

# Aker BP's new flexible and multipurpose Onshore Collaboration Center

After 10 years of service, Aker BP's Onshore Operation Center (OOC) had become too limited in capacity, and an upgraded space was needed to handle more rig lines and improve collaboration. Aker BP's ambition was to build a new world-leading Onshore Collaboration Center (OCC) in Stavanger for its Drilling & Wells operations, designed to support ever-changing workflows and the digitalization of processes. The OCC will act as a central location for Aker BP's expertise in well placement, real-time operations, geo-steering, autonomous drilling, and the execution of the well versus the Digital Twin. It will also be the repository for rig connectivity and rig-to-shore IT support.



**Image:** One of the rig line control rooms ensuring that ongoing offshore operations are supported in the best manner. Each rig line sits together in full within the same space for optimal collaboration.

Business benefits for Aker BP

The main investment vehicle was based on a BSEE report<sup>1</sup> after the Macondo incident. The report found that the ROI for vendors and operators who invest in collaboration centers in oil and gas and well construction has been measured to reduce Non-productive Time (NPT) by 2.5% over a year. The tangible business benefits in adopting such a collaboration center or a real-time center is twofold: reducing invisible lost time (ILT)<sup>2</sup> and increasing productivity by having everyone in the same room, using the same information, bridging the team onshore and offshore, and creating a shared situational awareness. Bringing down ILT (invisible lost time) and NPT (non-productive time) can reduce the well cost by 5%.



Image: One of the four multipurpose collaboration rooms used for traditional meetings, video conferences, multidisciplinary workshops, trainings or as a breakout room for operators.

The challenges: space, flexibility and information sharing

In the existing OCC, Aker BP had to support all rig lines within one and the same room which did not create the best ergonomic environment and meant that if there was some action on one rig line, it would be disruptive to the other rig lines. It also meant that even though the room was full, each rig line team was not represented in full and could not sit within the same space, posing constraints on collaboration. Furthermore, in special operations cases on rig lines, Aker BP was looking for a solution that would allow their strategic alliance partners to work directly within the OCC, bringing their own systems and integrating easily with the OCC system. Where the OCC was application-specific and more rigid, the need for a new flexible solution that could easily adapt to the situations became apparent. In line with their dynamic and agile culture, Aker BP started analyzing their own workflows and how the new center should support their operations. They interviewed their operators who raised a requirement to separate the rig lines, and a need to gather the teams in the same space. They found that they needed more advanced collaboration rooms where the information could flow between the OCC and the rooms. An OCC is defined by its business-critical importance. It must ensure that ongoing offshore operations can be supported in the best possible manner combining effectiveness of onshore duties whilst ensuring that Health, Safety and Environment (HSE) are never compromised.

“ Our ambition for the OCC is to put us in the top 5% of operators worldwide for collaborative environments and remote operations. With this project we wanted to be cutting edge, to take ourselves out of our comfort zone and do things differently.

- Andy Deady, OCC Lead

<sup>1</sup> <https://www.bsee.gov/sites/bsee.gov/files/public-comments/safety/bsee-macondo-panel-remarks.pdf>

<sup>2</sup> in rig drilling operations, ILT is the difference between actual operational duration and a best practice target. It is said to be invisible as it does not appear on any conventional morning reports.

## A new way of designing collaboration centers

Collaboration centers for oil and gas companies have been around for the last 20 years and are becoming the norm worldwide. However, other operators and vendors execute their collaboration and real-time centers with a specific problem and build a center around this problem, in a silo. The new Aker BP OCC is designed with the ethos of allowing the team to enter an environment, use it and leave if need be, but have a core team that is always located in that room, which provides greater flexibility. The environment is designed around the inputs of operators and specialists, based on their experience in the existing OCC and their needs for more collaboration and flexible design. Partners were also both part of the concept and detailed design phase, inputting how they would be interacting with the systems, and how they would be connected their applications.

## An interconnected environment designed for multidisciplinary collaboration

With the new OCC, Aker BP expands its current OCC more than 10 times with space spreading over 900 sqm. As suite of interconnected rooms is designed to offer flexibility and continuity in the OCC workflows. The layout and inter-connectivity are designed to offer a premium user experience and qualitative working conditions to operators.

