



## Reducing Costs for Small-sized Semiconductor Factories

### FARO Design ScanArm Facilitates GCube's Dream of Developing New Business Segments

Based in Kobe, Hyogo, Gcube Inc. (Gcube) is a company committed to the optimization of facility solutions crucial to semiconductor and medical industries. Gcube's name is derived from three simple words it holds fast to — Generate, Global, and Generation. The company relies on FARO solutions to support its meticulous work involving 3D scanners, including piping and front-line work at manufacturing sites.

Gcube's main business activities are in the semiconductor industry, occupying approximately 90% of its sales, and its projects are solely in the areas of piping and electric work. However, it has steadily transformed into a whole factory service business, where the company also handles maintenance, operation, and migration of manufacturing equipment. Gcube employs a carefully considered follow-up system and solution capabilities, often valued by its clients and partners. This has helped establish the company and allowed it to continue servicing numerous manufacturing sites, including leading edge major production factories and small-sized factories, where craftsmanship is highly regarded.

#### Industry

Semiconductor and Medical

#### Applications

- Reverse Engineering

#### Benefits

- Easy and quick fabrication of replacement parts
- Shorten delivery time with the scanner

## Strategic Offering: Solutions Aimed at Lowering Factory Costs

As globalization continues to advance, the semiconductor industry faces fierce competition amidst harsh business environments. In anticipation of competitive needs, Gcube proposed an all-inclusive, streamlined package that includes facilities, tools, and consumables for semiconductor factories. Explaining the move's significance, Mr. Kenji Nishimura, Managing Director of Gcube, said, "It is our desire to continuously improve on our corporate value, and I believe the trust that our clients and partners place in us should be the motivation for our every business activity."

With that in mind, the company came up with targeted solutions for small factories to cut costs.

A significant percentage of Gcube's customers are small players within the semiconductor industry, and these companies find it difficult to constantly retool their factories, unlike major manufacturers with deeper pockets. For such companies, it is common to continue using old machinery while attempting to repair them. When replacement parts are unavailable, it becomes necessary to mold and recreate the broken part, which is costly and time-consuming.



A discontinued part can be easily replaced through the reverse engineering process — scan, model, and 3D print.

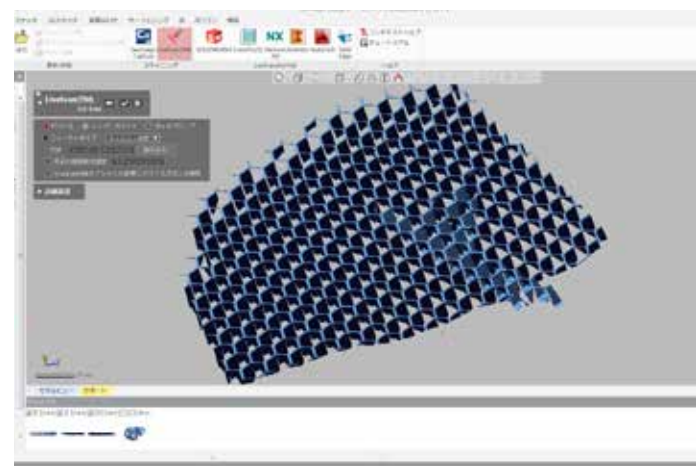
Mr. Takehiko Kobayashi, Director of Engineering Business Department, explained, "Without a replacement part, we simply cannot operate the machine. And when the machine stops, the whole factory stops. In order to solve this problem, we started looking for reverse engineering services. We thought it'd be useful to have the ability to digitize a replacement part — especially ones that are out of stock — and then 3D print it."

After a thorough evaluation, Gcube eventually decided on investing in a FARO Design ScanArm, a 3D articulated arm scanner, which it purchased in March 2017.

## Company Revitalization: Scanner Shortens Delivery Times

Mr. Kobayashi shared that they chose the Design ScanArm because it enabled Gcube to better support its clients and partners in their businesses. More importantly, the company wanted to offer a comprehensive suite of services comprising both hardware and software capabilities.

He said, "As the Design ScanArm utilizes laser-based technology, we're now able to obtain accurate 3D data and also to process that point cloud data with a powerful software suite. The ScanArm's scanning and inspection capabilities reassure us, and we also like that it is compatible with our 3D printer. FARO's sincere support has helped us a lot — such as how the team accompanied us to our clients' factories, and provided proper training of point cloud data processing, which we were not familiar with."



The Design ScanArm obtains detailed scans, even for objects with complex shapes, enabling users to process 3D data, produce CAD drawings, and perform reverse engineering.

