

Working in Industrial Automation

Unit	Working with sensors		
Prerequisites:	<ul style="list-style-type: none"> - Basic pneumatic systems - Basic knowledge of electricity - Basic knowledge about most common sensors (magnetic, optical, inductive, capacitive, mechanical) 		
Work tasks:	<ul style="list-style-type: none"> - Testing sensors according to different environments and different materials - Choosing the most proper sensor for detecting, measuring and sorting materials in a process - Assembly, programming and commissioning of a production module/line including a variously of different sensors. - Adjusting sensors to make the production module/line work properly - Fault finding on modules in order to identify/replace broken components. - Applying general safety rules and writing a test report. 		
Learning Outcomes:	<i>Knowledge</i>	<i>Skills</i>	<i>Competence</i>
	<ul style="list-style-type: none"> - He/she knows the principle of variously different sensors - He/she knows the electro technical symbols for the most common sensors in a drawing. 	<ul style="list-style-type: none"> - He/she is able to analyse the process that has to be controlled and to choose the right sensor. - He/she is able to assemble and adjust sensors to work properly - He/she is able to work according to given quality standards 	<ul style="list-style-type: none"> - He/she is able to make changes to a production line and use different sensor combinations for multiple sensing functions
	<ul style="list-style-type: none"> - He/she is able to identify the different sensors in a production line. - He/she is able to make mechanical, electrical and pneumatic installations and adjustments on a production line according to given drawing 	<ul style="list-style-type: none"> - He/she is able to replace a broken sensor - He/she is able to check if the sensors in a production line is working properly using different tools 	<ul style="list-style-type: none"> - He/she is responsible for the correct functioning of the whole installation using the drawings. - He/she uses the right strategy to fix identified faults.
<ul style="list-style-type: none"> - He/she can describe the right function in a production line - He/she knows how to describe the general safety rules. 	<ul style="list-style-type: none"> - He/she is able to work in proper conditions, trying to avoid any kind of risk. 	<ul style="list-style-type: none"> - He/she is able to cooperate with other teams in order to make a production line work properly - He/she is responsible for applying general and specific branch related safety rules and procedures in his/her work. 	



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	- He/she knows the different principles of programming	- He/she is able to create different functions in a PLC-program	- He/she is able to optimize a programme in a production line,
Reference to national qualification:	The Netherlands: Technicus engineering (NQF 4) Sweden: El och Energiprogrammet inriktning Automation (SeQF 4) Finland: Grundexamen inom el- och automationsteknik Level 4 (NQF 4) Spain: Técnico Superior en Mecatrónica Industrial Level 5 (NQF 5) Turkey: Endüstriyel Otomasyon Teknolojileri Alanı, Mekatronik dalı (NQF 4)		
Reference to EQF:	(Level 4 - The unit is too small to refer to an EQF level. Because it refers to an NQF this is an indirect reference to the EQF to which the regarding NQF belongs)		
ECVET point	N/A		
Assessment:	Theoretical test and assessment assignment to evaluate both skills and competences in relation to the learning outcomes described above. For specific information about the assessment – please refer to the Assessment matrix		