The state-of-the-art OCC offers optimal functionality, capabilities and room layout. The floor and desk layouts are co-developed with operators to consider existing work scenarios and best practices of an OCC. Each operator will have multiple displays and one large seamless display based on blended projection technology will provide an overview of the current situation on the oil rigs.

The OCC is designed to support three main functional themes, effectively bridging the gap between people in the office, people working remotely and the people working different shifts. This environment had to be flexible enough to support these different roles, but also had to be standardized when it comes to communication protocols to and from the rig, security and high availability networks, and Aker BP network bridging. It must be compatible with the IT systems, authentication and access methods, and it must be easy to use for the drillers, students, millennials, and to employees of all generations.



### About Aker BP

Aker BP is one of the largest independent oil companies in Europe. As a fully-fledged exploration and production (E&P) company, it carries exploration, development and production on the Norwegian Continental Shelf (NCS). The company is headquartered at Fornebu and has offices in Stavanger Trondheim, Harstad and Sandnessjøen. In June 2016, Det norske oljeselskap ASA agreed with BP p.l.c. to merge with BP Norge AS to create the leading independent offshore E&P company. The Company changed its name to Aker BP ASA and the new ticker symbol "AKERBP". Aker BP is a dynamic and innovative organization with a culture of continuous operational improvement and a drive to implement new ways of collaboration and digitalization.

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

The four collaborations rooms are multipurpose in their design and can adapt quickly to different user scenarios, such as traditional meetings, video conferences, multidisciplinary workshops, trainings or breakout rooms. They are also equipped with large seamless displays that provide a large canvas to share and interact with different applications and content sources.

The lobby is designed to act as a waiting room for guests and break area for operators working 24/7. The space boasts a large central display wall giving an overview of OCC KPI's, and various feeds from other locations. A set of dedicated screens are also used to show selected information from ongoing operations. This makes the lobby area a dynamic and engaging space, where visitors and employees are exposed to the operations and activity.

The atrium is a modern space for town-hall meetings, breaks and entertainment and ad-hoc sessions for larger groups. The space is equipped with a large display with connectivity for multiple devices and integrated with video conferencing. Two support areas were also added and built for management, coordinators, and technical support personnel. Each of these areas are equipped with

sophisticated capabilities that allow users to easily connect laptops or connect desktop monitors to rack mounted workstations. The displays on the wall can be used to either show computer content directly located in one of the support areas or content coming from computers used in other OCC rooms.



Image: The atrium is a modern space for town-hall meetings, breaks and entertainment and ad-hoc collaborative sessions for larger groups.

“ Scalability and flexibility were crucial in the design so that the experience would be identical for all users with the same software and the same systems.

- Andy Deady, OCC Lead

### A unique strategic collaboration between Cyviz and Aker BP

Cyziv had already successfully delivered solutions to Aker BP - the Eureka center in Stavanger and an emergency response center to mention a few. The partnership on the OCC started with a pre-project phase which was key. It brought together a dedicated SCRUM team from Aker BP and the Cyviz team. The process of sourcing the right solution was thorough, and both teams spent a substantial amount of time researching, testing and working together on developing an optimal solution, learning from each other's unique skills and expertise. Cyviz' experience was also valued in choosing the right space within Aker BP's buildings, and the final layout of the OCC was agreed during the concept study phase. This design study was conducted by Aker BP and Cyviz' engineering teams to develop a technical solution that would solve current and future operational and functional requirements for the OCC. Aker BP selected Cyviz based on its prior project collaboration, and the fact that Cyviz is a local player with local support. The good reputation amongst other oil and gas organizations that Cyviz had delivered to was also a deciding factor. Aker BP also appreciated and recognized the value of the renders that visualized their space, and the detailed proposal work eventually swayed the decision in Cyviz' favor as the preferred vendor.

## A flexible solution based on standardization, infrastructure, and display technology

The Cyviz solution consist of 13 systems, all interconnected with a new generation IP-based infrastructure for routing and data distribution. The uniqueness of the solution resides in the flexibility of this new architecture, but also in the standardization principles applied to the design, and deployment of the solution.

