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COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =



ISO 14001
REGISTERED



ISO 45001
REGISTERED



- GEOLOGICAL SURVEYS
- WATER TREATMENT
- ENVIRONMENTAL TECHNOLOGIES
- CORROSION PROTECTION
- COMPUTER DATA PROCESSING

- LABORATORY ANALYSIS
- ENGINEERING SERVICES
- ARCHITECTURE & DESIGN
- ENERGY AND ECOLOGY
- WORK SAFETY



COMPANY PROFILE

PRESENTATION OF COMPANY'

ECOGEO is a company providing consultancy and engineering services; its staff is formed by geologists, engineers, architects and chemists. The staff is highly specialized in engineering and earth sciences and it's supplemented, when necessary, by a sizable force of professionals engaged for specific assignments: biologists, pedologists and agronomists, computer science experts and electronics experts, geometers, etc.



ECOGEO operates with working groups, organised each time to satisfy the client's specific needs. Ecogeo's principal activities are: the projection, studies and consultancies in geological, engineering and architectural, hydrogeological, chemical-mining, ecological-environmental, corrosion protection, water treatment, technological networks (aqueducts and sewerage), purification plants, environmental acoustics surveys, atmospheric emissions and topographical surveys, applied informatics, safety and environmental hygiene fields. It has internally laboratory of physico-physical and geotechnical chemistry analysis which form the base supports for Ecogeo group's activity. The society also provides professional performances in outsourcing. It is a familiar management born thanks to the really high scientific and qualified preparation and experience of the engineer Marsetti René, Diego Marsetti's father, to whom his son must have a deep recognition for the passion and professionalism that he managed to transmit him.

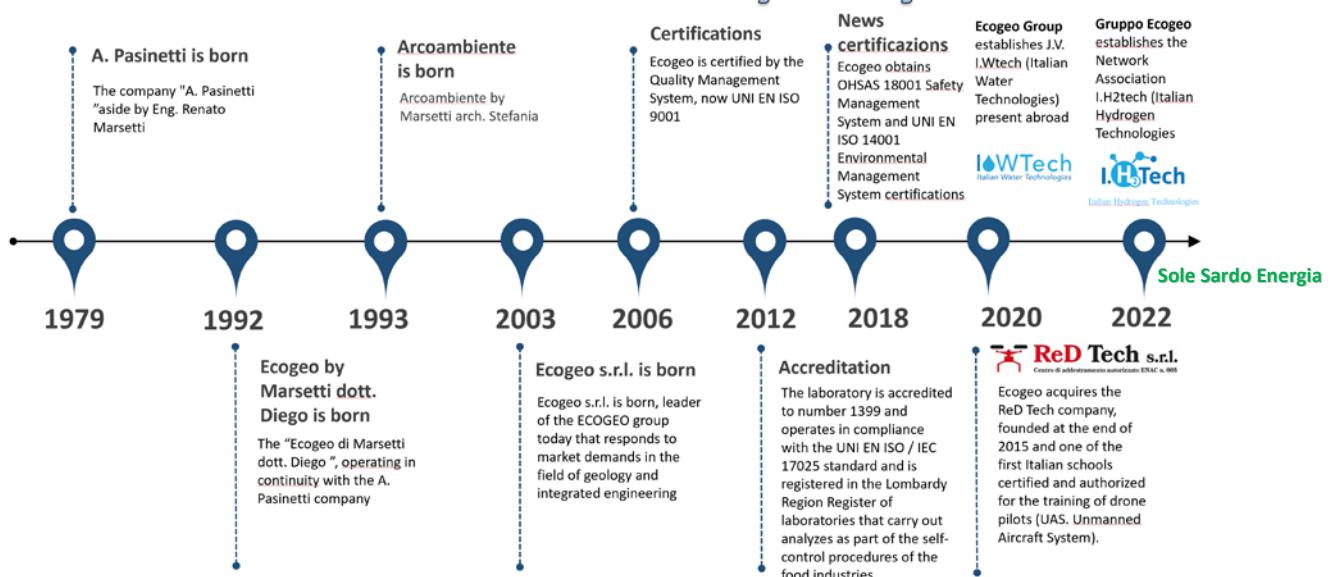
OUR HISTORY

ECOGEO was born in 1992, in particular on the 3rd of January 1992, with the name "studio professionale Ecogeo di Marsetti dott. Diego", still in activity. At the beginning of its activity, Ecogeo in 1992 constitutes with professional activities with advanced experience in what happens, in lateral continuity with the existing and operating company "A:PASINETTI" founded in 1969. From 1992 to 2003 Ecogeo of Marsetti dott. Diego is principally involved in geological, ecologic and of environmental protection activities. In 2001 due to the need to found another business of the Ecogeo group which could answer to architecture's market questions: ARCOAMBIENTE, Marsetti arch. Stefania's office was born. All along its activities, Ecogeo pointed out its total function and professionalism demonstrated by the growing trend of its turnover and customers. The limited liability company "ECOGEO SRL" was born on 11.06.2003, leader today of the "Ecogeo Group" which answers to market questions in the field of geology and integrated engineering. On 12.08.2003 ECOGEO company registered its own brand at number BG2003c0000188 "ECOGEO" and in December 2006 it is certificated by the Quality Management System now UNI EN ISO 9001:2008. In November 2010 the laboratory is credited to number 1399 and it operates in accordance with the rule UNI CEI EN ISO/IEC 17025:2005. In December 2018 the company obtained the

certifications of the Safety Management System OHSAS 18001 and for the Environment UNI EN ISO 14001

Having its headquarters in Bergamo, **ECOGEO** offers his advice to several towns and companies in the surrounding area. Those agencies are creating high quality centres linked to innovation, research and to the experimentation of new production processes. The company worked on the national grid/network for more than 1200 cities realising studies and designs in since it was born with the name “Pasinetti” in the fields of geology, engineering and environment.

ECOGEO – Our history



Today the adventure regards not only Italy but it's increasingly international. In the last 15 years, Ecogeo staff has gained experience in work activities carried out in Netherlands Antilles, Africa, Iraq, Indonesia, UAE, Russia and in several European Countries.



CEO. DIEGO MARSETTI,

Born in Trescore Balneario (BG) in 1963 he graduated in Geological Sciences, is now the owner of the company Ecogeo srl based in Bergamo. He gained his experience during work activities both in Italy and abroad. Within the Ecogeo Group there are: Ecogeo Peru, Ecogeo Caribe, RedTech, I.WTech, I.H₂Tech, Sole Sardo Energia. In 1998 he received the qualification of environmental expert. In 2003 he was recognized by the Lombardy Region as a competent technician in the field of environmental acoustics. He is a member of the national journal "Acque sotterranee" since 2008 and in the national scientific committee of "Italian Journal of groundwater" since January 2012.

In May 2011 he was a speaker at the EXPO in Qatar "Italian Design Creativity & Innovation" with the theme "proposals for new technologies in water research and treatment"

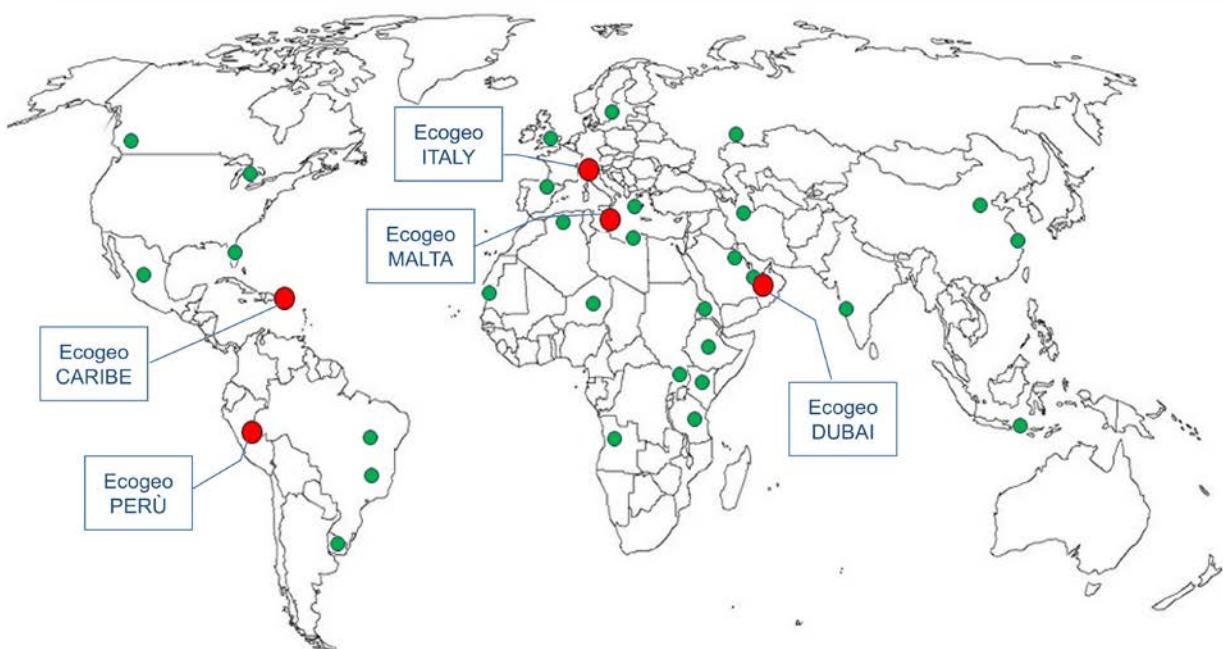
From December 2011 he is vice-president of the non-profit association "Orobicambiente" UNESCO project Walls of Città Alta, Bergamo. During the year 2013-2014 he was speaker at several conferences abroad at Mariott LW Hotel in Lima, Peru "New technologies in water purification and treatment" and "research techniques in the field of hydrogeology", speaker at the Ministry of environment in Tunis, Tunisia "waste water management in Tunis". Speaker at the conference "31st Convencion Minera, PERUMIN", in Arequipa, Peru "rehabilitation and regeneration techniques for Lake Titicaca in the Puno region, Peru" On December 2013 he received from the Government of the Puno Region in PERU, the title of geo-environmental expert and was included in the international commission for defense and protection for the redevelopment of Lake Titicaca. In April 2014 he was a speaker at the Ministry of Environment and Agriculture, National Authority of Water (ANA) at the Seminar "Technological Studies for the Protection of Hidricos Recurcation" in Lima, Peru. In August 2014 he was a speaker at the Ministry of Bahrain "Consucting 3D surveys and mapping all utilities and integrated environmental technologies". Since 2016 he is a member of the "Skille Comuni" project, a training and information service for all municipal administrators. In April 2017, the archaeological site called "The Safleni Hypogeum", a UNESCO heritage site in Malta, is included in the list of authors who have worked and studied. In September 2016 he is present at the EUROPEAN ARCHEOLOGY, EAA, MEETING 2016 Congress. ACADEMY OF CULTURAL HERITAGE for the presentation of the poster "Microbiological and environmental biomimetication - Hypogeum Hal Safleni, MALTA, Speaker. From 2019 he is present in the Senate for consultancy on environmental issues. He is the author of several scientific publications in the field of hydrogeology, biochemical corrosion, geology-geotechnics and environment and speaker at several national and international conferences.

Member of the board of directors of GML-AIM, Lombard Mineralogical Group, Italian Mineralogy Association. On 27.12.2020 he received, by decree of the President of the Republic, the honor of Officer of the Order of Merit of the Italian Republic. Since 2022 he has been a consultant on environmental and geological issues at the Government of the Republic of San Marino. In January 2022 he joined UNIDO, (United Nations Industrial Development Organization) as a specialist water consultant. From 12.05.2022 he is President of the UCID association of Bergamo. He is the author of several scientific publications in the fields of hydrogeology, biochemical corrosion, geology-geotechnics and the environment and speaker at various national and international conferences.

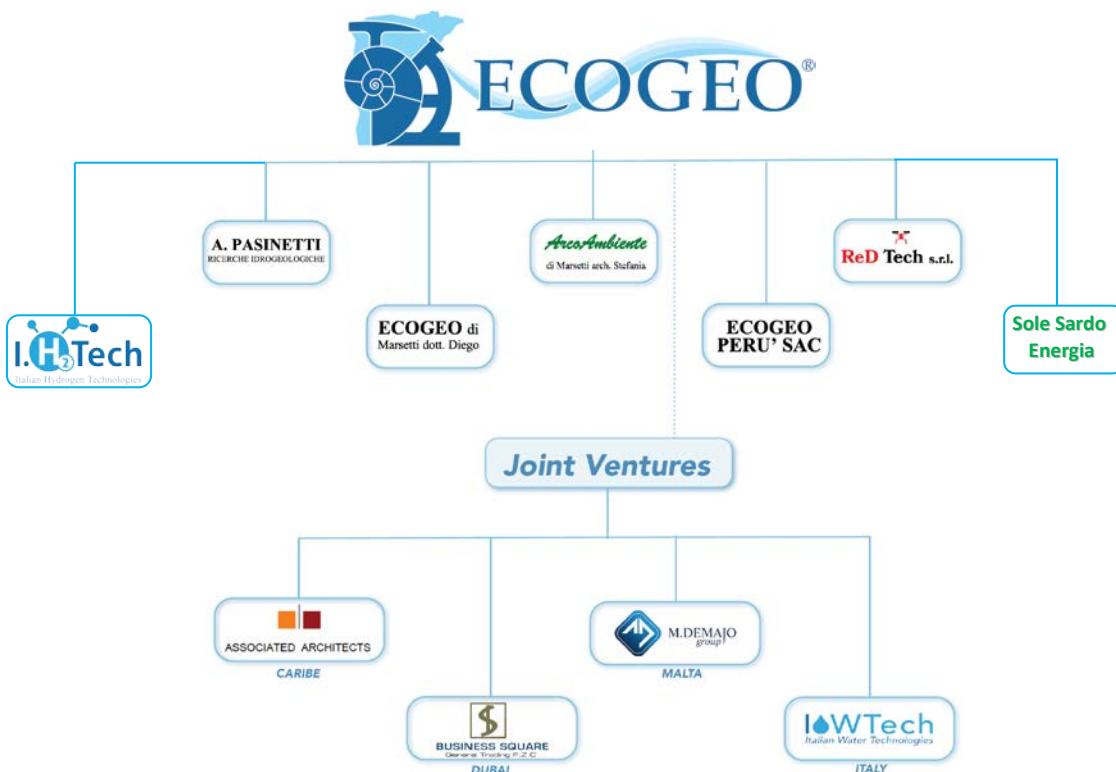
ECOGEO'S TASK

Our success is based on our extraordinary ability to combine standard quality solutions with customers, in order to fulfil specific requests. Over the years the Company has gone through huge expansion both in the Italian and international market, and it improved the services it offers. All this whilst maintaining its policy of “proving the customer with integrated global quality and service”. That is Ecogeo mission.

Where ECOGEO is present



THE GROUP



The Sustainable Development Goals are a universal call to action to end poverty, protect the planet and improve the lives and prospects of all, everywhere.

The 17 goals were adopted by all UN member states in 2015, as part of the 2030 Agenda for Sustainable Development which defined a five-year plan to achieve the goals.



SUSTAINABLE DEVELOPMENT GOALS



Innovation

RED TECH - DRONES Unmanned Aircraft System



SCHOOL OF PILOTS U.A.S.



SERVICE



Aero-photogrammetric surveys, precision agriculture, inspections, search and rescue.







