EEM 19
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IEEE
IEEE PES
Power & Energy Society®

Community storage in distribution low voltage network

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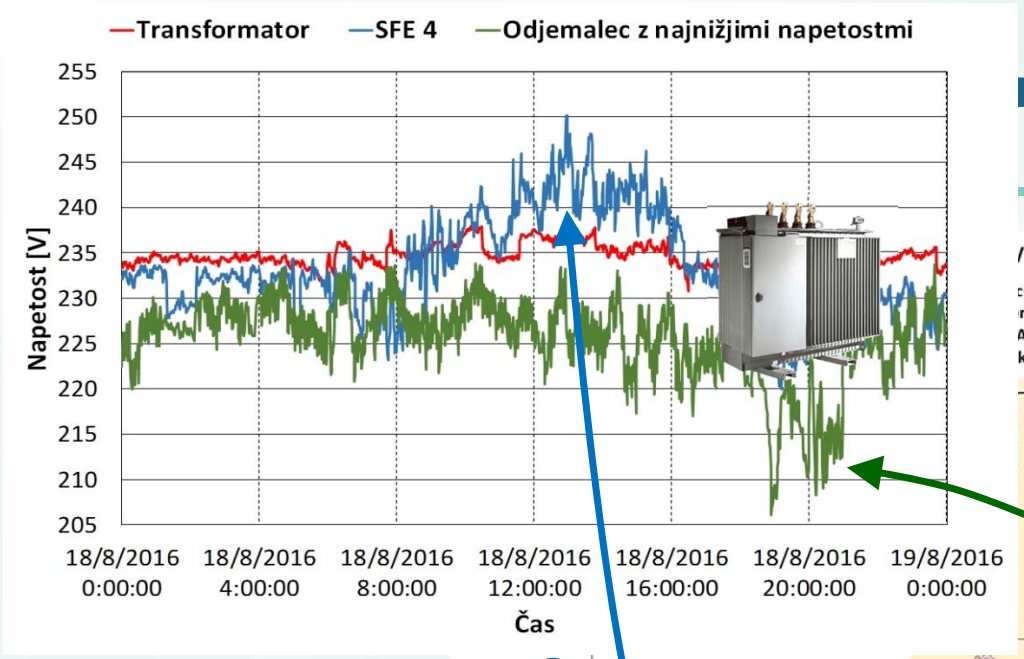
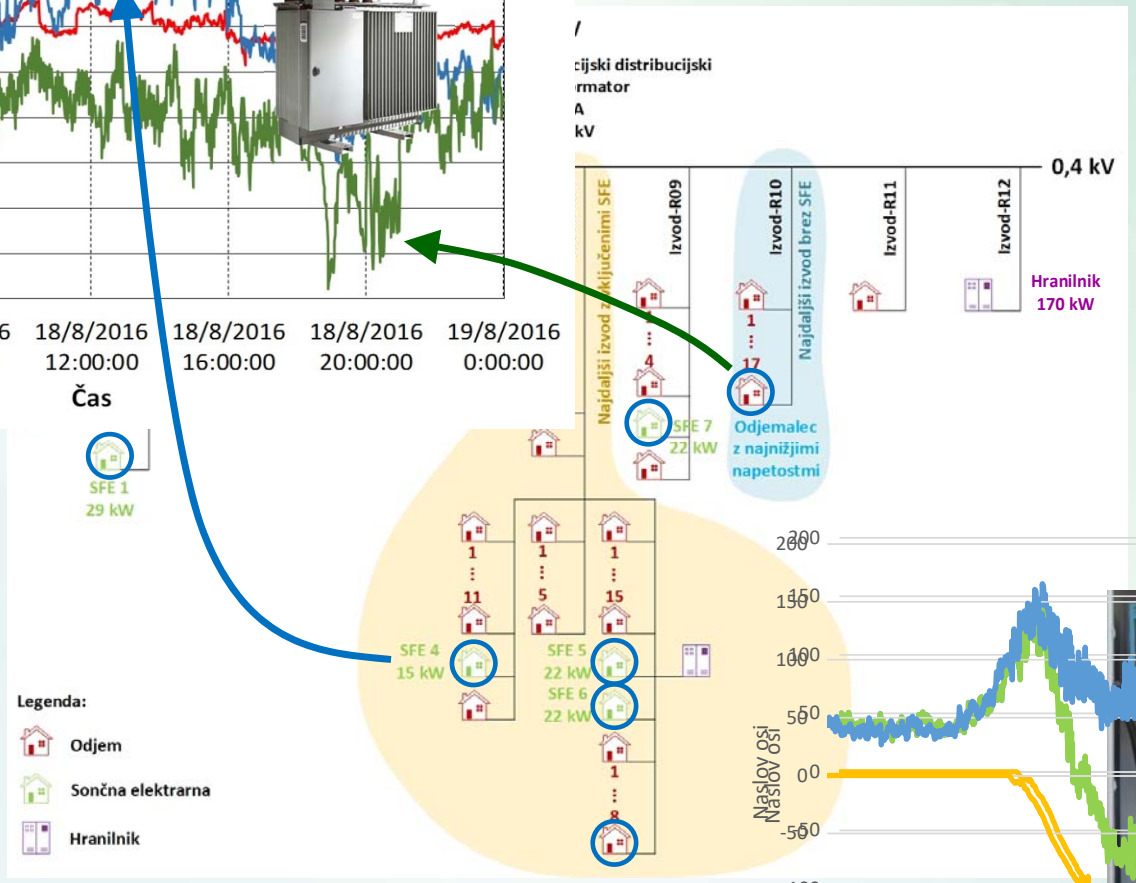
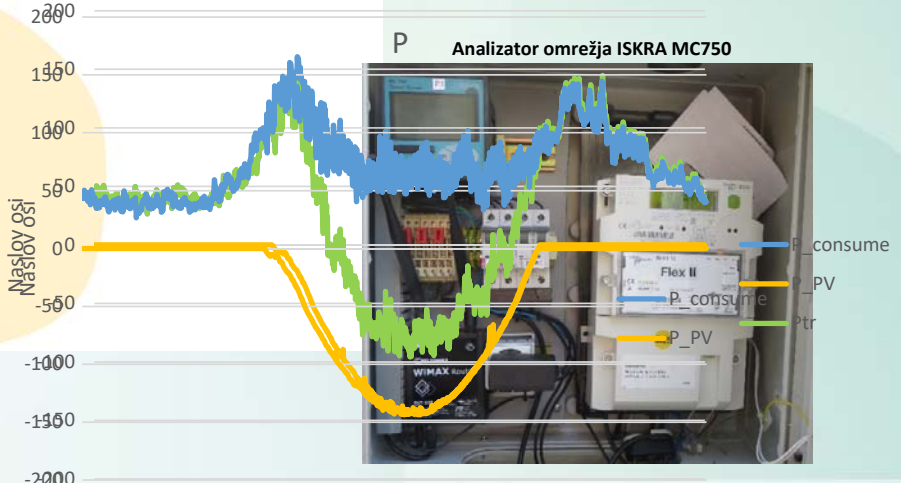
Customer Suha 21
PPP URH – 22 kW
PPP ŽIBERT – 22 kW
Customer Suha 56
Suha pri Predosljah
Suha pri Predosljah
Suha pri Predosljah
Suha pri Predosljah
Suha pri Predosljah
Suha pri Predosljah
PPP HUDOBIVNIK – 50
PPP AHČIN – 22
PPP BASAJ - 29 kW
PPP BASSOL – 15
PPP VRHUNC – 50 kW
TRANSFORMER STATION

