



ansaldo | energia

DIGITAL

Speaker: Paolo Stanchi

CUSTOMER DAY - October 4th 2023

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REMOTE MONITORING

2

APEX

3

**REMOTE OPERATION
E MAINTENANCE**

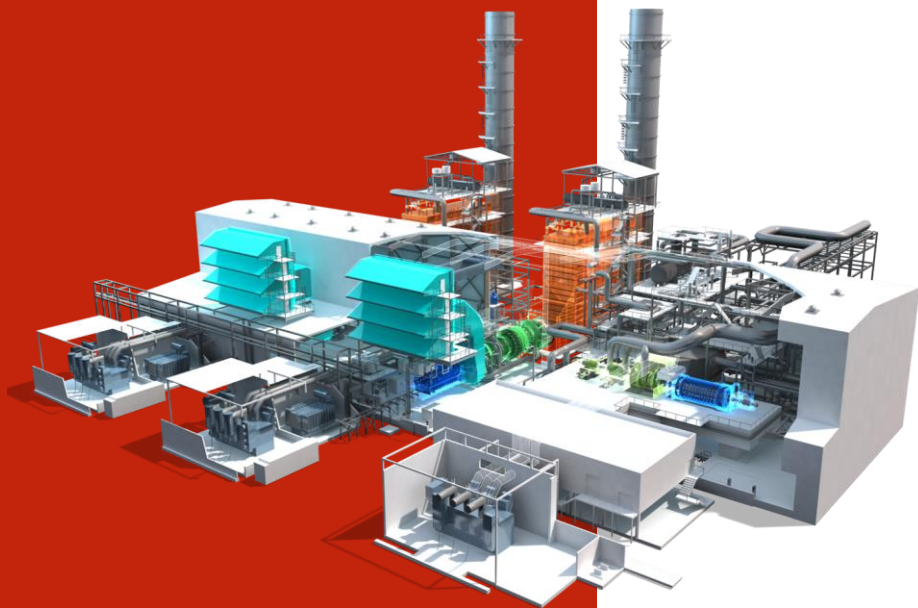
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AUTOTUNE



DIGITAL

Ansaldo Energia Digital Products



IPS 24|7

Remote Monitoring &
Diagnostics

APEX_{m&d}

Predictive Maintenance

REM_{O&M}

Remote Operation
& Maintenance

AutoTune

On-line Optimization

Remote Monitoring & Diagnostics



Two time zone front end

Integrated Plant Support

**24/7
PLANT SUPPORT**

**ADVANCED MONITORING &
DIAGNOSTICS (RM&D)**

**REMOTE
OPERATION SUPPORT**

**APEX
PREDICTIVE MAINTENANCE**

**REMOTE
MAINTENANCE**

Remote Monitoring & Diagnostics

RM&D network
106 GTs / 42 STs / 132 GENs
33,2 GW – 2,5 GVAR

More than 130,000 tags
downloaded in real time every second!

Two time zone front end

Integrated Plant Support

- AE94.3A (SGT5-4000F)
- AE64.3A (SGT-1000F)
- AE94.2 (SGT5-2000E)
- GT26
- GT36
- STEAM TURBINES
- GENERATORS
- BALANCE OF PLANT

APEX
Ansaldo Energia
Predictive Maintenance

BIG DATA

+

ANALYTICS

+

PRODUCT EXPERIENCE

=

APEXm&d

APEX - Ansaldo Energia

Predictive Maintenance

Time to
fault

Residuals
analysis

Data
pre-processing

Regression

Plausibility
checks

Modelling

Trend Evaluation

- > **Early Warning** Generation to **anticipate** abnormal behaviour
- > Trend Evaluation to estimate **time to fault** and associated **severity**
- > **Assess** the abnormal behaviour, evaluate **causes** and **recommendations**

