

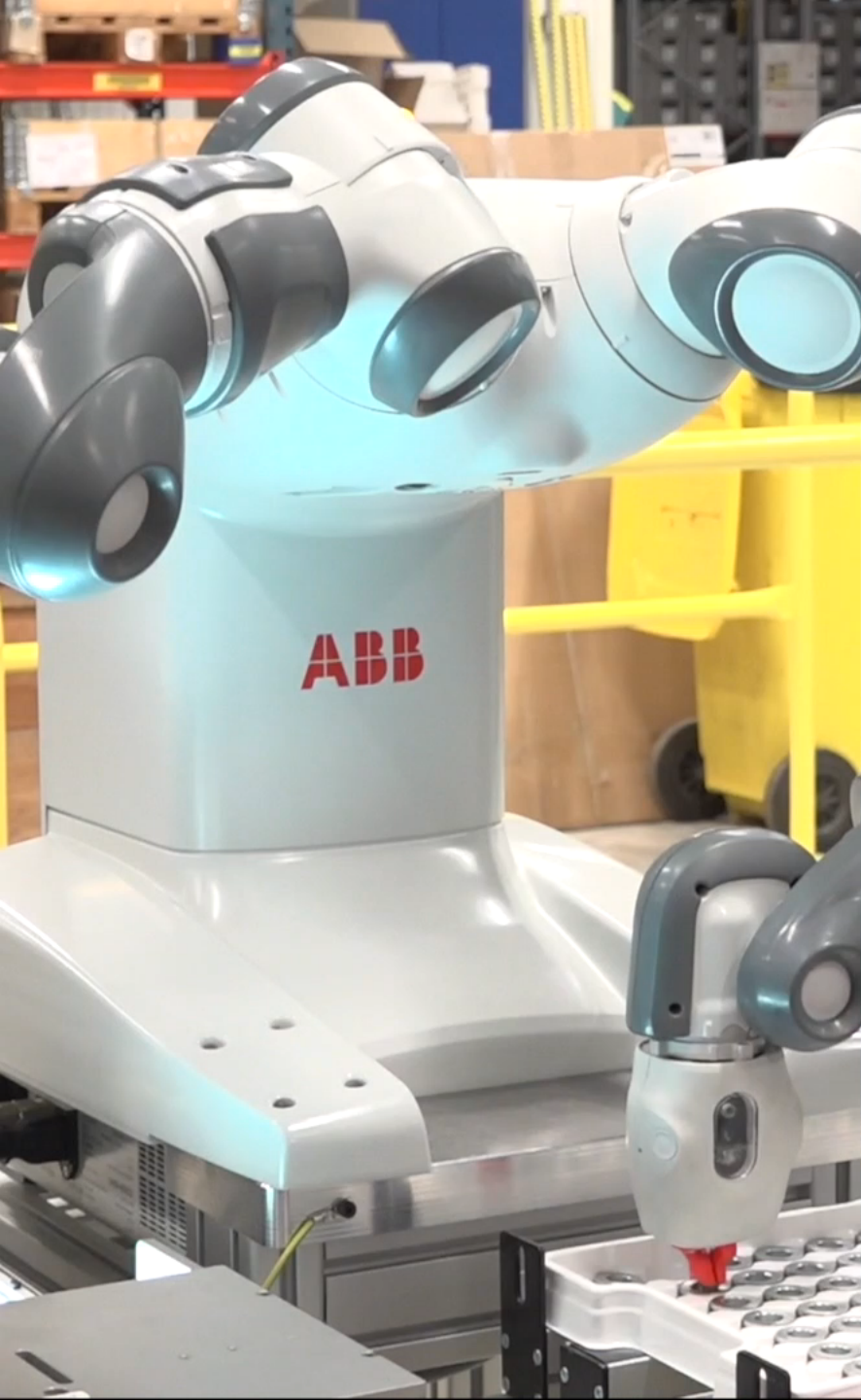
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MAJ 2019

