



December 2020

# Wolftank Adisa Group Portfolio

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[www.wolftank.com](http://www.wolftank.com)

# About Wolftank Adisa Group



Since more than 35 years, Wolftank Adisa operates successfully for all types of customers with environmental impact, ensuring the highest standard in spill prevention, soil remediation and dispensing of renewable energy.

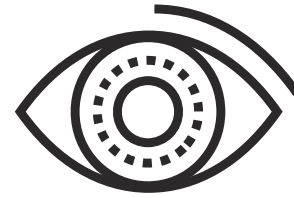
We continuously develop new solutions which are adapted on the specific demands of our customers and our working processes are certified , ISO 9001, ISO 14001, OHSAS 18001 and SCC, OIMS, and others.



## OUR MISSION

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We love and respect our planet.  
Our mission is to make sure that all over the world air, water and soil are a healthy and vital resource for mankind and nature as it was originally.



## OUR VISION

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We are established experts and technology promoters for the transition to an environmentally sustainable economy. We have the most effective means and expertise to join the balance of the ecosystem and the growth of customers and partners.



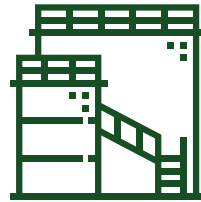
# Business Units

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Environmental  
remediation (soil & water)

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Technology Upgrade for Above  
Ground (AST) and Underground  
(UST) Storage Tanks and Pipes

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Engineering, Procurement  
and Construction (EPC)

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# Environmental remediation (soil & water)

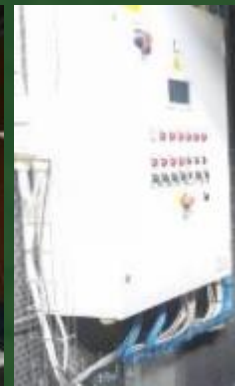
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# Excavation vs. In-Situ Treatment

Depending on the situation, we provide all relevant information for the best possible treatment methods.



Even if we are good  
in solving problems  
in most cases it is  
better to avoid  
them!

# Make the **Right** Decision

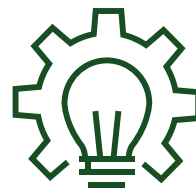
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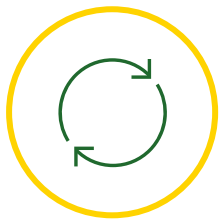
Wolftank Group is successfully completing projects since 20 years in the field of Environmental Engineering for Oil Companies, Retailers and Chemical Industry.



We provide highly specialized environmental consultancy, offering a turnkey service from the preliminary investigation to the final on-site remediation, in compliance with the regional and national law requirements.



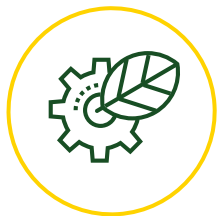
The technical staff is 150+, including engineers, geologists and environmental biologist/chemists, allowing to provide innovative, cost-efficient, reliable and sustainable solutions.



Decommissioning of underground tanks in gas stations and fuel depot



Environmental investigation and sampling of soil and water during decommissioning phase



Selection of the right technology depending on sampling results



Conductive top layer suitable for storage liquids with a flashpoint  $<55^{\circ}\text{C}$

Choose a  
**Hassle-Free**  
Project Management



Millions of years  
our environment  
worked for us...

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...it's time to give  
something back.

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## Groundwater Treatment

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- Pump and treat 
- Air sparging 
- Air stripping 
- Reactive permeable  
barrier technology 
- Oxygen microdiffusion 

## Soil Treatment

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-  Soil vapor-extraction
-  Equipmentless bacterial treatment
-  Surfactant enhanced remediation
-  ORC and HRC
-  Biopile – Land Farming
-  Soil-flushing
-  Thermal desorption
-  Multi/Dual Phase Extraction

# Our advantages: Comparison of soil treatment technologies

Treatment technology	Applicable for types of contaminations	Equipment needed	Materials and resources needed
Soil-flushing	*inorganic and aromatic contaminations.	*Water and reagent injection device *Water pumping plant *Aspiration plant for vapors.	* water and reagent. * products for the treatment of water
Thermal desorption	*organic contaminations, especially volatile compounds	*equipment to heat up the soil * vapor treatment system for aspired vapors	* Energy for soil heating * products for the treatment of aspired vapors
Surfactant enhanced remedaition	*mainly organic and biodegradable contaminations.	*Air/oxygen blow-in system * Equipment for Interstitial vapor/gas aspiration. * vapor treatment system for aspired vapors	*nutrient products for the biodegradation of the contaminants in the air *products for the treatment of aspired vapors
Bioventing	*mainly organic and biodegradable contaminations.	*Air/oxygen blow-in system	* Energy for equipment
Soil vapour-extraction	*organic high volatile compounds	* Equipment for Interstitial vapor/gas aspiration. * vapor treatment system for aspired vapors	*products for the treatment of aspired vapors * Energy for equipment

