

# ITALIAN EXPERIENCE



*Technology and Services for Oil & Gas Industry*

**ECOSYS ([www.ecosyssrl.com](http://www.ecosyssrl.com)) is a company specialized in industrial and environmental reclamation.**

For years it has carried out works in full compliance with the laws to protect the environment at the largest Italian industrial sites and at Municipalities and Public Institution.

What ECOSYS has achieved in the last ten years is the result of constant improvement work based on:

- knowledge and respect of laws to protect environmental impact issues;
- specific technical skills gained in the field of industrial and environmental remediation (thanks to a long operating experience in different industrial sectors);
- updating and expansion of specific equipment and services by type of intervention;
- joint venture with leading companies by market sector.

### TARGETS

Ecosys is able to provide its customers with:

- technically advanced and economically very competitive solutions;
- services carried out with direct staff capable of combining efficiency and competence.

### OUR SERVICES

Our services are carried out with direct and competent personnel, with targeted attention to the costs for the realization of the works and the timing for the performance of the works:

- **Tanks cleaning and delivery in gas free condition;**
- **Hydrodynamic washings;**
- **Hydro-blasting;**
- **Cold cutting;**
- **Video inspection,**
- **Air treatment with Scrubber unit;**
- **Industrial boilers cleaning, in running;**
- **De-hydration/Separation of sludges, with decanter/tricanter**

### CERTIFICATIONS

**Is certified with:**

- **Integrated Quality Management System - Environment- Safety, in accordance with the standards: UNI EN ISO 9001:2015, UNI EN ISO 14001:2015, UNI ISO 45001:2018.**
- **Registration of Env. Managers n°PA03068 for the following categories: 4F, 5F, 10A-D; 10B-E, 9D.**

**Is qualified in:**

- **ENI SpA (R&M, Versalis, Enimed, Enirewind), ISAB-Lukoil, Sasol SpA, A2A SpA, RAM Raffineria di Milazzo, IPILOM SpA, Edison SpA, HEL.PE. S.A. (Greece), ENEL SpA, AMG Energia SpA, Motor Oil Hellas (Greece), TOTALENERGIES (France), Italgas, SEL Srl, Petroltecnica SpA, SUEZ WTS Italy Srl, Idratech Srl, Q8 Kuwait Petroleum Italia SpA, Mares Italia Srl, Ecotherm Srl, KRI SpA.**

## TANKS CLEANING

The main activity carried out by ECOSYS is the tanks reclamation in "GAS FREE" condition.

Performed with equipment, devices and procedures in compliance with safety rules, allows the achievement of the following objectives:

- PERFECTION PERFORMANCES
- ZERO RISK

No accidents for operators and no one impact for the environment.

### C.O.W. METHOD RECLAMATION

Here is a brief description for each phase of the intervention, accompanied by photos taken during direct interventions with our customers site.

Working in potentially dangerous environments, compliance with all international safety standards is the guiding element that characterizes the execution of the various stages of execution.

The steps of the " C.O.W." method are as follows:

#### Mobilisation/Demobilization

The plant, received the necessary approvals for entry, at the customer's operating site, is installed near the unit to be reclaimed.

Depending on the size of the tank changes, the number of jet-washers to be installed on the floating roof of the tank; the installation of the jet-washers and the subsequent management of the same are essential for an optimal tank cleaning.

The positioning of the injectors is carried out, removing a number of "supports" of the floating roof; the number and position of the "supports" to be removed (<25% of total legs) will be made to ensure the maintenance of the static safety conditions when the roof is in rest position.

The time needed to carry out this first phase, is usually between five and seven days, the cleaning time may take longer since it is dependent on the tank geometry.