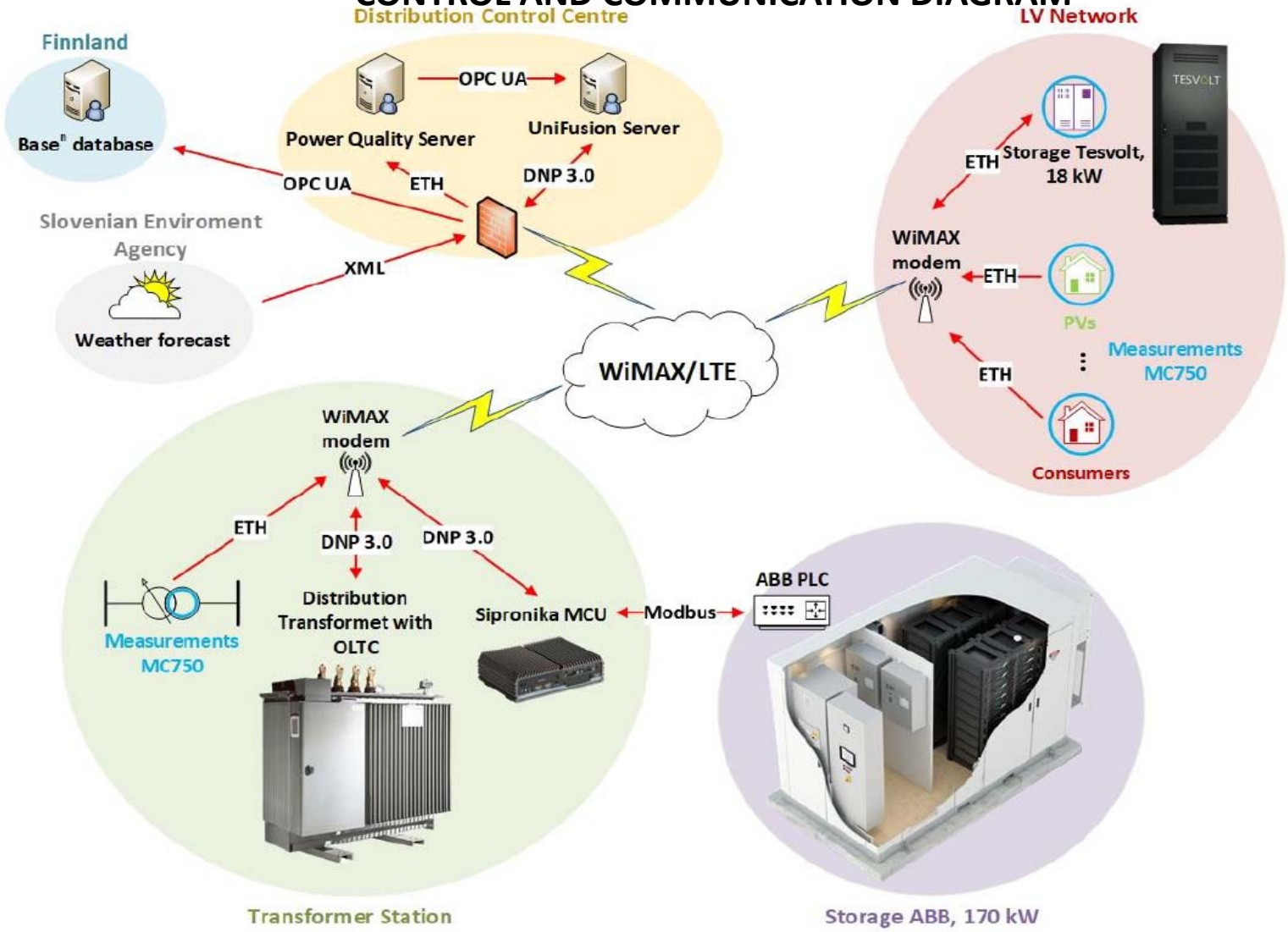
Demo site

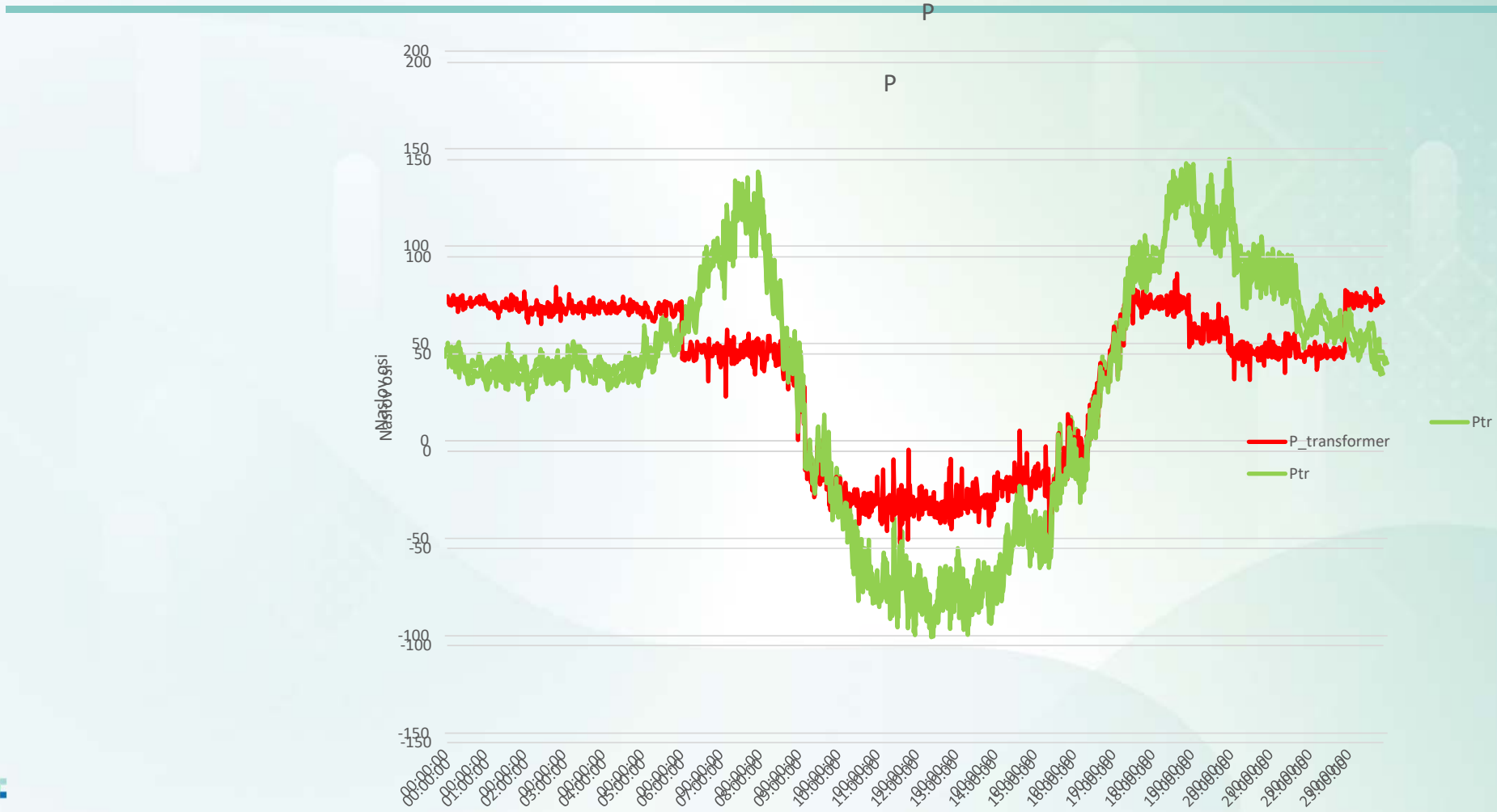

Transformator
SFE 4
Odjemalec z najnižjimi napetostmi
Napetost [V]
255
250
245
240
235
230
225
220
215
210
205
18/8/2016 0:00:00
18/8/2016 4:00:00
18/8/2016 8:00:00
18/8/2016 12:00:00
18/8/2016 16:00:00
18/8/2016 20:00:00
19/8/2016 0:00:00
Čas


