



Tankfarms

and it's periphery

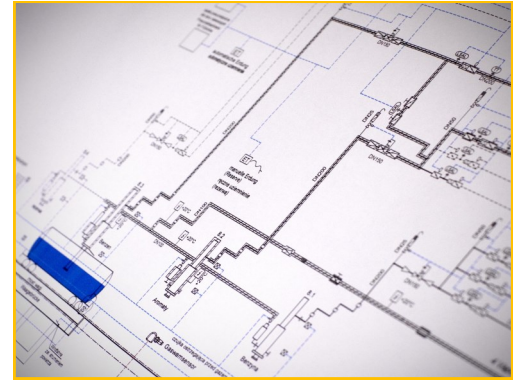


LOADING YOUR FUEL

Dipl.-Ing. SCHERZER GmbH

www.scherzer.net

Company profile:



Welcome to Dipl.-Ing. SCHERZER GmbH

The company's field of activities includes the planning and turn-key construction of plants for handling and storing liquid and gaseous products. Based on more than 50 years of experience in these sectors, the company offers a high degree of professionalism and is a leader in its field.

Our customers from the petroleum and chemical industries and from a range of other sectors at home and abroad value our groundbreaking technology and our high quality standards as well as our ability to address custom applications while optimizing the economic and environmental aspects of our designs.

Quality - Safety - Service

Social and environmental policy requirements place high demands on our company on a daily basis, as do constantly changing safety guidelines. These standards are our top priority. Consequently, all areas of the company are subject to a quality management system and certified in accordance with DIN EN ISO 9001:2015.

As a specialized company, we do, of course, have all legal permits necessary to operate both in Germany and abroad.

Our subsidiary, SCHERZER Umwelttechnik GmbH, will handle our after-sales service, allowing us to be there for you long after a successful start-up. Maintenance, the procurement of spare parts, and other important services will guarantee the continuous operation of your plant.

Range of services

Our comprehensive range of services includes:

- Concept design including essential performance characteristics
- Basic engineering
- Detail engineering
- Delivery of equipment
- Assembly of unit (for turnkey contracts)
- Supervision (for assembly by customer)
- Training
- Commissioning
- Performance check
- Documentation and handover
- Services

Scope of supplies and services

Our portfolio covers a wide range, allowing us to meet almost every requirement. In addition to new construction, it also comprises the retrofit, conversion or expansion of existing plants for the loading and unloading of:

- Railcars
- Tank trucks
- Ships

for transshipment of:

- Light products (petrol/gasoline, diesel, jet fuel, etc.)
- Dark products (crude oil, bitumen, etc.)
- Chemical products (arenes, acids, etc.)
- Stable gas condensate
- Liquid gases (propane, butane, LPG, etc.)
- Biodiesel / Bioethanol

The **scope of our services** covers also the new construction and reconstruction of tank farms as well as peripheral components and systems such as:

- Vapor recovery units (VRU)
- Vapor pendulum systems
- Fire-fighting systems
- Product and pump systems
- Drainage systems
- Power-supply systems
- Automation technology
- Control and monitoring systems
- Product data logging
- Railroad lines



Tankfarms, handling plants and Vapor Recovery Units (VRU)

for storage and handling of hazardous liquids of all kind

All plants are designed in compliance with the necessary legal regulations and Technical Rules for plants for storage, filling and transporting inflammable liquids and liquids which are hazardous to water.

The tank yard concept is designed in accordance with the logistics of the owner and the mode of operation.

Both fully automatic and partly automatic storage concepts are offered each depending on the requirements of the owner of the tank yard.

Design and planning of tank yards includes the following necessary structure in addition to storage and handling facilities:

- Power supply of tank yards
- Construction work such as foundations and collection basins
- Office, social and workshop buildings
- Street and road construction
- Track construction for rail traffic within the storage facility
- Drainage and separation systems
- Pipeline systems and pump stands
- Steel structures for track roofing and pipe routes
- Heat and cold generators
- Compressed air and control air systems
- Corrosion protection
- Earthing and lightning protection systems
- Manual and automatic fire extinguishing systems





Storage systems for tank farms

Supply of tank farms with mineral oil products can be handled by different kind:

Ship unloading:

Ships are unloaded using their own pumps or with the aid of stationary pumps on the jetty.

The measurements should preferably be recorded using calibrated tank level measuring equipment, since volumetric measuring equipment must be designed for more substantial volumes due to the high gas quantities in the so called Lenz phase of the ship unloading.

A separate brochure for ship loading and unloading systems can be requested.



Pipeline inbound systems

The inbound transfer via the pipeline is implemented using fully monitored and automated transfer stations.

The measurements can be recorded using calibratable meters in the pipeline input station or by means of calibrated tank level measuring equipment. Product flow is measured and can be displayed.



Rail car unloading systems

There is the possibility of equipping rail car unloading systems with low level automation, which in turn would make it necessary to have more personnel on hand at the unloading station.

There is also the possibility of implementing an almost complete automation, where unloading is controlled fully automatically and displayed on the control system after opening the dome lid, connecting the unloading equipment, opening the bottom valve and activating the start button on the control system or on site.

The product to be unloaded will be measured using calibrated equipment.

The measurements can be recorded using calibrated tank level measuring equipment or by means of meters built-in in the product line. Product flow can be measured and displayed.

A separate brochure for rail car unloading systems can be requested.





Tank farm outbound systems:

Ship loading system

Ships are loaded from the relevant tanks via a calibrated and temperature-compensating measuring system using pumps at the tank farm. Measurements are recorded automatically using the loading computer system.

The loading quantity is entered via quantity preselection, and the loading process ends automatically.

The hydrocarbon vapors accumulating during ship loading can be supplied to a recondensing system while with the involvement of the tanks.

A separate brochure for ship loading systems can be requested.

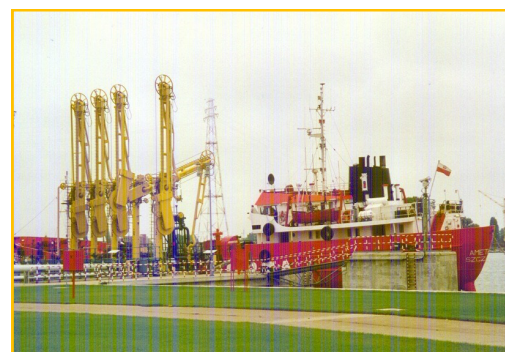
Rail car loading

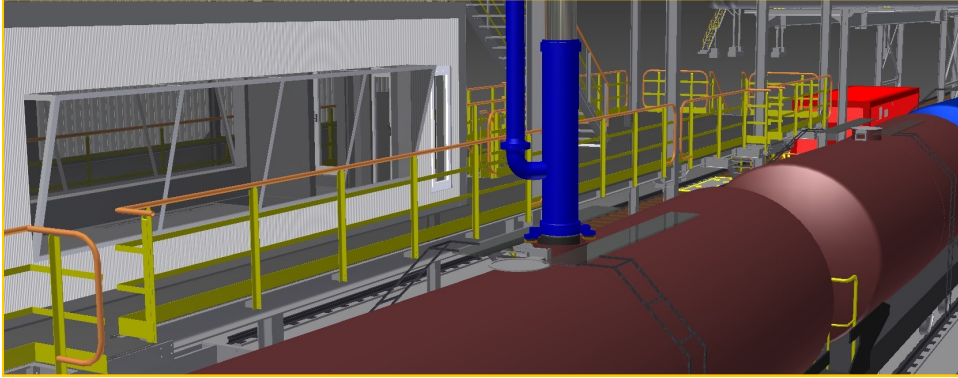
Rail cars are loaded from the relevant tanks via a calibrated and temperature-compensating measuring system using pumps at the tank farm, via dynamic scales outside of the filling station or via track scales directly at the filling points of the rail cars. Measurements are recorded automatically using the loading computer system.

