ADDITIVE MANUFACTURING (AM)

Core Competences in AM

- **z** Supplier for the AM process
- **a** AM Machine Manufacturer
- **n** AM User
- **s** AM Service Provider
- **f** AM Research
- **p** Peripheral Manufacurer
- **t** Using AM-Parts, No AM Production

- x Products - Manufacturer, Supplier
- o User with Competences, Knowhow

AM - Competences		Pre-Print				Materials for AM							Process Technology for AM														Use of AM					AM - Services						Type of AM-Parts								Application Fields							
company name	Core Competence	Scanner for AM	Data-Management	CAD-Tools	...	Metall Powder	Plastic Powder	Filament	Granulate	Fotopolymer	New Materials	...	Laser Beam Melting (LBM)	Selective Laser Sintering (S	Laser Deposition	EBM (E-Beam)	FLM (FDM) / AKF	PJM (Polyjet)	Binder Jetting	SL (Stereolithografie)	LLM (LOM)	Hybrid - Process	Periphery	Control Systems	Components	Quality Check	Machine Manufacturer	AM Part Production	Finishing of AM-Parts	Contract Manufacturing	...	Training, Instruction	Consulting, Techn. Support	Standardisation	Data Protection	Construction	...	Metall	Plastics	Models	Tools	Single parts	Spare parts	Service	...	Automotive	Aircraft	Medical Engineering	Tooling Machines	Electronics	Process Technology	Mech. Engineering	.....
3YOURMIND GmbH	s	o	x	x									o	o		o	o	o	o	o								o	o	x		x	x		x	x		x	x	x	x	x	x			o	o	o	o		o	o	
A. Steinmeyer GmbH & Co. KG	n			o										o														o											x										x			x	
A.MANNESMANN MASCHINENFABRIK GMBH	p																								x								o													o	o	o	o			o	
Aalberts Material Technology GmbH	s																												x	x	13	x	x																				
ACAM	s																															x	x																				
Additive Industries	a	o	x	o		o							x										x	x	x	x	x	x	x			x	x		x			x			x					x	x	x	x		x	x	
Additive Marking	s	x	x	x		o	o	o					o	o		o	o	o	o				o	o		o		o	o	o		x	x	o	x	o		o	o	o	o	o	o	o		x	x	x	x			x	
Alfred Kärcher SE & Co. KG	n		o	o			o	o		o				o			o	o								o		o	o			o				o			o	o	o	o	o									o	
AMF Andreas Maier GmbH & Co. KG	p												x				x					x	x																							x	x	x	x		x		
AM Flow	p		x		x																		x		x	x					12		x													x	x	x	x	x	x	x	
ANDRITZ AG	n	o	o	o		o	o	o		o		1	o	o			o	o	o	o		o						o										o	o	o		o										o	
ANTARES Life Cycle Solutions GmbH	s	x	o	x		o	o	o					o	o	o		o	o	o	o								o	o	o		o	x			x	x	o	o		o	o	o	o		o						o	o
ARBURG GmbH + Co KG	a		x	x					x		x						x						x	x		x	x	x				x	x	x					x							x	x	x	x	x	x	x	
AS-Schneider	t			o																																		o	o	o		o										o	
AZO GmbH +Co.KG.	p					o	o		o				o	o									x	x														o	o														
B&R Industrie-Elektronik GmbH	z																							x	x																												
BASF SE	n	o	o	o		o					o		o		o							o						o	o			o	o	o		o		o		o	o	o	o	o							o	o	
Gebr. Becker GmbH	z												o		o							o	x		2								x																				
BMF Bernstein GmbH	p												o	o		o	o		o				x			x	x	x	x	x		x	x					x	x	x	x	x	x	x		x	x	x	x	x	x	x	
Bosch Rexroth AG	z		x	x	x								x					x	x				x	x	x	x		x	x	x	x				x	x		x	x	x	x	x	x	x	x				x		x	x	x
BST eltromat International GmbH	n			o										o			o											o								o			o		o	o											
Carl Zeiss Industrielle Messtechnik GmbH	p	x	x		x							x														x						x					x	o	o	o	o	o	o	o		x	x	x	x	x	x	x	