Note: The efficiency of all technologies depends on the homogeneity and permeability of the soil



Treatment Details:

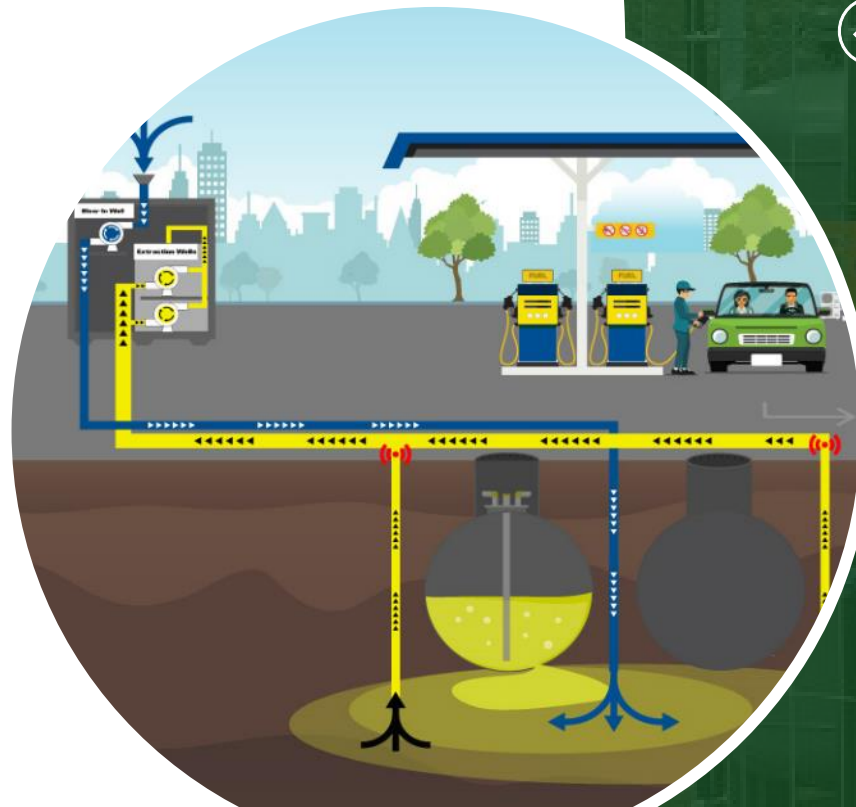
## In-situ soil vapor extraction

The efficiency depends on the following conditions:

- ✓ Air permeability of the soil
- ✓ Ground water level
- ✓ Humidity of soil
- ✓ Layer structure of soil

In case of good conditions and proper application, >99% of the contamination can be remediated

\*Applicability depends on soil permeability



Treatment Details:

## Chemical **in-situ** treatment with oxidizing agent

- ✓ Super oxidizing agent, which reacts rapidly within hours
- ✓ Rapid reaction with hydrocarbons and other organic contaminants in the soil
- ✓ Two agent technology
- ✓ Not considered as hazardous reagents and products
- ✓ >95% of conversion
- ✓ Application without soil characterization can be considered

# Did you know? 1.88 Seconds was the Fastest Tire Change in the F1.

## Environmental Pit-Stop:

Mobile in-situ characterization

- ✓ Extraction of samples for analysis
- ✓ Sample preparation including electrical generator and hydrogen generator
- ✓ Centrifugation
- ✓ Thermal-gravity investigations
- ✓ Gas chromatography

...to be fair, we are not that fast,  
but we are that **EFFECTIVE!**

Flexible units with officially accredited and calibrated equipment for:

- ✓ Sample extraction with real time in-situ analysis
- ✓ Selection of the correct treatment technology
- ✓ Monitoring the in-situ treatment process





# Storage, Storage, Storage and more Storage: Full-Service for Bulk Storage Tanks Above Ground (AST)



# Refurbish Your Out-Of-Service Storage Capacities and Start Making Profit!

Oil prices falling as low as never, while global available storage capacities reaching their limits.

Your Tanks Can't Wait to be **Back in Service!**

## Oil market faces storage crisis in a world awash with crude

Plummeting demand during the coronavirus pandemic has left traders scrambling for ships and other alternative facilities



Source: <https://www.theguardian.com/>

Markets

## World's Biggest Oil Storage Firm Says Almost All Space Sold

By [Fred Pals](#) and [Jack Wittels](#)

21. April 2020, 09:44 MESZ Updated on 21. April 2020, 13:15 MESZ

Source: <https://www.bloomberg.com/>

OIL

## The hunt for oil storage space is on — here's how it works and why it matters

PUBLISHED WED, APR 22 2020-3:07 AM EDT | UPDATED WED, APR 22 2020-3:14 AM EDT



Sam Meredith  
@SMEREDITH19

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KEY

• At a time when the coronavirus crisis continues to crush global demand, the world is