Dipl.-Ing. SCHERZER GmbH delivers and installed individual filling pipe systems, expands existing rail car loading stations and prepares turnkey ON-SPOT loading systems as well as series loading systems.

There are two systems available for loading rail cars:

1. ON SPOT loading systems
2. Series (Gallery) loading systems





1. ON SPOT loading systems

SCHERZER designed and delivered the first ON SPOT rail car loading system in 1966. Since then, more than 290 filling pipe systems have been planned, delivered and commissioned.

The most modern plants are currently located at a refinery in Lithuania (Mazeikiu Nafta), in Russia/Yaroslavl (Janos - Slavneft) and in Poland (Lotos S.A.)

A separate brochure for railcar loading systems and a special list of filling tube references can be requested.

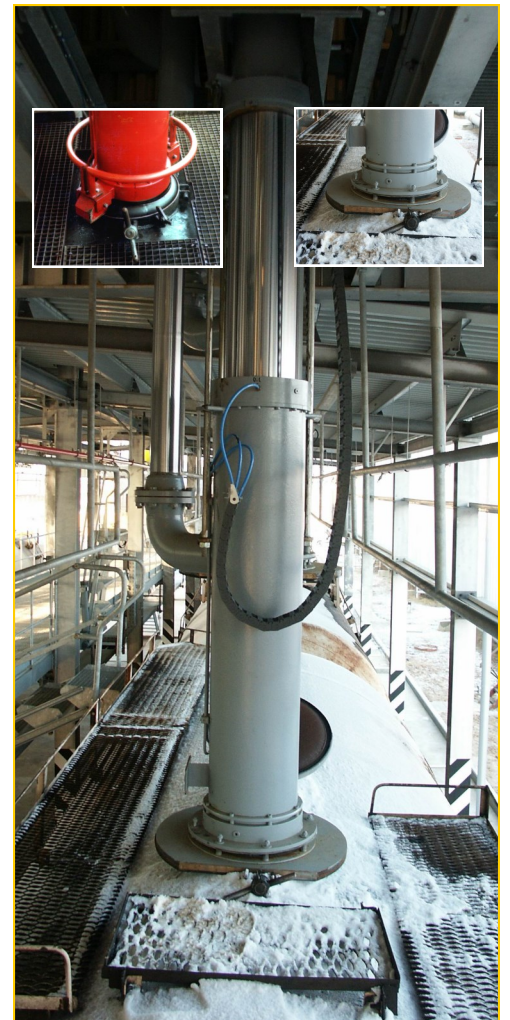
Our ON-SPOT loading systems for filling of railcars with mineral oil and chemical products are developed for filling capacities of up to 730 m³/h with filling tubes up to DN 230.

The complex rail car loading system consists primarily of the following:

- The telescopic filling pipe that can be moved hydraulically, horizontally and vertically. It is equipped with:
 - ◆ Overfill protection,
 - ◆ Pressure monitoring in the rail car
 - ◆ Bottom contact / Tread mat
 - ◆ Sealing cushion for sealing of the dome in case of gas return
 - ◆ Spring-mounted cover plate for Russian rail cars
- A freely programmable logic controller (PLC) for controlling and monitoring the plant and a loading computer for operation with visual display.
- The measurement logging system that requires calibration, optionally for:
 - ◆ Volume (VT – temperature compensated): in liter via P.D. meter
 - ◆ Mass: in kg using mass flow meter or track scales
- Railcar shunting system for manual or automatic positioning of rail cars.
- Pumping station for generating the necessary volume flows of the individual products with connected measuring sections.
- Safety-related equipment, such as:
 - ◆ Folding steps for accessing the rail cars
 - ◆ Ground testing equipment
 - ◆ Ventilation system for generating a positive pressure atmosphere and an air-conditioning of the control room
 - ◆ Fire alarm and fire fighting systems
 - ◆ Gas detection systems
- Video surveillance systems (camera-supported positioning of filling pipe)

2. Series loading systems (top loading)

Series loading systems with articulated loading arms of nominal width DN 50 to DN 150 are used for smaller filling operations.





Road tank car loading

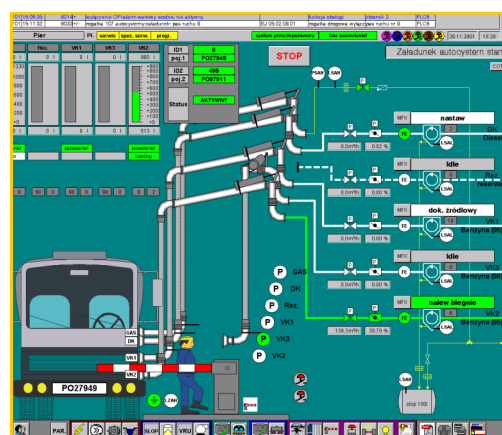
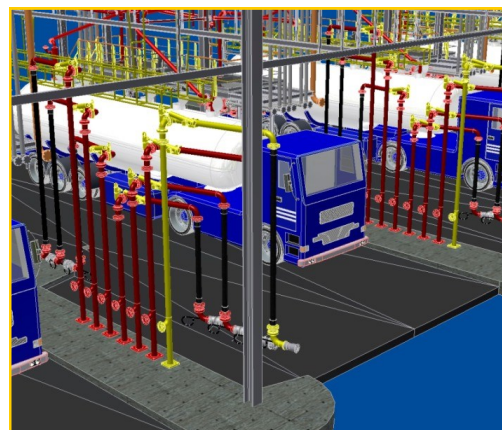
Road tank cars are loaded from the relevant tanks via a calibrated and temperature-compensating measuring system using pumps at the tank farm.

The design of the filling systems for the road tank cars will be based on economical and ecological factors. Set-up is realized at covered filling points which are designed for the transfer of products that are dangerous to bodies of water.

The road tank cars are filled from above (top loading) using articulated loading arms or from below (bottom loading). Both systems allow for gas return to the recovery plant with the involvement of the tanks. The filling rates could be designed up to 2200 liters/min.

