Into the image
Virtual Reality solutions
Pioneers and leading innovators in VR visualization

Barco is a pioneer of the Virtual Reality market, and continuously refreshes the market with innovative visualization products and solutions. Our wide product portfolio and vast experience, allows us and our partners to perfectly respond to all of your VR project demands.

In this way, we help you in your efforts to achieve a faster time to market for products, to produce oil in a safer and more agile way, to offer an optimal environment to researchers, or to amaze your customers with an immersive representation of your products.

Unique portfolio of products and services

Because Barco is active in a high number of professional visualization markets, we have the benefits of a treasure trove of in-house knowledge to design the most advanced VR systems for you. A number of unique projector features allow you to build staggering VR visualization systems that always display the right color, with the perfect brightness level and an incredibly smooth picture – even when using multiple projectors.

What’s more, Barco also offers a wide range of services to assist you when designing, installing and maintaining your system.

Total solutions

Barco is the only manufacturer that designs and produces all building blocks for total VR systems, including projectors, screens, and display management systems. We also make sure all components can be perfectly integrated in other systems. In this way, Barco gives you the total freedom to design your VR system exactly the way you want.

A comprehensive range of 3D technology

Barco is a global leader in using stereoscopic technology to engage users in shared wide immersive environments. We offer a wide range of possible solutions to create an optimal 3D experience for small or large groups. Technologies such as active stereo, Laser3D and polarized stereo are supported in one or two projector setups. Offering so many different technologies allows us to evaluate your specific demands first and then propose the technology that is best suited in your particular case.
Large-screen 3D visualization: the ultimate corporate image

Nothing makes a more lasting impression on visitors than a mind-blowing large-screen 3D system. In this way, a visualization system not only serves its main purpose – supporting design / research / manufacturing – but is also the best corporate image enhancing tool imaginable.

Remote collaboration solutions

To make in-house and remote collaboration easier, Barco offers a range of advanced encoding and decoding technology that can be perfectly integrated into VR environments. Multiple technologies including uncompressed transmission of hi-resolution content over longer distances allow users in one location to work easily together with their colleagues at a different place sharing the same virtual environment and data.
Barco’s offering to the VR market comprises a wide range of projectors, screens, display management systems, and services. In order to better structure our portfolio, we distinguish three categories to suit all your needs: Visualize, virtualize, and immerse.

**Visualize**

The Visualize range of high-quality large-data displays are ideal to visualize 2D content from multiple data sources, and for video conferencing.

**Virtualize**

Want to see your data in 3D stereo? There’s no need to visualize large rich data, nor to combine mono and stereo on the same display? Explore our Virtualize range of products and solutions.

**Immerse**

For VR applications that will completely immerse you in a virtual world, enabling you to combine mono and 3D stereo on the same display, Barco offers the Immerse range.

**High-quality projectors for VR**

Barco brings together the most forward-thinking technologies available in projection for Virtual Reality, to help achieve the most realistic image quality possible. Our wide portfolio of available projectors ensure that we can always propose the device most suited for your applications, with resolutions from 2 million to 10 million pixels, and brightness up to 75,000 lumens. Both 2D and 3D images are projected with stunning details and accuracy.
VR system components

Various screen technologies
The projection screen is a crucial element of your visualization system, influencing a number of critical characteristics where contrast is key. That’s why Barco offers a portfolio of rear-projection screens on various substrates such as glass, rigid acrylic and others, allowing you to optimize the system exactly to your application, requirements and infrastructure.

Display management systems
Our display management hard- and software allows you to control even the most sophisticated large-screen, multi-projector VR systems in a user-friendly way.

Video walls with 3D
Rear-projection 3D video walls offer a flexible and cost-effective alternative for traditional VR systems. They combine high picture quality, low total cost of ownership, and automatic brightness and color calibration — with vivid 3D stereo. Barco’s series of 3D video walls are the most shallow models on the market today, which makes them applicable in confined spaces. Optional front access even eliminates the need for a rear maintenance area. Using this highly reliable technology, Barco also offers blended cubes, enabling systems with a large canvas and limited depth.
Total display solutions

Powerwalls

Powerwalls are large screen display walls that offer a lot of possibilities. They are most commonly used as a design, collaboration and engineering tool for interacting with 3D models, or as a presentation tool for many different applications. The brightness, high resolution and color depth of the display make it the solution of choice in the Automotive, Utilities (including Oil & Gas), and Research & Design industries.

