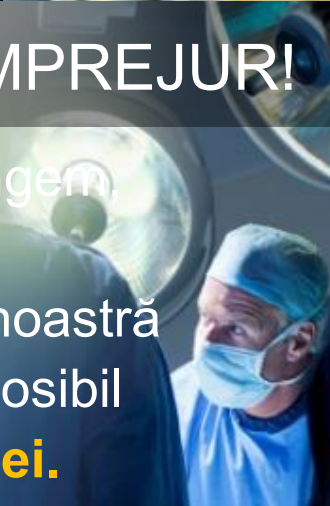
A woman with dark hair and light-colored eyes is looking through a glass pane, likely a safety barrier in a factory. The background is a blurred industrial environment with yellow overhead cranes and various machinery. The lighting is warm and focused on the woman's face.

We make what matters work.\*



## UITAȚI-VĂ ÎMPREJUR!

Tot ceea ce atingem,  
facem, sau  
trăim în lumea noastră  
modernă este posibil  
**datorită energiei.**







# Rezolvarea celor mai dificile provocări privind managementul energiei în întreaga lume.



Industria aerospațială



Clădiri



Centre de date



Industria alimentară



Guvern



Asistență medicală



Construcția de mașini



Maritim



Minerit și prelucrarea metalelor



Utilaje și echipamente mobile



Petrol și gaze



Industria farmaceutică



Căi ferate



Regenerabile



Rezidențiale



Utilități



Vehicule



Ape/ape uzate

# Distribuția de energie electrică și protecția circuitelor

Furnizează o energie electrică fiabilă, eficientă și sigură acolo unde este nevoie



**Soluții  
de medie și joasă tensiune**



**Tablouri și cutii de  
distribuție**



**Înteruptoare  
automate**



**Siguranțe**



**Transformatoare**



# Protecție cu alimentare de rezervă

Maximizează fiabilitatea și durata de funcționare continuă pentru a preveni întreruperile în funcționare



Sisteme de alimentare neîntreruptibile



Unități de distribuție a energiei (PDU-uri)



Soluții de alimentare paralel



Comutatoare de sursă



Protecție la supratensiune și corecția factorului de putere

# Iluminat și securitate

Eficiență îmbunătățită, confort și siguranță în casă și la locul de muncă



**Iluminat  
ascuns**



**Iluminat  
ambiental**



**Iluminat  
de exterior**



**Iluminat  
de urgență**



**Sisteme  
antiincendiu**

# Soluții pentru medii grele și cu risc de explozie

Oferă fiabilitate și siguranță  
pentru a preveni întreruperile producției



Carcase



Componente și soluții  
pentru control industrial



Iluminat



Clădiri comerciale - cutii  
cabluri  
și fittinguri



Instrumentație



Comunicații  
pentru medii  
cu risc de



# Control și automatizare

Îmbunătățește eficiența de operare și permite echipamentelor să funcționeze cu performanțe de vârf



Centre de control motoare de medie și joasă tensiune



Acționări cu convertizoare de frecvență



Contactoare și startere



Interconectivitate și I/O



Automatizări și senzorială



Soluții de cablare a panourilor

# 3 phase UPS

## 91PS / 93PS

**8- 40 kW**

**Efficiency > 96%**

Modular and compact design

ESS, HS, ABM, Internal bat.

Hot swap/scale

Cloud and Virtualization ready



**Premium (Modular)**

Powering Business Worldwide

## 93PM

**30- 500 kW**

**Efficiency up to 97%**

Modular and compact design

ESS, HS, ABM, Internal bat.

