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DotProduct LLC

Yokogawa Bridge Corp

Myrtos

DotProduct partners with Yokogawa Bridge Corp. to solve 3D measurement problem for anchor bolt inspection & verification

DotProduct is proud to formally announce a game-changing new technology for construction verification developed in partnership with Yokogawa Bridge Corporation. This new solution, designed on the Dot3D platform, is purpose-built to address one of the most prevalent challenges in construction today: anchor bolt verification.

1. Previous issues

Conventionally, measurements were taken using film and rulers, but there were issues with this method, such as the measurement accuracy being dependent on the skill and experience of the person taking the measurement, and the inability to completely eliminate human error such as transcription errors.

2. Joint development circumstances

DotProduct has previously developed the 3D handheld scanner "DPI-10SG" and scanning software "Dot3D Pro" as a system for acquiring high-density, detailed 3D point cloud data in a variety of scenes, and has used these to measure the placement of anchor bolts at bridge construction sites.

In response to the needs of the field, DotProduct has partnered with Yokogawa Bridge to jointly develop a system that can measure and determine not only the placement of anchor bolts, but also their inclination.

3. About the jointly developed functions

This system automatically detects the position, surface information, and incidence angle of tags placed on the tip of the bolt and on the concrete reference surface, making it possible to obtain the position and inclination of each anchor bolt more easily and accurately than ever before.

In addition to the necessary measurements, the system instantly generates a 3D image of the anchor bolt placement and angle, and can determine the inclination of each anchor by color-coding it according to its inclination.

4. Future developments

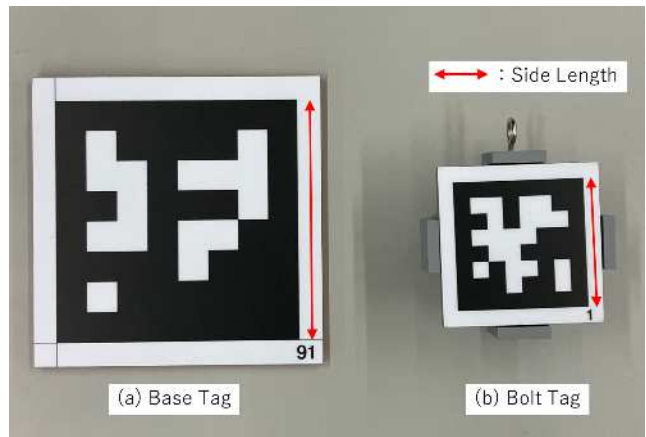
While this new software and hardware technology is currently exclusively deployed within Yokogawa Bridge Corp., both partners have expressed a strong interest in helping to resolve this problem at a much wider scale.

DotProduct plans to release a new application based on the joint solution in the near future. For sales in Japan, Mirutos Co., Ltd. will act as the primary sales agent.

