

The background image shows a complex industrial environment with various pieces of machinery, cables, and structural elements. Overlaid on this are several white and orange rectangular shapes, some of which contain text. The text is arranged in a clean, modern layout. The word 'CASE' is in orange, while 'Manufacturing Technology Centre' and 'Factory in a Box (FIAB)' are in dark blue. The overall aesthetic is professional and technical.

CASE

# Manufacturing Technology Centre

Factory in a Box (FIAB)

 Live-link your assets and facilities.

**ULTIMO**

# INTRODUCTION

EXPERTS FROM THE MANUFACTURING TECHNOLOGY CENTRE (MTC) APPROACHED ULTIMO SOFTWARE SOLUTIONS IN EARLY 2018 TO BECOME ONE OF THEIR TECHNOLOGY PARTNERS TO DELIVER THEIR FACTORY IN A BOX PROJECT (FIAB).

THIS WAS DEVELOPED THROUGH THE SMART MANUFACTURING ACCELERATOR FRAMEWORK DESIGNED TO REDUCE TIME TO MARKET FOR LEADING EDGE TECHNOLOGIES WITHIN UK BUSINESSES. THE MTC WERE TO DEVELOP AN INDUSTRY 4.0 DEMONSTRATOR AND PARTNERSHIP FRAMEWORK TO DELIVER THIS INNOVATIVE TECHNOLOGY.

## OUR SOLUTIONS

*"The Factory in a Box project is relevant to both large companies and start-ups. Start-ups can see how they can use this tool to get to market faster; an investor can see how they can get their start-up to market faster and the big corporates can see how they can apply it to a traditional large-scale manufacturing environment. I've been thoroughly impressed with the entire project."*

**Neil Rawlinson**  
Strategic Development Director – The MTC

### FACTORY IN A BOX (FIAB)

A Factory in a Box (FIAB) is a rapidly deployable, remotely managed factory enabled by industrial digital technologies. The FIAB Demonstrator was built to show how manufacturers could adopt the latest digital technologies, which could be easily expanded, enable speedy ROI, and have the capability to be remotely managed.

The FIAB showed an intelligent maintenance management system. End-to-end predictive maintenance with automated work order management. As part of this partnership Ultimo provided their cloud based and fully mobile Ultimo Maintenance Management software.

The delivery of planned and predictive maintenance was managed by Ultimo software based on automatic alerts delivered by Senseye PdM linked to asset degradation events. This complete predictive maintenance system was delivered thanks to the smart integration of IIoT sensor technology and the manufacturing execution management system (MES).

This development and integration of numerous technologies cumulated in an event hosted at the MTC in Coventry in March 2019, where industry academics and manufacturers were invited to see how this technology had been implemented within a shipping container which was managed remotely. This demonstrated its complete portability.

"The factory in a box demonstrates Industry 4.0 in action," says Andrew Dixon, Ultimo UK Account Manager.

"By integrating our software with other technology partners' solutions, the factory in a box can process meaningful data for end users – both engineers and management – to analyse.





#### WHAT DID ULTIMO SOFTWARE DO?

Ultimo played an important role in demonstrating the practical implementation of Industry 4.0 technology, as well as to evidence all aspects of Asset Management required for the "Factory In a Box." This showcased how industry can gain a better insight into their assets and deliver efficient maintenance. This leads to downtime reduction, performance improvement and life span extension of assets.

All planned and reactive maintenance tasks generated from the FIAB are scheduled and assigned to the engineering workforce.

For condition-based maintenance tasks, Ultimo is triggered via automatic alerts delivered by Senseye PdM linked to asset degradation events based on IIoT sensor data analysis. Senseye PdM accesses sensor data via a cloud historian and delivers automatic analysis and alerts based on Machine Learning models to increase assets availability over time. The engineer will feed back the outcome of the work/maintenance event to Senseye PdM via Ultimo. This approach, based on Senseye technology, aims at increasing the accuracy of the detection, diagnostic and prognostic results for Predictive Maintenance.

We provided our technical and industry knowledge for the implementation of the software. This included the creation of an Asset Register, lifecycle management of assets as well as integration with 3rd party systems. This integration with Senseye PdM evidenced the capability of predictive maintenance on the project.

#### WHY THE MTC CHOSE ULTIMO

The MTC chose to use Ultimo as the maintenance management system for the Factory in a Box 1, following an extensive down selection," says Tom Winter, Advanced Research Engineer – Data & Information Systems, at the MTC.

"The product met all of the project requirements and stood out thanks to its ability to integrate using open APIs. The product's ease of use and customisability were also of a high standard for the project."

Commenting on the working relationship with Ultimo, Tom said: "Working with Ultimo has been straight-forward and easy right from the start. The relationship has been smooth throughout, from the sales and business agreements, all the way through to support and aftercare. Technical support queries reap quick responses from knowledgeable engineers."

#### FURTHER PARTNERSHIP COLLABORATION

This journey began with the MTC bringing together technology partners as part of their SMA framework. And the end of 2019 saw an official partnership begin with Senseye and Ultimo.

*"Following the success of our collaboration with Senseye on the MTC's Factory in a box project, this formalised working partnership brings together our globally recognised strengths in enterprise asset management and predictive maintenance and expands our offering as a complete EAM solution"*

**Ewout Noordermeer**  
MD of Ultimo Software Solutions

#### WHAT NOW?

"The implementation of the Smart Manufacturing Accelerator and FIAB has huge potential within emerging markets," says Andrew.

"It will enable a business to rapidly scale up and deploy a supply chain to get products to market quicker, resulting in a lower manufacturing cost. The use of digital technologies within the FIAB highlights what can be achieved for the wider manufacturing sector through collaboration between technology suppliers; it realises Industry 4.0 and IIoT sensor integration, something which is often talked about but not yet readily available."



**Andrew Dixon**  
Account Manager  
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# LIVE-LINK YOUR ASSETS AND FACILITIES.

The world is in a whirl, and it revolves around all your objects and equipment at the speed of light. If you are the one responsible for maintenance, facility or IT in your organisation, you want nothing more than your assets constantly letting you know whether they are still compatible with this world. And if you are responsible for more than that you want this as well. After all, your assets may require your attention in a more general, or even financial, way. Ultimo will be sure to pass on the crucial signals about your assets. So you can pick up on them and act decisively. Are you listening?

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