Advance Manufacturing Technology Center

Delivering top-tier engineering, manufacturing, and digital solutions to the energy sector and beyond

The Baker Hughes Advance Manufacturing Technology Center (AMTC) in Houston, Texas uses Additive Manufacturing to improve and simplify supply chains. With over 1,500 approved parts and more than 150,000 components made, each build is digitally created and tracked. Our process includes a Golden Build with API 20s standard Certificates of Compliance (CoC) and leading in-process monitoring solutions called BuildQuality™.

END-TO-END ENGINEERING AND MANUFACTURING SERVICES

	CAPABILITIES	BENEFITS
Engineering design services	• Repair with additive • Additive design • Reverse engineering	• Material enhancement • Performance improvement • Weight reduction
Manufacturing services	• Multi-physics simulation • Generative design • Topology optimization • Post processing	• Parts consolidation • Short lead time • Kitting
Digital inventory	• Inventory management • Part qualification • Order management • Costing tool • Part business case • Part digitization	• Digital catalog on Cloud • Real-time order visibility • On-demand • Inventory cost reduction • Cost reduction • Just in time
Quality & assurance documentation	• Machine-induced defect detection • Surface & volumetric NDE • Dimensional inspection • In-situ & remote real-time monitoring & inspection	• Product lifecycle traceability • Design cycle time improvement • Build quality assurance • Digital twin - Material digital passport (MDP)

Your premier partner in engineering, manufacturing, and digital solutions

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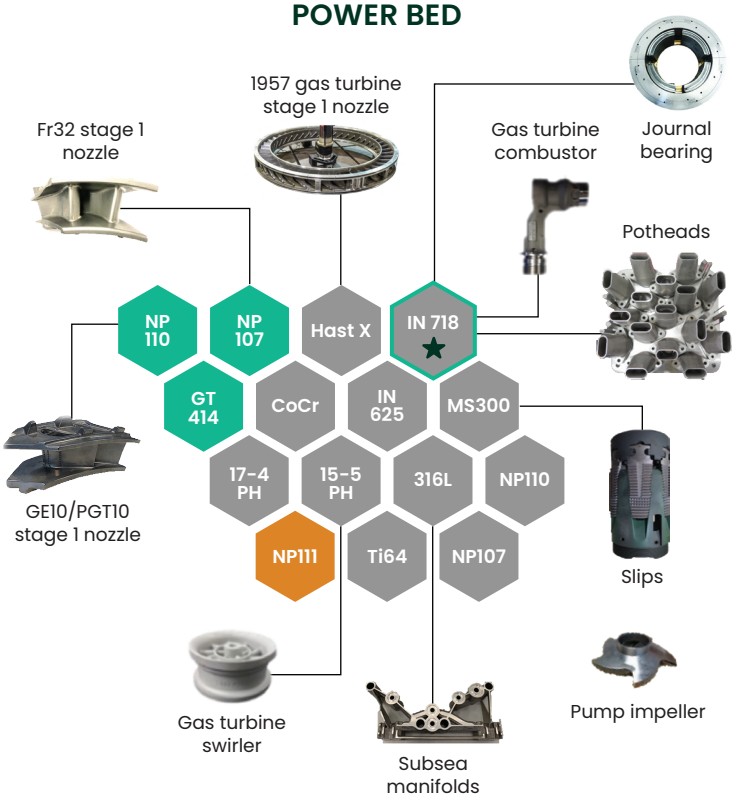
ADDITIVE MANUFACTURING CAPABILITIES

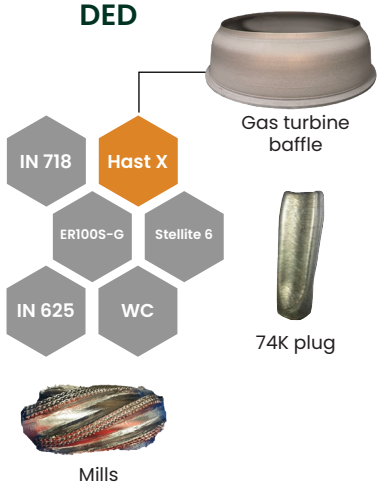
	MINIMUM THICKNESS	TOLERANCE	SURFACE FINISHED	DIMENSIONS	WEIGHT	TEMPERATURE RANGE
Laser powder bed fusion (DMLM)	0.001″	0.002″	≥ 250 µin Ra	15.7″ x 15.7″ x 15.7″		
Direct energy deposition (DED)powder	0.03″	0.01″	≥ 900 µin Ra	D: 25.6″ H: 22″		
Wire arc AM (WAAM)	0.196″	0.04″	N/A	D: 36″ x I: 96″		
Fused deposition modeling (FDM)	0.005″	0.005″	150 µin Ra	36″ x 24″ x 36″		
Computed tomography (CT)	Penetration: ~1″ [Fe @ 300 kV]	Resolution: 0.00004″ microtube 0.0000078″ nanotube				
Blue light scanning		Accuracy: 0.0009″ Mesh Resolution: 0.0039″ DOF: 9.8″				
Vacuum furnace				18″ x 24″ x 18″	450 kg	537°C – 1315°C

ALLOYS PORTFOLIO

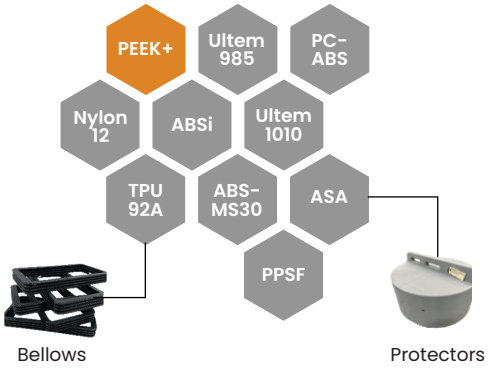
POWER BED



DED



NON-METALLICS



Baker Hughes proprietary alloy
Development in progress
Specification completed
Sour gas application (NACE)

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