

TP Thermoplastic Expansion FEED (Silo, Devo and Melt Cooler)

Duration: 2022 - 2023

Project Value: £1.55m

INTRODUCTION TO THE PROJECT

In 2022, Addison Project was engaged by a chemical client to support a large project which was to expand the current thermoplastics process due to forecast of demand increasing over the next 5 years. The project was split into three smaller projects to allow a team of engineers from both client side and the Addison team to progress through different stages.

Melt Cooler: FEED, Detail Design & Construction – initial part of the project to reduce bath cycle times of two of the grades produced.

Devo: FEED – With the expansion of the processing plant required to achieve the forecast demand, plant modifications and introduction of an additional line were required.

Silo: FEED – New silos to be installed to minimise the risk of contamination, consisting of four new bulk silos and a dedicated blend silo.

SCOPE OF THE PROJECT

Melt Cooler:

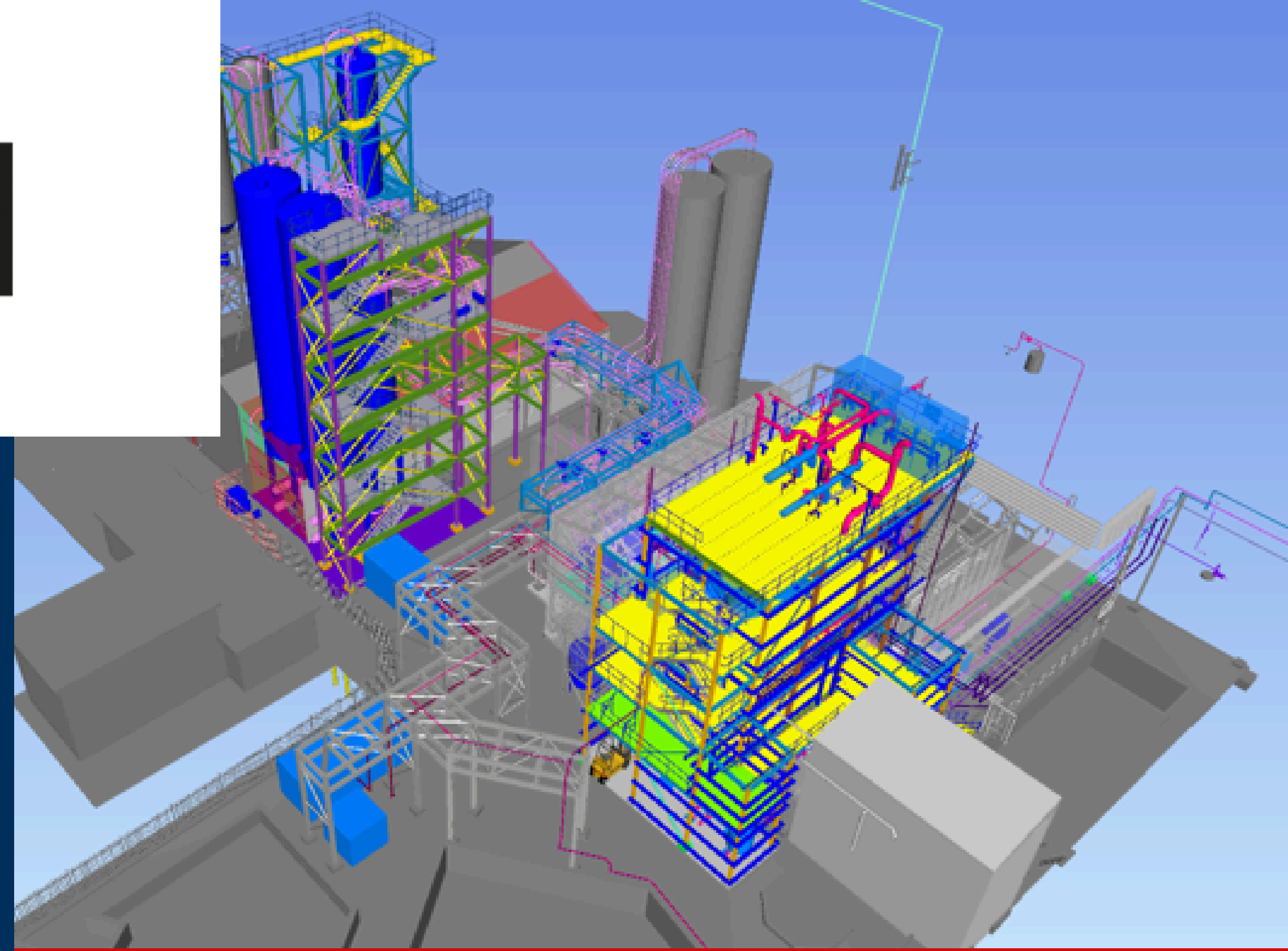
Addison scope initially included a +/-30 & 10% FEED package to support the installation of the upgraded system to reduce the batch cycle times. This was then followed up with the Detail Design phase with additional scope added in to support the installation of the Devo & Silo at a later date and installed on site in 2023.

Devo:

Addison scope included a +/- 10% FEED which required an existing warehouse being converted into a three-story building with roof deck. Due to the additional production line the space was required, all equipment positioned and pipework between equipment following the process routed. All relevant electrical cabling and control was reviewed and a new MCC building was designed to support the expansion. The complex building structure was designed structurally with civil design input and piling details reviewed around existing equipment and foundations. The design was complete to FEED stage and a TIC cost put together by the multidisciplinary team using estimates, quotations and equipment/package costs for client submission.

Silo:

Addison scope initially included a +/-30 then followed by a 10% FEED, this added the additional four off 20m bulk silos onto a new designed piled foundation which was the corner of an existing warehouse which required destructing to allow the installation, an additional Bulk Silo which supports fed through the warehouse was designed. All the connecting pipework from the new production line and two existing lines were routed to the new silos for storage and then routing to the blend silos for final processing. The design was complete to FEED stage and a TIC cost put together by the multidisciplinary team using estimates, quotations and equipment/package costs for client submission. unfortunately due to funding the Devo and Silo project didn't proceed past FEED stage but hopefully the projects will be revived at a later date.



HIGHLIGHTS

- This was a large scale, Multi-Disciplinary Project, with the Melt Cooler being the smallest aspect. However, due to space constraints it was a difficult installation for access.
- The FEED design work showcased our ability to work on a collective model with clients and control costs in line with completion.

ADDED VALUE

The Scope on the Melt Cooler expanded to include the incorporation of other elements. Our team initially looked at enabling works for the Silo and Devo elements whilst the project was working towards FID and provided further support with our Process Engineering team working alongside the client. We adapted our own methods to carry out the pipework modelling in a software package chosen by the client to utilise an existing model.