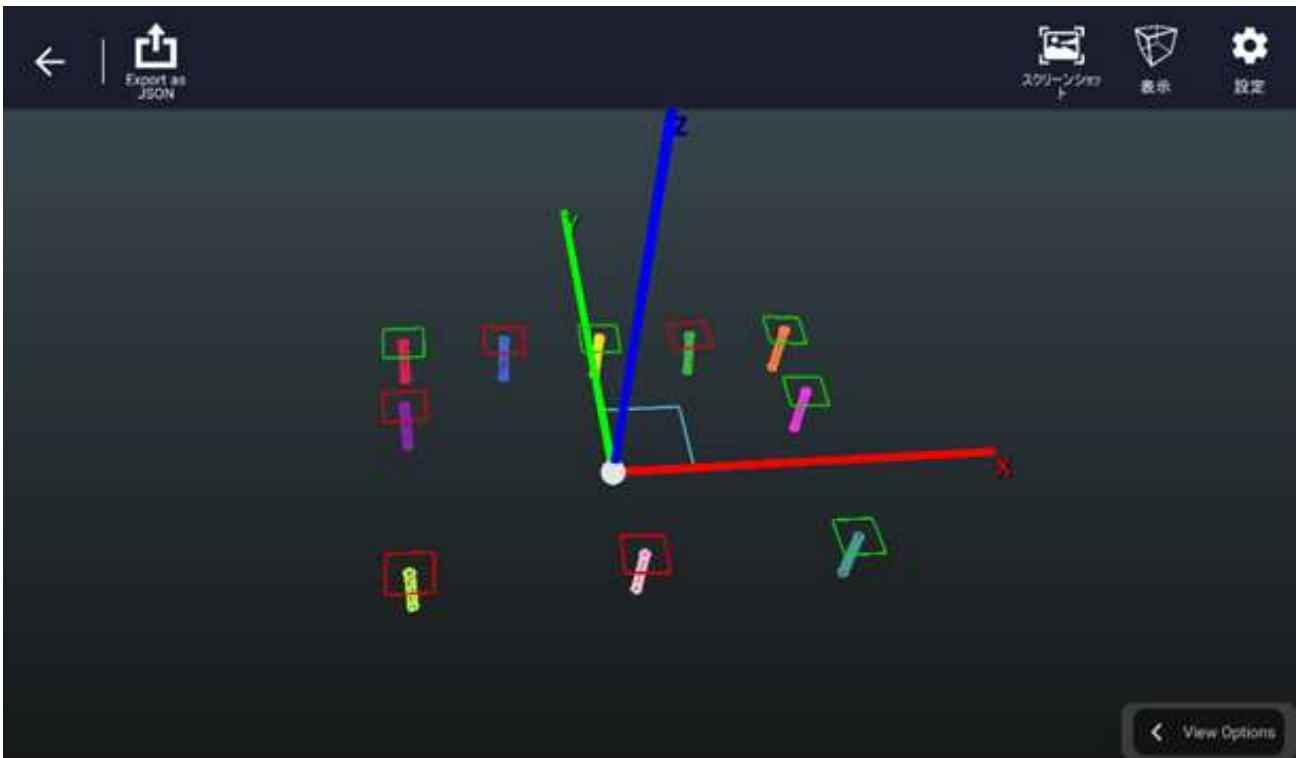


*Anchor Threshold can be set

【Dot3D Pro anchor bolt mode setting screen】



【Tags used for measurement (Base Tag, Bolt Tag)】



* Tilt judgement by color coding □ (red): NG (above threshold), □ (green): OK (within threshold)

【Measurement results (anchor placement and inclination)】



【Image of on-site measurement situation】

	A	B	C	D
1 # Tips				
2 1	-238.861	163.202	65.2066	
3 2	-117.848	164.731	63.2804	
4 3	-0.264551	161.025	65.7018	
5 4	117.79	166.847	60.5536	
6 5	241.978	163.802	68.5473	
7 6	-240.463	59.8385	65.964	
8 7	242.25	56.9887	67.1653	
9 8	-240.771	-167.156	65.3892	
10 9	3.2709	-163.168	64.2979	
11 10	243.616	-161.863	67.6206	
12 # Roots				
13 1	-238.432	164.545	0	
14 2	-116.883	161.698	0	
15 3	-0.720758	160.365	0	
16 4	123.336	162.459	0	
17 5	240.057	163.579	0	
18 6	-238.373	55.993	0	
19 7	242.392	56.2297	0	
20 8	-239.406	-165.3	0	
21 9	1.3062	-164.33	0	
22 10	242.558	-163.477	0	

【CSV output image】



About Yokogawa Bridge Corporation

Yokogawa Bridge Corporation is a bridge manufacturer that designs, manufactures, constructs, diagnoses, repairs, and supervises the construction of steel structures such as bridges, steel frames, steel towers, and steel pipes. The company was established in 1907 and has a factory in Sakai (Osaka). The Osaka factory has a site area of 125,413 m² and has a monthly production capacity of 5,000 tons. The company has worked on many projects, including major projects such as the Akashi Kaikyo Bridge, one of the world's largest suspension bridge, and has firmly established its reputation as "Yokogawa of Technology" with its high technical capabilities and abundant experience. The company is also actively expanding into overseas projects such as the Hong Kong Stonecutters Bridge and the Vietnam Railway Bridge.

Yokogawa Bridge Website: <https://www.yokogawa-bridge.co.jp/en>



About DotProduct LLC

Founded in 2012, DotProduct develops high performance, easy-to-use solutions for capturing 3D data. Its flagship Dot3D software powers a full suite of handheld 3D capture solutions across the latest tablet, phone, and 3D sensing platforms. The technology is designed for mobile professionals who need quality spatial data, instantly. Dot3D software turns Android, Windows, and iOS phones and tablets into real-time 3D-capture and processing solutions for the job site. Applications include construction, shipbuilding, utilities, architecture, facility management, engineering, public safety, forensics, archaeology, and much more. For more information, please visit www.dotproduct3d.com.



About Myrtos Corporation

Myrtos was founded in 2003 and is a company that develops 3D business optimization tools, providing tools from multiple overseas manufacturers in Japan that enable more efficient operation of the business environment using 3D data in the manufacturing industry. Since its establishment, the company has been involved in the development of CAD/CAM tools, CAD data conversion tools, 3D mice, etc., and has promoted and streamlined the operation of 3D data for many companies. Currently, the company serves as the agency in Japan for scanning apps such as the Dot3D series and 3D business metaverse tool iQ3 Connect, helping many companies that are struggling with 3D data utilization to achieve 3D business efficiency.

Myrtos website: <https://www.myrtos.jp>

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