# SUCCESS STORY

## CASE STUDY

## PERFORMING A VIRTUAL FAT FOR COMBUSTION GAS ANALYSIS

As part of a project to supply a Thai olefins production facility with gas analyzers for its cracking furnaces, Servomex established a virtual factory acceptance test procedure to meet project management TechnipFMC's requirements during the COVID-19 pandemic.

### THE CUSTOMER

TechnipFMC is a global leader in the energy industry, delivering project management, engineering and construction services to customers around the world.

With headquarters in Paris, Houston and London, it employs approximately 37,000 people in 48 different countries.

For this project, Technip was working with MAP TA Phut Olefins Co., Ltd in Thailand, providing equipment for its cracking furnaces at a Thai olefins production facility.

### THE CHALLENGE

Cracking furnaces are needed to produce olefins such as ethylene, which is a critical building block for the petrochemical industry and is used in the manufacture of important chemical intermediates such as ethylene oxide to produce plastics, antifreeze, and other solvent-based products.

In the furnace, feedstock gas, such as ethane, propane, naphtha, or gas oil is "cracked" which causes breakdown and re-arrangement of the molecules to give ethylene.

Technip was looking for a gas analysis solution for safe control and operation of these cracking furnaces.

It also required a factory acceptance test (FAT) to be carried out to ensure the correct operation of the system on delivery, but travel restrictions and safety precautions during the COVID-19 pandemic made it difficult to conduct this in the traditional way. The customer asked Servomex to find a flexible way in which the FAT could be accomplished.

# THE SERVOMEX SOLUTION


Servomex was awarded the project to supply Technip with three SERVOTOUGH Laser 3 Plus Combustion analyzers, configured for dual measurement of carbon monoxide and methane, along with purge panel systems.

To meet customer requirements for a FAT, a procedure was put into place to hold the test virtually.

Typically, a FAT is initiated by customer request. The customer provides a list of requirements, including the variety of tests and documents that they wish to witness or review. Test protocols are agreed with the customer, and dates arranged.

Servomex carries out a pre-FAT as standard, to ensure that the actual FAT will be completed successfully, and that issues are identified as early as possible.

When the customer attends the site, Servomex experts then run through the tests and documents agreed on the protocol and sign off on both the test results and the completeness and accuracy of the documentation.

When all the requirements have been signed off by both parties, the customer then gives the green light for the order to be shipped.

A further benefit of the FAT is that it gives customers the opportunity to ask questions about the product and learn more before they receive it on-site.

For the virtual FAT performed for Technip, the same procedure was followed, including a complete pre-FAT. However, instead of the customer attending the Servomex site, the FAT was conducted over Microsoft Teams.

A webcam was used to show the customer the analyzers and the tests as they were carried out. Documents were reviewed either via screen-sharing or by being sent to the customer in advance.

The FAT was conducted by Undergraduate Applications and Support Engineer Matt Hollis, supported by Application Manager Karen Gargallo and System Engineering Manager Ladislav Kuzma.

***"The FAT was completed successfully, and the customer signed off the paperwork a few days later. The system and analyzers have now been delivered to the customer.***

***The process always gives the customer the chance to ask questions about the analyzer – such as its operation and maintenance – and, as we anticipated, there were more questions than usual due to the virtual conditions of the FAT.***

***We expect this kind of virtual FAT to become much more common in the future, so this experience will help us work towards a set-up specifically aimed at this kind of process."***

**Matt Hollis,**
**Undergraduate Applications and Support Engineer**