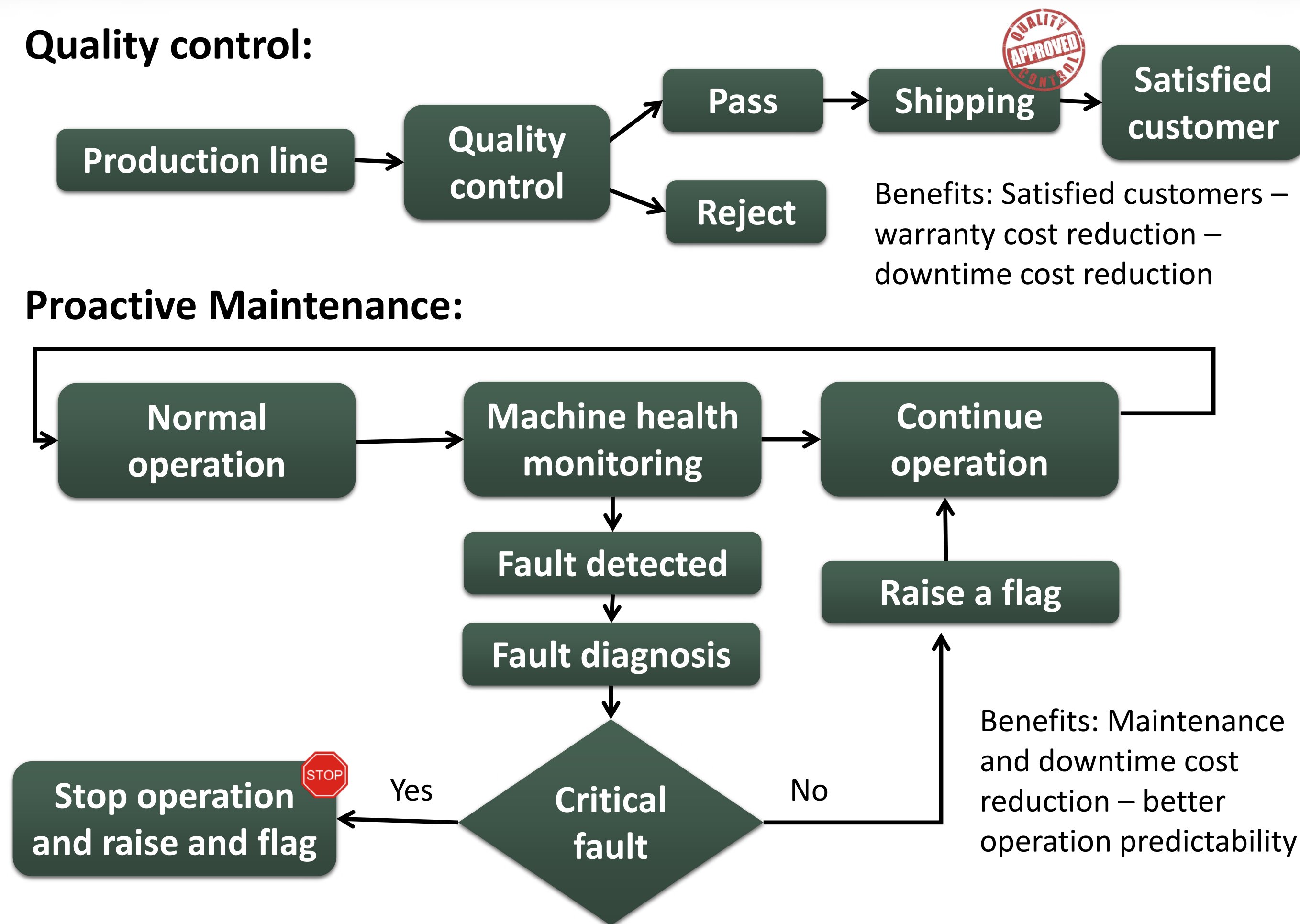


Advanced Fault Detection and Diagnosis

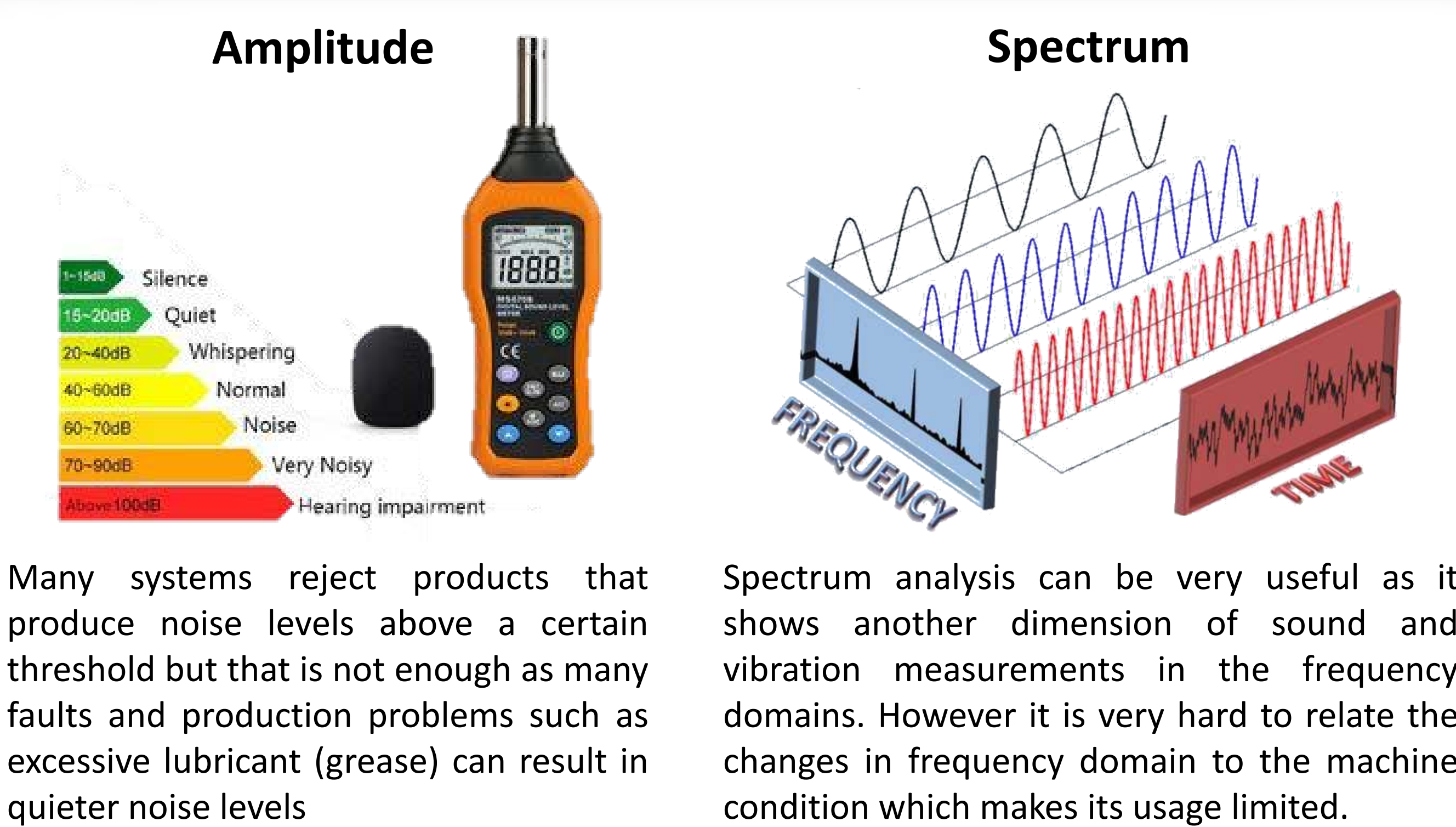
Centre for Mechatronics and Hybrid Technology
Mechanical Engineering McMaster University
Mahmoud Ismail

EECOMOBILITY (ORF) &
HEVPD&D CREATE

WHY FAULT DETECTION & DIAGNOSIS?

