

ENGINEERING & SOLUTIONS

CTP TEAM S.R.L

Corporate Presentation

About us

We are engineers since 1970

International engineering and manufacturing Company with 50 years of experience in the sector of environmental protection systems and Heat recovery.

Environment sensibility

With innovative products in the field of Filtration, Gas Cleaning, Heat Exchangers and Waste Heat Recovery, we decrease the environmental impact of industrial processes.



Power Capacity

52 MWe



Forests

16.800 ha



Avoided CO2 emissions

130.000 tpy



Households

135.000

8

Systems

Environment solutions zero emissions

■ AIR FILTRATION



Fabric Filters

■ WHR



ORC / SRC Technology

■ UPGRADE



Optimisation Performance

■ DENOX



Break down NO_x

■ GAS COOLING



Tower Heat exchangers

■ FILTER BAGS



Workshop & fitting

■ RETROFIT



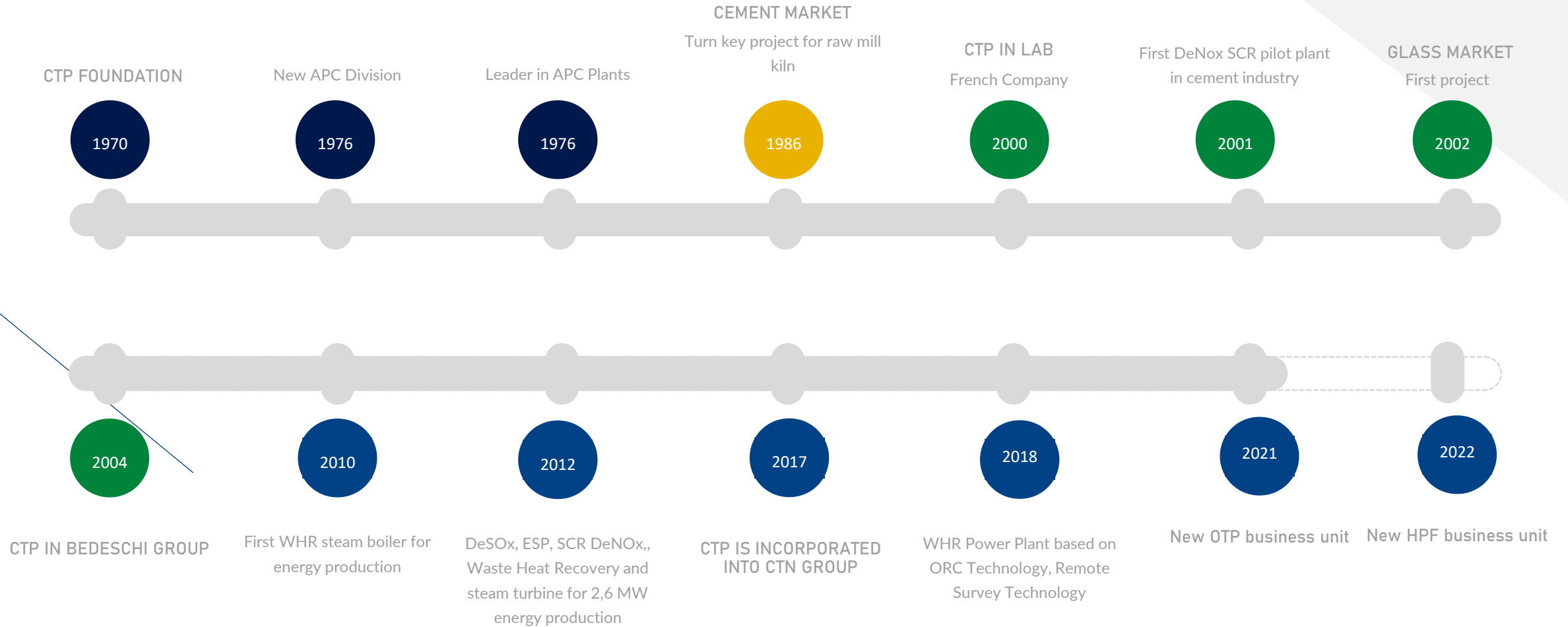
ESP Conversion

■ DESOX



Dry & Semi-dry process

50 years Timeline



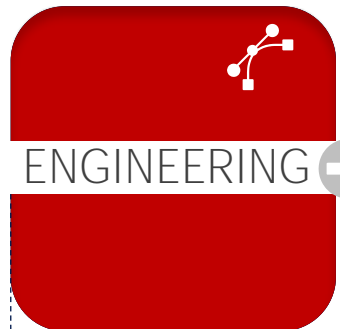
Global presence

More than 64 countries
1.430 systems worldwide
(emission control systems)



Full management project

Our team of engineers are dedicated to the continuous improvement of our solutions, new product and technologies. Highest performances and best available techniques.



