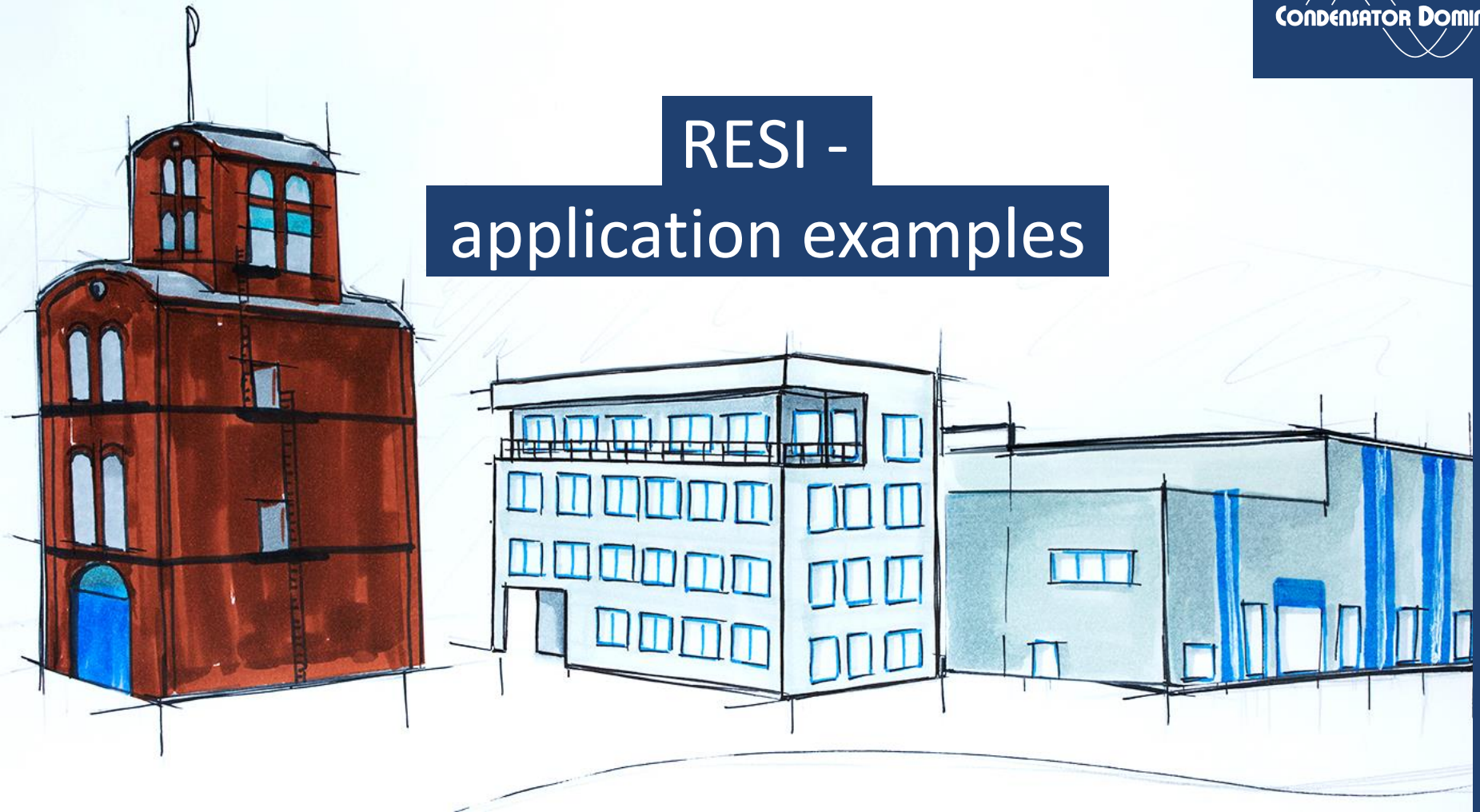
CONDENSATOR DOMINIT

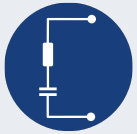
RESI - application examples



YOUR VOLTAGE – OUR PASSION

Agenda

- CD – company profile



- Overview PQ problems

- RESI case study's

YOUR VOLTAGE – OUR PASSION

Condensator Dominit company profile

CD company profile

- 1950 Dominit Werke
- 1973 Lepper Dominit
- 1981 ASEA Lepper
- 1988 ABB Kondensatoren
- 2002 ABB Schaltanlagentechnik
- 2005 Foundation – Condensator Dominit GmbH
- 2016 Foundation – DIPS GmbH
- 2020 Foundation – Dominit Energie u. Anlagenservice GmbH