# ECOSYS – New Tank Cleaning Technologies

Bobcat, Lavamantello ATEX & Robottino ATEX

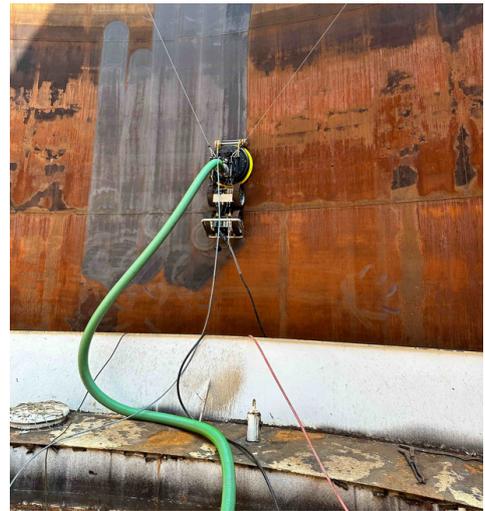
## Amphibious Robot – Automatic sludge removal



The amphibious ATEX robot is designed for automatic sludge removal inside tanks, operating in no-entry mode and keeping personnel exposure to a minimum. It is equipped with an auger to boost suction performance and high-energy nozzles that break up hardened sludge, making it easy to pump. Under standard operating conditions, it can remove approximately 20–35 m<sup>3</sup> of sludge in an 8-hour shift.

## ATEX Tank Cleaning Robot - Suspended cleaning system

The ATEX-certified lavamantello is designed to operate in potentially explosive atmospheres, ensuring full compliance with ATEX regulations. It provides high-pressure cleaning of internal tank walls, improving washing efficiency and reducing downtime, while maintaining the highest safety standards.



## ATEX Robot - Advanced robotic system



The ATEX-certified compact robot enables targeted cleaning in critical tank areas while keeping personnel outside the confined space. It is particularly suitable for tanks with complex geometries or localized accumulations of sludge and sediments, ensuring safe and efficient operations in ATEX zones.



### Tank Blanketing

Nitrogen(N<sub>2</sub>) gas from N<sub>2</sub> generator unit is injected into the cleaning/target tank to secure non-explosion condition to less than 8% Oxygen(O<sub>2</sub>) content in the tank, where flammable gas is filled. Crude oil from the wash oil tank is pressurized and jetted onto the sludge in tank through jet washing machines to dissolve the sludge. This washing operation is so-called “Jet Washing in Gas Phase” which means the remaining crude oil in the cleaning tank is removed to another crude oil tank beforehand in order to bare the sludge surface in gas phase and then the jet flow directly hits the sludge in tank. Direct jetting is so efficient to break the sludge that more than 98% (HC phase fraction) of sludge can be dissolved in a short period. Usually is required, a nitrogen purity of 95% with a maximum flow rate of  $Q = 300 \text{ M}^3/\text{hour}$ .

### Desludging

The no entry tank desludging process is “closed loop”, this means that the media, used for cleaning the tank, runs in closed circuits from the tank through circulation pumps and back again to the tank under pressure through the cannon nozzle, this operation shears the sludge, re-homogenising and re-suspending the hydrocarbons while simultaneously separating inorganics and water.

The cleaning process consists basically of oil wash. The nozzles use re-circulated oil as their primary cleaning media and their effectiveness is due to their far-reaching, low pressure high impact jets. The nozzles are compressed air driven and they can be operated two at a time.

After oil cleaning, there are cases in which the Tank is further cleaned with hot water. Such cleaning operation removes almost all oil components from inside the Tank facilitating there fore the manual finish-cleaning. The nozzles can be programmed to focus on areas that require more intensive desludging.

The presence of sediments, solids and water in the oily mud requires the use of a heat exchanger to recirculate the mud, keeping it fluid and easily pumpable.



## Washing with Oil Recirculation

The cleaning process, the decisive phase of the entire remediation process, will be done using the existing oil or a carrier oil added (usually the oil will be heated with a mobile heating exchanger) as a disintegrating-dissolving element, injected by the jet-washers with a radial and orbital rotation giving an high pressure jet impact.

The jet-washers will be introduced through pre-existing passages on the tank roof surface (legs pipe guide, usually 3"-4" diameter size): after the planning to calculate the surface affected by the action of hot recirculated oil and by the rotary movement of each individual jet-washer.

The process is repeated several times depending on the analytical and operational checks carried out during the same remediation phase.

## Wash Water/Oil Separation

The final phase is carried out for complete the final tank cleaning, having already removed almost all of the oily fraction present in it.

Always using the same jet-washers, hot water will be injected inside for washing the internal tank surfaces.

