

Mazak

Your Partner for Innovation



Mazak Europe

Company Identity



Yamazaki

THE FAMILY NAME

Mazak

THE BRAND

Yamazaki Mazak

THE COMPANY

Corporate profile

Product range

Smart production

Customer service

European manufacturing plant

Regional information

Mazak Europe

Family Timeline



1919

Mr Sadakichi Yamazaki

Founder
1919-1962

Mr Teruyuki Yamazaki

President
1962-2001

Chairman
2001-2011

Mr Tomohisa Yamazaki

President
2001-2019

Chairman
2019-Present

Mr Takashi Yamazaki

President
2019-Present

Present

[Corporate profile](#)

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The Americas

Mazak Corporation



China

Ningxia Little Giant Machine tool Co. Ltd
Yamazaki Mazak Machine Tool (Liaoning) Co. Ltd



Europe

Yamazaki Mazak U.K. Ltd



Japan

Yamazaki Mazak Corporation Oguchi Plant
Yamazaki Mazak Manufacturing Corporation Minokamo Plant 1
Yamazaki Mazak Manufacturing Corporation Minokamo Plant 2
Yamazaki Mazak Manufacturing Corporation Inabe Plant
Yamazaki Mazak Manufacturing Corporation Seiko Plant



South East Asia

Yamazaki Mazak Singapore PTE. Ltd

Mazak Europe

Global Expertise Worldwide Customer Support

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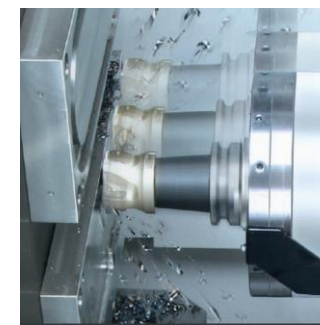
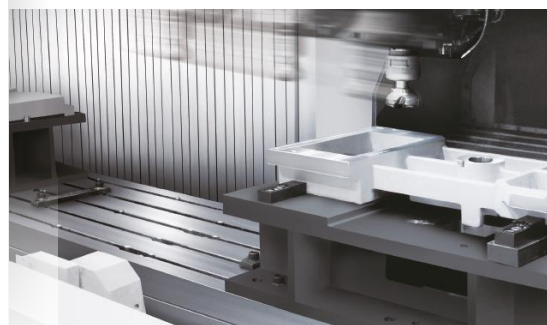
European manufacturing plant

Regional information

Mazak Europe

Extensive Product Range

OVER 300 MACHINES
ACROSS OUR RANGE



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Mazak Europe

European Organisation

M European Factory
European HQ

- ▲ Yamazaki Mazak UK
- ▲ Yamazaki Mazak Czech Republic
- ▲ Yamazaki Mazak Denmark
- ▲ Yamazaki Mazak Deutschland
- ▲ Yamazaki Mazak Belgium
- ▲ Yamazaki Mazak France
- ▲ Yamazaki Mazak Italia
- ▲ Yamazaki Mazak Netherland
- ▲ Yamazaki Mazak Turkey

M European Technology Center Laser

- ▲ Yamazaki Mazak Poland
- ▲ Yamazaki Mazak Hungary
- ▲ Yamazaki Mazak Romania
- ▲ Yamazaki Mazak Portugal
- ▲ Yamazaki Mazak Austria
- ▲ Dealers/distributors network
- ▲ National distributors



Corporate profile

Product range

Smart production

Customer service

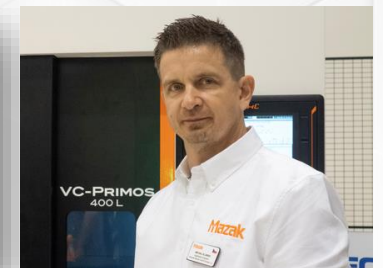
European manufacturing plant

Regional information

Mazak Europe

Yamazaki Mazak Česká republika

- Technologické centrum Zděbradská, Jažlovice
- Zodpovědnost za Čechy a Slovensko
- Zaměstnanci: 45 (ČR), 6 (SR)
- Lokální servisní a aplikační podpora
- Možnosti školení
- Vlastní technologické centrum s možností testování
- Školící centrum pro Mazatrol Smooth a monitoring výroby