Red Tech s.r.l.
Centro di addestramento autorizzato CNAC n. 805
<http://www.red-tech.it>

IWTech Italian Water Technologies



I-WTech, an Italian company that designs and builds water treatment plants around the world, participated in the 2019 water technology fair in Lima

I.H₂Tech is a company that operates mainly in the renewable energy sector in various fields:

- hydroelectric
- wind power
- solar
- hydrogen
- biomass
- energy efficiency
- geothermal

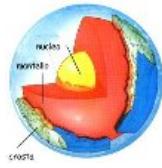


The group is coordinated by a highly professional team



OUR NUMBERS



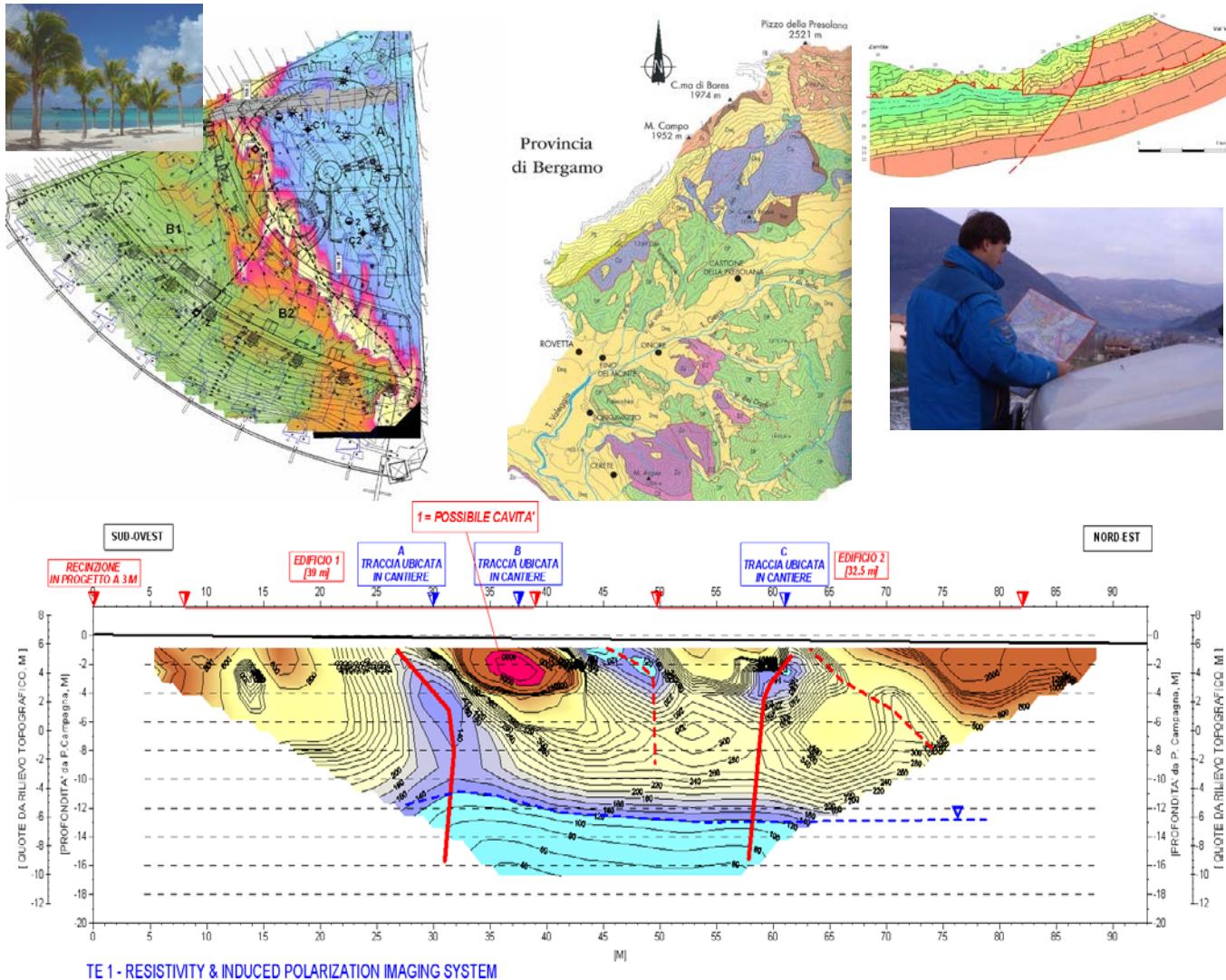


GEOLOGICAL SURVEYS

Division

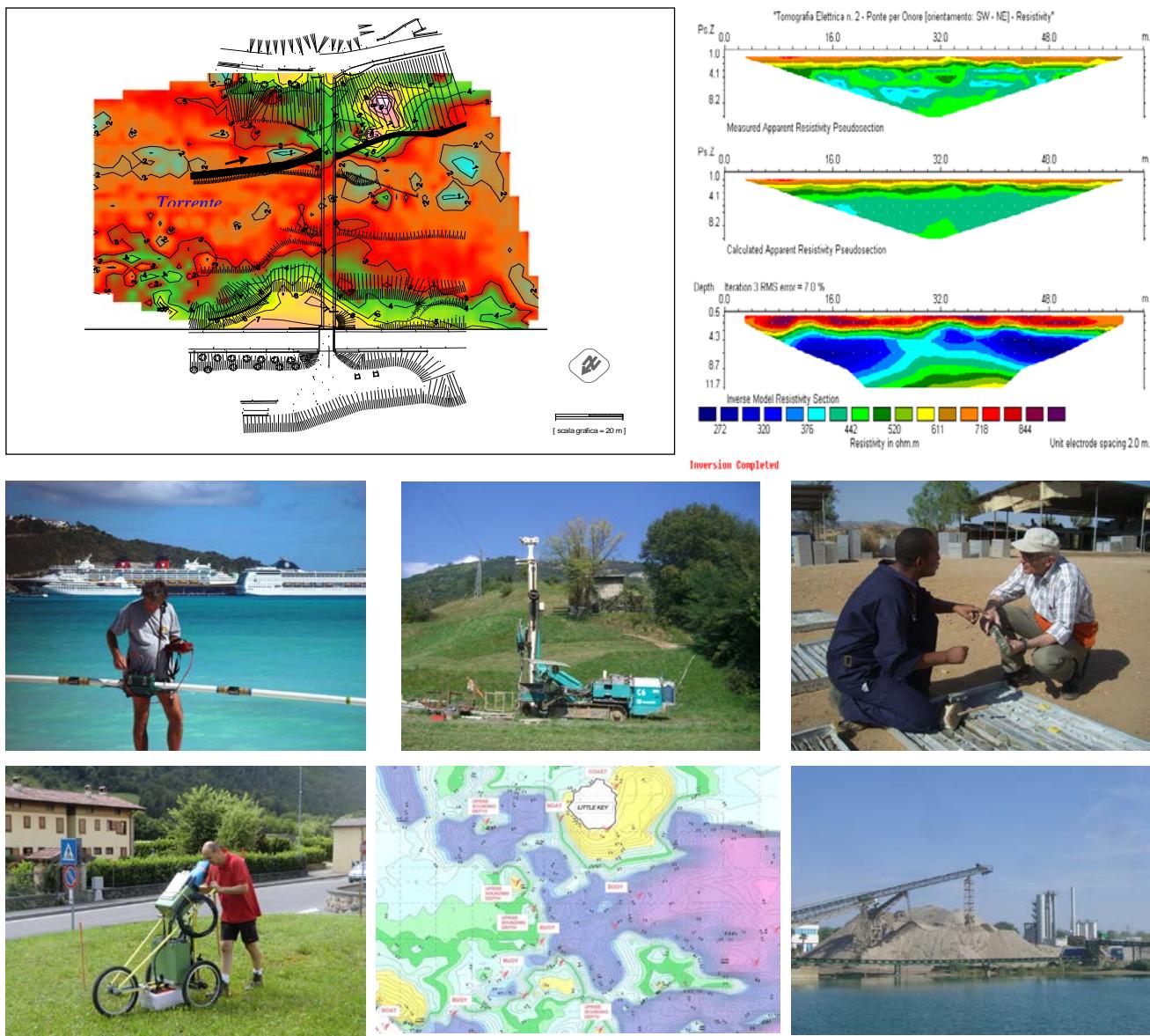
ECOGEO provides advice and scientific and technical services in all fields of application of Earth Sciences.

ECOGEO operates throughout the country and abroad, either directly or by providing their specialized services to companies who develop and implement projects for which a depth investigation of the soil and subsoil conditions, land and environment.

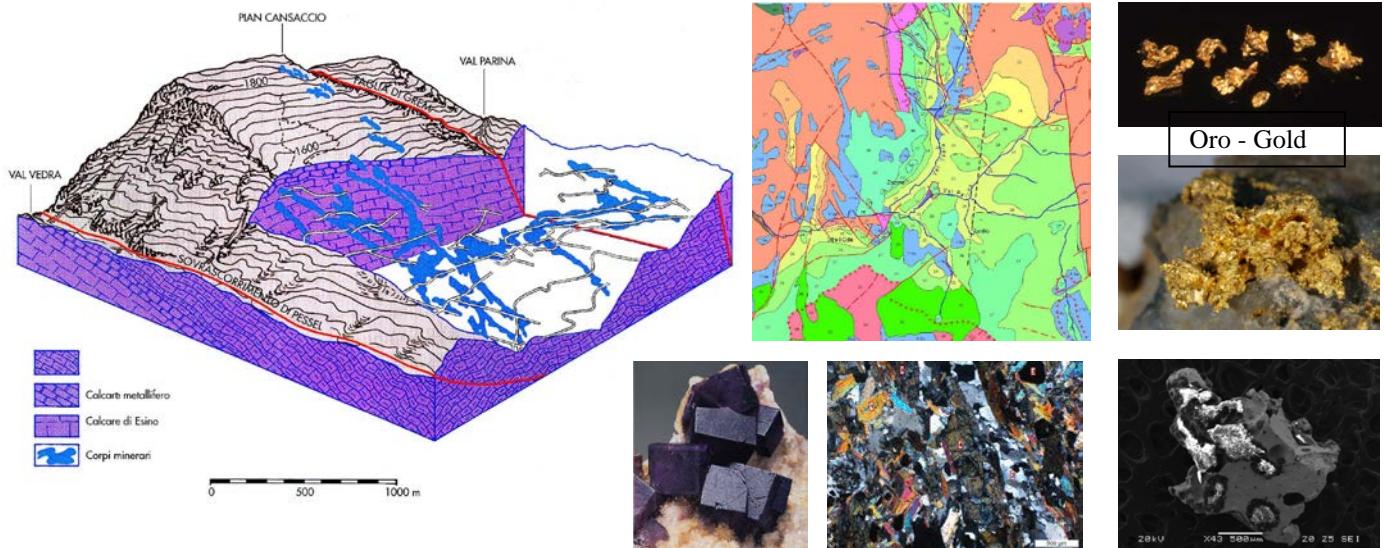


- studies and geological, geostructural, lithological and geomorphological surveys, with elaborations of thematic maps and geological sections;
- identification of stratigraphic surfaces of the horizontal subsurface for water, environmental, deep-water species;

- landslides studies: executive projects and supervision for the safety and accommodation of the slopes, the definition of the phenomenon and the degree of stability through computer models;
- geotechnical investigations to support in building and urban;
- geological surveys, core drilling and coring in destruction constant, static and dynamic penetration tests;
- poles extraction design, recovery of quarries, mining, quarrying areas, slope stability tests, topographic and bathymetric verifications calculating volumes of mined material, technical and administrative supervision practices;
- design and project management gasometers type MSW landfills, inert, asbestos, etc...
- Environmental Impact Assessments (EIA procedure), studies and data processing systems with computer mapping to GIS and G.I.S. for the integration of geological criteria in drawing up the plan of government of the territory;



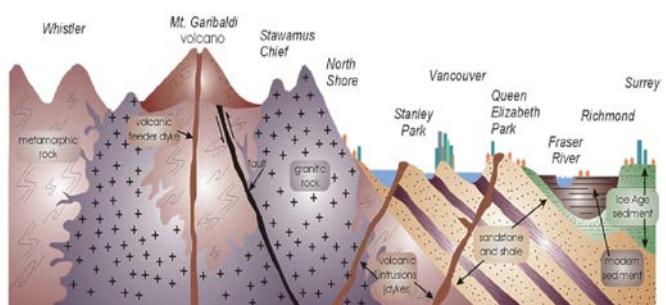
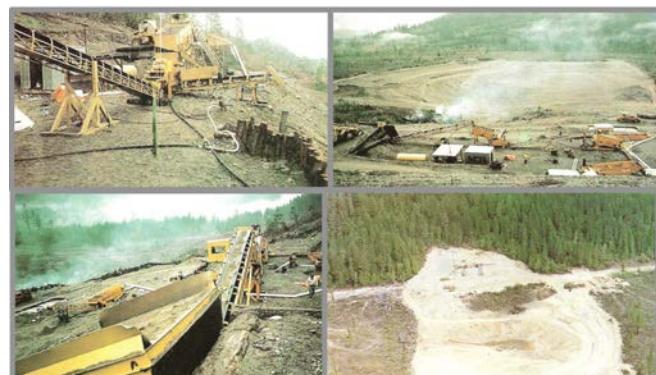




Ecogeo operates for several years in the field of mineral exploration and in particular Marsetti family for three generations (grandfather, father and son). Ecogeo conducts surveys, prospecting, gemological and mineralogical analyzes and detailed studies with international publications. Environmental recovery: Museums

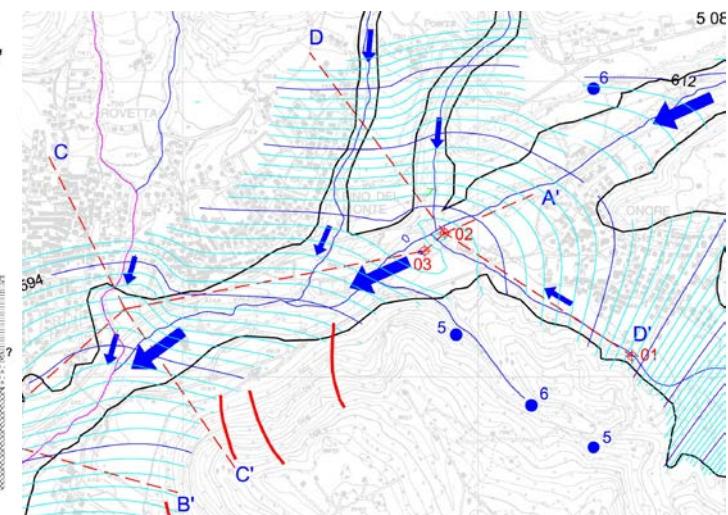
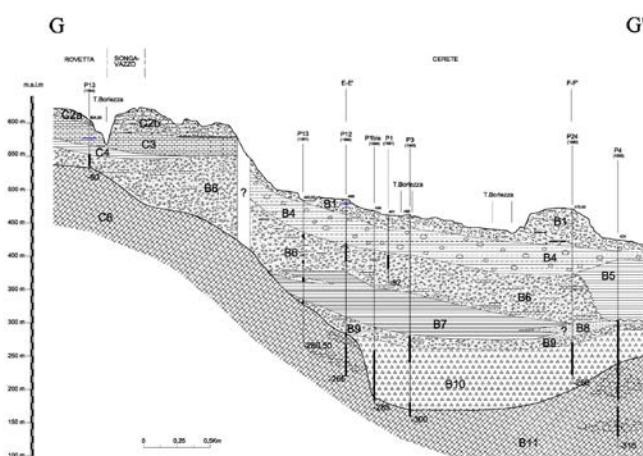
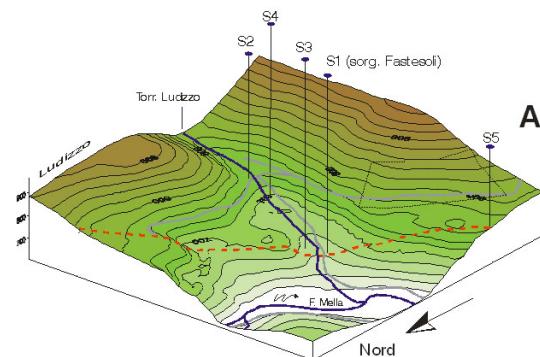


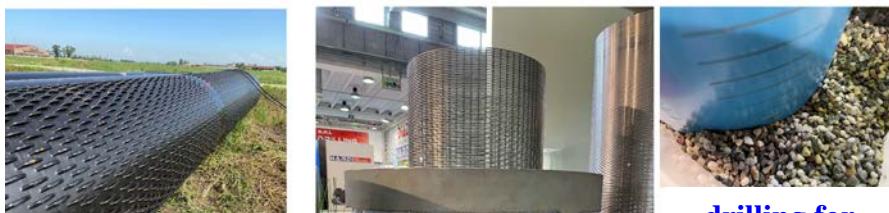
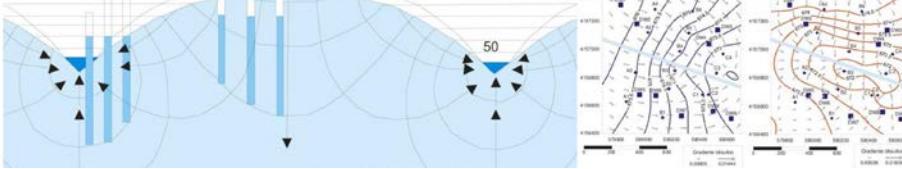
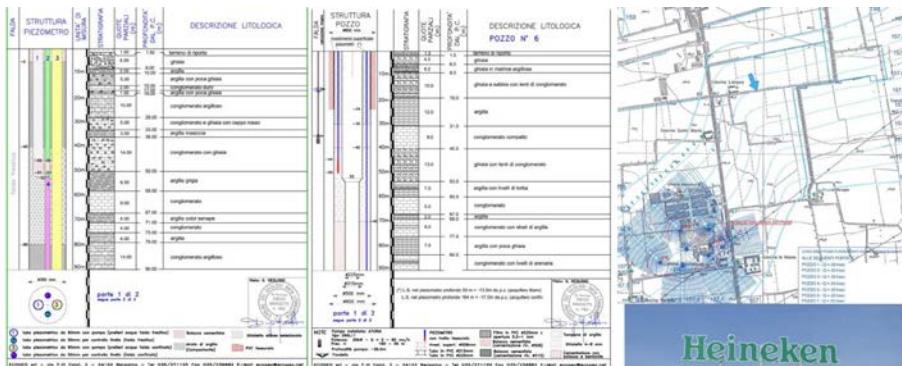
Ecogeo designs, carries out geological, geochemical surveys, water analysis in the field of mining. Design of water treatment plants in defense of surface water



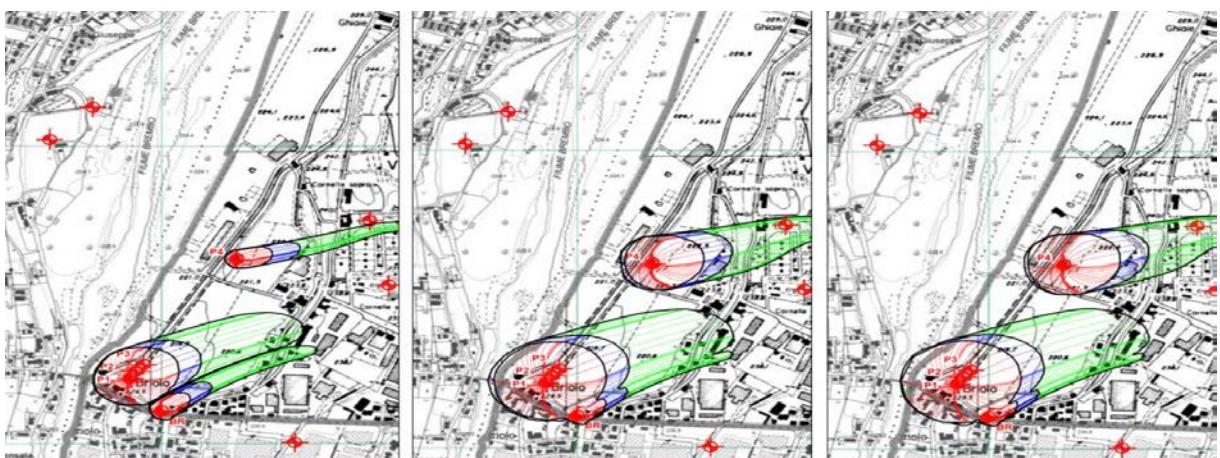
APPLIED HYDROGEOLOGY

- hydrogeological studies for the characterization of aquifers and the potential for the protection and rational management of water resources monitoring;
- applications for permissions to drill wells, surveys and evaluation of the potential for water to wells, springs, fountains, etc;
- small and large-scale water diversions, intake works, supply and distribution systems for drinking water;
- methodologies for the remediation of groundwater for the study and design of prevention, monitoring, remediation and recovery;
- location of polluted sites or at risk of contamination by identifying sources of contamination of underground tanks, spills, fallout from atmospheric emissions, buried infrastructure;
- geophysical and hydrogeological investigations.





drilling for
water



ECOGEO in the last 40 years, through its technical staff, has carried out projects, technical specifications, assistance for works, construction supervision, and execution of important works in the field of drilling, both nationally and internationally.



