Thorough cleaning brings new strength to your systems. The results are higher system efficiency, longer life time on system components and reduced risks of breakdowns.

Ocean Team are specialists in efficient removal of all types of damaging particles and deposits in systems like turbines, boilers, compressors, heat exchangers, hydraulic- and lube oil systems.

Innovative and Customised Solutions
Thanks to our many years of experience and extended know-how, we are experts in developing innovative and customised solutions, which solve the unique challenge of the individual customer.

Areas of Business
- **Oil Care** – flushing, filtration and oil analysis/contamination monitoring program.
- **Chemical Cleaning** – descaling and removal of organic and inorganic deposits.
- **Mechanical Services** – e.g. ultrasonic cleaning, high-pressure hydro jetting, hydrostatic pressure testing and hydraulic bolt tensioning services.
- **Customised purification systems** – development, design and construction of equipment in accordance with your unique requirements.

Operate World Wide
We provide our services world wide to on- and offshore industries like oil & gas extraction, refineries, power- and CHP plants, wind turbines and the maritime industry.

“A penny saved is a penny earned.”
Ocean Team presents solutions, which are significantly faster and more effective than alternative cleaning methods - meaning reduced production loss, minimised maintenance and repair costs.

Patented methods makes us able to clean systems online without shutdown - meaning absolutely no production loss and thus saved costs.
The Philosophy of Ocean Team Group
– “Be Local by Going Global”

Ocean Team provides services worldwide both on- and offshore - especially to companies within the energy sector like Oil & Gas extraction, Power stations, CHP plants, Refineries and Wind turbines.

We live by the philosophy: “Be Local by Going Global”. In addition to the local Danish flagship, Ocean Team Scandinavia A/S, Ocean Team Qatar W.L.L. represents Ocean Team Group in the Middle East, and currently, as we go, subsections in Mexico, Spain and India are developing within steady, yet determined pace.

Being global means looking for potential options of cooperation with local professionals and reliable service companies worldwide. Professionals and possible business partners with knowledge and synergies within this area of business and with a long term and trustable relation to our target group.

This is what we call “technology transfer” beneficial for the local partners and customers.

Vision
Ocean Team Group’s vision is to gain global recognition as the specialized leader in purity solutions within treatment of technical- and fluid-transfer systems. An innovative and independent growth company, adding value- and technology knowledge to its customers.

By redeeming the above, we wish to prevent breakdowns and reduce cost for all involved, ensuring increased earnings for our customers.

- Ocean Team Group provides services worldwide.
- Europe is serviced from Denmark and UK.
- North America will be serviced from United States, Texas.
- South America are serviced from our offices in Mexico and Brazil.
- Asia will be serviced by our offices in Qatar and India.
Ocean Team Group has Established Joint Ventures, Royalty Agreements and Cooperations with Local Companies - World Wide.

Ocean Team Qatar W.L.L.
Represents most countries in the Middle East region and serves in a corporation with Ocean Team Group and the local company Petrotec: Petrotec Services is a nationwide construction and contracting company with over 25 years of experience operating in the petro-chemical industry specialized in hazardous substances.

Ocean Team Fluidcare India Pvt. Ltd
Represents the geographical area of India and is a joint venture between Ocean Team Group and two local engineers: The two engineers are in a team of entrepreneurs leading M/s Om Triple R India Pvt. Ltd, focusing on providing start-to-end cleaning solutions in cooperation with Triple R Overseas Corp of Japan - world leaders in bypass oil-filtration systems with patented filter designs.

Ocean Team Mexico - OTM
Represents the geographical area of Mexico and is a joint venture between Ocean Team Group and the local company Arechiga: Arechiga started in the Mexican state, Tabasco, in 1985. Through the years, the company has gained a wide range of experience within the oil industry. Development and maintenance of all types of oil infrastructure are now among their core activities. Since 1985, Arechiga expanded their business with departments in Veracruz, Chiapas, and Campeche.

Ocean Team Fluidcare UK Ltd - OTFUK
Represents our services from the office in Aberdeen. The situated General Manager will serve as personal connection and technical consultant, mainly managing challenges with contaminated fluid carrying systems with in Oil & Gas Offshore, Refineries, Marine and Power.

Ocean Team Windcare - OTW represents themselves locally and globally, mainly, from the OTG headquarter in Esbjerg, Denmark. They are currently looking for representatives in countries with synergies to wind turbine business.

China - Ocean Team Group - has established a royalty agreement with the Chinese company Harbin Xinhua Control Engineering Co., Ltd. HXH Harbin provides products, services and comprehensive solutions e.g. within hydraulic control, industrial oil monitoring, purification. Their have their Ocean Team service focus within the wind industry.

Norway - Ocean Team Group is represented in Norway by Servtech AS. Servtech AS are specialist in accumulators and hydraulic systems and have a history that goes back to 1985. A history of flushing and re-certifying offshore and onshore equipment. Servtech AS have invested in up-to-date testing facilities and can test equipment up to 18 000 PSI. Servtech also retail accumulators.
These following services are available for offer:

Chemical cleaning (including CIP):  
Through many years of experience we have build up a unique knowledge about which chemicals to use in which situations. We are constantly testing new chemicals that are more efficient and environmental friendly and we only select the best to be used in service. When you choose Ocean Team as your cleaning partner, you can be sure to have the best possible solution for you, your system and the environment.

