Case Study: Imperial College – Metal 3D Printing Facility

Client: Imperial College London

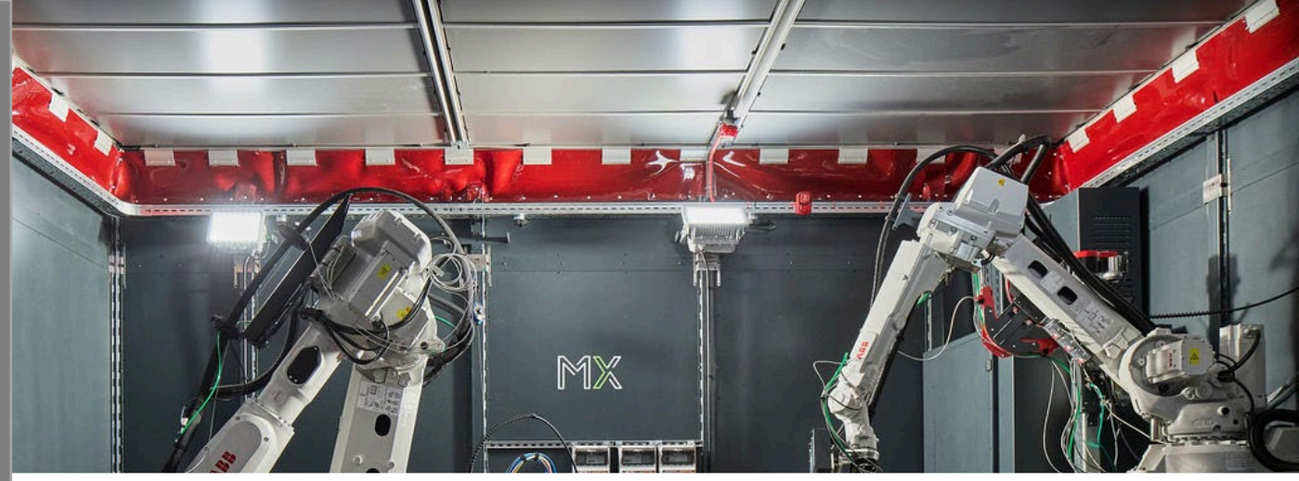
Location: Central Teaching Building

Sector: Higher Education / Advanced Manufacturing

Duration: 3 Months

Contract Type: Design & Build (with Services Consultant Novation)

Completion: On Time & Within Budget



IMPERIAL COLLEGE LONDON

Project Overview
Quest Interiors was appointed by Imperial College to deliver a pioneering project: the creation of the **UK's first metal 3D printing facility**. This highly specialist installation required precision engineering, advanced services coordination, and robust safety measures to support cutting-edge research and manufacturing.

Scope of Works
- Progression of design from **RIBA Stage 3 to completion**, with novation of the services consultant to Quest Interiors.
- Construction of a **90-minute fire-rated enclosure**, including structural steel reinforcement to support the weight and dynamic load of the MX3D robotic arm.
- Full coordination and installation of **specialist services**, including **gas supply systems** tailored to the robot's operational requirements.
- Development and implementation of a **bespoke Local Exhaust Ventilation (LEV) system**, designed to cover the entire robot enclosure and ensure safe extraction of fumes and particulates.
- Integration of all services within a **live teaching environment**, requiring careful planning and minimal disruption.

Challenges & Solutions
The project's complexity was heightened by its location in the heart of a busy academic building and the technical demands of housing a large-scale metal 3D printer. Quest Interiors worked closely with Imperial College and MX3D to ensure all structural, safety, and service requirements were met without compromising the building's functionality.

Outcome
Delivered within a tight 3-month programme and fixed budget, the facility now stands as a landmark in UK manufacturing research. Imperial College has gained a state-of-the-art space that supports innovation, safety, and collaboration in advanced 3D printing technologies.

QUEST INTERIORS