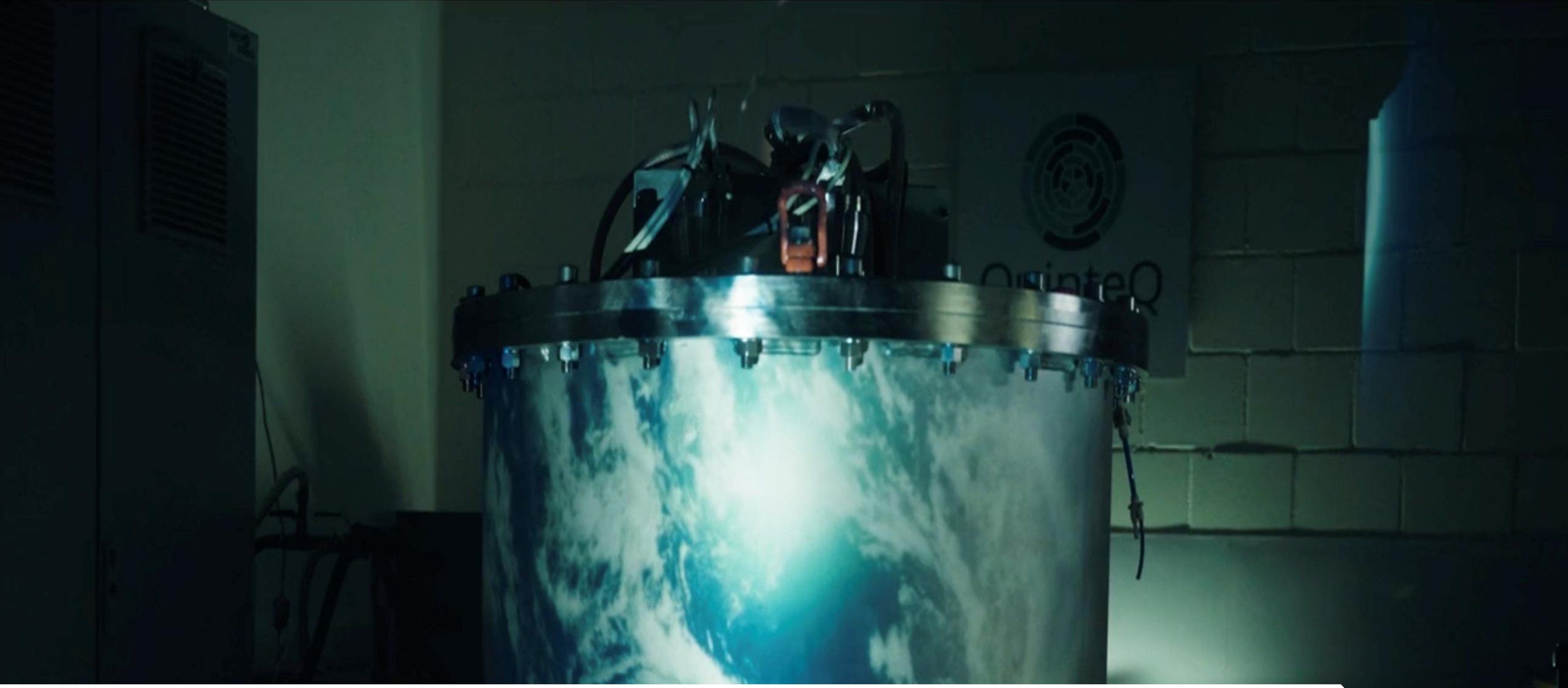
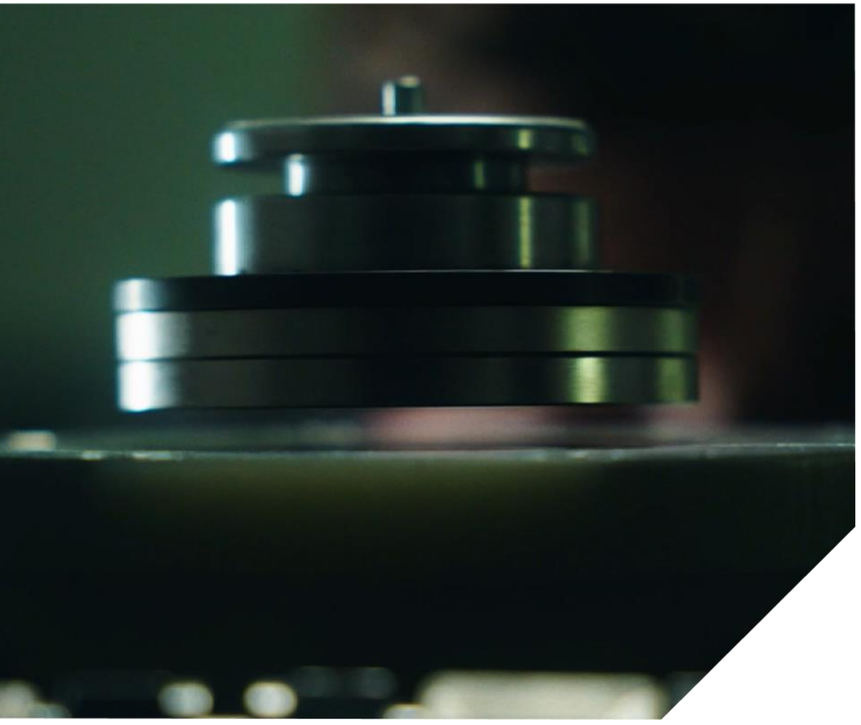


