

ALD Vacuum Technologies

High Tech is our Business



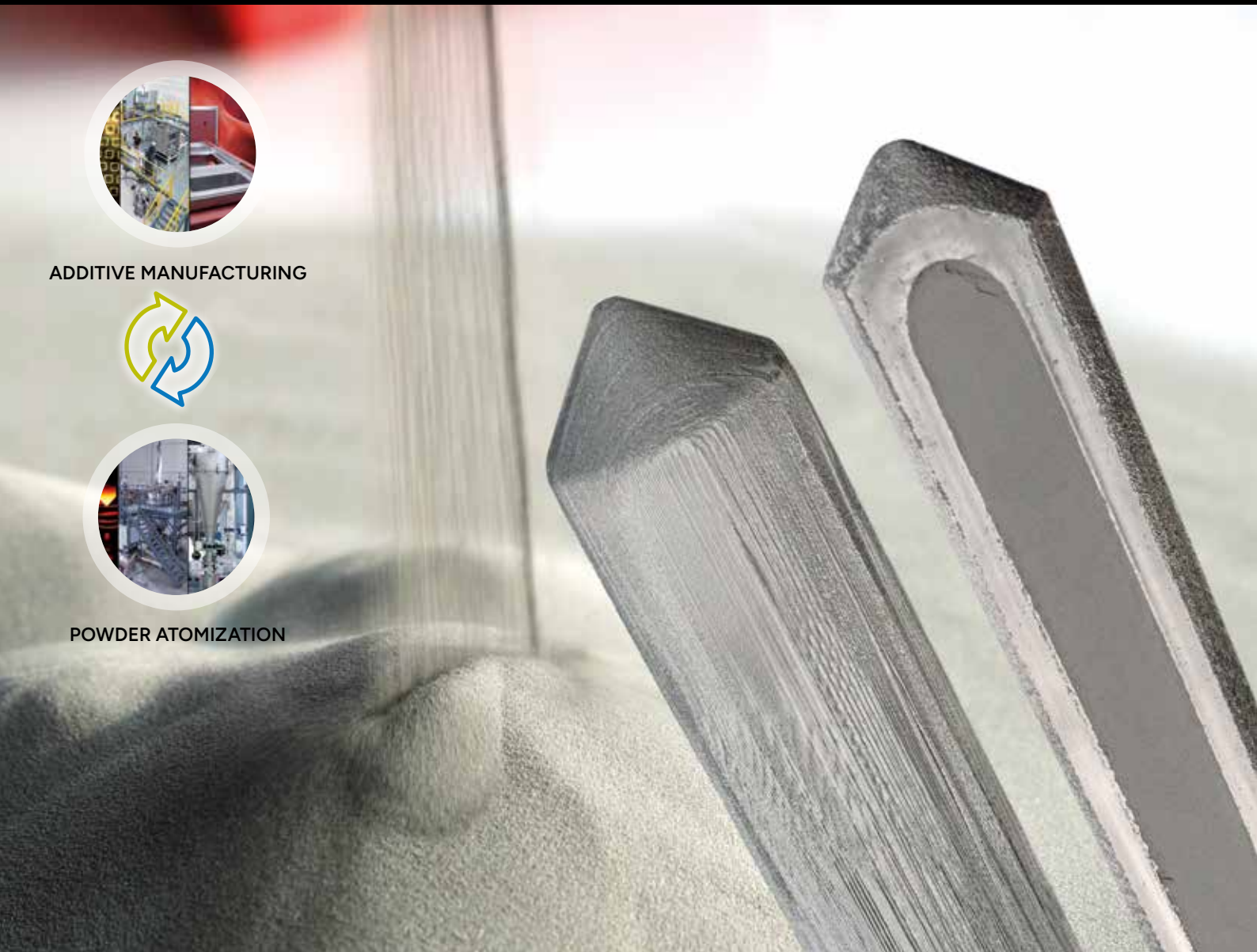
Powder Recycling Process for a Sustainable Circular Economy