Through the company CTN Group in Turkey, we manufacture all the steelworks at the highest standards of quality certified by TUV. The supply chain is evaluated worldwide on the project needs.

Our process engineers test the whole system. They inspect and test each equipment and the integration of the machines and the communication with the centralized control system.

In-house mechanical design of the full project, process, automation equipment, electric system, develop of all the technical requirements and related documentation.

Each project has a dedicated team of engineers and supervisor who supports our Customers in each step of the project to the commissioning and start-up of the project.

CTP after sales service provide H24 support and deliver qualified spare parts service to Customers.

EPC Turn-key projects

PEACE OF MIND

1  IN-HOUSE **ENGINEERING** & **DESIGN** CAPACITY

2  CIVILS & **MANUFACTURING WORKSHOP**

3  ASSEMBLY & **ERECTION**

4  **SMART TIE-IN** IN BROWN FIELD

5  **COMMISSIONING** & START-UP

6  **AFTER SALES** & MAINTENANCE

OEM network & support

CTP Team partners with the Original Equipment Manufacturer (OEM) of critical equipment in order to guarantee to customers the proper execution and performance of the systems in the whole process.

Our wide network and constant relationship with the OEM of key equipment keep our solutions at the state-of-the-art of technology and ensure longest operating lifetime of the system at the top performances.

We partner with private companies, universities and research centers in developing our worldwide projects and exploring smarter technological solutions.





TECHNOLOGY & PROJECTS
FABRIC FILTER

Fabric Filter Technology

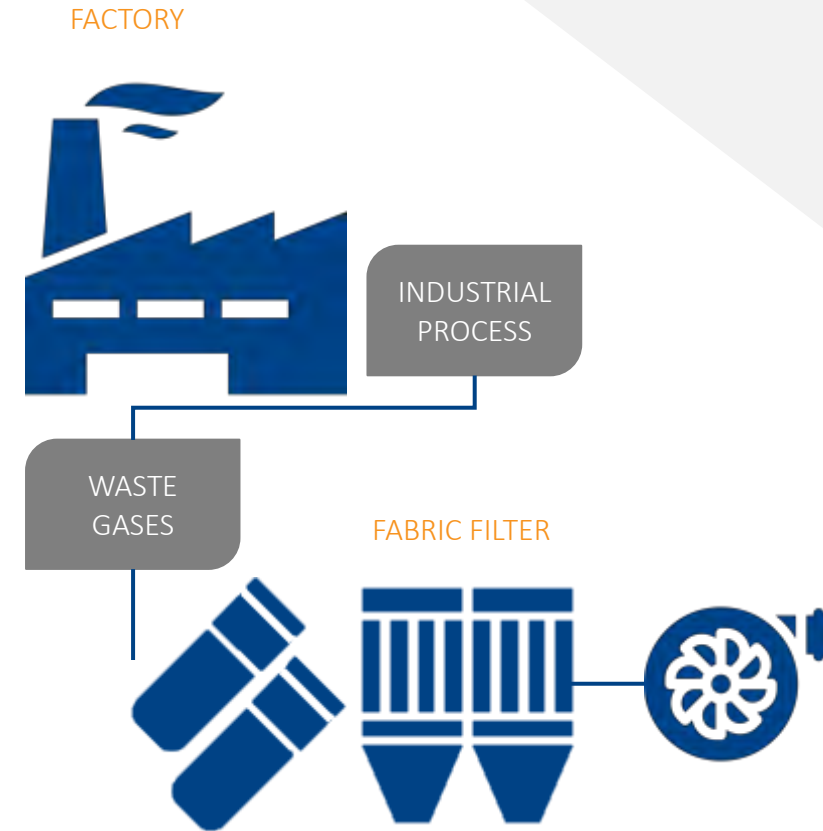
SWAP TECHNOLOGY

Sonic Wave Acceleration Pulse (SWAP) is an innovative low pressure technology for cleaning bags key-components of Fabric Filters. The sonic wave travels all along the length of the bag at a velocity approx. Mach 1.