Curved displays

To immerse larger audiences into a wealth of virtual content, Barco presents its curved display walls. The curved screens, completely configurable in terms of size, resolution, brightness and positioning of projectors (front or rear projection), and are an ideal solution for venues like theaters, conference centers, universities and research institutes.

Cave displays

A cave display is a multi-sided immersive environment that offers great levels of immersion. Barco cave displays offer the best contrast and can have any number of sides, ranging from two to six, in any size you want. Furthermore, caves can be either standard or completely customizable to your specific demands, with rigid or flexible screens, high or lower resolutions, and the best suited 3D technology.
Transportable cave

The Transportable cave allows users to expand their capabilities by taking their VR expertise on the road. The system is comprised of 2 sides and one floor screen. The cave provides a simultaneous view of the content by multiple people in the same space. One key user is tracked and responsible for controlling the content, and others can be in the cave with the key user, with all parties able to interact with each other.

Compact systems

Conventional rear-projected VR systems need a lot of space to set up. If real estate space is an issue, then Barco presents seamless, compact displays based on Laser-lit video wall cube technology. This technology allows you to build systems with a limited depth. Powerwalls, curved displays and caves can all be constructed using this technology. The limited depth is also especially useful for creating rear-projected floors without heavy changes to the building.

Reconfigurable environments

Barco’s MoVE system is a multi-sided 3D stereo solution that can be adapted to any need, answering the challenge of that moment. In other words, a MoVE could be a three-sided cave display at one moment, and a large powerwall the next by simply straightening the installation. Barco MoVEs come in two flavors: either as an environment based on rigid screens (with an air cushion system to move the walls), or with flexible screens and super-light framing and mechanics, to ensure even faster and smoother system reconfigurations.

Customization

Barco’s offering of VR projects is not restricted to the proposed configurations. Our design team and partners are open for any challenge, to build exactly the system and provide the services you want and need.
Shorter time to market with virtual prototyping

80% of new car designs see their first light on a Barco screen

The virtual prototype of your new product looks quite impressive on your monitor, but how will it be perceived in actual size – and in 3D? With Barco’s virtual reality systems, designers can immediately experience their creations up close and personal. Numerous new designs, including cars and household appliances, are first seen and tested on our visualization equipment. This virtual prototyping allows designers to make adjustments in an early stage, eliminating the need for physical prototypes. The result is a drastically shorter time to market for new models. Furthermore, cave displays and powerwalls are used for sharing (for example with the boardroom) and for advanced studies.

• Virtual prototyping
• Sharing and collaboration
• Stereoscopic data review
• Advanced design studies
• Ergonomic studies
Better insight in oil exploration and drilling

Helping produce and transport over 15 million barrels of oil every day

Oil production needs a careful and very strict preparation phase. A virtual stereoscopic image of the underground oil and gas field significantly helps engineers to visualize the challenges associated with drilling. Barco's quality VR systems offer the reliability and detail needed to accurately simulate the real-life production circumstances and thus minimizing risks. Leading oil companies all over the world rely on our technology to speed up oil production and reduce costs.

- Reservoir simulation
- Well planning
- Real Time Operation Centers
- Seismic research
- Collaboration between disciplines
- Virtual training
- Risk assessment
Universities & research centers

Tomorrow’s technology is researched on Barco equipment

Broadening the horizons of over 250 research centers

Advanced research calls for advanced visualization. That’s why renowned research and design institutes use Barco technology to visualize their concepts and ideas. The level of detail and the total immersion gives users the opportunity to really step into their designs – and catch a glimpse of the future.

- Medical/bio research & training
- Computational Fluid Dynamics
- Space/Aerospace research
- Climate
Barco pioneers large scale visualization, decision making and planning

By visualizing construction sites or building projects in virtual reality, architects, engineers and stakeholders can evaluate a project before it is built. This enables them to take definitive decisions internally and externally without wasting time and budget. Not only the looks, but also the technical master plans (like HVAC and building materials) can continuously be simulated, evaluated, validated and improved. Furthermore, virtual site visits immerses a group of users into a self-contained, digitally generated and safe world that is inexpensive and practical. A shared immersive experience allows people to better see and understand the project, and provides a tremendous amount of info to a large group of people – at every stage of the design process.
Skills and expertise, around the world

Barco has the necessary experience and global reach to handle projects in all corners of the world. With offices in over 90 countries and a globally managed spare parts inventory, Barco support personnel are always accessible and dedicated to assist our customers as quickly as possible. In this way, we can reduce system downtime to a minimum, and keep you and your customers satisfied.