

CLIENT SUCCESS STORY

72 modules.
6 feeder lines.
2,880 A.

And a plant that now wastes measurably less energy doing exactly the same work.

PT. Frisian Flag Indonesia — Plant Juno

Hitachi Energy PQactiF · Active Harmonic Filtering

THE HIDDEN COST

Distortion you never see on the bill

Modern dairy manufacturing runs on VSDs, chillers and process automation. Efficient — but they draw current in a distorted waveform.

Overheats

transformers & cables

Wastes energy

as I^2R losses

Consumes

transformer capacity

Ages assets

before their time

At Plant Juno: **28-30% THDi** · IEEE 519 limit is 5%

ON THE PANEL ITSELF

Before → After

UNCOMPENSATED · 28-30% THDi



WITH PQactiF · 1.5-4% THDi



Same measurement screen. Same plant. Same load.

THE DECISION

Why active, and why modular

A dairy plant is not a fixed condition. Load composition shifts with production, equipment is added, the harmonic spectrum moves with it.

- **Samples & cancels in real time**
Adapts automatically as load changes

- **No resonance risk**
Unlike fixed passive tuning

- **Built from 40 A blocks**
Capacity grows with the plant

Sized per feeder from a 37-day measurement campaign —
not from rules of thumb.

THE INSTALLATION

72 modules across six feeder lines

LV DISTRIBUTION — PLANT JUNO



2,880 A of active harmonic filtering capacity, in service

THE RESULT

Compliance that holds across the load cycle



28-30%

before

1.5-4%

after

< 5%

IEEE 519

SUSTAINABILITY IMPACT

The quiet kind of sustainability

No change to output. No change to process. Simply less energy wasted on the way to doing the same work.

~7.6%

lower I^2R losses

~4%

less RMS current

Cooler

transformers & cables

Stable

fewer disturbances

*Derived from the measured reduction in THDi ($\approx 29\% \rightarrow \approx 3.5\%$)
at constant fundamental load.*



TECHNOLOGY IS HALF OF IT

Capability is the other half

Closed with operator training at the panel, a written guide, and a daily logbook now in routine use by the Frisian Flag team.

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[Full case study in the comments](#)