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Introducing 3D Digital Twin Solutions to Mitsubishi Gas Chemical Company Inc. in Japan

Chiyoda Corporation (Chiyoda) has reached an agreement with Mitsubishi Gas Chemical Company, Inc. (MGC) to implement Visionaize's V-Plant ^{*1} within its Niigata Plant, a 3D digital twin solution forming part of Chiyoda's plantOSTM ^{*2} total operation and maintenance (O&M) solution platform.

V-Plant visually and centrally manages siloed data in plant operation and maintenance utilizing 3D models. Large installation costs have traditionally been a barrier to 'as-built' 3D models, but V-Plant enables the gradual implementation of virtual space digital twins in the business case, justifying costs with a crawl, walk, run approach supporting 360° scan images, mesh models ^{*3} and ultimately full 3D models ^{*4} on a single platform.



1. 360° Image



2. Mesh Model (V-Plant Image)



3. 3D Model

<V-Plant Images>

MGC produces various chemical products on a site area of approximately 1 million square meters within its Niigata plant. Introducing a 3D digital twin solution to manufacturing plants, and combining the robust capabilities of Visionaize V-Plant with Chiyoda's expertise, supports MGC to optimize maintenance costs, boost employee productivity and improve worker safety.

Chiyoda will continue to support MGC plant operations by providing a comprehensive approach to the construction & maintenance of 3D models, management and operation of the platform and providing one-stop solutions for future upgrades and expansions. Through these businesses, Chiyoda continues contributing to the realization of a sustainable society under our purpose of 'Enriching Society through Engineering Value'.

^{*1} A 3D Digital Twin platform developed by Visionaize as an essential part of plantOS.

<https://visionaize.com/>

^{*2} Chiyoda Corporation Trademark

^{*3} A digital surface model representing an object in 3D, consisting of corner points (vertices), edges and individual parts (polygons).

*4 A three-dimensional digital model reproducing real-world structures and facilities. As the shape, dimensions and structural features can be visually confirmed, the system is increasingly used in a wide range of operations, including design, inspection and maintenance. It also enables remote status checking for rapid 'real-time' decision making on site.

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