The flexibility is also reflected in the display technology favored. Seamless projection with video processing, allowing multiple dynamic PiPs (Picture-in-Picture) to be added, moved and shared across rooms. The system design also had to support the two levels of access to wells' information, with unrestricted access and tight wells, which implies severe access restrictions.

### Standardization: A future-proof solution

In contrast to the traditional approach where the control system software is customer specific, the Cyviz software platform is standardized, configurable and upgradeable, reflecting Aker BP's culture of continuous improvement. The value of standardization for Aker BP is threefold. Firstly, it meant that Aker BP's technical lead could take full responsibility for post-installation management, support, and maintenance tasks. All configurations and adjustments to ongoing operations can be made in-house with more speed and efficiency, instead of having external support coming in for re-programming. With standardization, Aker BP has full ownership of their solution. Secondly, it meant that the software platform powering the entire OCC was upgradeable and future-proof. This was a strategic and cultural direction meaning that Aker BP could better manage, support and improve the OCC as organizational changes occur over time. Finally, as reliability and uptime were also key requirements from Aker BP, the high level of standardization simplified and cut time on the implementation process and will enable predictive maintenance.

### IP-based infrastructure and information highway

Superior video and audio quality means travelling to customer sites or between offices is much reduced, saving time and money as well as reducing Aker BP's carbon footprint. A new IP infrastructure was developed by Cyviz, preferred to a traditional AV matrix approach that would have been too specialized and too rigid. The solution needed to be innovative and based on IT principles with a simple distribution over IP. Changing the signalling distribution and avoiding the rigidity of cabling and matrix, resulted in an 'information highway', allowing Aker BP to handle and distribute all data and information, making it possible to work on digital assets with much more flexibility.

“ The innovative design for the AV over IP that Cyviz came up with really stood out as a differentiator and impressed us.

- Andy Deady, OCC Lead

### A seamless display experience in the OCC

Cyviz provided an innovative seamless display experience with blended projection based on the new generation of Cyviz CP1 projectors where the space allowed. The OCC and the control rooms were equipped with seamless displays for greater image quality. Paired with unique video processing capabilities for Picture in Picture (PiP), this solution created the perfect canvas for dynamically organizing sources and digital assets to support different operations scenarios.



## User experience

- Speed and accuracy of decision-making improved through the visualization and collaboration capabilities.
- The different rig teams can interact more effectively using high-quality resolution images, video and audio.
- The multipurpose functionality where the room can be divided as needed allows maximum utilization of the room.
- The user feedback feature means that problems can quickly be resolved, and the performance of the room always optimized.
- Users can connect their laptop through multiple options to share data immediately, saving time and reducing frustration.
- An intuitive user interface means less time spent on learning how the system works.



## Installation and design

- The standardized design based on proven design principles and pre-selected and tested components reduce time to scope projects and install significantly.
- The installation process is also optimized through the deployment with server configuration that can be done remotely by designated experts.



## Service and maintenance

- The standardized system enables effective remote monitoring and management, which helps anticipate any maintenance required.
- The remote support capability lowers the operating cost and resources required.
- System and software upgrades with new functionality can be deployed through the central server.
- The ability to integrate with existing infrastructure makes it possible to capitalize on existing IT and AV investments.
- With no software programming required, the total cost of ownership is significantly reduced.



## System specification

- Cyviz Easy Server integration
- Cyviz Easy Controller (X7 and M7)
- Wireless content sharing
- OCCs – 5 x F311 (\*CP1 projectors)
- 4 Collaboration rooms – 3x F103 & 1x F208 (\*CP1 projectors)
- Lobby – P1224
- Atrium – P1224
- Two support areas – 2 x Advanced M7 solutions
- A new generation IP based infrastructure

### About Cyviz

Cyviz 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.cyviz.com](http://www.cyviz.com) or visit one of our Cyviz Experience Centers in Atlanta, Dubai, Jakarta, Houston, London, Oslo, Riyadh, Singapore, Stavanger, or Washington DC.