TRENDING NOW

Source: <https://www.cnbc.com/>



Recent project: Germany Energy Company

# EPOFLEX® high-tech tank floor


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- 1 Grit blasting
- 2 EPOFLEX® Laminate
- 3 EPOFLEX® 6n
- 4 Adapox L (conductive top layer)

Wolftank technician  
airless spraying

EPOFLEX®  
Laminate layer

EPOFLEX® 6n layer



Manhole entry

Full-Service Bulk Storage Tank Refurbishment

## Refurbishment of a corroded tank floor

A corroded tank floor shows inside corrosion and underfloor corrosion - both possibly in contact with aggressive liquids:

- Inside floor depends on storage media: water, acids, sulfur, solvents, etc.
- Underfloor depends on: groundwater, rainwater, salt, etc.

Heavily corroded  
tank floor



## Project Details:



Time: May 2017 to July 2018



DOPA® Double Floor Lining for 52 storage tanks in 2 tank farms

Recent project: Italian Fuel Depot

# DOPA® DOUBLE FLOOR LINING



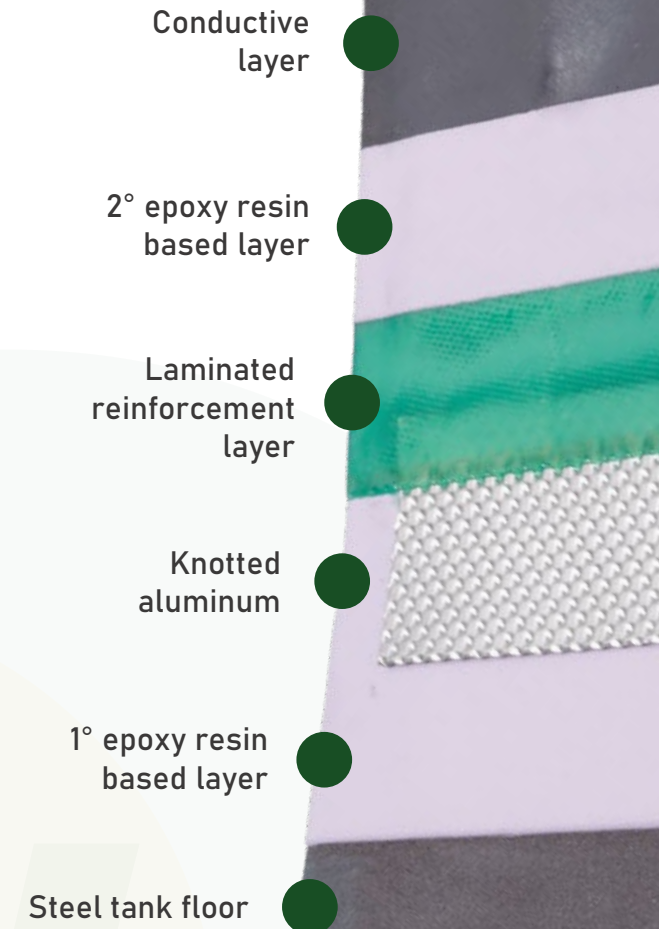
Full-Service Bulk Storage Tank Refurbishment

## DOPA® Double Floor Technology

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- Reconciliation figures not adding up?
  - Tanks emptying too quickly?
  - Compliance issues due changing regulations?
  - Considering bringing out-of-service storage back to operation?
- 

Act **NOW** and **Achieve Green Results**  
even in Your Financials!



# Save Time & Money: Free Extra 8 Years on Top of the 10 Years Inspection Interval

TÜV SÜD  
INDUSTRIE GMBH:



„Epoflex® 6N zu erproben um Aussagen zu Betriebszustand und zu einer Abschätzung der Restlebensdauer der Beschichtung zu erhalten.

Hieraus können dann auch weitere Aussagen zu erweiterten wiederkehrenden Prüffristen abgeleitet werden.

Eine weitere Prüffristenverlängerung, z.B. auf 15 bzw. 18 Jahre, kann auf Basis dieser Ergebnisse geprüft werden.“

