

# New offshore control room without interruption of operations

Innovative technology and excellent design principles make for superior user experience and a significantly reduced need for maintenance.

Neptune Energy is an international independent oil and gas exploration and production company with a regional focus on the North Sea, North Africa and South-east Asia. Neptune Energy has made a commitment to use new technologies and innovations to produce hydrocarbons in a safe and sustainable way. This commitment is evident on Gjøa, the company's semi-submersible oil and gas production unit located 60 kilometres off the coast of Norway. Since production began in 2010, the Neptune Energy operated Gjøa platform has had outstanding results both on production as well as on operational performance. The platform runs with a production regularity above 98%, and due to good reservoir management is set to produce 60 million barrels of oil equivalents more than estimated at the start of production. Yet, it still has capacity to handle extra resources.



Photo: Jan Inge Haga



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– Neptune Energy, 2018

The operation is run from the central control room on the platform and covers the Safety and Automation System (SAS) on Gjøa as well as monitoring the production and the different wells. Gjøa is a 24/7 operation where the Control Room serves a critical function for the production and related resources.

#### The challenges: Lifetime and maintenance

The control room components on Gjøa were failing on a regular basis. The existing system of projectors was almost 10 years old and, when operational, delivered poor and inconsistent image quality – something that is imperative in a control room environment. Operators in this kind of offshore facility typically work in 12-hour shifts, a job that requires a good work environment to stay alert and on guard to manage any incidents efficiently.

Adding to the challenge was the fact that the platform is offshore. This meant that support onsite was limited to the service crew on the platform. With limited resources onsite and no remote support solution from the existing vendor, every incident or issue posted challenges for the operation. Even a simple lightbulb change, typically required every three months, was a headache. Worst case scenario was that the complete projector had to be sent to shore for repair or replacement, which happened several times.

#### User input driving the choice of solution

The process of sourcing the right solution for Neptune Energy was thorough, and the team spent a substantial amount of time researching their options. The end users played a critical part in the process to assure the future solution would fulfill their requirements. They reviewed multiple solutions and product vendors, including visiting other oil and gas companies to gather ideas and insights in the search for the optimal solution.

#### A seamless wall to accommodate existing content

Even though Neptune Energy considered all options, the preference was for a seamless display. Their information dashboards and visual content were optimised for the old solution aspect ratio, and to alter the setup would have been a project of its own, and relatively complex. Hence the preference for seamless was clear, narrowing their choices down to LED and projection. While a curved LED wall was a good option, there were physical challenges for viewing distance that impaired the user experience. As a result, the projection technology remained the only option.

#### The tipping point: Innovative technology and excellent design principles

The users played an imperative part in choosing the right solution. The fact that Cyviz could offer innovative LED projection technology that provided a great image while producing very little noise were the key tipping points in making the final vendor selection.

The Cyviz solution was based on six Cyviz CP1 projectors. This provided a seamless display that not only accommodated the existing content, but also had space for additional content. This was an added bonus as Neptune Energy is planning to add more wells to the production on Gjøa.

#### About Neptune Energy Group

Neptune is an independent global E&P company and, having completed the acquisition of the exploration and production business of the ENGIE group in February 2018, is now active across the North Sea, North Africa and Asia Pacific. The business had production of 154,000 net barrels of oil equivalent per day in 2017. The Company is backed by funds advised by three investors, CIC, The Carlyle Group and CVC Capital Partners.

Find out more on [www.neptuneenergy.com](http://www.neptuneenergy.com)

Installing any type of equipment on an offshore platform offers several challenges. Transportation of all the equipment is by helicopter or boat and delivered to a property that is in constant motion due to the fact that it is literally sitting on top of the ocean. And, with a 24/7 operation, there was no room for downtime. The entire project needed to be meticulously planned and installed as operations were running.

### The complete solution for a control room

As the new system was put into production, the user feedback has been extremely enthusiastic. The ergonomic improvements are substantial with a barely noticeable noise from the projectors and with an image

quality that makes the long shifts for the operators more bearable.

The design and installation that Cyviz delivered included not only the logistics and technical components, but addressed the user experience all together. It isn't limited to the operator of the control room but also those servicing and supporting the system, remotely and onsite. The installation of six projectors mounted in the ceiling made any maintenance significantly easier than the previous encased mounting solution. Finally, the design team at Cyviz suggested a treatment of the wall behind the screen to enhance the viewing experience and the overall ergonomics of the room. Design principles based on 20 years of experience at Cyviz added the little extras that make for a high quality end-to-end customer experience.

#### Business benefits



##### User experience

- A superior user experience for the operators and their production process by delivering the best image quality and display design for the designated viewing distance, making 12 hours shifts in front of the screen more comfortable.
- Whisper-quiet projectors with a noise level comparable to a recording studio, making for a much-improved work environment.



##### Service & maintenance

- No more lamp replacements and a 50,000 hours service interval minimizes maintenance costs and assures operational uptime.
- Service is made easy by adding remote support and equipment monitoring. It reduces the need for a technician to travel to the platform, saving the cost of expensive helicopter flights and offshore accommodation.
- With no consumable parts of the Cyviz CP1 projector the need to remove projectors to service is eliminated.



##### Installation and design

- To simplify and reduce the complexity of the installation, the design developed by Cyviz was done with the existing mounts, and had a minimal impact on the 24/7 operations.
- There was no need to put the projectors in casing, as for the old system, since the Cyviz solution has an extremely low noise level.
- Heating, ventilation, and air conditioning in the control room is imperative to thermal comfort and acceptable indoor air quality. The new projector in the Cyviz solution is more energy efficient and produces less heat, and in effect impacts the climate in a positive manner.
- The Cyviz CP1 projector weighs only 17 kg, which is below the 25 kg offshore limit that requires use of lifting equipment and a special permit.



### The solution

A curved Cyviz F621 control room display, based on the new LED solid-state projectors (Cyziv CP1). The projection wall is arched with the image warped to achieve a perfect display along the wall.

The solution includes the Cyviz Easy Server to allow for remote support and automated warnings. In addition, two Axis PTZ IP network cameras are integrated in the projection aluminium rig to enable experts onshore to inspect the display and the sources visually. It also makes it possible to zoom into details on the wall and do brush ups and alignment on the image.

The combination of the aluminium rig being very stiff and stable, and mounted on 10x rosta feet, the stability of the Cyviz PAU will ensure minimal maintenance during the first 50,000 hours of use.



### System specification

- Cyviz Easy Server integration
- Cyviz Easy Controller  
6x Cyviz CP1 WQXGA (20+ mega pixels )
- 6x Barco WB2560 warp boxes
- Cyviz xpo4.16 for image processing and handling CCTV input and upscaling of SAS sources

### About Cyviz

Cyziv is a global technology provider for visual collaboration, meeting rooms, visualization, and operations centers. Since 1998, Cyviz empowers the digital workforce, organizations and employees to connect, visualize, and collaborate on their critical data. Cyviz provides turnkey solutions that are easy to deploy, easy to operate, and easy to support. Today, Cyviz serves the Fortune 500, global enterprise and government customers that demand seamless integration of leading-edge technologies that engage people, encourage greater collaboration, and accelerate decision-making.

Find out more on [www.cyziv.com](http://www.cyziv.com) or visit one of our Cyviz Experience Centers in Atlanta, Beijing, Dubai, Jakarta, Houston, London, Oslo, Riyadh, Singapore, Stavanger, or Washington DC.