CEO & FOUNDER

Paul Vosbeek

QuinteQ
energy storage



Bottom line upfront

Introducing the world’s most advanced Flywheel Energy Storage Solution,

developed by the Boeing Company,

brought to market by QuinteQ,

made in the Netherlands.

Meet QuinteQ's Flywheel

- high-speed vs. mass
- Compact, containerized solution, suitable for temporary projects
- Unique bearing system for zero friction and maximum efficiency
- Peak durations of seconds to minutes (depending on power required)

Other USP's

- Endless cycles, 30 years lifetime
- Fast response for balancing & frequency regulation
- Modular, adaptable to local puzzle. 100kW to MW per solution
- Kinetic battery, not chemical, fully recyclable

1.5m x 1m x 1m

2000 kg

<0.1%/hr stand-by loss

C20

<3ms response time

Market applications

Construction sites

- Enable high power applications in small grid connections

Reduce need for generators

Port electrification

- Peakshaving harbour cranes to free up +60% of grid connection

Optimize grid connection for higher utilization

Microgrids – Military & Civil

- Peakshaving and frequency regulation in small, variable grid

Enable energy transition in microgrids

Rail & lightrail

- Enable regenerative break energy to peakshave traction peaks of departing metro's, trams or trains

Reduce energy loss and lower peak load to optimize traction network

Military Energy Resilience - Flywheel

Developments

- Decentralized renewable generation
- Uptake of high power systems & more electric equipment being introduced in camps and microgrids – anticipate deployment of DEWS
- Reduce fossil fuel reliance

Challenges

- Fuel supplies pose huge risk to military operation and people
- Limited inertia, increased vulnerability to sudden power peaks
- Irregular power profiles → generator inefficiency

Solution

- Flywheel as 'shock absorber' in military microgrids
- Peak shave generators —> fuel savings
- Enable other renewable sources + extend lifetime
- Grid stability —> less power outages
- Power quality —> less damaged equipment
- Combat enabler —> power source for DEWS

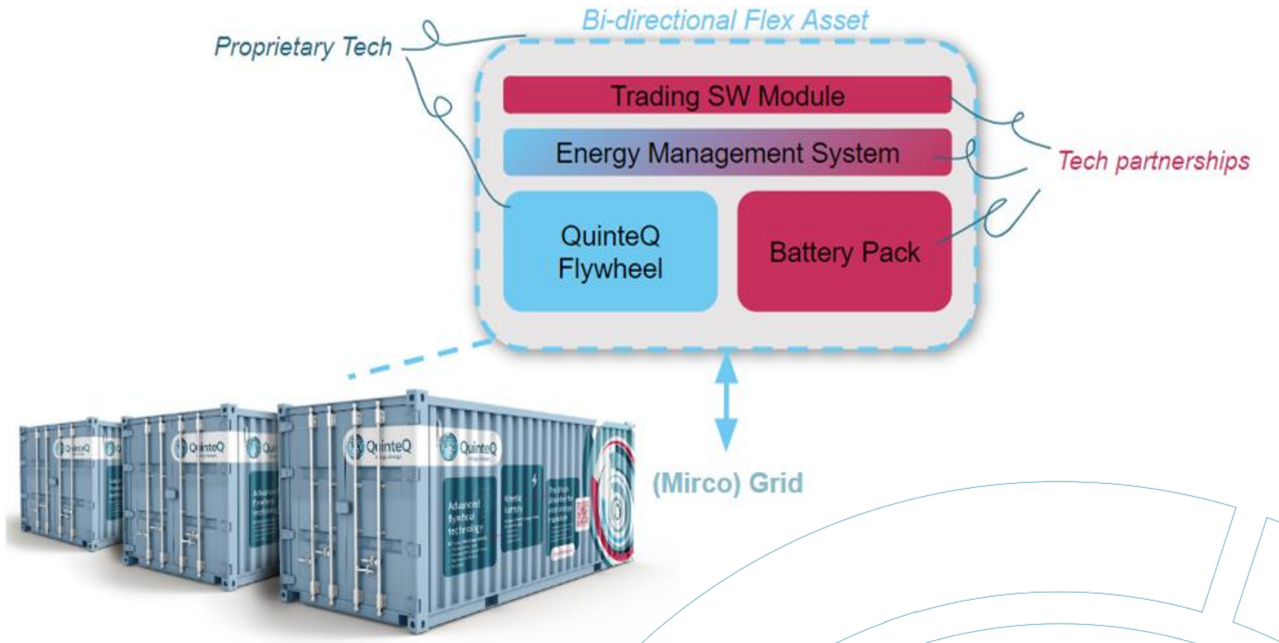
Combining complementary storage technologies