Corporate profile

Product range

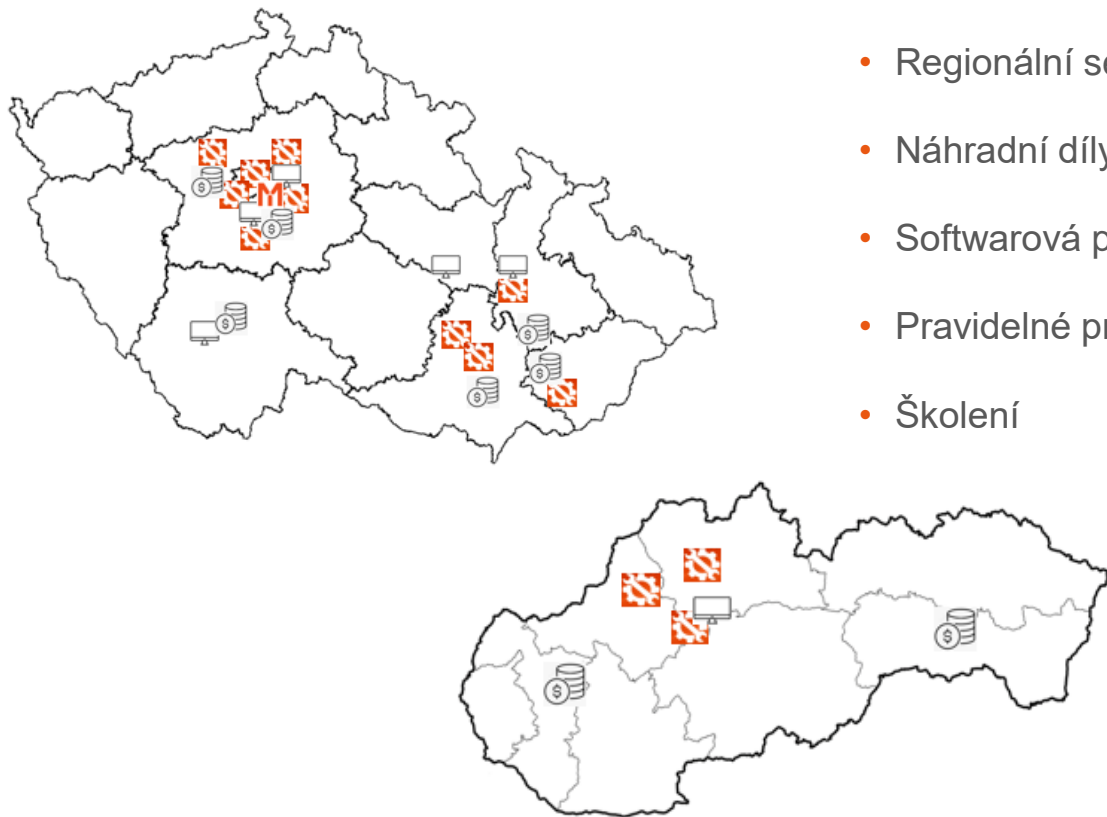
Smart production

Customer service

European manufacturing plant

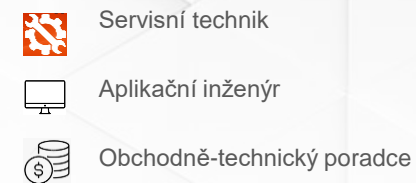
Regional information

Poprodejní servis





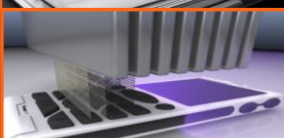



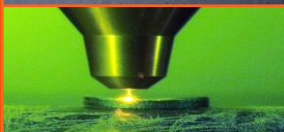
Nabízíme

- Regionální servis
- Náhradní díly
- Softwarová podpora
- Pravidelné prohlídky
- Školení
- Vzdálená diagnostika
- Mazak iConnect
- Servisní smlouvy



Additive manufacturing technology

Additive manufacturing processes

1	SHEET LAMINATION	<i>Sheets of material are bonded to form an object.</i>	
2	MATERIAL EXTRUSION	<i>Material is selectively dispensed through a nozzle or orifice.</i>	
3	MATERIAL JETTING	<i>Droplets of build material are selectively deposited.</i>	
4	BINDER JETTING	<i>A liquid bonding agent is selectively deposited to join powder materials.</i>	
5	VAT PHOTOPOLYMERISATION	<i>Liquid photopolymer in a vat is selectively cured by light-activated polymerisation.</i>	
6	POWDER BED FUSION (PBF)	<i>Thermal energy selectively fuses regions of a powder bed.</i>	
7	DIRECTED ENERGY DEPOSITION (DED)	<i>Focused thermal energy is used to fuse materials by melting as they are deposited.</i>	



AM SERIES

ADDITIVE MANUFACTURING

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Additive manufacturing technology

The integration of additive manufacturing technology and multi-tasking

Advanced additive manufacturing (AM) technology integrated into multi-tasking machines and simultaneous 5-axis machining centers

- Produce parts in the minimum amount of time – ideal for prototype component production
- Deposit a different kind of material on base material for increased versatility

INTEGREX i-400S AM

- MULTI-LASER METAL DEPOSITION
- LASER METAL DEPOSITION

Additive manufacturing technology added to multi-tasking machine with second spindle



