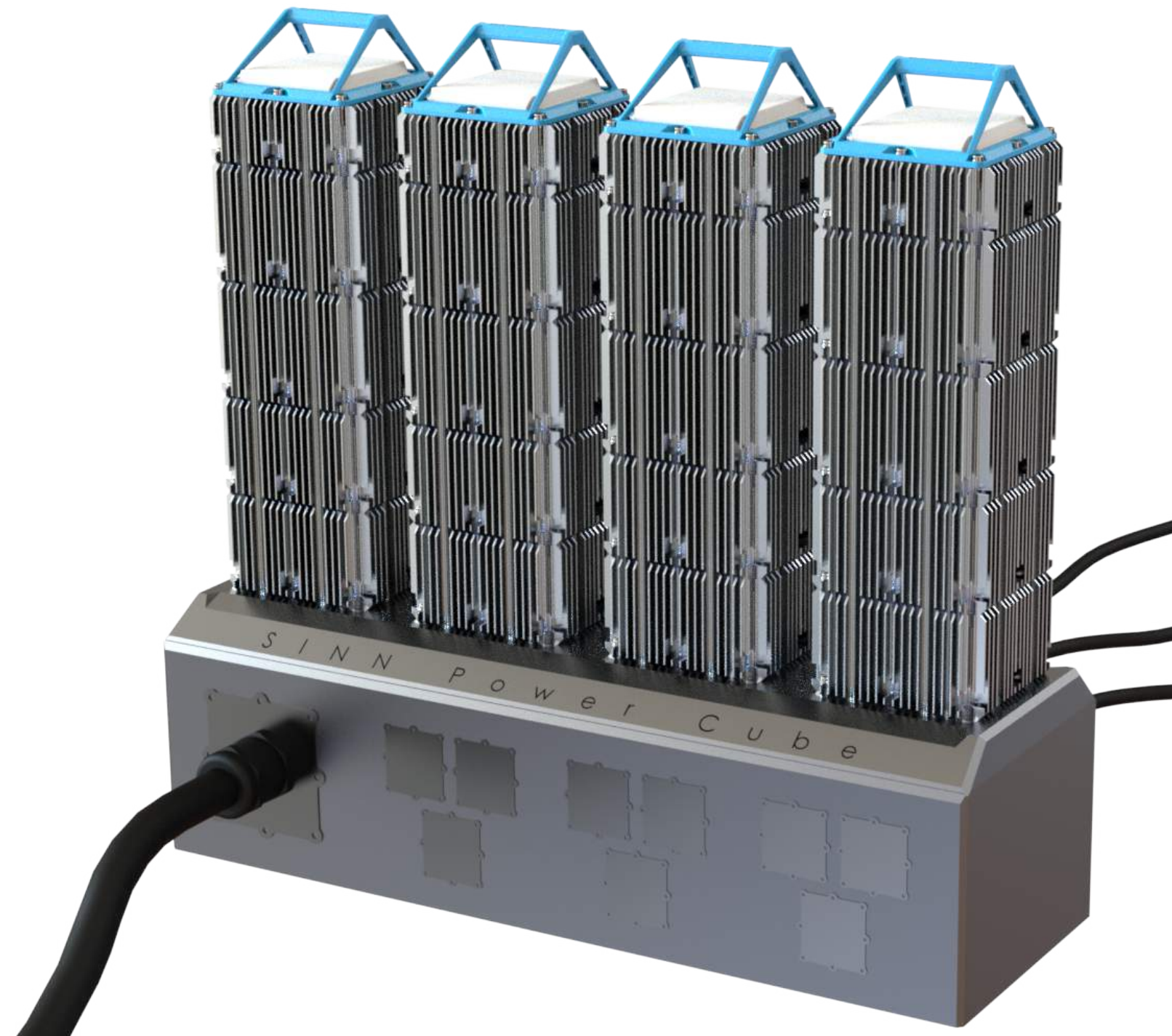


MODTRONIX

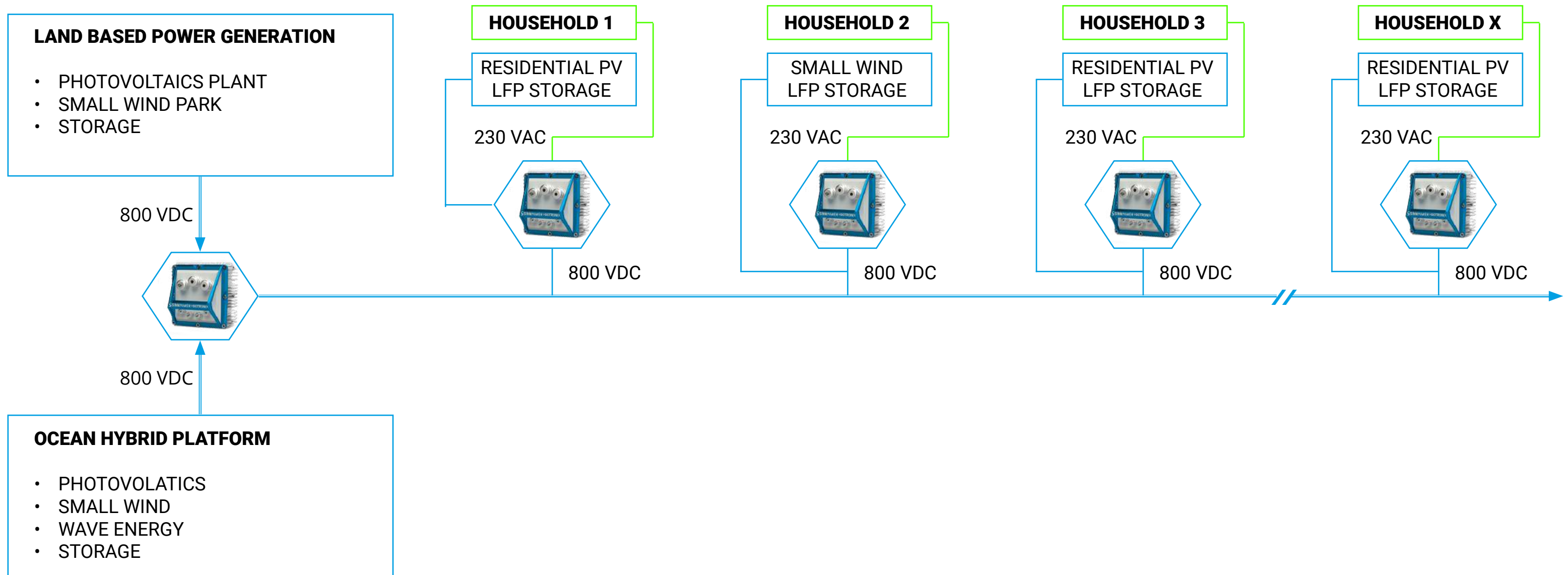
NETWORK APPLICATIONS

SINN POWER CUBES

- » NETWORK SOLUTION FOR MODTRONIX APPLICATIONS
- » COMBINE DIFFERENT RENEWABLE ENERGY SOURCES
- » INTEGRATE LONG & SHORT-TERM STORAGE
- » GRID CONNECTION POINT
- » ADD TRANSFORMERS FOR HVAC CONNECTION
- » MODULAR & SCALABLE SYSTEMS