CHIRON Group SE	a					o						o			x												x				x						x	o								o	o		o			o	
DIAMANT Metallplastic GmbH	z											10													x				x																	x	x	x	x	x	x	x	
DigiFabster Inc.	s		x	x									o	o	o	o	o	o	o	o	o							o	o				x		x	x		o	o	o	o	o	o			o	o	o	o	o	o	o	
Direct Manufacturing Research Center	f	o	o	o		o	o	o			o		x	x			x		x							o		x				x	x	x	x	x		x	x	x	x	x	x	x		x	x				x	x	
DURUM Verschleiss-Schutz GmbH	z					x					x	3			o							o			o						11		x				11	o						o	11							x	
Eckelmann	z																							x			o																			o	o	o	o			o	
Eisenhuth GmbH & Co KG	n							o			o						o									o			o	o								o	o		o					o	o		o			o	
Erasteel	z					x					o																	o																									
ExOne GmbH	a	o		o		x					o	x							x								x	x	x	x		x	x					x							x	o	o	o	o	o	o	o	
fabmaker GmbH	s	o	o	o				x					o	o	o	o	x	o	o	o	o	o	o	o	o	o	x	x	x	o		x	x	o	o	x		o	x	x	o	o	o			x	x	x	x	x	x	x	x
Festo AG&Co.KG	n		o	o		o	o	o					o	o			o			o			o					o	o									o	o	o	o	o											o
Fraunhofer IAPT Hamburg	f	x	o	o		o	o				x		x	x	x	x	x	o	o	o		o	o	o	o	o		o	x	o		x	x	x		x		x	x	x	x	x	x	x		x	x	x	x	x		x	
Fraunhofer IGD Darmstadt	f	x	x	x																						x							x													x	x	x	x	x		x	
Fraunhofer ILT Aachen	f	o				o	o			o	o		o	o	o					o			o	o	o	o	o		o		o			o		o		x	x	x	x	x	x	x									
Fritz-Süchting-Institut für Masch.wesen der TU Clausthal	f	o	o	o		o		o			o			o			o		o				o		o			o	o			o		o		o		o	o	o	o	o									o	o	
GE Additive	a	o	o	o		x					x		x			x			x				x	o	o	x	x					x	x	x		x		x								x	x	x	x	x	x	x	x
GEFERTEC GmbH	a											3										x					x	x		x		x	x			x		o		o		x	x	x		x	x		x		x	x	
Grenzebach Maschinenbau GmbH	p																						x	x																						x	x						x
H & H Gesellschaft für Engineering u. Prototypenbau mbH	s	x	x	x		x	x	x			x		x	x			x			x								x	x	x		x	x			x		x	x	x	x	x	x	x		x	x	x	x	x	x	x	
H.C. Starck Surface Technology and Ceramic Powders Gm	z					x					x		x	x	x	x						x												x												x	x	x	x	x	x	x	
Hans Weber Maschinenfabrik GmbH	a			o					o								x							o			x	x					o			o		o	x		o	o										o	
Harmonic Drive AG	z																								x			x											x			x							x	x		x	
Hasenauer&Hesser GmbH	s	x	x	o			o							o									x							x		x	x			x			x	x			x			o	o	o	o	o	o	o	
Hauhinco Maschinenfabrik G. Hausherr, Jochums GmbH &	n			o		o					o		o										o					o	o									xo				x	x									x	
Heraeus Deutschland	z	o	o			x					x	11	o			o			o				o	o	o	o		x			12					o		x		x	x	x	x			x	x	x	x	x	x	x	
Herding GmbH Filtertechnik	p					o	o				o		x	x	x	x						x	x	x	x		o	o			x						x																
Hermle Maschinenbau GmbH	a			o		o					o											x					x	x		x		x	x			x		x		x	x	x	x	x		x	x	x	x	x	x	x	x
HEROSE GmbH	t			o																																		o	o	o		o										o	

AM - Competences		Pre-Print				Materials for AM							Process Technology for AM														Use of AM					AM - Services						Type of AM-Parts								Application Fields							
