Product Catalog

For the ready to make anything at the speed of today.

There is no shortcuts when it comes to additive. No skipping steps. But for the ready, there is a way to get there faster. To accelerate your path from prototype to serial production. To put the people who pioneered the use of serial production in additive manufacturing to work for you. At GE Additive, we have the machines, powders and know-how to help you make anything you can imagine and our technology has been used for over a decade to manufacture parts. We understand the demand for continuous innovation, which is why we offer an end-to-end solution to help you along your journey.

Collaboration is at our core

The minds of GE Additive are the same minds that launched GE Aviation's additive transformation. We are users of additive technology and understand first-hand how this technology can help transform businesses by improving products and manufacturing operations. We have deep domain expertise and we know what it takes to implement this change in your organization.

GE Aviation qualified the first additively manufactured part for commercial jet engines. And now, they've built a turboprop engine with more than a third of its parts produced additively. But it didn't stop there – GE Additive was born and we started helping businesses, just like yours, transform how they design and build.

GE Additive's AddWorks solutions

Wherever you are on the path to full metal additive production, our team can help get you there faster.

Workshops

Learn foundational knowledge and additive strategies in a classroom environment. Workshops typically run three to five days.

Discovery Workshop
Explore potential parts for additive manufacturing and build your business case.

Draft your project roadmap with cost analysis, benefits and implementation strategy.

Design Workshop
Learn to design, analyze and optimize parts and processes for additive.

Solve advanced design and manufacturing challenges of additive parts, including support structure and intricate geometries.

Industrialization Workshop
Access tools, such as machines and facilities, to enable full production.

Create a step-by-step plan and a time frame to move toward production of your metal additive part.

Application Sprints

Combine workshops, hands-on consulting and print services to fast-track the path to full production. Sprints vary in length from one to 10 months.

Concept Sprint
Discovery Workshop + develop a plan for a selected application.
Select a part for additive, refine a business case and build a roadmap for the development phase with a mission-based team.

Development Sprint
Design Workshop + iterate design and method for metal additive parts..
Arrive at a final design with a team of specialists and provide a roadmap for full production.

Production Sprint
Industrialization Workshop + establish process specifications.
Identify and document your "critical X's" and quality control measures to enable full production of your application.

LEARN MORE

Engineering Services

Let our experts tackle the challenges for you. We can take your part requirements and develop the application-specific design, material or manufacturing process to meet your needs, so you can explore additive without adding infrastructure to adopt the technology.

Consulting Services

Leverage our experts to work beside your team, teaching additive skills and strategies to overcome challenges in additive design, materials, manufacturing and overall production.

OUR MACHINE SOLUTIONS

Electron Beam Melting machines

Our Arcam EBM machines create dimensionally accurate parts quickly and efficiently by utilizing a high-power electron beam for high melting capacity and productivity. The EBM process takes place in a vacuum and at an elevated temperature, resulting in stress-relieved components with material properties better than cast and comparable to wrought material.

LEARN MORE

Q10plus
The Q10plus is the EBM machine designed specifically for cost-efficient production of orthopedic implants.

BUILD ENVELOPE
200 x 200 x 180 mm (ØxH)

ELECTRON BEAM POWER
3000 W

DATASHEET

Spectra H
The Spectra H delivers faster builds and leading production at elevated temperatures.

BUILD ENVELOPE
250 x 430 mm (ØxH)

ELECTRON BEAM POWER
6kW

DATASHEET

Spectra L
The Spectra L allows for mass production of parts, by tightly stack parts without compromising on quality.

BUILD ENVELOPE
350 x 430 mm (ØxH)

ELECTRON BEAM POWER
4.5kW

DATASHEET

OUR MACHINE SOLUTIONS

Direct Metal Laser Melting machines

Our Concept Laser DMLM machines melt layers of fine metal powder and create complex geometries with incredible precision directly from a CAD file. A wide range of available machine envelope sizes and innovative features set these machines apart.

LEARN MORE

Mlab / Mlab R

The Mlab and Mlab R are designed for manufacturing parts with delicate structures.

BUILD ENVELOPE
50 x 50 x 80 mm (x,y,z)
70 x 70 x 80 mm (x,y,z)
90 x 90 x 80 mm (x,y,z)

LASER TYPE
100 W

DATASHEET

Mlab 200R

The Mlab 200R is suited for high-surface quality and creating intricate part structures.