This technology is the winning alternative to the traditional high pressure cleaning system with Venturi.

PLUS:

- Best efficiency in cleaning of long bags
- Keep constant the pressure drops over time
- Reduced consumption of compressed air thanks to the quick opening of the piston valves
- Modular assembly
- Shorter erection time



CAULDON project

UNITED KINGDOM



KILN RAW MILL
2.850 TPD



SWAP CLEANING
SYSTEM



CAPTURE DUST
EMISSIONS

IN A NUTSHELL:

- **By-pass of the existing ESP filter:** installation of the new dedusting unit above the existing building, no impacts on clinker production
- **Milestone:** important structural limits
- **Cleaning system:** SWAP Technology
- **Start-up:** 2024

BASIC DESIGN DATA

FILTER DESIGN CAPACITY	Am3/h	509,055
TOTAL FILTERING SURFACE AREA	m2	10.342
BAG SIZE	mm	ø152 x 10,000
COMPRESSED AIR CONSUMPTION (2,5 BAR)	Nm3/h	108
NUMBER OF BAGS PER ROW	No.	16

Figure 3 top view of Fabric Filter in Cauldon Lafarge plant, UK



CEMENTO San Marcos project

COLOMBIA



CEMENT MILL
NEW LINE



SWAP CLEANING
SYSTEM



CAPTURE DUST
EMISSIONS

CTP STRENGTH:

- New APC in the new grinding process
- **Cleaning system:** SWAP Technology
- **Full Integrated solution:** dedusting fabric filters
- Captured dust: 102 T/h
- **Start-up:** on-going project

BASIC DESIGN DATA

FILTER DESIGN CAPACITY	Am ³ /h	234.101
TOTAL FILTERING SURFACE AREA	m ²	4.022
BAG SIZE	mm	ø152 x 10,000
COMPRESSED AIR CONSUMPTION (2,5 BAR)	Nm ³ /h	61
NUMBER OF BAGS PER ROW	No.	20

Figure 2 – Process Fabric Filter in the Yumbo cement plant, Colombia



BISHA project

SAUDI ARABIA

SCOPE: Design, manufacturing and installation of 2 x fabric filters on KILN AND RAW MILL, CLINKER COOLER and 1x heat exchanger in Bisha cement plant 5000 TPD

MARKET: Cement

START UP: 2024

CTP STRENGTH:

- Smart integration of new APC in the existing process, no impacts on clinker production
- **Cleaning system:** SWAP Technology
- **Full Integrated solution:** dedusting fabric filters and heat exchanger
- **Start-up:** 2024