ECOGEO, using its own equipment, performs inspections, audits to drill new wells and existing ones, using digital equipment and data acquisition by computer. Tests, flow-step flow and constant flow.

The tests also provide a chemical, physical and bacteriological control.



FOREIGN EXPERIENCE IN THE FIELD OF DRILLING

ALBANIA

Novembre 2002 – Marzo 2004

“Water Supply Urgent Rehabilitation Project”, Lezhe e Fushe Kuqe, Albania



NIGERIA

Periodo: 1976-1978 / 2000-2001

“Nigeria LNG Project, Bonny Island”, LNG in Bonny Island“

“Maiduguri, Borno State e Yola, Gongola State“, Northern Resources Development Ltd, “CONRED NIG. Ltd”



LIBIA

1978 - 1981

“Jabel el Akhdar Authority, Al Marj, c/o Hydrogeo S.p.A, Pisa



1998 - 1999

Nuovo Castoro, Roma, DONG AH CONSORTIUM, INC di East Jabal Al-Hasouna, Tripoli, General Water Authority – 200 Drilling



Macedonia

1997

Skopje, HPC Envirotec

Drilling CO2, TGS- Skopje e SOL



ETIOPIA



1988 - 1992
 Ethiopian Water Works Construction Authority



April 2013 – Ing. Antonio Chiusano ECOGEO
 ETIOPIA DRILLING - TREVI GROUP, Drillmec, Italy



IRAQ

April 2013 – TREVI GROUP, Drillmec, Italy - Ing. Antonio Chiusano ECOGEO



ERITREA, Asmara
 2007-2008
 Factory Textile Zaer
 Zambaiti Group



RWANDA, Muhura
 1996-2002, wells and reservoirs





WATER TREATMENT

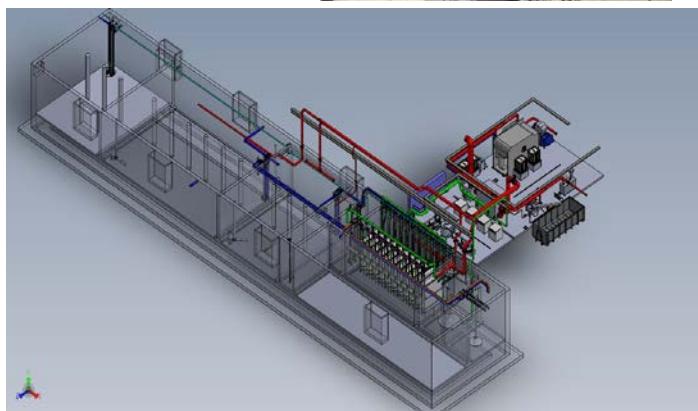
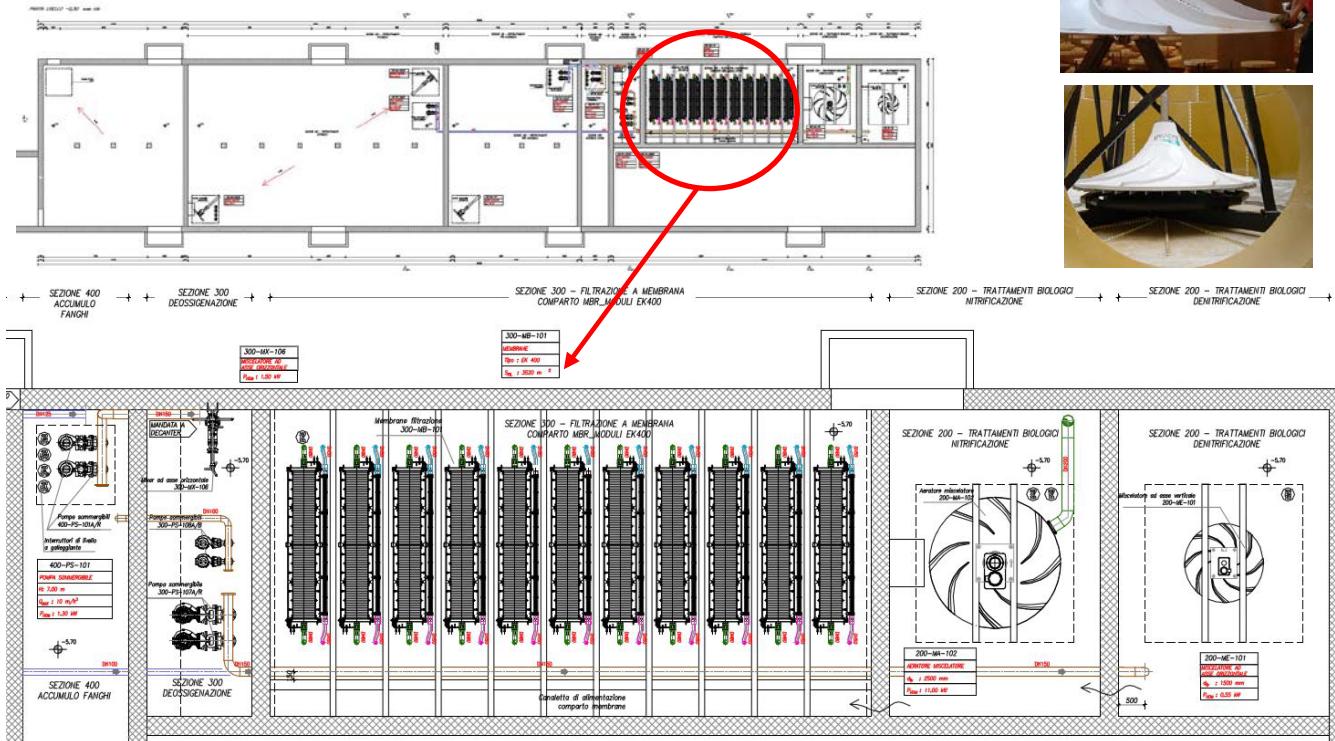
Division

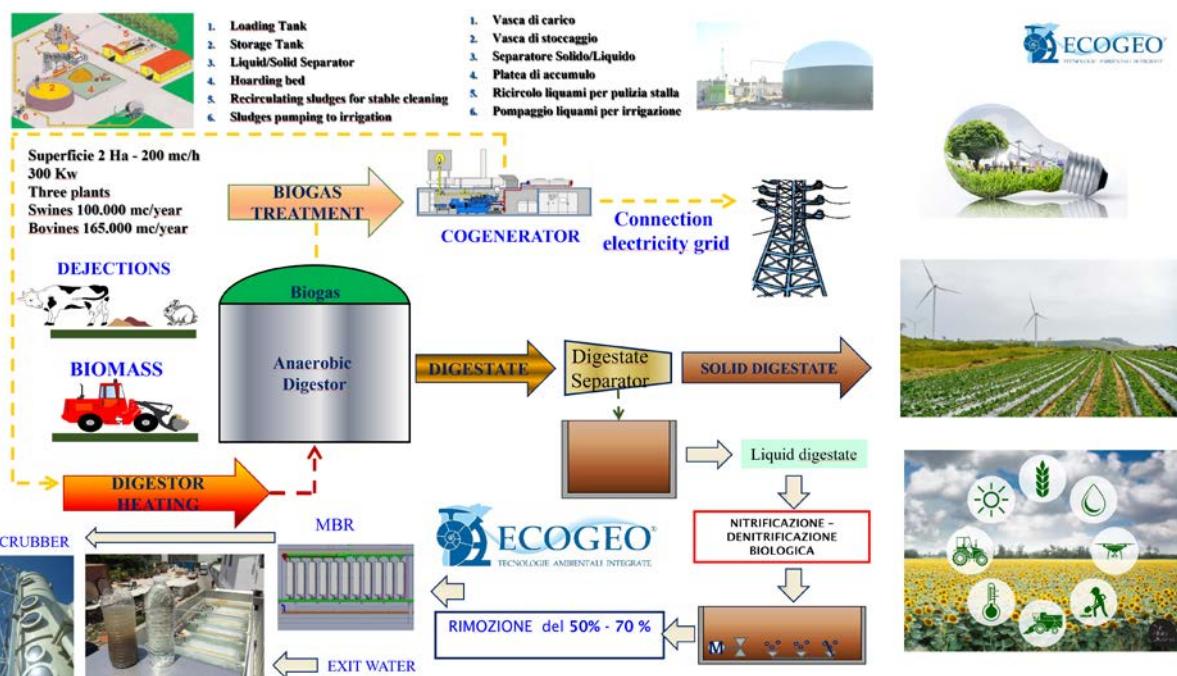
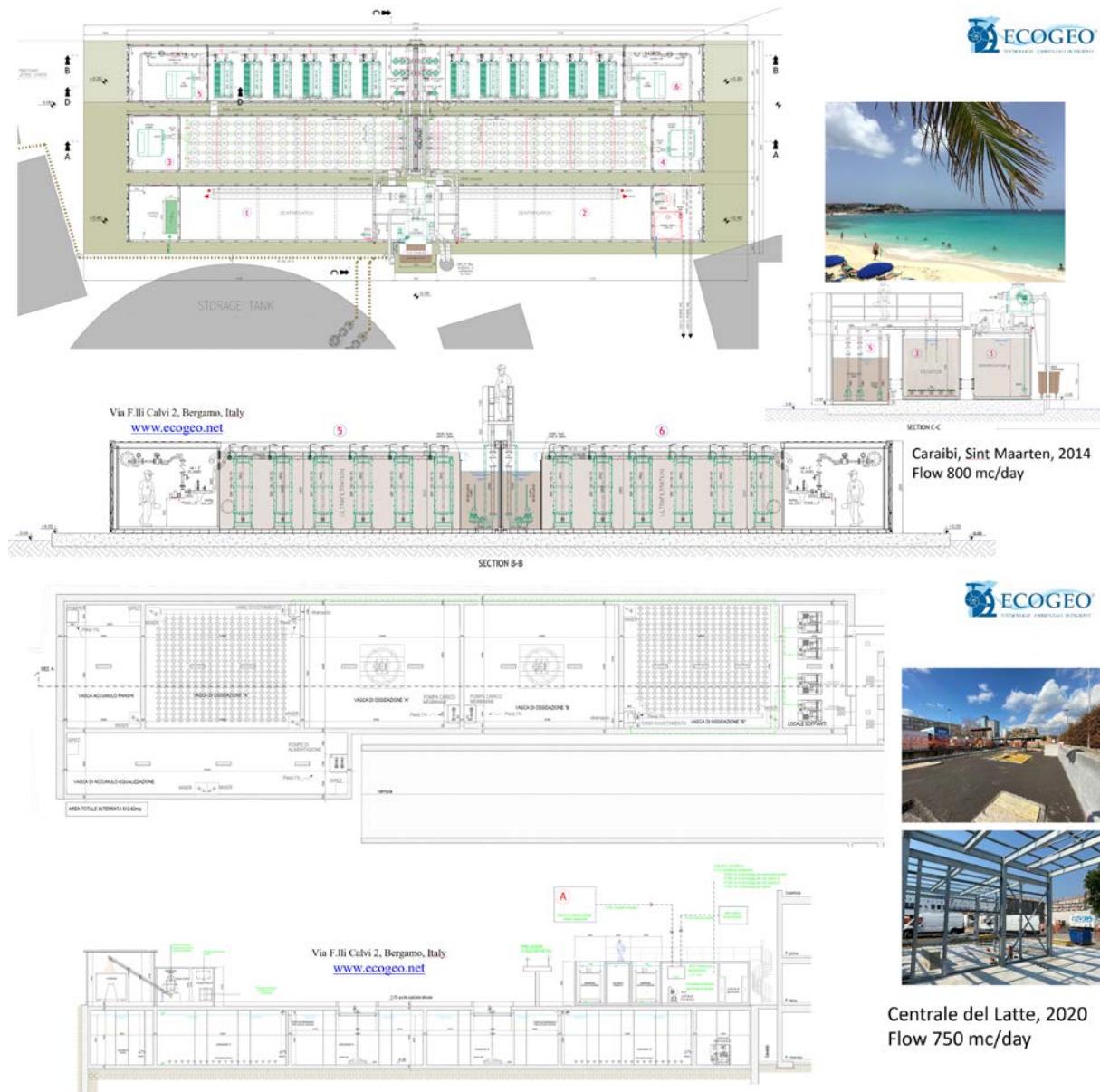
Areas of intervention:

- Drinking water
- Wastewater
- Biological removal of organic and inorganic pollutants
- Biological treatment, biochemical and physical-chemical
- Treatment of waste water of iron and steel, chemical, dairy husbandry and urban
- Disinfection of wells and springs for the full recovery of drinking water quality
- Analytical checks



MBR (Membrane Biological Reactor) - ECOGEO



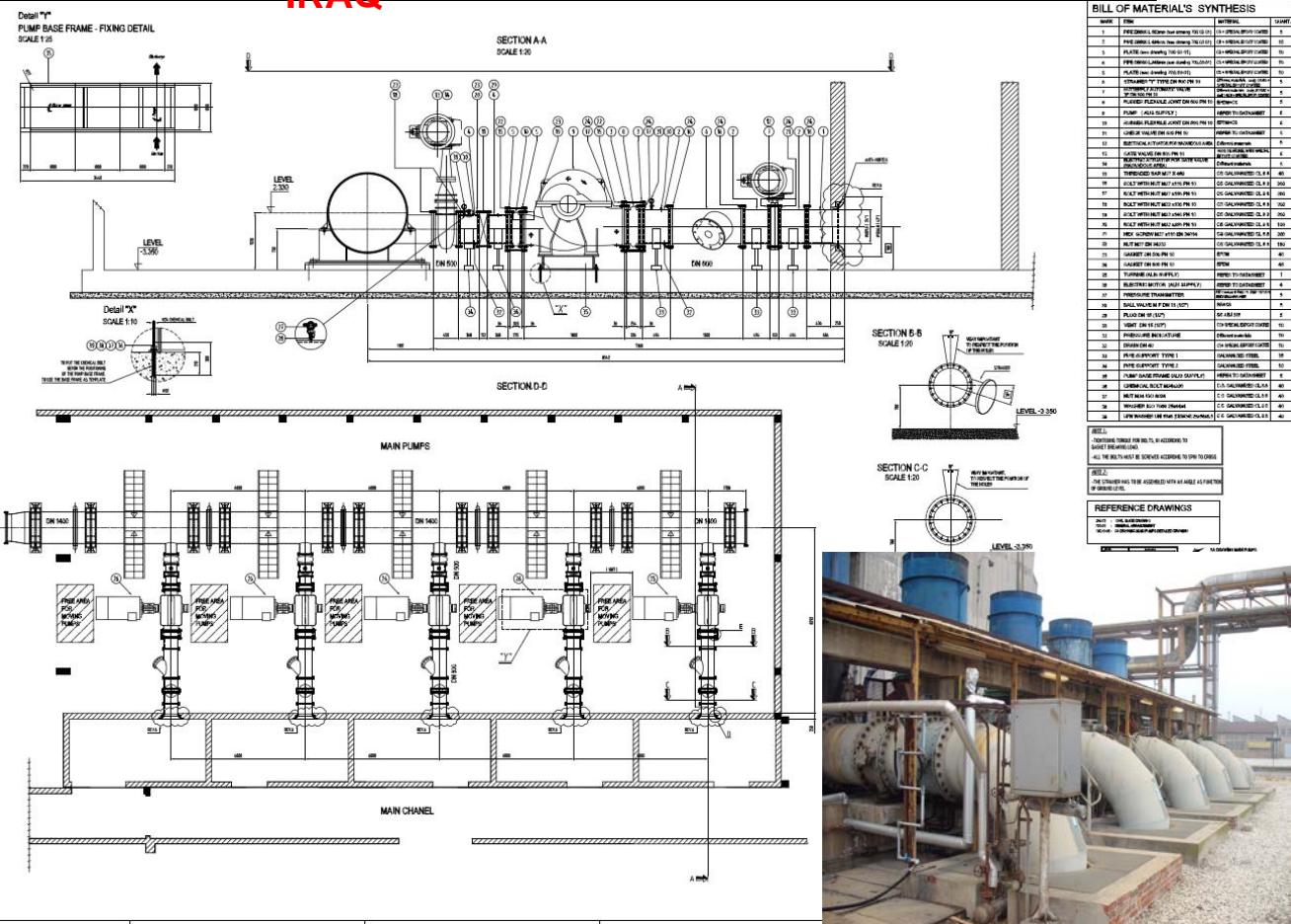




OIL & GAS



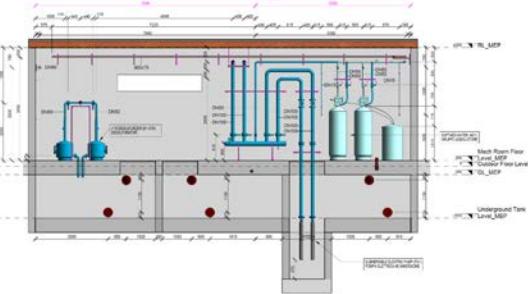
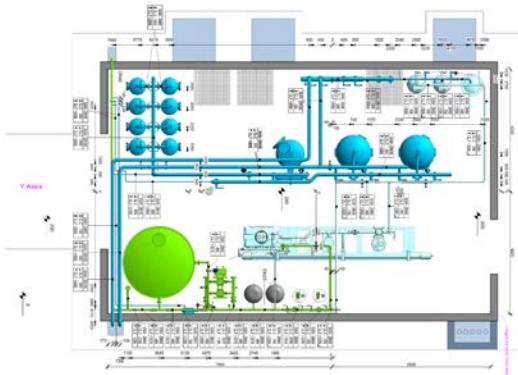
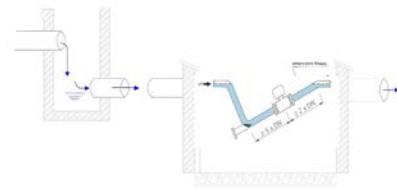
IRAQ