Shown with optional equipment

VARIAXIS J-600/5X AM

- MULTI-LASER METAL DEPOSITION
- LASER METAL DEPOSITION
- WIRE ARC

Additive manufacturing technology added to simultaneous 5-axis machining center



Shown with optional equipment

Multi-laser metal deposition, laser metal deposition

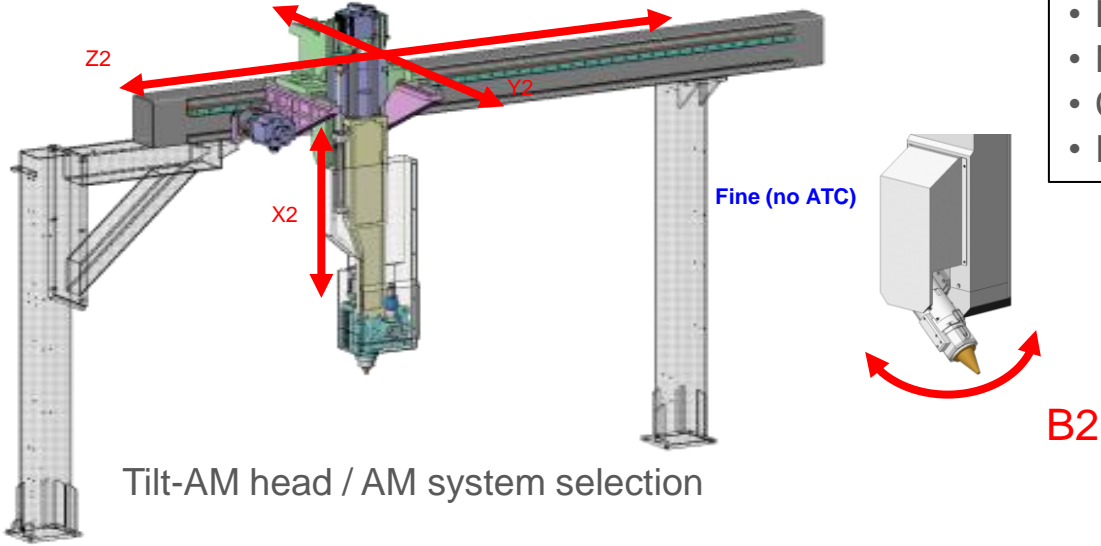


Wire arc AM

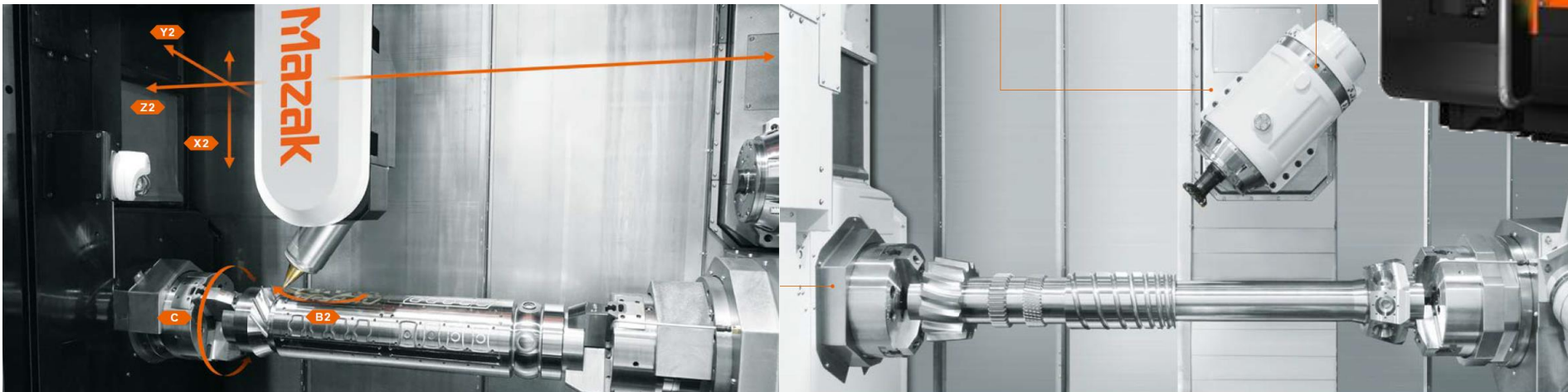


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INTEGREX i-300S AM (Gantry Type B-Axis AM Head)

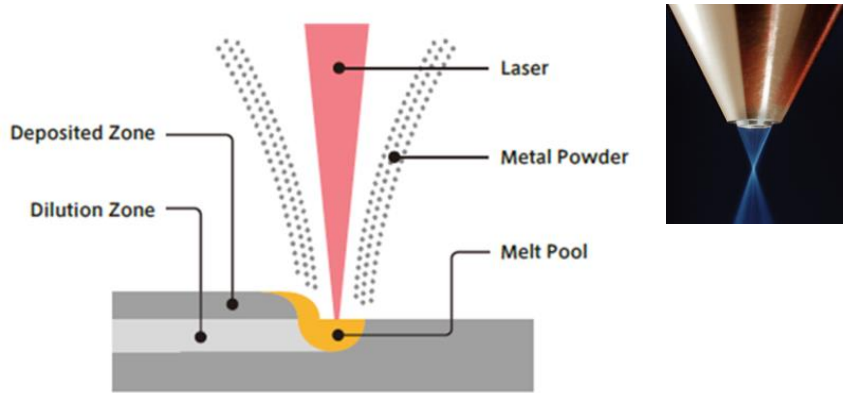


- Less interference for AM workpiece
- No large structural modification needed
- Can be incorporated into other platforms
- Robust Optical Train



Yamazaki Mazak Czech Republic

INTEGREX i-300S AM (Gantry Type B-Axis AM Head 2kW DAKO)

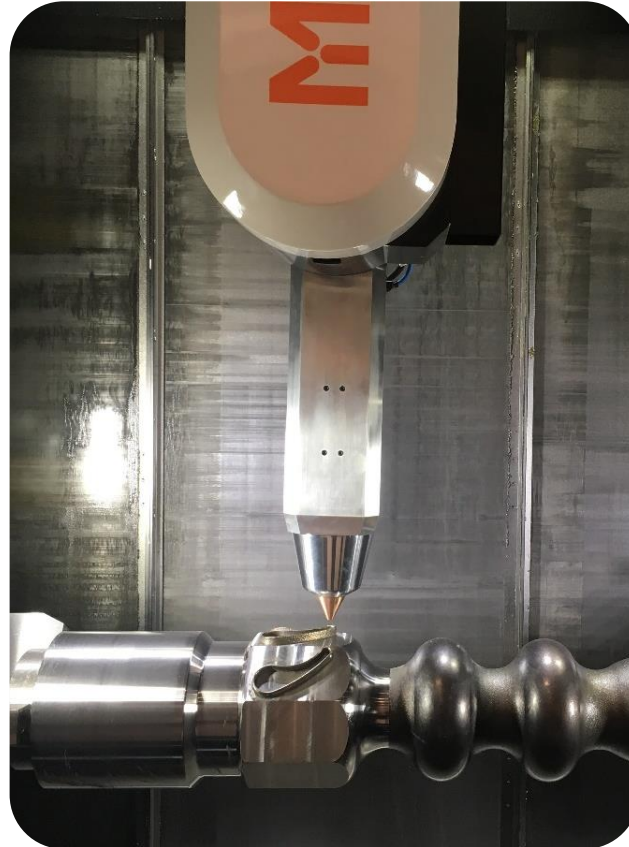


Single laser beam through centre of nozzle
Metal powder is supplied around the laser beam into the melt pool.

