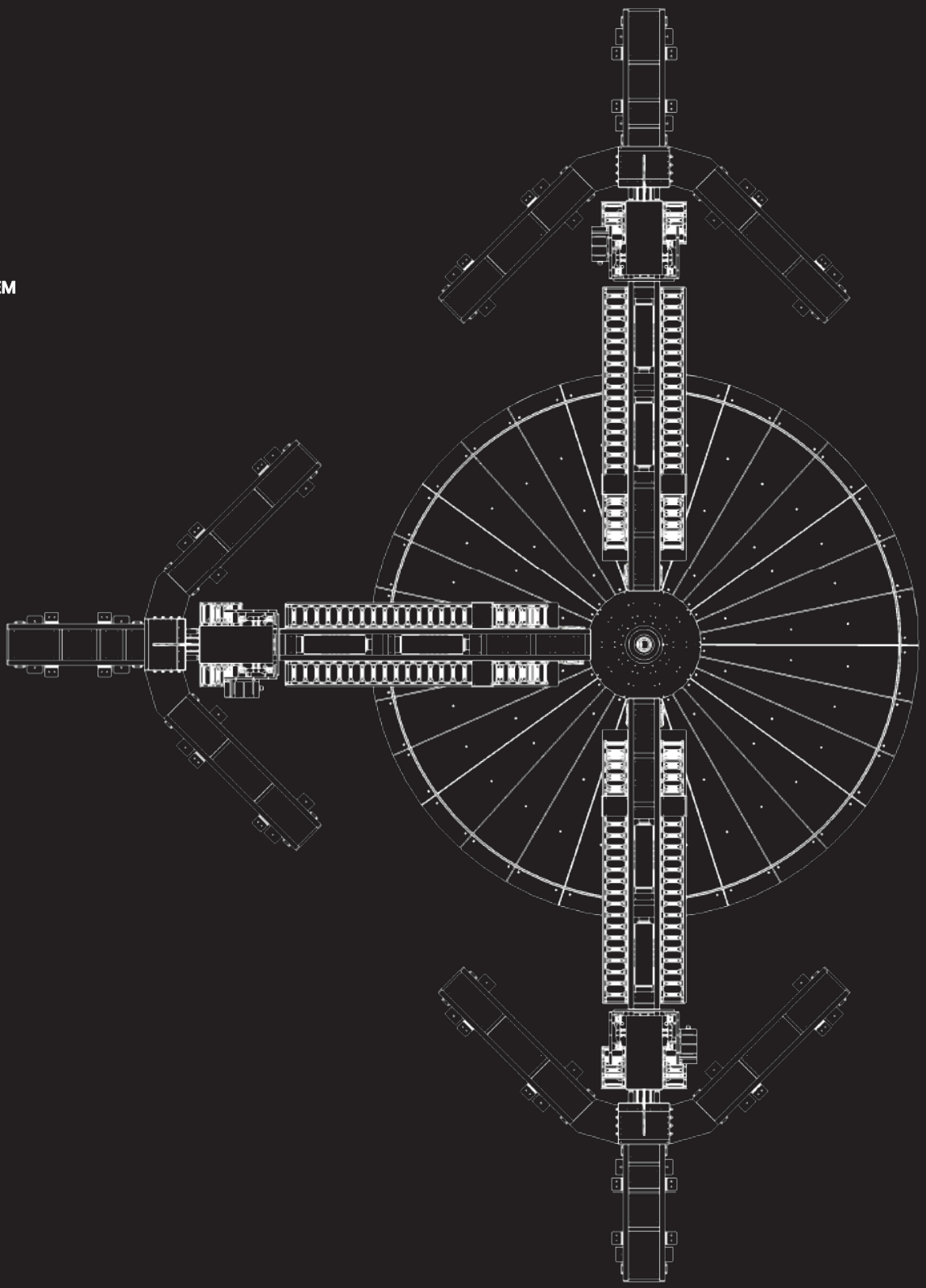
ROSOTICS CORPORATION, UNITED STATES, INFO@ROSOTICS.COM, WWW.ROSOTICS.COM, FACTORY MODEL
+1 877 959 4110, CAGE: 9P6Q6, DUNS: 076068033. FOR AIR, SEA, AND DEFENSE.