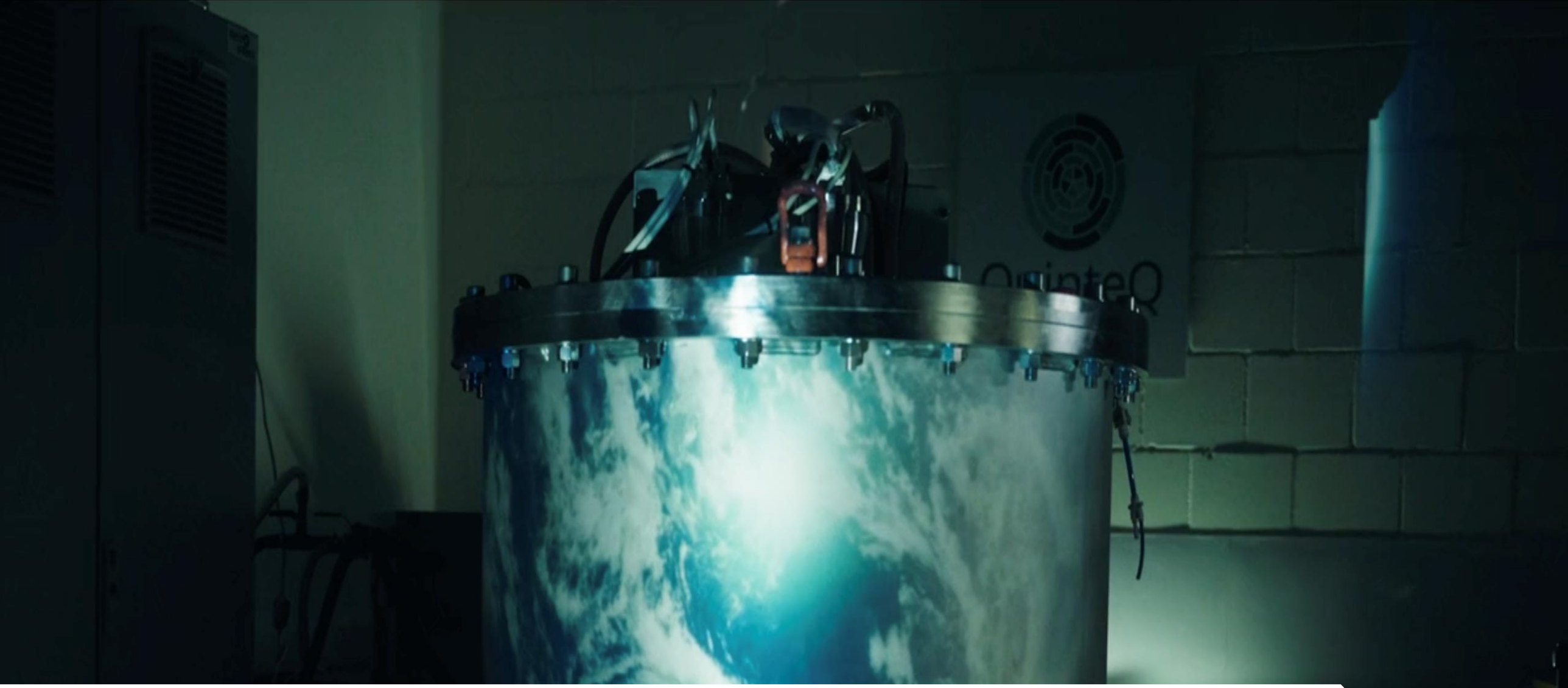
Hybrid energy storage system

- High power and energy capacity by combining a flywheel and sodium- ion
- Modular, configurable, compact, containerized
- Real-time energy management, trading and transaction platform
- A market-disruptive product lifetime reducing TCO

Why sodium- ion?

- Abundant raw materials, reducing cost and resource concerns
- Sodium batteries are less reactive than lithium batteries, reducing safety risks





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