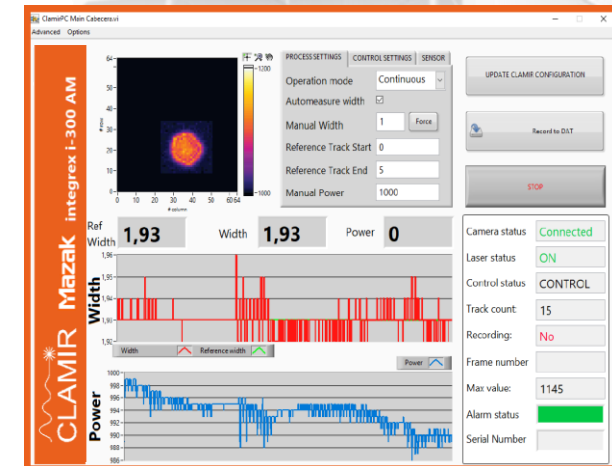
Fast deposition rate with 1, 2 or 3 kW power laser
Metallurgical bond of most dissimilar metals.
Applications:

- Repair
- Hardfacing / Coating
- New Part

Improve production time – Done in One.

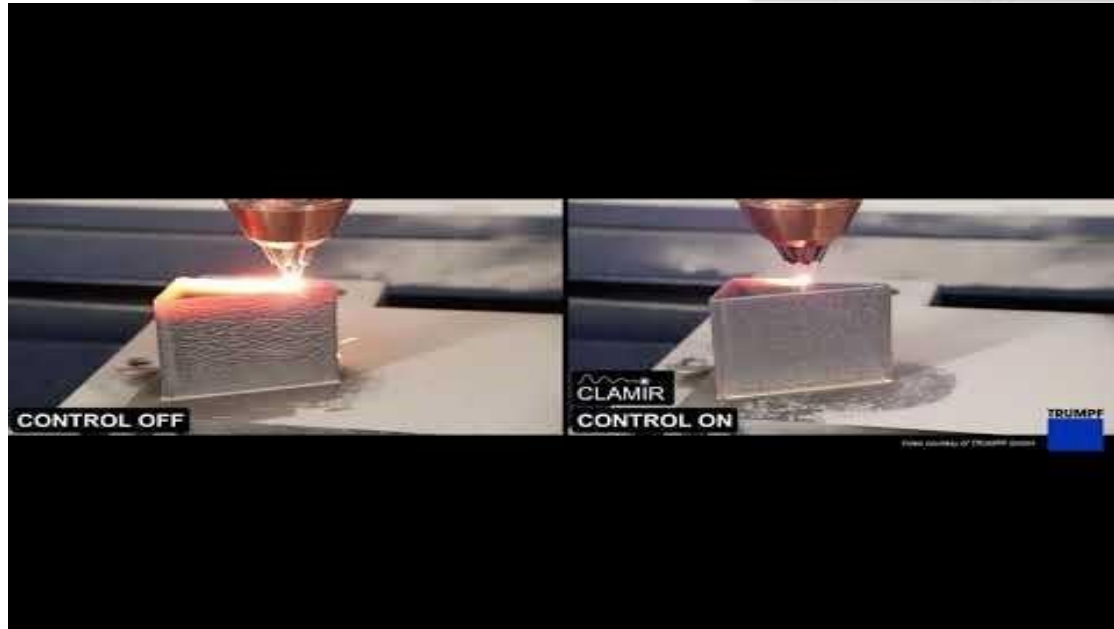
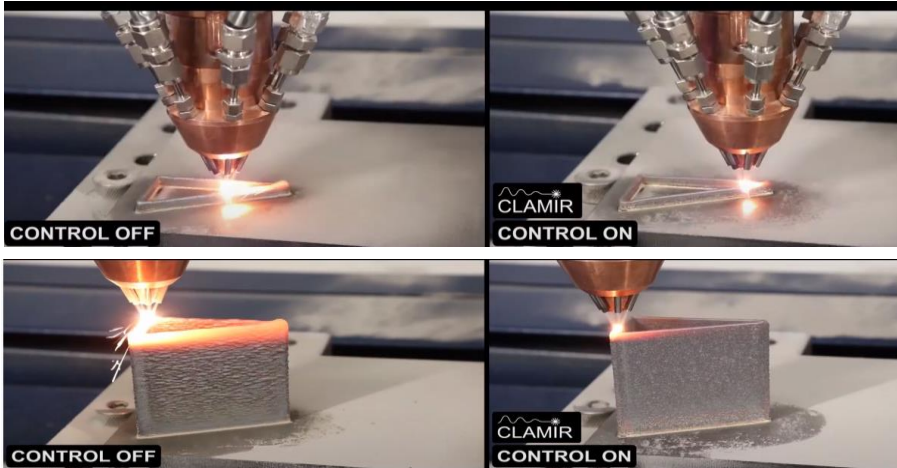
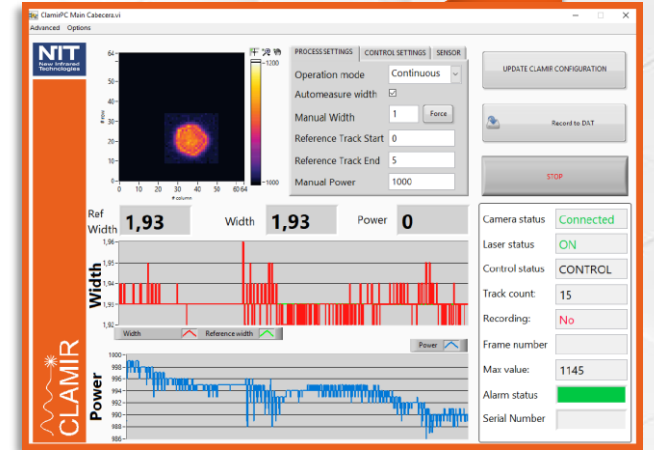


