

AM Process Category (ISO standard terminology)	Generic Name or Trademark Name*	Acronym	Companies with Noted Technologies	Machine/Apparatus
<b>Binder Jetting:</b> A liquid bonding agent is selectively deposited to join powder materials.	Z Corp Binder Jetting*		3D Systems (purchased Zcorp)	Z Corp
	Color Jet Printing*	CJP	3D Systems	ProJet CJP Series
	Voxeljet*		Voxeljet	VX Series
	ExOne Technology*		ExOne Company	M-Flex, Innovent Series, S-Print, Exerial, S-Max Series, M-Print
	Digital Metal*		Hoganas	DM P2500
	ComeTrue Binder Jetting*	CBJ	MicroJet Technology Co., Ltd.	T10
	3D Printing*	3DP		
	ZipDose*		Apreece	
	Single Pass Jetting*	SPJ	Desktop Metal	Production System
<b>Directed Energy Deposition (DED):</b> Focused thermal energy is used to fuse materials by melting as they are being deposited. Focused thermal energy means that an energy source (e.g., laser, electron beam, or plasma arc) is focused to melt the materials being deposited.	Laser Metal Deposition	LMD	TRUMPF Inc	TruLaser Cell 3000
	Laser Engineered Net Shaping*	LENS	Optomec	Aerosol Jet Series
	Electron Beam Additive	EBAM	Sciaky Inc.	EBAM Series
	Directed Light Fabrication	DLF		
	Direct Metal Deposition	DMD		
	Lasform*		AeroMet Corp	Insst
	Laser-Based Metal Deposition			
	Laser Freeform Fabrication			
	Direct Metal Tooling	DMT*	InssTek	MX-Standard models, MPC, MX-Mini
	Laser Generation			
3D Laser Cladding				
<b>Material Extrusion:</b> Material is selectively dispensed through a nozzle or orifice.	Fused Deposition Modeling*	FDM	Stratasys Inc	FDM, Makerbot
			Ultimaker	Ultimaker 2+
			LulzBot	LulzBot TAZ 6
			Zortrax	Inventure, M300, M200
			3D Systems	CubePro, CubePro Trio
			FlashForge	Creator Pro
	ARBURG Plastic Freeforming*	APF	ARBURG	Freeformer
	Fused Filament Fabrication	FFF	Afinia 3D	Afinia H-Series 3D Printers
			Airwolf 3D	Axiom Series, HD Direct Drive
			Shining 3D	Einstart
Aleph Objects Inc			Lulzbot	
		Arfona	r.Pod® Desktop 3D Printer	

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Material Extrusion ( <i>continued</i> )			BigRep America Inc.	BigRep ONE	
			INTAMSYS	FUNMAT Series	
			MakerGear	MakerGear M3-SE	
			Hyrel 3D	System 30M, Model 16a, Engine Sr, Engine Hr	
			Titan Robotics	Atlas, Hyperion	
			XYZ Printing	da Vinci Mini	
			BASF and Essentium		
			MAKEIT	MAKEIT PRO-L	
			Raise3D	Pro2 Series, N2 Series	
			BEEVERYCREATIVE	BEE THEFIRST+	
			Desktop Metal	Studio Printer	
			M3D	M3D Micro 3+	
		Composite Filament Fabrication*	CFF	Markforged	The Mark Two
		SurePrint Servo Technology*		3D Platform	3DP Workbench
	Plastic Jet Printing*	PJP	3D Systems		
	Melted Extrusion Modeling*	MEM	Beijing Tiertime	Up! series, Inspire Series	
	Big Area Additive Manufacturing	BAAM	CINCINNATI Inc	BAAM Series	
	Augmented Polymer Deposition*	APD	Rize Inc.	Rize One	
	Atomic Diffusion Additive Manufacturing	ADAM	Markforged	Metal X	
	Gel Dispensing Printing*	GDP	MASSIVit 3D	MASSIVit 1800	
<b>Material Jetting:</b> Droplets of build material are selectively deposited. Example materials include photopolymer and wax.	Multi-Jet Modeling	MJM			
	3D Inkjet Printing		Mimaki	3DUJ-553	
	Multi-Jet Printing	MJP	3D Systems	ProJet MJP Series	
	Metal Jetting				
	Objet PolyJet*		Stratasys Inc	Objet30 Pro	
	NanoParticle Jetting*		Xjet Ltd	X Carmel Series	
	Smooth Curvature Printing*	SCP	Solidscape	S390, S500, 3Z Series	
	MagnetoJet technology		Vader Systems	Mk1	