# **Digitalt, fossilfritt och autonomt – Digitalisering som möjliggörare för ökad produktivitet, lönsamhet, hållbarhet och cirkulär ekonomi**

Lena Stridsman, Country digital lead ABB Sweden











**Isolerat**



**Ihopkopplat**



**Kollaborativt**



**Autonomt**











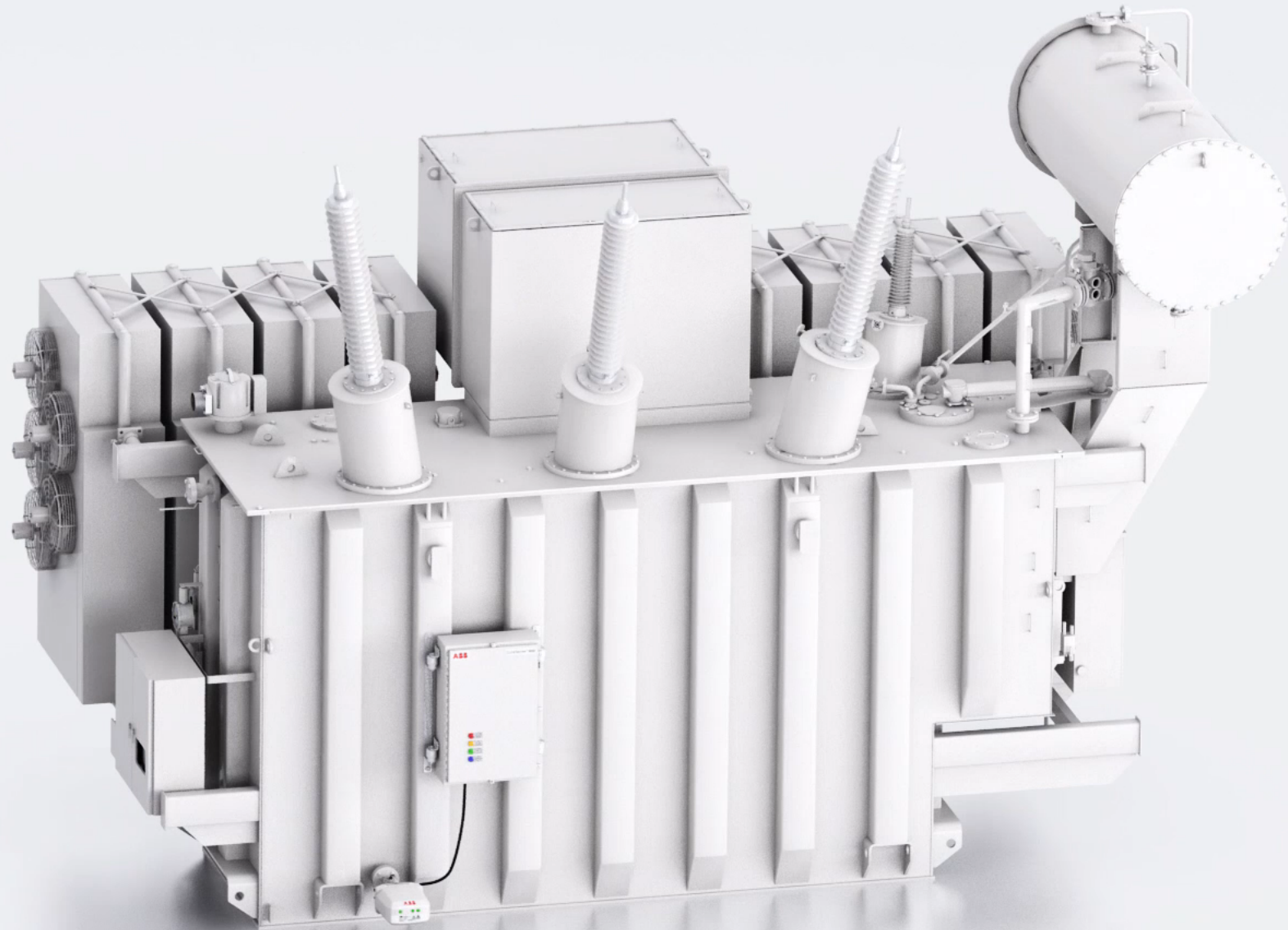




















**Operator**  
Joe Sven  
Shift Responsible

Main

Dashboards

Main Dashboard

Weather Discussions