APEX References

17 GTs

136 modules

11 STs

44 modules

29 GENs

65 modules

11 BOPs

33 modules

Remote Operation & Maintenance



📍 GT26 sites
📍 AE94 sites

REMO&M



Achievements

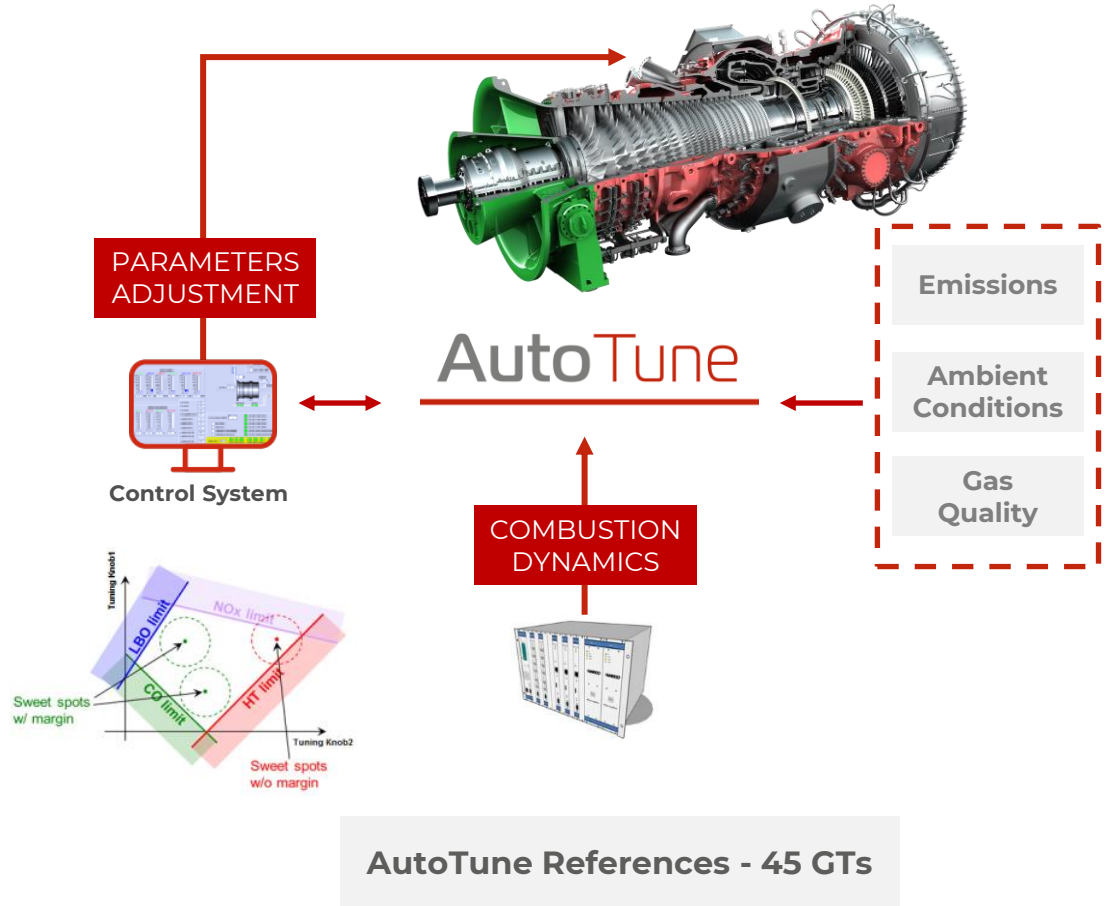
- Capability to organize remote maintenance support, remote commissioning and engine adjustment all over the world
- Remote activities in more than 40 power plants
- Around 100 interventions performed totally or partially from remote in less than 2 years

AutoTune

On-line optimization

- Improved Emissions Control
- Reduced Lifetime Consumption
- Less Manual Tuning After Outages
- Improved Reliability
- Optimized Performance
- Suitable also for hydrogen cofiring optimization

AutoTune improves GT Control autonomously



DIGITAL

is key to enable performance improvement, emission reduction and reliability enhancement

THANK YOU FOR YOUR ATTENTION

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