HALO PRODUCTION SYSTEM

PRODUCT BRIEF



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C/O ROSOTICS CORPORATION
FOR COMMERCIAL RELEASE
07.17.2024

ABOUT HALO
A SUPERCREATOR IN MATERIALS SCIENCE
GMT -08

01 — Our team works to cultivate the field of metal additive manufacturing and by proxy introduce the most significant advancements in industrial robotics of our generation. By mission; to create unparalleled systems that propel economic growth and support dual-use and national defense capabilities.

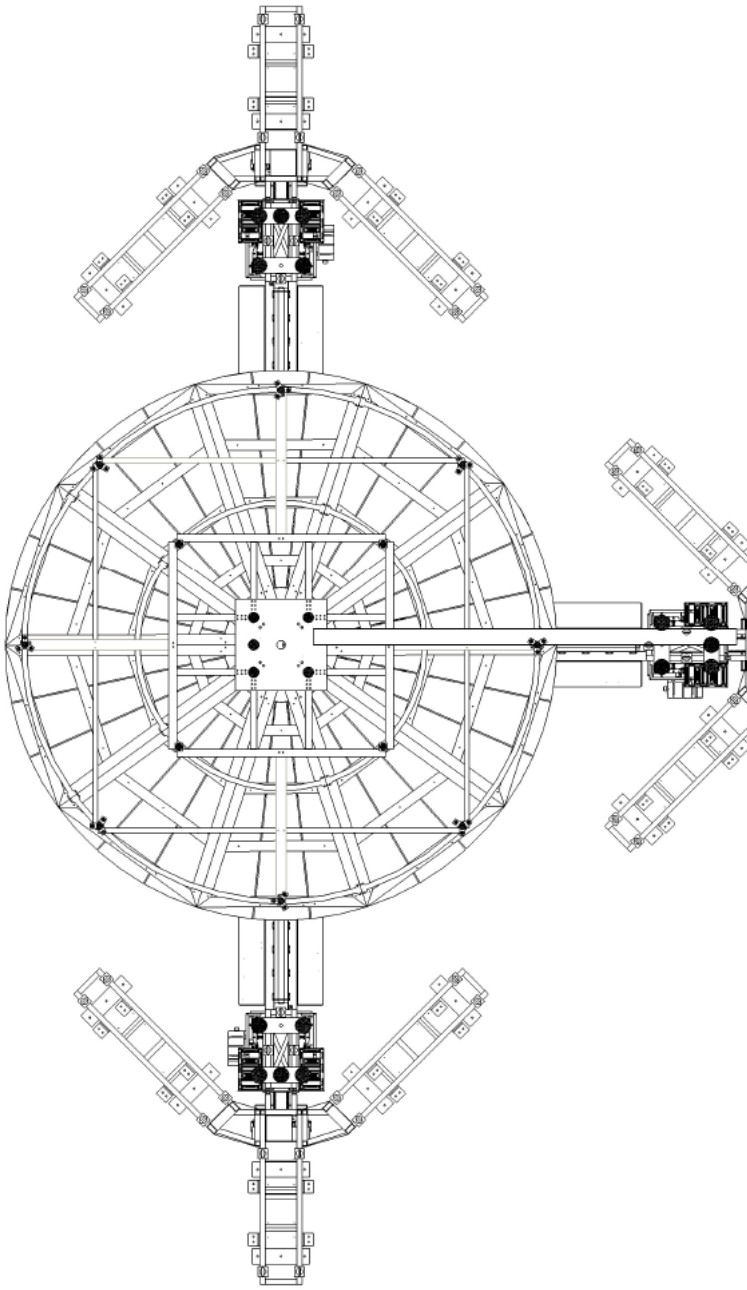
The Halo Production System is a fully automated metal 3D printer for industrial manufacturing in the modern era. It contains the largest continuous build volume on market while simplifying the operational picture of what it takes to start printing. To achieve this, the machine is built with breakthrough hardware features: three induction-based extruders, broad materials compatibility, and fully integrated post-processing. These combined innovations deliver a measurable impact: maximal system efficiency and minimal trade-off implementing additive. With Halo, spend less time printing and more time doing, with the ability to print direct to application.

02 — We are relentless in our pursuit of excellence, leveraging machine learning in sequence with complex materials science to address the challenges inherent in superheated metallurgy. We view these challenges as calls to innovate, compelling us to establish platforms that broaden capability for manufacturers in the physical world. Rosotics stands to lead the charge into a future where process innovation sets standard. We harness the transformative power of such innovations to create systems of extraordinary capability, and invite the world to witness us.