Dominit Industrial Power Systems GmbH

Energie und Anlagenservice

YOUR VOLTAGE – OUR PASSION

CD company profile

- Founded 1950 a Dominit Werke in Brilon
- Today app. 60 employees (2020)
- 40 % of the employees are technicians/engineers
- Owner-managed company
- Own research and development
- Cooperation with national university's
- High flexibility in relation to customer wishes
- Individual solutions for LV/MV-applications

CONDENSATOR DOMINIT

YOUR VOLTAGE – OUR PASSION

CD company profile

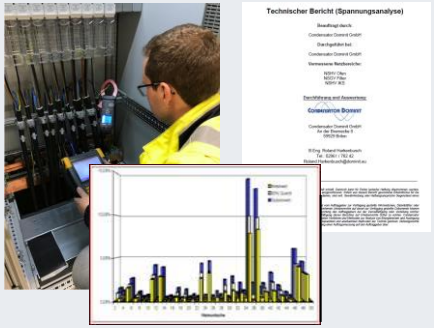
- 2019 New construction of an energy self-sufficient production and office building in Brilon-Wald

- The „Essigturm“ becomes the new CD flagship

YOUR VOLTAGE – OUR PASSION

CD company profile

- Our services



PQ measurements, analyses and expert opinions

Development and production of LV/MV solutions

Consultation and project planning

Mountings

YOUR VOLTAGE – OUR PASSION

CD company profile

- Our services

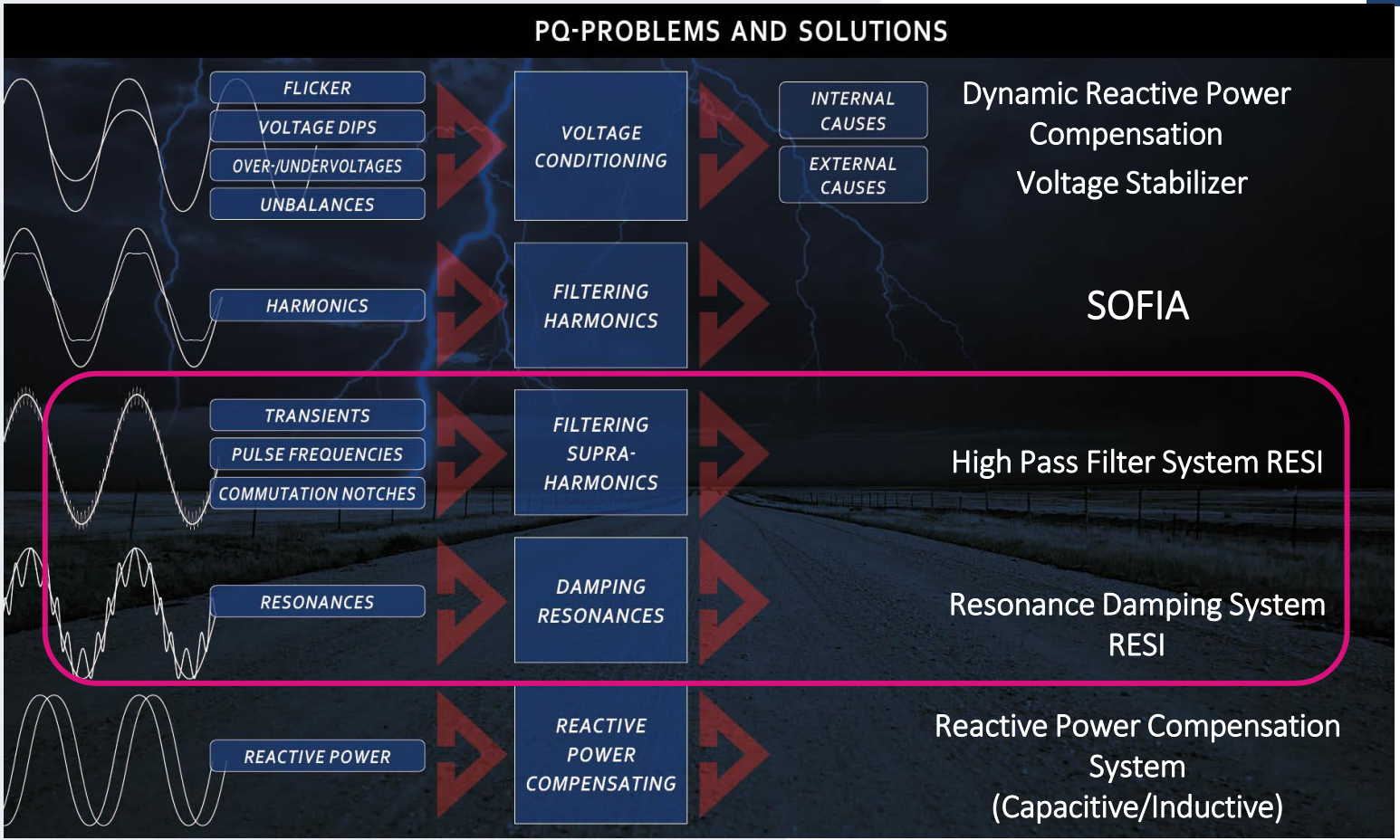
Commissioning

Maintenance and repair

YOUR VOLTAGE – OUR PASSION


Overview
PQ problems
CONDENSATOR DOMINIT

Overview power quality problems



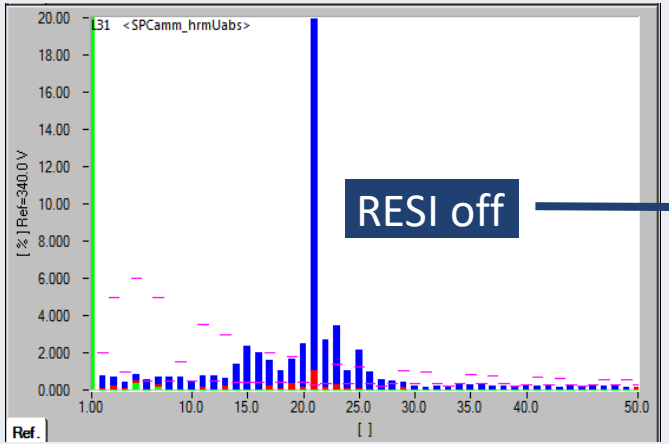
CONDENSATOR DOMINIT

YOUR VOLTAGE – OUR PASSION

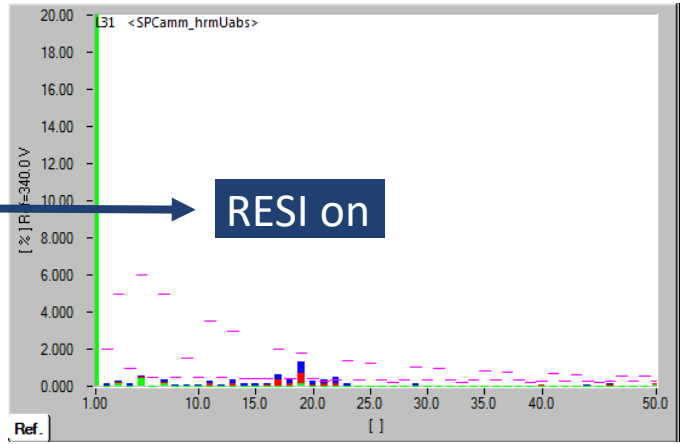
RESI case study's

RESI case study‘s

- 1st case: Solar park (~30 MWp)
  - 11 solar converters (1,8 MWp) feeding by one 2 MVA transformer