Institut für Kunststoffe

  
i. A. Schweizer



Der Sachverständige

  
Zimmermann

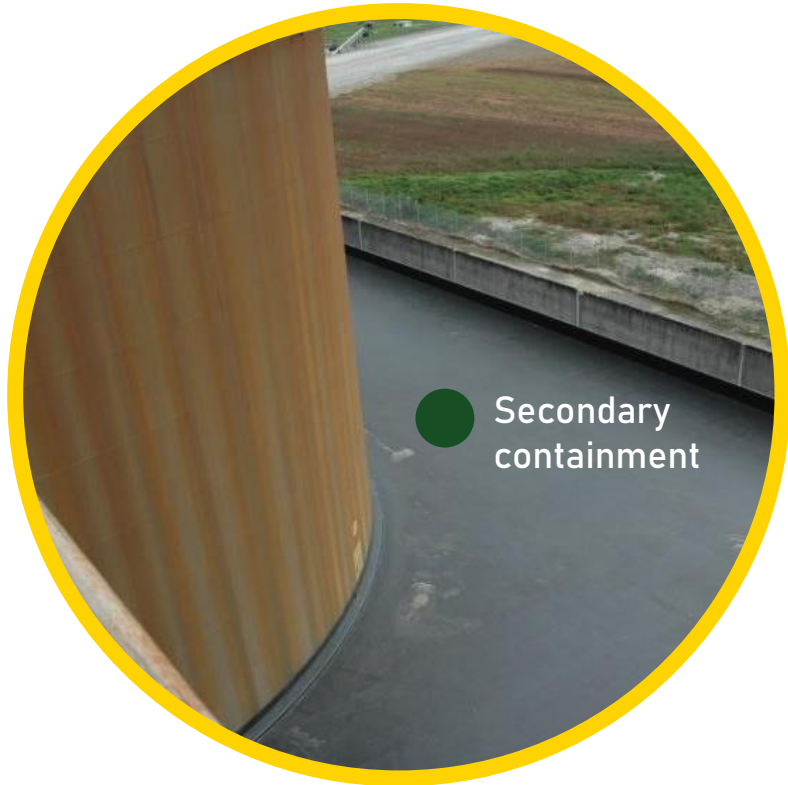


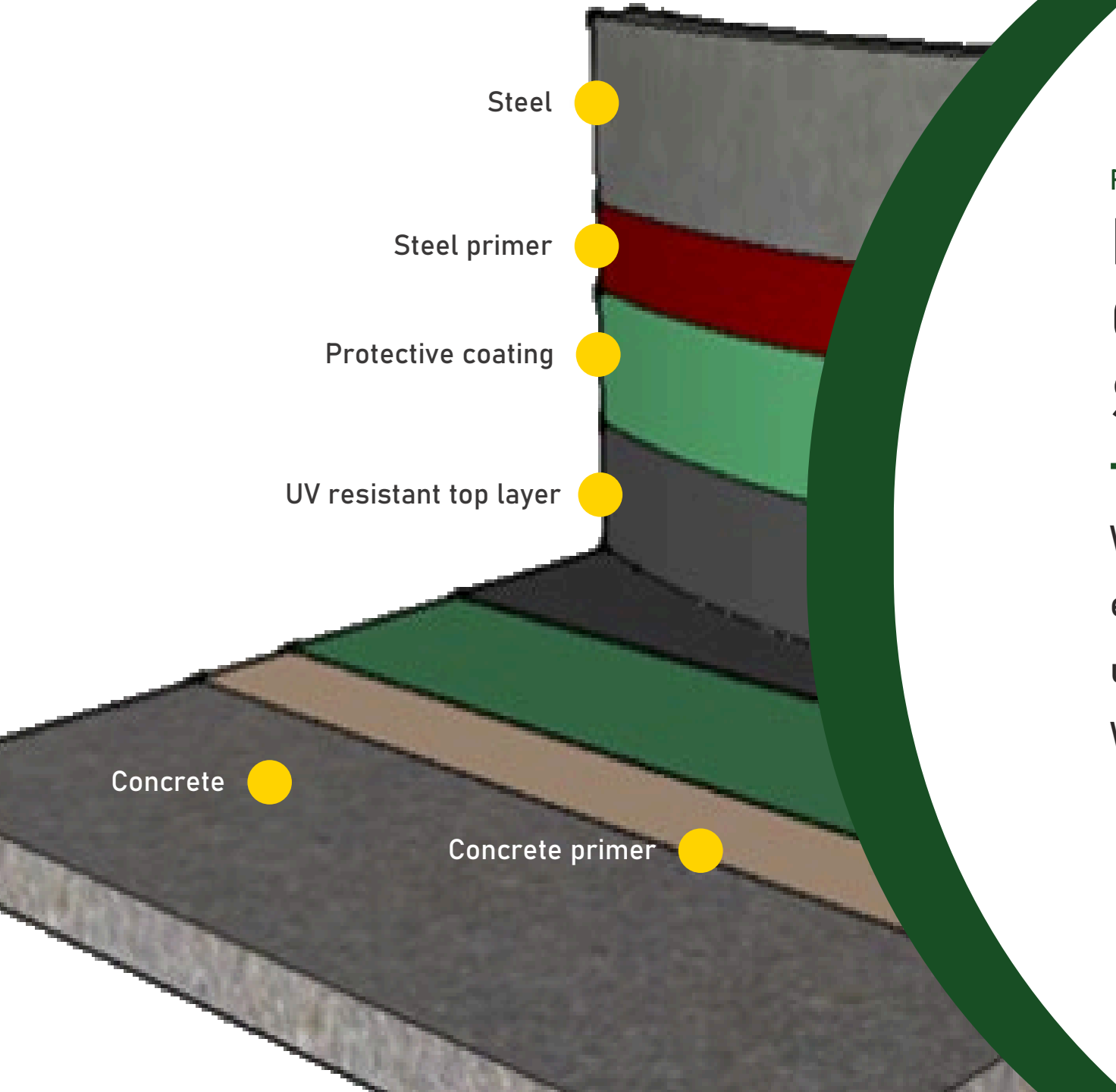


Recent project: Italian Fuel Depot

# Ring Wall & Secondary Containment Sealing

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Steel

Steel primer

Protective coating

UV resistant top layer

Concrete

Concrete primer

Full-Service Bulk Storage Tank Refurbishment

## Ring Wall & Secondary Containment Repair and Sealing

Weather conditions cause corrosion in the edges of the tank floor. Water will enter under the tank and attack the floor. Welding seams can weaken and crack.

**A proper sealed ring wall avoids floor corrosion.**

Tanks and Above Ground Pipes

# Protect Your Tanks and Pipes against **Sun, Salt & Humidity**

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Solutions for very harsh (seawater  
C5) environment and long term  
protection:

## ADACOR ACTIVE PRIMER Rapid

- 1 x roll or spray

## ETOPATE TOP

- 1 x spray

1 hour curing time even with

- high humidity
- low temperature



Full-Service Bulk Storage Tank Refurbishment

# Above and Underground Pipe Refurbishment

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- ✓ Video pre-inspection
- ✓ Surface preparation
