





AC BOILERS S.p.A.
formerly **Ansaldo Caldaie**

MACCHI
STEAM & POWER GENERATION

Sofintergroup

Sofinter Group Boiler Service

SOFINTER GROUP BOILER SERVICE is the business unit that combines Macchi Service, for Industrial Boilers and HRSGs, and AC Boilers Service for Utility Boilers and HRSGs. Technological competences, engineering experiences and project management supplied from a single source.

Relying on the Companies long lasting technological background, experienced staff, own pressure parts manufacturing facilities, and more than 2000 boilers supplied worldwide, SOFINTER GROUP BOILER SERVICE provides solutions for its boilers, and has the expertise to solve most problems of boilers designed and manufactured by Others, ranging from spare parts to full rehabilitations.

SOFINTER GROUP offers a full range of boiler services, spanning from full Rehabilitations to Spare parts procurement.

Leading technologies

- Proprietary design for steam generators and firing systems
- Optimized, Efficient, State-of-the-Art designs for the toughest operations

Performance & Reliability

- Global reputation with major clients and proven track record for reliability
- A long-standing experience in integrated design, manufacturing & construction

Customized Approach

- Sofinter provides customized, integrated boiler and combustion system solutions
- Wide portfolio of highly bespoke aftersales services

MAINTENANCE

Reliability

- OEM Spare Part Manufacturing
- Spare Part Supply Management
- Long Term Service Agreements

Intervention

- Failure Analysis & Improvement Studies
- Material & Design Modifications

Improvement

- Inspection, Diagnostics & Expertise
- Outage Planning, Repairs, Supervision



LIFECYCLE

Satus Extension

- Equipment Condition Analysis
- Remaining Lifetime Assessment
- Full Rehabilitation Projects

Experience & Expertise

- Supervision of Erection, Commissioning & Start-Up
- Operator Training
- Technical Studies

OPERATION

Flexibility

- Fuel Conversions & Multi-Fuel Applications
- Flexible Load & Cycling Mode Adjustments

Availability

- Pressure Part Replacement
- Material Change
- Cladding

Performance

- Restoration to Design Output
- Steam Flow Increase, Boiler Up-Grade



REGULATIONS & ENVIRONMENT

EMISSIONS

Combustion system

- Innovative design and effective design methodology
- New Low NOx Burner Design (Gas, Oil, Coal & Mix Firing)
- OFA System

Excellent flame stability even at low load firing

- Robust and reliable CFD model baseline
- Validated by Sofinter on own Combustion Research Center (CCA)

Retrofit on existing boiler with:

- Burner replacement
- Steam Injection System
- OFA installation
- Flue Gas recirculation System

Integration with flue gas treatment

- CO Catalyst
- SCR in Furnace DeNOx



REGULATIONS & ENVIRONMENT

EFFICIENCY

Combustion optimization and efficiency improvements to reduce operational losses and emissions

- Identification of systems and components to be improved
- Boiler Base Line test to verify current operational performance/efficiency vs. design data
- In-House combustion engineering department for analysis and CFD modelling of required modifications
- Combustion system tuning to minimize NOx and particulate emissions
- Combustion specialists and Start-up engineers with long lasting field experience

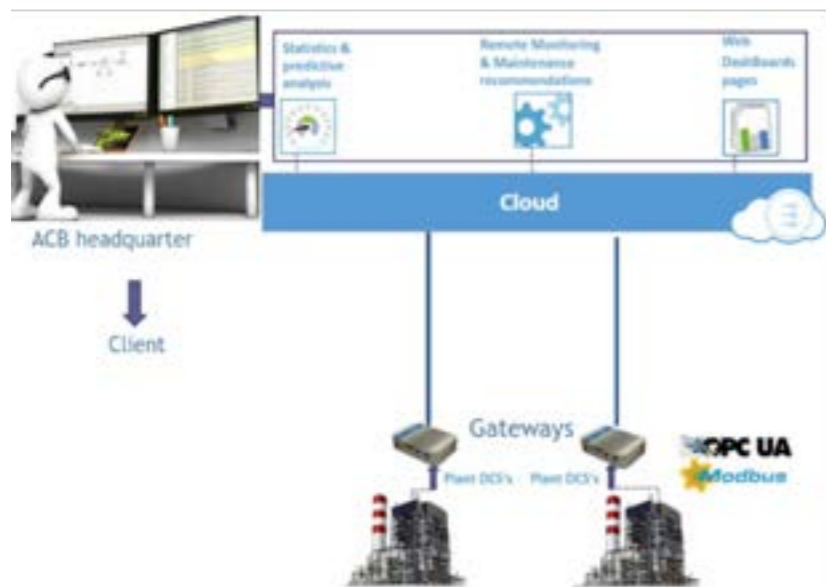
BOILER REMOTE MONITORING SYSTEM



- Proprietary system developed by AC BOILERS as Original Equipment Manufacturer (OEM)
- Based on the most recent "Internet of Things (IoT)" solutions
- Data transfer from Boiler DCS to AC BOILERS Remote Control
- Boiler operation and its key parameters monitoring
- Predictive measures elaboration

AC BOILERS experts prepare periodic reports for the client summarizing the performance trends, potential issues with their possible causes and the suggested actions