THE LARGEST METAL 3D PRINTER

AVAILABLE IN THE UNITED STATES & EUROPE

QUALIFIED FOR AEROSPACE AND DEFENSE (AWS, NASA 6030)



HALO DESIGN PRINCIPLES

HEAVYWEIGHT BUILD CAPABILITY
Designed for large-scale applications, Halo delivers up to 20,000 lbs in payload across an expansive 5m continuous print envelope.

TRIPLE MJOLNIR EXTRUDERS
Each carried in a quick-disconnect configuration from a dedicated multi-axis gimbal, the induction-based Mjolnir extruder is not only easy to service, but sets a new bar for efficiency and throughput.

SELF-ASSEMBLING, MODULAR SYSTEM
Installing within a single afternoon, the modular architecture arrives partially assembled and autonomously levels all of its control points.

EASE OF INFRASTRUCTURE
Eliminating the dangers and efficiency losses of laser-based systems, Halo operates collaboratively with humans, plug-and-play on 250V.

INTEGRATED POST-PROCESSING
With less residual stress produced in each print and the ability to mount machining, riveting, and inspection packages, Halo is a fully integrated net-shape printer capable of direct application after print.

BROAD MATERIALS COMPATIBILITY
Not requiring any proprietary alloys, Halo processes commercial off-the-shelf wire feedstock in aluminum (5/6/7) and stainless steel (300).

INTELLIGENT, SECURE CONTROL INTERFACE
Full drive-by-wire manual control overrides, paired with a PC-based software interface allows for integration in secure environments.

POST-PRINT SERVICING OPERATIONS
Complete print to application servicing capabilities, including that of direct structural repair and inspection, with the swap of an extruder.

A NEW PARADIGM IN ADDITIVE MANUFACTURING
– Certified at AWS D17.1 Class A and NASA 6030 to tensile/burst.
– Termed as the first “supercreator”, Halo demonstrates enhanced situational awareness in deposition to prevent and correct mistakes.
– An architecture to rival machining at scale, the platform is able to be equipped with upgrades over time such as a Controlled Atmosphere System Enclosure (CASE) for superalloys like inconel and titanium.
– Halo is laser and powder free, is safe for humans, and is highly energy efficient, able to reduce CO2 footprint per 500 kg of printed mass by over 86% when compared to wire-arc additive (WAAM).

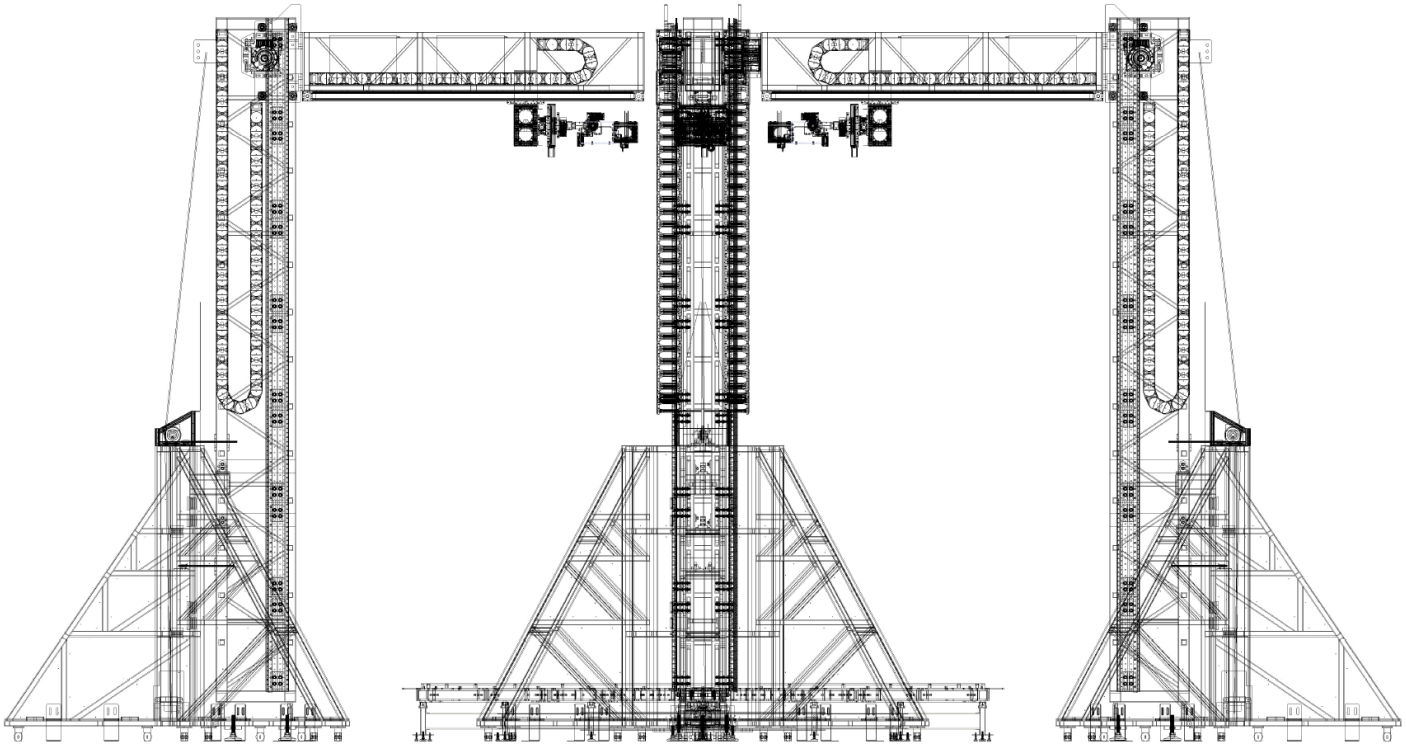
APPLICATIONS IN SERVICE
Aerospace and Defense
– Launch Vehicle Primary Structure (Cryogenic), Superstructure
Naval and Maritime
– Surface and Subsurface Vessel Hull and Superstructure