A control and data logging system allows the operator to actuate all functions on his own. Operating errors or manipulation are not possible. The loading papers are monitored and processed in a central control room.

The set-up areas of the road tank cars serve as containment space in case of emergencies and are designed for plants operating with substances that are hazardous to bodies of water. The systems are equipped with overfill protection and forced grounding in order to prevent inadmissible static charges.





Vapor recovery unit (VRU)

The vapor recovery unit processes surplus vapors coming from the technological transfer process. This results in the ecological aspect of air pollution control and the economical aspect of recovering products of AI hazard class with an average 1.5 liters/m³ of hydrocarbon vapors.

The system automatically completes the process. The recovered product is supplied with the product system.

Depending on the type of plant, the emissions are between 10/ 35 g and 150 mg of hydrocarbon/m³ of air emitted.

With the introduction of TA Luft (*Technical Instructions on Air Quality Control*) in Germany and other statutory provisions in all countries of the globe, hydrocarbon recovery systems have been produced using different systems. Over the past few years, two systems have established themselves:

1. Membrane technology
2. Carbon technology

For the purpose of a consistent environmental policy, we offer comprehensive advisory services for system selection and professional benchmarking of the gas recovery systems offered on the market.

This scope of services also includes the layout of gas lines, tank valves, and gas reservoirs as well as the planning and preparation of turnkey projects.

Due to our many years of experience and knowledge of the market, we are capable of drawing up and delivering optimal solutions for every application requirement.

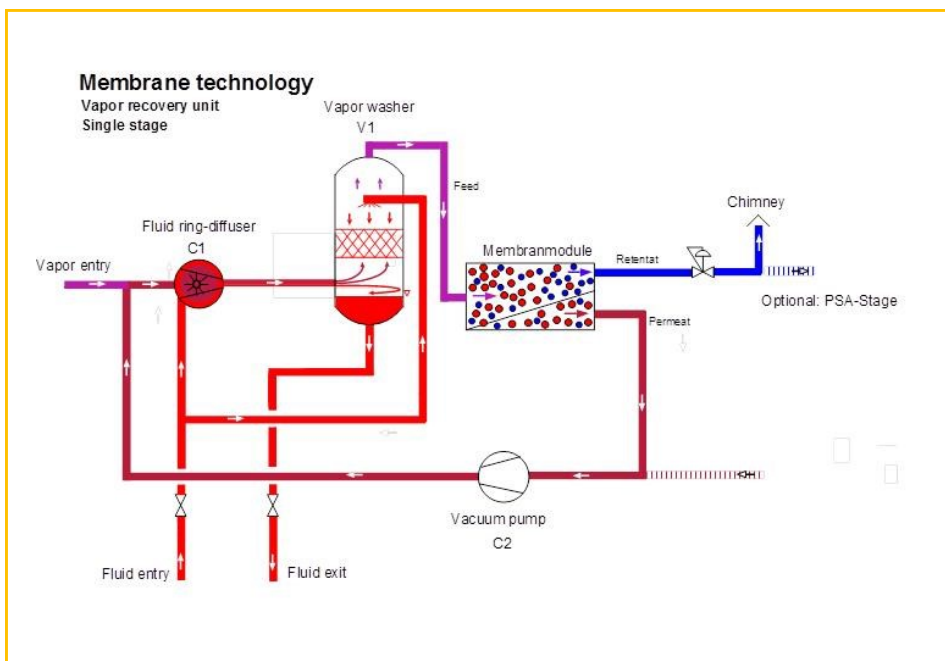
1. Membrane technology

The cooling water/air mixture is extracted from the vapor system (gas inlet) by means of a liquid ring compressor (C1) at least. The hydrocarbon/air mixture that is sucked in is combined with the recycled permeate stream from the diaphragm separation stage and compressed to a pressure of approx. 3-4 bar abs. by the liquid ring compressor(s) (C1). The pressure is regulated to a defined setpoint.

The liquid ring compressor(s) (C1) is/are supplied with a partial stream of the used absorbent by means of a liquid pump. A sufficient liquid supply is ensured by monitoring and regulating the flow and the pressure. The hydrocarbon/air mixture is separated from the liquid in the scrubber column (V1). The gas mixture flows through the tank (V1) filled with the packing material from bottom up, whereas a part of the hydrocarbon vapors condenses by contact with the absorbent injected via a nozzle under system pressure and ambient temperature. The necessary quantity of absorbent (= ring liquid for compressor + scrubbing liquid) is provided by others at the terminal point and pump through the downstream filter.

The liquefied hydrocarbons and quantity of absorbent supplied by others are circulated back to an onsite storage tank from the scrubbing column (V1). Depending on local conditions, a liquid pump is employed to provide assistance for this purpose.





The membranes in the modules fractionate the gas/vapor mixture coming from the tank (V1) in a retentate stream depleted of hydrocarbons and in a permeate stream enriched with hydrocarbons.

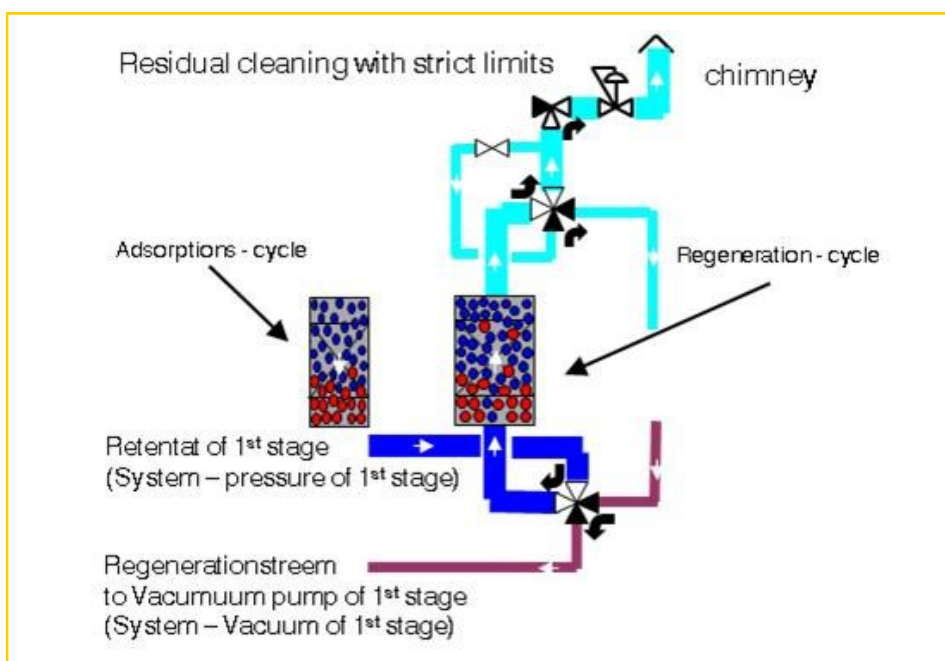
The permeate stream is recycled via the vacuum pump(s) (C2) upstream of the intake ports of the compressor(s) (C1) and compressed once again, in doing so the hydrocarbon vapors that are sucked in are lubricated before entering the compressor(s).

