

EMIT Group

Ercole Marelli Impianti Tecnologici



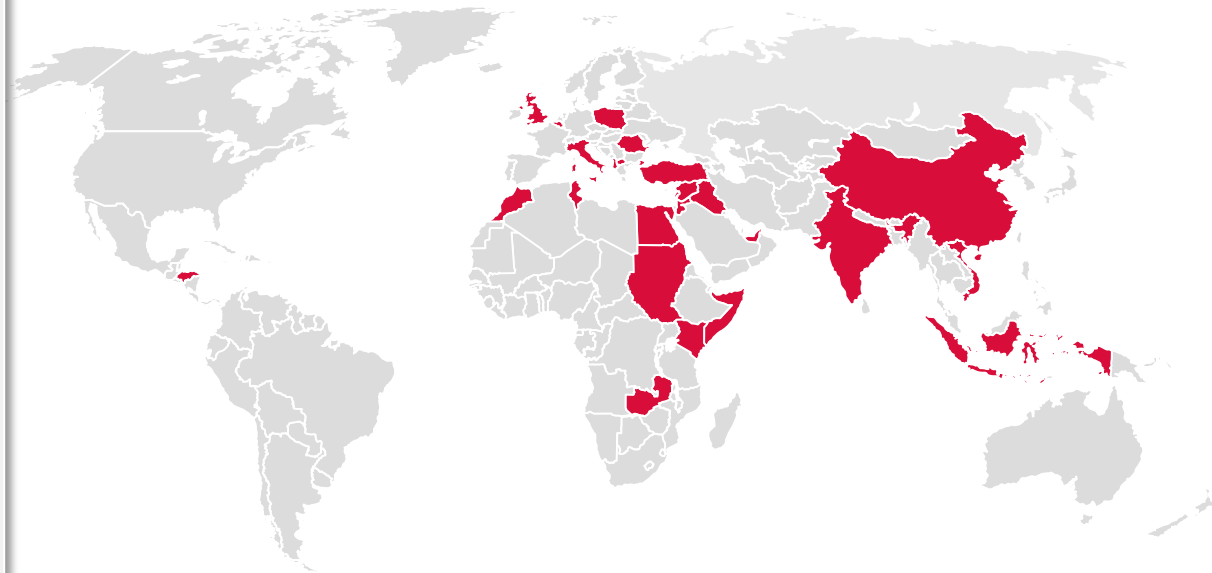
EMIT GROUP is an Italian EPC Company specialized in the Construction of Water & Wastewater Treatment Plants

Overview

History

- EMIT GROUP – Ercole Marelli Impianti Tecnologici Srl is an Italian EPC contractor established in 1973
- EMIT GROUP has benefited from the 1960-70s Italian infrastructure development
- With over 400 turn-key projects completed in more than 30 countries, it has built expertise in:
 - Water treatment (up to 720k m³/d)
 - Wastewater treatment (up to 900k m³/d)
 - Municipal and industrial solid waste treatment plants (up to 700 ton/d)
 - Polluted soil remediation (landfills up to 2M m³)
 - Waste-to-energy (up to 5MW)
- EMIT GROUP core competencies comprise:
 - Process engineering
 - Mechanical engineering
 - Electrical engineering and instrumentation
 - Control and Automation (SCADA)

Geographical Footprint of Projects



Technical Competence

The experience achieved in the study and construction of several type of plants together with the application of specific know how and in-house technical capabilities, allows EMIT Group offering the following services:

- ☐ EPC solutions
- ☐ Process engineering
- ☐ Detailed engineering
- ☐ Consultancy services
- ☐ Construction supervision and coordination
- ☐ Start up and commissioning
- ☐ Plant operation and after sale assistance

Quality Policy

Since Quality is one of EMIT GROUP's top concerns, all its staff follow the Company's Quality System.

EMIT GROUP is certified according to UNI EN ISO 9001: 2015 for the design, construction, operation and maintenance of plants for:

- solid waste treatment,
- waste to energy,
- pumping,
- water and wastewater treatment,
- air treatment,
- sanitary landfills and
- polluted soil remediation.

