

Decarbonizing Data Center Power Systems

Energy Storage Case
Study of Microsoft Data
Center in Stockholm
Sweden



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TotalEnergies/SAFT and Microsoft Collaboration Journey

TODAY + BEYOND | 360-DEGREE PARTNERSHIP



SAFT

**Strong datacenter
collaboration since 2021**

First of Kind Battery Solutions

Renewable Energy

Innovation



**Key digital partner
Powered by Azure**

Azure

Microsoft 365

Co-Pilot

**TotalEnergies & SAFT are key partners in
Microsoft's ambition to be Carbon Negative by 2030**

First of Kind Engagement

Battery Energy Storage Solution | Pilot approach for sustainable datacenters



Opportunities & Ambition

- 24/7 clean energy
- Zero-waste
- Rainwater harvesting
- Free cooling
- Lessening dependency on diesel generators

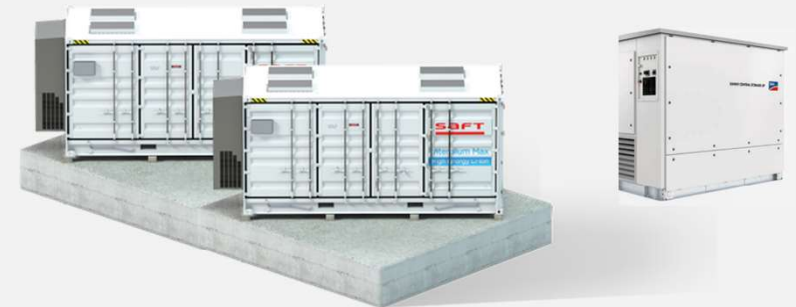


Challenges

- Harsh Nordic climate
- Complex, live infrastructure site
- Maintaining safety, availability, operational standards during pilot



Microsoft's new datacenter region in Sweden, first Battery Energy Solution Pilot with SAFT



First of Kind Battery Solution



Industrial Building Blocks | Partnership approach for project success

Joint work from design through factory testing and on-site commissioning to transfer to Microsoft operations team



2 battery containers + PCS/MVPS + microgrid controller



Intensium® Max 2.3 MWh – 1500V

4 systems of each 4.6 MWh/3MW, 15 year lifetime

80min back-up, with holistic safety, under arctic conditions

Forming of 20kV datacenter microgrid

Full system factory test, plus on-site stress testing

Training of maintenance team and fire brigade

Key Takeaways

Collaborative, learning process with deep technical cooperation

Successful proof-of-concept to lessen dependency on diesel, reduce emissions, lower operating costs

Provides a technical foundation to jointly explore new backup strategies



The battery system solution went live June 2023 and is engineered, tested, implemented and serviced by SAFT

THANK YOU