Closed Loop Process Monitoring



INTEGREX i-300S AM - Close loop process monitoring

- Why have process monitoring?
- It protects the optics and nozzle from catastrophic failure – The laser and machine will stop in the event of any abnormal situation
- It controls the process by altering the laser power to keep the melt pool at a constant size and temperature – 5ms reaction time.



Uncontrolled
Laser power constant
Material melting too much

Controlled
Laser power reducing
No excess melting

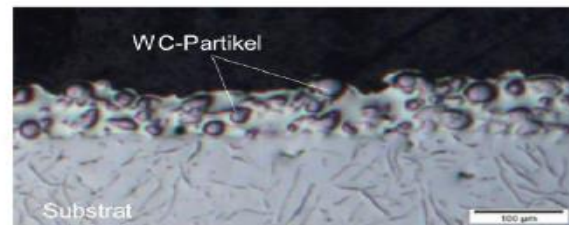
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High speed deposition – brake disc

(courtesy of Fraunhofer)



Time: 14 seconds.
Process: High speed laser deposition. (EHLA)
Nozzle: Fraunhofer EHLA
Substrate: Cast Iron
Material: WC + Ni 60/40.
Laser: Diode (Laserline).
Bond: Metallurgical



Cross section of Cermet: WC-Carbides in Ni-Matrix. Substrate is cast iron (right).



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High speed deposition – brake disc

(courtesy of Fraunhofer)



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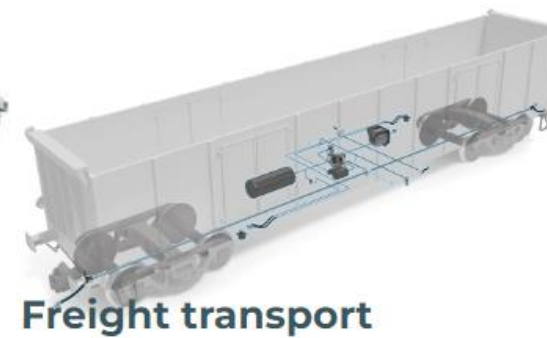
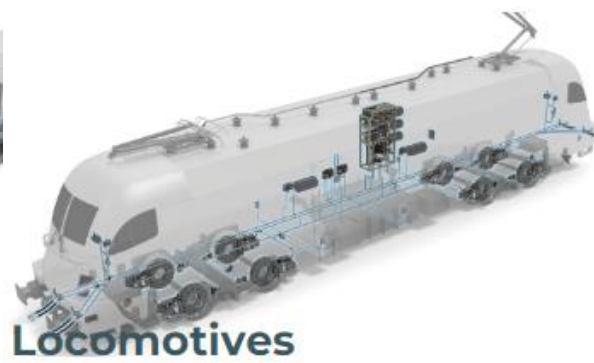
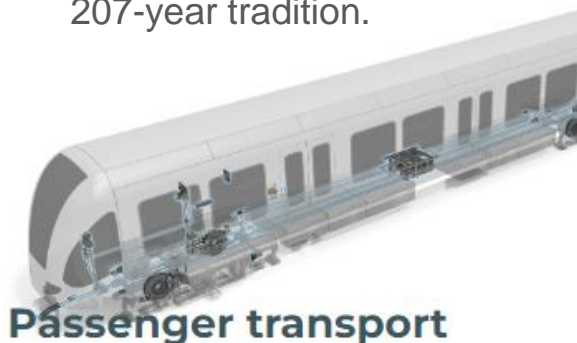
Yamazaki Mazak Czech Republic

INTEGREX i-300S AM + DAKO + Arkance + Autodesk PowerMill



AUTODESK PowerMill

- **The company DAKO-CZ, a.s.** - is a leading manufacturer of pneumatic, electromechanical and hydraulic brake systems for rail vehicles with more than a 207-year tradition.