- ✓ Coating application
- ✓ Post-inspection



Coating Application Concept



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## Long-Lasting Highway for Fuels





Fixed roof –  
External surface



Floating roof –  
External surface



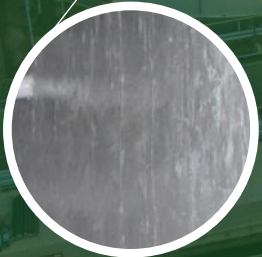
Ring wall



Tank shell



Tank floor



Floating roof –  
internal surface  
▪ VOC reduction



Secondary  
containment



Pipes

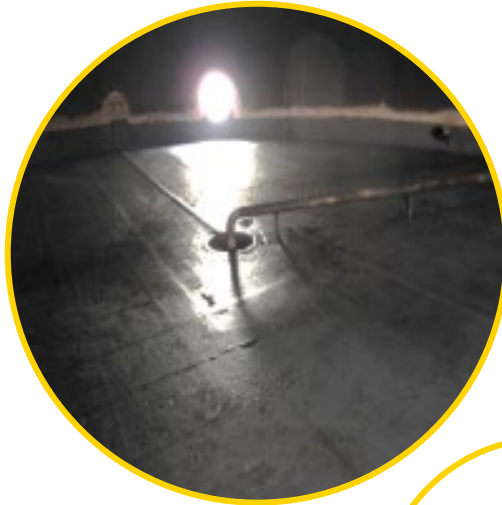


# Case Studies (3 out of 500+)



Lecheiles  
(CH):  
1995

- Storage tank plant lined with DOPA® technology in 1995
- Plant still in operation with continuous 24/7 floor tightness vacuum monitoring
- Without any floor maintenance costs since installation



Totalerg  
Trecate  
(IT):  
2006

- Opened after 10 years continuous operation
- No aging or damage has been found
- Restart operation without maintenance costs



Brno  
(CZ):  
2011

- Underground storage facilities
- New concrete tanks





Make Your Storage Liquids Feel Like Home

# Double Wall for Underground Storage Tanks (UST)

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Make It Clean:

# TCR® 15

High performance automized washing, degreasing and degassing technology with optimized water consumption and robotic remote control of the process.