Flow Dashboard

Notifications

Minor: flow above normal... 10:17:32

Minor: temperature increas... 09:08:32

Minor: pressure raises... 09:07:12

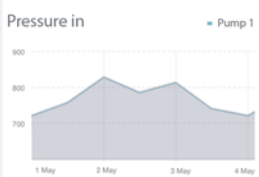
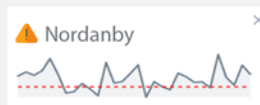
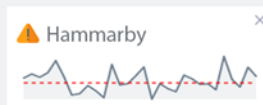
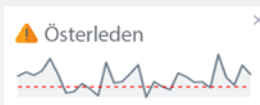
Information: server... 08:30:20

Maintenance: During... 08:27:16

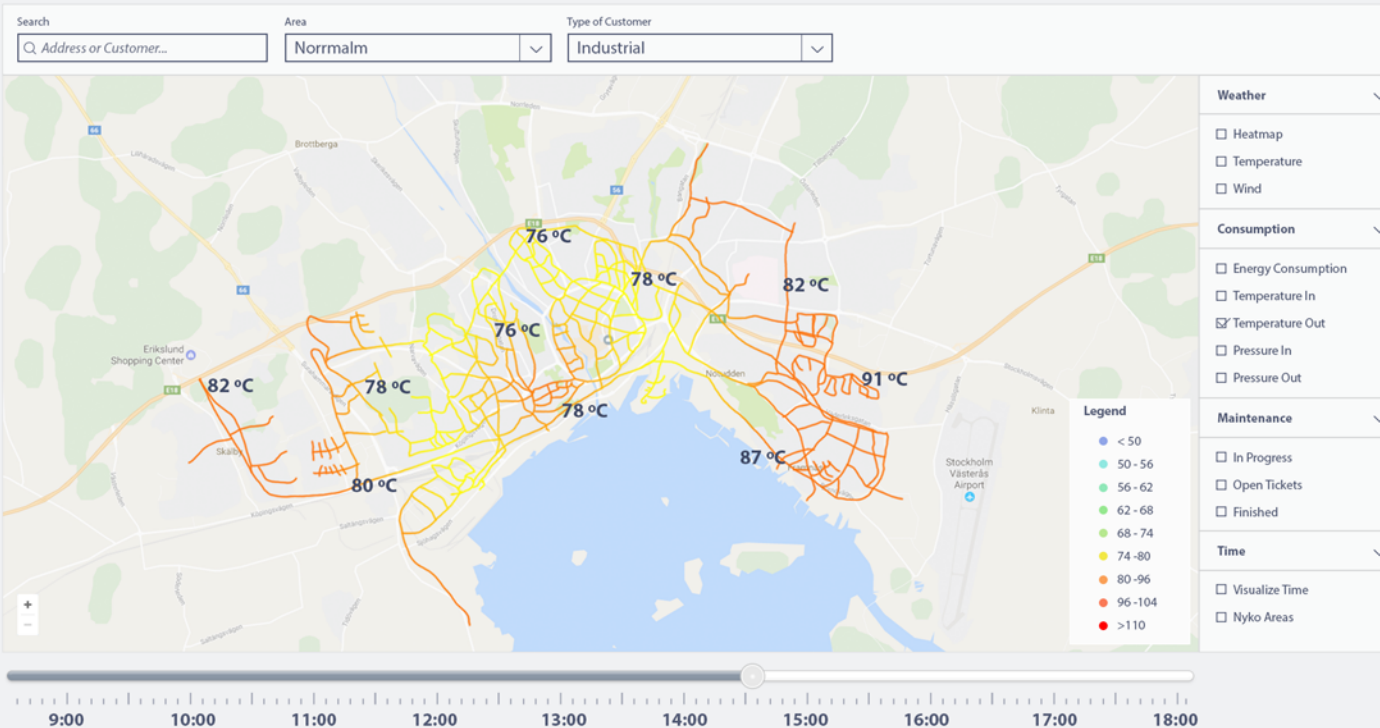
[See All Notifications](#)

