MTO Bridge
Scarsdale Bridge Site
Created 7 months ago

NEWEST INSPECTION
Nov22nd2021
939 files at 1.0 GB
Created 7 months ago
Completed

Anomaly No. 1

Type	Spalling
Latitude	44.510176
Longitude	-80.222907
Image	DJI_0074.JPG
Area (sq. m)	0.007324
Status	Request for repair

IMG34900395.jpeg   Markup

Aug 24, 2022 15:42 BST

Kongsberg Maritime launches ScanFuse powered by Qii.AI

Oslo, Norway, August 24, 2022 – Kongsberg Maritime's Sensors and Robotics Division has released ScanFuse™ powered by Qii.AI®, a web-based software application that enables Civil Engineers to create comprehensive mosaics of maritime assets above and below the waterline by harnessing the power of artificial intelligence and machine learning.

Civil Engineers use sonar images to assess the structural integrity of waterfront facilities and structures such as port wharfs and berths, bridge piers and dams. These images assist engineers to determine whether

hydraulic scour threatens the structure, identify degradation of the materials of construction that require remediation, and identify changes to identified areas of concern over time. The American Society of Civil Engineers, the United States' Federal Highway Traffic Administration, and the United States Army Corps of Engineers include sections on sonar inspection in their respective manuals for infrastructure and bridge inspection.

Civil Engineers can create sonar images for assessment using high-resolution single beam sector scanning sonar like Kongsberg Maritime's 1171 sonar or using multibeam sonars that create 3-D point clouds. While 3-D images can be created rapidly and cover large areas, they do not have high resolution and do not capture 100% of the surface being scanned. The best images for civil engineering assessment and use are captured by using high-resolution single beam scanning sonars.

One drawback of high-resolution scanning sonars is the requirement to splice multiple images together to create a complete image of the structure. Prior to ScanFuse, this work had to be done manually using image processing software like Photoshop. This requires an understanding of the sources of sonar image distortion associated with differences in the speed of sound in water due to temperature and salinity gradients. Image interpretation, particularly with respect to shadow, requires a significant amount of operator experience and skill. These skills, unless refreshed regularly, degrade over time.

ScanFuse allows the civil engineer to load multiple individual sonar images into the application. ScanFuse then creates a mosaic of all the images automatically. The civil engineer can then start to use the machine learning feature of the software to identify areas of concern such as regions of scour, cracks in concrete, damage or corrosion to submerged structures like piles and dolphins, or unidentified debris of concern. As the civil engineer works with the software, the machine learning capability becomes smarter, and the user benefits from being presented areas of concern that are pre-identified by the software for analysis and decision-making.

ScanFuse takes inputs from other imaging technologies above the waterline such as high-resolution geo-referenced photographic images, LIDAR point clouds, FLIR data, and thermal images, to create 3-D digital twins of an asset above and below the waterline. Kongsberg will be exhibiting ScanFuse at the ASCE's Ports 22 conference in Honolulu Hawaii from September 18-21, 2022.

Kongsberg is also proud to partner with Northwestern Michigan College and their infrastructure inspection micro credential. ScanFuse image generation is a part of this program. This micro credential is targeted to civil engineers who are responsible for inspecting and assessing marine infrastructure below the waterline.

Ends

For further information, please contact:

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About Kongsberg Maritime

Kongsberg Maritime is a global marine technology company providing innovative and reliable 'Full Picture' technology solutions for all marine industry sectors including merchant, offshore, cruise, subsea and naval. Headquartered in Kongsberg, Norway, Kongsberg Maritime has manufacturing, sales and service facilities in 34 countries.

Kongsberg Maritime solutions cover all aspects of marine automation, safety, manoeuvring, navigation, and dynamic positioning as well as energy management, deck handling and propulsion systems, and ship design

services. Subsea solutions include single and multibeam echo sounders, sonars, AUV and USV, underwater navigation and communication systems.

Kongsberg Maritime is part of Kongsberg Gruppen (KONGSBERG), an international, knowledge-based group that celebrated 200 years in business during 2014. KONGSBERG supplies high-technology systems and solutions to customers in the oil and gas industry, the merchant marine, and the defence and aerospace industries.

Web: Kongsberg Gruppen | Kongsberg Maritime

Social media: LinkedIn | Twitter | Facebook

About Qii.AI

Qii.AI is a web-based platform that empowers remote, collaborative inspections of critical infrastructure assets such as bridges, dams, and wind turbines. Qii.AI uses computer vision and machine learning to improve the inspection process with computer-assisted detection and quantification of corrosion, cracking, delamination, and other problems in steel and concrete structures. Qii.AI is the only provider of visualization software for infrastructure inspection data that merges below the waterline (sonar) data with above-the-waterline (visual, thermal, lidar) data, to provide a single, wholistic view of your asset.

Web: Qii.AI

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