



**VISION ON SUSTAINABILITY → Oil & Gas**



### **Vision on oily water**

Water is a major component in all steps of the Hydrocarbon processing and it is therefore essential to have the highest operational reliability.

Together with our R&D and team of specialists, who are dedicated to the oil and gas business, we are able to offer the best solutions using the most appropriate technologies.

We provide systems and technologies upstream - offshore and onshore - and downstream.

For over 30 years, we have proven to be the right partner for the oil and gas industry worldwide with clients in more than 40 countries.







### **Vision on sustainability**

We are committed to offering high quality, sustainable solutions in the field of waste water treatment. Active in 50 countries, we are a knowledge-based company with our own production facility, equipped with the latest technologies and adapted to almost all industrial markets. Not only do we deliver waste water treatment systems, recycling and energy recovery are also amongst our specialities.

### **Innovative**

We are known worldwide as an innovative company. We are able to offer a broad range of products and services, from turnkey total solutions to partial solutions and also single products. We are totally focused on the needs of the client. Therefore for all your requirements, we can offer the solution.

### **Fast Response**

We believe we can quickly offer you the best solution. Dealing with a broad range of sectors we know, as no-one else, what is going on. That is to our advantage and also to yours.

### **Technological skills**

Purifying waste water demands high technological skills and involves a number of phases and processes. For each application our engineers will select the most suitable combination of primary, secondary, tertiary and sludge handling technologies.



### **Recycling**

We are a company which does much more than only supplying knowledge and installations for waste water treatment. We can also supply innovative sustainable solutions in the field of recycling. Water Reuse technologies can be used for post-treatment of water. By doing this you can reuse the water in the production process, for irrigation or as drinking water. Therefore, you do not need to discharge waste water, which is good for the environment and also saves you money. Recycling technologies can also be used to recover valuable materials from the waste water, such as mineral oils in the petrochemical industry.







### One-stop-shop

In the future we will also continue with our research and innovation. We control all aspects in the treatment of water, waste water and waste streams to produce the required end products, such as clean water, process water, fuels, energy and other valuable materials.

We hope that in the future we can supply you with our knowledge, experience and high quality technologies.

### Our expertise

- **Treatability studies.** Our team of specialists can perform treatability studies by using our long-term experience in this field.
- **Lab testing and pilot testing on site.** We have the capabilities to do tests in our laboratory and on site with our pilot units to demonstrate the proposed solutions.
- **R & D.** Our Research and Development department is continuously working on the innovation of existing technologies and the development of new technologies to provide our customers with up-to-date solutions.
- **Standard equipment to complete systems.** We design systems which meet our customers' demands. From standard components to complete tailor-made waste and water treatment systems. We work for the end user and EPC contractors
- **Engineering & Manufacturing.** We have our own Engineering departments and Manufacturing facilities. We guarantee a quick and flexible approach and short delivery times.
- **Quality & Safety.** ISO 9001, ATEX, API, Health and Safety, HAZOP.
- **Reliability.** More than 30 years supplying the oil & gas industry. Proven track record.
- **Service.** After Sales Operational Support, Spares Supply, Upgrades, Training.






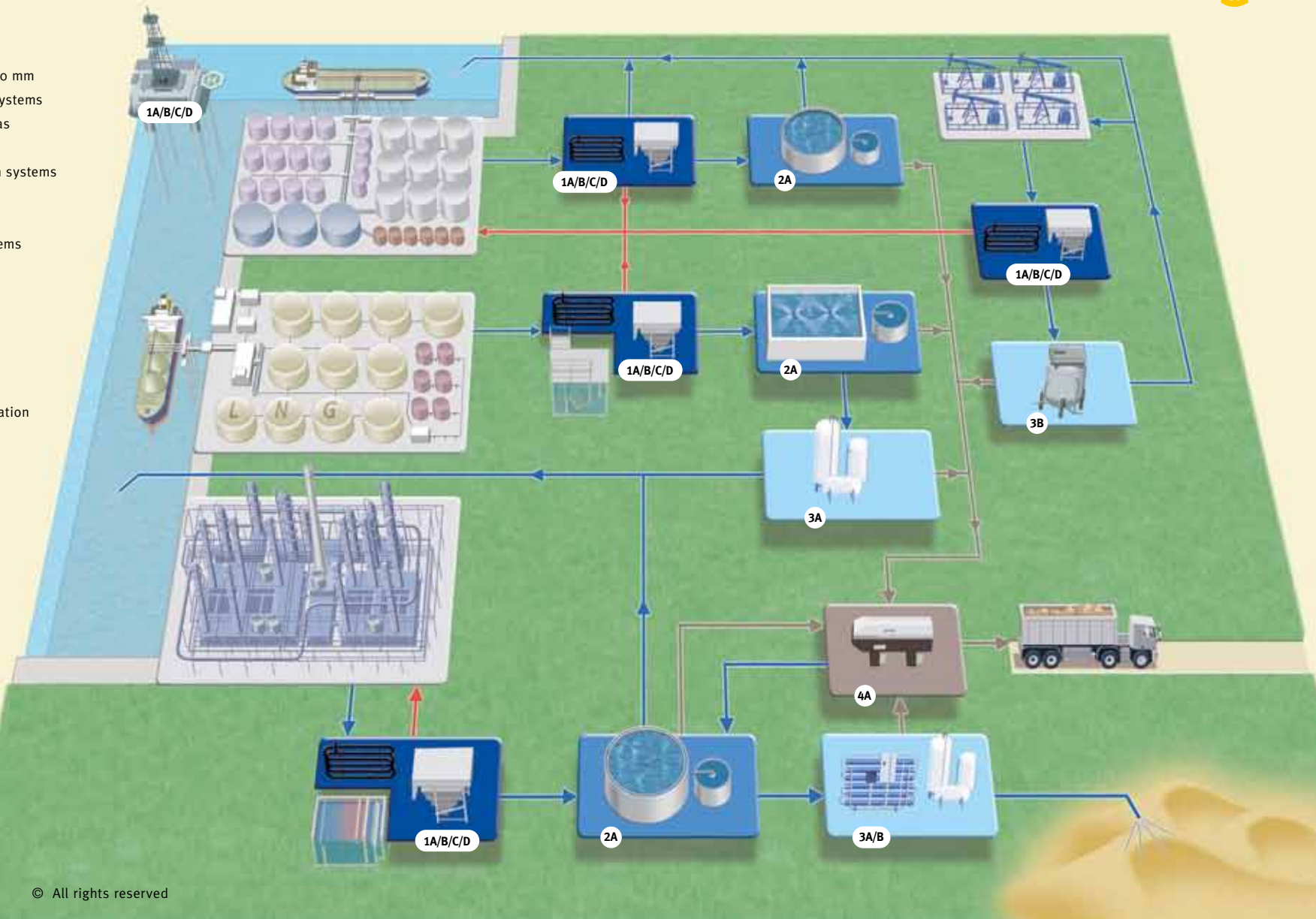
- 1 Primary treatment**
  - 1A NFS: Filtration Systems from 0.25 mm to 10 mm
  - 1B Gravisep: API / CPI / TPI / Hydrocyclones systems
  - 1C Optiflot: Induced and Dissolved Air and Gas Flotation systems
  - 1D NCF: Advanced Coagulation & Flocculation systems

