

Lesson plan Title

School	<input type="radio"/> Primary <input type="radio"/> Middle <input checked="" type="radio"/> High
Year / Class	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4 <input type="radio"/> 5
Subject : Automated Systems	Topic: Pneumatic and Hydraulic Actuators
CLIL language	English

Teacher / Teaching team profile	Teacher's role: <input checked="" type="radio"/> Main Teacher <input type="radio"/> Co-teacher <input type="radio"/> Other: _____ Subject taught: Automated Systems
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Student group profile (general)	CEFR Level: <input type="radio"/> A1 <input type="radio"/> A2 <input type="radio"/> C1 <input type="radio"/> B1 <input type="radio"/> B2 <input type="radio"/> C2
	<input type="radio"/> Experiences of CLIL <input type="radio"/> Migrant background <input type="radio"/> English mother tongue <input type="radio"/> Special Educational Needs : ____ <input checked="" type="radio"/> Other mother tongue <input type="radio"/> Other: _____

Timetable fit	<input type="radio"/> Module <input checked="" type="radio"/> Lesson	Previous lessons: What it means to Automate a Process
		Future lessons: Pneumatic and Hydraulic Valves

Resources & tools	For this lesson, the use of the whiteboard and L.I.M. in the Pneumatic laboratory is provided (so that students can see and touch some actuators) (usually we also use some software simulators but not in this lesson)
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Students' prior knowledge, skills, competencies	Subject	Language
	theory and construction of electrical systems and mechanical design	No prior language knowledge related to the topics

Learning Outcomes expected for this lesson	<p>The learning Outcomes expected for this lesson is that most of the students learn to recognize and name in L1 and L2 the main hydraulic and pneumatic actuators and where we can find them (cognitive skills required are LOTS, like remembering or identifying) (Critical thinking skills 1 and 2).</p> <p>For the more able learners working in groups, to differentiate the output, there is a part where they have to activate higher order thinking skills (HOTS) (Critical thinking skills 5).</p> <ul style="list-style-type: none"> • Know: the name of main hydraulic and pneumatic actuators in L1
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	<p>and L2</p> <ul style="list-style-type: none">• Be able to: recognize the main hydraulic and pneumatic actuators• Be aware: that a mechanical maintenance technician in our area may often have to deal with these actuators
Methodology	<p>To integrate language and content I would like to encourage communication with and between students beginning the lesson with a discussion.</p> <p>Later, presenting photos related to the use of actuators in the agricultural reality of our valley and the mechanization of daily agricultural work, I would like to highlight to students the strong link between the contents of the lesson and the culture of our territory.</p> <p>After working in groups (one for each type of actuator seen), the students, will create a graph containing: the name of the actuator in L1 and L2, the symbol for the automation schemes, where it was used, remembering the photos, (LOTS) and where else we could use it.</p> <p>This last column I assume is compiled by the most skilled students activating higher order thinking skills (HOTS) so I can make a sort of differentiation of the output. But, with this group activity, also the less able learners can participate in the process of invention and imagination (HOTS) with the rest of the group.</p> <p>At the end of the lesson the learners, combining the work of the various groups, together create the table of the Pneumatic and Hydraulic Actuators, their use and “ideas for future applications”.</p>