High end software & security



## 9395P

**250-1200 kW**

**Efficiency > 96%**

Modular and compact design

ESS /VMMS/HS

Distributed and Centralized topologies



## 93E

**15-80 kVA**

15, 20;30; 40, 60, 80 kVA @ pf 0,9

**Efficiency up to 94%**

Internal batteries

**HS/ABM**

Eco mode: 98%

Parall units

**General purpose**



## 93E

**100-200 kVA**

100,120, 160, 200 @ pf 0.9

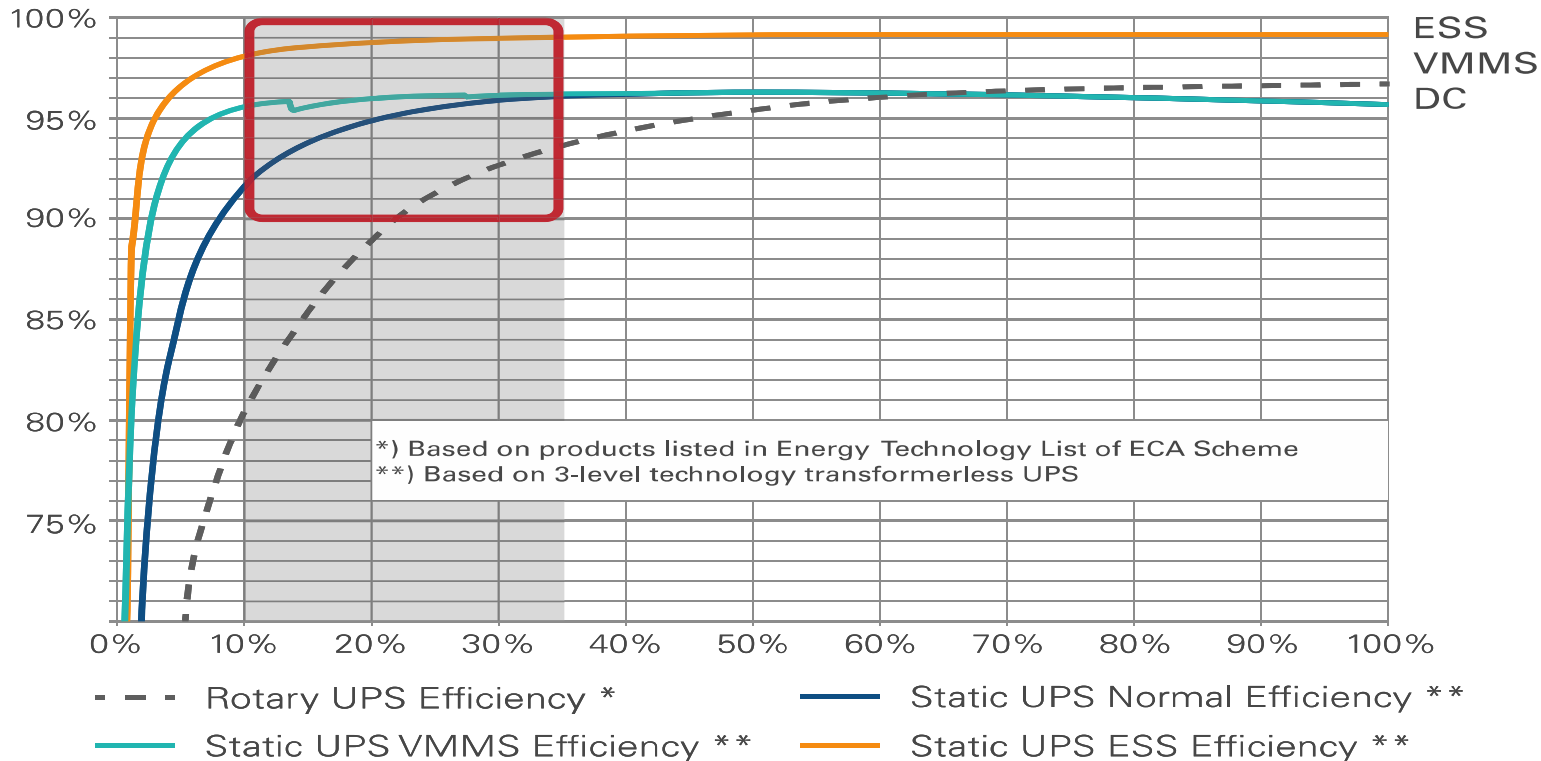
**Efficiency up to 94%**

High Efficiency mode →98.5%

ABM & Hot Synch up to 4 units

**LCD**

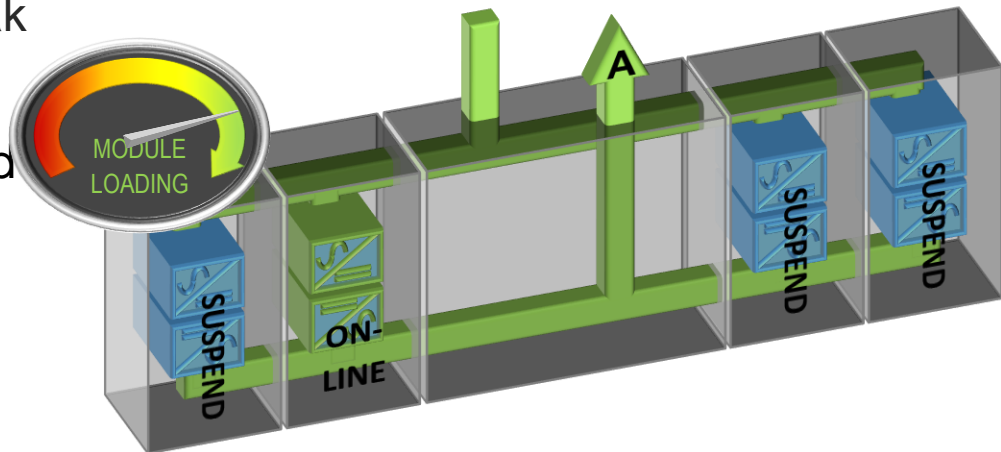
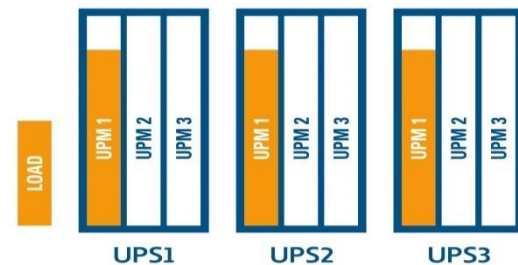
# Efficiency Modes Compared





# Energy Saving Technologies - VMMS

- Variable Module Management System (VMMS) brings up efficiency and optimizes the load levels of power modules by suspending extra UPS capacity
- Optimised for 50% load level peak efficiency/module
- All control logic is active, suspended modules are synchronised all the time and ready to go online when required



# Energy Saver System (ESS) – 99%

The year  
ESS became  
available

**2009**



Amount of UPS  
capacity in kVA  
using ESS mode

**879,000 kVA**



Energy  
saved  
every day

**>348,000 kWh**



Number of UPS  
units operating  
in ESS mode

**>1,500**



Resulting overall  
availability of UPS  
units in ESS mode

**>99.999%**



Overall  
reduced CO<sub>2</sub>  
emissions

**95,000,000 kg**



Number of sites  
using ESS

**>150**



Total time  
of ESS  
operation

**>23 million hours**



Overall energy  
saved by units

**214 GWh**



**EATON**

Powering Business Worldwide

# Global aim: Build a sustainable energy system

**CUT**

**40%**

in greenhouse gas emissions  
compared to 1990 levels

**SHARE**

**27%**

of renewable consumption

**SAVE**

**27%**

Energy savings compared with  
business as usual scenario

**INVESTMENT**

**€1,000,000,000,000**

needed in power generation and the grid to meet these targets



Powering Business Worldwide



# A partnership of environmental excellence



By partnering with **Nissan** amongst others, we provide energy storage solutions in the full range of energy capacity.