Equipped with optically-superior blue laser technology, the Design ScanArm delivers high-resolution point cloud data at fast scanning speeds, and possesses the ability to seamlessly scan challenging products, objects and prototypes (e.g. dark, reflective surfaces) without the need for spray or targets. The device tackles objects of complex shapes easily, enabling users to process 3D data, produce CAD drawings, and perform reverse engineering.

Now, Gcube deploys the Design ScanArm at its Engineering Business Department, for the reverse engineering of parts — for both semiconductor machinery and medical devices. By commercializing this work, Gcube successfully contributed to lowering its clients' manufacturing costs.

The introduction of the Design ScanArm enabled Gcube to shorten its team's working hours. Mr. Kobayashi recalled, "In fact, since we introduced the 3D scanner,

we're able to deliver services in 1 day, instead of 2 in the past. We also found the accompanying software useful, as we're able to process data from our clients."

In addition, Gcube is keen on transmitting its know-how in lieu of the future. He added, "The greatest equipment or software amounts to nothing if it's not utilized thoughtfully. To keep up with the pace of technology advancement, we must promptly produce good results. In order to do so, we should approach the professionals rather than try to figure it out ourselves when we hit a snag. In that way, we fully trust in the support we get from FARO. Currently, I'm the one using the device most of the time, but I'd like to share the knowledge with my younger staff to energize the entire company."

## Recognizing the Need for Numerous Possibilities for New Business

Gcube actively introduced a 3D scanner and 3D printer to its fold because of an operations strengthening strategy that the company had been working on over the last 10 years. Prior to procuring the Design ScanArm, Gcube also introduced a laser scanner — Focus<sup>3D</sup> X 130 — as part of the same strategy.



To focus on its efforts to envision a new business, Gcube linked the Focus<sup>3D</sup> and Design ScanArm with two 3D printers to maximize its capabilities.

Mr. Kobayashi said, "We first came across the Focus<sup>3D</sup> X 130 when we were searching for a device that could give us precise data. We had to assess the status of our clients' factories, which is difficult to grasp with just the drawings."

With the help of the laser scanner, Mr. Kobayashi took the initiative to conduct modelling while performing scans and preparing for 3D digitization of a facility.



Gcube seeks to enter or develop new business segments in future, such as in the fields of medical and agriculture.

Recently, the company linked the Focus<sup>3D</sup> X 130 up with two 3D printers, which it procured while working on a new business opportunity in the medical field. He added, "Since this 3D scanner has numerous possibilities, depending on how it is used, we decided to see how it can help us develop new avenues for business. Gcube has a far-sighted strategy — while the device helps speed up our work, we still have to see how it impacts our sales. However, even if these efforts may not directly lead to new revenue opportunities, it is no doubt that the data we've collected will be a huge asset in the future. It'd be great if the data could lead us to enter or develop new business segments, such as in the medical or agriculture fields. We're also very positive toward adopting useful software, and we're optimistic that there'll be further benefits in the following year."

## About Gcube Inc.

Established in 2005, Gcube is a one-stop shop that offers a comprehensive suite of services — including facilities, tools, and consumables — designed to help streamline operations in semiconductor factories. The company not only offers specialized technical know-how, but also provides services that cater to various marketing needs, in order to achieve desired cost management, stability, as well as safety.

For more information: <http://g3-conception.com>

## 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 for the following vertical markets:

- Factory Metrology - High-precision 3D measurement, imaging and comparison of parts and complex structures within production and quality assurance processes
- Construction BIM - 3D capture of as-built construction projects and factories to document complex structures and perform quality control, planning and preservation
- Public Safety Forensics - Capture and analysis of on-site real world data to investigate crash, crime and fire, plan security activities and provide virtual reality training for public safety personnel
- Product Design - Capture detailed and precise 3D data from existing products permitting CAD analysis and redesign, after market design and legacy part replication
- 3D Machine Vision - 3D vision for both control and measurement to the manufacturing floor through 3D sensors and custom solutions

FARO's global headquarters is located in Lake Mary, Florida. The Company also has a 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 our FARO Laser Tracker and FARO Cobalt 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, Thailand, South Korea, Japan, and Australia.

## Featured Product



### FARO Design ScanArm 2.5C

The FARO 8-Axis Design ScanArm 2.5C is the first color capable portable lightweight 3D scanning solution providing an unprecedented ergonomic experience with both the 7-Axis or 8-Axis models. Using the new FARO PRIZM™ full color Laser Line Probe with powerful 3D design and modeling software, the 8-Axis Design ScanArm delivers high-resolution color point-cloud data enabling more insight into object design and creation, geometry, surface composition and differentiation between materials.

For more information [www.faro.com/DesignScanArm/sg](http://www.faro.com/DesignScanArm/sg)

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