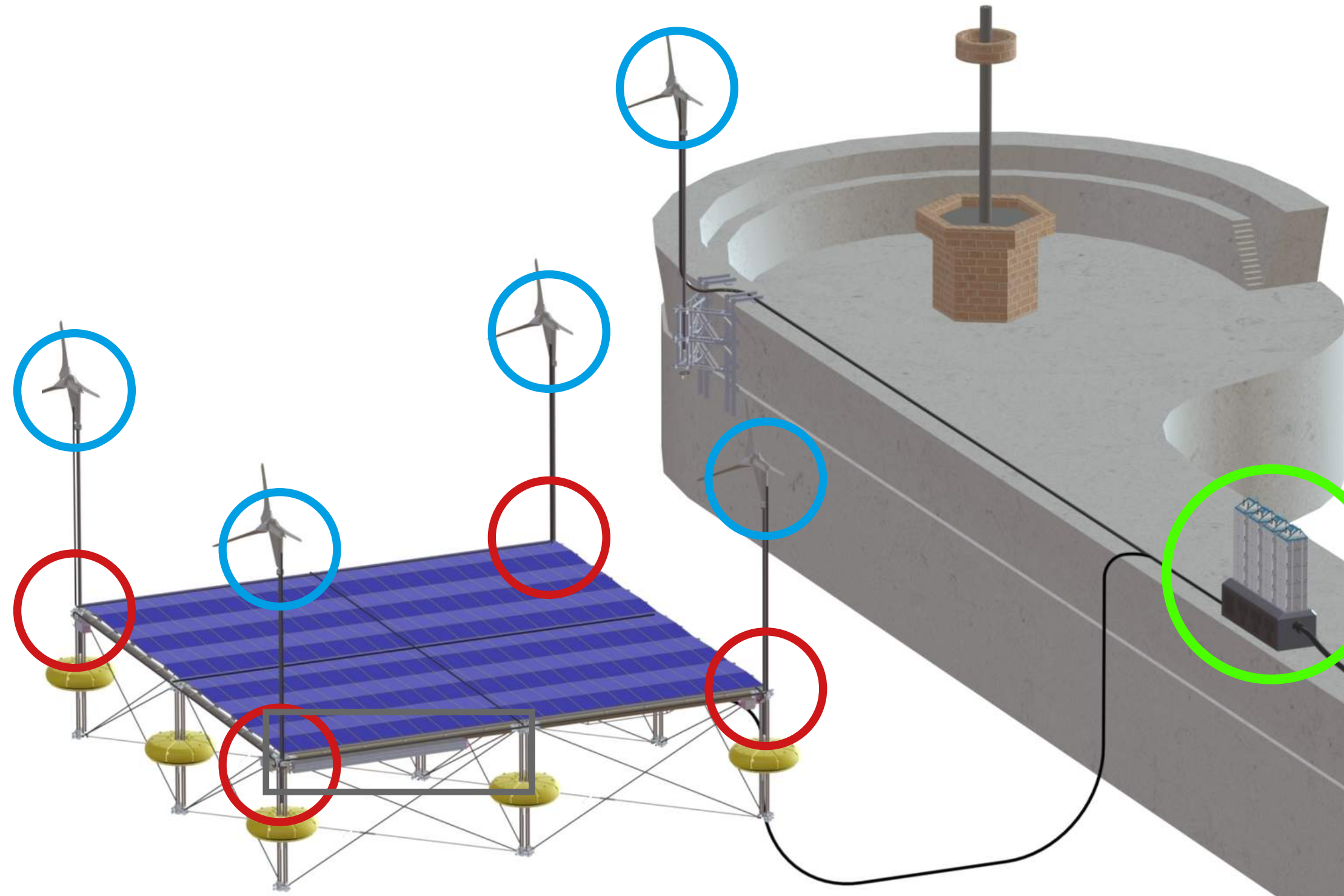


SMART GRID



HERAKLION SETUP

- 4x** GRID INVERTER
(400 VAC)
- 5x** POWERTRAIN
(WIND TURBINES)
- 4x** DCDC PV
(MPPT)
- 1x** LFP STORAGE
(20 KWH)