The scope of this operation is:

- wash the remaining sludge on the tank bottom by recovering the residual oil. The mixed phase taken from the tank will be treat with a separator tank from which the water phase is reused and sent to the head of the plant and from this to the jet-washers, while the oil phase is recovered;
- break down VOC to ensure a safety access to the tank.

At the end of the wash, the water will be sent to the Wastewater Treatment Unit (refinery plant) via the sewer line.

The system is mainly used for the following applications:

- Fuel oil tanks
- Crude oil tanks



## BENEFITS:

### ➤ SAFETY:

***The remediation is carried out in absolute safety condition.***

Operations shall be carried out without personnel inside the tank, except for manual final cleaning.

To maintain the maximum safety level, the tank is inertized. The atmosphere, inside the tank, is continuously analyzed to verify the explosive conditions and the plant is equipped with a continuous gas analyzer equipped with alarm control unit that, can switch OFF the recirculation pumps.

➤ **Hydrocarbon recovery and reduction of waste treatment and disposal costs:**

- The system allows the recovery around the 98% of the "hydrocarbon fraction present in the sludge";
- Reduction of the amount and cost of mud, to be disposed of in landfill.

➤ **Scheduling time:**

The reclamation with COW method means shorter times than those required in a total manual reclamation.

### MANUAL CLEANING RECLAMATION

The manual remediation activity is an intervention mainly used for the following applications:

- Tanks containing gasoline
- Tanks containing diesel
- Tanks containing light oil or already refined

It is possible use an improvement systems, for example a mini shovel with hydraulic drive, able to perform work with greater production and in safety, in confined space containing explosive mixtures.



## ADDITIONAL SERVICES

### Hydrodynamic washings

The Water as like a tool, is able to remove any type of fouling, such as glues, carbon residues, concrete, polymers of all kinds, petroleum derivatives, as well as a multitude of chemicals.

The winning action of our machines is the temperature-pressure, combination: thanks to a separate boilers unit (supplied by Ecosys) the water can reach up to 95 °C.

The operations usually carried out are:

- External cleaning of metal and other structures, pylons, masts, gratings, ladders, handrails, pipes, equipment, electric motors, pumps, instrumentation, valves, floors, bases, etc..
- Internal cleaning of tanks, tubs, filters, heat exchangers, thickeners, settlers, sewers, wells, channels, tanks, etc..



## Decoating

The paint stripping of plates is increasingly carried out hydro-blasting, carried out with special rotating nozzles at high pressure (about 2000 bar) that make the surfaces clean and residual paint, right ready to for subsequent new painting treatments.



## Hydro-sandblasting

Hydro-sandblasting is generally used when hot water washing does not reach its maximum effectiveness, especially on surfaces on which it isn't possible to work with high pressures; it replaces traditional compressed air sandblasting, with the advantage that it does not produce volatile dust.



## Hydro-demolition

With the use of high pressure motor pumps (around 2000 bar) it's possible and with the use of water alone, to remove incrustations or damaged layers present on the reinforced concrete structures; without damaging any of the structural parts because there aren't vibrations or stress of any kind.



### **Cold cutting (Hydro-cut)**

The high pressure allows water to cut different materials, without using abrasives, such as polymers, reinforced concrete, paints etc. The joint use of abrasive allows the cutting of metal plates even of considerable thickness; this technology is mainly used in those situations where is necessary to ensure maximum safety, for example when operating in tanks and plants of chemical, in petrochemical and refinery companies.



## Vacuum trucks

Ecosys carries out, also, vacuum purge services; for industrial and civil compound.



## Video-inspection

The service allows to see inside pipes (up to 800 mm of diameter), verifying the state of cleanliness and the precise identification of anomalies.

This is useful to prevent malfunctions is crucial for testing.