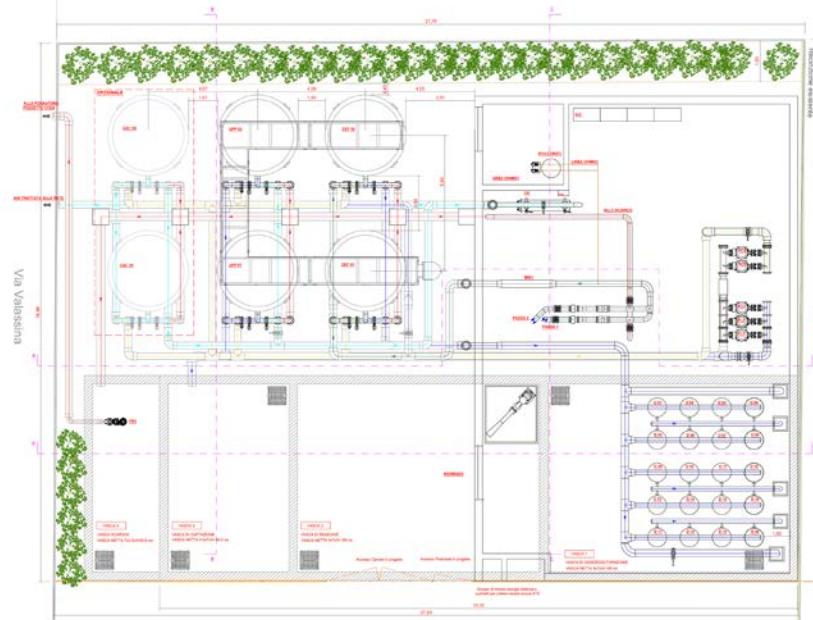


Water balance

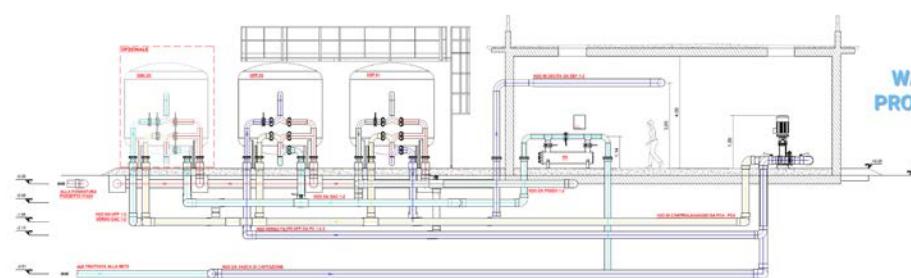
This is made possible through the existing installation of flow meters, the verification of the type of water consumption from a technical and economic point of view, and the examination of the same ecological and environmental point of view.



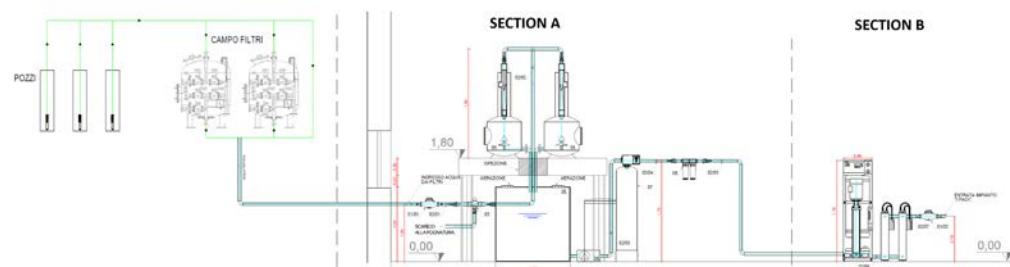
WATER CENTRAL PROJECT EXAMPLES

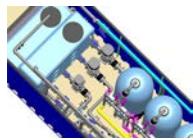


PLANT



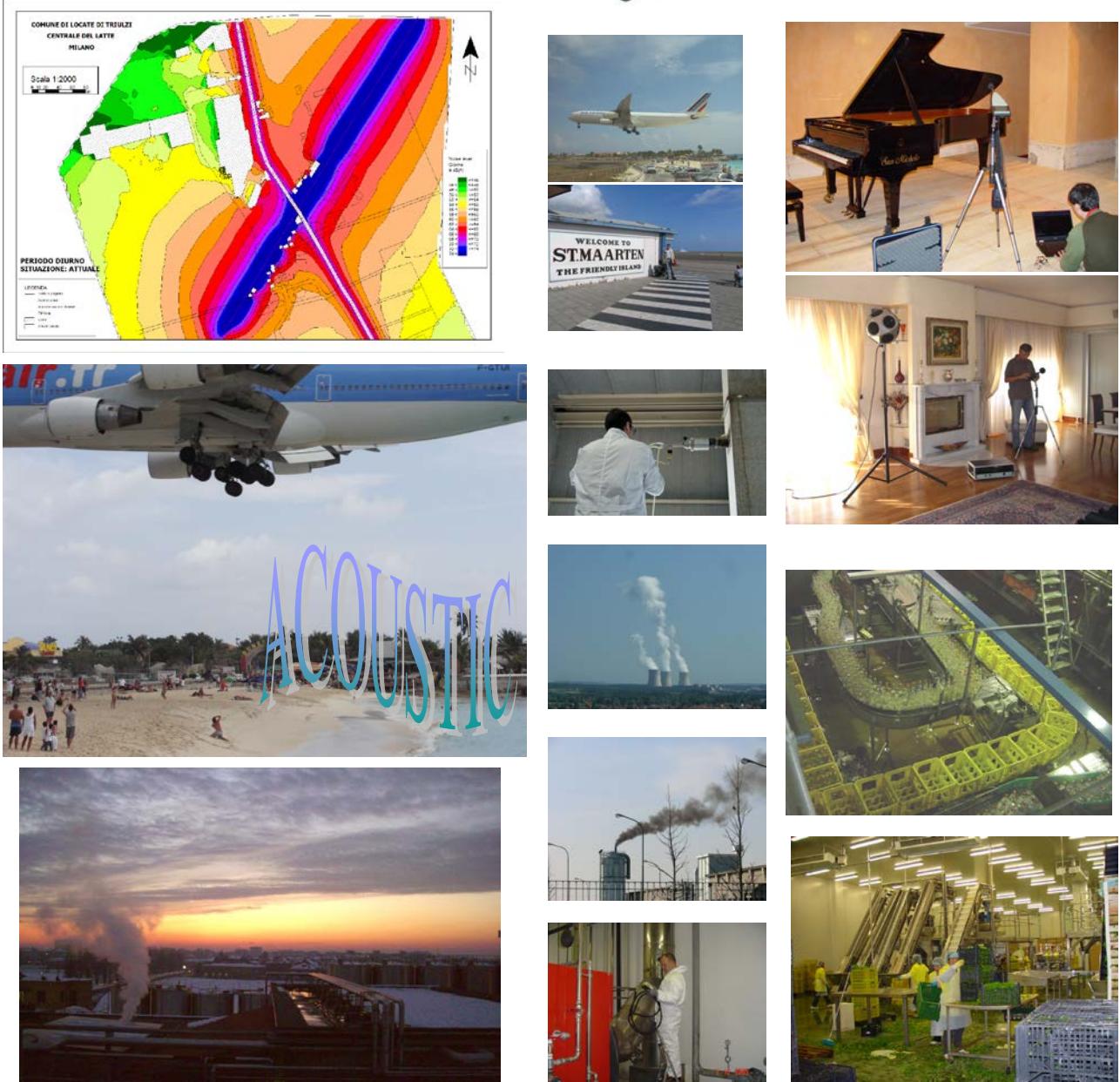
WATER CENTRAL PROJECT EXAMPLES





ENVIRONMENTAL TECHNOLOGIES Division

Emissions into the atmosphere, Acoustic, Energy, water, oil & gas, ...

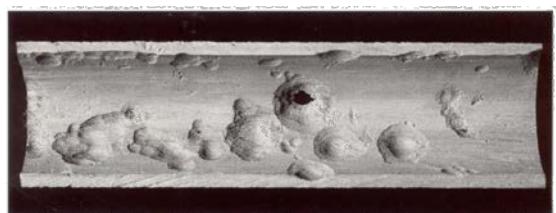
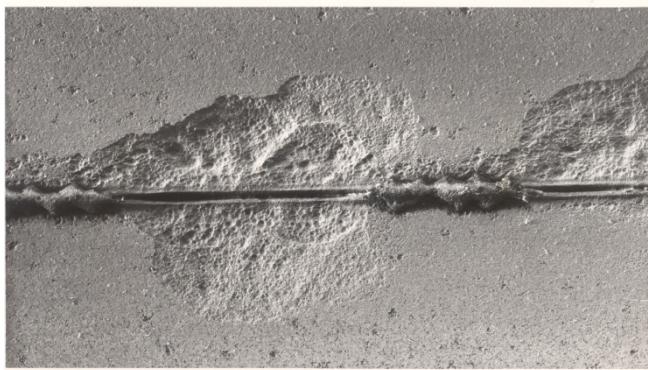
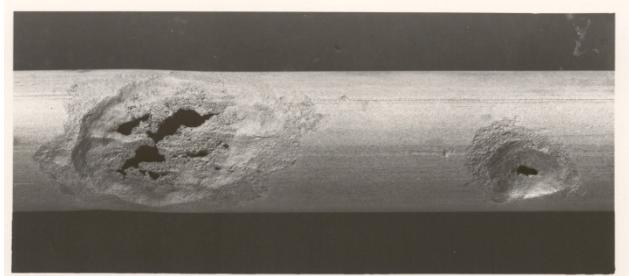




CORROSION PROTECTION

Division

Thanks to the experience gained over time and its technical professionals, **ECOGEO** is able to produce studies and solutions to problems related with internal and external corrosion of steel pipes and protect them, both in design time and subsequently.

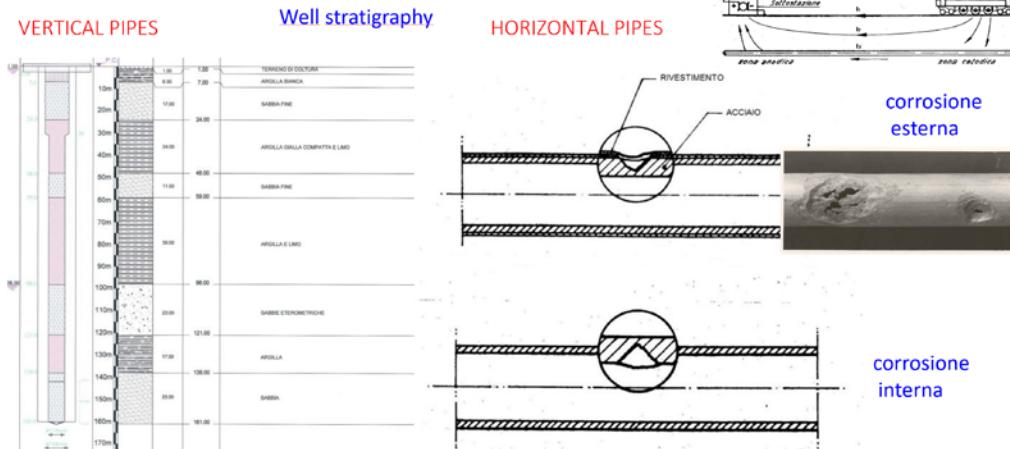


BIOCHEMICAL CORROSION

The problem of the influence of biological factors in the corrosion of metals is not new to specialists. In fact the first works on ferrobacteria appeared more than a century ago and the first studies on sulphate-reducers date back to the beginning of the century. Knowledge of chemical corrosion and its protection have become classics, while biochemical knowledge and means of struggle are not yet completely resolved.

In the following, cases of interactive biochemical corrosion occurring on the internal surface of steel pipes of both public and private aqueduct sections are exposed, in addition to the remedies for neutralizing the corrosive phenomenon

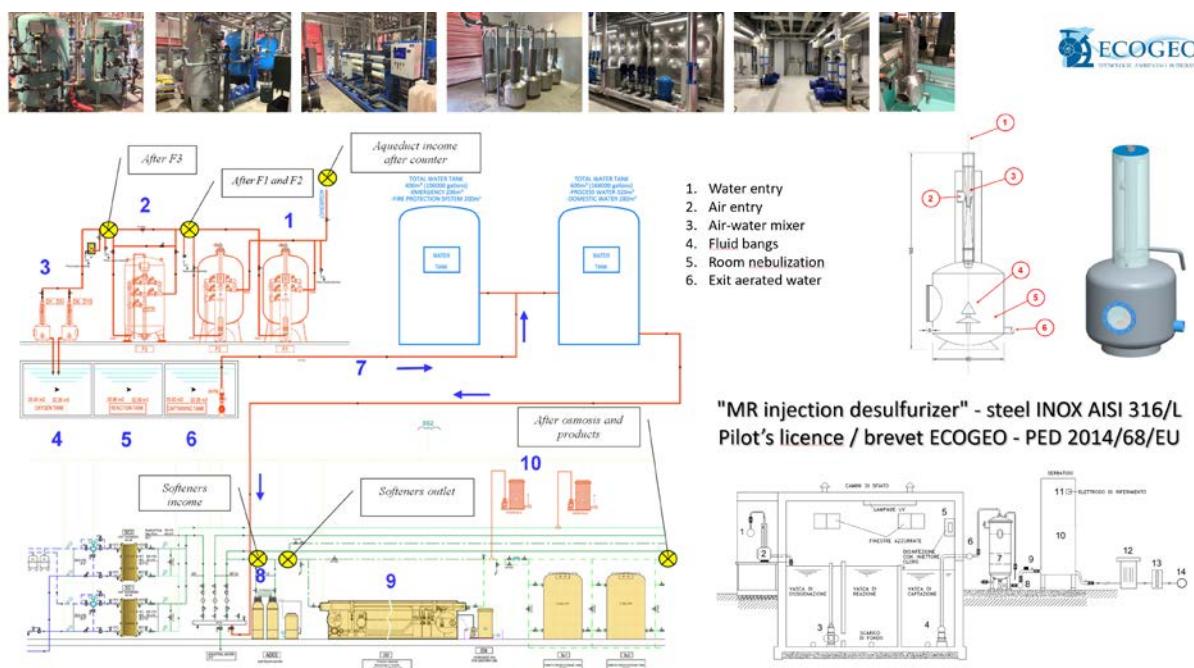
TYPE OF CORROSION ON STEEL PIPE



In addition to the aqueduct piping, also the columns of steel wells, both carbon and stainless steel, can be subjected to corrosion phenomena.

The ground water intercepted by the well can be encrusting, corrosive or even induce both corrosion and scale at the same time.

In this case chemical washing operations are carried out on the wells, mechanical interventions (pistonning) or gas treatments





ANALYSIS LABORATORY Division

ECOGEO laboratories are equipped with the latest apparatus needed for the full characterisation of soils, either for engineering purposes or for quality control on manmade earth structures (such as roads, motorways, dams, etc.).





ENGINEERING SERVICES Division

ECOGEO for over thirty years of experience, has acquired great know-how in building and delivering civil and architectural project, hydraulic and electrical

Today, as General Contractor, ECOGEO is putting its efforts into projects requiring simultaneously setting up of buildings ad electromechanical installations, offering its customers a perfect combination of different functional aspects and high quality service.

Thanks to the high qualified technical staff and to the use of modern Project Management instruments, the Company ensures an excellent management of its orders, offers flexibility on special request and suggests better solutions where possible, keeping budget and delivery time fixed.

building and delivering civil



pumping system

and water distribution



Natural Engineering





ARCHITECTURE & DESIGN Division



Villa Seagull Magic in Guana Bay



APPLIED DATA PROCESSING Division

ECOGEO operates since 1987 in the development of applied information technology in recent years and has achieved a strong specialization in the field of geographic information system.

Projects, reports, charts, equipment, maps, etc. are fully completed using information technology.

