

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
	Voxeljet*		Voxeljet	
	ExOne Technology*		ExOne Company	
	Digital Metal*		Hoganas	
	ComeTrue Binder Jetting*	CBJ	MicroJet Technology Co., Ltd.	
	3D Printing*	3DP		
	ZipDose*		Aprecia	
<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	
	Electron Beam Additive	EBAM	Sciaky Inc.	
	Directed Light Fabrication	DLF		
	Direct Metal Deposition	DMD		
	Lasform*		AeroMet Corp	
	Laser-Based Metal Deposition			
	Laser Freeform Fabrication			
	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,
	ARBURG Plastic Freeforming*	APF	ARBURG	Freeformer
	Fused Filament Fabrication	FFF	Afinia 3D	Afinia H-Series 3D Printers
			Airwolf 3D	
			Shining 3D	Einstart
			Aleph Objects Inc	Lulzbot
			Arfona	r.Pod® Desktop 3D Printer
			BigRep America Inc.	BigRep ONE
			Hyrel 3D	System 30M, Model 16a, Engine Sr, Engine Hr
	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	

AM Process Category (ISO standard terminology)	Generic Name or Trademark Name*	Acronym	Companies with Noted Technologies	Machine/Apparatus
<b>Material Extrusion</b> ( <i>continued</i> )	Big Area Additive Manufacturing	BAAM	CINCINNATI Inc	
	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		
	Multi-Jet Printing	MJP		
	Metal Jetting			
	Objet PolyJet*		Stratasys Inc	
	NanoParticle Jetting*		Xjet Ltd	
	Smooth Curvature Printing*	SCP	Solidscape	
	MagnetoJet technology	MJP	Vader Systems	Mk1
<b>Powder Bed Fusion (PBF):</b> Thermal energy selectively fuses regions of a powder bed.	Laser Sintering	LS	Additive Industries Renishaw Inc.	MetalFAB1
	Selective Laser Sintering*	SLS	3D Systems Shining 3D	EP-P380, EP-C5050, EP-C3650
	Laser Melting Process			
	Direct Metal Laser Sintering *	DMLS	EOS	
	Selective Laser Melting*	SLM	SLM Solutions Shining 3D	EP-M250
	Direct Metal Printing*	DMP	3D Systems	
	Electron Beam Melting*	EBM	Arcam AB	
	Micro Laser Sintering*	MLS	3D MicroPrint	
	Selective Heat Sintering*	SHS	Blueprinter	Blueprinter M3
	Scanning Laser Epitaxy*	SLE	DDM Systems	
	LaserCUSING*		Concept Laser Inc	
	Multi-Jet Fusion*	MJF	HP	
	High Speed Sintering	HSS	Xaar	
Laser Metal Fusion	LMF	TRUMPF Inc	TruPrint 1000	

AM Process Category (ISO standard terminology)	Generic Name or Trademark Name*	Acronym	Companies with Noted Technologies	Machine/Apparatus
<b>Sheet Lamination:</b> Sheets of material are bonded to form an object.	Ultrasonic Additive Manufacturing*	UAM	Fabrisonic (formerly Solidica)	
	Laminated Object Manufacturing*	LOM	Cubic Technologies	
	Selective Deposition Lamination*	SDL	Mcor Technologies Ltd	
	Selective Lamination Composite Object Manufacturing*	SLCOM	EnvisionTEC	SLCOM1
	Composite-Based Additive Manufacturing*	CBAM	Impossible Objects	
<b>Vat Photopolymerization:</b> Liquid photopolymer in a vat is selectively cured by light-activated polymerization.	Stereolithography	SL	3D Systems	SLA*
			Formlabs	Form 2, Form 1+
			Shining 3D	iSLA series
			3DCeram	Ceramaker
			DWS Systems	
	Projection Micro-StereoLithography	P $\mu$ SL	Massachusetts Institute of Technology (MIT)	
	Large Area Projection Micro Stereolithography	LAP $\mu$ SL	Lawrence Livermore. National Laboratory (LLNL)	
	Digital Light Processing*	DLP	EnvisionTEC	
	Continuous Liquid Interface Production*	CLIP	Carbon3D	M1
	Large Area Maskless Photopolymerization*	LAMP	DDM Systems	
	MOVINGLight*		Prodways	
	Heliolithography*	HL	Orange Maker	Helios One
	Solid Ground Curing*	SGC	Cubital Inc. (no longer exists)	
	Lithography-based Ceramic Manufacturing*	LCM	Lithoz Gmbh	
Spin, Scan, Selectively Photocure*	3SP	EnvisionTEC		
Micro Continuous Liquid Interface Production	microCLIP	Northwestern University		

AM Process Category (ISO standard terminology)	Generic Name or Trademark Name*	Acronym	Companies with Noted Technologies	Machine/Apparatus
<p><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.)</p>	3D Printing, CNC Milling		Enomoto Kogyo. Co., Ltd	
	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	

AM Process Category (ISO standard terminology)	Generic Name or Trademark Name*	Acronym	Companies with Noted Technologies	Machine/Apparatus
<b>Hybrid Systems</b> ( <i>continued</i> )	Material Extrusion, CNC Milling, Laser Engraving		Symme3D	Symme3D System
	Material Extrusion, 3D Scanning, Laser Engraving, Drawing		FLUX	Flux Delta
	Material Extrusion, 3D Scanning		AIO Robotics	Zeus
	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