RESI off



RESI on

Resonance at around 1050 Hz

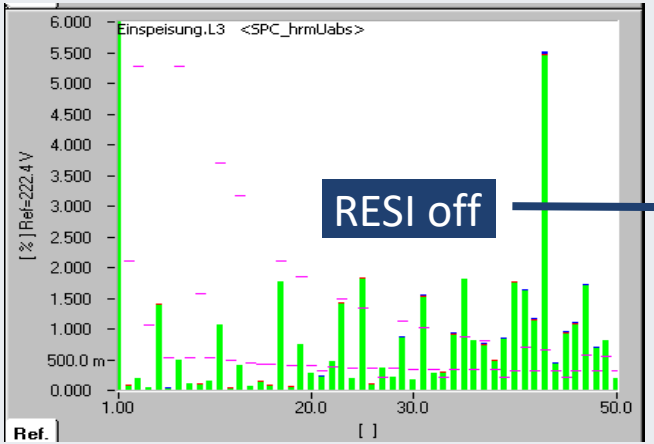
Voltage levels up to 20 %

Resonance eliminated

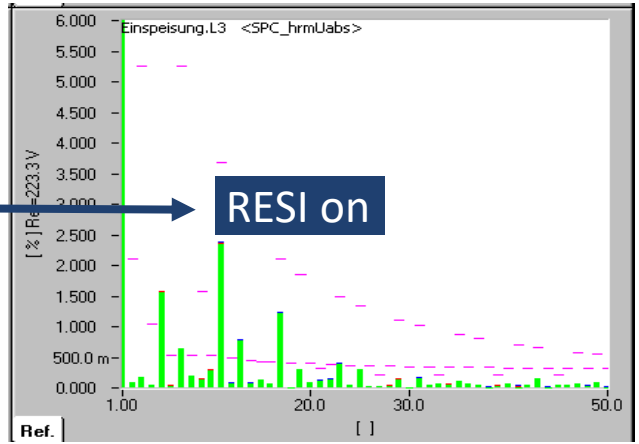
YOUR VOLTAGE – OUR PASSION

RESI case study‘s

- 2nd case: Power supply units (900 kW) for particle accelerator
  - Problem: blackouts and damages of power supplies