The retentate stream is released to the atmosphere via the stack or passes (optionally) through a pressure swing adsorption unit (PSA) where the hydrocarbon load is further reduced.

The second stage consists of two adsorption beds connected in parallel and the corresponding piping and instrumentation. The plant is controlled such that the one bed adsorbs the hydrocarbons (i.e. "cleans" the air stream) and the other bed is regenerated (i.e. cleaned) at the same time. A semi-continuous process is represented in this manner.

The incoming vapor stream (retentate of diaphragm stage) is supplied to the activated charcoal bed in which the majority of the hydrocarbons are adsorbed. The volume flow leaving this bed is released to the atmosphere via the stack with a concentration below the required emission values.

The adsorbers are regenerated using the vacuum pump of the first stage. The vacuum removes the previously adsorbed hydrocarbons from the coal, a small purge air stream (purge gas) which is taken from the cleaned air, transports this via the vacuum pump to the recovery section of the first stage.





2. Carbon technology

Vapour from the loading points pass through the vapour header to the recovery unit.

The vapour header shall be protected from a possible ignition in the VRU. Further more all connected vessels (trucks, railcars, ships, barges, tanks etc) shall also be protected from a detonation coming from the vapour header.

The vapour header shall be fitted with a PVV (Pressure & Vacuum Vent) emergency vent and could be fitted with a controlled emergency vent in case the VRU is shut down. The PVV vent and possible emergency vent should be fitted with endurance burning proof flame arrestors.

Prior to the vapour entering the VRU it must pass through a knock-out vessel to ensure that no gasoline enters the carbon bed (the knock-out vessels, often provided at the loading point are usually sufficient).

The VRU consists of 2 activated carbon beds, the one being connected to the vapour line - "adsorption mode" - while the other undergoes regeneration by means of vacuum. Activated carbon has an extremely high surface area in relation to volume and the hydrocarbons are adsorbed in a very thin layer on the surface of the carbon. The carbon can only adsorb a given amount before it approaches saturation. If this occurs throughout the bed, then the vapours will pass through untreated. Consequently the carbon must be regenerated in order to restore its capacity, so that it can effectively adsorb hydrocarbons in the following cycle.

The regeneration takes place in 2 stages. First the bed is evacuated until the pressure reaches that, at which the hydrocarbons begin to desorb from the carbon. The bulk of the hydrocarbons are removed in this stage. In order to remove the remainder, it is necessary to introduce a small amount of purge air, to complete the regeneration.

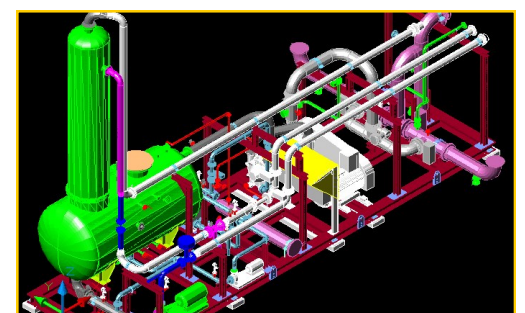
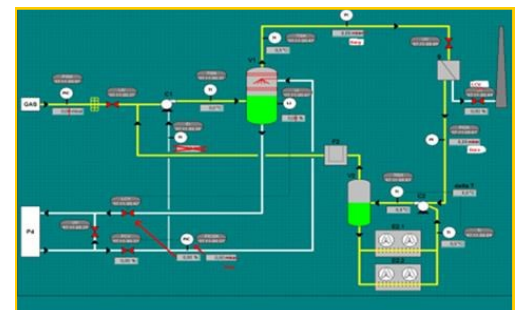
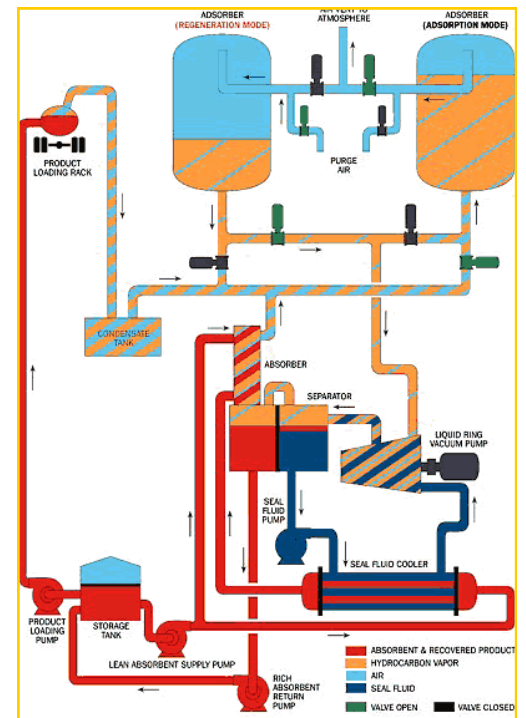
The vacuum pump is of the liquid ring type since this limits the temperature rise over the pump.

However, as a result a liquid separator and a liquid cooler are required. The sealing liquid is a mixture of glycol and water. The standard option utilises gasoline as coolant. However alternatives can be offered, if it is thought that this could result in unacceptably high temperatures in the storage tanks.

From the separator the vapour, which is now very rich in hydrocarbons, pass into the absorber column where the bulk of the hydrocarbon is absorbed in a counter flow of gasoline. The small amount of air present, particularly during the purge stage, passes out of the top of the absorber column and results in a small carry over of hydrocarbons, which is returned to the carbon bed, which is in adsorption mode.

The unit is provided with an automatic energy saving function: If vapour loading is low or has stopped, all functions are set on stand by, once both carbon beds have been thoroughly regenerated. When on stand by, the unit is still open for adsorption, but the all pumps are stopped.

The pumps only operate occasionally for short intervals to keep the carbon beds clean and active. When normal load resumes, the plant will automatically restart, with continuous pump operation.





