

## Ideation Phase

### Define the Problem Statements

Date	
Team ID	LTVIP2026TMIDS45779
Project Name	Electric Motor Temperature Prediction Using Machine Learning
Maximum Marks	2 Marks

#### Customer Problem Statement Template:

Industrial operators and maintenance engineers struggle with unexpected electric motor overheating, which causes equipment failure, production downtime, and increased maintenance costs. Traditional temperature sensors increase system complexity and cost while providing limited predictive capability.

They need a reliable, cost-effective, and real-time temperature prediction system that uses existing motor sensor data to accurately estimate Permanent Magnet surface temperature and prevent failures before they occur.

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<b>I am</b>	An industrial plant operator or maintenance engineer who relies on electric motors	
<b>I'm trying to</b>	Ensure electric motors do not overheat and avoid unexpected downtime	
<b>but</b>	Temperature sensors are costly, require maintenance, and sometimes fail in harsh environments	
<b>because</b>	Electric motors overheat due to heavy operation and poor cooling	
<b>which makes me</b>	Worried about sudden failures, expensive repairs, and downtime	
<b>feel</b>	Worried about sudden failures, expensive repairs, and downtime	

Reference: <https://miro.com/templates/customer-problem-statement/>