0,4 kV
Izvod-R09
Izvod-R10
Izvod-R11
Izvod-R12
Najdaljši izvod z vključenimi SFE
Najdaljši izvod brez SFE
Hranilnik
170 kW
SFE 1
29 kW
SFE 4
15 kW
SFE 5
22 kW
SFE 6
22 kW
SFE 7
22 kW
Odjemalec z najnižjimi napetostmi
Legenda:
Odjem
Sončna elektrarna
Hranilnik

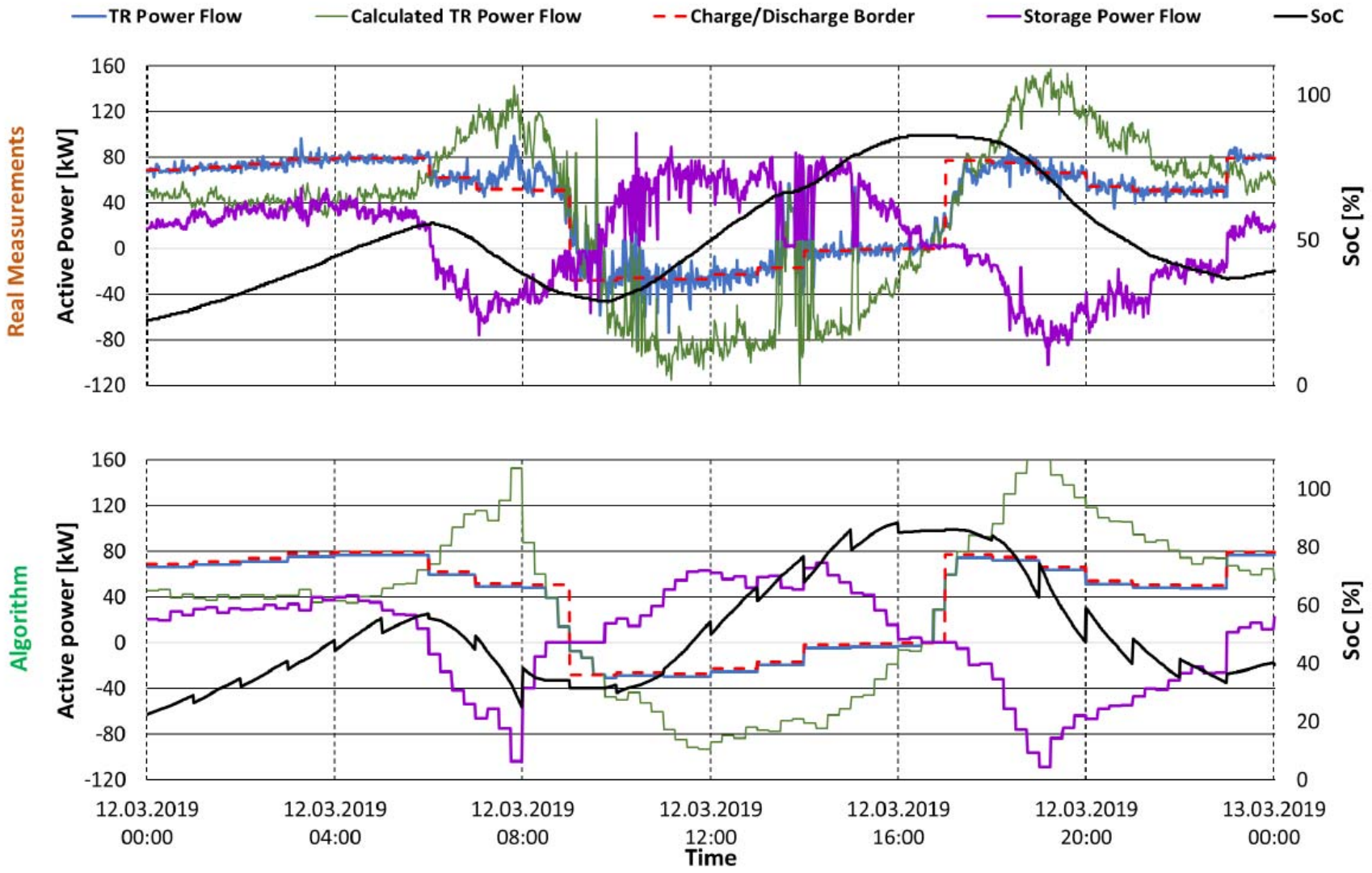

P
Naslov osi