MODTRONIX

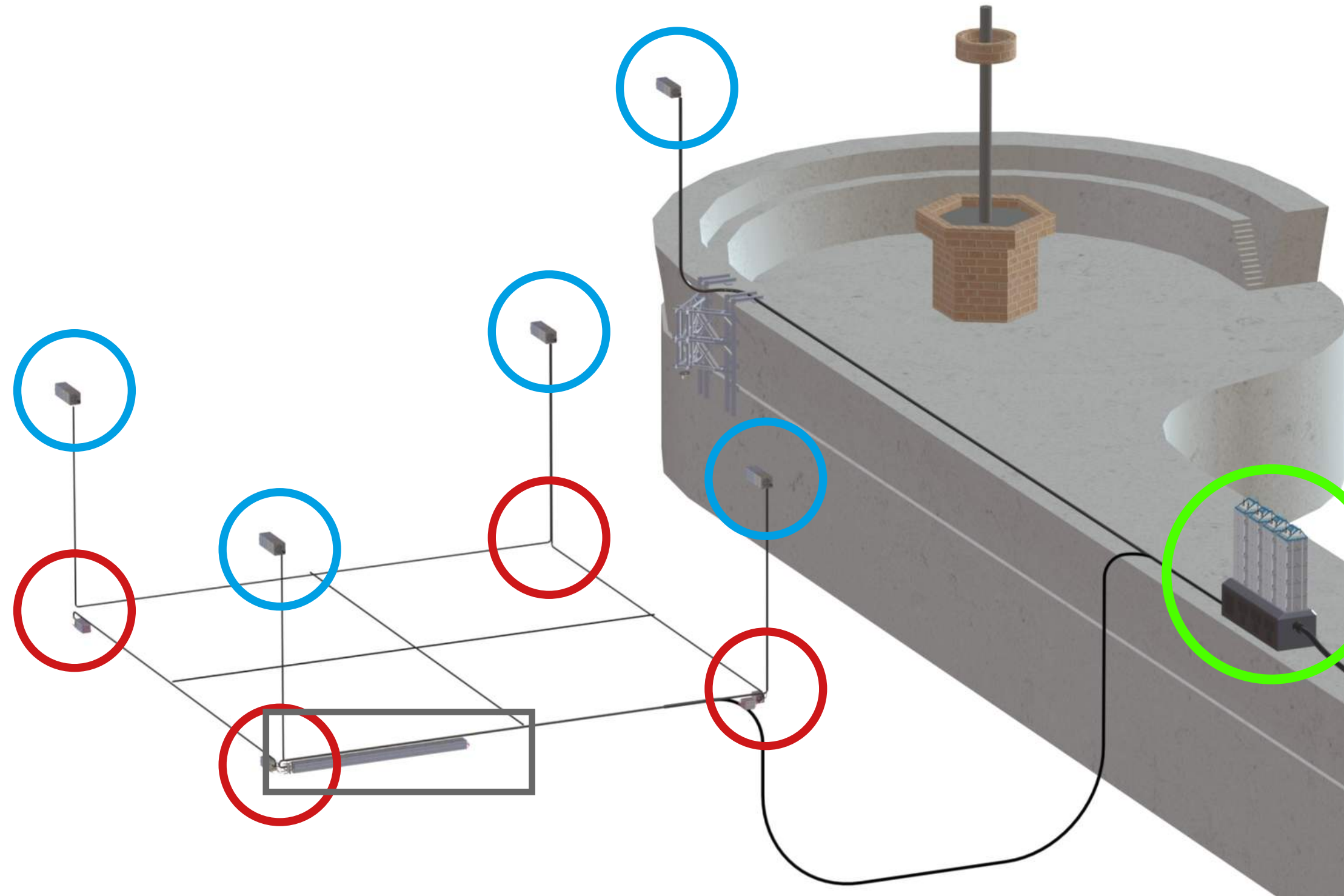
HERAKLION SETUP

**4x GRID INVERTER
(400 VAC)**

**5x POWERTRAIN
(WIND TURBINES)**

4x DCDC PV (MPPT)

