



Unit 1: Advanced manufacturing – companies’ mindset and current trends

Subunit 1.1: Basics

Activity 1.1.2: Advanced Manufacturing – what does it really mean?

Learning Outcomes	Knowledge	Skills	Responsibility and Autonomy
<p>(paste the appropriate LOs from the LOs Matrix)</p>	<ul style="list-style-type: none"> fundamental knowledge of advanced manufacturing: <ul style="list-style-type: none"> key characteristics of 1st, 2nd, 3rd and 4th industrial revolution principles of industry 4.0 	<ul style="list-style-type: none"> Identify and illustrate the 4 development stages of industrial revolution compare key characteristics of 3rd and 4th industrial revolutions in order to recognise the benefits of the 4th industrial revolution in comparison with the 3rd one identify key principles of industry 4.0 explain how to apply key characteristics of industry 4.0 to examples from its respective VET field/ industry sector provide examples of the use of advanced manufacturing in different sectors show benefits of implementing advanced manufacturing for the improvement of product quality, cost reduction, flexibility to adapt to changes in the market and reduction of time to get new products to market distinguish between terms and concepts of digitization, digitalization and digital transformation differentiate between digitalization and Industry 4.0 in order to 	<ul style="list-style-type: none"> demonstrate knowledge and skills obtained for development of cooperation between VET and business sector



		<p>recognise the evolution</p> <ul style="list-style-type: none"> • demonstrate knowledge and skills obtained for development of cooperation between VET and business sector of the industrial production paradigm • list 9 main technologies that are transforming • industrial production 	
Type of activity	<input checked="" type="checkbox"/> PDF <input type="checkbox"/> PPT <input type="checkbox"/> Image/Infographic <input checked="" type="checkbox"/> Video	<input checked="" type="checkbox"/> Test/Quiz <input type="checkbox"/> Game <input type="checkbox"/> Other (specify)	
Duration	90 minutes		
Activity (to be inserted into Moodle and seen by learners)	<p>We combined two YouTube videos and two articles that will provide you with insights into the world of advanced manufacturing.</p> <p>To complete this activity:</p> <ol style="list-style-type: none"> 1. Watch the two videos (20 minutes) <ul style="list-style-type: none"> • “Speaking of the future: Advanced Manufacturing” https://www.youtube.com/watch?v=KyWuHcvyqD0 • “The Robot Revolution: the New Age of Manufacturing” (40 minutes) https://www.youtube.com/watch?v=HX620M4QunVmA 2. Read the following article (40 minutes): “Industry 4.0 for Advanced Manufacturing and its Implementation” (pdf attached) 3. Read the following article (15 minutes): “Glossary of Advanced Manufacturing Terms” https://www.manufacturing.gov/glossary 4. Complete the short quiz (15 minutes). 		
Assessment	Learner will answer short quiz on the topic.		
Resources	PC, laptop, tablet, smartphone, Internet connection		
Further reading	SMEART University-Business Cooperation Model and Guidelines. http://www.smart.eu/en/results/handbook-smart/SMEART_Handbook_2019_web_EN.pdf		