company name	Core Competence	Scanner for AM	Data-Management	CAD-Tools	…	Metall Powder	Plastic Powder	Filament	Granulate	Fotopolymer	New Materials	…	Laser Beam Melting (LBM)	Selective Laser Sintering (S	Laser Deposition	EBM (E-Beam)	FLM (FDM) / AKF	PJM (Polyjet)	Binder Jetting	SL (Stereolithografie)	LLM (LOM)	Hybrid - Process	Periphery	Control Systems	Components	Quality Check	Machine Manufacturer	AM Part Production	Finishing of AM-Parts	Contract Manufacturing	…	Training, Instruction	Consulting, Techn. Support	Standardisation	Data Protection	Construction	…	Metall	Plastics	Models	Tools	Single parts	Spare parts	Service	…	Automotive	Aircraft	Medical Engineering	Tooling Machines	Electronics	Process Technology	Mech. Engineering	……
Homag Group	a																o																				o									x	x						x
P. Horn GmbH	n		o	o		o		o			o		x										o	o	o	x		x	x	x			o			x		x	o	x	x	x	x	x		x	x	x	x	x	x	x	
Hosokawa Alpine AG	a					o	x						o	o	o							o	x							o								o						o							x		
IGUS GmbH	s			x			x	x	x	o				o			o			o								x	x	x			o			x			x		x	x	x			x	x		x			x	
innoCast GmbH	n	o	o	o			o		o			o		o				o	o									x	x	x										x		x	x			x			x	x		x	
iwb TU München	f	o	o	o	x/o	o	o				o		o	o		o	o		o				o		o	o		o				x	x	o		x/o		x	x	x	x	x	x	x		x	x	x	x	x	x	x	
IST METZ GmbH	p																								x																	o	o								o		
IVOC-X GmbH	p					o	o	o			o		x	x	x	x	x	x	x	x	x		x	x	x		x	o	x	o		o	o			o			o							x	x	x	x	x	x	x	
JOMATIK GmbH	s			o			x							x											x			x	x	x		x	x			x			x	x	x	x	x			x		x	x	x	x	x	
KASTO Maschinenbau GmbH & Co. KG	p																						x															o	o										x				
KBA-FT Engineering GmbH	t			o																																		o	o			o	o	o								o	
Kegelmann Technik GmbH	s		o	o		o	o			o	o		o	o						o			o			o		x	x	x		x	x			x		x	x	x	x	x	x	x		o	o	o	o	o	o	o	
Keller Lufttechnik GmbH + Co. KG	p												x	x	x	x			x			x	x														x									x	x	x	x	x	x	x	
Krause DiMaTec GmbH	s		o	o		o	o	o			o		o	o			o			o								x	x	x		x	x			x		x	x	x	x	x	x	x					x		x	x	
Krauss Maffei	n			o		o	o	o		o	o		o	o			o	o		o								o	o			o	o			o		o	o	o		o	o									o	
KSG Leiterplatten GmbH	n																																																	x			
KSB AG	n		o	o		o		o					o						o									o				o	o	o		o		x	x	x		x	x									x	
KurtzErsa	a					o							x										o	x	x	x	x					x	x	o				x				x	x	x		x	o	o	o	o	o	x	
Lechler GmbH	p		o	o			o	o										o	o									o											o			o									o		
LIGHTWAY GmbH & Co. KG	s	o	o	o		o					o		o									o	o	o	o	o		x	x	x		x	x			x		x		x	x	x	x	x		x	o	o	o	o	o	x	
Linde AG	z					o						7	o	o	o								x		o			x	o			x	x	o				x								o	o	o	o		x		
LMD GmbH & Co. KG aA	s		o	o			o				o			o									x	x	x	x		x	x	x		x	x	x	o	x			x	x	x	x	x	x		x	x	x	x	x	x	x	
MAN Diesel & Turbo SE	n												x		x											x		x								(o)		x					x	x	x							x	
MAPAL Dr. Kress KG	n	o	o	o		o							x										o			x		x										x			x	x				x	x		x			x	
Materialise GmbH	s	o	x	x		o	o	o		o	o		o	o			o	o	o	o			o	x	x	x	o	x	x	x		x	x	x		x		x	x	x	x	x	x	x		o	o	o	o	o	o	o	
MBFZ toolcraft GmbH	n	o	o	o		o					o		o		o								o	o	o	o		x	x	x	x	x	x	x		x		x		x	x	x	x	x	x	x	x	x	x	x	x	x	x
Murtfeldt Kunststoffe GmbH & Co. KG	n	o	o	o			o	o	o		o		o	o			o						o					x	x	x			o			o			x	x	x	x	x			x			x	x	x	x	
MVTec Software GmbH	z				x																					x											x																x
Nanoval GmbH & Co KG	z					x					x		x	x	x	x															8							x								x	x	x	x	x	x	x	
NETZSCH Trockenmahltechnik GmbH, Hanau	p					o	o																x		x		o			o								o															
O.R.Laser	a	x	x	o		x							x		x							x					x			x		x	x					x						x		x	x	x	x	x	x	x	