Vapor pendulum system and vapor accumulator

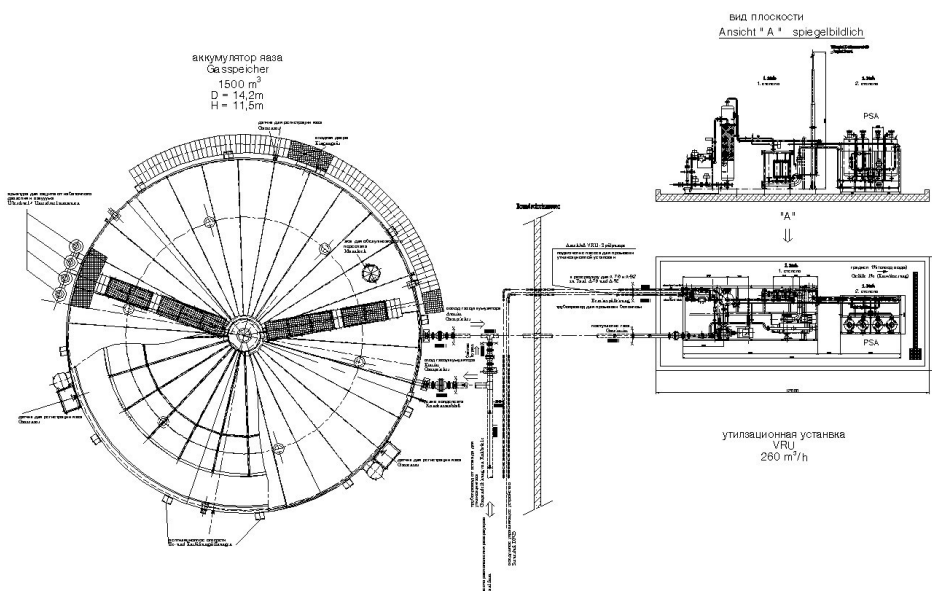
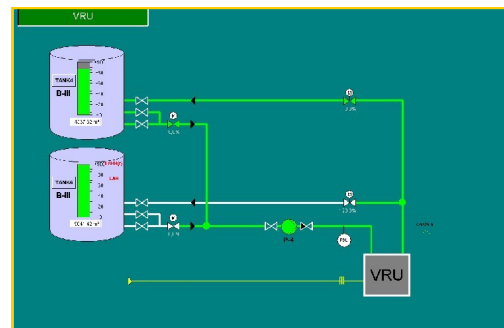
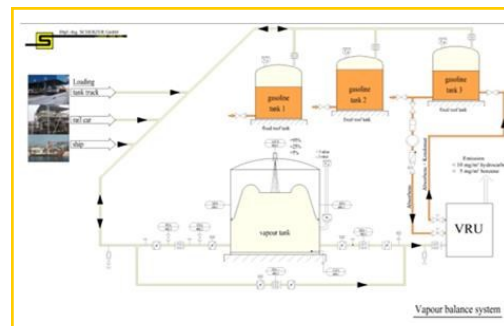
When incorporating all transfer systems and storage tanks at the same time, it is possible to realize a system that is economically favorable and very efficient in terms of environmental technology to prevent emissions.

To this purpose, all operating points with the storage tanks are connected together by means of piping system (vapor system).

The hydrocarbon vapors are recycled to the storage tanks during the transfer processes by the loading stations. The excess vapors are supplied to the recondensing system.

A vapor accumulator is to be interconnected to accommodate and release vapors in case of thermal variations in the ambient temperature and peak loads.

The size of the vapor accumulator is based on the characteristics of the overall concept.





Tanks and tank farm components

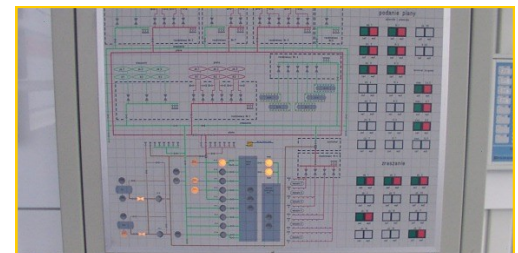
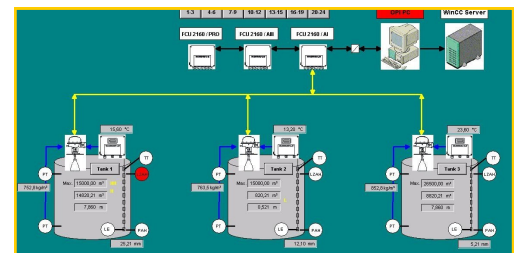
The inbound and outbound systems described above include a complete periphery, consisting of different systems at a tank farm:

Buildings:

- Control room
- Office building
- Electrical room
- Others



Tank measurement system



Pipework systems and vessels

- Pump stations
- Additive tanks
- Slop systems





Measurement logging systems

The measurement logging systems are to be planned and equipped according to customer requirements. The logging, which requires calibration, can be implemented alternatively according to mass or volume VT (e.g. V 15° C).

The electronic measurement logging systems, suitable for the calibratable transfer of liquid products, consists primarily of the following:

- Electronic computer with main counting device and remote counting device
- Temperature mass conversion, density measurement
- Electronic totalizing instrument
- Quantity preselection
- Digital flow regulation
- Serial interfaces for external displays
- Serial interfaces for multiplexer
- Error curves - linearization

Basic functions for internal communication and administration of parallel processes are implemented via the operating system. The software has a modular design.

Radar measuring systems that are officially verified and approved are used for tanks and vessels. The corresponding tank management system is integrated in the complete automation process (OPC signal exchange).

Fire fighting system:

The fire extinguishing system of a central fire extinguishing system, the piping system and the feeding points is designed in compliance with the legal regulations for fire fighting.

The necessary redundant pumps of the fire fighting water supply system and the extinguishing foam reservoirs are erected in the central fire extinguishing station.

The pipeline ring system supplies the relevant operating points via appropriate distributors.

At the feeding points, hydrants, monitors and ring piping systems are supplied with fire extinguishing materials for irrigation and foam pots to apply foam to the storage and handling areas.

The design is based on the calculation of the quantities and periods specified by law. In addition, the fire extinguishing system covers also the alarm and signaling system of the overall plant.



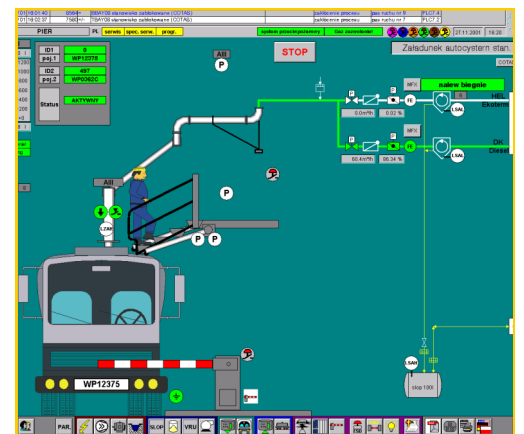
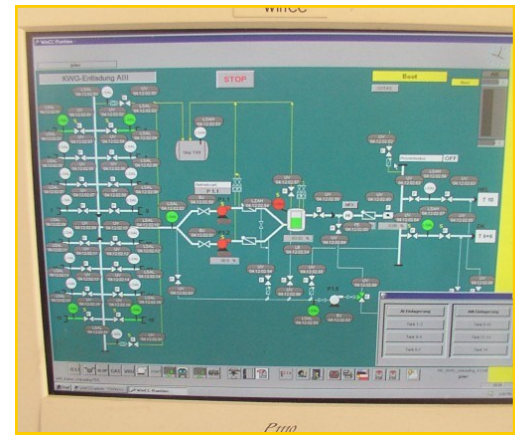


Automation system

Process control systems

Control and visualization of the whole process by process control and instrumentation systems (e.g. WinCC of Siemens) and PCS control systems.