APC & COOLING SYSTEM

FULL INTEGRATED SOLUTION



2 X UNITS
FABRIC FILTERS



CLINKER COOLER
HEAT EXCHANGER



ENVIRONMENT
FRIENDLY

Figure 4 top view of Fabric Filter coal mill in Medcem plant, Turkey



Filtration & gas treatment

REFERENCES

- Most recent projects

Start-up (year)	EP - EPC	Segment	Quantity	Type of equipment	MARKET	CUSTOMER (customer name - plant)	COUNTRY	APPLICATION + CAPACITY	DESIGN CAPACITY [Am ³ /h]	TOTAL SURFACE AREA [m ²]	BAG SIZE [mm]
-	EP	Process Fabric Filter	1	New	CEM - Cement	San Miguel Corp - Calatagan Plant	PH - Philippines	CLINKER COOLER - 10000TPD	1.103.250	19.109	ø128 x 10000
2024	EPC	Process Fabric Filter	1	New	CEM - Cement	LAFARHE HOLCIM - Cauldon works plant	GB - United Kingdom	KILN RAW MILL - 2850 TPD	509.055	10.342	ø152,4 x 10000
-	EP	Process Fabric Filter	1	New	CEM - Cement	MUGLA CIMENTO SAN. TIC AS - Manisa plant	TR - Turkey	CLINKER COOLER - NEW LINE	388.182	8.427	ø152,4x10000
-	EP	Process Fabric Filter	1					KILN RAW MILL - NEW LINE	847.194	13.789	ø152,4x10000
2024	EP	Process Fabric Filter	1	New	CEM - Cement	CEMENTOS SAN MARCOS - Yumbo plant	CO - Colombia	CEMENT MILL	234.101	4.022	ø152,4x10000
2023	EP	Process Fabric Filter	1	New	CEM - Cement	MEDCEM MADENCILIK - Mersin plant	TR - Turkey	COAL MILL - NEW LINE	187.842	3.103	ø152,4x6000
-	EP	Process Fabric Filter	1	New	CEM - Cement			CEMENT MILL - NEW LINE	793.188	13.272	ø152,4x10000
2023	EP	Process Fabric Filter	1	New	CEM - Cement			KILN RAW MILL - NEW LINE	1.152.234	19.917	ø152,4x8000
2023 2023	EPC EPC	Process Fabric Filter	1	Conv	CEM - Cement	SOUTHERN PROVINCE CEMENT COMPANY - Bisha plant	SA - Saudi Arabia	CLINKER COOLER - 5000 TPD	627.845	11.222	ø152,4x9000
		Process Fabric Filter	1					KILN RAW MILL - 5000 TPD	1.040.684	17.813	ø152,4x9000

Integrated Solutions

REFERENCES

Both DeNO_x and DeSO_x systems are essential for mitigating air pollution and reducing the environmental impact of industrial activities. These systems are widely used in incinerators, power plants, industrial boilers, cement kilns, and other facilities subject to emissions regulations.

The most efficient method for DeNO_x is Selective Catalytic Reduction (SCR), while for DeSO_x, dry reactors are the most effective.

DeNOx & DeSOx systems

REFERENCES

- Most recent projects

EP - EPC	Segment	Quantity	Type of equipment	MARKET	CUSTOMER (customer name - plant)	COUNTRY	APPLICATION + CAPACITY	Emissions SOx removal efficiency	Emissions NOx removal efficiency	Emissions HCl removal efficiency
EPC	DeSox	1	New	CHE - Chemical	CHEMVIRON CARBON	BE - Belgium	ACTIVATED CARBON PURIFICATION SYSTEMS	98,30%	n.a.	98,90%
EPC	Process Fabric Filter	1	New					n.a.	n.a.	n.a.
EP	Conditioning tower	1	New	CHE - Chemical	CARBON CALGON	US - USA	GENERAL DEDUSTING	n.a.	n.a.	n.a.
EP	DeSox	1	New					97,20%	n.a.	99,60%
EP	Process Fabric Filter	1	New					n.a.	n.a.	n.a.
EP	WHR-SRC	1	New	GLA - Glass	GOMELGLASS	BY - Belarus	Glass furnace	n.a.	n.a.	n.a.
EP	DeSOx	1	New					24,53%	n.a.	n.a.
EP	DeNOx	1	New					n.a.	81,25%	n.a.
EP	ESP	1	Conv					n.a.	n.a.	n.a.
EPC	DeSox	1	New	CEM - Cement	ITALCEMENTI - HALYPS	GR - Greece	KILN & RAW MILL + LIME INJECTION	70,00%	n.a.	n.a.
EPC	Conditioning tower	1	New				KILN PREHEATER	n.a.	n.a.	n.a.
EPC	Process Fabric Filter	1	New				KILN & RAW MILL + LIME INJECTION	n.a.	n.a.	n.a.
EPC	DeNOx	1	New	BIO - Biomass	LODI ENERGIA 4 UNICONFORT	IT - Italy	GENERAL DEDUSTING	n.a.	73,33%	n.a.
EPC	Nuisance Filter	1	New					n.a.	n.a.	n.a.

Sustainable future

TOWARDS ZERO EMISSIONS

The technologies today available can guarantee a complete control of the pollutants released in the environment by the exhaust gas.

However, emissions control equipment are obviously all energy consuming; in some cases, high abatement efficiency can have a considerable impact on the production cost and, on top of that, contribute to improve emission of GHG (CO₂).