Periodic Reports → high level recommendations



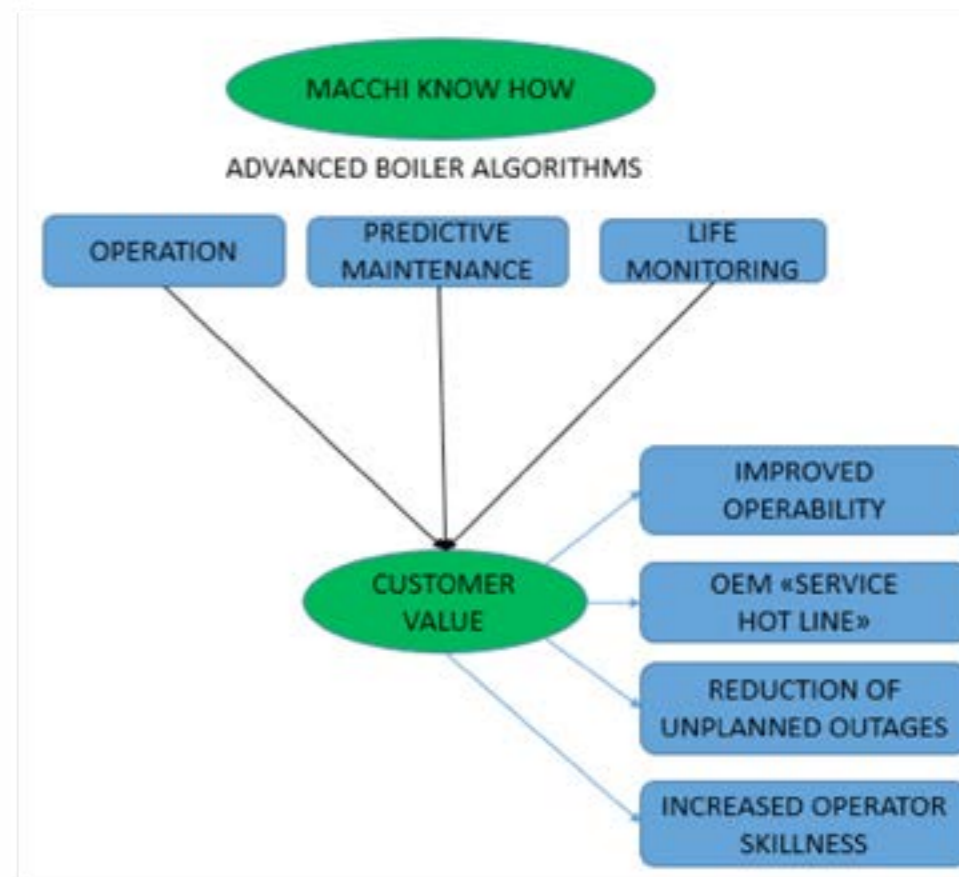
- Improved boiler efficiency, in the direction of restoring original design efficiency.
- Savings in fuel and electrical consumption of auxiliaries.
- Reduction of unplanned outages and subsequent production losses.



- Developed by MACCHI as Original Equipment Manufacturer (OEM)
- Expert and intelligent system to integrate DCS/BMS functions

MACCHI headquarters assist Owner to solve critical situation, advising of any variation trend of key parameters that may have a negative impact on boiler performance, reliability and on the conservative operation of the unit.

- Maximize thermal efficiency
- Avoid Loss of steam production
- Achieve best emission of NOx and CO
- Contribute to reduce global warming and CO₂ emission
- Allow operation flexibility (e.g. Fuel change)
- Reduce human mistakes
- Contribute to improve operators' skills
- Reduce time to perform trouble-shooting and take quickly right decision
- Optimization of diagnostic/predictive maintenance specific for boiler
- Availability of estimation of residual life



Group Workshops

FAGNANO OLONA (VA) – Italy

North Italy, 10 Km far from Sofinter's head office in Gallarate

Covered Area: 6.000 m² / 64.600 ft²
Total Area: 18.000 m² / 193.750 ft²
Lifting capacity: 60 tons

Pressure parts prefabrication: Superheaters, Waterwall panels, Economizers, HRSG Modules, Piping Spools

MARGHERA (VE) – Italy

Near to Venice commercial port

Covered Area: 6.700 m² / 72.200 ft²
Total Area: 20.750 m² / 223.350 ft²
Lifting capacity total = 400 tons

Assembly yard consists of 2 industrial bays
Boiler Assembling and Modularisation
Plug&Play completely preassembled on skid
Roll-on/Roll-off and Lift-on/Lift-off Delivery



GIOIA DEL COLLE (BA) – Italy

40 km from Southern Italy's main merchant ports of Bari and Taranto

Covered Area: 72.000 m² / 775.000 ft²
Total Area: 300.000 m² / 3.230.000 ft²
Lifting capacity: 300 tons

Pressure parts (coils, membrane-walls, headers), Piping, Drums, Burners.
Materials: CS, low & high alloy incl. T/P 91 & 92, austenitic steels

DROBETA TURNU SEVERIN – Romania

Sea transport: river private port

Covered Area: 24.000 m² / 258.350 ft²
Total Area: 50.000 m² / 538.200 ft²
Lifting capacity = 450 tons

Pressure Parts, Piping, Vessels (Drums, Deaerators, B.D. Tanks, etc.), Heat Exchangers, Steel Structures, Steelworks, Stacks, Ductwork, Casing

BOILER SERVICE

CONTACTS

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- Countries with Sofinter Installed Units
- Sofinter Headquarters
- Sofinter Companies and Branches

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