

Smart Factory Messaging



Factories are getting smarter everyday. More systems and assets communicate at high speed, using all kinds of protocols. As operations technology (OT) gets agile, there's always new messaging dynamics.

Have a need to optimize data exchange?

In order to be successful, manufacturers rely on accurate and secure exchange of data between operations systems, applications and instruments. The CGI FIT Messaging solution enables transparent communication. We offer cost-efficient and easy access utilizing valuable messaging insights as part of CGI consultancy services.

We can help tailor to your specific challenges and diversity of the systems landscape by using building blocks provided by the CGI FIT Messaging's uniform communication platform. Insights are put in context from extensive experience working with many clients globally. Our expert members have been using this particular solution in many setups in all parts of manufacturing factories, globally. Configuration is easy and flexible to change. CGI FIT Messaging' monitoring tool makes troubleshooting very much hands-on and insightful.

How does it work?

Usually we start with expert conversations to address specific factory and more of the operational demand or opportunity. When it comes to optimization data exchange we can help guide the installation and the configuration of the relevant messaging. In some factories, your own staff can follow up with maintenance and occasional troubleshooting. Most factories bring this sort of work to our Manufacturing Center of Excellence where we can cover for continuity in support and service.

What standards are supported?

We typically have a number of questions related to communication standards specific to the industry and relevant factory operation.

- **Device communication** - Connecting existing applications for badge readers, RFID scanners, or intelligent devices. Messages are mostly exchanged using Serial or TCP/IP endpoints.
- **PLC communication** - Offering TCP/IP communication with PLCs. This is a reliable and high performance connection. In addition, CGI FIT Messaging allows for OPC and MQTT connections.
- **Level 4 communication** - Offering extensive opportunity for communication between ERP and Manufacturing Execution



Benefits from Smart Factory Messaging:

- Exchange any type of information in any type of format between any type of system
- Increased transparency through uniform information exchange between applications, systems and instruments
- Improved performance through rapid response from and to relevant instruments
- Improved maintainability and configurability through the use of a standard set of communication end-points and commonly used Microsoft technology
- Increased reliability of information exchange thru retry mechanisms, notifications and event logging
- Improved stability through the use of proven communication patterns

Systems. Endpoints like File and MSMQ are readily available for this sort of information exchange.

FIT for the future

The number of interfaces we come across in working with our clients is ever evolving and always expanding. Our solution and framework is standardized and flexible, given its modular structure. We can offer support for new modules when a new situation or protocol comes up.

Basics include...

- Set of configurable end-points for various connections and protocols.
- Up-to-date functionality, with custom made Microsoft .NET end-points or custom code for handling a received message.
- High transfer rates, for up to 80 messages per second, designed for high response rates necessary in manufacturing operations.
- Retry mechanism for message delivery after re-establishing connection.
- Notifications, like automatically sent emails, whenever system errors or communication problems occur.
- Security authorization settings for defining access or viewing rights.
- Log events on several levels of detail for tracking of incidents, in windows events log, or file.
- Monitoring and configuring service with the Management Application.
- Hosting multiple FIT Messaging services as a Windows Service.

Interested?

CGI has been implementing its FIT Messaging solution on sites of a lot of manufacturers around the world already. The proven interfaces handle a variety of data exchange between many mission-critical systems. **Contact us to learn more about the improvements and valuable insights we can bring to help optimize your operations.** Our structured approach towards smart data exchange interfaces will enable your organization to become more agile and data driven.

About CGI in Manufacturing

With our Manufacturing Center of Excellence (CoE) we work on realizing sustainable manufacturing services enabling our clients to translate their ambitions into results for business operations and customers. Under the motto "produce smarter", the CoE focuses on the digital transformation in Manufacturing.

We bring IT modernization and innovative manufacturing solutions aimed at sustainability and business growth. At the same time, we help clients to use information- and operational technology securely and thus make them more resilient against cyber threats.

We prefer to help our clients realize the necessary improvements from start to finish. We have been working for large international companies in chemicals, life sciences and food & feed for more than 40 years. Our MES / SCADA and PLC experts work with our own modular TH3000 system, but also with Camstar, Aveva Wonderware, OSIsoft, AspenTech and Progress, for example.

"Optimizing our messaging with CGI has helped us to make various applications communicate with each other.

Thousands of messages are processed every day, reliably and we don't have to worry about it. Working with CGI makes it easy to expand with new message channels."

Global Life Sciences company,
Principle Engineer

About CGI

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world. Operating in hundreds of locations across the globe, CGI delivers end-to-end services and solutions, including strategic IT and business consulting, systems integration, intellectual property, and managed IT and business process services.

For more information

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