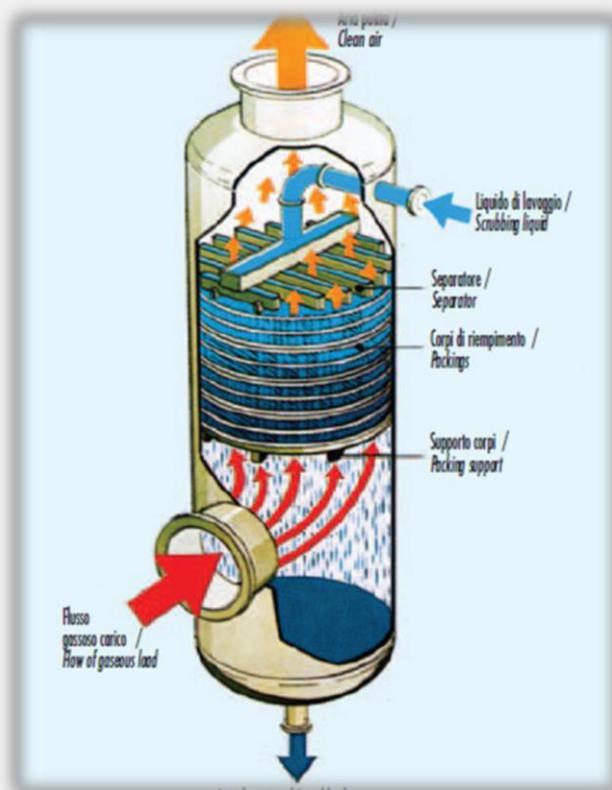
At the end of the intervention will be release to the customer the recording of the digital movie, photographs of the details and reports on the state of affairs.



## Air treatment with Scrubber (washing towers)

Wet scrubber systems are the best solution to many other systems or with different technology (dry filtration, absorption systems) regarding all environmental impact issues of medium and large industries. Considering the possible configurations of systems for purification of harmful substances both in the form of particles (dust, mists and fumes) and acid vapours (hydrogen sulphide, sulphur dioxide, hydrofluoric acid, etc.), through this technology, Ecosys guarantees high abatement efficiency, undisputed intrinsic performance, reliability in terms of maintaining over time the limit values imposed in the treatment of gaseous currents generated by industrial processes. Industrial applications: refineries, chemical and petrochemical industries, incinerators/waste-to-energy plants, biogas plants, power plants, cement plants, foundries, steel mills, paper mills, aluminium production plants, fertiliser and pesticide production plants.

Advantages: easy operation, low installation cost.



## Cleaning of heat exchange surfaces with running boiler

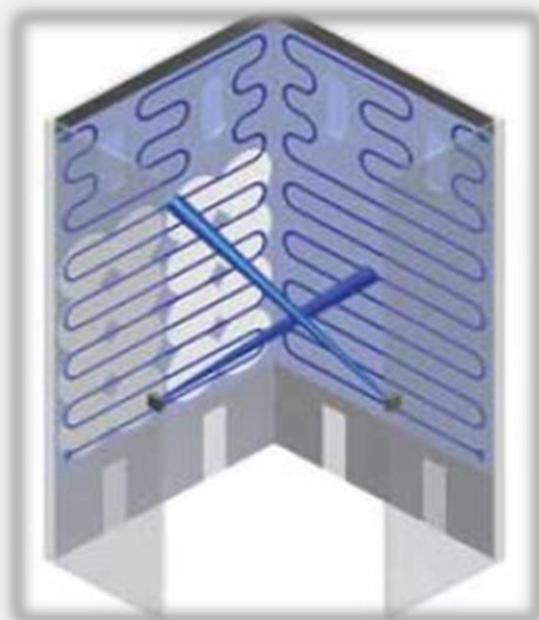
Due to the very high temperatures in the combustion chamber, the deposits that form at various points (heat exchange surfaces, pipes, refractory materials) may present different intensities, causing numerous problems (higher gas and vapour outlet temperature, increased heat input, obstruction of spaces) and increasing the risk of damage or loss of efficiency of the plant.

The company Ecosys, owner of the patent n.0001429341 from 19 July 2017, has decisively marked the technological evolution of cleaning systems for running boilers.

Our technology for cleaning combustion residues is based on the spraying of a granular compound conveyed by a gaseous transport fluid while the plant is in operation ensuring the cleaning of the heat exchange surfaces of a combustion plant both in the Radiant heat exchange zones that in the Convective heat exchange zones.

Industrial applications: cleaning of combustion residues in furnaces, boilers and combustion plants in general.