- 2 Secondary treatment**
  - 2A Bioctor: Aerobic biological treatment systems

- 3 Tertiary treatment & Recycling**
  - 3A NWR: Water Recycling and Reuse systems
  - 3B NNF: Nut Shell Filter systems

- 4 Sludge treatment**
  - 4A NST: Sludge treatment and waste minimisation systems

-  Water
-  Oily Sludges
-  Waste Sludges



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## Primary treatment →

### NFS - Filter systems

Nijhuis Water Technology's *NSF* range of filter systems are used to separate coarse solids from your waste water.

The following types are available:

- Bar Screens
- Channel Filters, including Aquarakes and Channel Screw Filters
- Curved Screens, including static and vibrating types
- Rotary drum screens, Internally & Externally fed
- Cloth Filters

For each application the most suitable type of screen will be selected.



## Primary treatment →

### Gravisep - Gravity separators

The Nijhuis Water Technology *Gravisep* gravity separation systems are designed to remove heavy solids and floating particles, like oil, from waste water.

The following systems are available:

- Sedimentation units
- Sand Screw Conveyors
- API / CPI / TPI oil-water separators
- Cross Flow Separators
- Counter Current Separators
- PPA modules
- Hydrocyclones

Our engineers are used to working with high technological standards, like in the Oil & Gas industry. Our systems can easily be adjusted to meet your specific requirements.

### Optiflot - Flotation systems

Nijhuis Water Technology *Optiflot*

Flotation systems are used to separate non-dissolved materials by means of flotation by dissolved air or gas.

The following systems are available:

- Induced Air Flotation IAF
- Induced Gas Flotation IGF
- Dissolved Air Flotation DAF (with and without lamella plate packs)
- Dissolved Gas Flotation DGF (with and without lamella plate packs)

Besides these standard types, Nijhuis Water Technology also designs and constructs tailor-made flotation systems.

### Coagulation & Flocculation systems

The Nijhuis Water Technology coagulation & flocculation systems remove emulsions, dispersions and heavy metals from the waste water by addition of coagulant, flocculant or precipitant.

The following coagulation - flocculation systems are available:

- Pipe Flocculator
- Tank Reactor
- Electro coagulation
- Chemical dosing equipment
- Chemical make-up equipment





## Secondary treatment →

### **Bioctor - Aerobic biological treatment systems**

Nijhuis Water Technology offers a complete range of *Bioctor* aerobic biological waste water treatment systems. The following systems are available:

- Bioctor S - SBR Sequence Batch Reactors
- Bioctor C - Continuous biological treatment
- Bioctor M - MBR Membrane Bio Reactors
- Bioctor B - MBBR Moving Bed Bio Reactors
- Bioctor N - Biological Nitrogen Removal
- Clarifiers - Activated Sludge Settling systems
- Clariflot - Activated Sludge Flotation systems



## Tertiary treatment & Recycling →

### NWR - Tertiary treatment & Recycling systems

Nijhuis Water Technology offers a range of *NWR* technologies to polish your industrial waste water to very tight discharge consents or even to a quality which can be reused in your production process.

The following systems are available:

- Sand filters
- Nut Shell filters
- Activated carbon filters
- Aerated activated carbon filters
- Disinfection
- Membrane systems, types MF, UF and RO

Depending on where and how the waste water will be reused, a selection will be made from these technologies to ensure the optimum polishing configuration with the lowest running costs and a minimum of waste for disposal.

### Sludge treatment & waste minimization systems →

### NST - Sludge Thickening systems

During treatment of waste water and wastes, sludge is produced which needs to be disposed of in order to diminish the disposal costs.

Nijhuis Water Technology designs and supplies the following *NST* sludge thickening systems:

- De-watering drums
- Screw press separators
- Chamber filter presses
- Belt presses
- Decanter centrifuges
- Sludge drying systems

The above mentioned list is just a small summary of possibilities. Nijhuis Water Technology has highly qualified engineers to study your specific case and to provide you with the latest technologies in this field, producing the shortest ROI.



VISION ON SUSTAINABILITY



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