



## Five-fold Productivity in Field Surveys, New Possibilities in VR, & Opportunities Overseas - How the FARO Laser Scanner Changed Poporo Plant's Business

Headquartered in Kawasaki, Kanagawa, Japan, Poporo Plant Co., Ltd. is a company that engages in the survey and design of liquefied natural gas (LNG) terminals. It recently introduced the use of FARO Focus<sup>3D</sup> X 130 Laser Scanner to its processes after five years of careful consideration. Since then, the company has undergone rapid expansion due to new business areas like Virtual Reality (VR) collaborations and overseas survey projects, as well as the overall five-fold increase of its productivity in field surveys.

### Industry

Plant Engineering

### Applications

- 3D Documentation

### Benefits

- Time saving from a week to 1 day on measuring plant mechanical room
- Accurate measurements obtained from scanning

## Five-fold Increase in Productivity

Commenting on the improvement of productivity, Mr. Mitsuhsa Maekawa, Managing Director of Poporo Plant, who supervises the company's field work, shared, "With the introduction of the FARO Focus<sup>3D</sup> X 130, our team can now complete the field survey for a plant mechanical room – which is a job that used to take us more than a week with two people on the task – in just one day. This effectively translates to less than one-fifth the effort."

Founded in 1969, Poporo Plant has been engaged in various plumbing, architectural design and survey works for nearly five decades, working on plants of various sizes including LNG terminals, chemical plants, and food plants. Apart from greenfield projects, the company has taken on a growing number of plant retrofit projects of late, and this has made field surveys even more important for Poporo Plant.



Sample of the scan data obtained in a client's plant.

In surveying a mechanical room, the team would typically employ a convex (tape measure), digital camera, pencil, and a sketchbook to capture the measurements of various elements, such as complicated steel frames, piping, and valves. Where there were height constraints, the team would estimate dimensions based on photographs taken on site.

**"Ever since we started using the Focus<sup>3D</sup> X 130, we've managed to accurately capture 3D geometry of every component in spaces we've had to measure,"**

said Mr. Maekawa. "Simply by performing scans from 20 different points in a room, we can measure everything that's physically in that space, even additional facilities that may not be on the old as-built drawings. With this, we have peace of mind that it's all recorded on the point cloud data."

## Obvious Choice: Sophisticated Integration with AutoCAD

The team at Poporo Plant carefully considered their options over a period of five years, before finally deciding on the Focus<sup>3D</sup>

X 130 amongst other 3D laser scanners available on the market.

"The reason we chose FARO was because of the superb data compatibility between PointSense Plant (FARO's proprietary point cloud processing software) and the AutoCAD Plant 3D (a 3D CAD software by AutoDesk), which we use for plant design," said Mr. Maekawa.

The team uses PointSense Plant to create 3D models from point cloud, then imports it into Plant 3D with all attribute information intact, resulting in a more efficient workflow for Poporo Plant when creating models of existing plants.

Moreover, as Poporo Plant already has their major gas company clients' piping specifications pre-installed in Plant 3D, a simple click reveals alternative piping standards in a drop-down menu, allowing the team to create complete 3D models with piping attributes easily.



A technician working on a 3D model created with point cloud data that was obtained with the Focus<sup>3D</sup> X 130.

Using this 3D model, team members can create drawings and material summary tables such as piping isometrics semi-automatically.

"I like this scanner because it is compact, light, and stylish compared to other products," said by Mr. Koji Sato, sub group leader of Plant 3D Design/CG group, Plant Design Department of Poporo Plant.

## Business Expansion: VR and Drone Survey

In their experience of working on plant retrofit projects, the team at Poporo Plant found that it was difficult to help their clients understand complicated piping and facilities with floor plans or side views. In this regard, Poporo Plant's utilization of the Focus<sup>3D</sup> X 130 earned for them a good reputation among their clients as well.

"When I went to the client's office to present our survey results to their management, I was amazed to find more than 20 technicians gathered instead of a party of three, all because they were keen to learn more about the 3D measurement work we've done," said Mr. Maekawa, expressing his surprise at the

high level of interest they have received. For Poporo Plant, their clients literally helped to bring them other clients.

Currently, Poporo Plant is rapidly expanding its 3D measurement business, conducting as-built surveys of geothermal plants and solar power plants in mountainous areas. The company combines 3D measurements taken by drones with point cloud measurements obtained by the Focus<sup>3D</sup> X 130, and presents their measurement results with VR content in life-size stereoscopic views on head-mounted displays.

Clients outside of Japan have also caught wind of the company's new found technical capabilities, and Poporo Plant has been asked to provide 3D measurements of ground deformation in Southeast Asia. For Poporo Plant, not only has the introduction of the Focus<sup>3D</sup> X 130 improved its productivity, but it has also steadily revealed business expansion opportunities.



Poporo Plant creates VR presentations based on 3D scan data.

# About Poporo Plant Co., Ltd.

Founded in 1969, Poporo Plant is a plant engineering firm that engages in a wide range of work – including the design of LNG terminals and various plants, earthquake-proof/thermal stress observational study, as well as the supervision of construction work. More recently, the company started conducting 3D field surveys using 3D laser scanners and drones. Poporo Plant employs a total of 50 staff members (as at April 2017).

URL: [www.poporo.co.jp](http://www.poporo.co.jp)

## About FARO

FARO is the world's most trusted source for 3D measurement, imaging and realization technology. The Company develops and markets computer-aided measurement and imaging devices and software. Technology from FARO permits high-precision 3D measurement, imaging and comparison of parts and complex structures within production and quality assurance processes. The devices are used for inspecting components and assemblies, rapid prototyping, documenting large volume spaces or structures in 3D, surveying and construction, as well as for investigation and reconstruction of accident sites or crime scenes.

FARO's global headquarters are located in Lake Mary, Florida. The Company also has a new technology center and manufacturing facility consisting of approximately 90,400 square feet located in Exton, Pennsylvania containing research and development, manufacturing and service operations of its FARO Laser Tracker and FARO Factory Array Imager product lines. The Company's European regional headquarters is located in Stuttgart, Germany and its Asia Pacific regional headquarters is located in Singapore. FARO has other offices in the United States, Canada, Mexico, Brazil, Germany, the United Kingdom, France, Spain, Italy, Poland, Turkey, the Netherlands, Switzerland, India, China, Malaysia, Vietnam, Thailand, South Korea, and Japan.



## Featured Product

### FARO Laser Scanner Focus<sup>3D</sup> X 130

The ultra-portable Focus<sup>3D</sup> X 130 enables fast, straightforward, and accurate measurements of objects and buildings. It records architectural façades, complex structures, production and supply facilities, accident sites, and large-volume components. For more information [www.faro.com/LaserScanner/sg](http://www.faro.com/LaserScanner/sg)

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