



# Operational Excellence Services

## Smart O&M Solutions INTEGNANCE VR Fast Digital Twin Maintenance Viewer



### Contact Us

➡ [Technology Inquiries](#) | [Contact Us](#) | [JGC HOLDINGS CORPORATION](#)

### Access to Our Homepage

➡ <https://www.jgc.com/en/business/epc/operation-maintanance/service/>

# INTEGNANCE VR-Fast Digital Twin Maintenance Viewer

## Do you have any of these issues?

- ☹️ **Struggling with promoting DX to aging plant which doesn't have 3D model**
- ☹️ **Wasting time on Site Visit for repair work planning, inspection planning, and daily maintenance work planning**
- ☹️ **Outdated or missing blueprints**

## Our Solutions

- Our "Fast Digital Twin" replicates your plant as 3D model within 3 days at the earliest
- Without going to the site, maintenance planning can be developed via web
- Direct recording into a 3D model with tablets on-site is an efficient way to share site data without the need for blueprints



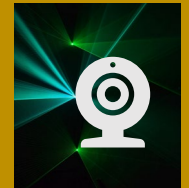
## 3D scanning



Wearable 3D Imaging Scanner



Drone



Imaging Laser Scanner

(\*)INTEGNANCE VR is developed by Brownreverse which is one of JGC group companies.



# INTEGNANCE VR-Fast Digital Twin Maintenance Viewer

## Key Features



### 3D Simulation

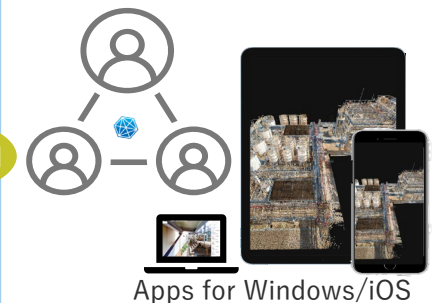
Planning of scaffolding area, Checking of material delivery routes, complicated construction, etc.

### Desktop Survey

Measure the length between two points on the display without reading the drawing or measuring the actual length in the site.

### Anytime Anywhere Access

No special hardware required.  
Easy sharing thru URL.  
collaborative editing by multiple users.



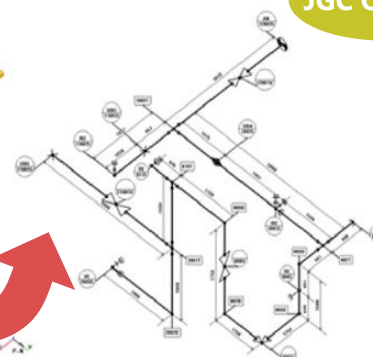
### Automatic Piping Recognition

JGC Original

Mapping of corrosive loops and corrosion /damage focus areas on 360 panorama image

### Automatic Isometric Output

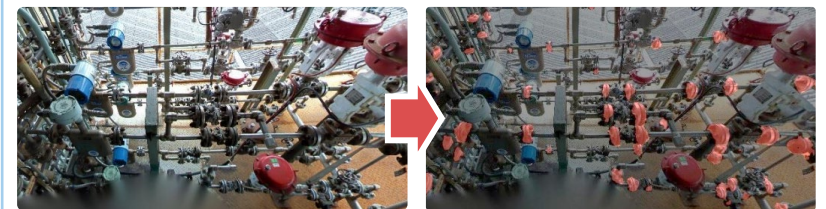
JGC Original



### Automatic Flange/Valve Detection

JGC Original

Auto detection of flanges/valves positions from 360 panorama image by utilizing AI machine learning technology



# INTEGNANCE VR-Fast Digital Twin Maintenance Viewer

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## Use Case

Direct recording of 3D model into tablets on-site saves 22,500hr from 50,000hr annually. (45% reduction\*)

## System Integration

Integrating data infrastructures\* with WEB API makes it easier to reference and update related information on INTEGNANCE VR.

**BEFORE**

- Outdated drawings
- With sketching
- Complicated to manage

• Difficult to identify managing location

• Field survey is essential for planning

**AFTER**

- Direct on-site recording  
⇒ Reduction of time and work for preparation and reporting
- Check information all at once  
⇒ Optimized planning
- Record location information  
⇒ Efficient information sharing

Photographs/details/incidental work, etc.  
Record all related information together

\*5,000 cases annually

## Our Experiences

### Over 50 Sites

INTEGNANCE VR has been adopted to over 50 sites.

#### Recent news:

INTEGNANCE VR was adopted for an ammonia production base in Indonesia for a joint study on reducing GHG emissions.(Sep 2024)

Providers  
under consideration

DataOps

COGNITE  
[CDF]

AVEVA  
[AIM]

HEXAGON  
[SDx]

Facility/operation  
management

FUJITSU  
[PLANTIA]

YOKOGAWA  
[PI-System]

IBM  
[Meridium]

construction/  
inspection  
management

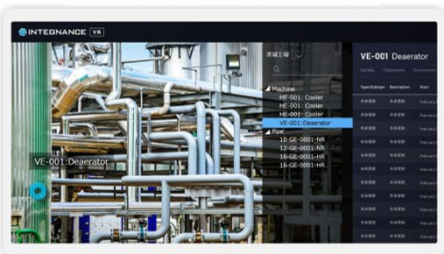
JGC  
[A-MIS]

VALQUA  
[SPM]

CoreSafety

API  
Linkage

INTEGNANCE



viewer

\*PoC with various providers is being implemented and discussed based on requests from clients.