MAINTENANCE AND FOOTPRINT
– Materials for Subsystem Maintenance and Service accessible online, keeping source content up-to date and reducing paper copy.
– Use of interchangeable parts keeps components readily stocked.

PROCUREMENT AND LOGISTICS
– Estimated delivery: Winter 2024– Production dates: August 2024 to 2025.
– Staggered deliveries to the domestic United States and Europe based on order date and production roster priority. Batch II allocating Fall ‘24.

“A FIRST PLATFORM TO RIVAL MACHINING AT SCALE”
08.24 - 3DPRINT.COM

FOR THOSE BUILDING OUR WORLD,



02. BACKGROUND
FEATURE SET

IN CREATION OF MORE CAPABLE ADDITIVE SYSTEMS,

A — As the sun sets on robotic 3D printers, supercreation dawns as a new frontier. Halo is designed as the first of a new bar in additive manufacturing to meet commercial markets, offering the equivalent of an all encompassing industrial engineer and fabricator in every machine shop, removing humans from the most dangerous areas of work while outperforming them in capability. Unlike traditional large-scale metal additive systems, Halo processes a range of commercial feedstocks that are available off-the-shelf, requires far less power infrastructure and containment systems, and is designed from the ground up to operate autonomously from print to application.

B — With these broad advancements in machine capability, the Halo Production System propels metal additive manufacturing into the modern era by empowering operators. Built upon heritage in the most demanding fields of heavy industrial production and assembly, as well as developed in tandem with our customers, the platform is able to produce, repair, and inspect virtually any structure seated in its envelope of control. For the first time on an additive system, you will be able to leverage direct print to application capability, with the integration of post-processing operations and the removal of the need for heat-treatment by the induction-based Mjolnir architecture. Using Halo, you can get to test faster and make your system yours.

We recognize the critical shortcomings that have plagued the 3D printing industry historically and think part of true transparency is understanding these shortcomings rather than denying them with the idea that this will sell more systems. The reality is that most, if not all approaches within 3D printing have been restricted by a limited range of materials; we addressed this barrier by developing not another new printer, but an entirely new way to 3D print a metal that supports a far broader spectrum of metals and alloys. Mjolnir, carried on the Halo Production System, is engineered for greater material versatility, opening up new possibilities for general purpose use and cross-industry capabilities.

Traditionally high costs of 3D printing, including not just that of machines, but also that of materials, infrastructure and maintenance have hindered widespread adoption. Our technology conversely was built upon hallmarks of power efficiency and simplicity. Halo supports more favorable cost-benefit implementations, helping enable metal 3D printing as an economically viable option for a broader range of industries, and for the first time in heavy industrial sectors. Halo is able to produce heavyweight components with superior mechanical properties and structural integrity, suitable for extremely demanding applications in aerospace, naval, and defense.

