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# Solar Power Systems



**STRAATMAN**

Mooring Systems

## Straatman BV

With more than 50 years experience providing products for the maritime industry, Straatman is an established and well known manufacturer and supplier of mooring, berthing and dredging equipment.

We have developed a sophisticated solar power system for use in the maritime market, and have recently extended our product portfolio with the Smart Bollard. We pride ourselves in offering turn-key solutions, including integration and communication with port management systems.

Throughout the years we have continuously developed our products to match industry needs with the latest technology, providing innovative solutions to all major dredging companies, ports, and oil & gas clients around the world.

We design, manufacture, and test all Straatman products at our factory in the Netherlands, this keeps the lines short and enables us to maintain high quality products and efficient processes.



## Straatman solar power system, a green autonomous power supply

Are you in a situation where a conventional power supply system (cabled supply), is not suitable or even possible? Then Straatman has the solution! Straatman has developed a sustainable, autonomous solar energy solution. This high quality, green power supply system operates with virtually no downtime and allows you to power a wide range of systems and equipment installed on remote or offshore platforms. Examples can include but are not limited to:

- LNG berths
- Mooring dolphins
- Ship signage
- Buoy systems
- Construction area's
- Work light systems
- Dredging barges
- Hydraulic valves

For hazardous area applications such as LNG or oil & gas terminals, we can supply fully compliant explosion proof solar power systems, certified to the latest ATEX and IECEx standards.

### What to expect from us:

- High quality products and excellent level of service
- Over 50 years experience in the maritime industry
- In-house design and production in the Netherlands
- Turn-key project supplier
- Continuous innovation and improvement
- Certified to all required industry standards
- Dedicated and enthusiastic team of highly skilled and happy employees
- A commitment to deliver exactly what we promise



### Benefits of using Straatman solar power systems:



- Guaranteed availability of power
- Low maintenance
- Reduction of energy costs
- Intrinsic safety
- Environmental contribution
- Robust design
- Increased safety in operations
- Remote monitoring
- Eliminates damage to power cables by anchors or dredgers
- Fits perfectly in the vision of sustainability
- No need for fuel

## Solar power systems for ports and terminals

For decades power cables have been installed on the bottom of the harbor or sea-bed, in order to provide ports and terminals with the electricity required to power energy-intensive equipment such as capstans. Installing, securing and protecting these cables is a time consuming, costly and high-risk operation. Furthermore it is not uncommon for the power lines to be damaged by anchors, or during dredging activities. Repairing this damage can often be as costly as installing new cables, and carries the same high risks. If cable damage does occur, the resulting power outages can seriously compromise the safety of mooring operations.

Solar powered solutions avoid these hazards by removing the need for underwater cables altogether. This can also reduce construction lead times and costs for new berths and dolphins. Maintenance costs are low, as has been proven by continued use in a number of operational environments. Finally of course, using solar generated power greatly reduces energy costs, and fits within a vision of sustainability.



Our robust autonomous solar power system can be provided with ATEX / IECEx certification, and if desired we can include extra features such as work lights, navigation aids. In addition to this, with our advanced telemetry system, the solar power system can be controlled and monitored remotely.

## Capstans

Capstans are used for the safe and efficient handling of mooring lines, and our standard range of capstans are driven by high quality electric motors. If it is not suitable or possible to power the capstan with a standard power supply, our autonomous solar power systems offer the perfect solution, in particular for dolphins located in open water.

*“Straatman was the first company in the world to supply quick release mooring hook units with integrated capstans, powered by solar panels for use on mooring dolphins”*

### Work light systems

Using solar power supply for work light systems ensures reliable and efficient working lights, enabling personnel to work safely 24 hours a day. Our dataloggers and software platform allows customers to switch the lighting on and off remotely, as well as continuously check the state of charge of the batteries.

### Ship signage

We design and manufacture robust solar powered ship signage. The solar power system is used to power the lights that illuminate the ship signage at night.



### Options

- An integrated data logging system
- A web based software solution to monitor the system, including the actual available power and status of the system
- All components can be supplied for use in hazardous areas, certified to ATEX or IECEx latest standards

## Solar power systems for buoys

For mooring buoys, our solar power system can be used to support various applications. This includes providing a power supply for the automatic release system, the navigation aid, the AIS transmitter, and any work lights. The robust solar power system is designed for use in adverse weather conditions, such as repetitive sea spray, and heavy wind. The solar power system can be installed as a stand-alone system, or used in combination with our quick release mooring hooks and telemetry system. Our advanced telemetry system allows full remote control of the solar power system. Furthermore our systems can be equipped with data-loggers connected using GPRS, LoRa, or UHF. This shows real-time information from all equipment on the buoy.

### Solar power systems for Single Point Mooring Buoys (SPM)

A SPM buoy has the ability to provide operational capability and communication systems for remote subsea structures. For this application we can design, manufacture, and deliver an easy to mount all-in-one skid.

