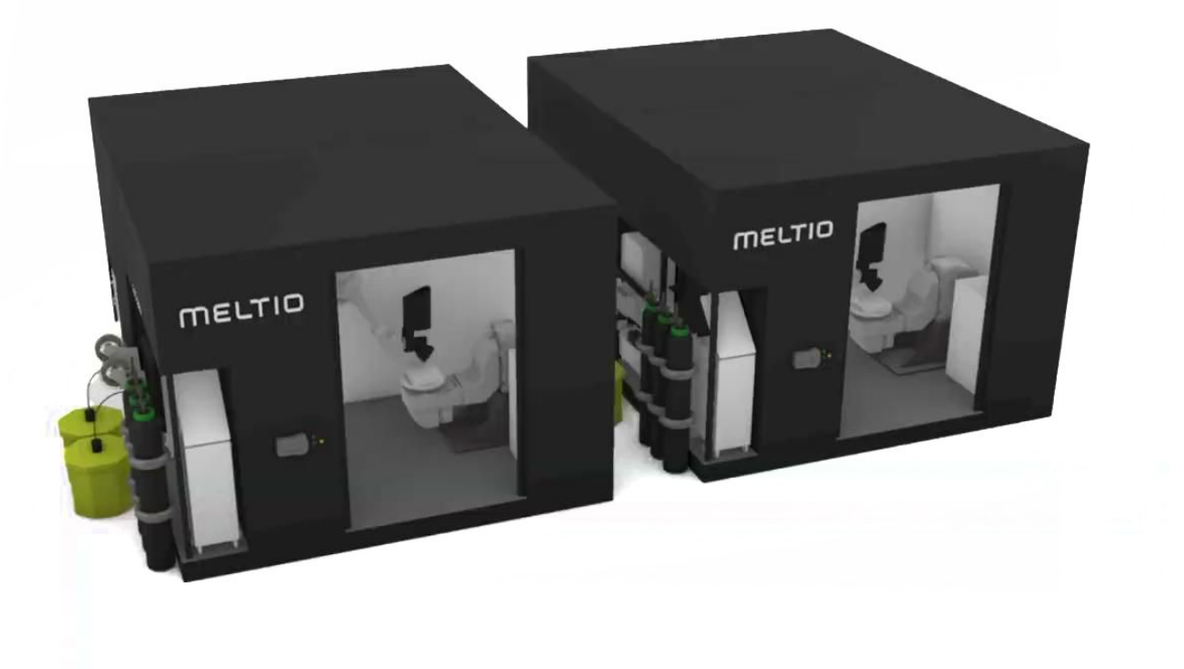
Meltio Product Datasheet

Meltio Robot Cell

Turn- key solution

Meltio Robotic Cell is an affordable turn key solution for Meltio Engine Robot Integration. It is a solution just to plug & play. The perfect platform for large and complex 3D printing, repair, cladding and feature addition.



Value Proposition

Plug and Play Installation

Allows the customer to **receive a ready to use** cell for robotic metal 3D printing, **removing the integration process** and long assembly lead times.

Best-in-class Components

Robot and positioner on a self-supporting platform, laser **safe enclosure** together with **Meltio Engine, Meltio Space and accessories.**

Safe, Tested and Certified

In accordance with European CE and laser safety regulations. Multiple **quality controls** with the system integrated from factory.

Best-in-class Components

One week **on-site training** for enabling **the end user to be successful** with Meltio and **develop applications in short time.**

Key Technical Features

CLASS 1 Laser Product

Meltio Space 1 (one) year subscription

Large 3D Printing Volume with Continuous positioner axes interpolation

All equipment and peripherals **anchored on the platform.**

Standard **CE certification**

Steel platform with leveling points and wiring ducts

All cell controls unified on single control panel

Everything is sent **integrated and tested**

The final reseller/integrator **focuses work on training and enabling the client to manufacture parts**

Load an unload from truck with **regular size and load forklift**

Includes 300x400mm actively cooled build platform and buildplates

Technical Specifications - Structure and Enclosure

Self-supporting steel platform (4050 mm length x 2550 mm width)

Prepared **to support the weight of the Cell and its components without deformations**

Includes leveling **points**

Resistant to oxidation or protected for this purpose

Ducts for wiring and integration elements, allowing a clean floor

Laser safe enclosure according **to IEC 60825-1** and **IEC 60825-4**

Robot Cell **product as Class 1** reducing the risks for the user

Highly fire-resistant enclosure materials that do not produce toxic particles.Specifically:

B-s2,d0 according to **UNE EN 13501-1**

Technical Specifications - Integration and Safety

Single three-phase connector input.

All **cell controls unified** on single control panel:

- Cell Controls: Open doors and arm security

- Robot Controls: Motors On, Mode Selector and Emergency

Connected to the customer's **local network (LAN) for PC interconnectivity**

ABB's SafeMove to **avoid collisions with enclosure**

Safe environment for the end customer

European CE and laser safety regulations.

UCKA in UK and UL in America to be evaluated.

Fully Tested

Specific Quality Controls before and after integration, ensuring maximum performance at its final destination.

Technical Specifications - Supplies Area

Meltio **Engine Control Unit**

Engine and Build Platform **Water Chillers**

External Feeders, for spool holders and drums of +100kg

Inert Gas Supply options:

- Attachments for three 50L Argon bottles with non-return valves.
- Optional Meltio Gas Regulator
- Or Supplied by customer

* All these equipment and peripherals are anchored on this platform and may not exceed from the maximum dimensions of the self-supporting platform during transport.

Technical Specifications - Load and Build Volume

Load:	500 kg max load (Standard)
Actively Cooled Build Platform:	Buildplate 300x400mm Buildplate 150x200mm Buildplate 120x100mm
Positioner Interpolation:	∅ 1000 mm x 1200 mm
No Positioner Interpolation:	2000 x 1000 x 1000 mm Custom build platform not included No positioner movement, only robot tool orientation

* The cooling bed allows control of the temperature of the prints as wells to protect the positioner, hardware that cannot be over 70ºC on periods of more than 24h.

Technical Specifications - Engine Software

Updated and renewed User Interface

Custom profiles without the need of writing macros, every possibility **parametrized**

HD Webcam

Compatible with **Welding Camera**

Timeline for Sensors Analysis

Live 3D model based on **reading TCP positions** from robot

Profiles for Meltio Materials and Meltio Space

Technical Specifications - Engine Software

Proprietary robot slicer focusing on User Experience, closing the gap between additive manufacturing users and robotics. Fully tailored customer experience around the Meltio Engine Robot integration product with custom developed Meltio print profiles for the Meltio materials portfolio. The low capital and running costs of the Meltio Engine are also translated to the software licensing model.

Cell Configurator

Robot library and post-processor built-in for ABB, KUKA, FANUC and YASKAWA, with no extra cost.

Specific Toolpath Strategies

Planar, non planar and variable extrusion toolpaths easily defined. 2-axis Positioner interpolation in 2 clicks.

Robot kinematics simulation and Collisions check

Virtual model of real robot movement to ensure great results. Collision check with the part as being printed.

Meltio Material print profiles

Optimized Laser Power and Feeder Speed for every application: Hollow or solid parts, Stainless Steel 316L, 308L, Mild Steel ER70S, Titanium 64 and Nickel 718.