The sustainability of all these techniques has in any case to be submitted to their possible indirect impact on the climate changes

TECHNOLOGY & PROJECTS
WASTE HEAT RECOVERY

Waste Heat Recovery Technology

BEST AVAILABLE TECHNOLOGY

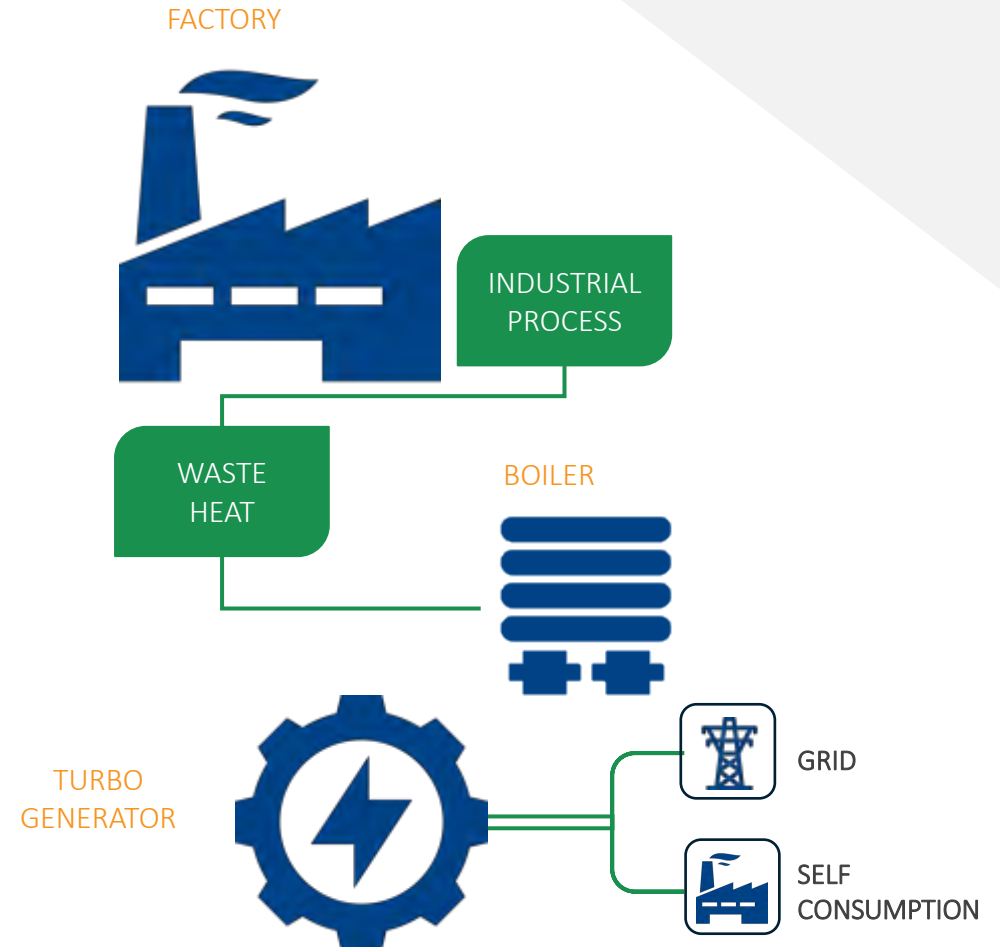
Waste Heat Recovery (WHR) is a profitable, low-carbon, environmentally friendly system to produce electricity by recovering heat from industrial processes. The most common technology used to produce power from a waste heat is based in general on the Rankine Cycle.

This thermodynamic cycle is performed by a working fluid and consists of a heat source (boiler) that generates a high-pressure vapor which is subsequently expanded through a turbo generator producing power.

In general, there are 2 different kind of working fluids:

- Water (most commonly used) : **Steam Rankine Cycle (SRC)**
- Organic fluid: **Organic Rankine Cycle (ORC)**

The kind of fluid used influences the boiler design mainly for difference in working pressure and temperature.