This unit can be supplied with all required equipment including a solar power system that can supply power to all of the electrical equipment on-board the SPM buoy. The skid, which is supplied pre-wired and tested, can be installed on top of the buoy. In addition a telemetry unit can be included, allowing data from the system to be monitored remotely in real time.



## Solar power systems for dredging

For dredgers, we design and manufacture robust solar skids, these green autonomous power supply systems offer virtually no downtime, and can power almost any remotely located system. They can be used in harsh environments, with a range of battery capacities, output voltages and power ratings available on request. To give you an idea of the possible applications, we have summarized two recent examples of solar power projects, supplied to dredging companies.

### Solar powered system for mega cutter suction dredger

For one of our dredging customers we designed 2 remote controlled, 250 tonne rated quick release hooks, equipped with a solar powered hydraulic powerpack. The use of this system is unique. When deploying their mega cutter suction dredgers, the customer uses our system on their left and right anchor line pontoons for safe deployment and operation. The lines are used to move the ship in a left-to-right motion, sweeping their dredging work along the sea or riverbed. By using our Solar-Hydraulic remote control solution, they can safely and remotely disconnect the anchor lines quickly in case of trouble. This could include an upcoming storm or just moving to another location. By adding AIS and working lights to the same system, the customer gets an all-in-one solution for safe deployment and operation of the pontoons, enabling them to work 24/7.

### Advantages of using our solar power systems on mooring buoys:

- Guaranteed availability of power
- Low maintenance
- Intrinsic safety
- Remote monitoring
- Environmental consideration
- Reduced energy costs

### Options

- ATEX or IECEx hazardous area certification.
- Data logging through LoRa, GPRS, or UHF.
- Remote control and monitoring using telemetry system

### Solar powered hydropack for quick release ball joints

For our customer Jan de Nul, we custom built a solar powered hydraulic power pack for the control of quick release ball joints in floating pipelines. This solar system is equipped with an integrated remote control system, enabling the dredging operators to close or open the quick release ball joints from a safe distance. This innovative system ensures efficiency and safety for both the operators and equipment, as well as reducing the environmental impact of dredging operations.

### Options:

- AIS transmitter
- Work lights
- Navigation aid
- Remote control for connected devices
- Data logging through LoRa or GPRS
- IECEx or ATEX zone 1 & 2
- Hydraulic power pack



## Controlling your solar power systems through software platform MoorControl

We have all the in-house expertise, such as engineers and software developers, to supply turn-key projects, including integration and communication to third party software systems. Besides, we can supply our own online software portal which gives access to your data.

Straatman is an expert in advanced, hightech communication systems. The solar power systems can be equipped with dataloggers and transmits the data with for example LoRa, UHF, Wi-Fi and 4G.

