



Laser applications in shipbuilding industry

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EPIC Online Technology Meeting on Industrial Laser Manufacturing for Naval and Aeronautic Applications

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Who we are...

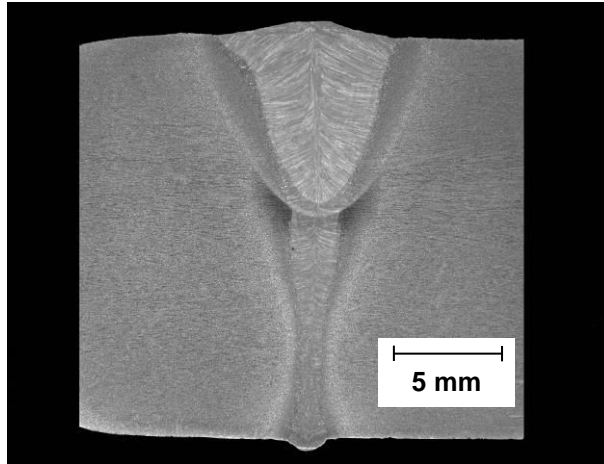
Welding Training and Research Institute M-V GmbH, Rostock, Germany

- Employees: 35
- Revenue: 4 M€/a
 - 1.500 T€ - R&D (funded research projects & contract research)
 - 1.000 T€ - Services (small series production, certification, accredited test laboratory)
 - 1.500 T€ - Education & Training
- Equipment
 - Laser systems
 - Trumpf TD12002, IPG YLR 10.000, TruDisk Pulse 421 green, TruPulse 154, TruPrint 1000, TruMicro 5X50, TruMicro 5050 femto
 - Handling systems
 - different robot systems, e.g. 6 m Kuka-11-axes-system for additive manufacturing & laser hybrid welding
 - different CNC laser systems, e.g. GFH GL.evo & GL.compact, Trumpf TLS 1000
 - Analytics
 - SEM, LSM, DR, metallography, DT & NDT, OES

DVS-Group: ~ 850 employees



Research and Development



From first trials...

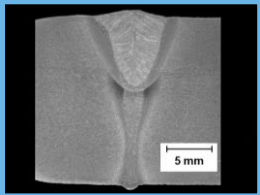

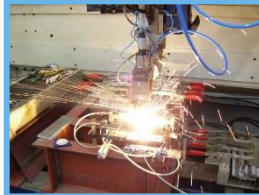



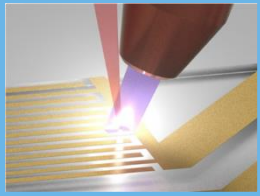




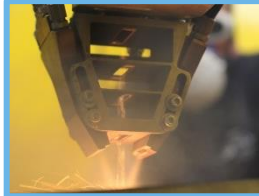
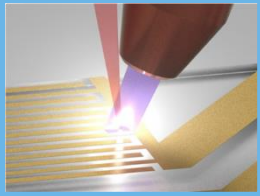

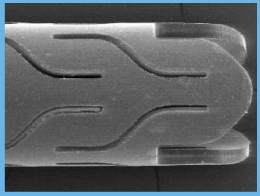
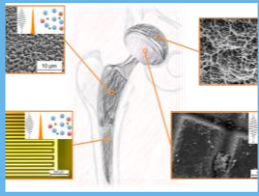



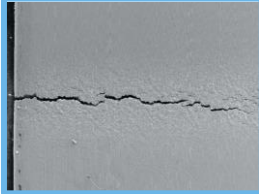
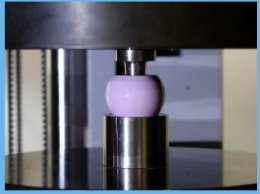

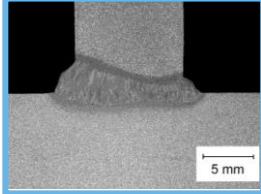

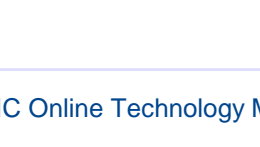
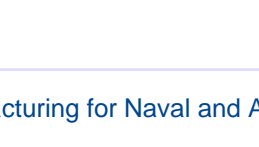
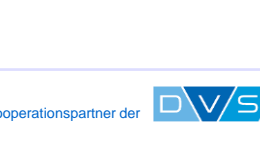


...to set into operation!