In October 2013, EMIT Group was successfully certified according to UNI EN ISO 14001: 2015 for Environmental Management System.

This process ensures continuous improvement and total control over quality and production schedules, in order to ensure meeting the most aggressive deadlines.

Certificate

Standard **ISO 14001:2015**

Certificate Registr. No. 01 104 1517547

Certificate Holder: **EMIT GROUP - Ercole Marelli Impianti Tecnologici S.r.l.**
Via Lampedusa - Palazzo D 13
I - 20141 Milano MI

Scope: Design, construction, operation and maintenance of water and wastewater treatment plants and pumping stations

Proof has been furnished by means of an audit that the requirements of ISO 14001:2015 are met.

Validity: The certificate is valid from 2016-10-13 until 2019-10-09.
First certification 2013

2016-10-14

Lab. B.
TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln



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CERTIFICATE

The Certification Body TÜV Rheinland Italia S.r.l.

certifies, in accordance with the TÜV Rheinland Group procedures, that the Company

EMIT GROUP - ERCOLE MARELLI IMPIANTI TECNOLOGICI S.R.L.
Via Lampedusa, 13 - Palazzo D
I - 20141 Milano

has established and applies a quality management system for the following scope:

Design, construction, operation and maintenance of plants of pumping, water and waste water treatment. EA 28A

Through an Audit, Report No. 2091511, proof has been furnished that the quality management system fulfils the requirements of the standard

UNI EN ISO 9001:2015

evaluated according to the requirements of the Document ACCREDIA RT-05.

Certificate Registration No. **39 00 2091511**.

This Certificate is valid from 2016-10-09 to 2019-10-08.

The reference date for all the next audits is (day-month): 09-10.

Milan, 2016-10-07. First Certification: 2013-10-10

F. Carli

The certification responsible
TÜV Rheinland Italia S.r.l., Via E. Mattei, 3 - I - 20010 Pogliano Milanese (MI)



50Q n° 093A 50A n° 9520
Numero degli Accordi di Mutuo Riconoscimento: 84, IAF e 3AC
Signature of EA, IAF and 3AC
Mutual Recognition Agreement

This certification is related to the management aspects of the Organization as a whole and it can be used for the purpose of the qualification of the construction Organizations according to the article 40 of the Law 12 April 2006 n° 163 with the following changes and to the D. P. R. 5 October 2010, n° 207.

For any punctual and updated information about the possible changes in the status of the certification related to this certificate, please contact the telephone No. +39 02 938.607.1 or the e-mail address informazioni@tuv.it

www.tuvitalia.com



Italian qualifications

In relation to EPC Contracting activity in Italy, EMIT GROUP holds the associated top ranking qualifications for public works:

Category	Classification	Description
OS 14	V	Disposal and recovery solid waste plants
OG 12	IV	Sanitary landfills and polluted soil remediation
OS 22	VIII	Water and wastewater treatment plants
OG 9	V	Energy productions plants
OG 6	VII	Pipelines constructions

WORK IN PROGRESS

COUNTRY/CITY	EMPLOYER	TYPE OF WORK	CAPACITY	EXPECTED COMPLETION DATE
TURKEY/Bursa	Bursa Water and Sewerage Administration (BUSKI) – General Directorate	No. 3 Waste Water Treatment Plant & 1 year O&M	8,200 m ³ /d, 5,761 m ³ /d, 22,000 m ³ /d	2018
EGYPT/Burullus	ORASCOM CONSTRUCTION	Demineralization water production plant	- Demineralization production with UF (Ultra Filtration), - RO 1st & 2st step for total production of 120 m ³ /h	2017
EGYPT/New Assiut	ORASCOM CONSTRUCTION	Chemical dosage plant	- 2 skids of trisodic phosphate, dosage: 14 l/h @130 bar - 1 skid of ammonium hydroxide, dosage: 130 l/h @55 bar	2017
EGYPT/West Damietta	ORASCOM CONSTRUCTION	Chemical dosage plant	- 4 skids of trisodic phosphate, dosage: 14 l/h @130 bar - 2 skids of ammonium hydroxide, dosage: 130 l/h @55 bar	2017
ROMANIA/Vaslui	SC AQUAVAS SA VASLUI	Three Wastewater Treatment Plants	5,000 m ³ /d, 19,000 m ³ /d, 20,500 m ³ /d	2017