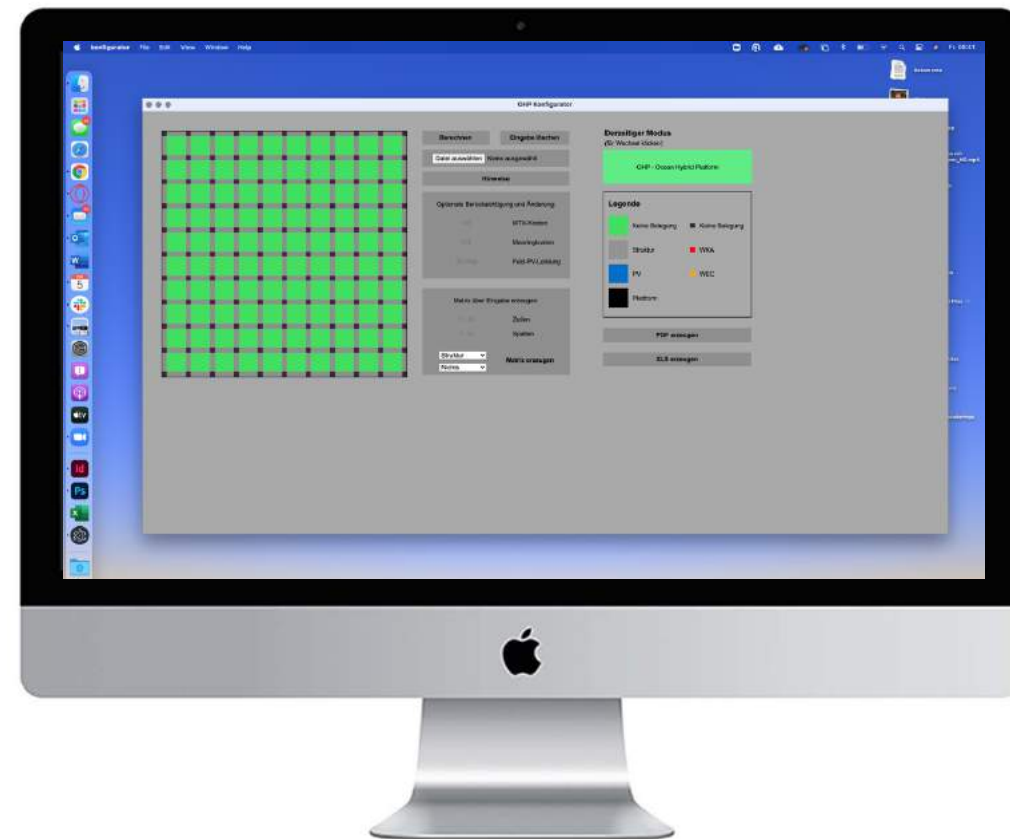
**1x LFP STORAGE
(20 KWH)**



COMPLEX PROJECTS MADE EASY

PROJECT INPUT

- » ENERGY REQUIREMENTS
- » CLIMATE CRITERIA
- » AVAILABLE AREA
- » ...



CONFIGURATOR OUTPUT

- » BILL OF MATERIALS (OHP & MTX)
- » SCHEMATICS
- » PRICING
- » ...