ECOGEO designs and develops the computerization of municipal offices, consortia, etc., through the GIS (Geographic Information Systems) and remote control systems for the development and management of:

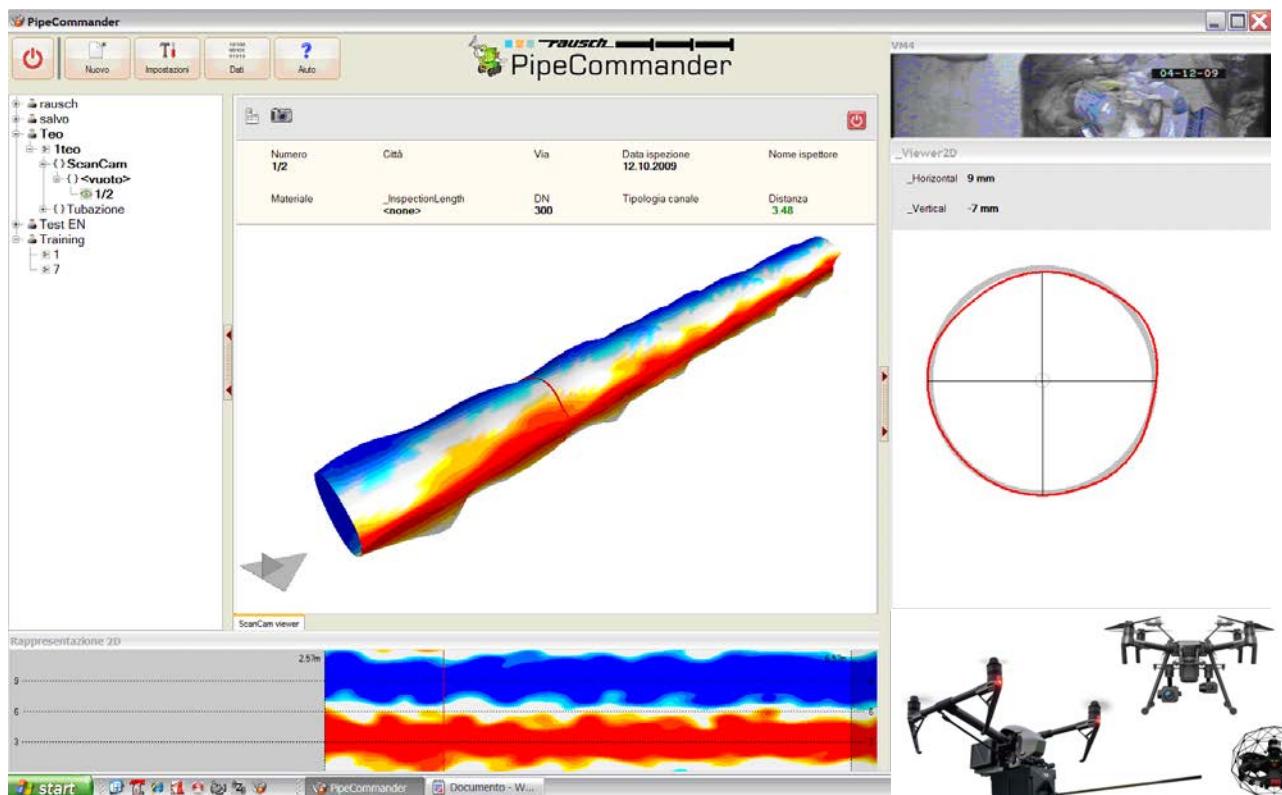
- Environmental Planning;
- Plans for territorial;
- Management of building permits;
- Managing technological networks: water supply, sewerage, gas, lighting, etc.;
- Management of Cultural Heritage;
- Territorial and land mapping technique;
- Civil protection;
- Pollution control monitoring;
- Plant control monitoring.



ReD Tech s.r.l.

43

AERIAL PHOTGRAMMETRY performed WITH UAV




ENERGY AND ECOLOGY Division

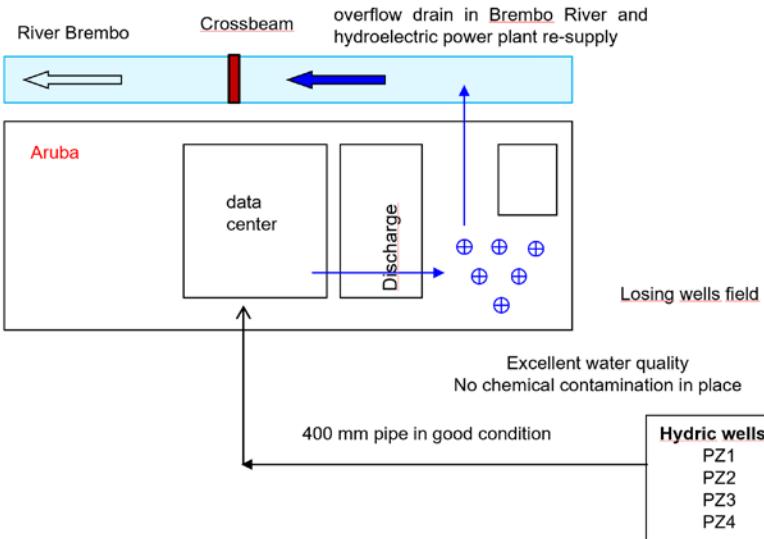
ECOGEO designs plants in the environmental and energy technologies field, addresses the management of environmental services with particular reference to:

- Sound field;
- Emissions into the atmosphere;
- Cogeneration and waste;
- Energy and sustainable development;
- Sewerage, water supply, technological networks;

ECOGEO also offers technical assistance to plant operation; planimetry studies using computer systems for water supply, sanitation and feasibility studies for the monitoring and automation for the remote management of reservoirs and wells.



Water flow scheme



It is unthinkable, in the modern state, to apply for the operation of the ARUBA energy company in the form of fossil fuels, natural gases or other "non-renewable" energies.

Among all the technologies available for air conditioning, geothermal heat pumps are those with the lowest CO₂ emissions.

aruba.it



The ARUBA company approach has been extremely positive on the use of the "Renewable Energy" in particular with the application of the "Low Enthalpy Geothermal Energy" or through heat pumps.

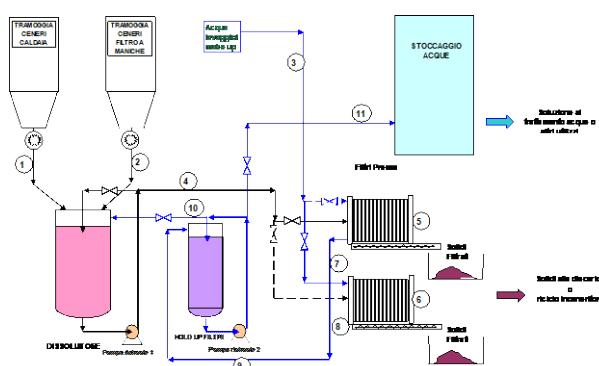
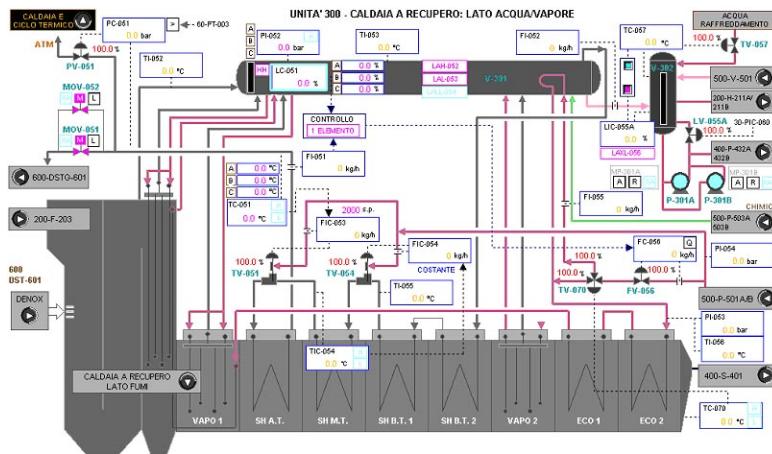
Low enthalpy geothermal energy exploits the subsoil as a heat reservoir. In the winter months the heat is transferred to the surface, vice versa in summer the excess heat, present in the buildings, is given to the ground.



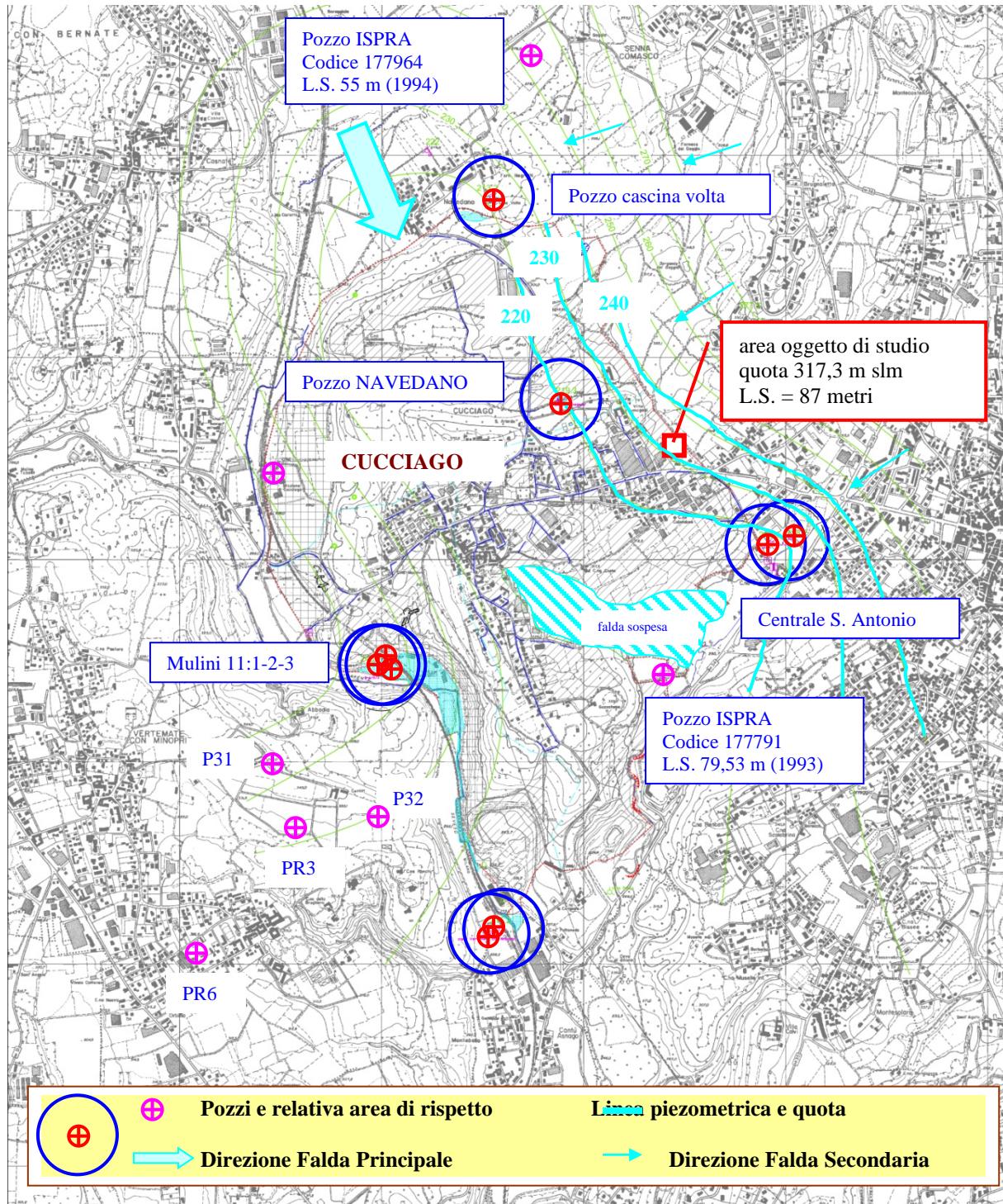
"Green" hydrogen, as the color suggests, is the most sustainable. It is characterized by a completely different extraction process, based on the electrolysis of water. It is a complex technique, which requires a large amount of energy to split water into oxygen and hydrogen.

ECOGEO with its own partners has been designing this innovative technology for several years





Environmental Remediation



2013 – Puno, Titicaca Lake, Peru – Water Treatment



2012, Tunisia, waste dump, 15.000.000 ton



2011, Bocconi University, Milano. 40.000 mq, Metals, hydrocarbons



2010, Dubai, Emirates, Metals

2010, Moto Guzzi, Piaggio, Mandello del Lario, hydrocarbons

2009, Roda Group, Lecco, Metals

2008, Milano, water contamination

2007, Maserati, amianto contamination

others

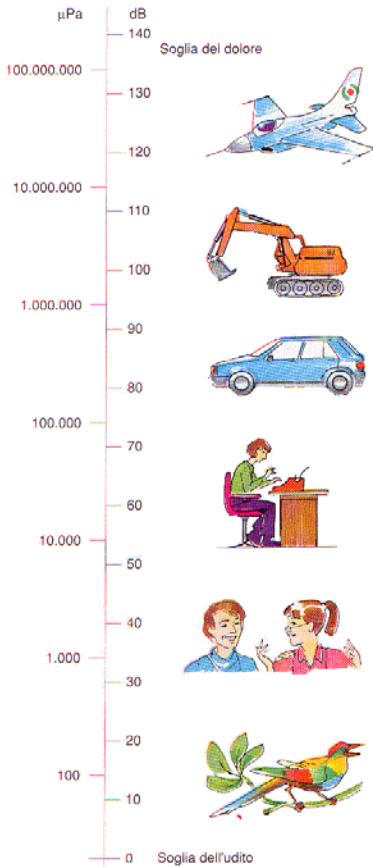


WORK SAFETY

Division

ECOGEO offers experience and knowledge in the field of safety in the workplace:
 The activities are carried out through:

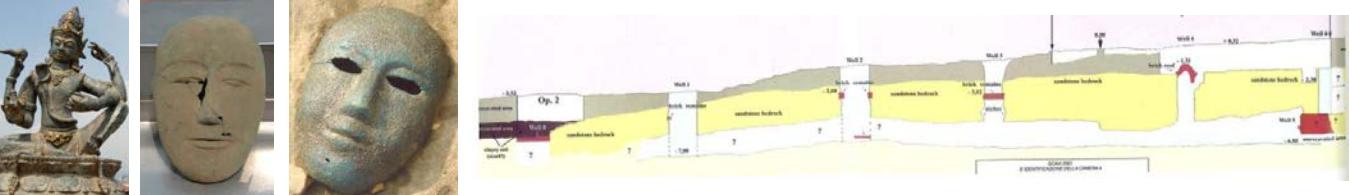
- Advice and RSPP role in security;
- Measurement noise;
- Vibration measurement;
- Electromagnetic fields;
- Chemical and biological investigations in the workplace;
- Chemical, biological, fire, cargo handling, ATEX, etc..



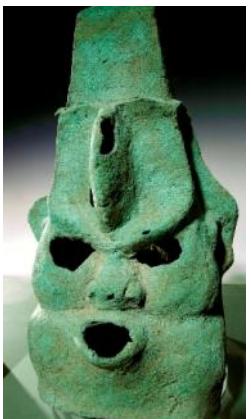
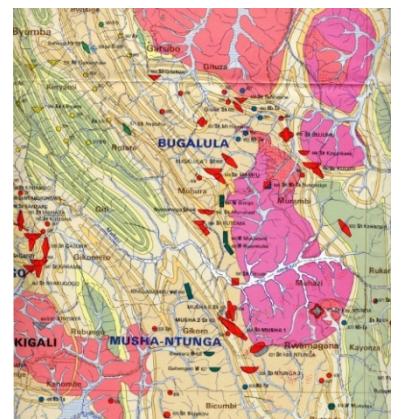


SOME WORK EXPERIENCES

ALBANIA, LIBYA, MACEDONIA ETHIOPIA,
ERITREA, NIGERIA, TANZANIA, RWANDA,
INDONESIA, RUSSIA



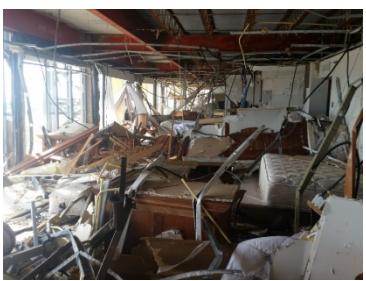
Goa Made, Jombang, no lejos de Mojokerto
East Java Island, 2010



AFRICA
ECOGEO
TECNOLOGIE AMBIENTALI INTEGRATE
Via F.lli Cabi, 2 - 24122 Bergamo, Italy - <http://www.ecogeo.net>

