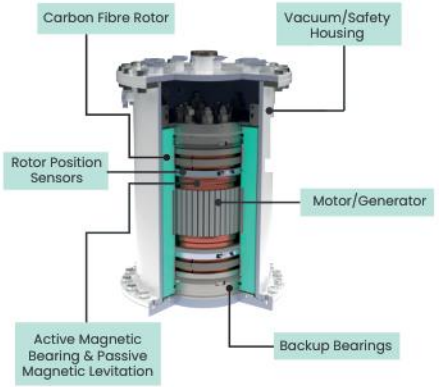
Bessteq
A PART OF TECHON7GROUP

Flywheel energy storage

# The Next Generation of Flywheel Technology

## Our technology




- High speed hubless carbon fibre rotor
- Operation in vacuum to minimize losses
- Frictionless magnetic levitation
- High power density (1 MW/m²)
- Independent power / energy

## Our products

### Containerized flywheel energy storage systems




P250 P1000

### Single flywheel unit properties

| POWERLOOP | P250 (2024) | P1000 (2026) |
|---|---|---|
| Power rating (kW) | 100-250 | 250 - 1000 |
| Energy (kWh) | 6 | 20/40 |

| OUTLINE SYSTEM SPECIFICATION | |
|---|---|
| Charge/discharge duration | Configurable |
| Round trip efficiency | >95% |
| Response time | <10ms |
| Charge cycle limit | Unlimited daily cycles |
| Connection | 600-1000 VDC<br>400/690 VAC |
| Specific power density | 0.25-1 MW/m2 |
| Service life | 25+ years |

## Applications

- UPS / voltage support
- Frequency control
- Energy recovery & re-use
- Peak shaving & load shifting
- Battery life extension
- EV Fast charging



## Our partners

arteche

YASKAWA

BUSINESS FINLAND


www.bessteq.dk

Contact us

Bessteq
A PART OF TECHON7GROUP

- Data centers/industries
- Utiltiies TSO / DSO / IPP
- Ports, cranes, railway
- Production processes
- BESS operators



Grid frequency control



Energy storage systems



EV charging



Ports



Data centers

## Integration & Operation

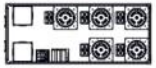
- Operates in harsh climate and production ambient
- Easy integration in the field
- AC / DC connectable
- Totally remotely controlled
- Scalable to multi-MW

### Multi-MW system example



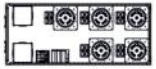
5 MW / 125 kWh

+ +



5 MW / 125 kWh

+ +



5 MW / 125 kWh

= =



15 MW / 375 kWh

Notes

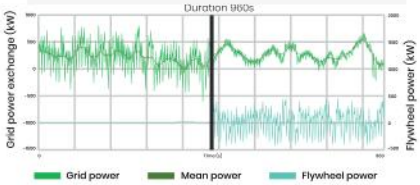
## Our Installation

### Italy



Power control | Peak shaving | Electricity saving 100k euro/year

### Effect of flywheel system




Standard deviation within range w/o flywheels (kW) 214,24 -70% Standard deviation within range with flywheels (kW) 63,48



**Terceira island**
- Milk Factory



**Voltage Support**
- Voltage drop reduced
- Frequency control

## Why Bessteq Flywheels?

**Bessteq is a promise of class-leading efficiency**

**<10 ms**
response time

**Unlimited**
daily cycles, no degradation

**95%**
DC round trip efficiency

**25 years**
Service life

**3-5 years**
Payback

**0.04 €/kWh**
Levelised cost of storage for high demand applications

**24-96%**
Lower cradle-to-gate carbon emissions than lithium batteries or supercapacitors

**1 MW/m²**
Footprint of storage unit

**100% European supply chain**