Passenger transport

Locomotives

Freight transport

METRO CARS | TRAMS | SUBURBAN UNITS | PASSENGER COACHES

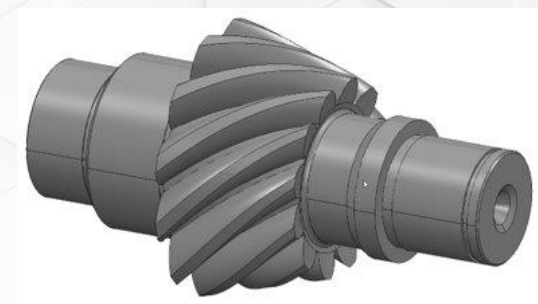
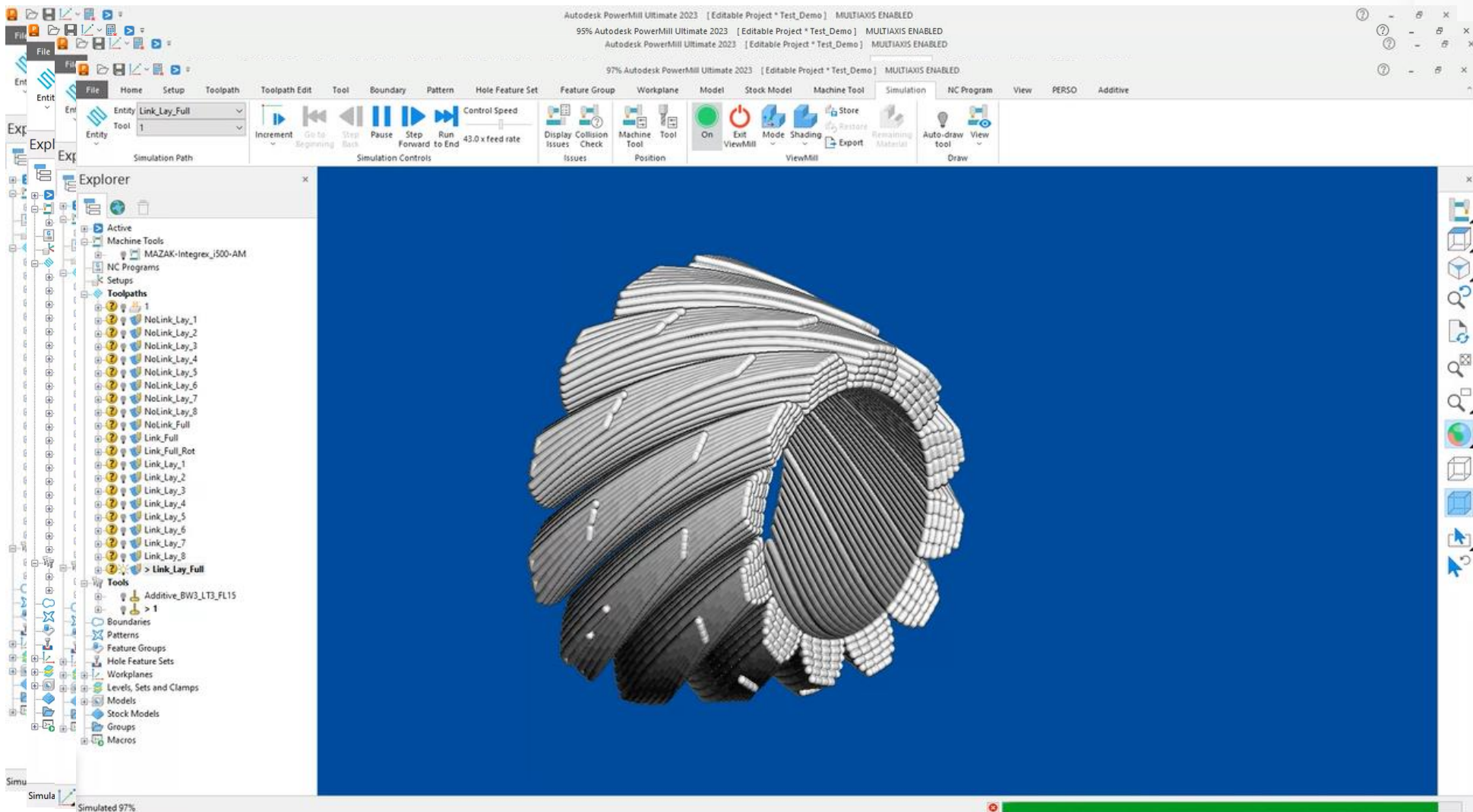
LOCOMOTIVES | MAINTENANCE CARS

