



Rapid, High Density Survey for Large Areas

IP-S3 HD1 - Multiplying the Productivity of Highway Road Maintenance

FUTABA Consultant Co.,Ltd. has its head office at Iwaki-City with 3 branch offices in Fukushima and 1 branch office in Tsukuba-city, Ibaraki. FUTABA does many construction survey works, mainly in North Eastern and Eastern Japan. FUTABA is not only making use of new technologies but also developing their own technologies passionately. For example, their newly developed system, "Topographical Mapping System by 3D Laser Scanner" is registered to NETIS (New Technology Information System, certified by Ministry of Land, Infrastructure, Transport and Tourism) on November, 2013 as "Evaluated Technology." (NETIS Registration Number: TH-100021-V) We had an interview with FUTABA after they purchased the TOPCON Mobile Mapping System IP-S3 HD1.

Achieving Survey Operation Efficiency and Contribution To Local Society.

Mr. Yuichi Miura, Director and Survey General Manager of FUTABA, told us that FUTABA has always been seeking contributions towards the recovery of local society since the Great East Japan Earthquake broke



Mr. Yuichi Miura
Director and Survey General Manager

out in 2011. Mr. Miura says, "We believed our mission as a surveying company is to create precise base map data as soon as possible by surveying the large affected areas quickly and with high density scans. At that time, we were already using 3D Scanners but we decided to make a bigger contribution to local society by using the IP-S3 HD1 and increase our Survey operation efficiency more than ever."

Survey Large Areas in Short Time. Huge Information Data Generates New Opportunities!

This AT WORK case looks at the Highway Road Maintenance Inspection by IP-S3 HD1. FUTABA had to survey large areas of all highway roads in Fukushima as well as inspect road surface elements such as centerline, traffic signs, safety facilities, road surface shape and so on. The inspection used to be done with captured movie images recorded by video cameras on a patrol car. This conventional method provides only limited information due to the one directional, one time recording nature of the video camera, so it would take more time to complete the inspection and would sometimes result in traffic obstruction. FUTABA managed to secure the project as a result of proposing the use of IP-S3 HD1. Besides that, it was also evaluated that FUTABA also possessed the

TOPCON 3D SCANNER GLS-1000 since 2009 and recently the GLS-2000, enabling the company to build on many years of experience to create their own operation manual. This was a skill that was favourably evaluated by the awarding party.

Mr. Kazuhiko Sumiya, Survey Deputy General Manager of FUTABA, says, "IP-S3 HD1 solved all the problems which we had. Since the IP-S3 HD1 system can acquire 360 degrees panorama images, Position Data, and

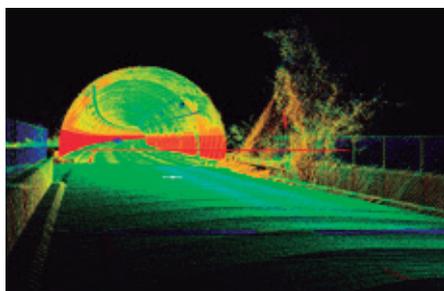


Mr. Kazuhiko Sumiya
Survey Deputy General Manager



related 3D Scanned Data at the same time, we don't have to control the lane of the roads anymore. Now we can get long distance data in a very short time. In addition, we can see the detailed location, position and shape of objects captured by the data. That is well appreciated by our client." Mr. Sumiya told us that acquiring data by IP-S3 HD1 has changed the way their clients work. They are now using panorama images instead of the conventional maps during maintenance and construction project meetings between clients and the divisions of FUTABA.

Mr. Sumiya continues, "The information data which IP-S3 HD1 can acquire is huge so inspection works have



become much more efficient. Also, for other works, the highly-density 3D scanned data is used for designing the alignment, cross section and the ground plan. We believe IP-S3 HD1 can be used not only for road maintenance but also disaster inspection, ageing facility inspection, remodeling progress inspection, before/after the construction comparison, etc."

Establish New Systems. Expanding Workscopes.

FUTABA established a "Total 3D Survey System" to deliver large scale high-density 3D data such as digitalized maps, images, etc. by using 3D Laser Scanners (GLS-2000), Mobile Mapping Systems (IP-S3 HD1) and Photogrammetry (UAV). This system will be a great asset for FUTABA. Mr. Miura says, "It is very easy to imagine that it will be fully utilized for construction surveys of ICT Construction or "i-Construction", which is now expanding. We would like to propose this system not only to our clients but also to construction companies in other areas and construction machine rental companies to make partnerships with. We trust how IP-S3 HD1 works as one of our most important instruments in our system."

Lastly, FUTABA is promoting the "FUTABA MMS Caravan" project that they opened on their website showing measured panorama images. FUTABA also provided the acquired data of this project to the local government and played the role of volunteer for recovery of the damaged area. Please also watch the IP-S3 HD1 Runs on their web site for more information.

Company: FUTABA Consultant Co., Ltd.
 URL: <http://futaba-con.co.jp/>
 Product: Mobile Mapping System IP-S3 HD1

About "FUTABA MMS Caravan" project



The project slogan is **MMS**;

"M:MINNADE (By everyone), **M:MAMOROU** (Let's protect), **S:SUBARASHII FUKUSHIMA** (Wonderful Fukushima)" By measuring the sightseeing areas and points of interest in Fukushima each season using the IP-S3 HD1, FUTABA uploaded panorama images onto the internet to promote Fukushima. As of September 2016, there are 12 movies, with changing 360 degree views, uploaded on the web site.

URL: <http://futaba-con.co.jp/gallery/movie.shtml>



* "i-Construction" is a registered trademark of National Institute for Land and Infrastructure Management, MLIT, JAPAN.