



## **Memorandum of Understanding for the recognition of the results of the EU-funded MachinE Tool Alliance for Skills (METALS)**

### **Taking into account that:**

- The European Union sees industry as the engine of innovation, productivity, growth and exports, being a source of quality jobs to Europeans;<sup>1</sup>
- In its report from the High-Level Strategy Group on Industrial Technologies, the European Commission places 3D printing among the digital technologies driving the ongoing revolution in industrial production, Industry 4.0;<sup>2</sup>
- The overall Additive Manufacturing (AM) sector grew by 21% worldwide, exceeding \$7.3 billion (USD) in 2017;<sup>3</sup>
- A recent survey, with close to 600 responses from Additive Manufacturing practitioners, ranked the lack of in-house talent as the second biggest reason for industry paying limited attention to additive technologies;<sup>4</sup>

### **The parties agree as follows:**

#### **I. Objectives**

The purpose of this Memorandum of Understanding (MoU) is to endorse the results of the EU-funded METALS project. As AM skills become increasingly important in the European machine tool sector and manufacturing in general, a machine tool workforce with solid AM-relevant skills will become even more relevant.

#### **II. Additive manufacturing skills and the advanced manufacturing industry**

In pursuing these objectives, the parties will commit to:

1. Acknowledging the relevance of vocational skills in the European manufacturing economy, as these guarantee access to good advanced manufacturing jobs in areas such as AM;

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<sup>1</sup> Factsheet "A holistic strategy and a strong partnership in a new industrial age"

<sup>2</sup> [https://ec.europa.eu/research/industrial\\_technologies/pdf/re\\_finding\\_industry\\_022018.pdf](https://ec.europa.eu/research/industrial_technologies/pdf/re_finding_industry_022018.pdf)

<sup>3</sup> <https://www.forbes.com/sites/tjmccue/2018/06/04/wohlers-report-2018-3d-printer-industry-rises-21-percent-to-over-7-billion/#1caf452a2d1a>

<sup>4</sup> <https://www.ey.com/Publication/vwLUAssets/ey-global-3d-printing-report-2016-full-report/%24FILE/ey-global-3d-printing-report-2016-full-report.pdf>



2. Recognising that vocational training and education (VET) plays a key role alongside academic education in building the AM talent pool, which Europe will need in order to keep its competitive position on advanced manufacturing technologies;
3. Welcoming the results of the METALS project in enhancing transparency on a variety of AM job profiles, relevant tasks and related skills;
4. Taking into account the METALS's learning materials, in the development of own training activities for existing workers or training programmes for AM students;
5. Seeking to raise the importance of entrepreneurial competences in the Additive Manufacturing business, as the technology's advantages open a myriad of opportunities for innovation in production;
6. Welcoming the role of EU funding programmes in stimulating advancements on AM training, facilitating the access to cutting-edge AM equipment by SMEs, as well as in bringing together industry, authorities, VET institutes and universities to promote AM educational policies.








## LIST OF ENDORSERS

No	INSTITUTION'S NAME	LOGO
1	<p><b>ADDILAN FABRICACIÓN ADITIVA S.L.</b></p> <p><a href="http://www.addilan.com">www.addilan.com</a></p>	
2	<p><b>ADDIMAT</b></p> <p>Asociación Española de Tecnologías de Fabricación Aditiva y 3D</p> <p><a href="http://www.addimat.es">www.addimat.es</a></p>	
3	<p><b>AFMEC</b></p> <p>Asociación Española de Mecanizado y la Transformación Metal Mecánica</p> <p><a href="http://www.afmec.es">www.afmec.es</a></p>	
4	<p><b>AGOFORM GmbH</b></p> <p><a href="http://www.agoform.de">www.agoform.de</a></p>	
5	<p><b>AIMMAP</b></p> <p>Associação dos Industriais Metalúrgicos, Metalomecânicos e Afins de Portugal</p> <p><a href="http://www.aimmap.pt">www.aimmap.pt</a></p>	



6	<p><b>AITA</b> Associazione Italiana Tecnologie Additive</p> <p><a href="http://www.aita3d.it">www.aita3d.it</a></p>	
7	<p><b>ASSINDUSTRIA SERVIZI SPA</b></p> <p><a href="http://www.assindustriaservizi.it">www.assindustriaservizi.it</a></p>	<p><b>Assindustria Servizi SPA</b> Società di servizi della</p>  <p>Associazione Industriali Cremona</p>
8	<p><b>ASSOLOMBARDA CONFINDUSTRIA MILANO, MONZA E BRIANZA, LODI</b></p> <p><a href="http://www.assolombarda.it">www.assolombarda.it</a></p>	 <p><b>ASSOLOMBARDA</b></p>
9	<p><b>CONFINDUSTRIA LECCO E SONDRIO</b></p> <p><a href="http://www.confindustrialeccoesondrio.it">www.confindustrialeccoesondrio.it</a></p>	 <p><b>CONFINDUSTRIA LECCO E SONDRIO</b></p>
10	<p><b>EOS S.r.l.</b> Electro Optical Systems</p> <p><a href="http://www.eos.info">www.eos.info</a></p>	