- Server/client based process control system with centralized data storage based on Windows computer systems
- Creation of redundant systems
- Process connection of PCS control systems (e.g. Simatik S7 of Siemens) via bus systems (Industrial Ethernet or Profibus)
- Integration of tank storage management systems, quantity recording systems admitted by the calibration authorities, and ID card reading systems into the whole concept
- Connection of tank measuring equipment (e.g. radar filling level measuring systems) with OPC (OLE for Process Control)
- Connection of process signals in PCS control systems via standardized field bus systems (Profibus-DP, Profibus-PA)
- Coupling to external systems and their integration into the process automation systems as far as possible via standardized or user specific protocols (e.g. Profibus, Modbus, 3964R, RK512 or other)
- SAP connections of loading computer systems and customer specific adaptations are possible.

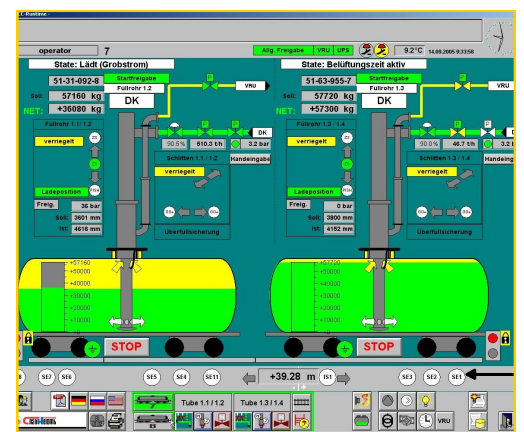


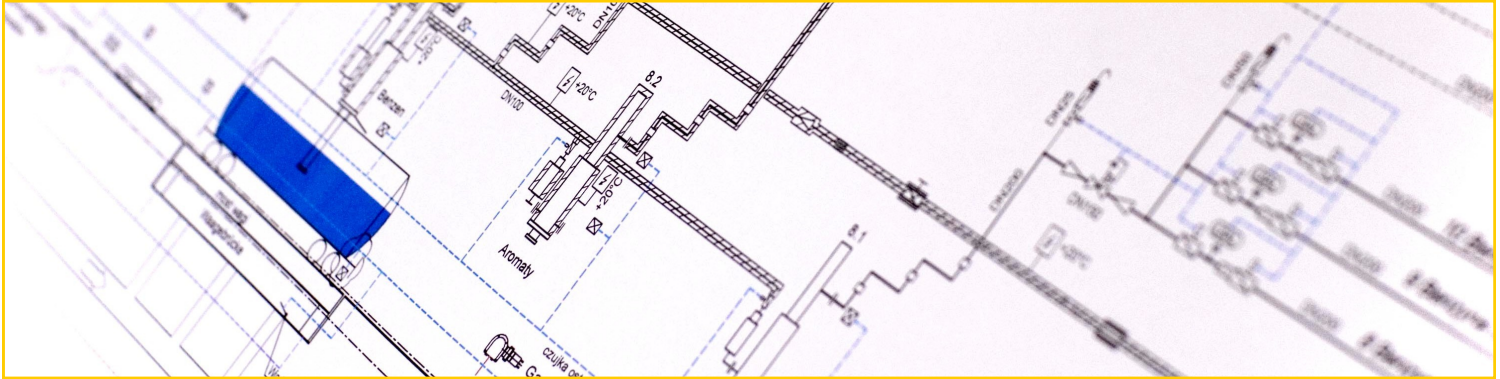
Process visualisation

Sub-systems (e.g. tank car filling and unloading stations, VRU systems, Transfer and blending systems) are provided with subordinate machine-near operation and monitoring systems based on Windows computer systems.

Visualization and process operation in visualization pictures specifically prepared for this process.

- Specification and check of process parameters
- Visualization, recording and archiving of alarms
- Incorporation of subordinate process visualization systems into the process control system





Engineering and planning for tank farms, handling plants and vapor recovery systems

Tank farms are designed in a composite engineering and planning work:

Engineering is prepared as follows depending on the progress of planning:

A) Determination of bases

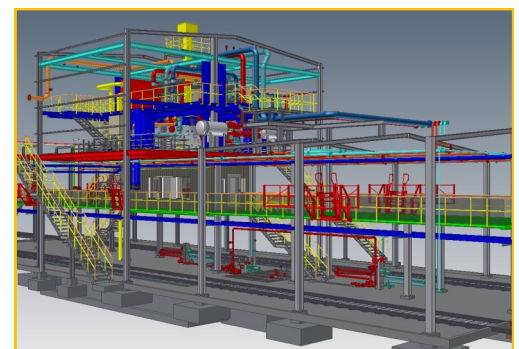
- Determining the requirements for the solution of tank yard planning.
- Clarifying the tasks for framework planning and stability verifications.
- Local visits and explanation of planning data.
- Determining the scope of services and the required preparatory work such as soil investigation and survey work.
- Summarising the results.
- Selecting and inspecting similar objects.

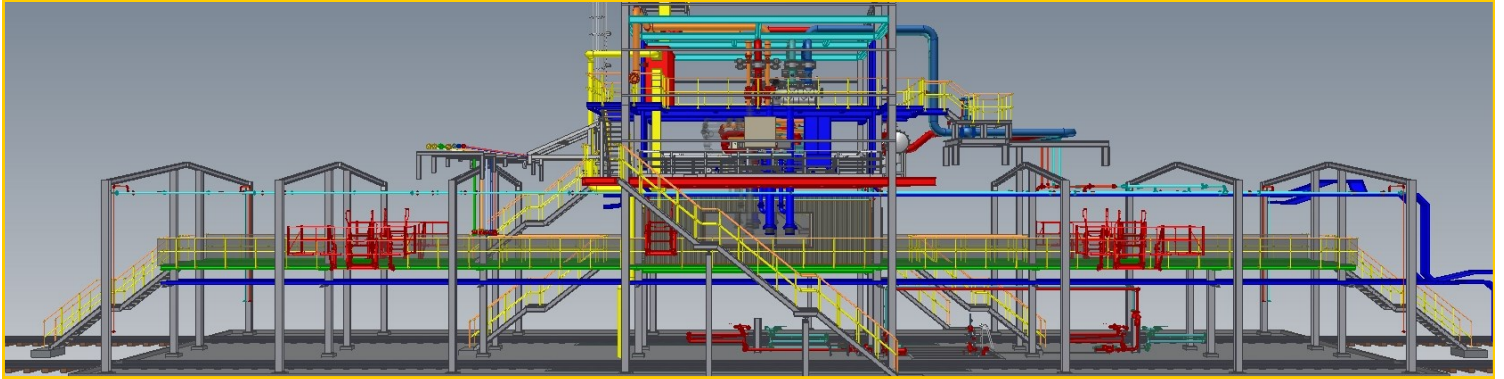
B) Preparatory planning

- Project and planning preparation, analysis of bases.
- Coordination of targets by space planning, plot planning, and construction planning as well as local and supra-local technical planning.
- Investigation of possible solutions for constructive and structural design, expedience, economy with due consideration given to environmental aspects.
- Procurement and evaluation of official plans.
- Preparation of the planning concept including alternative possible solutions as drawings and evaluation documents.
- Clarification and explanation of major specific connections, processes and conditions.
- Pre-negotiations with local authorities and other parties involved in planning.
- Co-operation for the explanation of the planning concept towards the economical-political bodies.
- Revision of the planning concept according to the requirements of the customer and authorities.
- Elaboration of the final cost estimates based on final preliminary planning.
- Compilation of the results of preparatory planning.
- Preparation of topographical and hydrological documents.
- Calculation of specific components.