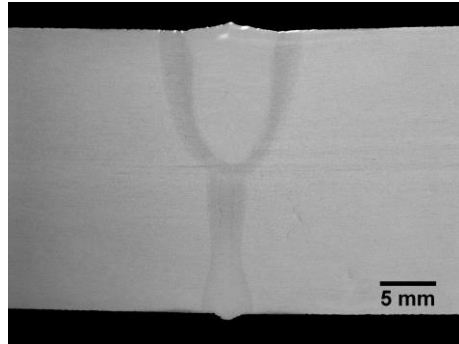
Typically 2-3 technology transfer projects per year:
Process development – system configuration – consulting (QA) – staff training – certification

Philosophy: Customer focused research service provider

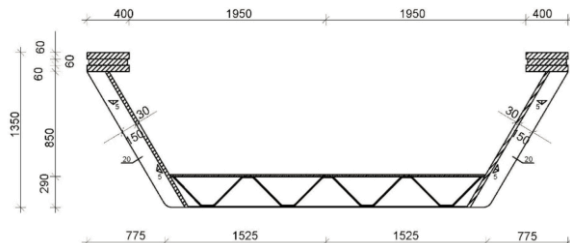
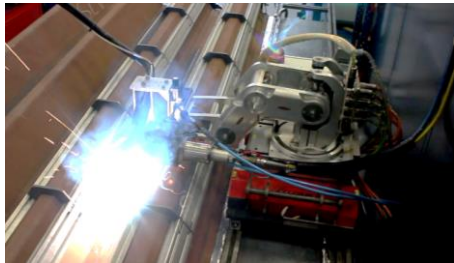
	R&D (public funded)	Contract research	Services
Laser welding			
Additive Manufacturing			
Laser micro processing			
Materials research			
			
			
			
			
			

Current fields of interest...

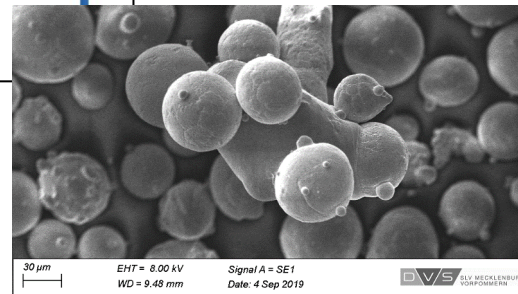
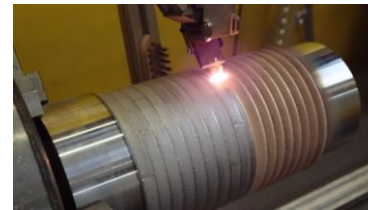
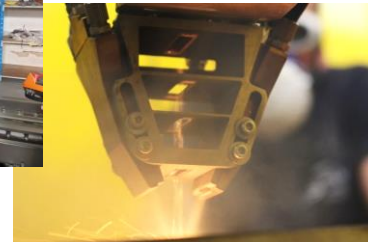
Laser welding special profiles



Single pass laser hybrid welding of 25 mm steel with 1.3 m/min

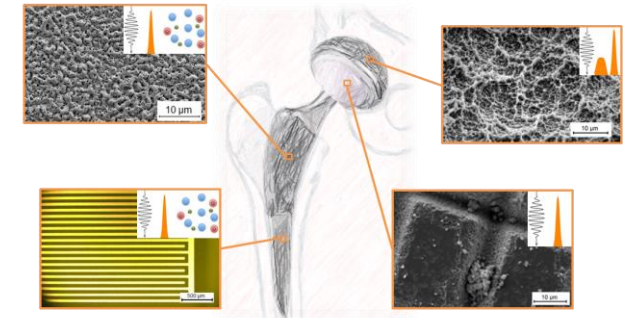


AM of complex structures



Surface functionalisation using USP-lasers

BMBF Cluster - Surfaces shaped by photonics



Contamination free Micro- und Nanostructuring by

- Ultrashort pulsed lasers (USP)
- Pulse shaping
- USP + Plasma



Thanks for your attention.



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