ADDITIVE MANUFACTURING



POWDER ATOMIZATION



Additive Manufacturing Reimagined: With EBuild® 850, Electrodes can be produced from EIGA Powder

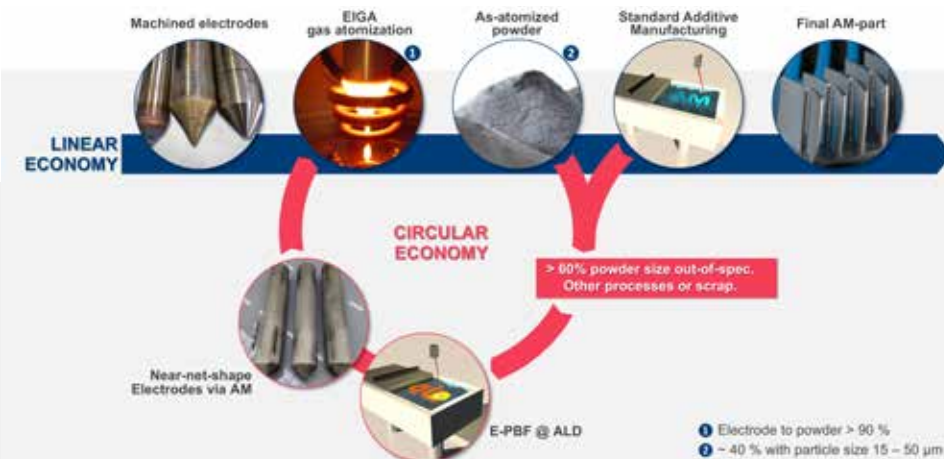
ALD, a leading innovator in vacuum metallurgy, is proud to announce the development of a new process for powder recycling using Additive Manufacturing, enabling sustainability and efficiency for the industry.

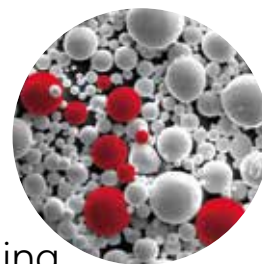
Additive Manufacturing has long been lauded for its efficiency in material yield compared to conventional processes. However, a significant challenge is what to do with rejected powder which does not meet the specified size distribution for modern powder bed systems. If left unused, this rejected powder becomes environmental waste.

ALD's state-of-the-art additive manufacturing solution

EBuild® 850 directly addresses this challenge. This innovative system can process powder with a wide distribution, enabling it to be used not only in industrial-scale part production, but also in powder recycling efforts. Using selective electron beam melting to create powder-filled ingots, ALD achieves an unprecedented build rate of over 1000 cm³ per hour. These ingots can be seamlessly converted into new powder, for example in ALD's NEW EIGA systems, promoting a sustainable circular economy.

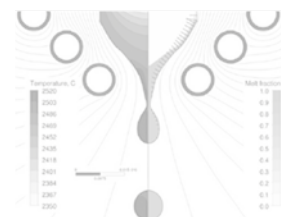
ALD's approach not only reduces waste, but also offers versatile options for downstream processes. The powder-filled solid cased ingots are much safer to handle and process than loose powder. This flexibility increases the overall efficiency of the recycling process and enables integration into established processing routes.





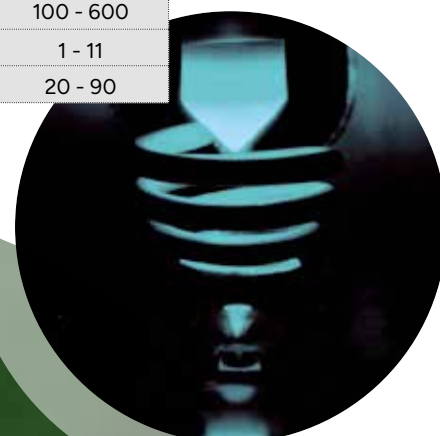
Electrode Induction-Melting Gas Atomization Reimagined: The Utilisation of Powder Recycling is a Conceivable Prospect in the Context of Additive Manufacturing