RESI off



RESI on

Disturbances > 1 kHz

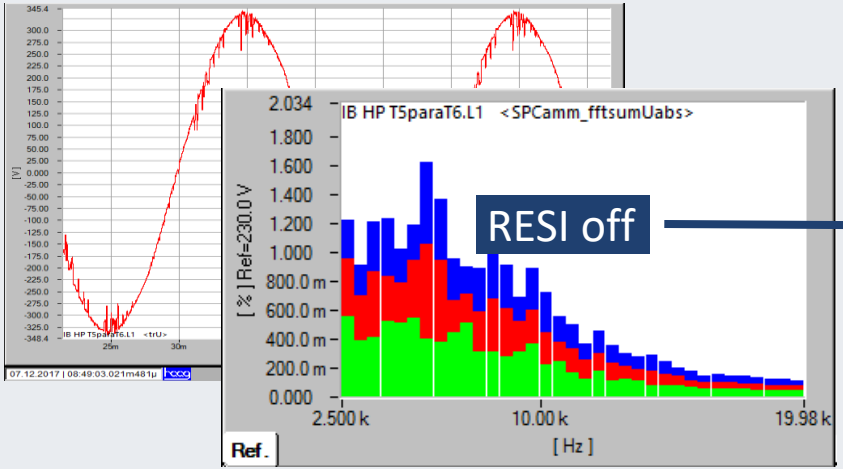
Voltage levels up to 5,5 %

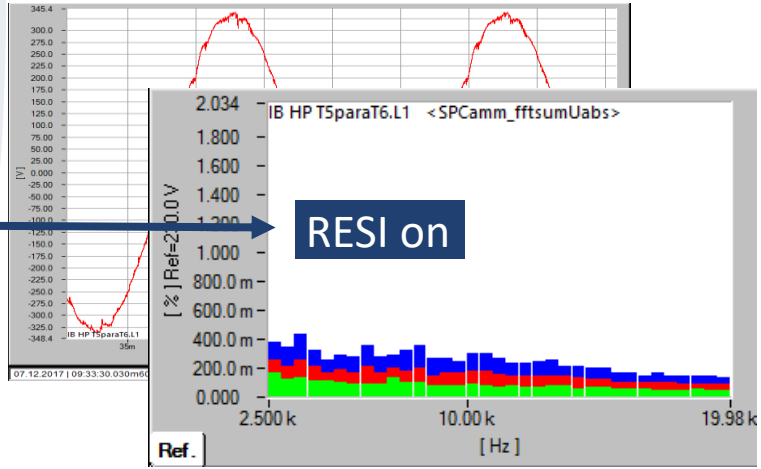
No more higher frequency's

YOUR VOLTAGE – OUR PASSION

RESI case study‘s

- 3rd case: Batterie factory
  - Problem: failures of frequency inverters





Disturbances > 2 kHz

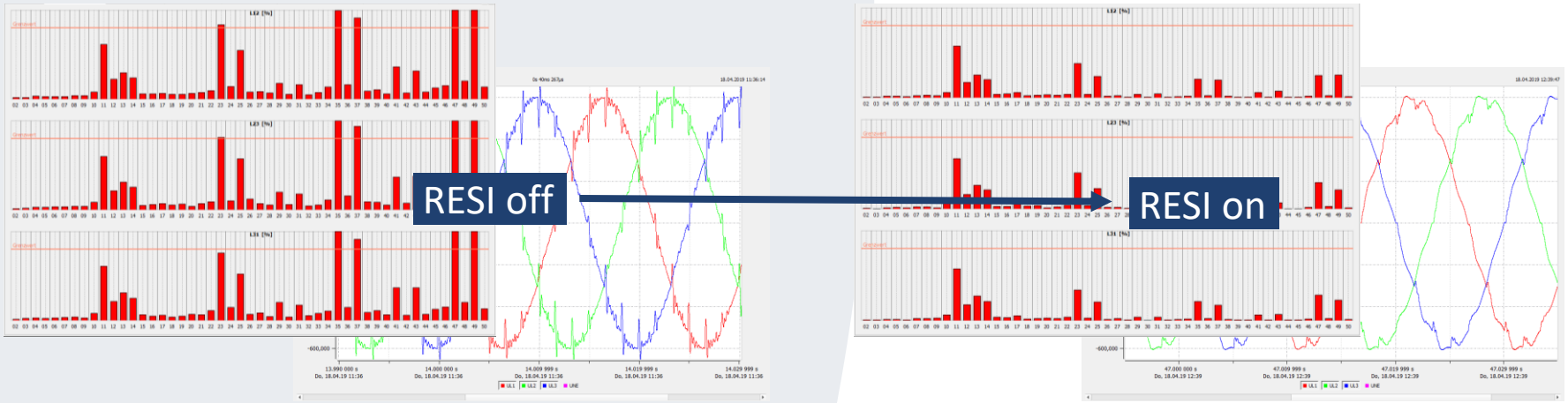
Voltage levels up to 1,7 %

No more higher frequency's

YOUR VOLTAGE – OUR PASSION

RESI case study‘s

- 4th case: Power plant with 15 MW MV DC-water pump
  - Problem: failures of frequency inverters in 690 V grids (3,15 MVA)



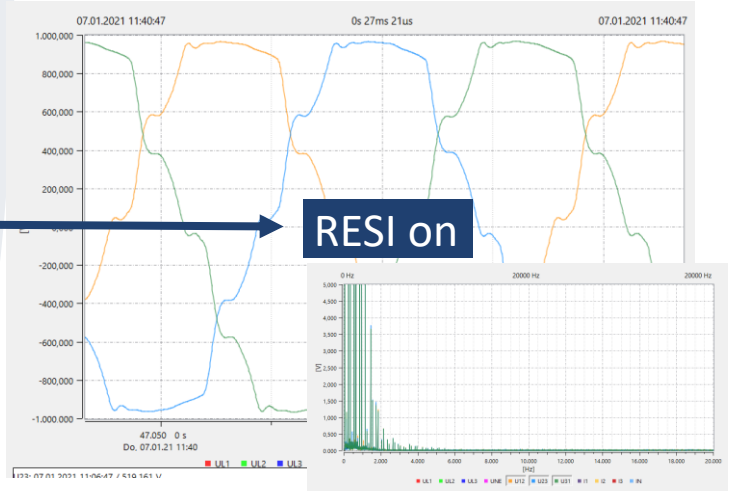
Commutations notches
Resonance
High (supra-) harmonics

Reduction of the notches
Elimination of the resonance
Reduced voltage levels

YOUR VOLTAGE – OUR PASSION

RESI case study‘s

- 5th case: Factory for insulating material
  - Problem: failures of frequency inverters in 690 V grid



