

# Problem Statement Worksheet (Hypothesis Formation)

What are the possible strategies Nordic Sensor can implement to reduce the high failure rate of 15% in InSense sensor manufacturing to below 5%?

## 1 Context

**Nordic Sensor**, a leading manufacturer of IoT sensors, recently introduced a new product called **InSense**. During early-stage development testing, the sensor showed a typical manufacturing failure rate of **1-2%**. However, the current failure rate has risen sharply to **as high as 15%**. Company leadership is prioritizing a swift resolution to bring the failure rate back down **below 5%**, ensuring that Nordic Sensor can fulfill its substantial backlog of advance orders on schedule.

## 2 Criteria for success

The company finds the cause of high failure rate as soon as possible (highly time sensitive), followed by implementing corrective actions to reduce the failure rate to below 5%.

## 3 Scope of solution space

There are 4 factories in Asia solely focused on InSense. There are 26 suppliers for the 7 InSense sensor parts. Nordic sensor will decide whether the culprit is specific to a part(s) or manufacturer(s) or to a factory.

## 4 Constraints within solution space

Data from Singapore are the only ones currently available.  
Cert system limits data export up to 20K rows.

## 5 Stakeholders to provide key insight

Tony Abraham - InSense VP  
Otto Evans - InSense President  
Shane Buchholz - Head Engineer  
Gary Neumont - Head of Manufacturing  
Jessica Jones - QA/QC Engineer  
Bernard Ong - CTO  
Karen Chu - LthBat President, Anna Landis - LithBat - VP  
James Hansk - CEO

## 6 Key data sources

Cert system - manufacturing dates with test results along with vendor codes and factory location