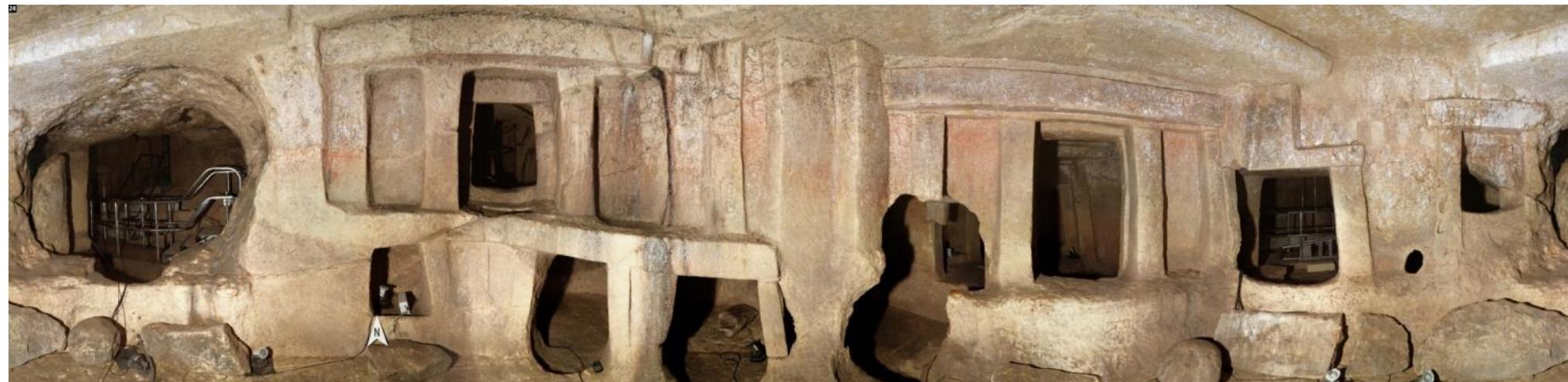
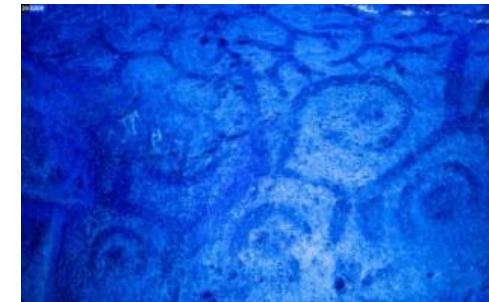
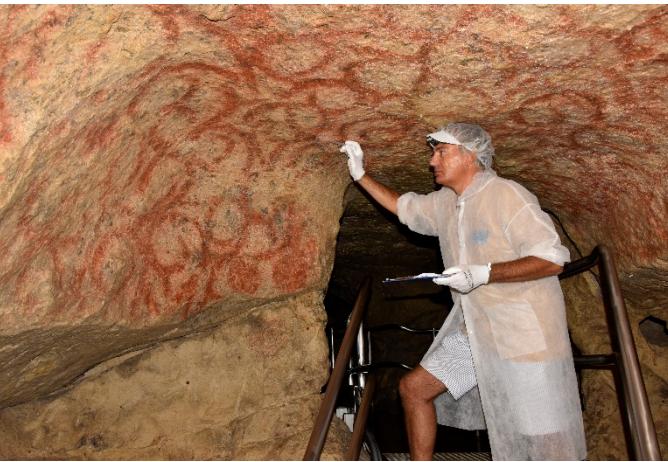


**Sint Marteen
CARAIBI
Netherlands
Antilles**





HYPogeum HAL SAFLIENI
MALTA 2015-2016



DUBAI, ABU DHABI,
OMÁN, BAHRAIN
QATAR, 2010 -2015





TITICACA LAKE, 2013

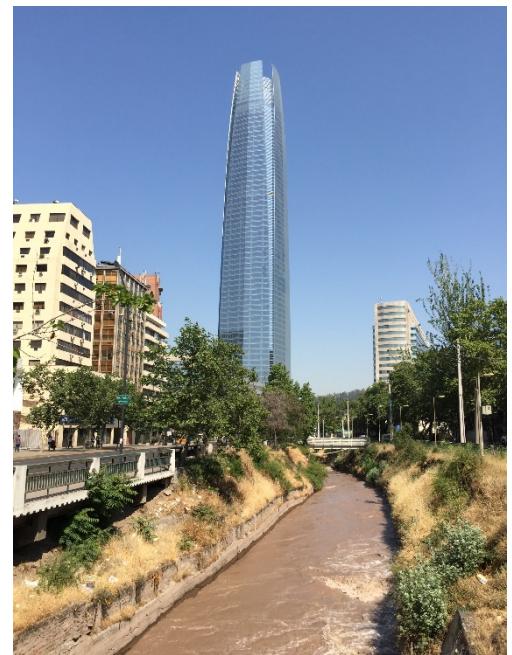
Puno - PERU

STUDIES FOR ENVIRONMENTAL RECOVERY, REHABILITATION OF THE COAST AND
IMPROVEMENT OF WATER TREATMENT IN LAKE TITICACA



SANTIAGO DEL CILE nov 2014

Meeting at the Ministry of Industry



TUNISIA 2013





S. PELLEGRINO FLAGSHIP FACTORY Alderò

CLIENTE



S. PELLEGRINO S.P.A.
LOC. RUSPINO
24016 SAN PELLEGRINO TERME (BG)
ITALY



ECOGEO
TECNOLOGIE AMBIENTALI INTEGRATE

www.ecogeo.net

BIG
BJARKE INGELS GROUP

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NEW YORK, NY 10006, USA
T +1347 549 4141

PROG. ESECUTIVO / D.L.
**ATELIER
VERTICALE
ARCHITETTI**

VIA NINO OXILAR 23
MILANO 20127, ITALY
T +39 36 6247 7661

PROGETTISTA STRUTTURE

sbp

scheich
berghofer partner
SCHWABSTRASSE 43
70197 STUTTGART, GERMANY
T +49 71 64671

PROG. ESECUTIVO STRUTTURE

CREW

CREMONESI WORKSHOP

VIA CEFALONIA 70
25124 BRESCIA, ITALY
T +39 030 22116

CONSULENTE MOBILITA'

MIC
mobility in chain

VIA PIETRO CUSTODI 16
MILAN 20136, ITALY
T +39 02 4953 0500

CONSULENTE SOSTENIBILITA'

BIGID&L

KLÆVERBLADSGADE 56
2500 VALBY, COPENHAGEN, DK
T +45 7221 7227

CONSULENTE ESTIMO

GAD

VIA M. QUADRIO 12
20154 MILANO, ITALY
T +39 02 2900 5072

PROGETTISTA PAESAGGIO

WEST8

333 HUDSON STREET, SUITE 905
NEW YORK, NY 10013, USA
T +1 212 265 0088

PROGETTISTA IMPIANTI

ARUP

CORSO ITALIA 1
MILAN 20122, ITALY
T +39 02 8597 9301

CONSULENTE FACCIASTISTA

Front

20 JAY STREET, SUITE 920
BROOKLYN, NY 11201, USA
T +1 212 242 2220

PROGETTISTA ILLUMINOTECNICO

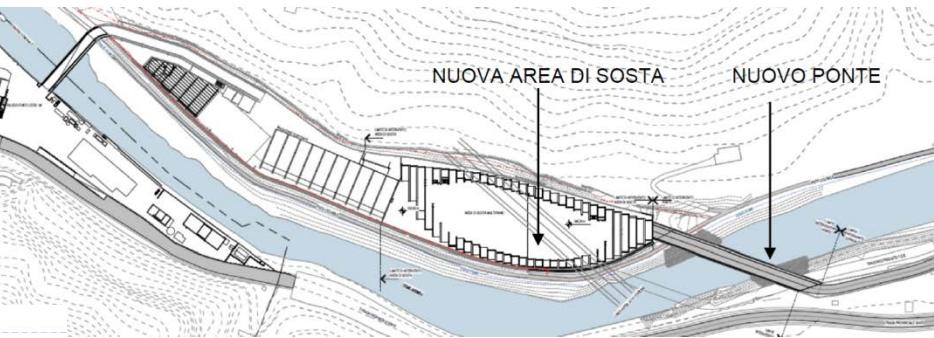
**Piero
Castiglioni**

VIA PRESCOLANA 5
MILAN 20135, ITALY
T +39 02 551 3223

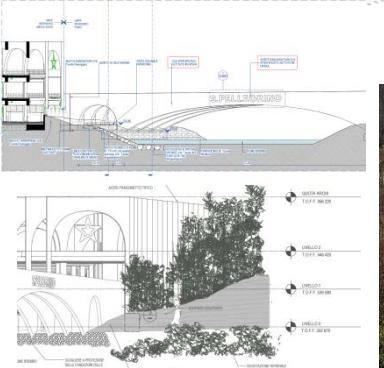
BRAND, EXPERIENCE & EXHIBITION

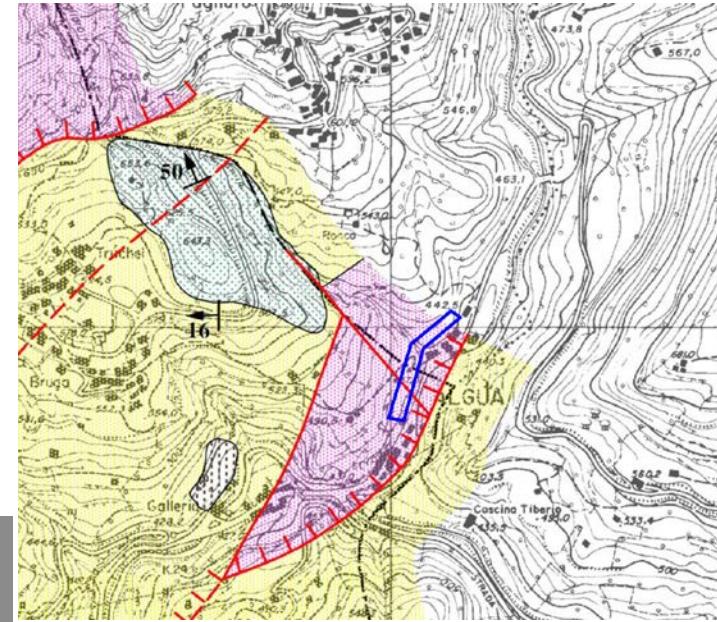
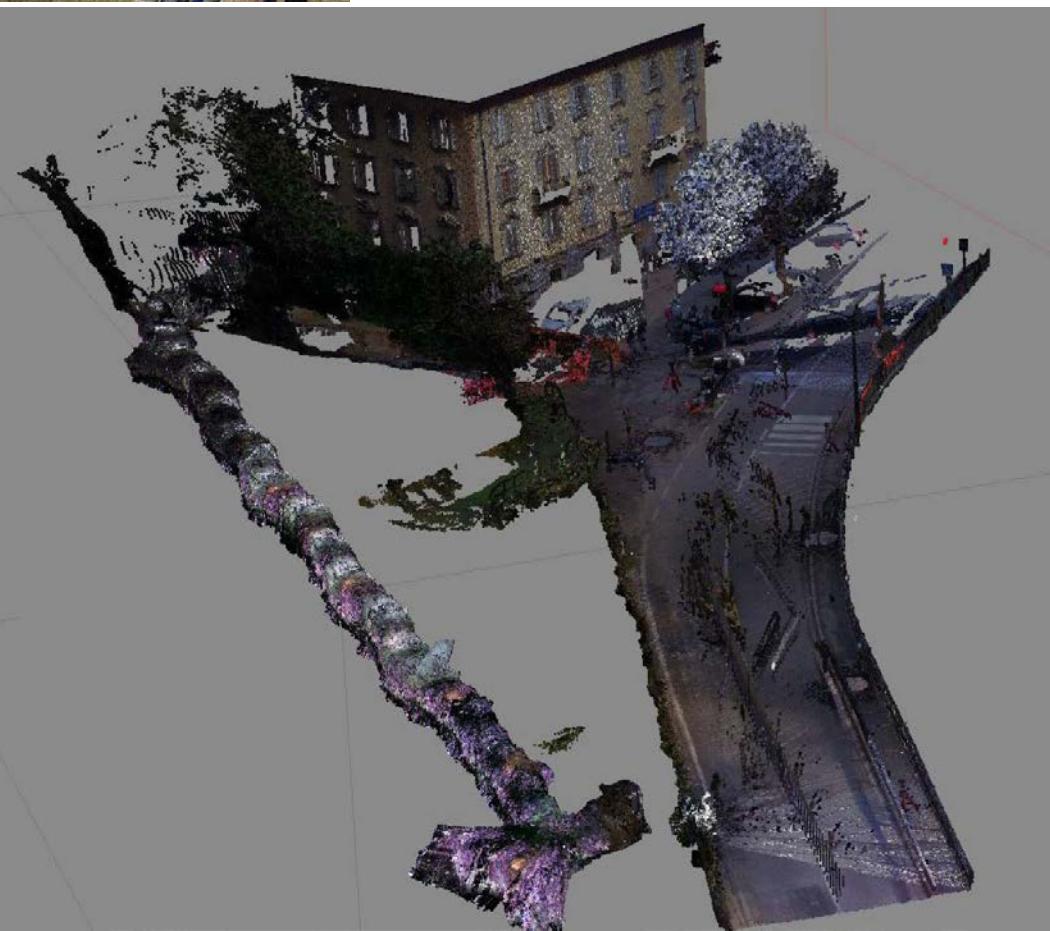
squint/opera

1-5 VYNER STREET
LONDON, E2 8DG, UK
T +44 20 7978 7788

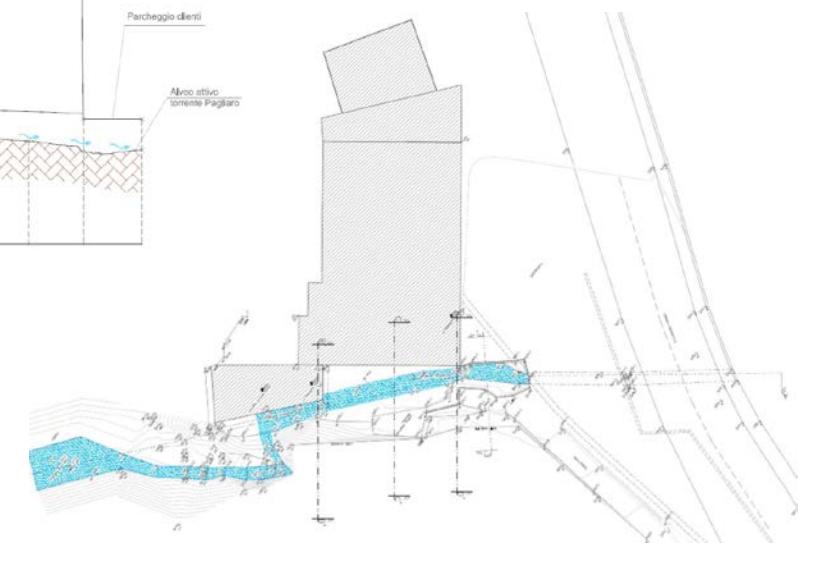
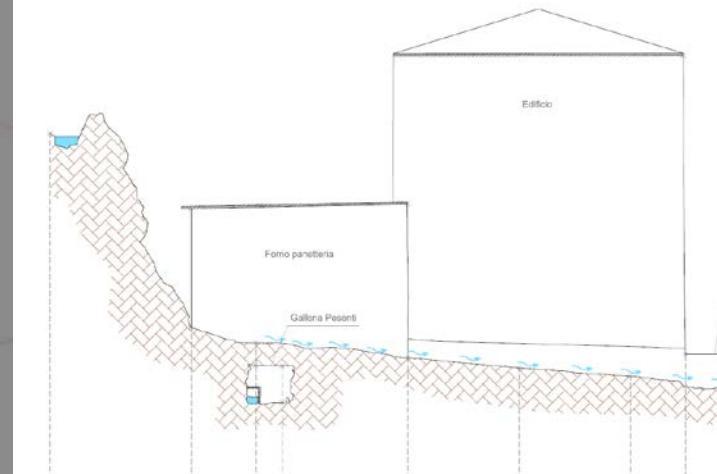


NEW PROJECT 2019-2021





Pesenti-Mainoli tunnels
Sources of drinking water
Mapping



Progetto 2015/2020 manutenzione Mura Venete



Regione Lombardia 



EMERGENCY 24 - COVID 19 - Armed Forces Assistance - MARCH-MAY 2020



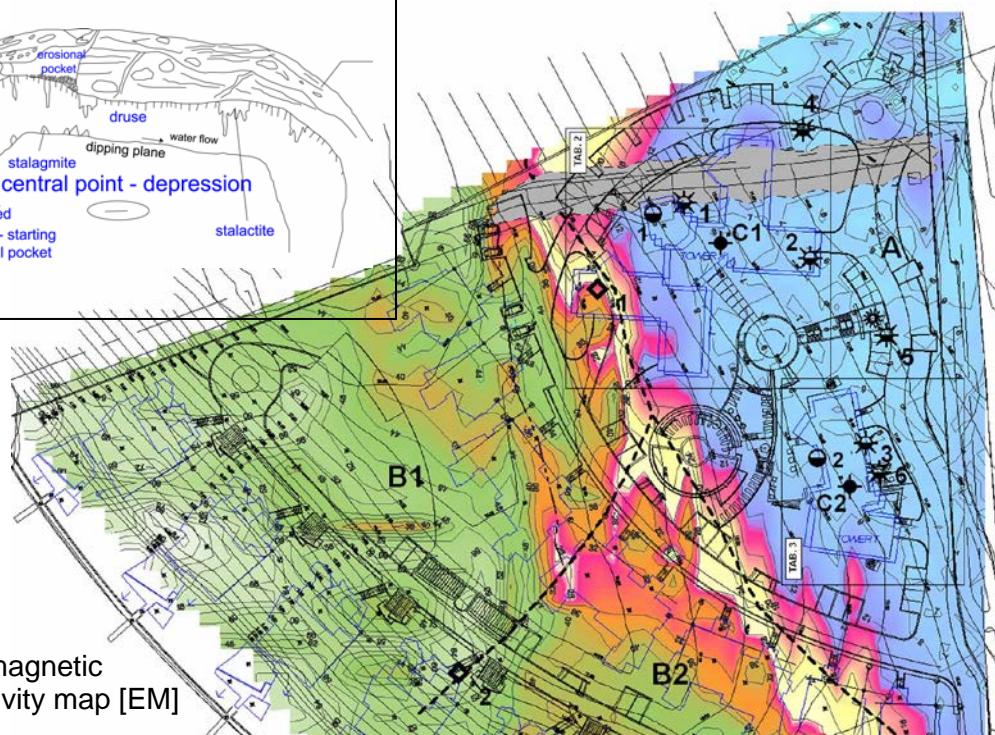
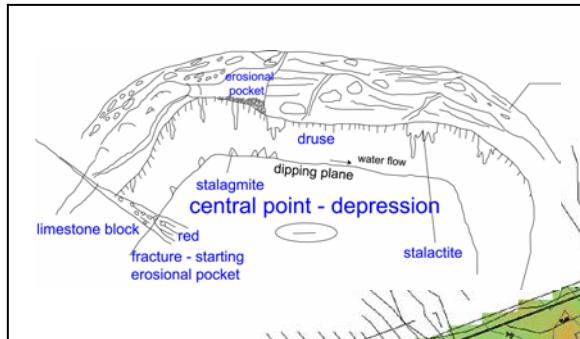
EMERGENCY 24 - COVID 19 - ROME and VATICAN CITY - 05.05.2020