Analytics

Settings



Add Widget



Simulator

Temperature Out

79 °C

Weather

2 °C

Energy Consumption

980 KW/H

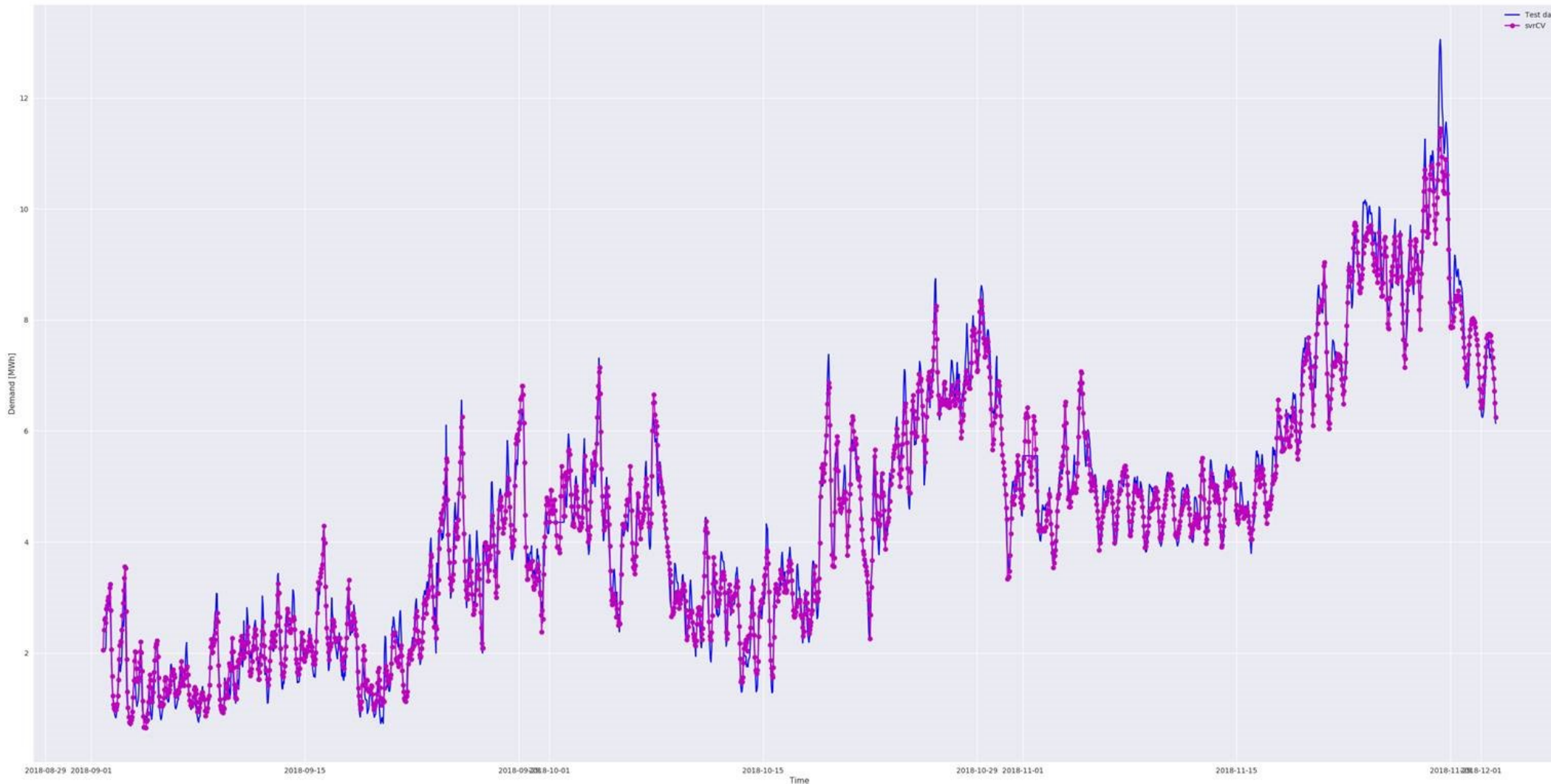
Overall Pressure

80 Bar

Sudden Drop

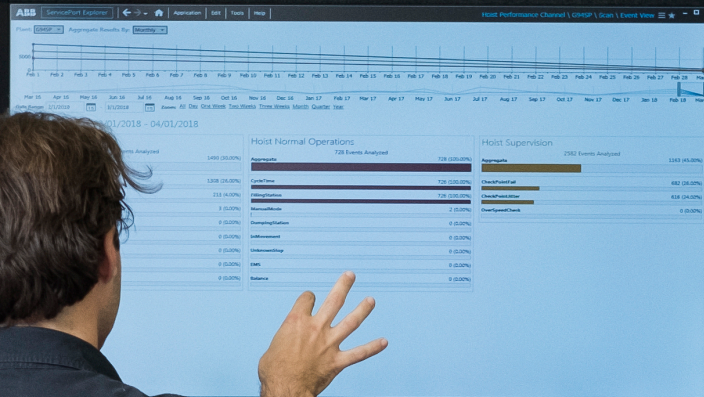
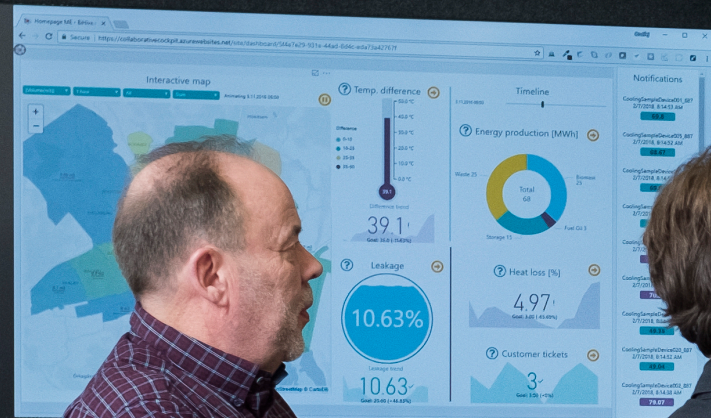
-11 °C  
at 21:00[More Info](#)

# Prediktion Energibehov med Machine Learning



Medelfel = 6%  
R2 score = 98%









Sahlgrenska

transdev

västtrafik

YKD 647

Eriksbergstorget

B

Eriksbergstorget







# Solar plant battery energy storage integration

## Challenge

How can I reduce the battery footprint of my solar power plant by **predicting the short term solar output**? How do I ensure that the **ramp rate is within the allowed limits** ?

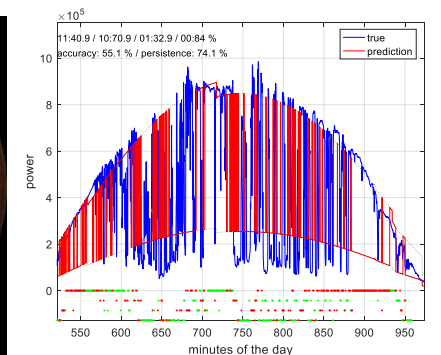
## ABB Solution

One of the main factors affecting short term generation in solar plants is the cloud cover. By using deep learning techniques and cloud tracking ABB's AI, is **accurately predicting the short term solar power output, up to 92.5%** as compared to 80% (state of the art).

## Creating Value



- Lower charging cycles and increase lifetime of battery storage
- Reduced diesel consumption by enabling safe shut off
- Smaller battery size making microgrids with large solar PV content become cheaper and greener





## Human Factor Perspective



**ABB**