Ohnhäuser	s		o	o		o							o													o		x	x	x								x				x					x					x	
Oskar FRECH GmbH + Co. KG	s		o	o		o							o															x	x	x						o		x		x	x	x	x						x		x	x	
Parker Hannifin Manufacturing Germany GmbH	n			o		o		o		o			o				o	o										o								o		x				x					x					x	
PEM RWTH Aachen	f		o	o				x		x	x			x			x	x					x	x	x	x	o	x	x			x	x			x		x	x	x	x	o	o	o		x			x			x	
Phoenix Contact	n	x	x	x		x	x	x	x	x	o		x	x			o	x	x	x			x	x	x	x	x	x	x	x		x	x	o	o	x		x	x	x	x	x	x	x		x		x	x	x	x	x	x
Piab Vacuum GmbH	p					o	o		o		o			o									x					o											o	o		o									o	o	
Poligrat	s																												x									o															
Praxair Surface Tecnologies GmbH	z					x							o	o	o	o			o																											x	x	x	x	x	x	x	
pro beam additive GmbH	a					o						o				x						x					x			x								x			x	x	x	x	x	o	o	o	o			x	o
PROTIQ GmbH - A Phoenix Contact Company	s	x	x	x		o	o	o	o	o	o	11	o	o			o	o	o	o			o	x	x	o	o	x	x	x	5	x	x	x		x	12	x	x	x	x	x	x	x	10	x	x	x	x	x	x	x	6
Proto Labs GmbH	s		o	o		o	o	o	o	o				o				o	o	o						o		x	x	x		o	o					x	x	x	x	x	x	x		x	x	x	x	x	x	x	
PROTOTEC GmbH & Co. KG	n	x	o	o		o	o	o		o		o	o	o			o			o			o	o	o	o		x	x	x		o	x	o		o		x	x	x	x	x	x	x		x	o	x	x	x	x	x	
PTW TU-Darmstadt	f					o							o									o						o	o				o					o										o	o		o		
Realizer	a	o		x		o							x														x					x	x			x		x		x	x	x	x	x		x	x	x	x		x	x	
Renishaw GmbH	a		x	x		x					x		x	x						x			x			x	x	x	o	x		x	x	x		x	4	x	x	x	x	x	x	x		5	x	x	x		x	x	6
Robert Bosch GmbH	n			o		o	o				o		o	o	o	o	o	o	o	o				x	x			o	o									x	x	x	x	x	x			x						x	
robomotion	t																																o			o			x		x	x	x	x								x	
Rösler Oberflächentechnik GmbH / AM Solutions	p	o		o		o	o	o		o			o				o	o									x	x	x	x		x	x			x		x	x	x	x	x	x			x	x	x	x	x	x	x	
Rosswag GmbH, Division Rosswag Engineering	n	o	o	o		x					x		o									o	x	o	x	x		x	x	x		x	x	x	o	x		x		x	x	x	x	x		x	x	x	x	x	x	x	
Ruwac Industriesauger GmbH	p												o	o	o	o							x										o	o																			
Sartorius AG	t			o									o	o			o													o			o					o	o									x		x		x	
SAUER GmbH	a			x		o									x							x					x					x	x					x			x	x	x	x		x	x		x		x	x	
Schaeffler Technologies AG & Co. KG	n					o	o	o		o			o	o			o	o		o		o	o		o	o		o	o				x	x				o	o	o	o	o	x	x		o	o	o	o		o	o	
Schneider Prototyping GmbH	s	o	o	o		o	o			o				o			o	o	o	o			o			o		x	x	x			x		o	o		x	x	x	x	x	x	x		o	o	o	o	o	o	o	
	s																																																				

AM - Competences		Pre-Print				Materials for AM							Process Technology for AM														Use of AM					AM - Services					Type of AM-Parts								Application Fields							
Firmenname	Kernkompetenz	Scanner f.AM	Datenmanagem	CAD-Tools	....	Metallpulver	Kunststoffpulver	Filament	Granulat	Fotopolymer	Neue Werkstoffe	....	LBM (SLM)	LS (SLS)	Laserauftrag	EBM (E-Beam)	FLM (FDM) / AK	PJM (Polyjet)	Binder Jetting	SL (Stereolithog	LLM (LOM)	Hybridanlagen	Peripherie	Steuerungen	Komponenten	Q-Kontrolle u.a.	....	AM Anlagenbau	Produktion mit A	Finishing v. AM-	Lohnfertigung	....	Schulung	Beratung	Normung	Datenschutz	Konstruktion	....	Metall	Kunststoff	Modelle	Werkzeuge	Einzelteile	Ersatzteile	Reparatur	....	Automotive	Luftfahrt	Medizintechnik	Werkzeugmasc	Elektronik	Verfahrenstechr	Allg. Maschinen	.....