BUILD ENVELOPE
100 x 100 x 100 mm (x,y,z)
70 x 70 x 80 mm (x,y,z)
50 x 50 x 80 mm (x,y,z)

LASER TYPE
200 W

DATASHEET

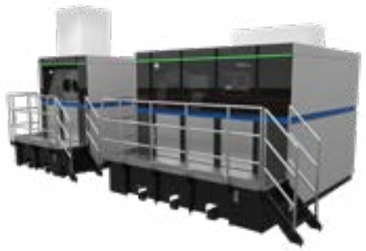
M2 Series 5

The M2 Series 5 provides a higher level of productivity and repeatability through minimizing the effects of process variations.

BUILD ENVELOPE
245 x 245 x 350 mm (x,y,z)

LASER TYPE
400 W dual laser

DATASHEET



M Line Factory

Engineered with an innovative modular machine architecture that offers automation, the M Line Factory enables economical series production on an industrial scale.

BUILD ENVELOPE
500 x 500 x 400 mm (x,y,z)

LASER TYPE
3D optics with maximum power of 4 x 400 W or 4 x 1 kW

DATASHEET

X Line 2000R

One of the world's largest metal melting machine (160-liter build volume), the X Line 2000R is a high-performance production machine with 2 x 1000 watt lasers for safe processing of reactive materials.

BUILD ENVELOPE
800 x 400 x 500 mm (x,y,z)

LASER TYPE
Single or dual 1 kW laser

DATASHEET

High quality powders

We create certified, high-performing powders for every metal additive need, taking into account a variety of mechanical behavior design data and material science.

Our commitment to the additive industry includes more than 1,000 material scientists, engineers, and characterization experts across GE. And we continue to innovate by understanding, developing, and differentiating new powdered materials to help move the additive industry forward. We're a one-stop shop, and as part of GE, we offer over 20 years of experience in additive manufacturing.

Standard powders

We've carefully developed our powders to seamlessly fit into the entire GE Additive ecosystem and provide total compatibility with our machines. We provide metal powder, process settings and support for these materials:

- CpTi grade 1
- CpTi grade 2
- Ti-6Al-4V grade 5
- Ti-6Al-4V grade 23
- Ti-6Al-2Sn-4Zr-2Mo
- Ti-5Al-5V-5Mo-3Cr
- Ni Alloy 718
- Ni Alloy 625
- Al-Si7-Mg (F357)
- Al-Si10-Mg
- CoCrMo
- 316L Stainless Steel
- M300 Stainless Steel
- 17-4 PH Stainless Steel
- remanium star® CL
- rematitan® CL

Custom powders

We have the ability to develop custom powders to meet your unique needs along with developing parameters and testing protocols to achieve desired material properties.

- Ti alloys
- Ti-5Al-2.5Sn (Grade 6)
- Nickel-titanium
- Molybdenum alloys
- Niobium alloys
- Zirconium alloys

AP&C
a GE Additive company

AP&C is the leader in the production of Titanium, Aluminum and Nickel alloys. Our unique APA™ process produces highly spherical metal powder designed for excellent flowability and low porosity.

- Highly spherical shaped particles
- Extra clean process with minimal amount of impurities
- Exceptionally low amount of agglomerates, satellites, and entrapped porosity
- Higher yeild of fine particls

LEARN MORE

Testing capabilities

We strive for success and continuously improve the effectiveness of our quality system, productivity, and production capacity to maintain a competitive advantage.

- Size distribution by sieving (ASTM B214)
- Size distribution by laser diffraction (ASTM B822)
- Flowability (ASTM B213 and ASTM B964)
- Apparent density (ASTM B212)
- Tap density (ASTM B527)
- Chemical composition (ASTM E1409, E1447, E1941, E2371 etc.)

Training and services

GE Additive's AddWorks engineers are at your service to help you to manage the value stream throughout the materials life cycle. The team offers training in a variety of additive topics, which can be delivered in a variety of ways – online, on-site, off-site. Here are a few examples:

- Powder handling and/or EHS training
- Materials and process training
- Process optimization and machine calibration
- Materials to improve your design
- Helping you to achieve part qualification and certification
- Customized content to meet your needs

Leverage our advanced, end-to-end solutions for your success.

Wherever you are in your additive process, we have the expertise and solutions to accelerate your speed to market with additive technology.