Cleaning of Live Systems  
Many of our technologies can be used for “live-systems” without having to stop production. We clean the systems chemically using a controlled process based on careful measurement of the contamination type. Our chemical cleaning systems pre-serve the pipes, prevent new deposits from forming and prevent onset of corrosion.

Areas of Use  
:: Produced Water Systems  
:: Closed Cooling Water Systems  
:: Seawater Cooling Systems  
:: Black Water Systems (vacuum toilets)  
:: Grey Water Systems  
:: Flow Lines  
:: Drains and Pipes  
:: Vessels  
:: Coolers and Heat Exchangers

Hot flushing and cleaning:  
Flushing is a vital procedure for the satisfactory operation and life of fluid transfer systems. If omitting or limiting flushing, it will inevitably lead to rapid wear on components, malfunction and/or breakdown. Fluid transfer systems are very diverse both size wise and in complexity. Heating the flushing oil promotes the dislodgement of dirt, which can be embedded in grease, Tectyl, etc. on the inner pipe walls. Furthermore, reduce viscosity to facilitate the creation of turbulent flow. It is preferred to keep the flushing oil temperature between 50°C and 60°C to prevent oil oxidation. If the flushing oil is discarded after use, or if flushing oil with high viscosity is used, it may result in increased temperatures, but never above 80°C. Ocean Team has designed and developed a wide program of flushing technologies, methods, and units capable of meeting the ever-increasing requirements of cleanliness at component- and system suppliers.

Video Inspection:  
Ocean Team Video Inspection allows you to look into the very heart of your components. We have the most sophisticated video bore scope technology currently available. Thanks to one of the world’s smallest video lenses, with a diameter of just 6 mm, we can reach almost every nook and cranny and show high-resolution pictures on the built-in LCD display.

Hydro Jetting:  
One of Ocean Teams method is to remove scale using conventional chemical or mechanical cleaning, e.g. Hydro Jetting. Hydro Jetting is the most common method of conventional mechanical cleaning for many purposes. Ocean Team often uses Hydro Jetting technology to complete or, as an alternative, for chemical cleaning. For instance, systems that contain deposits of coke or sulphate scale are difficult to clean using chemical methods, as long reaction times are necessary. In such applications, Ocean Team’s Hydro Jetting is the best alternative.

Bolt tensioning:  
Ocean Team offers full Bolt tensioning services to cover most applications. We have a complete line of Bolt tensioning equipment in-house and technicians with many years’ experience in Bolt tensioning. Our services include: pre-job walk-throughs, safety meetings, bolt tensioning services and final job reports including tensioning certificate.
Ocean Team
- Your International Partner within Total Purity Solutions

Mechanical Cleaning:
Through long-term relationships and many years of close cooperation with customers, we have become renowned for our reliability. We offer a wide range of package solutions, including high-purity cleaning systems and related mechanical solutions.

Tank Cleaning:
Mechanical cleaning of tanks and oil reservoirs. The reservoir/tank should be cleaned as well, and Ocean Team can provide such services. Depending on contamination type, tank conditions and customer requirements, our tank cleaning services include grinding with a mechanical grinding machine, wire brush or other suitable cleaning device in order to remove rust, iron scale, weld splatter, grease, dirt or other foreign matter, e.g. packing material.

Hydraulic Flushing - Conventional:
Generally, most hydraulic and lubrication oil systems are designed for "laminar" flow. This calls for constant operation without cavitation or vibration. Efficient flushing, however, requires turbulent flow in order to dislodge impurities deposited on the inside of the pipe system.

Flushing must be performed after pipe installation, but prior to system operation. For an oil-flush to be successful, efforts to keep contaminants out must succeed and the flush must be conducted properly. A successful flush ensures that system piping and components meet acceptance criteria for a minimum length of time with a minimum of effort.

Flushing is most effective when flow velocity is relatively high and/or viscosity relatively low, creating turbulent flow in the pipe system during flushing. Turbulent flow is obtained if the Reynold number is as follows: \( RE = \left( \frac{w \times d \times 1000}{v} \right) > 3000 \)

Cleaning with Supercritical CO₂
Innovative method to clean umbilicals and control lines. Ocean Team has developed a patented method to clean systems consisting of pipes with small inner diameters (below a quarter inch) and huge lengths beyond 20 km.
Cleaning with Liquid & Supercritical CO₂
- innovative method to clean umbilicals and control lines

The importance of both clean oil and clean systems is critical for e.g. subsea production. Huge challenges at extremely high costs associate with the maintenance to keep up with well efficiency, and thereby, avoid complications with contamination in and around the pumps and to avoid worst-case scenario - breakdowns and production loss.

The ever changing oil prices call for greater deep-water equipment reliability and system cleanliness. By integrating this Liquid and Supercritical CO₂ Flush Technology, the system is provided lower tolerances within the Subsea solenoid vales.