**EIGA patented by ALD in 1991:
Ceramic-Free Metal Powder Production**



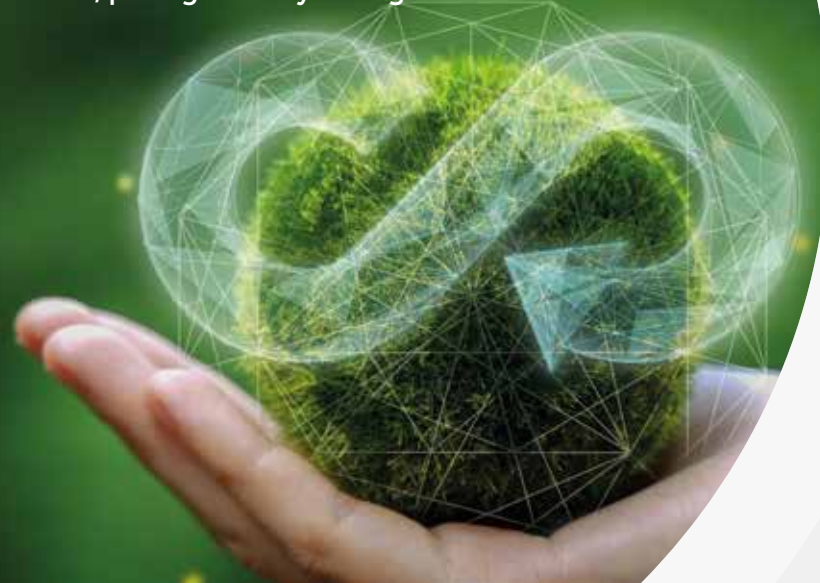
		EIGA
Electrode ranges, diameter	[mm]	50 - 150
Electrode ranges, length	[mm]	500 - 1000
Melting power	[kW]	up to 200
Metal flow rate	[kg/min]	0.8 - 1.2
Gas flow	[Nm ³ /hr]	100 - 600
Specific gas consumption	[Nm ³ /kg]	1 - 11
d ₅₀ value as-atomized	[µm]	20 - 90

*Based on Ti6Al4V



By adopting ALD's innovative approach, industries can now achieve economical production while contributing to a circular economy.

ALD remains committed to driving sustainable practices within the industrial sector, paving the way for a greener future.





ALD – Leading Supplier for Advanced Vacuum Furnaces

Being one of the leading suppliers of vacuum plants and process technology we supply the entire vacuum metallurgy and vacuum heat treatment sector with our high-tech products and processes. ALD offers individual solutions for the best economic performance. We offer worldwide support and maintenance service for our high-quality plants during their entire lifecycle. Each newly delivered ALD plant meets the latest digital standards and is characterized by a particularly high level of environmental compatibility.

150+ YEARS EXPERIENCE – A Young Company with History



ALD Vacuum Technologies

Otto-von-Guericke Platz 1
63457 Hanau, Germany
Phone: +49 6181 307-0
Fax: +49 6181 307-3290
E-Mail: info@ald-vt.com

**ALD Vacuum Technologies
North America, Inc. (USA)**
info@ald-usa.com
Phone: +1 860 386 7227

ALD France
info@ald-france.eu
Phone: +33 4 76 33 64 40

**ALD Vacuum Technologies
(Thailand) Co. Ltd.**
SouthEastAsia@ald-vt.com
Phone: +66 2 550 7880

**ALD-C&K Vacuum
Technologies (Suzhou) Co.,
Ltd. (PR China)**
www.ald-cnkn.com
info@ald-cnkn.com
Phone: +86 512 6385 8833

**ALD Vacuum Technologies
India Pvt. Ltd.**
www.aldvt-india.com
info@aldvt-india.com
Phone: +91 91520 03246/47

**ALD Thermo Technologies
Far East Co. Ltd. (Japan)**
In charge of: Japan,
South Korea, Taiwan
infoFE@ald-vt.de
Phone: +81 3 5961 3017