Resonance triggered by
Commutation notches

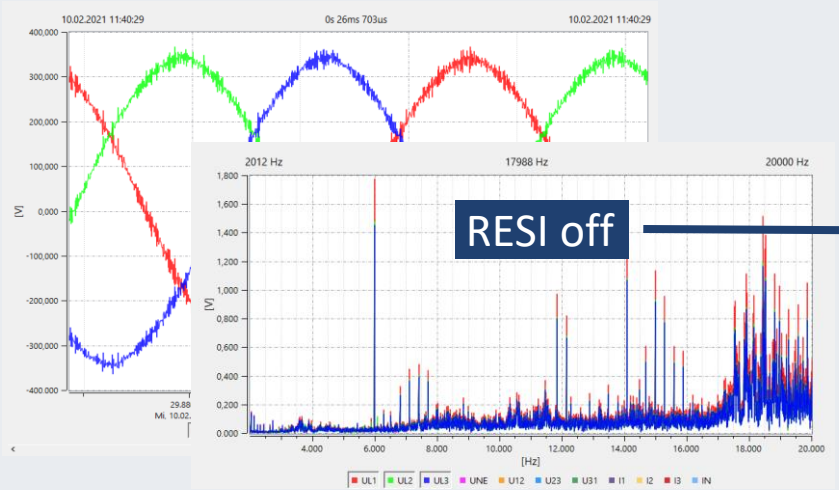
High supraharmonics

Elimination of the resonance
Reduced supraharmonics

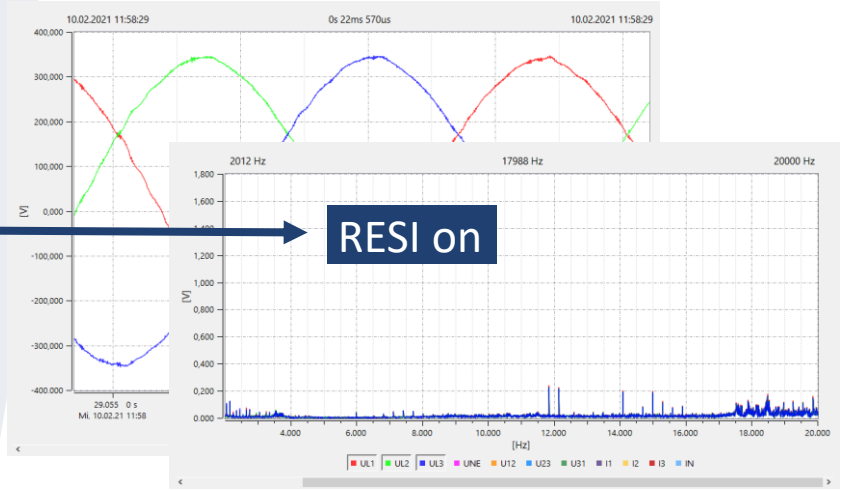
CONDENSATOR DOMINIT
YOUR VOLTAGE – OUR PASSION

RESI case study‘s

- 6th case: Waste power plant in Austria
  - Problem: new active front end crane drives



Different switching frequency´s



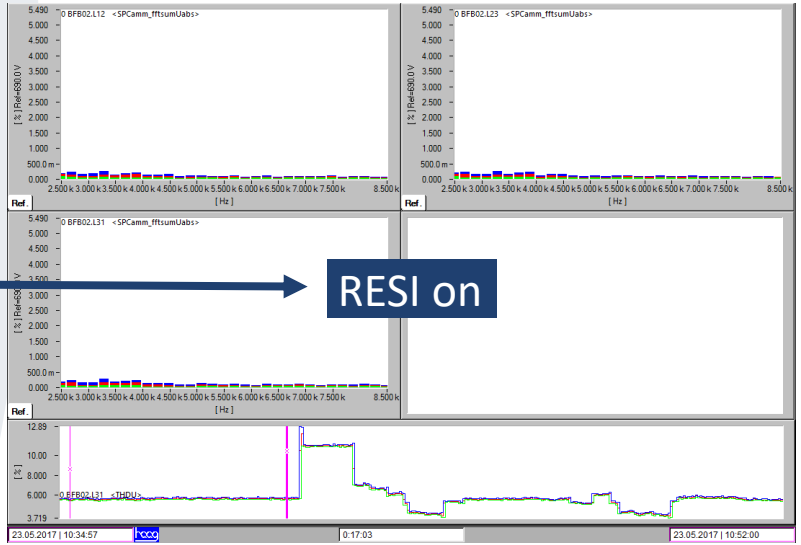
Reduction of the voltage levels

YOUR VOLTAGE – OUR PASSION

RESI case study‘s

- 7th case: Waste power plant in England
  - Problem: Resonance

Resonance at around 7,2 kHz



Elimination of the resonance

YOUR VOLTAGE – OUR PASSION

CONDENSATOR DOMINIT

If you have further questions,
please fell free to contact us.

YOUR VOLTAGE – OUR PASSION