Analizator omrežja ISKRA MC750
P_consume
P_PV
Flex II

CONTROL AND COMMUNICATION DIAGRAM




P
P
200
150
100
50
0
-50
-100
-150
P_transformer
Ptr
Ptr

COMMUNITY STORAGE DAILY LOAD DIAGRAM



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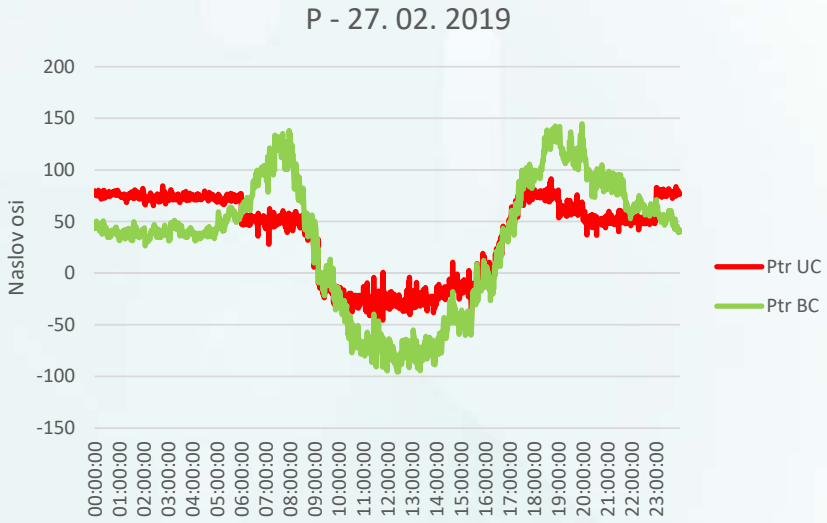
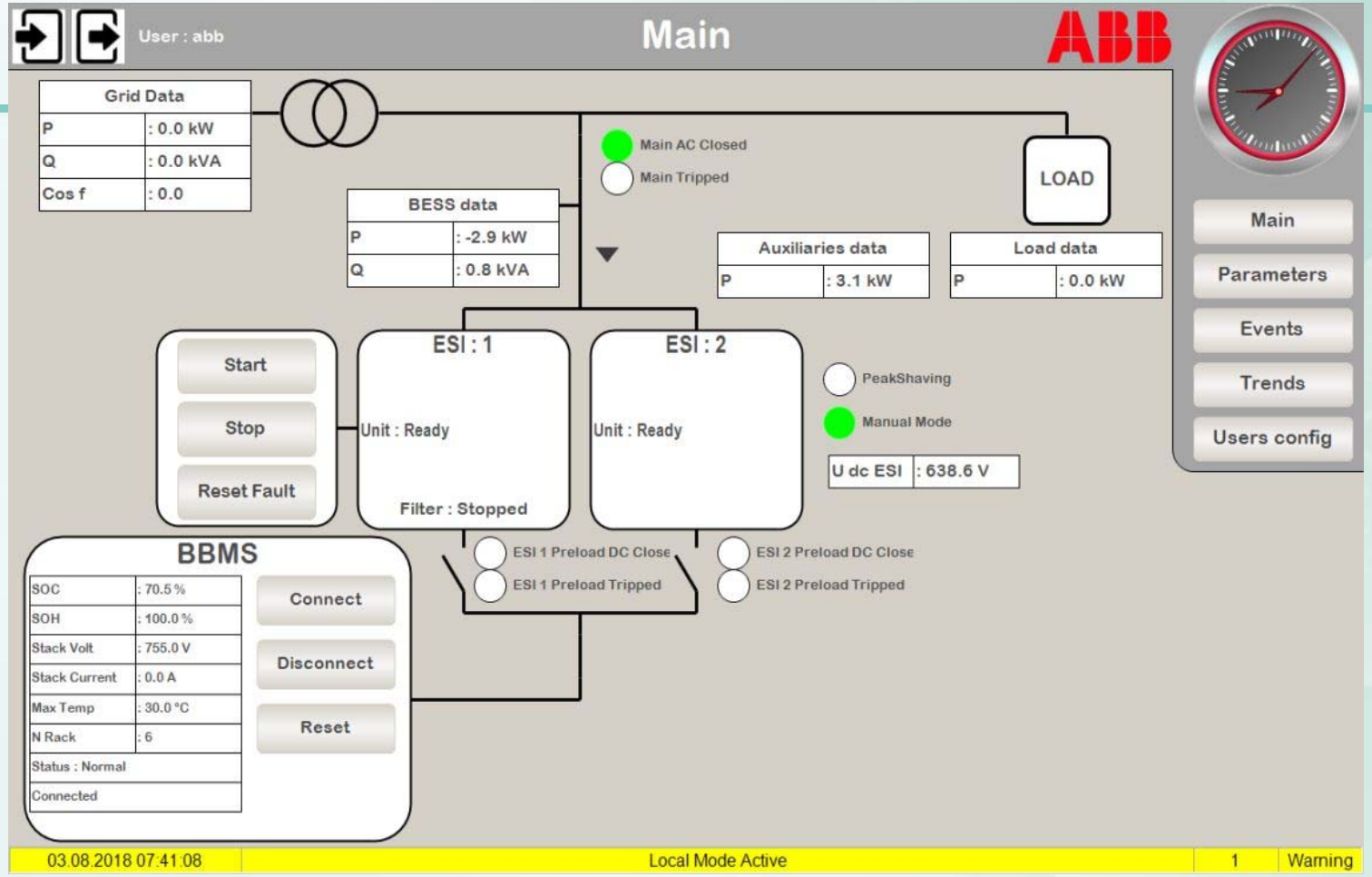