CONFIGURATOR

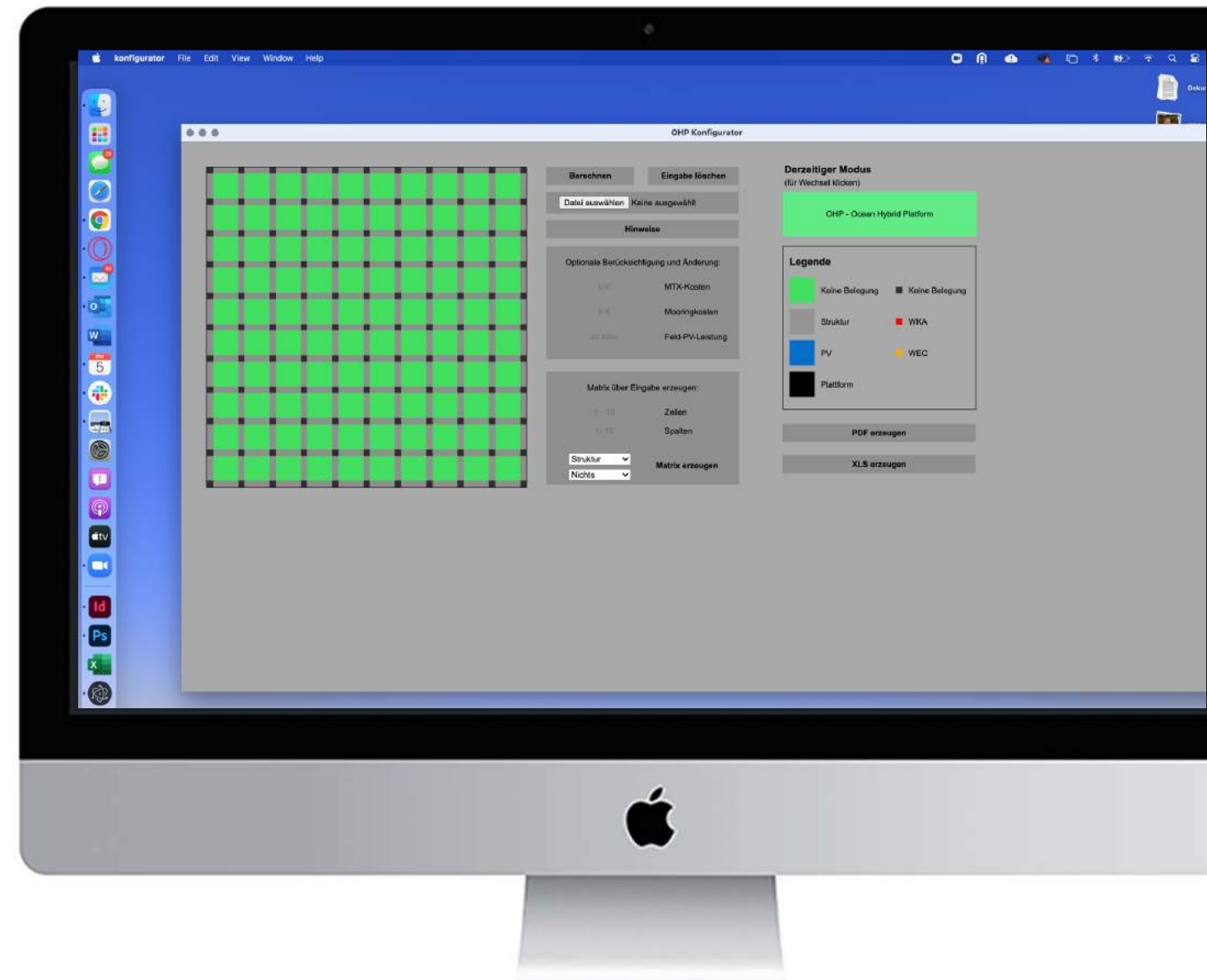
DEMONSTRATION



Christopher Biermann, M.Sc.
Project Development & Engineering

EXAMPLE CASE

- » LOCATION: HERAKLION
- » OHP SIZE: 72M X 72M (6X6 UNITS)
- » TECHNOLOGIES: 35x PV, 1x PLATFORM, 4x WEC, 4x WIND
- » FEED-IN : 1MWp, 3-PHASE, 400 VAC
- » STORAGE: 2MWh



BUSINESS

OPPORTUNITIES

EPC

- » ENGINEERING
- » PROCUREMENT
- » CONSTRUCTION

BOT

- » BUILD
- » OPERATE
- » TRANSFER

O&M

- » OPERATIONS
- » MAINTENANCE
- » SERVICE CONTRACTS



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