WORK IN PROGRESS

COUNTRY/CITY	EMPLOYER	TYPE OF WORK	CAPACITY	COMPLETION DATE
EGYPT	ORASCOM CONSTRUCTION	Capital Power Plant - Chemical Laboratory Equipment and Furniture	n/a	2017
EGYPT/Beni Suef	Iskra Emeco (Slovenia)	Portable demineralization water treatment plant	No. 2 lines 750 m ³ /d each of production of demineralized water	2017
EGYPT/Burullus	ORASCOM CONSTRUCTION	Power Plant – Chemical Laboratory Equipment and Furniture	n/a	2017

Reference list: Wastewater Treatment Plants and Operation

COUNTRY/CITY	EMPLOYER	TYPE OF WORK	CAPACITY	COMPLETION DATE
ROMANIA/Rastu Nou & Bechet	SC. Compania de Apa Oltenia S.A	Transfer collector & No. 2 Waste Water Treatment Plant	7,600 m ³ /d	2017
ROMANIA/Iasi	SC. Apavital S.A. Iasi	Wastewater Treatment Plant	191,000 m ³ /d	2016
TURKEY/Mersin	General Directorate of Water & Sewerage Administration of Mersin - MESKİ	Construction and Operation Wastewater Treatment Plant	190,000 m ³ /d	2015
ROMANIA/Iasi	SC. Apavital S.A. Iasi	Three Waste Water Treatment Plants	14,470 m ³ /d	2015
U.A.E./Abu Dhabi	Kharafi National / TDIC Tourism Development Investment Company	Waste Water Treatment plant	20,000 (PhI) & 78,000 (PhII) m ³ /d	2013
ROMANIA/Craiova	Compania de Apa Oltenia	Waste Water Treatment plant	129,600 m ³ /d	2011
JORDAN/Ma'an	Ministry of Water and Irrigation	Waste Water Treatment plant	7,000 m ³ /d	2008
TURKEY/Bursa	Bursa Water and Sewerage Administration (BUSKİ) – General Directorate	Construction and Operation of Bursa Eastern & Western Wastewater Treatment Plants	351,000 m ³ /d & 165,000 m ³ /d	2007
TURKEY/Izmit	Iler Bankasi	Five Wastewater Treatment Plants	23,000 m ³ /d, 29,000 m ³ /d, 81,000 m ³ /d, 91,000 m ³ /d, 93,000 m ³ /d	2007

Reference list: Water Treatment Plants and Networks

COUNTRY/CITY	EMPLOYER	TYPE OF WORK	CAPACITY	COMPLETION DATE
ROMANIA/Isalnita	SC. Compania de Apa Oltenia S.A	Rehabilitation of Water Treatment Plant	86,400 m ³ /d	2016
TURKEY/Melen	Ministry of Energy and Natural Resources - General Directorate of State Hydraulic Works (DSI)	Water Treatment Plant	720,000 m ³ /d	2013
JORDAN/Amman	Ministry of Water and Irrigation	Water Supply Project Stage 1&2	n/a	2010
TURKEY/Sanliurfa	Ministry of Energy and Natural Resources - General Directorate of State Hydraulic Works (DSI)	Water Treatment Plant	270,000 m ³ /d	2007