Schneider Electric	z																						x	x	x				o	o						o								o			o	o		o	
SchuF	n		o	o		x		o					o				x		o										x							o		x	o	o		x						o	o	
Schuler Pressen GmbH	n			o		o	o						o		o		o		o										o				o			o		o	o	o	o	o			o	o		o		x	
SCHUNK	n		o	o			o							x	o														x	x	o		o	o			o		x		x	x	x			x		x	x	x	
Siemens AG	z		x	x	x	o	o	o	o				o	o	o		o					o	x	x	x				x	x	o	x	x	x	o	o		x	x	o	o	o	o	o							x	9
Simufact Engineering GmbH	s	o	x	x									o	o	o	o		o	o							o			o				x	x												x	x	x	x	x	x	x	x
SKF LS Germany GmbH	a			o																			o	o										o		o	x	x	o		x	o		x	o	x	x	
SMS group GmbH	a		o	o		x							o	o	o		o	o							o	o					8			o				o	o		o	o	o					x		o	x	
Steinbach AG	n			o								10	o							o									x		x			x						x	x	x	x	x	x	x		x	x	x	x	x	x	
Stihl AG & Co. KG	n		o	o		o	o						o	o			o						o			o			x	x			o			?		o	o	o	o	o									o	
Syntegon Technology GmbH	n			o	o		o	o	o		o	o		o	o							o				o				o									x	x		x	x	x									
THALETEC GmbH	t	o											o				o												o				o				o	o	o			o	o						o	o	
TLT-Turbo Gmbh	t			o		o					o																					o	o			o	o	o	o	(o)	o	o	o							o	
Trelleborg Sealing Solutions	t			o																													o			o			x	x							x	x	x	x	x	x	x	
Trovus Tech	n		o	o		o		o			o		o				o						o	o	o	o			x	x	x		x	x	o	x		x	x	x	x	x	x			o	o		o	o	o	
TRUMPF Laser- und Systemtechnik GmbH	a	x	o	o		o							x		x							o	(x)	(x)	x		x	o	o	o		x	x	o	o	o		x			x	x	x	x			x	x	x	x	x	x	
ULT AG	p					o	o				o		x	x	x	x						x	x	x	x		x	o	x	o		o	o			o		o	o												o	
UNI Duisburg-Essen / RTC	f	x	x	x		x	x	x			x		x	x			x						x					x	x	x		x	x	x			x	x	x		x	x										
ViscoTec Pumpen- u. Dosiertechnik GmbH	z					o					o	o					o							x	x		x						x					o			o	o			o	o	o	o	o	o	o	
Vitronic Dr.-Ing. Stein Bildverarbeitungssysteme GmbH	p	o											o													o											o	o			o				o		o				o	
Voith GmbH	n												o													o																				o		o					
Volkswagen AG	n		o	o		o	o				o		o	o	o		o	o	o	o			o						o	o						o		x	x		x	x	x	x			x			x		x	x	
WALTER EWAG	n	(x)	(x)	(x)																				o	o				o	x											o							o					x
Weeke Bohrsysteme GmbH	n																o																			o										x	x						
Weidmüller Interface GmbH & Co KG	n		o	o		o	o	o	o	o			o	o			o			o			o	o	o	o			o	o	o		o	o	o	o	o		x	x	x	x	x			x	x			o	x	o	o	x
WIBU-SYSTEMS AG	p		o																				x	o	o											x										o	o	o	o	o	o	o	
WITTENSTEIN AG	n		o	o				o		o							o	o											o																			o	o			o	
Wittmann Robot Systeme GmbH	n		o	o		o	o	o						o					o				o		o				o									o	o	o		o	o	o		x		x	x			x	

1 = aluminium-, zirconium-oxid
2 = Inert gas recirculation / pneumatic powder conveying
3 = welding wire
4 = simulation
5 = serial production
6 = consumer (sports, design, decoration, toys)
7 = process gases
8 = also atomizing metall powder
9 = power generation
10 = polymers, infiltrate
11 = alloy developement
12 = processes, simulation
13 = surface treatment, HIP, heat treatment