Advantages: increased efficiency, carrying out cleaning operations without requiring shutdown of the plant, elimination of downtime for switching on and off and the need for scaffolding inside the combustion chamber for cleaning operations, reduction of the risk of exposure to harmful substances and of damage to refractory and insulating materials of the internal parts, an environmentally friendly and environmentally friendly solution and free from the production of waste.

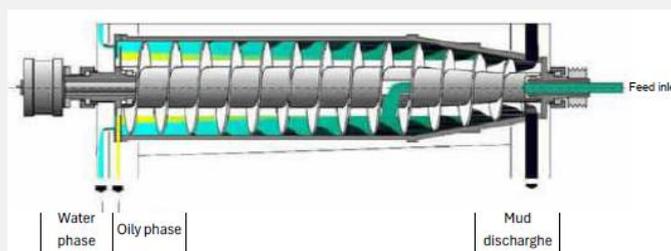
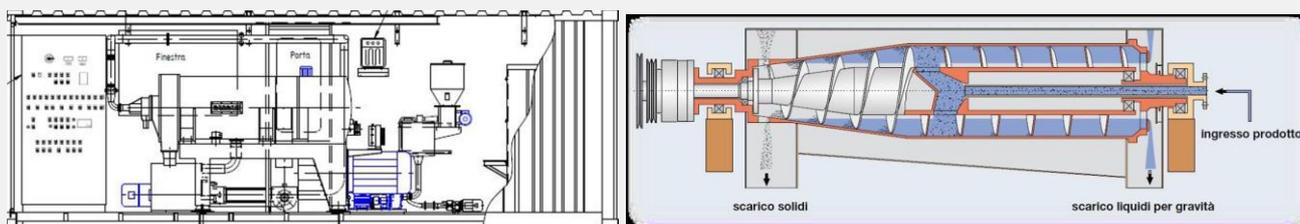


## Sludge dewatering

The technology used by Ecosys for the separation solid-liquid phases in products of industrial origin is based on centrifuges (decanter/tricanter) with horizontal axis.

The rotation speed and mechanical characteristics of the individual components are such as to ensure the maximum balance between the clarity of the recovered liquids and the dryness of the solid phase. The operation can be preset through a specific parameters set and can be controlled automatically without the need to intervene manually.

Advantages: reduction of sludge volume with consequent limitation of transport and disposal cost, space saving thanks to compact and modular design, high performance combined with low electrical energy consumption.