Reference list: Water for Industry

COUNTRY/CITY	EMPLOYER	TYPE OF WORK	CAPACITY	COMPLETION DATE
EGYPT/Suez	East Delta Electricity Production Company	Power Station - Condensate Polishing Unit	43,2600 m ³ /d	2016
EGYPT/Abu Qir	Abu Qir Fertilizers and Chemical Industries	Supply of Pressure Vessels	n/a	2015
EGYPT/Al Shabab	Kharafi National / East Delta Electricity Production Company	Power Station - Water Treatment Plant	UF Water produced: 240 m ³ /h RO Water produced: 155 m ³ /h Mixed beds: 130 m ³ /h potable water: 30 m ³ /d	2012
EGYPT/Damietta	Kharafi National / East Delta Electricity Production Company	Power Station - Water Treatment Plant	UF Water produced: 250 m ³ /d RO Water produced: 155 m ³ /h Mixed beds: 130 m ³ /h	2012
EGYPT/Damietta	Techint spa	Methanol production - Water Treatment Plant	UF Water produced: 600 m ³ /h RO Water produced: 2x45 m ³ /h Mixed beds: 2x130 m ³ /h	2011
ITALY/Scandale	Ergosud spa	Zero discharge water treatment system	Industrial water treatment: 60 m ³ /h Demineralization water production: 2x25 m ³ /h	2008

Work in Progress



Turkey: AKÇALAR, KÜÇÜKKUMLA and NILÜFER (BURSA)

Construction of N. 3 Waste Water Treatment Plants and 1 year of operation and maintenance

Client: Bursa Water and Sewerage Administration (BUSKI) – General Directorate

Capacity:

- Nilüfer: - 22,000 m³/day in winter & - 21,500 m³/day in summer.
- Küçükkumla: - 5,200 m³/day in winter & - 8,200 m³/day in summer;
- Aşkalar: - 4,023 m³/day in winter & - 5,761 m³/day in summer;

EMIT Contract Value: € 8,142,000

Main items:

- Pretreatment and inlet PSs
- Removal of C/N/P
- Secondary clarifiers
- Sludge treatment
- Odor control
- UV disinfection



Romania : VALSUI, BARLAD and HUSI

Construction of Waste Water Treatment Plants

Client: SC AQUAVAS SA VASLUI

Completion Date: 2017

Vaslui: 19,000 m³/d

Barlad: 20,500 m³/d

Husi: 5,000 m³/d

EMIT Contract Value: € 10,600,000

Main new items:

- Removal of C/N/P
- Primary and secondary clarifiers
- Sludge treatment
- Odor control
- Anaerobic digestion
- Biogas treatment
- Cogeneration



Romania : RASTU NOU and BECHET

Construction of Waste Water Treatment Plants

Client: SC. Compania de Apa Oltenia S.A

Completion Date:
Currently under testing and commissioning (2017)

Rasu Nou: 5,200 m³/d

Bechet: 3,000 m³/d

EMIT Contract Value: € 14,668,000

Main new items:

- Removal of C/N/P
- Primary and secondary clarifiers
- Sludge treatment
- Odor control



EGYPT: BURULLUS

Construction a plant for the production of demineralization water

Client: ORASCOM CONSTRUCTION

Water plant production with UF (Ultra Filtration), RO (Reverse Osmosis) 1st and 2nd step

Total production of 120m³/h

EMIT Contract Value: € 4,500,000

Completion Date: 2016

Main items:

- Ultrafiltration
- Reverse Osmosis and energy recovery
- EDI
- Electrochlorination



Selected Project

Waste Water Treatment Plants



TURKEY – Bursa East & Bursa West

Waste Water Treatment Plants

Client: Bursa Water and Sewerage Administration
(BUSKI) – General Directorate

Treatment Capacity: 351,000 m³/d & 165,000 m³/d

Total Contract Value: € 75,308,380

Completion Date: 2007

Process:

- Pre-treatments
- Biological phosphorus removal
- BOD removal
- Biological denitrification
- Biological nitrification
- Final sedimentation
- Sludge dewatering and stabilization



TURKEY – Mersin

Construction and Operation of a Wastewater Treatment Plant

Client: General Directorate of Mersin (MESKI)

Treatment Capacity: 190,000 m³/d

Total Contract Value: € 64,248,835 (EPC + O&M)

Completion Date: 2015

Process:

- Raw water pumping stations
- Pretreatments
- Primary sedimentation
- NBR activated sludge system
- Final sedimentation
- Sludge thickening
- Sludge anaerobic digestion
- Mechanical sludge dewatering
- Sludge lime stabilization
- Co-generated heat and power plants



