PROBLEM STATEMENT

Background: Fire is the rapid oxidation of a material in the exothermic chemical process of combustion, releasing heat, light and various reaction products. Although it's a natural process, it can lead to great destruction. On average, everyday 35 people killed due to Fire-related accidents in the five years between 2016 and 2020, according to a report by Accidental Deaths and Suicides in India (ADSI), maintained by the National Crime Records Bureau. Fire is one of the major concerns when analyzing the potential risks on the building. Industrial Fires and Explosions cost companies and governments billions of Rupees every year apart from the loss of life, which can't be described in monetary terms. These Fires not only results only in huge loss of Lives and Property but also disrupt production in the Industry. The Nilflisk says that the five major causes of industrial fires and explosions are Combustible dust, hot works, Flammable liquids and gases, equipment and machinery and Electrical hazards.

Objective: For an industry develop an Industry-Specific Intelligent Fire Management System

- That can detect any changes in environment like detecting hazardous gas, flame detection and temperature that can lead to fire and exploitation incident.
- Based on the temperature readings and if any Gases are present the exhaust fans should be powered ON automatically to replaces contaminated and stale air with fresh, healthy air.
- If any flame is detected the sprinklers will be switched on automatically.
- Emergency alerts are notified to the authorities and Fire station. So that the authorities and Fire Fighters can control the situation.