



PLB exercise - SLM - Schmidt Light Metal

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| Module 4: Key Enabling Technologies (KET) for Foundry 4.0 |
| Learning Outcomes linked: |
| <ul style="list-style-type: none">- Logical thinking.- Problem solving.- Creativity in solving problems.- Deep understanding of the problems causes.- Define the sensor concept.- Understand the sensors network and their classification. |
| Aims of the Activity: |
| To find ways to solve the problem of the continuous monitoring of the quality of the water-glycol hydraulic fluid in a pressure die casting cell. |
| Duration of the Activity: |
| Individual work: 1 hour Team work: 6 hours Group reflection: 2 hours Total: 9 hours |
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| Introduction |
| <p>The project focuses on how to continuously monitor the quality of the water-glycol hydraulic fluid in a pressure die-casting cell, in order to ensure correct cell operation.</p> <p>The team will explore the different perspectives of the problem in order to find the most effective solution and explain why this is the most suitable choice for the company.</p> |
| Problem |
| <p>How to monitor continuously the quality of the water-glycol hydraulic fluid in a pressure die-casting cell.</p> |
| Learning objectives |
| <p>How and where to install the sensors to measure the quality of the water-glycol hydraulic fluid. How to proceed to data acquisition. How to proceed to data analysis and correction.</p> |
| Resources |
| <p>Technical manuals of the machine. Sensors catalogues. Website technical information.</p> |
| Product specifications |
| <p>Plan identifying:</p> <ul style="list-style-type: none"> • Suitable Sensors. • Location where you place sensors. |
| Guiding questions |
| <p>Do you really need to control the quality of the water-glycol hydraulic fluid? What is the problem of non-controlling? Why do you choose this sensor? What you will do with the collected data?</p> |
| Assessment exercises |
| <p>Respond individually to the guiding questions. Discuss the answers together.</p> |
| Time constraints |
| <p>Timetable: one month (1 session / week):</p> <ul style="list-style-type: none"> • 2 team work sessions (3 hours each). • 2 group reflection (1 hours each). |