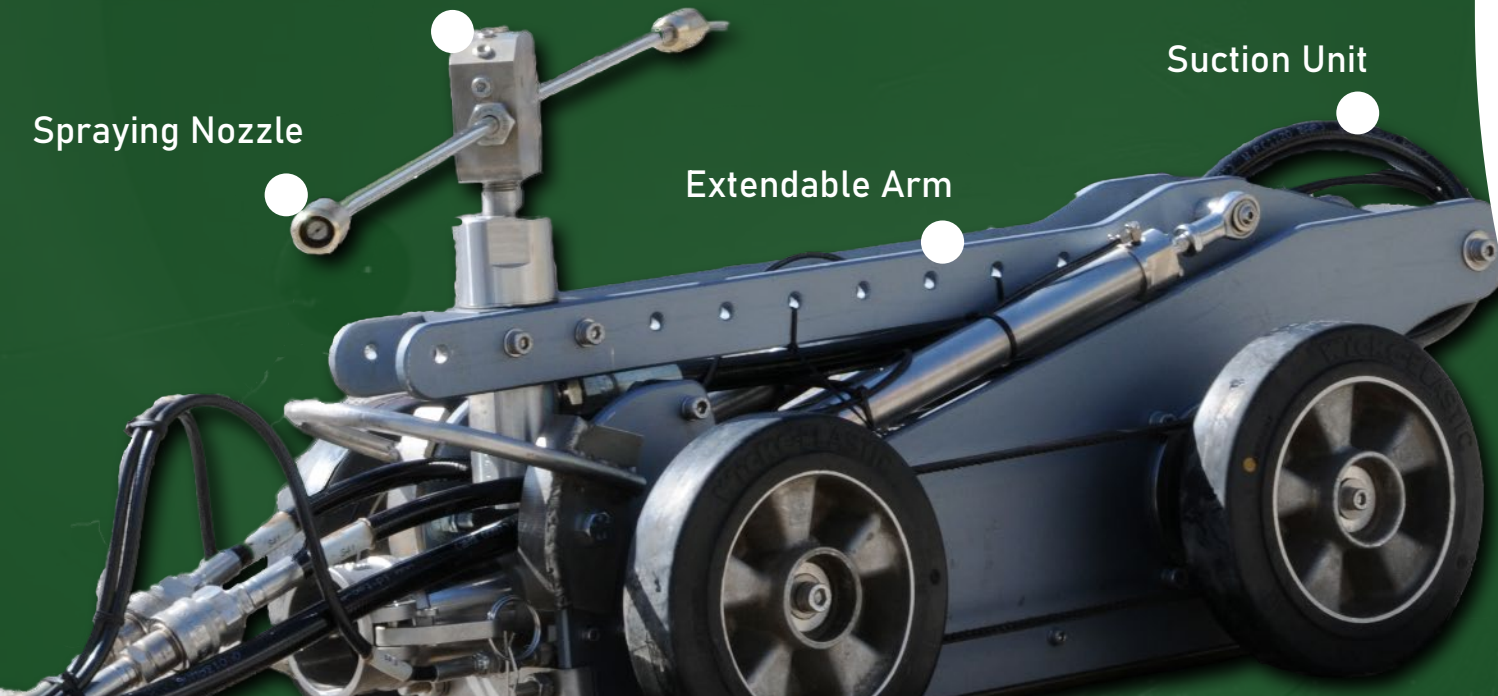
- ✓ 150-500bar
- ✓ Up to 3m diameter
- ✓ EX zone approved

Rotating Head

Suction Unit

Extendable Arm

Spraying Nozzle



No-Man-Entry  
Technologies

Make It Clean:

# TCR® 6/7

Advanced technology for washing, degreasing and degassing which can be applied without opening the manhole.

- ✓ Applicable through 4" flange
- ✓ EX zone 0 approved
- ✓ Reduced water consumption



TCR® 7  
Device



Make It Clean:

# TCR® Degassing

Atomization of hydrocarbon encapsulating liquid to lower the presence of explosive gases as an advanced degassing solution for tanks and sumps without manhole opening and access into confined spaces.

- ✓ No manhole opening is necessary
- ✓ Ready-to-use liquid
- ✓ Quick & easy to implement

Simplified schematic method  
of statement:



- 1 Empty tank through flange
- 2 Introduce TCR® Atomizing Liquid
- 3 Measure explosive level

## Our Approach for No-Man-Entry Cleaning

No-Man-Entry technologies are fundamental to reach the highest safety standards. Following the most important advantages:

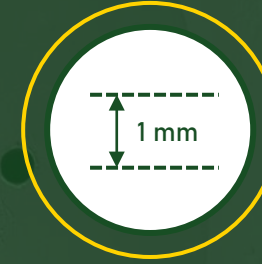
- ✓ Cost efficient
- ✓ More accurate execution
- ✓ High risk mitigation in dangerous areas
- ✓ Easy to use technologies
- ✓ Reduced water consumptions



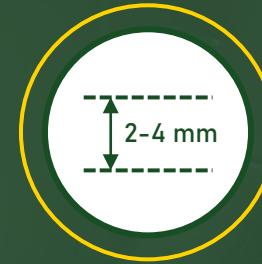
Guaranteed Lifetime Extension of Tanks & Pipes

# Single Skin Lining Systems ADAFLEX®, ADAPOX® and EPOFLEX®

Requalify your underground storage tanks and optimize or upgrade your storage capacity for modern bio fuels.