Machines

GE offers specialty machines with low machine-to-machine variance to meet your industry requirements and scale production. Our machines:

- Concept laser, direct metal laser melting
- Arcam EBM, electron beam melting
- Binder Jet, faster 3D metal printing with binding agents

LEARN MORE

Powders

We create certified, high-performing powders for every metal additive need, taking into account a variety of mechanical behavior design data and material science.

- Advanced AP&C powders, spherical metal powders designed for additive manufacturing at competitive prices
- GE Additive's powders, sourced and optimized powders specifically for GE Additive machines for an end-to-end solution

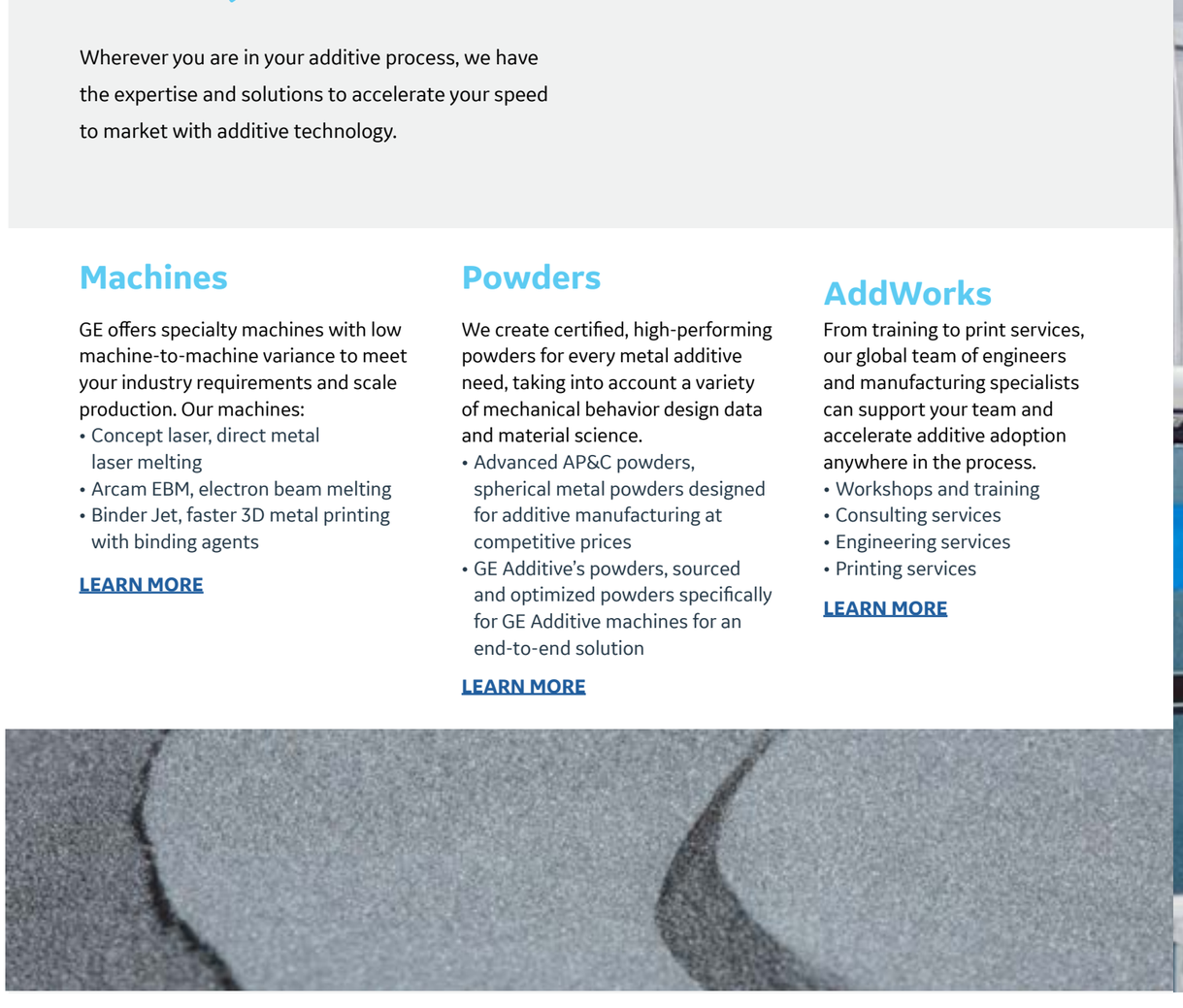
LEARN MORE

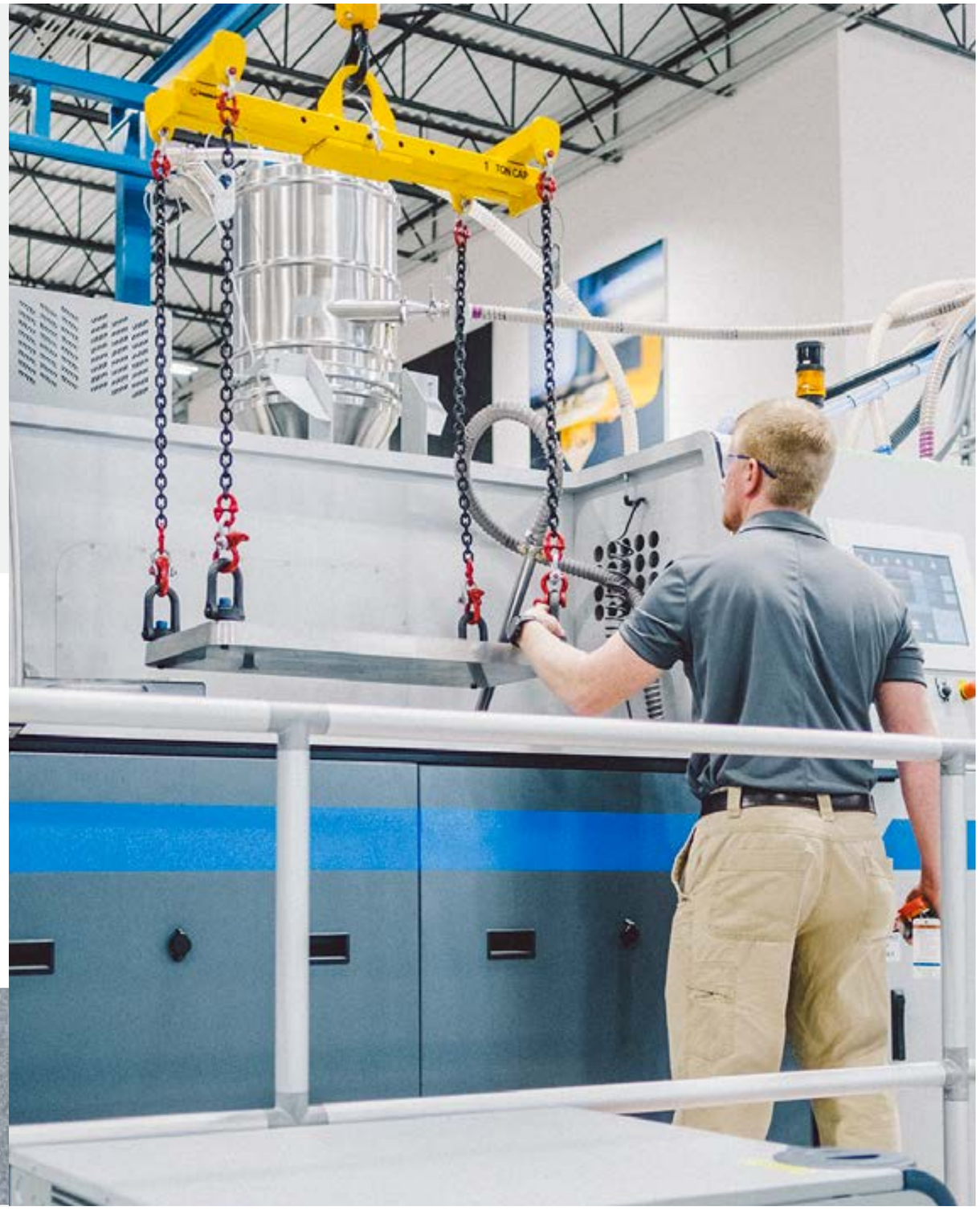
AddWorks

From training to print services, our global team of engineers and manufacturing specialists can support your team and accelerate additive adoption anywhere in the process.

- Workshops and training
- Consulting services
- Engineering services
- Printing services

LEARN MORE





GE Additive

ge.com/additive