ROMANIA – Craiova

Waste Water Treatment Plant

Client: Compania De Apa Oltenia

Treatment Capacity: 129,600 m³/d

Total Contract Value: € 25,966,213

Completion Date: 2011

Process:

- Pretreatments
- Primary sedimentation
- NBR activated sludge system
- Final sedimentation
- Sludge thickening
- Sludge anaerobic digestion
- Mechanical sludge dewatering
- Co-generation system



U.A.E. (ABU DHABI) – Saadiyat Island STP2

Waste Water Treatment Plant

Client: Kharafi National Co. LLC/TDIC

Capacity: 20,000 (Phase I) m³/d
78,000 (Final prevision) m³/d

Total Contract Value: € 84,655,742

Completion Date: 2013

Process:

- Pre-treatment
- BOD and nitrate removal
- MBR system
- Sludge dewatering & Stabilization
- Water reuse
- Odour control system



(TREATED WATER PUMPING STATION: REAL PICTURE) (TREATED WATER PUMPING STATION: 3D MODEL)

ROMANIA – CL9: IASI

Rehabilitation and upgrade of WWTP

Client: SC Apavital S.A. Iasi

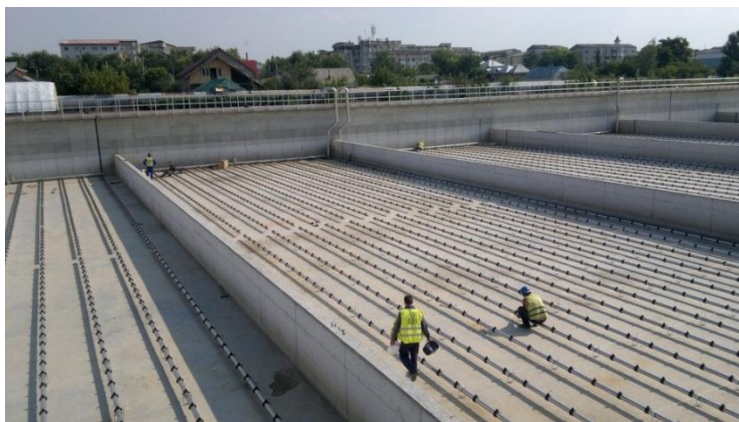
Treatment Capacity: 191,333 m³/d – 930,000 I.E.

Total Contract Value: € 10,125,000

Completion Date: 2015

Main new items:

- Phosphorous removal
- Biological treatment (3rd line)
- New sludge dewatering
- Excess water pumping station



During rehabilitation



End of rehabilitation

TURKEY – Izmit

5 Waste Water Treatment Plants and 2 Sea Outfalls

Client: Iller Bankasi

Treatment Capacity: 93,000 m³/d
91,000 m³/d
81,000 m³/d
29,000 m³/d
23,000 m³/d

Total Contract Value: € 18,323,000

Completion Date: 2007

Process:

- Pre-treatments
- Biological denitrification
- Biological nitrification
- Final sedimentation
- Sludge thickening
- Sludge dewatering



Romania – CL10: TARGU FRUMOS / PODU / HARLAU

Rehabilitation and upgrade of Three WWTPs

Client: SC Apavital S.A. Iasi

Capacity: Targu Frumos: 6,200 m³/d

Harlau: 4,700 m³/d

Podu Ioleai: 3,600 m³/d

Total Contract Value: € 10,293,000

Completion Date: 2015



Selected Project Water Treatment Plants



TURKEY – Melen

Water Treatment Plant

Client: Ministry of Energy and Natural Resources
General Directorate of State Hydraulic Works (DSI)

Treatment Capacity: 720,000 m³/d

Total Contract Value: € 44,846,000

Completion Date: 2013

Process:

- Aeration
- Prechlorination
- Flocculation
- Clarification
- Filtration
- Postchlorination, sludge thickening and dewatering



TURKEY – Sanliurfa

Water Treatment Plant and Pumping Station

Client: Ministry of Energy and Natural Resources
General Directorate of State Hydraulic Works
(DSI)

Treatment Capacity: 270,000 m³/d

Total Contract value: € 29,785,000

Completion Date: 2007

Process:

- Raw water pumping station
- Aeration
- Flocculation - clarification
- Rapid gravity filtration
- Chlorination
- Chemical dosing
- Treated water pumping station
- Sludge thickening and dewatering



JORDAN – Amman (Stage 1 & Stage 2)

Water Supply Project

Client: Ministry of Water and Irrigation

Total Contract Value: € 31,295,017.30

Completion Date: 2010

Scope of Work:

- Primary pipeline distribution with 14 km of ductile iron diam. 800 mm
- Pumping station construction,
- Pumping station rehabilitation and installation of chlorination equipment, two reservoirs construction with a combined capacity of 14,500 m³,
- Secondary and tertiary distribution pipelines with 115 km of ductile iron with diam. From 100 to 700 mm
- Associated house connections



Romania : ISALNITA

Rehabilitation of Water Treatment Plant

Client: SC Compania de APA Oltenia SA

Treatment Capacity: 3,600 m³/h

EMIT Contract Value: € 8,200,000

Completion Date: 2015

Main new items:

- Inlet PS
- Ozone generator
- Flocculation & clarification
- Gravity sand filters
- Disinfection with Cl₂



After



Before



Selected Project

Industrial Water Projects



EGYPT – Damietta

Water produced for use in a methanol plant

Client: Techint S.p.A.

Completion Date: 2011

Total Contract Value: € 4,370,173

Main Features:

- UF Water produced: 600 m³/h
- RO Water produced: 2x45 m³/h
- Mixed beds: 2x130 m³/h

Process:

- Pre-treatments,
- 2 pass ultrafiltration plant,
- 2 pass 2 steps reverse osmosis plant,
- Degassing tower,
- Edi
- Cooling tower side stream filters,
- Condensate polishing filters (mixed beds),
- Sludge treatment



EGYPT – Suez

Condensate Polisher Unit For Suez Thermal Power Plant: 1 X 650 Mw Gas/Oil Fired Unit

Client: East Delta Electricity Company

Contractor: Metito

Contract: Condensate Polisher System with external regeneration

Capacity: 1,800m³/h (2x50%, 900m³/h cad)

Contract Value: € 3,650,000 & EGP 5,700,000

Completion: 2016

Process:

- Condensate polisher with mixed bed resins, with external regeneration system and chemical dosing.



EGYPT – Damietta

500 MW Gas Turbine Power Plant - Water Treatment Plant

Client: KHARAFI NATIONAL / EAST DELTA ELECTRICITY PRODUCTION COMPANY

Total Contract Value: € 6,287,000

Completion Date: 2012

Main features:

- UF Water produced: 250 m³/h
- RO Water produced: 155 m³/h
- Mixed beds: 130 m³/h

Process:

- Pre-treatments with ultrafiltration
- Reverse osmosis
- Demineralization



EGYPT – Al Shabab

1000 MW Gas Turbine Power Plant - Water Treatment Plant

Client: KHARAFI NATIONAL / EAST DELTA
ELECTRICITY PRODUCTION COMPANY

Completion date: 2012

Total Contract Value: € 12,690,000

Main features:

- UF Water produced: 240 m³/h
- RO Water produced: 155 m³/h
- Mixed beds: 130 m³/h
- potable water: 30 m³/d

Process:

- Pre-treatments with ultrafiltration
- Reverse osmosis
- Remineralization



ITALY - Scandale

Power Station Water Treatment Plant: **Zero liquid discharge**

Client: ERGOSUD S.p.A.

Completion Date: 2010

Total Contract Value: € 7,000,000

- Industrial water treatment: 60 m³/h
- Demineralization water production: 2x25 m³/h

Process:

- Pre-treatments
- Demineralization
- Oil water treatment
- Wastewater treatment



EGYPT – Cairo North

Power Station Water Treatment Plant

Client: Cairo Electricity Production Co.

Completion Date: 2007

Total Contract Value: € 3,450,000

Process:

- Pretreatment: 140 m³/h
- Demineralization with exch. resins: 100 m³/h
- Oil water separation treatment: 100 m³/h