FREIGHT CARS | TANK CARS | CONTAINER AND POCKET WAGONS



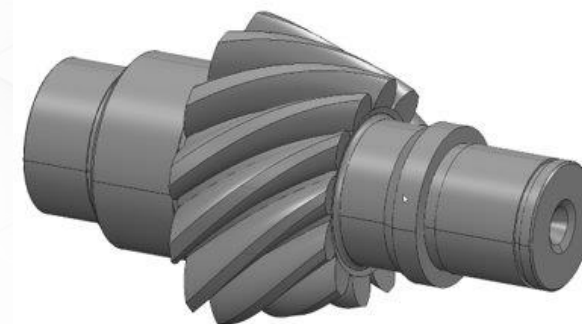
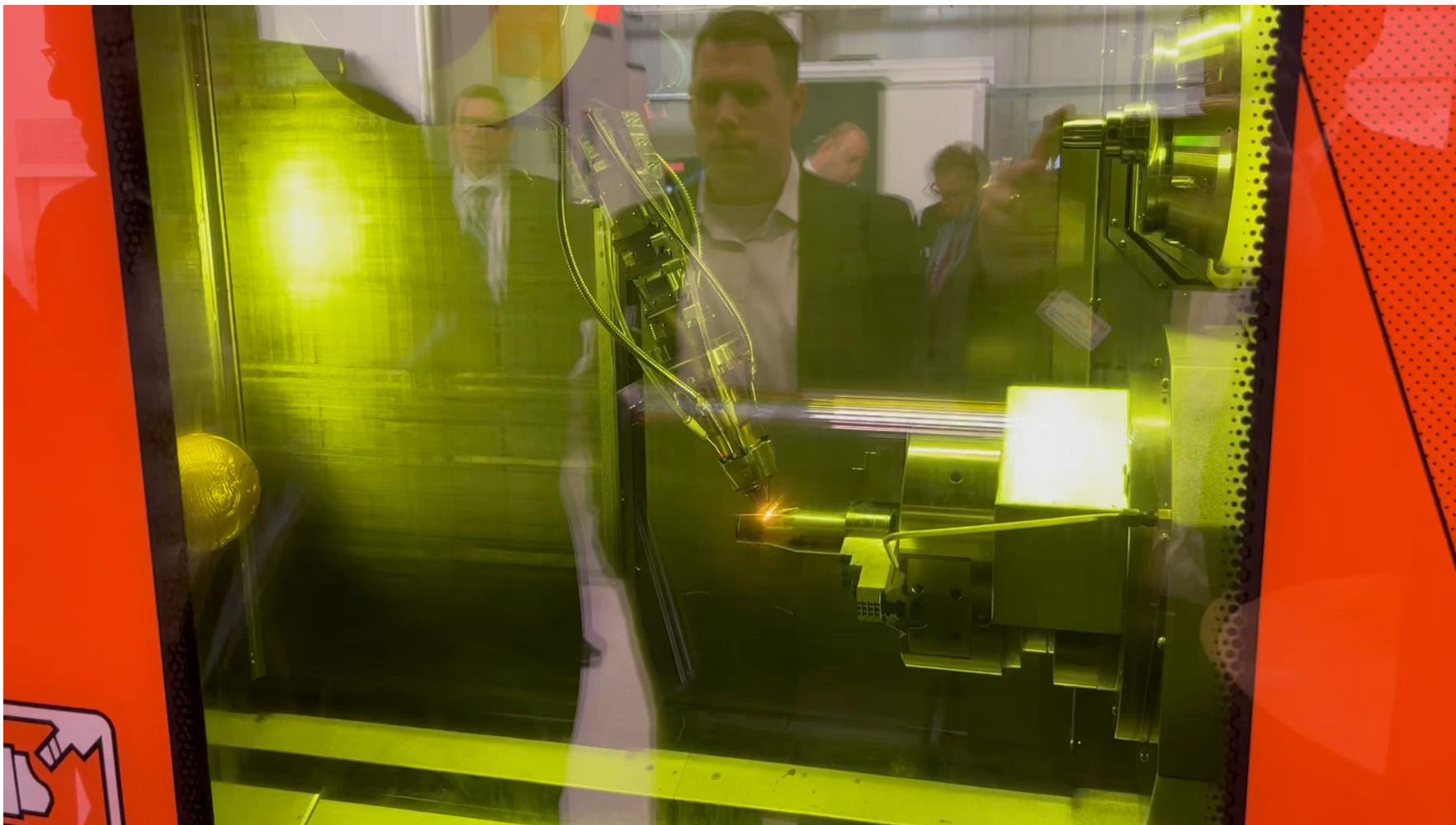
Yamazaki Mazak Czech Republic

INTEGREX i-300S AM + DAKO + Autodesk PowerMill



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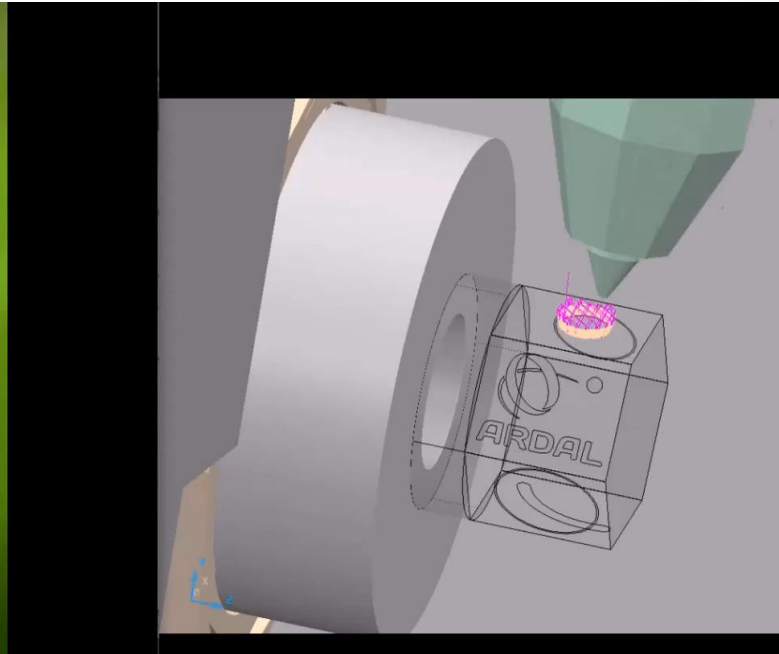
INTEGREX i-300S AM + DAKO + Autodesk PowerMill