ENELX 4 Colacem project **NEW**

ITALY

SCOPE: Design, manufacturing and installation of WHR based on ORC for Enel X in Colacem Cement at Sesto Campano plant

MARKET: Cement

START UP: 2026

CTP STRENGTH:

- Energy Performance Contract powered by Enel X
- Smart integration of new WHR in the existing process, no impacts on clinker production
- Balance of capex and operation & maintenance activities
- Gross power generation **2,3 MW**
- Support to client's mitigation of carbon footprint project

WHR SYSTEM

GREEN POWER GENERATION



CLINKER COOLER
AQC BOILER



GROSS POWER
2,3 MW

Figure 7 – Cement plant in Sesto Campano - Italy



ENERJISA 4 Cimsa project **NEW**

TURKEY

SCOPE: Design, manufacturing and installation of WHR based on ORC for Enejisa Enerji in Cimsa Cement at Eskisehir plant

MARKET: Cement

START UP: end 24

CTP STRENGHT:

- Energy Performance Contract powered by Enerjisa Enerji
- Smart integration of new WHR in the existing process, no impacts on clinker production
- Balance of capex and operation & maintenance activities
- Gross power generation **5,9 MW**
- Support to client's mitigation of carbon footprint project

WHR SYSTEM GREEN POWER GENERATION



Figure 8 – Cement plant in Cimsa Eskisehir - Turkey



MEDCEM Mersin project

TURKEY

SCOPE: Design, manufacturing and installation of WHR based on ORC for a new cement line in Mersin cement plant (Eren Holding)

MARKET: Cement

START UP: Y24

CTP STRENGTH:

- Smart integration of new WHR in the existing process, no impacts on clinker production
- Challenge: construction of the cement line in parallel with the WHR system
- Gross power generation **10,5 MW**
- Support Client's mitigation of carbon footprint and dust emissions level.

WHR&APC SYSTEM

FULL INTEGRATED SOLUTION



DEDUSTING
FABRIC FILTERS



CLINKER COOLER
AQC BOILER



GROSS POWER
10,5 MW

Figure 9 – Cement plant in Mersin - Turkey



Waste Heat Recovery

REFERENCES

Start-up (year)	EP - EPC	Segment	Quantity	Type of equipment	MARKET	CUSTOMER (customer name - plant)	COUNTRY	APPLICATION + CAPACITY	DESIGN CAPACITY [Nm ³ /h]	MAX THERMAL POWER (Kwt)	WHR gross power performances (MWe)
-	EPC	WHR-ORC	1	New	CEM - Cement	COGENIO FOR COLACEM - Sesto campano cement plant	IT - Italy	CLINKER COOLER (AQC Thermal oil Heat Exchanger) - 4500 TPD	180.000	10.200	2,3
-	EPC	WHR-ORC	1	New	CEM - Cement	ENERGJISA FOR CIMSA - Eskisehir cement plant	TR - Turkey	CLINKER COOLER (AQC Thermal oil Heat Exchanger) - 3000 TPD KILN (PH Thermal oil Heat Exchanger) - 3000 TPD	99.000 202.000	10.240 10.596	6,0
2024	EPC	WHR-ORC	1	New	CEM - Cement	MEDCEM MADENCILIK - Mersin plant	TR - Turkey	CLINKER COOLER (AQC Thermal oil Heat Exchanger) Line 7 - 7500 TPD	494.800	46.000	10,5
-	EPC	WHR-ORC	1	New	CEM - Cement	CIMPOR - Alhandra plant	PT - Portugal	CLINKER COOLER (AQC Thermal oil Heat Exchanger) Line 7 - 4000 TPD KILN (PH Thermal oil Heat Exchanger) Line 7 - 4000 TPD	182.300 128.620	9.595 8.516	4,2
2024	EPC	WHR-ORC	1	New	CEM - Cement	CIMPOR - Souselas plant	PT - Portugal	CLINKER COOLER (AQC Thermal oil Heat Exchanger) - Line 3 - 4000 TPD KILN (PH Thermal oil Heat Exchanger) - Line 3 - 4000 TPD	135.800 260.800	13.041 19.465	8,0
2024	EPC	WHR-ORC	1	New	CEM - Cement	SECIL - Outao plant	PT - Portugal	KILN (PH Thermal oil Heat Exchanger) - 4000 TPD CLINKER COOLER (AQC Thermal oil Heat Exchanger) - 4000 TPD	277.000 170.000	17.918 11.068	7,2
2020	EPC	WHR-ORC	1	New	CEM - Cement	Sonmez Cimento Cement Plant	TR - Turkey	CLINKER COOLER (AQC Thermal oil Heat Exchanger) - 6000 TPD KILN (PH Thermal oil Heat Exchanger) - 6000 TPD	225.608 345.750	23.816 14.961	8,1
2019	EPC	WHR-ORC	1	New	CEM - Cement	CIMKO CIMENTO - kahramanmaras plant	TR - Turkey	CLINKER COOLER (AQC Thermal oil Heat Exchanger) - 3000 TPD	320.000	26.248	6,4
2011	EPC	WHR-SRC	1	New	CHE - Chemical	CHEMVIRON CARBON	BE - Belgium	ACTIVATED CARBON PURIFICATION SYSTEMS	17.610	5.230	1,3
2018	EP	WHR-SRC	1	New	GLA - Glass	GOMELGLASS	BY - Belarus	Glass furnace	110.000	10.974	2,7