The essential facilities of such tank farm are:

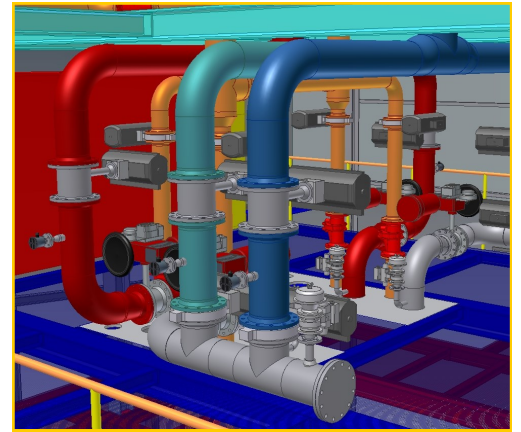
- Construction works
- Pipe works
- Steel works
- Automation- and control systems
- Measurement systems (temperature compensated or mass metering)
- Fire fighting systems
- Loading and unloading facilities
- Protection of water ways
- Earthing and lightning protection
- Cables and connections
- Mounting works of supplied deliveries
- Slop systems
- Additive systems
- Heating oil marking systems
- Pump stations
- VRU (Vapour Recovery Unit)
- Buildings (Control room, electrical rooms, office buildings, substations, fire fighting buildings, etc.)





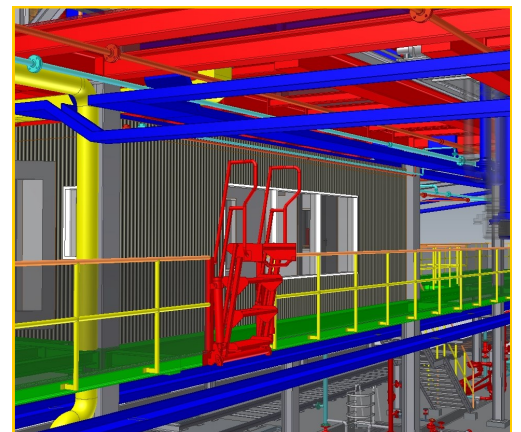
C) Design planning

- Preparation of the planning concept with due consideration of all specified requirements, with the assistance of other technical parties involved in planning up to the complete design.
- Elaboration of the explanatory reports.
- Technical calculation of the whole tank yard design without framework calculation.
- Drawings of the overall design.
- Preparation of a construction time and cost schedule.
- Negotiations with authorities and other parties involved in planning for approvability.
- Obtaining excerpts from the Land Registry, cadastre and other official documents.
- Summarising all design documents



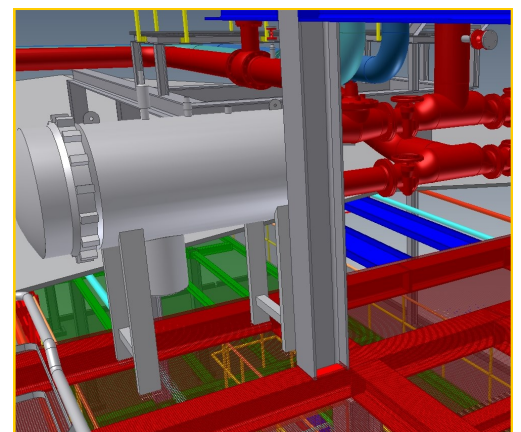
D) Approval planning

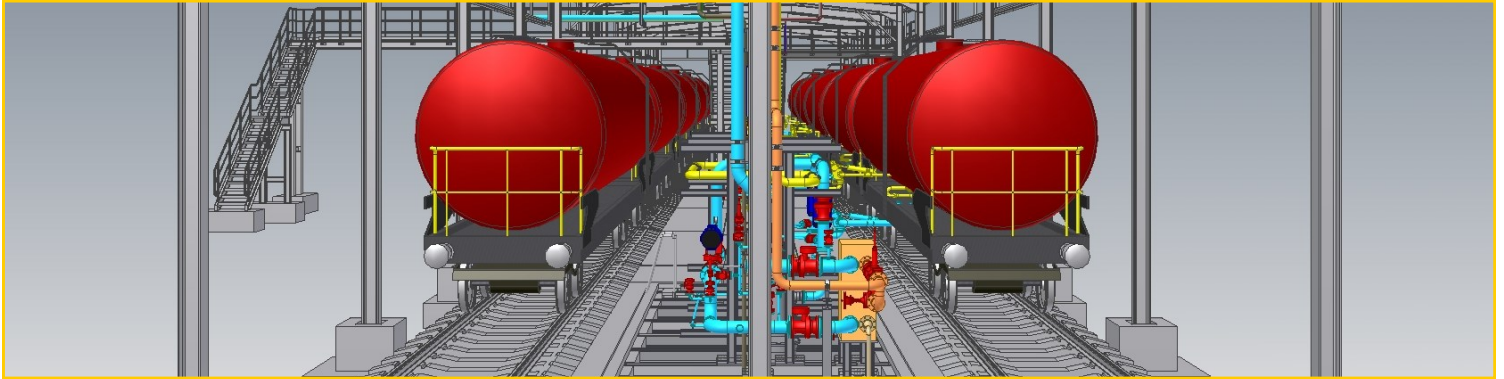
- Preparation of the documents for the necessary procedures of public law.
- Preparation of the structure list utilising the inputs of other technical parties involved in planning and framework calculations.
- Submission of these documents by the customer.
- Land procurement plan and land procurement register.
- Negotiations with authorities.
- Completion and adaptation of the planning documents.
- Descriptions and calculations utilising the inputs of other technical parties involved in planning.
- Co-operation in the public works planning procedure, including participation in explanation meetings as well as co-operation in the preparation of statements concerning doubts and impetuses of the approving authority.
- Accompanying the approval procedure up to the approval notice.



E) Execution planning

- Incorporating the results from approval planning with due consideration given to all technical requirements and utilising the inputs of other technical parties involved in planning up to the solution ready for execution.
- Drawings and calculations of the object with all individual data necessary for execution, including detail drawings in the scales required.
- Preparation of the bases for the other technical parties involved in planning and integration of their inputs up to the solution ready for execution.
- Continuation of execution planning during the implementation of the object.
- Preparation of sequence and utilisation schedules.