1 mm airless spray coatings  
for recent or new tanks with low  
corrosion, highest resistance up to  
100% ethanol and several chemicals



2-4 mm airless spray coatings  
for used tanks with heavy corrosion,  
with standard and higher resistance up  
to 10% Ethanol, upgrades to 100%  
ethanol possible



3-4 mm rollable coatings  
for used tanks with heavy  
corrosion, with standard and  
higher resistance up to 10%  
Ethanol, upgrades to 100% ethanol  
possible

Smart Choice: DOPA® Double Wall Tank Lining

# STOP Worrying About Harming the Environment through Leaking Fuel

## INSTALL DOPA®

A double wall tank lining solution using only the highest available technologies on the market. Protecting your tank TWICE with a patented double layer system and 24/7 monitoring system.

Stay **WORRY-FREE** for the next 10  
Years (or even longer)!



Used by:



**ExxonMobil**

**LUKOIL**  
OIL COMPANY

**TOTAL**

**REPSOL**



**OMV**

...and many more



**NEW** – Get a Real DOPA® for a  
Fraction of Time & Effort:  
**DOPA® Lite**

Day 1

Interstitial Space

Day 2

Reinforcements

Day 3

Final layer

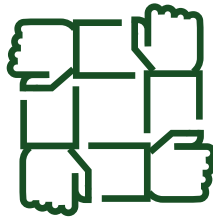


# Engineering, Procurement and Construction (EPC) of LNG-CNG-H<sub>2</sub> and Petrol Stations



# Our LNG-CNG-H2 services

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Consulting combined with wide range assistance in feasibility, building permits, reconstructing or decommissioning of petrol stations, including management of all environmental issues.



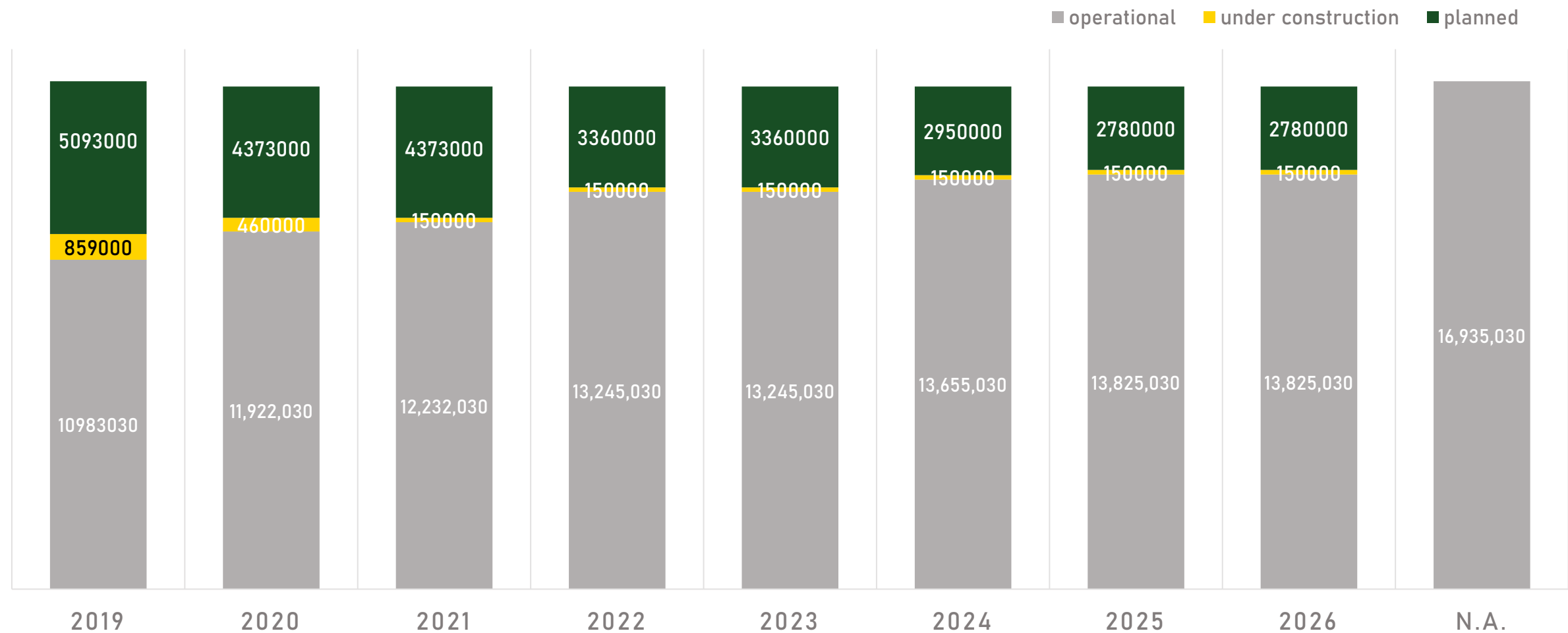
Implementing of a full service that includes: spotting of the best locations, building permits, planning stage and executive project, sites built completed with license to operate, and also sites investigation (due diligence) and remediation.



Innovative database giving full transparency to clients when it comes to expiring permits. Accessing a structured management system with direct control over all the technical or economical advancement stages of their projects.