High Performance 2 & 3 Phase Decanter Centrifuge



## REFERENCE LIST

### List of the works carried out cleaning tanks by the company ECOSYS s.r.l.

Tank ID.	Place	Date	Capacity M <sup>3</sup>	Product	Roof type	Method:
1-2-3-4-5	Deposito di Muggia (TESECO)	2005	80.000/cad	Fuel Oil	fixed	
TK 13-4-6-9	Deposito di Genova (PRAOIL)	2006	60.000/cad	Crude Oil	floating	COW
TK 3-5	Deposito di Ferrera (PRAOIL)	2007	60.000/cad	Crude Oil	floating	COW
TK10	Deposito di Genova (PRAOIL)	2007	80.000	Crude Oil	floating	COW
TK2	Deposito di Ferrera (PRAOIL)	2007	80.000	Crude Oil	floating	COW
	Dep. di Civitavecchia (PRAOIL)	2007	10-15.000	Petrol -diesel	floating	
TK21	Deposito di Ferrera (PRAOIL)	2007	60.000	Crude Oil	floating	COW
	Deposito di Ferrera (PRAOIL)	2007	10-15.000	Petrol -diesel	floating	
	Deposito di Palermo (ENI)	2008	10-15.000	Petrol -diesel	floating	
S2-S8	C.le di Ravenna (ENEL)	2008	21-47.000	Fuel Oil	fixed	
TK534	Refinery di Milazzo (ENI-Q8)	2009	160.000	Crude Oil	floating	COW
TK2	Stabil. di Ragusa (Polimeri Europa/ENI)	2009	20.000	Fuel Oil	fixed	
TK68	Refinery di Milazzo (ENI-Q8)	2009	15.000	Diesel fuel	fixed	
TK67	Refinery di Milazzo (ENI-Q8)	2009	15.000	Slop Oil	floating	
	Deposito di Calenzano (ENI)	2010	5-10.000	Petrol -diesel	floating	
TK512	Refinery di Milazzo (ENI-Q8)	2010	100.000	Crude Oil	floating	COW
TK58	Refinery di Milazzo (ENI-Q8)	2010	40.000	Fuel Oil	fixed	
TK1	Stabil. di Ragusa (Polimeri Europa/ENI)	2010	20.000	Fuel Oil	fixed	
TK28	Refinery di Milazzo (ENI-Q8)	2011	10.000	Phenols	fixed	
TK23	Refinery di Elefsina (Hel.Pe. GREECE)	2011	61.000	Slop Oil	fixed	COW
TK180	Refinery di Milazzo (ENI-Q8)	2011	20.000	Fuel Oil	floating	COW
S109	Refinery di Gela (ENI)	2011	80.000	Crude Oil	floating	COW
S110	Refinery di Gela (ENI)	2012	100.000	Crude Oil	floating	COW
S812	Refinery di Gela (ENI)	2012	40.000	Crude Oil	floating	COW
TK3	Refinery di Milazzo (ENI-Q8)	2012	36.000	Fuel Oil	fixed	
	Refinery di Gela (ENI)	2012	10-20.000	Fuel Oil	fixed	
	Refinery di Gela (ENI)	2012	10.000	Petrol -diesel	fixed	
	Deposito Vibo V. (ENI)	2012	20.000	Petrol -diesel	fixed	
	Refinery di Gela (ENI)	2012	40.000	Petrol	fixed	
	Refinery di Mantova (IES)	2012	20.000	Petrol -diesel	fixed	
	Deposito di Palermo (ENI)	2012	10.000	Petrol	fixed	
S11	Refinery di Roma (TOTAL)	2012	110.000	Crude Oil	floating	COW
	Refinery di Gela (ENI)	2012	5.000	Bitumen	fixed	
	Refinery di Milazzo (ENI-Q8)	2013	100.000	Diesel fuel	floating	
G4008	Refinery S.Nazzaro (ENI)	2013	47.000	Crude Oil	floating	COW
S12	Refinery di Roma (TOTAL)	2013	110.000	Crude Oil	floating	COW
S 101	Refinery di Gela (ENI)	2013	80.000	Crude Oil	floating	COW
	Refinery di Cremona (TOTAL)	2013	40.000	Fuel Oil	fixed	
	Refinery di Roma (TOTAL)	2013	10-20.000	Petrol -dies	fixed	
TK 63	Refinery di Milazzo (ENI-Q8)	2014	3.300	Petrol	fixed	
	Refinery di Gela (ENI)	2014	25.000	Fuel Oil	fixed	
S 106	Refinery di Gela (ENI)	2014	160.000	Crude Oil	floating	COW
A-903	Refinery TOTAL Le Havre (FR)	2015	90.000	Crude Oil	floating	COW
TK3002	Refinery EXXON-MOBIL Le Havre (France)	2015	60.000	Crude Oil	floating	COW
	Refinery di Priolo (ISAB)	2015	40.000	Fuel Oil	fixed	
S 319	Deposito di Napoli (Q8)	2015	20.000	Petrol	fixed	
P951	Refinery TOTAL Donges (France)	2015	40.000	Slop Oil	fixed	
S43	Refinery di Gela (ENI)	2015	20.000	Fuel Oil	fixed	
TK65	Refinery di Milazzo (ENI-Q8)	2015	30.000	Slop Oil	fixed	
TK181	Refinery di Milazzo (ENI-Q8)	2015	20.000	Fuel Oil	fixed	
TK 121	Refinery di Milazzo (ENI-Q8)	2015	60.000	Petrol	floating	
TK506	Refinery di Milazzo (ENI-Q8)	2015	60.000	Diesel fuel	floating	
TK532	Refinery di Milazzo (ENI-Q8)	2015	120.000	Crude oil	floating	COW
TK506	Refinery di Milazzo (ENI-Q8)	2016	40.000	Diesel	fixed	
TK65	Refinery di Milazzo (ENI-Q8)	2016	20.000	Slop Oil	fixed	