ARKANCE
SYSTEMS

Mazak

INTEGREX i-500 AM + ARDAL Norway + Autodesk PowerMill



Yamazaki Mazak Czech Republic

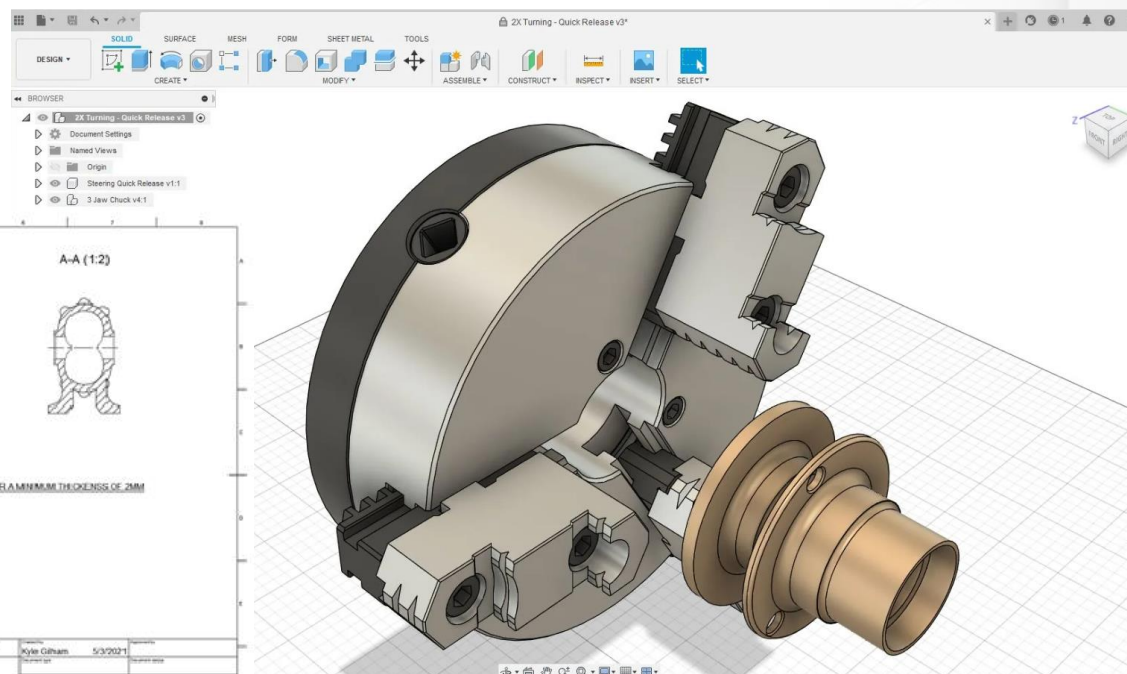
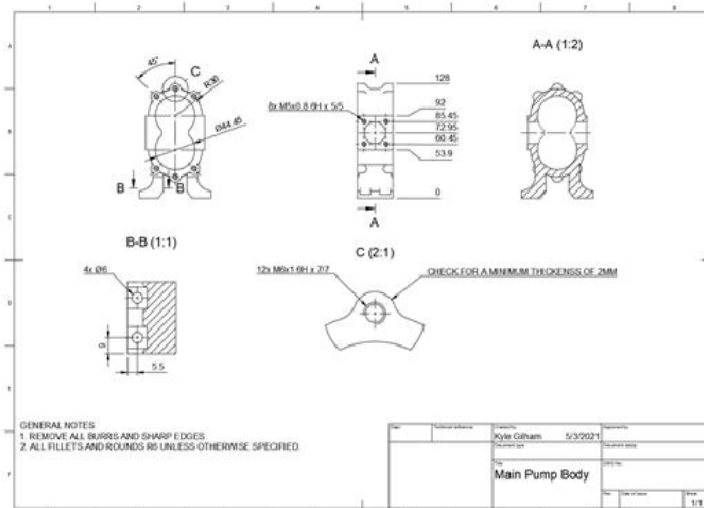
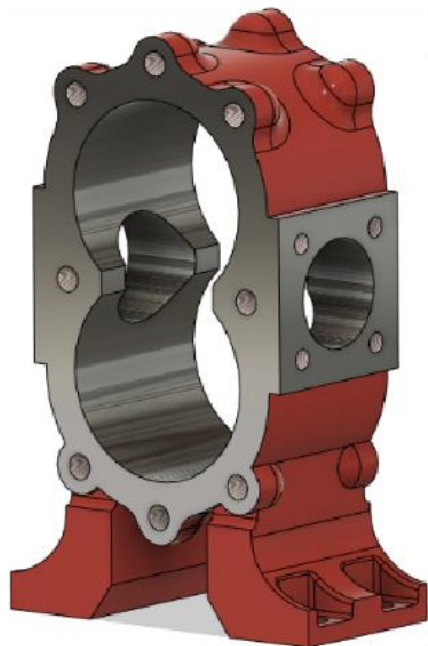
Yamazaki Mazak Czech Republic – Fusion360

CAD / CAM pro obchodní oddělení

Správa a vizualizace zákaznických CAD dat



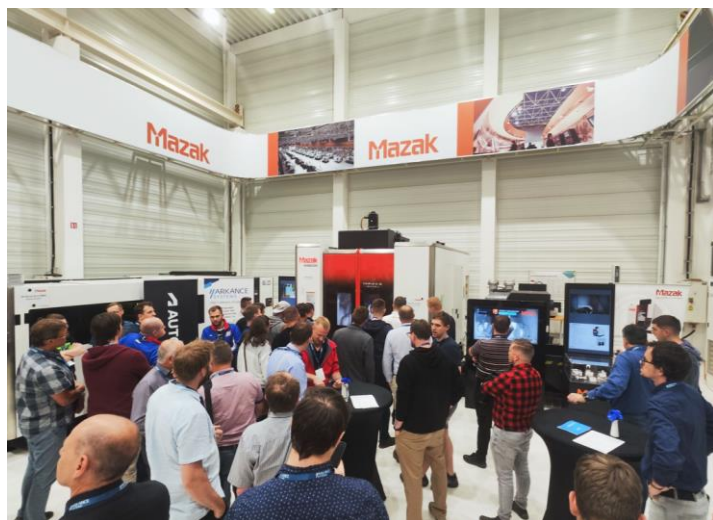
AUTODESK
Fusion 360



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Yamazaki Mazak Czech Republic – Arkance Systems CZ

- Společné zákaznické akce – Výrobní inspirace Arkance Systems 6.6.2023



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