# LNG in Europe

EUROPE: STORAGE CAPACITY OF LARGE-SCALE TERMINALS  
(MILLION M<sup>3</sup> LNG)



Data Source: Gas Infrastructure Europe



# Strong bond for a global success

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Wolftank Group is the only PMO service supplier of Snam4Mobility S.p.a.

Engineers, architects and technicians who support S4M in its network development of CNG and LNG fueling stations. The scope is building new stations or adding NG to traditional fuel stations.

## PMO & EPC Services:

Engineering, permitting and construction till the final hand over.

## TRAINING:

Training of the operators in all LNG – S4Mstations.



# Green Hydrogen, a key technology to achieve the European "Green Deal" goals

Minimum targets required by all EU member states:

Emissions must be reduced by 50% by 2030 compared to today's level and reach a climate-neutral level by 2050.

## The 40GW roadmap of the European Union:

Phase 1

to 2024

Production of hydrogen from non-fossil (green) sources reaches up to a total capacity of 6GW\* (1 million tons)

Phase 2

2025 to 2030

Increase total power to 40GW\*

The energy carrier Green Hydrogen is necessary for the achievement of the Paris climate goal (Limitation of the global warming to 2°C).

Wolftank-Adisa, official member of the European Clean Hydrogen Alliance



**Altereco participates in the installation of the first Spanish hydrogen station capable of servicing cars**



Nov 27, 2020 | Advertorial

Altereco, the Spanish arm of Wolftank-Adisa Group, has participated in building the first hydrogen r ...

SHARE

SOURCE: PetrolPlaza.com

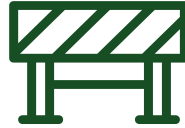
# Energy-efficient connection from the production to end user

## Wolftank-Adisa Group:

- More than 30 years of experience in refurbishment, construction and planning of plants for flammable and hazardous substances, both in liquid and gaseous state under high pressure

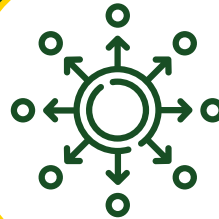
## Acquisition of the SGS Hydrogen business unit:

- 15 years of pioneering work in the field of hydrogen storage and distribution systems



## TURNKEY COMPONENTS AND ASSEMBLIES FOR THE CONSTRUCTION AND PLANNING OF HYDROGEN SERVICE STATIONS

- Prefabricated solutions for hydrogen service stations for both heavy (350bar) and passenger (700bar) vehicles
- Integrated solutions as upgrade of existing service stations



## MOBILE STORAGE CONTAINERS FOR DECENTRALIZED HYDROGEN DISTRIBUTION

- Container-based mobile hydrogen storage systems to supply service stations
- Demand-based scalability and applicable throughout Austria, Europe and globally



## UPGRADES FOR EXISTING NATURAL GAS PIPELINES FOR THE TRANSPORT OF HYDROGEN

- Coating technologies to reduce friction and hydrogen corrosion
- Implementation of feed-in and extraction systems



Recent project: Meolo, IT

# LNG upgrade: design and civil work

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Recent project: Lazzago, IT

## EPC: Petrol Station with CNG

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An aerial architectural rendering of a sustainable fuel station complex. The site is situated next to a multi-lane highway. The complex includes several buildings, a large parking lot with a few vehicles, and landscaped areas with trees and grass. A tall, slender signpost with a circular logo is visible near the highway. In the background, there are more buildings and a line of trees.

Only sustainable fuel:  
BIO-LNG  
L-CNG  
Hydrogen  
LPG  
Electric

Recent Project: Assago, IT  
DESIGN ECO  
SUSTAINABLE FUEL  
STATION



# Our LNG-CNG-H<sub>2</sub> Works in Figures

We accumulated approx. 2.000.000 hours working for major companies



## Engineering:

250

new stations and  
refurbishment projects

120

major works  
(> 200.000 €)

700

site drainage projects

## Construction:

130

new stations and  
refurbishment projects

180

major works  
(> 200.000 €)

25

site drainage projects

## General contractor:

51

new stations and  
refurbishment projects

48

major works  
(> 200.000 €)

Quality & Safety

# Wolftank Training Centers

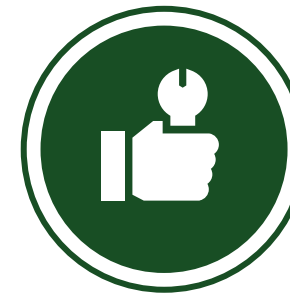
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- Shanghai, China
- Northern Italy
- Madrid, Spain
- Sao Paulo, Brazil

100+ companies trained in 35 years: in Europe, Asia and Africa for work in confined spaces and the installation of the DOPA® technology.



Theory



Practice



Exam





December, 2020

# Wolftank Adisa Group Introduction

[www.wolftank.com](http://www.wolftank.com)