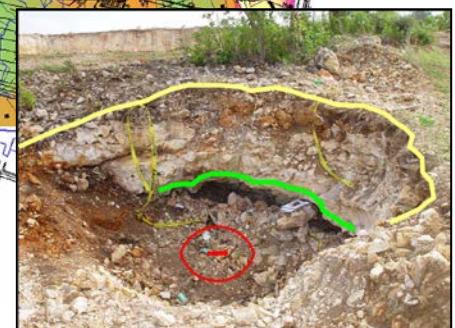
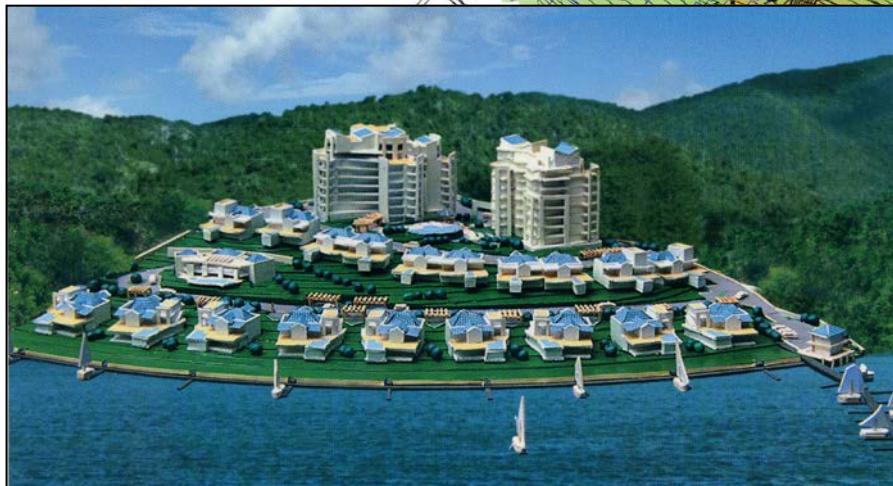
July 2002

**MONEDO N.V., Aqua Marina Project, Saint Marteen –
Netherlands Antilles**

**GEOLOGICAL AND GEOPHYSICAL INVESTIGATION TO SUPPORT
THE COSTRCTION OF THE NEW RESORT COMPLEX IN POINT
PIROUETTE SITE SAINT MARTIN ISLANDS – NETHERLANDS
ANTILLES**



Electromagnetic conductivity map [EM]



Aquamarina Project

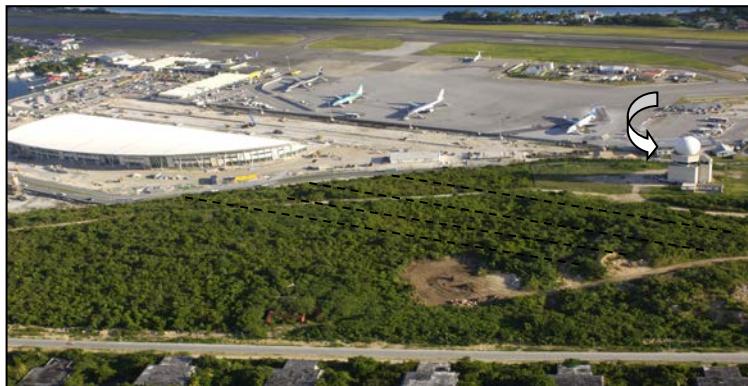
1. maximum pressure $\sigma_{amm} = 2.5 \text{ kg/cm}^2$
2. weathered, fractured and fault zone layout
3. carsified reef limestone and biocalcarenitic salt evaporites
4. accuracy of karst cavities location



April 2006

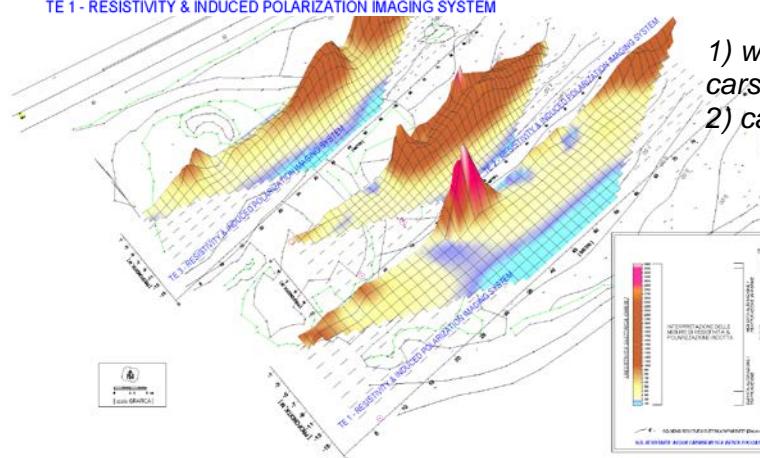
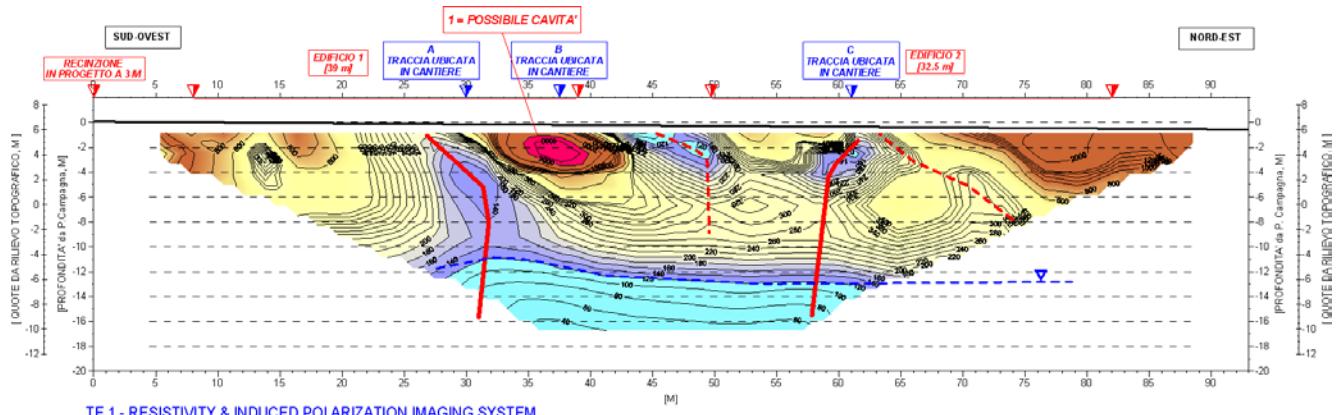
Paradise Bay Resort N.V., Rhine Road, 1, Maho Bay, *Sint Maarten – Netherlands Antilles*

GEOLOGICAL AND GEOPHYSICAL INVESTIGATION TO SUPPORT THE CONSTRUCTION OF THE NEW RESORT COMPLEX BLU MARINE PARADISE BAY RESORT AT MAHO BAY SINT MAARTEN ISLANDS – NETHERLANDS ANTILLES



Survey yard,
near *Princess Giuliana Sint Maarten Int. Airport*

Resistivity & I.P. Imaging System
[R&I.P.] – *Blu Marine Paradise*



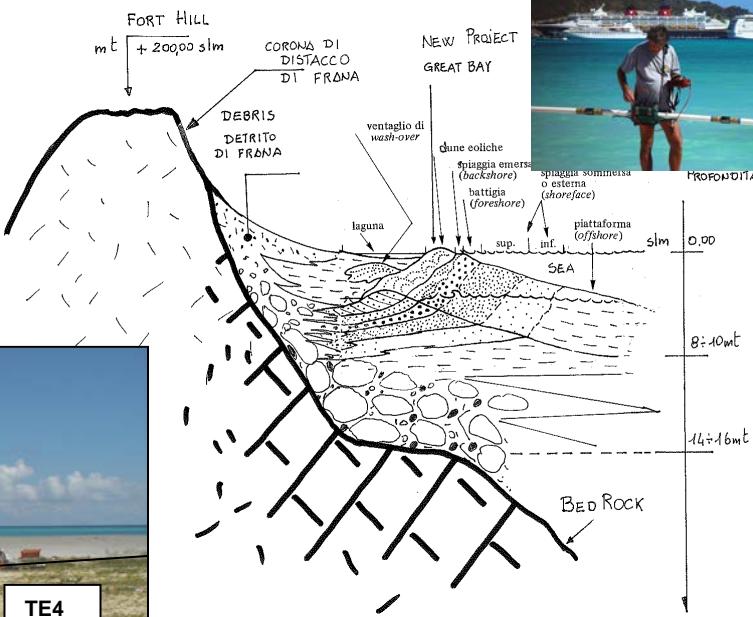
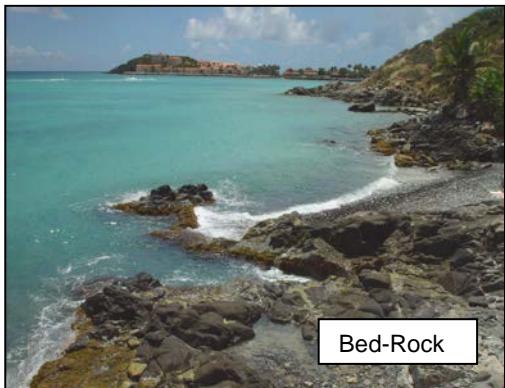
- 1) weathered and fractured zones inside cementsified reef limestone
- 2) careful location of karst cavities

April 2006

**Great Bay Beach Club LTD, Rhine Road, 1, Maho Bay,
 Sint Maarten – Netherlands Antilles**

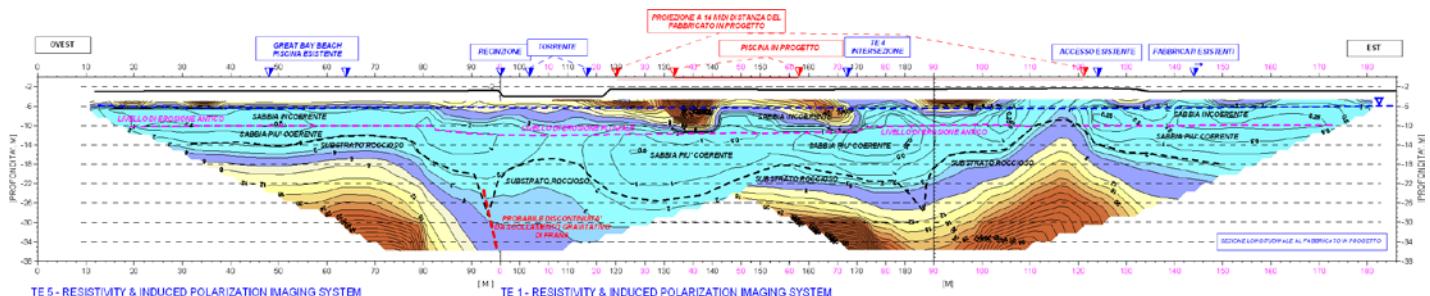


**GEOLOGICAL AND GEOPHYSICAL INVESTIGATION TO SUPPORT
 THE CONSTRUCTION OF THE NEW RESORT COMPLEX GREAT BAY
 BEACH CLUB AT GREAT BAY, PHILIPSBURG SINT MAARTEN
 ISLANDS – NETHERLANDS ANTILLES**



Precise sedimentary and geologic structure reconstruction

Resistivity & I.P. Imaging System [R&I.P.]

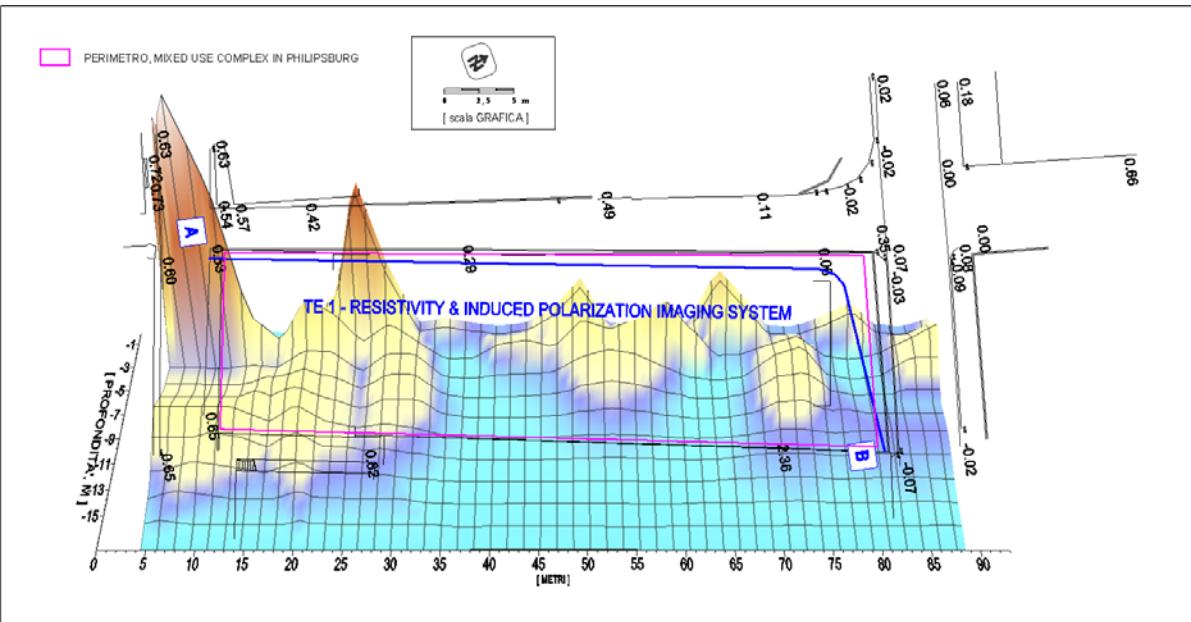


- **BOUNDARY LAYER 1:** 0.0 - 3.0 m = 5-1000 [Ohm·m] = bioreef sand, debris, [dry, no water]
- **BOUNDARY LAYER 2:** 3.0 - 8.0/10.0 m = 1-2 [Ohm·m] = bioreef sand, debris [water Caribbean Sea]
- **BOUNDARY LAYER:** 8.0/10.0 - 14.0/16.0 m = 2-5 [Ohm·m] = bioreef sand, debris hardened [water saturated Caribbean Sea]
- **BOUNDARY LAYER 4:** 14.0/16.0 – 30.0 m and downgrade = 3-50 [Ohm·m] = basaltic bedrock [water saturated Caribbean Sea]
- **BEDROCK DISCONTINUITY:** n. 2 fractured zone, layout on map

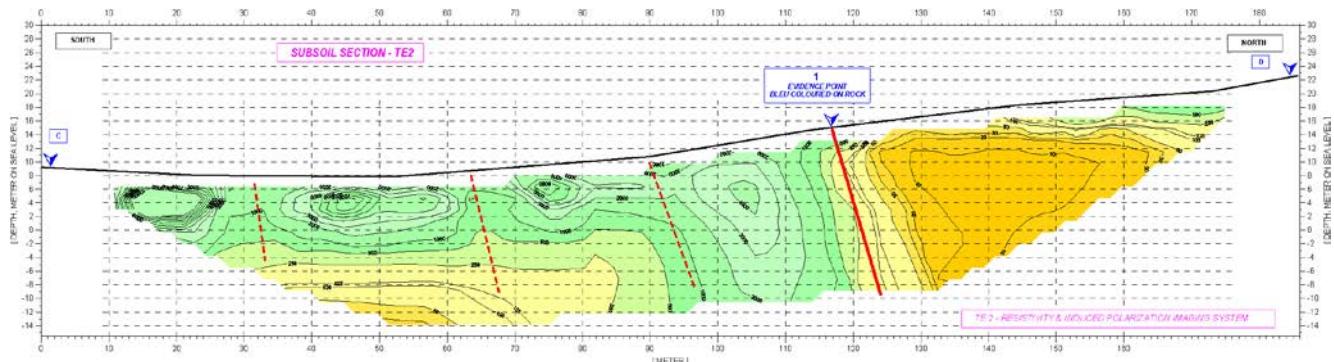
April 2006

MR. WILHELM DAAL, Philipsburg, Sint Maarten – Netherlands Antilles

GEOLOGICAL AND GEOPHYSICAL INVESTIGATION TO SUPPORT THE CONSTRUCTION OF THE “MIXED USE COMPLEX IN PHILIPSBURG” AT PHILIPSBURG, SINT MAARTEN – NETHERLANDS ANTILLES



Sandy subsoil and rock block at a few meter beneath the soil



Resistivity & I.P. Imaging System [R&I.P.]