11	<p><b>EMIT Feltrinelli</b></p> <p><a href="http://www.emit.polimi.it">www.emit.polimi.it</a></p>	 <p><b>EMiT</b>Feltrinelli</p>
12	<p><b>EPMA</b> European Powder Metallurgy Association</p> <p><a href="http://www.epma.com">www.epma.com</a></p>	
13	<p><b>ESKUIN</b> Clúster de la Ferrería y el Suministro Industrial</p> <p><a href="http://www.eskuin.com">www.eskuin.com</a></p>	
14	<p><b>FSM GmbH &amp; Co. KG</b></p> <p><a href="http://www.fsm-gmbh.de">www.fsm-gmbh.de</a></p>	
15	<p><b>Hesse Vorrichtungen und Fertigungstechnik GmbH</b></p> <p><a href="http://www.hesse-vorrichtungen.de">www.hesse-vorrichtungen.de</a></p>	



16	<p><b>HETEL</b> Heziketa Teknikoko Elkartea</p> <p><a href="http://www.hetel.eus">www.hetel.eus</a></p>	
17	<p><b>IBARMIA</b></p> <p><a href="http://www.ibarmia.com">www.ibarmia.com</a></p>	
18	<p><b>IIS</b> Istituto Italiano della Saldatura</p> <p><a href="http://www.iis.it">www.iis.it</a></p>	
19	<p><b>IKASLAN GIPUZKOA</b> Lanbide Heziketako Ikastetxeen Elkartea</p> <p><a href="http://www.ikaslangipuzkoa.eus">www.ikaslangipuzkoa.eus</a></p>	
20	<p><b>INVEMA</b> Fundación de Investigación de la Máquina-herramienta</p> <p><a href="http://www.invema.es">www.invema.es</a></p>	






21	<p><b>I.T.S. LOMBARDIA meccatronica</b></p> <p><a href="http://www.itslombardiameccatronica.it">www.itslombardiameccatronica.it</a></p>	
22	<p><b>MBS Hydraulik GmbH &amp; Co. KG</b></p> <p><a href="http://www.mbshydraulik.de">www.mbshydraulik.de</a></p>	
23	<p><b>MTA</b> The Manufacturing Technologies Association</p> <p><a href="http://www.mta.org.uk">www.mta.org.uk</a></p>	
24	<p><b>OMERA S.r.l.</b></p> <p><a href="http://www.omeracom">www.omeracom</a></p>	
25	<p><b>PIXEL SISTEMAS</b></p> <p><a href="http://www.pixelsistemas.com">www.pixelsistemas.com</a></p>	



26	<p><b>POLITECNICO DI MILANO</b> Department of Management, Economics and Industrial Engineering <a href="http://www.polimi.it">www.polimi.it</a></p>	 <p><b>POLITECNICO</b> MILANO 1863</p>
27	<p><b>PRODINTEC</b> <a href="http://www.prodintec.es">www.prodintec.es</a></p>	 <p>FUNDACIÓN <b>PRODINTEC</b> FACTORY OF FUTURE</p>
28	<p><b>Renishaw PLC</b> <a href="http://www.renishaw.com/additive">www.renishaw.com/additive</a></p>	 <p><b>RENISHAW</b>  apply innovation™</p>
29	<p><b>Ridix Spa</b> <a href="http://www.ridix.it">www.ridix.it</a></p>	 <p>Rappresentanze macchine utensili Tecnologie per lavorazioni meccaniche</p>
30	<p><b>Streparava s.p.a.</b> <a href="http://www.streparava.com">www.streparava.com</a></p>	 <p><b>streparava s.p.a.</b></p>





31	<p><b>SYMOP</b></p> <p><a href="http://www.symop.com">www.symop.com</a></p>	 <p><b>S Y M O P</b> Membre de la FIM</p>
32	<p><b>Technology Industries of Finland</b></p> <p><a href="http://teknologiateollisuus.fi">teknologiateollisuus .fi</a></p>	 <p><b>Technology Industries of Finland</b></p>
33	<p><b>University of Sheffield Advanced Manufacturing Research Centre</b></p> <p><a href="https://amrc.co.uk/">https://amrc.co.uk/</a></p>	 <p><b>The University Of Sheffield.</b></p>