OPTIMISATION & TECHNOLOGY

OTP DIVISION

Activity and solutions



About OTP

OTP division is specialized in the optimisation of Bag filters and Waste heat recovery systems.

Thanks to a long experience in the Air Pollution control solutions and the extensive know-how of industrial processes, OTP's mission is, analyzing the existing scenario, identify optimized solutions, reach higher performances, reliability and savings.




“Key values”
Performances | Reliability | Savings

How we do it?

There are many reasons behind an APC system no more adequate to the process conditions

OTP technical approach consists in deep process analysis and equipment validation, identification of critical points, development of solutions to improve the existing equipment and solve plant problems to meet client expectations

1. Analysis of industrial processes
2. Full assessment for APC system (filters)
3. CFD of existing equipment
4. Identification of critical points and opportunities
5. New CFD analysis and identification of potential optimizations
6. Report of the optimizations and performances
7. Proposed technological solution and achievable results



OTP technical approach consists in deep process analysis and equipment validation

Why?

Control guaranteed of dust emission levels

Full line optimisation

Reduce the equipment total cost of ownership

Support the increased clinker production

Decrease energy consumptions

Improve the reliability of filter operation

Prevent future malfunctioning



a2a project

ITALY

SCOPE: Revamping, optimisation of emission control system consisting in engineering and supply a new cleaning system for the existing fabric filter of the incinerator in Bergamo plant.

CLIENT: a2a

MARKET: Incinerator

STARTUP: -

CTP STRENGTH:

- Technical **solution** and **optimisation** of operating costs
- Sustainability & environmental impacts
- **Cleaning system:** SWAP Technology
- **Start-up:** on-going project

OPTIMISATION PROCESS FABRIC FILTER

APPLICATION



INCINERATOR
EXISTING LINE

Figure 8 – Incinerator in a2a , Italy





HIGH PRECISION FILTRATION

HPF DIVISION

Activity and solutions

HPF precision filtration

BAG & CAGE SERVICE & SUPPLY

HPF precision filtration[®] is the manufacturing division of **CTP Team** and is specialized in producing and tailoring high quality filter media for multiple industrial applications. Filter bags are the core of the equipment filtration performances and a full set replacement hides several aspects to be considered in order to ensure material lasting for several years and keep granting emissions compliance.

In details

- Laboratory analyse (critical filter medias)
- Wide range of technical textiles, fibers and felts
- Technical support in textiles selection for any applications
- Internal manufacturing and best standard quality
- Worldwide shipping and logistics

Multiple industries: cement, iron&steel, glass, WTE, biomass, power, pharmaceutical, mining, others.



HPF division is located in Italy with a specialized manufacturing workshop

HPF precision filtration

BAG & CAGE SERVICE & SUPPLY

Available filtration medias and a view on main cages design and shape



Side-lock



Twist-lock



Fingerlock



Fiber	Max. Temperature	Acid Resistance	Alkali Resistance	Abrasion Resistance	Flex Resistance
Cotton	180°F (82°C)	Poor	Excellent	Average	Very Good
Polypropylene	212°F (100°C)	Excellent	Excellent	Excellent	Très Bon
PAN (Acrylic)	260°F (°126C)	Good	Average	Good	Very Good
Polyester	275°F (135°C)	Fair	Fair	Excellent	Very Good
PPS	374°F (190°C)	Very Good	Very Good	Very Good	Very Good
Aramid	392°F (200°C)	Fair/Poor	Good	Excellent	Excellent
P-84	473°F (245°C)	Good	Sufficient	Good	Good
PTFE	500°F (260°C)	Excellent	Excellent	Fair	Good
Fiberglass	500°F (260°C)	Good	Fair	Average	Average




Need to know more? Please contact us

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