"Wax from pipe extruding is one of the results from cleaning a new "clean" umbilical with Liquid and Supercritical CO₂ Flush Technology"

"Proof of Concept" - Reliability and Constant Care
Ocean Team has developed this patented cleaning system, which, by the use of CO₂ in a liquid and supercritical state, is able to maintain a turbulent flow inside pipes as narrow as ¼” in its diameter and even longer than 30 km (20 miles)! Proof of concept was given during a 6,500 m, ¼” OD Dual Control-line test with 3rd party supervision and results exceeding all expectations.

This method is revolutionary! A conventional cleaning of these often very long and narrow pipeline conditions is insufficient, as the turbulent flow, which is necessary while performing a successful cleaning, cannot last throughout the entire pipe system. In this case a conventional flushing only cleans the fluid, not the pipe system. Dealing with subsea systems under these conditions require a turbulent flow with pressure losses above 30000 PSI. A much greater pressure than the system's design pressure is able to withstand!

"The Innovative Revolution"
The unit is built on the latest technical advances in industrial PC controls and includes a 24” color touch display for easy and intelligent control. Via internet connection, it is possible to create remote Technical Support. After cleaning completes, it is possible to draw a complete Log File of the work flow.
Cleaning with Liquid & Supercritical CO\textsubscript{2} - innovative method to clean umbilicals and control lines

Please note that dirt and contaminating particles generate inside the umbilicals and control lines already during the initial production. This is why it is extremely important and economically advantageous to clean the pipelines prior to installment.

Problems Associated with Unclean Umbilicals and Control-lines are Often Seen As:
- Operational disruptions
- Hydraulic leaks
- Valves, not opening or closing incorrectly
- General malfunctions or defect hydraulic components
- High pressure loss and blockages

Problems, like the above, might lead to unforeseen shutdowns, down time and major economic consequences. The importance of clean oil inside a clean system cannot be stressed enough! 80% of all fluid transfer system failures are due to contamination.

The most important component inside a subsea umbilical and control line system is the oil! Most people consider a new oil as clean, but - it is not! Normally, a new oil has a standard purity of AS 4059 Class 8-12, yet, a purity level of NAS 1638 Grade 6/AS4059 Class 6 is mandatory, when used inside umbilicals and control lines.

Supercritical CO\textsubscript{2} is the Solution!
CO\textsubscript{2} in a liquid and supercritical state has a viscosity 10 x lower than water and a carrying capacity similar to oil. Flushing through a 13 km, ¼” OD control-line shows a pressure drop of only 150 bar at a remarkable Reynolds no. of 19000. Together with the seperation effect inside the SCCO\textsubscript{2} unit, the method reaches a never before experienced cleanness of NAS1638 Grade 3/AS4059 Class 3. By flushing with CO\textsubscript{2}, in a liquid and supercritical state, the system lifespan and reliability improves significantly resulting in great economic effect and that be without damaging the environment. Besides, this exact method of cleaning is the only one capable of dissolving wax and grease inside the system, while releasing all bound particles.

Real Life Experience Strengthen All Statements
Latest job utilizing the SCCO\textsubscript{2} unit was performed on a North Sea platform as one last try to dissolve a potential blockage inside a one way diesel line towards a well before replacing the entire well system. We were given the chance to prove the units adaptability and solvent effect and used only 3 days to reach a break-through by manipulating the CO\textsubscript{2}, its density and solvent effect. This experience revealed major possibilities for extreme problem solving when it comes to contamination and blockages inside long and narrow pipeline conditions.

Advantages in Relation to Conventional Cleaning Methods
A cleaner system with great operational reliability is:
- Faster and more efficient
- Environmentally friendly
- Simple, flexible and easy to use equipment
- Cost saving
- Extends the life of the system
- Degreasing and removing particles within the same operation
Core competencies that create the best nothing in the world.

Ocean Team concentrates on developing increasingly efficient, flexible and environmentally friendly methods for removing contaminants from technical installations in the energy sector. As far as possible, we use the same procedures and equipment on different assignments.

However, in many cases it is necessary to tailor processes and equipment to suit specific tasks. This makes demands on our creativity and our ability to draw on the deep pool of experience and know-how we have built up during 20 years of finding solutions to complex assignments.

Well thought-out equipment compact and mobile
Ocean Team’s units are designed to be compact and mobile, and are generally easy to transport or to pack in containers. Moreover, most of our systems are modular, which ensures flexibility, fast up and down-rigging and superior usability. In certain situations, most systems can be operated by a single supervisor or technician, which makes it possible to execute the assignment in direct collaboration with the customer’s own competent staff.

Quality, safety and the environment.
In our striving to live up to our motto of “Nothing Inside”, we have developed core competencies and built up a corporate culture that is distinguished, for example, by our particular efficiency in ad hoc situations and our capacity to mobilize at very short notice.

As a part of our quality assurance system, all the units that are not in use are stored ready (green-tagged) with documented service reports. For each and every assignment, we assess the safety level both for our employees and for our customers, and we take all the necessary precautions. Similarly, we accord high priority to environmental considerations.