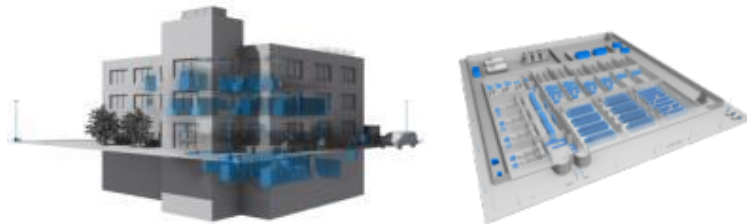
## RESIDENTIAL



## COMMERCIAL



## INDUSTRIAL

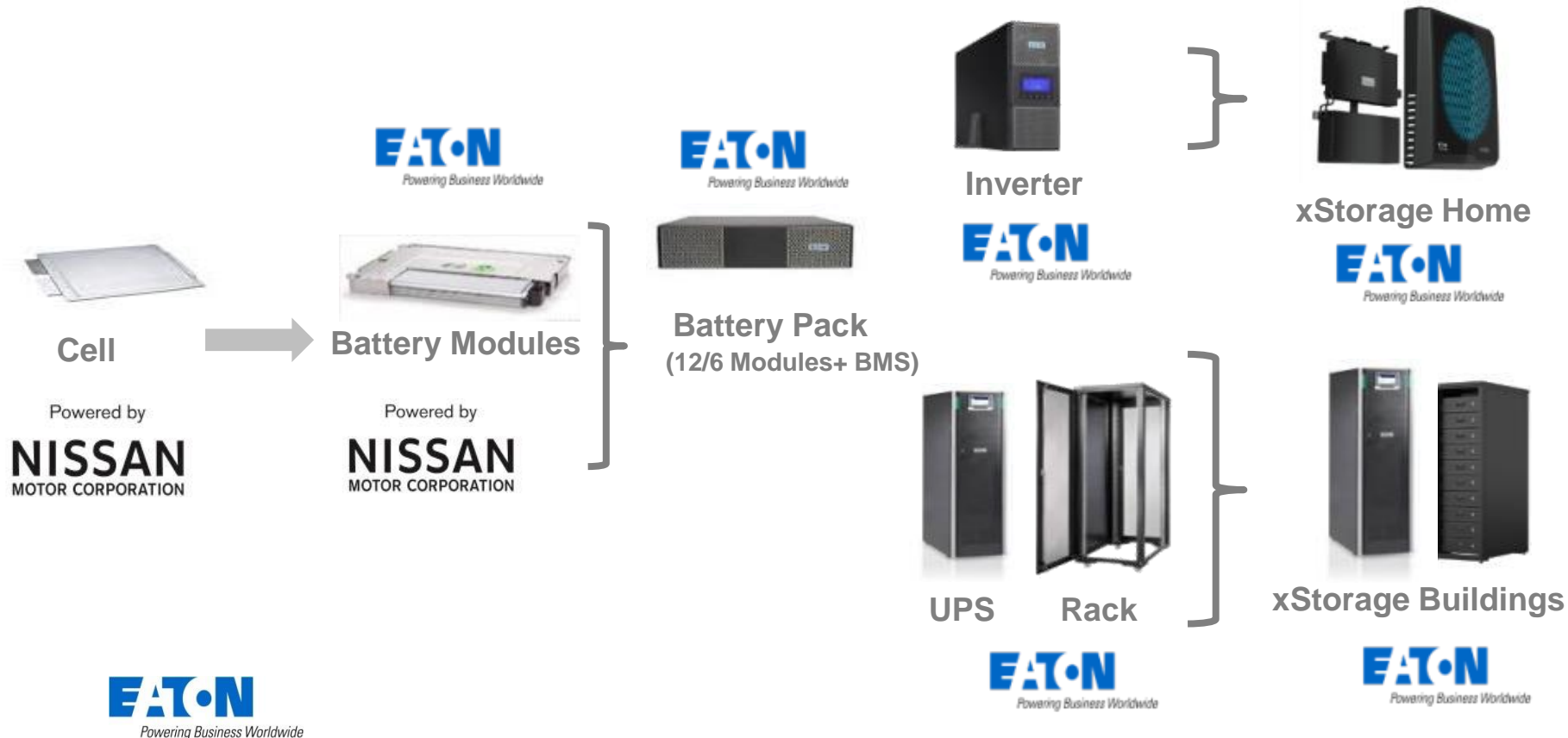


**Expertise - Reach - Dependability - Diversity - Footprint - Portfolio**

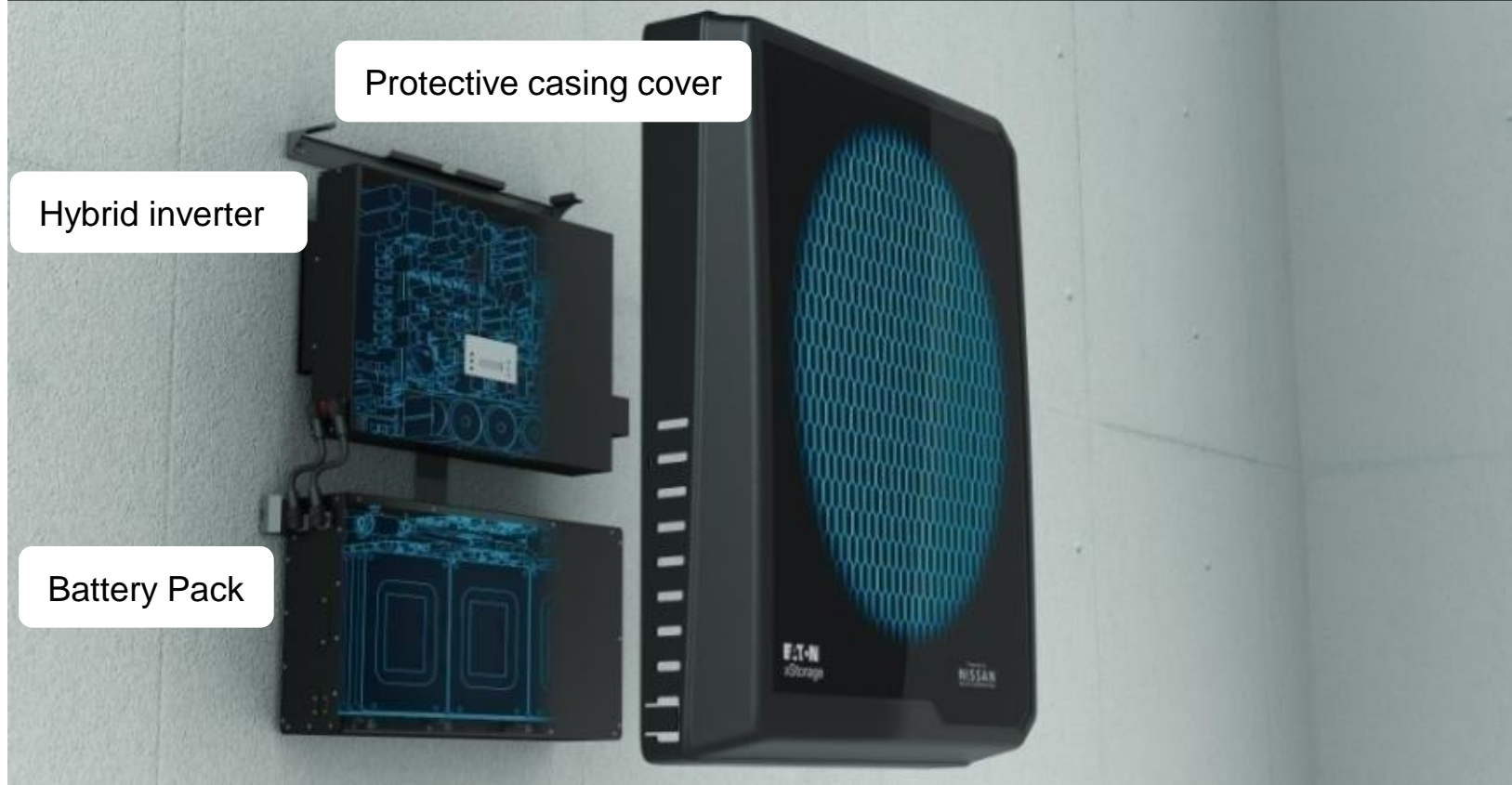
Eaton can partner with you to help you achieve substantial benefits.



# Eaton with Nissan Technology Partnership



# The xStorage Home system





# We have been selected...

## Amsterdam Arena project



During matches, sporting fixtures, or concerts, a stadium or an arena's demand for electricity typically ramps by several megawatts over a matter of hours, in order to power large loads like lighting, catering and broadcasting equipment.

