Ideation Phase
Define the Problem Statements

Date	19 February 2026
Team ID	LTVIP2026TMIDS84143
Project Name	Electric Motor Temperature Prediction using Machine Learning
Maximum Marks	2 Marks

Customer Problem Statement Template:

This project focuses on understanding the challenges faced by electric vehicle manufacturers and maintenance engineers in monitoring electric motor temperature. Since internal motor temperature cannot be easily measured using physical sensors, there is a need for a predictive solution using available operational data. Identifying this problem helps in developing an efficient machine learning-based temperature prediction system.

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	An Electric Vehicle manufacturer / Industrial motor operator	Monitor and control the internal temperature of electric motors to prevent overheating	It is difficult to measure internal permanent magnet temperature directly	Installing physical thermal sensors inside the motor is costly and complex	Worried about unexpected motor failure and reduced efficiency
PS-2	A Maintenance Engineer	Predict motor temperature early to take preventive action	I only have access to external parameters like voltage, current, torque, and speed	Internal thermal behaviour cannot be directly observed and requires predictive modelling	Frustrated due to limited visibility into motor health and risk of breakdown