TK61	Refinery di Milazzo (ENI-Q8)	2016	20.000	Slop Oil	fixed	
TK520	Refinery di Milazzo (ENI-Q8)	2016	30.000	Phenols	fixed	COW
TK52	Refinery di Milazzo (ENI-Q8)	2016	15.000	Gasoline	fixed	
TK35	Refinery di Milazzo (ENI-Q8)	2016	1.100		fixed	
TK512	Refinery di Milazzo (ENI-Q8)	2016	120.000	Crude Oil	floating	COW
TK505	Refinery di Milazzo (ENI-Q8)	2017	50.000		floating	
TK530	Refinery di Milazzo (ENI-Q8)	2017	160.000	Crude Oil	floating	COW
TK86	Refinery di Milazzo (ENI-Q8)	2017	7.000	Gasoline	floating	
TK125	Refinery di Milazzo (ENI-Q8)	2017	100.000	Crude Oil	floating	COW
A607	Refinery Total di Marsiglia	2017	60.000	Fuel Oil	floating	COW
TK533	Refinery di Milazzo (ENI-Q8)	2018	160.000	Crude Oil	floating	COW
TK71	Refinery di Milazzo (ENI-Q8)	2018	15.000	Diesel	floating	
TK44	Refinery di Milazzo (ENI-Q8)	2018	1.100	Diesel	floating	
TK500	Refinery di Milazzo (ENI-Q8)	2018	50.000	Diesel	floating	
TK506	Refinery di Milazzo (ENI-Q8)	2018	100.000	Diesel	floating	
TK87	Refinery di Milazzo (ENI-Q8)	2018	7.000	Virgin.naftha	floating	
TK59	Refinery di Milazzo (ENI-Q8)	2018	7.000	Fuel oil	floating	
TK82	Refinery di Milazzo (ENI-Q8)	2018	7.000	Diesel	floating	
TK53	Refinery di Milazzo (ENI-Q8)	2018	15.000	Gasoline	floating	
TK2	Deposito di Pantelleria (ENI)	2018	90	Petrol	fixed	
DA1409	Stabilimento Versalis di Priolo (ENI)	2018	5.000	Cumene	floating	
TK1 – TK12	Deposito di Vibo Valentia (ENI)	2018	550 – 4.139	Oily water - Diesel	Fixed fixed	
TK18 – TK24	Deposito di Palermo (ENI)	2018	1.240 – 6.017	Oily water Diesel	Fixed fixed	
DA1105	Stabilimento Versalis di Priolo (ENI)	2018	5.000	Etilbenzene	floating	
TK11 – TK26	Deposito di Palermo (ENI)	2018	2.350 – 10.800	Kerosene Diesel	Floating fixed	
P183	Refinery TOTAL Donges (France)	2018	1.000	Bitumes	fixed	
90 S02	Refinery di Milazzo (ENI-Q8)	2019	1.900	Zolfo liquido	fixed	
S 301	Refinery di Milazzo (ENI-Q8)	2019	205	Acido Solforico	fixed	
TK89	Refinery di Milazzo (ENI-Q8)	2019	7.000	Virgin-nafta	floating	
TK 95	Refinery di Milazzo (ENI-Q8)	2019	36.000	Gasoline	floating	
TK 48	Refinery di Milazzo (ENI-Q8)	2019	1.100	Diesel	floating	
TK 205	Refinery di Milazzo (ENI-Q8)	2019	650	Slop	floating	
TK 88	Refinery di Milazzo (ENI-Q8)	2019	7.000	Alchilato	floating	
TK 176	Refinery di Milazzo (ENI-Q8)	2019	15.000	Gasoline	floating	
S102 – S104	Stabilimento Iplom SpA di Genova	2019	15.000	Crude Oil	floating	COW
TK 30	Deposito Eni di Palermo	2019	8.700	Gasoline	floating	
S112	Stabilimento Iplom SpA di Genova	2019	61.000	Crude Oil	floating	COW
S2	Stabilimento Iplom SpA di Genova	2019	15.000	Crude Oil	floating	COW
TK 10	Deposito Eni di Vibo Valentia	2019	4.300	Slop	floating	
C 112	Stabilimento ENI Versalis di Priolo	2020	5.000	Fok Oil	fixed-floating	
TK 504	Refinery di Milazzo (ENI-Q8)	2020	50.000	Gasoline	floating	
TK 56	Refinery di Milazzo (ENI-Q8)	2020	15.000	Gasoline	floating	
TK 94	Refinery di Milazzo (ENI-Q8)	2020	36.000	Gasoline	floating	
TK 21	Refinery di Milazzo (ENI-Q8)	2020	3.300	Diesel	floating	
TK 41	Refinery di Milazzo (ENI-Q8)	2020	1.100	Diesel	floating	
TK 43	Refinery di Milazzo (ENI-Q8)	2020	1.100	Diesel	floating	
TK 61	Refinery di Milazzo (ENI-Q8)	2020	7.000	Slop	floating	
TK 122	Refinery di Milazzo (ENI-Q8)	2020	100.000	Crude Oil	floating	COW
TK 94	Refinery di Milazzo (ENI-Q8)	2020	36.000	Gasoline	floating	
TK 17	Deposito ENI di Palermo	2020	1.300	Kerosene	fixed	
TK 21	Refinery di Milazzo (ENI-Q8)	2021	3.300	Diesel	floating	
TK 123	Refinery di Milazzo (ENI-Q8)	2021	100.000	Crude Oil	floating	COW
TK 517	Refinery di Milazzo (ENI-Q8)	2021	100.000	Crude Oil	floating	COW
TK 63	Refinery di Milazzo (ENI-Q8)	2021	38.000	Fuel Oil	floating	COW
TK 514	Refinery di Milazzo (ENI-Q8)	2021	100.000	Crude Oil	floating	COW
TK 56	Refinery di Milazzo (ENI-Q8)	2021	15.000	Gasoline	floating	
TK 513	Refinery di Milazzo (ENI-Q8)	2021	100.000	Crude Oil	floating	COW
TK206	Refinery di Milazzo (ENI-Q8)	2021	800	Slop	floating	
S-5	Petroltecnica Spa – P.to Tolle (RO)	2022	100.000	Fuel Oil	floating	
TK179	Refinery di Milazzo (ENI-Q8)	2022	7.000	ETBE	floating	
TK92	Refinery di Milazzo (ENI-Q8)	2022	7.000	Jet-fuel	floating	