Many stadiums operate large events with their critical load supported by generators.

Eaton's Energy Storage System is designed to

- reduce the use of generators and provide clean and dependable energy on event day.
- support reduced energy costs by minimizing peak demand charges
- improve network stability
- reduce infrastructure costs while providing critical system power requirements

# Future scenarios & Trends

## UPS as a reserve

Reserves are needed to supplement mandatory frequency regulation to correct deviations in grid frequency and supply-demand balance caused by forecast inaccuracy and faults



<http://www2.nationalgrid.com/uk/services/balancing-services/frequency-response/>



# Future scenarios & Trends

## UPS as a reserve

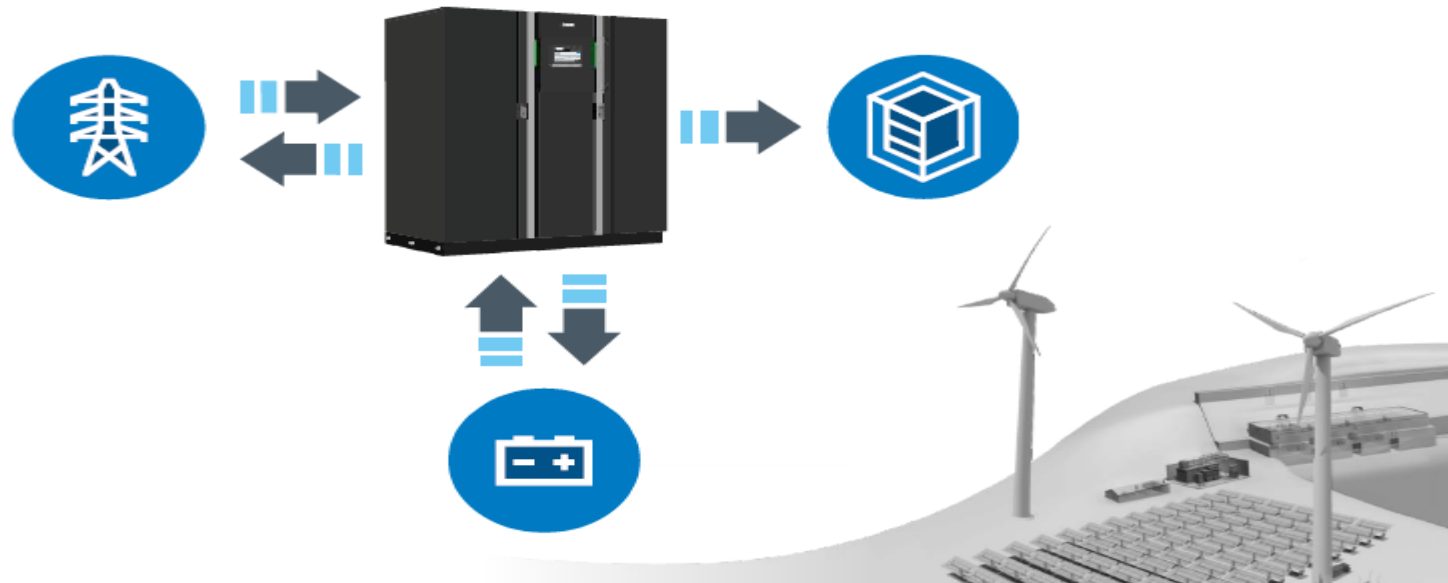
The frequency in the grid can be controlled by increasing/decreasing production or consumption to/from the grid.



# Future scenarios & Trends

## UPS as a reserve

UPS with batteries are a great reserve in providing an impact to production or consumption to/from the grid.





# Future scenarios & Trends

## UPS as a reserve – Data Center Contribution

UPS-as-a-Reserve enables a data center to increase its competitiveness by turning its necessary investments into a revenue stream:

- Value of **1 MW** in the market has been approx. **50 k€**; paid for availability, possibly for use as well

Data center has control of their energy, choosing how much capacity to offer, when, and at what price.





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[www.eaton.com](http://www.eaton.com)