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<b>Powder Bed Fusion (PBF):</b> Thermal energy selectively fuses regions of a powder bed.	Laser Sintering	LS	Additive Industries Renishaw Inc.	MetalFAB1 RenAM Series, AM Series
	Plastic Laser Sintering		Prodways	ProMaker P Series
	Selective Laser Sintering*	SLS	3D Systems Shining 3D	ProX SLS 6100, sPro 60 HD-HS EP-P380, EP-C5050, EP-C3650
	Laser Melting Process			
	Direct Metal Laser Sintering *	DMLS	EOS Dunlee	EOSINT M 280, EOS M Series
	Selective Laser Melting*	SLM	SLM Solutions Shining 3D Fraunhofer ILT	SLM Series EP-M250
	Direct Metal Printing*	DMP	3D Systems	ProX DMP Series
	Electron Beam Melting*	EBM	GE Additive (with Arcam EBM)	Arcam Spectra H, Arcam Q Series, A2X
	Micro Laser Sintering*	MLS	3D MicroPrint	DMP50 GP, DMP 60 Series
	Selective Heat Sintering*	SHS	Blueprinter	Blueprinter M3
	Scanning Laser Epitaxy*	SLE	DDM Systems	SLE System
	LaserCUSING*		Concept Laser Inc	Mlab Series, M Series, M Line, X Line
	Multi-Jet Fusion*	MJF	HP	Jet Fusion Series
	High Speed Sintering	HSS	Xaar	
	Direct Metal Multi-Laser Melting		AddUp	FormUP 350
	Laser Metal Fusion	LMF	TRUMPF Inc	TruPrint 1000
Powder Bed Laser Melting*		Smit Röntgen		
<b>Sheet Lamination:</b> Sheets of material are bonded to form an object.	Ultrasonic Additive Manufacturing*	UAM	Fabrisonic (formerly Solidica)	SonicLayer Series
	Laminated Object Manufacturing*	LOM	Cubic Technologies	Solidimension SD 300
	Selective Deposition Lamination*	SDL	Mcor Technologies Ltd	IRIS HD, ARKe, Matrix 300+
	Selective Lamination Composite Object Manufacturing*	SLCOM	EnvisionTEC	SLCOM1
	Composite-Based Additive Manufacturing*	CBAM	Impossible Objects	CBAM Series

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<b>Vat Photopolymerization:</b> Liquid photopolymer in a vat is selectively cured by light-activated polymerization.	Stereolithography	SL (SLA)	3D Systems Formlabs Peopoly Rapid Shape Shining 3D 3DCeram DWS Systems	ProJet Series, ProX Series Form 2, Form 1+ Moai HA Series, D Series iSLA series Ceramaker XFAB Series, DW Series, XPRO S
	Projection Micro-StereoLithography	PμSL	Massachusetts Institute of Technology (MIT)	
	Large Area Projection Micro Stereolithography	LAPμSL	Lawrence Livermore National Laboratory (LLNL)	
	Digital Light Printing	DLP	3D Systems	FabPro 1000
	Digital Light Synthesis*		Carbon, Inc. (Carbon 3D)	M1, M2
	Digital Light Processing*	DLP	EnvisionTEC	P3 DSP, P4 Series, Vida Series
	Continuous Digital Light Manufacturing*	cDLM	EnvisionTEC	Micro Plus, Vida Series
	Continuous Liquid Interface Production*	CLIP	Carbon3D	M1
	Large Area Maskless Photopolymerization*	LAMP	DDM Systems	LAMP System
	MOVINGLight*		Prodways	LD Series, L Series, L Series D, V Series
	Heliolithography*	HL	Orange Maker	Helios One
	Solid Ground Curing*	SGC		
	Lithography-based Ceramic Manufacturing*	LCM	Lithoz Gmbh	CeraFab Series
	Light Initiated Fabrication Technology*	LIFT	Coobx	Exigo
	Spin, Scan, Selectively Photocure*	3SP	EnvisionTEC	Vector Series , Xtreme Series, Xede Series, 3Dent, Ultra Series