TK64	Refinery di Milazzo (ENI-Q8)	2022	36.000	Gasoline	floating	
TK22	Refinery di Milazzo (ENI-Q8)	2022	3.300	Sulphur	fixed	
TK5	Refinery di Milazzo (ENI-Q8)	2022	36.000	Fuel-oil	floating	
TK73	Refinery di Milazzo (ENI-Q8)	2022	15.000	Gasoline	floating	COW
TK47	Refinery di Milazzo (ENI-Q8)	2022	1.100	Gasoline	floating	
S5	Busalla Stabilimento Iplom SpA di Genova	2022	1.200	Crude oil	floating	
TK40	Refinery di Milazzo (ENI-Q8)	2023	1.100	Diesel	floating	
TK124	Refinery di Milazzo (ENI-Q8)	2023	100.000	Crude Oil	floating	COW
TK177	Refinery di Milazzo (ENI-Q8)	2023	27.000	Virgin-nafta	floating	
TK179	RAM – Milazzo Refinery (ENI-Q8)	2023	7.000	ETBE	floating	
TK91	RAM – Milazzo Refinery (ENI-Q8)	2023	7.000	Gasoline	floating	
TK501	RAM – Milazzo Refinery (ENI-Q8)	2023	50.000	Diesel	floating	
TK531	RAM – Milazzo Refinery (ENI-Q8)	2023	160.000	Crude Oil	floating	COW
T-764	Motor Oil Hellas – Corinth Refinery (GR)	2023	120.000	Crude Oil	floating	COW
TK504	Refinery di Milazzo (ENI-Q8)	2023	50.000	Gasoline	floating	
T-766	Motor Oil Hellas – Corinth Refinery (GR)	2023-2024	120.000	Crude Oil	floating	COW
Tk512	RAM – Milazzo Refinery (ENI-Q8)	2023-2024	100.000	Crude Oil	floating	COW
Tk124	RAM – Milazzo Refinery (ENI-Q8)	2024	100.000	Crude Oil	floating	COW

### MAIN CUSTOMERS