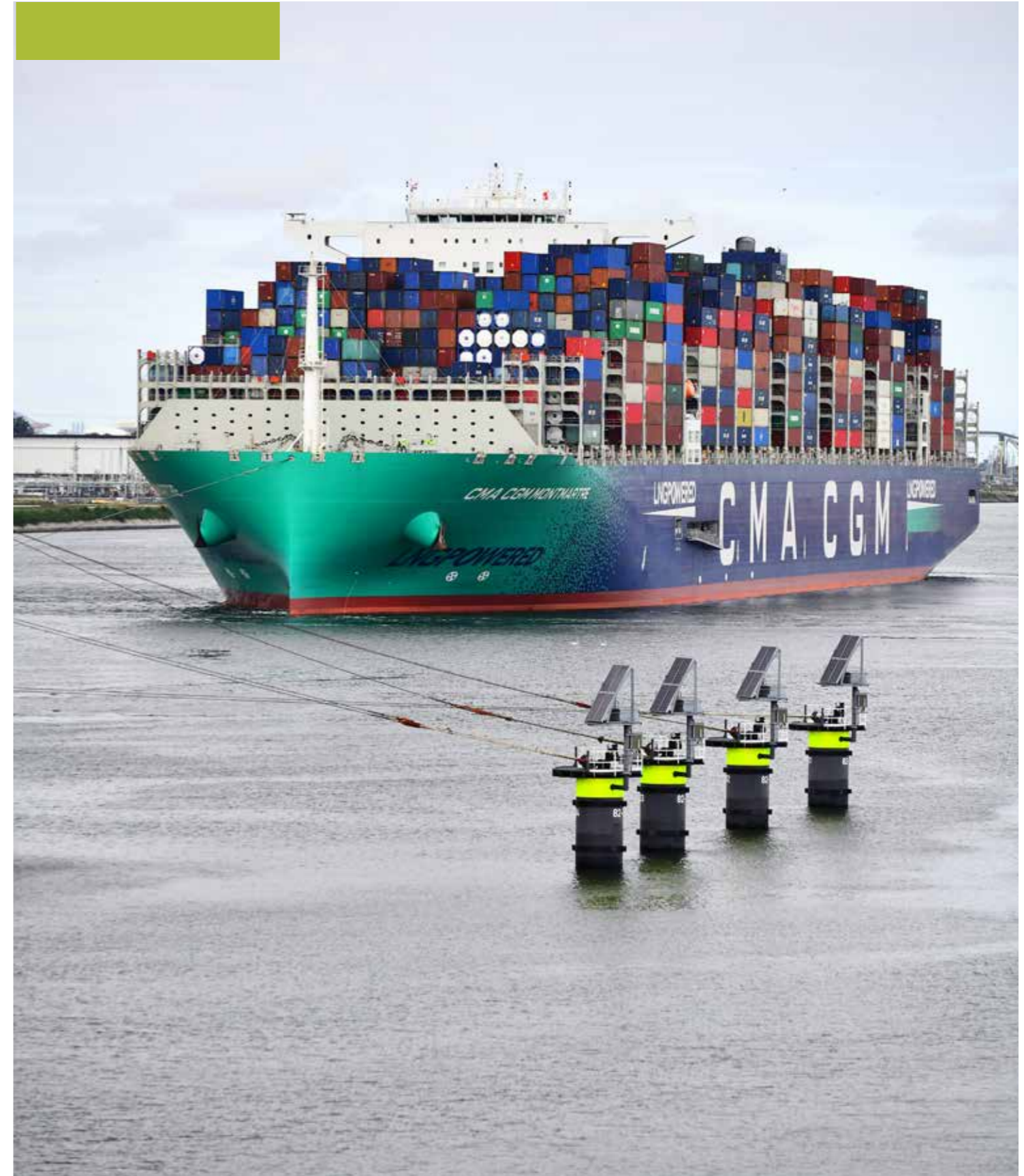
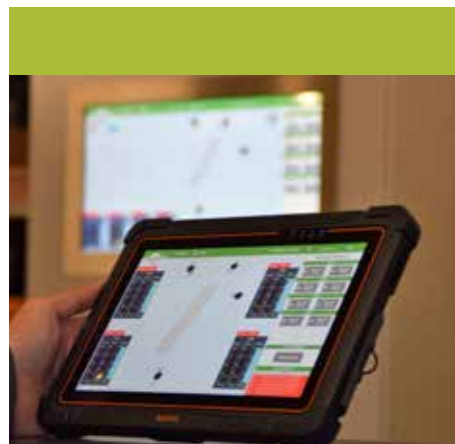


There are a number of different ways to present the actual data to the operators like on tablets, mobile phones, in control rooms and on handheld pagers.

With our MoorControl software platform the following information, for example, can be viewed and shared:

- Available power
- Energy consumption
- Battery quality
- Log of the system usage
- Weather
- Tide
- AIS information

More data can be added to the software system. Just let us know your wishes!



## Solar power systems for other applications

Straatman's solar power system is the industry proven solution for any situation where a standard power supply using cables/generators is not suitable or possible.

We have developed a high quality autonomous system, which is designed to endure harsh and demanding environments, whilst providing reliable and continuous availability of power. For installation in hazardous areas such as LNG or Oil/fuel terminals, we can supply fully certified explosion proof solar power systems.



## Service & Support

### Design and manufacture

We design and manufacture our products at our own factory in the Netherlands, this keeps the lines short and enables us to maintain high quality products and efficient processes. Our skilled and experienced team are committed at every level and will be happy to discuss a solution with you.

### Inspection and maintenance

We offer a range of maintenance and service options for our products, and through experience would highly recommend considering a maintenance contract. As with most products, regular servicing and inspection will minimize breakdowns, identify minor issues before they develop, keep operators safe, and ultimately prolong the working life of the system.

### Commissioning and training

Our team of engineers ensure that installation and integration of our equipment runs smoothly, by offering an on-site commissioning service. In addition, we offer on-site training so that operators and key individuals know exactly how to use the equipment safely and correctly, and are able to resolve minor faults themselves. A bespoke training package can be provided as required.

### After-sales service

Our job doesn't stop after delivery and commissioning, we pride ourselves in our after-sales service. If you have any questions or issues regarding our equipment, we will offer full support, either by remote troubleshooting or by using our call out service. We keep many spare parts in stock, and have a team of skilled engineers, so rapid support is always available. Rest assured, our team will always do the utmost to provide the best possible service along the way!

We are happy to work with customers to provide bespoke solutions and are willing to think outside the box in order to design the perfect solar power system to meet their requirements. Our experienced and highly skilled team are always available to discuss any enquiry, from concept and design to manufacture and installation. We love to be challenged!



## Our network



Contact us for  
more information!

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



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