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<b>Hybrid Systems:</b> Material deposition is combined with CNC machining, which allows additive manufacturing and subtractive machining to be performed in a single machine or in an automated multi-machine cell so that production can utilize the strengths of both processes. (Term and definition are not part of the current ISO standard.)	3D Printing, CNC Milling		Enomoto Kogyo. Co., Ltd	3D5X
	Material Extrusion, CNC Milling, Laser Engraving, Laser Cutting		Zmorph	Zmorph 2.0 SX
	Material Extrusion, CNC Milling, 3D Scanning		Fabtotum	Fabtotum
	Material Extrusion, CNC Milling, Laser Engraving, Laser Cutting		Wasp	PowerWASP EVO
	DED, Milling		Mazak	INTEGREX i-400AM
	DED (laser metal deposition), CNC Milling, Material Extrusion, Laser Processing (marking, cutting, drilling), Surface and Volumetric Inspections	AMBIT*	Hybrid Manufacturing Technologies	AMBIT Tool Changer
	DED, Milling, Laser Processing (marking, drilling, cutting, etc.)	AMBIT*	Hamuel Maschinenbau + Hybrid Manufacturing Technologies	Hybrid HSTM 1000
	DED, Milling, Laser Processing (marking, drilling, cutting, etc.)	AMBIT*	Mazak + Hybrid Manufacturing Technologies	Integrex i400 AM, VC-500 AM
	DED, Grinding, Milling, Laser Processing (marking, etc.)	AMBIT*	ELB Schliff + Hybrid Manufacturing Technologies	mill Grind
	DED, Milling, Laser Processing (marking, drilling, cutting, etc.)	AMBIT*	Mitsui Seiki + Hybrid Manufacturing Technologies	Hybrid Vertex 55X-H
	DED, Milling	LENS*	Optomec	LENS Print Engine
	DED, Milling		Okuma	MU-6300V Laser EX
	DED, Milling		WFL	WFL Millturn M80 hybrid
	DED, Milling	ADD+ PROCESS	Ibarmia	ZVH Multiprocess
	Cold Metal Spray, Milling		Hermle	MPA 40
	Material Extrusion, Milling, 3D Scanning, Laser Cutting		Northhype	Adam, Adam Plus
	PBF: Metal LS, Milling		MC Machinery Systems INC	Lumex Avance 25
	DED, Milling		DMG Mori	LaserTEC 65 3D, LaserTEC 4300 3D
	Material Extrusion, CNC Milling, Laser Engraving		Symme3D	Symme3D System
	Material Extrusion, 3D Scanning, Laser Engraving, Drawing		FLUX	Flux Delta

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Hybrid Systems: <i>(continued)</i>	Powder Bed Fusion (laser metal sintering), Milling		Sodick	OPM250L
	Material Extrusion, 3D Scanning		AIO Robotics	Zeus
	Material Extrusion, CNC Milling	WHAM*	ORNL & Ingersoll Machine Tools, Inc	MasterPrint
	Material Extrusion, CNC Milling	LSAM*	Thermwood	
	Material Extrusion, 3D Scanning, Laser Engraving		XYZprinting	Da Vinci 1.0 3-in-1
	Contour Crafting*: Material Extrusion, Filling Process (pouring, injection), Surface Forming (troweling)	CC	University of Southern California (USC)	
	Material Extrusion (filament extruders, syringe extruders for bioprinting, droplet jetting extruders), CNC Milling, Laser Engraving, Food Printing, Painting, "Photo to Fabrication"		Aether	Aether 1