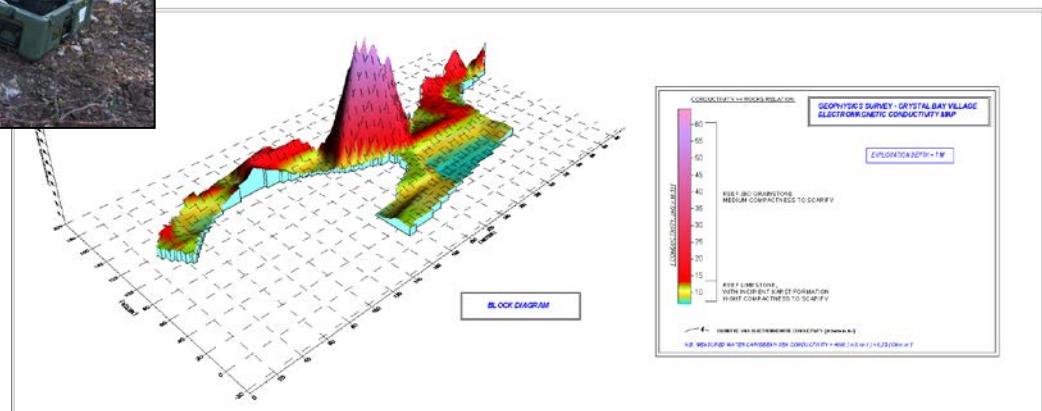
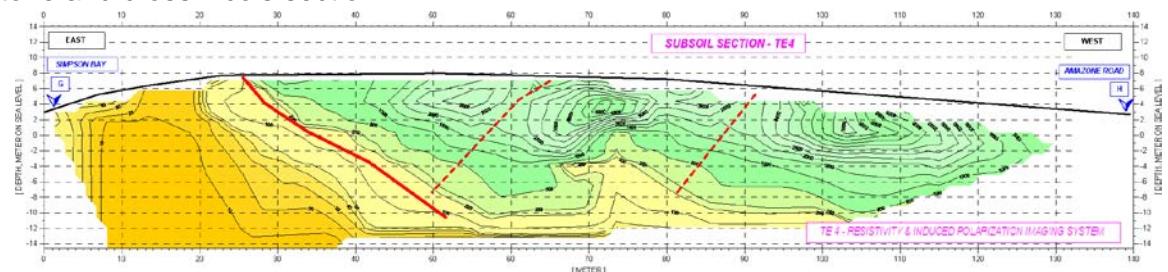
September 2009

RESORT OF THE WORLD, Rhine Road, 1, Maho Bay *Sint Maarten – Netherlands Antilles*

**GEOLOGICAL AND GEOPHYSICAL INVESTIGATION TO SUPPORT
 THE CONSTRUCTION OF THE “CRYSTAL BAY VILLAGE” AT MAHO
 BAY, SINT MAARTEN – NETHERLANDS ANTILLES**



biolimestone and cross nicols section



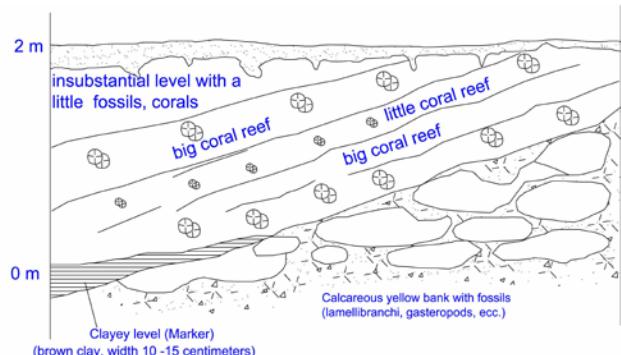
EM conductivity map CRYSTAL BAY VILLAGE. Red colour, biolimestone

September 2009

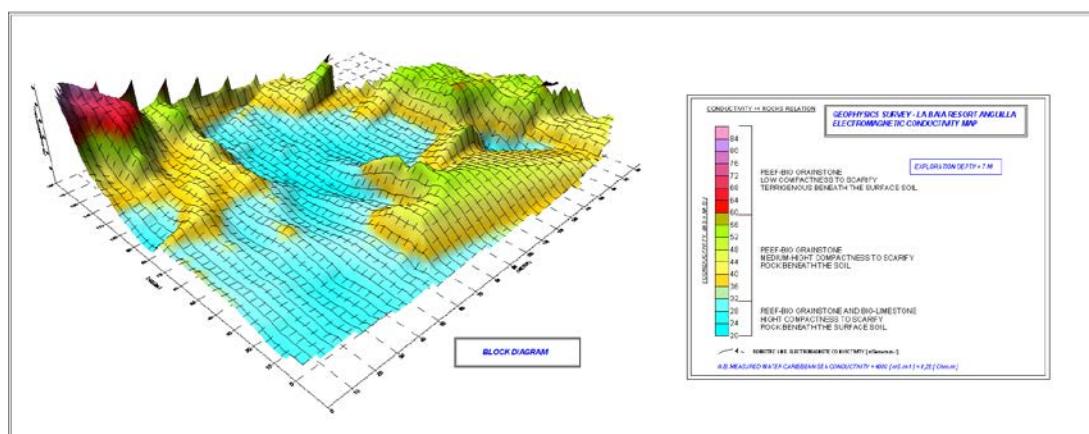
LA BAIA L.T.D., Rhine Road, 1, Maho Bay *Sint Maarten – Netherlands Antilles*



**GEOLOGICAL AND GEOPHYSICAL INVESTIGATION TO SUPPORT
 THE CONSTRUCTION OF THE “LA BAYA RESORT” AT WEST END BAY,
 ANGUILLA – NETHERLANDS ANTILLES**



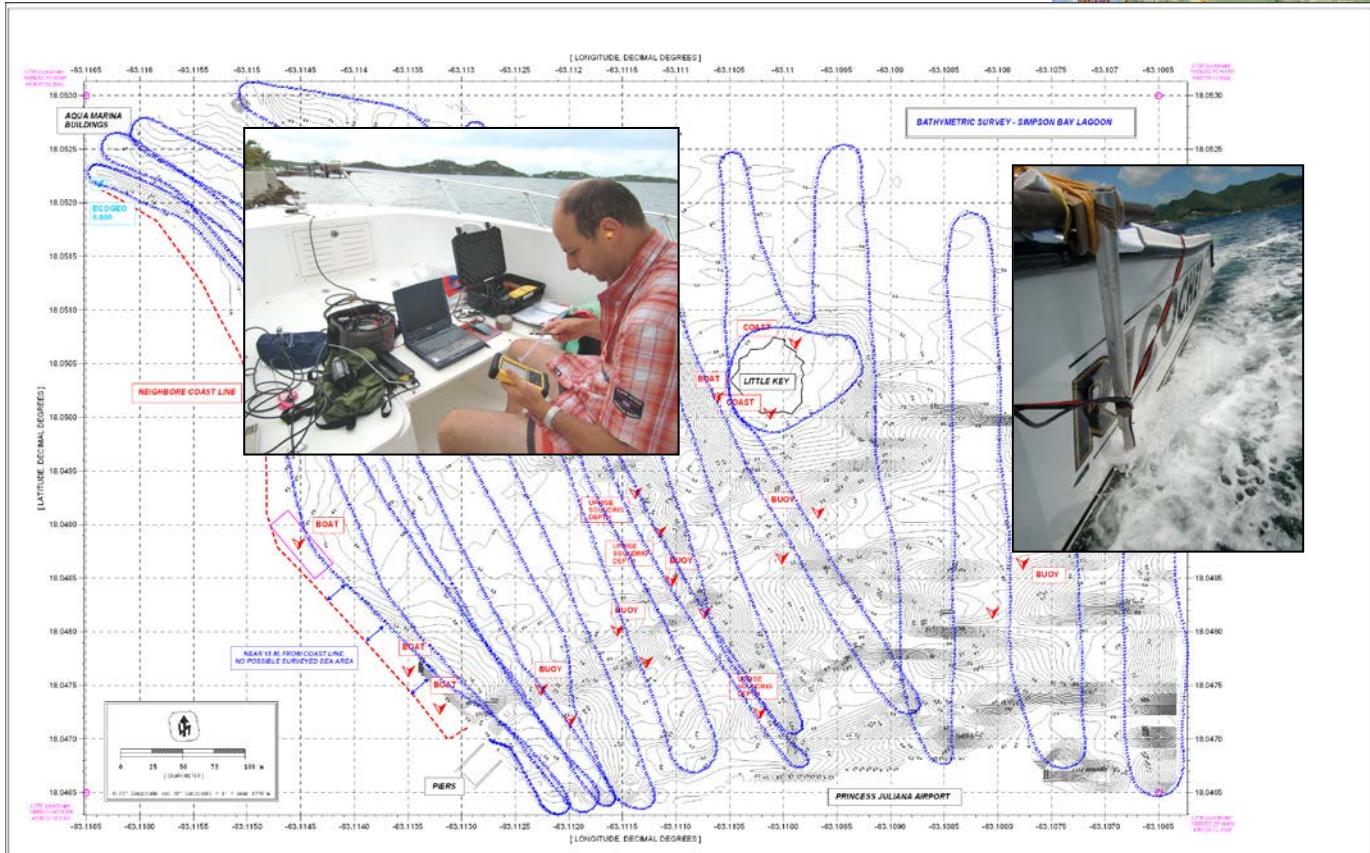
- NEHRP National Earthquake Hazards Reduction Program - IBC 2006
- Italian, Europe tech
- Norme Tecniche sulle Costruzioni D.M. 14/01/2008; Eurocodice 7, 8*



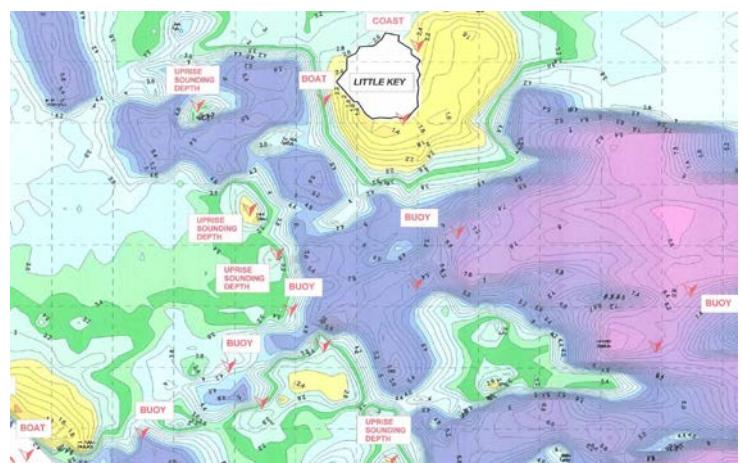
September 2009

RESORT OF THE WORLD, Rhine Road, 1, Maho Bay *Sint Maarten – Netherlands Antilles*

**“SIMPSON BAY LAGOON” BATYMETRIC SURVEY,
 AT CRYSTAL BAY VILLAGE, MAHO ST. MAARTEN**



Simpson Bay bathymetric map (iso depth lines + sea depth measure trip)



September 2012

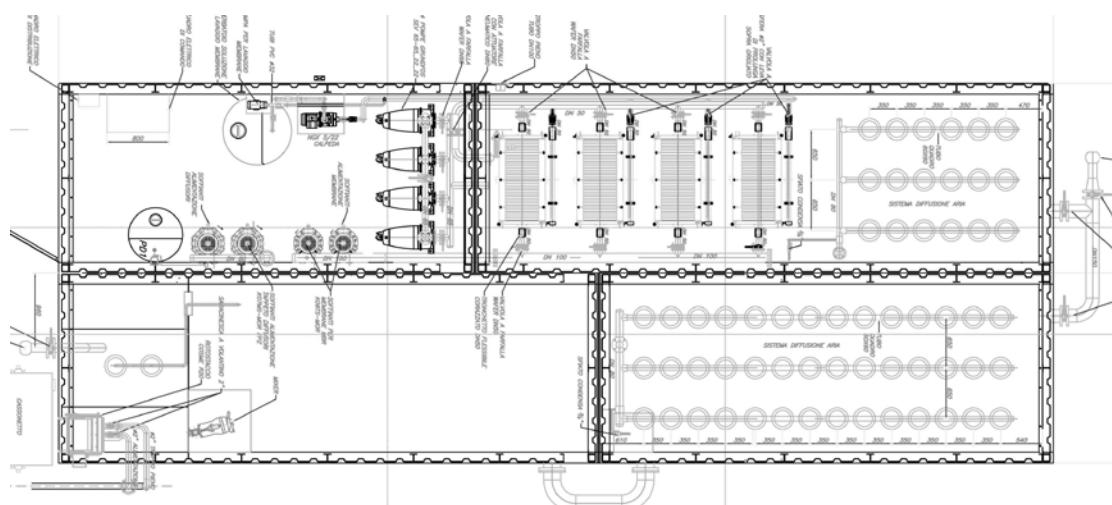
SONESTA MAHO BEACH RESORT & CASINO

1 Rhine Road, Maho Village, Sint Maarten - Netherlands
Antilles

**NEW SYSTEM OF WASTE WATER TREATMENT WITH MBR
TECHNOLOGY IN SONESTA MAHO BEACH RESORT AND GREAT
BAY BEACH CLUB, PHILISBURG**

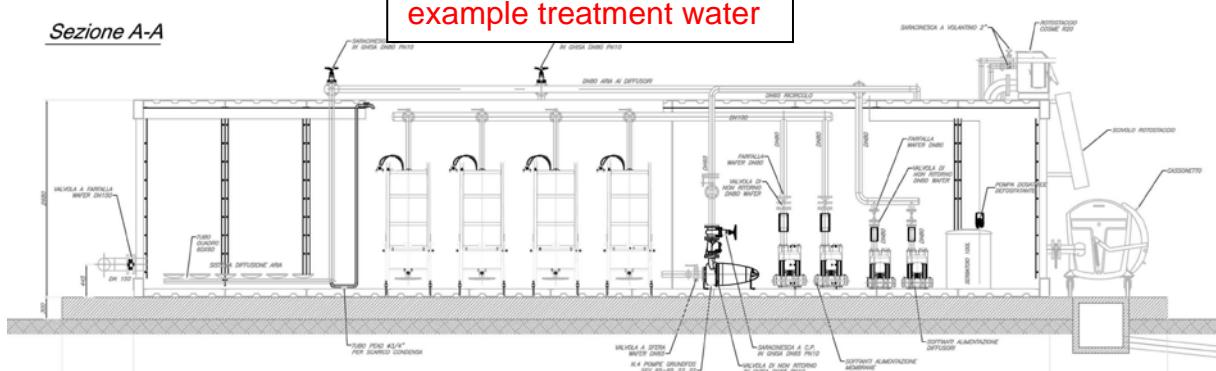


KUBOTA - MBR



example treatment water

Sezione A-A

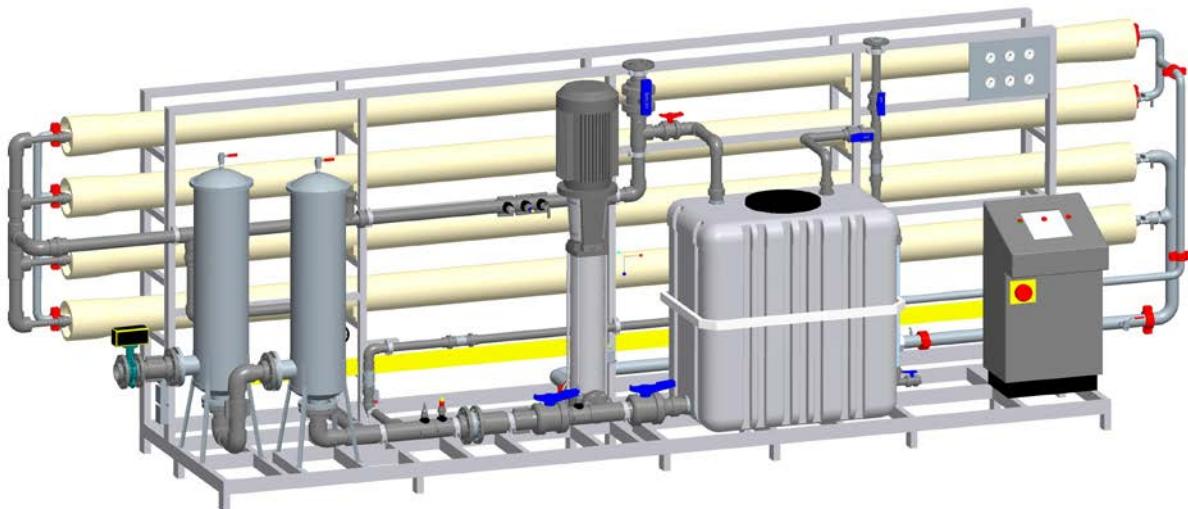


October 2013

SONESTA MAHO BEACH RESORT & CASINO

1 Rhine Road, Maho Village, Sint Maarten - Netherlands
Antilles

PROPOSAL FOR A WATER PURIFICATION PLANT REVERSE OSMOSIS EXIT MBR SYSTEM



PROJECT DATA

Environmental condition

- Installation: indoor
- Environmental temperature: 25 ÷ 40 °C

Raw water features

▪ Temperature:	30 °
▪ pH =	7.25
▪ Turbidity :	0.51
▪ Total suspended solids	= < 5 mg/l
▪ BOD =	< 10 mg/l
▪ COD =	7 mg/l
▪ Sulphate	= 250 mg/l
▪ Chloride	= 200 mg/l
▪ Ammonia nitrogen	0.02 mg/l
▪ Azoto nitroso	0.1 mg/l
▪ Azoto nitrico =	3
▪ Idrocarburi =	< 0.5
▪ Tensioattivi =	0.2 mg/l
▪ Conductivity	2000 microS/cm

Amount of produced treated water

RO permeate flow **400 m³/d**

October 2018

SXM. PRINCESS JULIANA INTERNATIONAL AIRPORT

Simpson Bay, Airport Road, PO Box 2027, Sint Maarten –
 Netherlands Antilles

GEOLOGICAL AND GEOPHYSICAL INVESTIGATION IN SUPPORT OF THE CONSTRUCTION OF THE NEW OUTDOOR CATERING AREA SINT MAARTEN – NETHERLANDS ANTILLES



The purpose of the survey has been to assess the geological -technical conditions of the area under investigation through a series of surveys, geological and geophysical surveys and technical parameters in order to assess the geological characteristics of the substrate, that influence the 'buildability' of the same, in relation to the future construction