F) Construction supervision management

- Supervision of the local construction supervisors, co-ordination of the technical parties involved in object surveillance, in particular checks for compliance and release of the plans of third parties.
- Preparation and monitoring of a schedule (bar diagram).
- Subjecting the executing companies under delay.
- Acceptance of services and supplies together with the local construction supervisors and other technical parties involved in planning and object surveillance, preparation of a record of the acceptance results.
- Application for and participation in the acceptance by authorities.
- Handing over of the object including compilation and submission of the required documents, e.g. acceptance reports and test reports.
- Preparation of maintenance regulations for the object.
- Monitoring the tests of the plant parts and the overall plant for proper functioning.
- Listing the statutory periods for warranty claims.
- Determination of costs.
- Cost controlling.

G) Documentation

- Compilation of the drawings and calculation results of the tank yard on completion, As-Built documents.
- Compilation of plant certificates, operating manuals, maintenance and repair manuals as well as approvals of authorities for the operation of the tank yard.
- Manuals and release of the overall project.
- The documentation will be submitted as hard copies and on data carrier.





Training, supervision and commissioning

Training, supervision and commissioning is performed by high qualified specialists of Dipl.-Ing. SCHERZER GmbH.

In-house training is generally combined with the function – test of the facility. Therefore it is secured that training activities are performed directly at control systems of the facility. During training substantial functions are explained as well as the complete engineering system such as tag number system, circuit diagram etc.

Our specialists of supervision are sub – classified regarding Mechanic, earth work and foundations, electric and MSR. Further a Chief supervisor for coordination and as the contact person for the customer is foreseen. Detailed schedules and organization sheets and plans for supervision and commissioning are worked out.



After Sales Service

Mineral oil and Chemical industries are exposed to ever increasing competitive and cost pressure. Only those companies which face the commercial and technological innovations can prevail in this competitive environment in the long run.

The core task of our After Sales Service Team comprises maintenance of loading facilities including optimization of the operation of the plants as well as special consultancy services with regard to plant safety and quality management.

In addition to this, we offer qualification of the staff through training and education. The adequate qualification of the employees is moving more and more into the centre of attention as a decisive factor for increasing the profitability of the operation of plants with smaller and smaller teams of employees.

We offer this “After Sales Service” in order to maintain your plant in an optimum state permanently.

Our After Sales Service are performed by the specialists of our subsidiary company SCHERZER Umwelttechnik GmbH.

Maintenance contracts can be settled directly and will be split between mechanical section and EMSR. Short term fault analyses are carried out by a remote diagnosis with VPN or modem connection for a quick solution of problems.



Our clients:

AGIP GmbH, Angarsknefteorgsintez, ARAL AG, AVIA, Bayer AG, Bayernoil GmbH, BP / TNK, BP Oil Grangemouth Refinery, Brenntag AG, BSL BUNA Werke, Ceska Rafinerska S.A., Cheming, Chemo-petrol S.A., Conoco, CPI, DEFROL GmbH, Deutsche BP AG, Deutsche Solvay Werke AG, DHC - Solvent Chemie GmbH, Didier AG, Donau Chemie AG, ELF OIL AG, Erdölraff. – Ingolstadt AG, Erdölraff. - Neustadt GmbH&Co., ESSO AG, FINA GmbH, Ineos, Jugopetrol, Gazpromneft, Grupa LOTOS, Kebo Energy, KINEF, Komsomolskij NPZ, Leuna - Raff. ges. mbH, Lotos, Lukoil, Lukoil Neftochim Bourgas, Lurgi Life Science, Mannesmann Anlagenbau AG, Mazeikiu Nafta, Melcher GmbH, Mider, MIDEX, Migrol, Mineralölraff. Dollbergen, Minol AG, MIRO, MOL, N.I.O.C. - Kala Naft, Nizhnekamsk Raff., Novatek, Ölhafen Rostock, Omni Tank GmbH, ÖMV, Orenburgneft, ORLEN, Orsknefteorgsintez, PCK-Schwedt, Petrochemia S.A. / PKN, Petrogal, Petrokasachstan, Petrotank, Porta Petrol S.A., Raab Karcher GmbH, Raffinerie Vohburg, Reederei Dettmer GmbH&Co., Rosneft, Ruhr Öl GmbH, Ruhrtanklager Kaufer GmbH, Russneft, Rüttgers Werke AG, Seehafen Rostock, SHELL Deutschland Oil GmbH, Slavneft, Slovnaft, Solvay, Sonacop, South Ural Company, Südzucker AG, Tanquid, Total, Transtank, Turkmenbaschinskij KNPZ, UTG, VA Tech, VEBA OEL AG, Vopak, Wilhelmshafener Raffinerie.

Various references:

1989 Melcher GmbH / Wismar (Germany)

Complete expansion of sea harbor Wismar for transshipment and storage of mineral oil and cooking oil, in detail: Railcar loading and unloading / Ship loading and unloading / storage tanks.

1992 / 94 Reederei Dettmer GmbH & Co. / Magdeburg (Germany)

Engineering and commissioning of complete tankfarm

1998 Porta Petrol S.A. / Swinoujscie (Poland)

Complete reconstruction of a tank farm for storage, loading and unloading of ocean ships and vessels incl. automation system

2002 Ostrow (Poland)

Complete new construction of a tank farm for storage, loading and unloading of mineral oil products with: Tank equipment / Truck loading / VRU / Railcar unloading / Fire fighting system / Complete automation- and control system

2009 Deutsche BP AG / Gelsenkirchen

Planning and site management for a constant revamp of the tankfarm Gelsenkirchen (Ship- loading and unloading station, pump station, TAG - numbering, a.o.)

2011 Deutsche BP AG / Kassel

Concept design for the expansion of a tankfarm and the truck loading facility

2014 N.N. / N.N. (Deutschland)

Feasibility study for transshipment of middle distillates on trucks and railcars

2017 UTG / Blexen

Inventory check of the Tank car Bitumen loading facility including pipe bridges and pump stand and complete 3D drawings of the existing facility, incl. PDF 3D model. Thermic pipe calculation and reconstruction recommendation for safety operation.

2017 KEBO Energy / Conakry (Rep. du Guinea)

Feasibility study for installation of an Oil - Import terminal with calibrated operating units for ship unloading, storage and loading facilities of mineral oil products.





LOADING YOUR FUEL

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Other brochures of Dipl.-Ing. SCHERZER GmbH

- Company profile
- Railcar – Loading systems
- Railcar – Unloading systems
- Railcar – Filling tube and Hydraulic systems
- Options for SCHERZER filling tube systems
- Study to compare Rail Tank Car ON-SPOT loading systems with serial loading systems
- LPG Loading– and Unloading systems
- Tankcar - Loading– and Unloading systems
- Ship - Loading– and Unloading systems
- Tankfarms, including handling plants and Vapor recovery units (VRU)
- Reference lists

We are pleased to send you our brochures on request.