K2	Increased self consumption	SCL	60,64%
		SSL	33,33%
K3	Change of peak to average demand ratio	dPARdemand	- 46,48%
K4	Relative peak power change	dRPP	- 36,83%
K5	Grid (transformer) losses change	dEloss	- 37,89%
K6	Grid energy consumption change	dEgrid	-20,56%
K9	Full cycle equivalents of storage	FCE	69,34%
K11	Storage efficiency	ε storage	68,54%

- 6 months experience:

• All functionalities succesfully confirmed.
• High reduction of transformer load flows.
• Reliable operation of: .
  • EG broadband radio (WiMax).
  • EG control and monitoring systems.
	• High initial number of storage faults.
	• High storage/system investment costs.
	• Low system efficiency
	• High frequency noise generation.
	• High system complexity.
	• Limited system life time

TP Suha and ABB BESS


User : abb
Main
ABB
Grid Data
P : 0.0 kW
Q : 0.0 kVA
Cos f : 0.0
Main AC Closed
Main Tripped
LOAD
BESS data
P : -2.9 kW
Q : 0.8 kVA
Auxiliaries data
P : 3.1 kW
Load data
P : 0.0 kW
Main
Parameters
Events
Trends
Users config
Start
Stop
Reset Fault
ESI : 1
Unit : Ready
Filter : Stopped
ESI : 2
Unit : Ready
PeakShaving
Manual Mode
U dc ESI : 638.6 V
BBMS
SOC : 70.5 %
SOH : 100.0 %
Stack Volt : 755.0 V
Stack Current : 0.0 A
Max Temp : 30.0 °C
N Rack : 6
Status : Normal
Connected
Connect
Disconnect
Reset
ESI 1 Preload DC Close
ESI 1 Preload Tripped
ESI 2 Preload DC Close
ESI 2 Preload Tripped
03.08.2018 07:41:08
Local Mode Active
1
Warning

BESS OP

EG SCADA

EEM 19

EG SCADA

EEM 19

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