A. HALO PRODUCTION SYSTEM

Version — Factory Model
Build Volume (X x Y x Z) from table — 5000 mm x 5000 mm x 4840 mm (16.4 ft x 16.4 ft x 15.9ft)
Power — 3X NEMA 14-60R; 125/250V-60A Receptacle

Printing Technology:
- **Induction Overture; Triple Mjolnir Extruder** - 3X Interchangeable 1.0 mm to 15.0 mm Nozzles Kit
- **Layer Height** 100 µm minimum, 200 µm maximum;
- **Accuracy** +-25 µm or +- 0.025 mm per mm (greater);
- **Max Build Rate** (Variable) 48 - 60 kg/hr;
- **Payload** 9.07 metric tons or 20000 lbs;
- **Quick-Disconnect** HD Junction at Gimbal (3X)

Machine Footprint (X x Y x Z):
- 12466 mm x 6477 mm x 8890 mm (40.9 ft x 21.3 ft x 29.2 ft)

Compatible Materials:
- **Aluminum** 5000/6000/7000 class;
- **Stainless Steel** 300 class;
- Inconel 718/625, Ti 6Al-4V, HY80/100 (requires CASE)

Standard Feature Sets:
- Hal Drive Computer to Halo Core T1;
- Electronically-Assisted Table Leveling;
- Advanced Telemetry and Sensory Riders;
- 24/7 Support on-call traced to direct Serial No. technicians

Future Hardware Upgrade Eligibility as released by Rosotics accompanies every Halo.

SUB-TOTAL — $950,000 USD*

B. OPTIONAL CONFIGURATIONS

Reach Tower Columns, Add-On Structural Kit to extend Halo's vertical build volume to 20 ft (6045 mm); — $135,000 USD
Clip-On Accessory Packages (Per): — $220,000 USD

Featuring Accessory Package (Pre-Order):
- (1) Tower 1, HH Riveter;
- (2) Tower 2/3 Machine Interchange
- (1) Tower 1 Machine Interchange
- (3) Tower 1/2/3 Gimbal Delete Kit
- (2) Tower 2/3 Sensory Package
- (1) Tower 1 Sensory Package

Controlled Atmosphere System Enclosure (CASE):
- Allows for production with Inconel 718/625, Ti 6Al-4V, and HY-80/100 steel.

Coatings Accessory Package (Pre-Order); requires CASE:
- (3) Tower 1/2/3 Sleeving Kit
- (1) Tower 1/2/3 Gimbal Delete Kit
- (2) Tower 2/3 Sprays Interchange
- (1) Tower 1 Coat Interchange

Inspection Accessory Package (Pre-Order):
- (3) Tower 1/2/3 Gimbal Delete Kit
- (1) Advanced Vision Rider Kit
- (2) Tower 2/3 Metrology Rider Kit
- (1) Tower 1 Metrology Core Rider Kit

All Accessory Packages include installation expenses, logistics, and handling.

HAL OS, PERPETUAL SOFTWARE LICENSE (SINGLE) — $95,000 USD*

DESTINATION AND DELIVERY FEE — $3,500 USD*

***STATED PRICES MAY NOT INCLUDE SALES TAX OR GOVERNMENTAL ASSESSED FEES ASSOCIATED WITH SPECIFIC REGIONS**
– Product specifications and specific capabilites will expand in time. – Factory Model. For Expeditionary Variants, please contact us directly.
All Halo Production Systems are designed for commercial markets, and are not intended for operation outside of an industrial environment.

03. NOTES

– After we receive your executed order agreement, we will begin the process of coordinating system production, as well as preparing and coordinating your system's delivery.

– We will coordinate transport of the complete system to you via a third-party carrier or other mode of transport fully insured.

– Through our commitment to privacy, all Halo Production Systems retain input data solely at the software layer, and are not stored on system hardware. You may elect to clear data at any time.

– The Halo Factory Production System and its software are not designed or intended for use in an ultrahazardous environment requiring complete fail-safe performance or any such operational environments, such as nuclear facilities or in combatant logistics.

– Rosotics and its affiliates sell directly to end-consumers and through distributors, and we may unilaterally cancel any order that we believe has been made with a view toward improper use of the production system or that has otherwise been made in bad faith.

– The Halo Factory Production System and its software is a commercial item, consisting as well of commercial computer software and commercial computer software documentation. All government buyers may use the system, as well as its software and services, with the rights associated with these terms.

– Every Halo is supported by continual software updates.

– Taxes and fees will depend on many factors, such as where you have the system delivered, and will be calculated near delivery.

– Use this capability. We'd love to hear what you task it to do!

FOR THOSE BUILDING OUR WORLD,