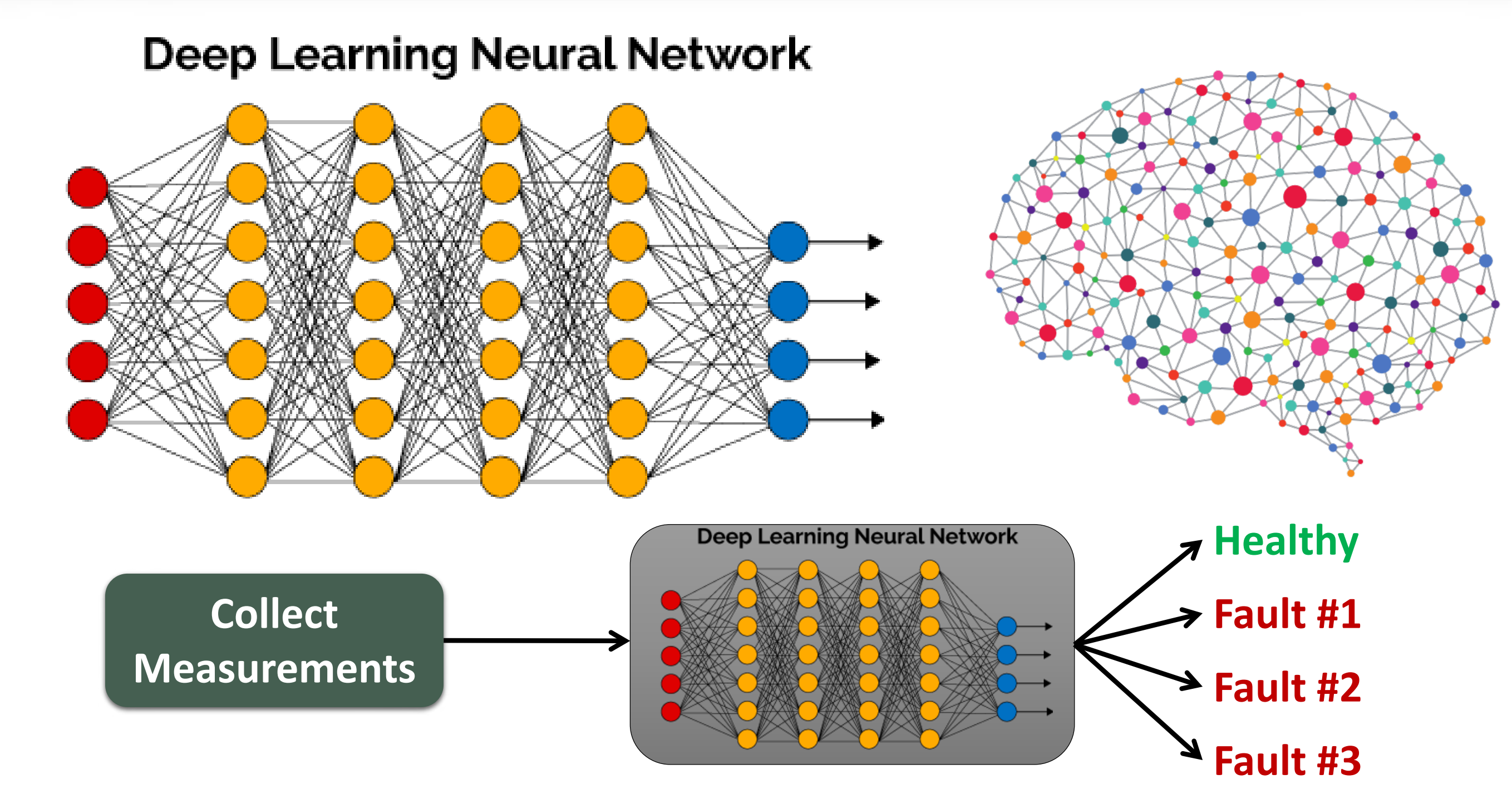


WHY SOUND & VIBRATION IS COMPLEX



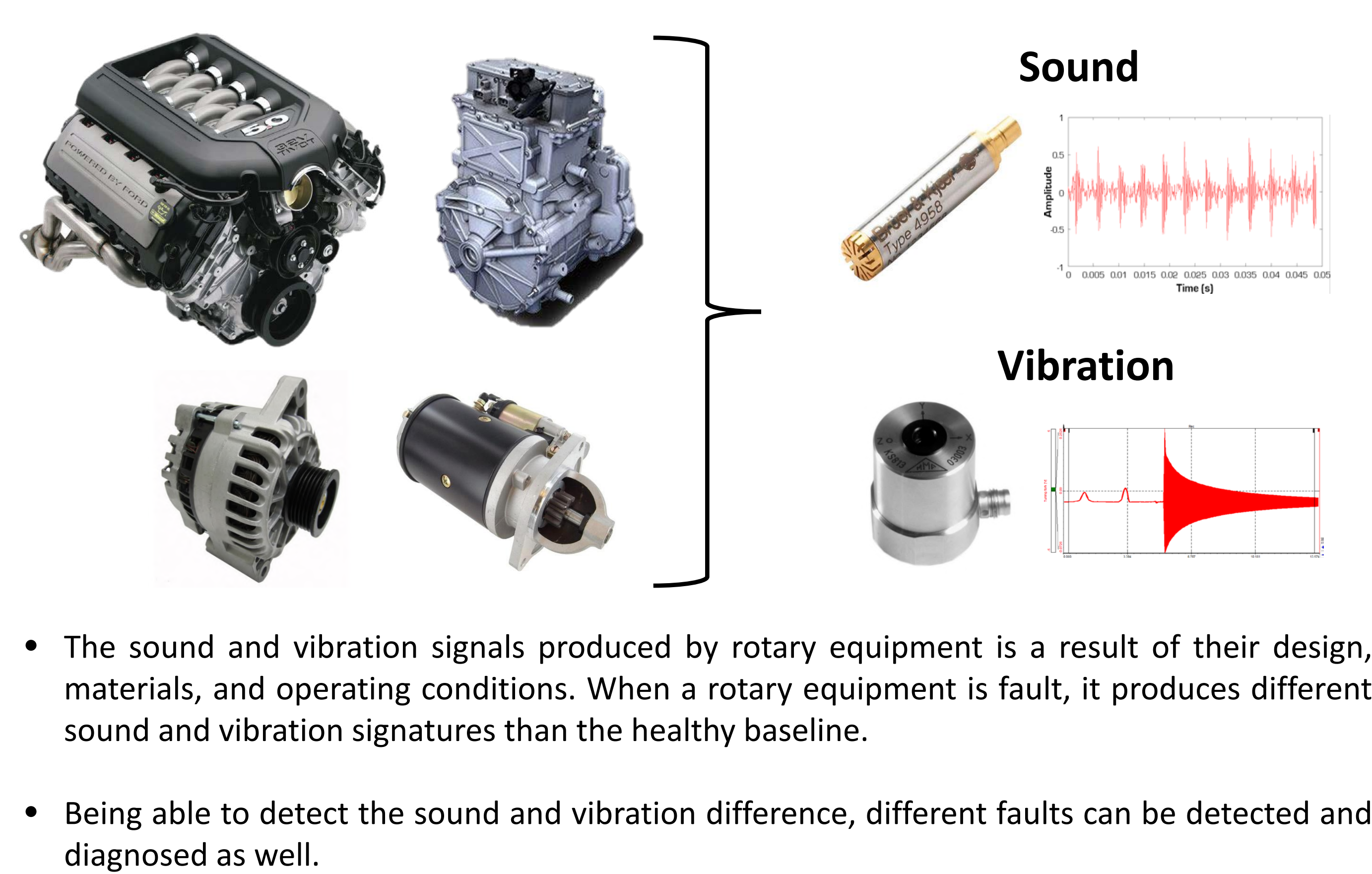
Complexity: to successfully use sound and vibration measurements to detect and diagnose faults, the analysis algorithm should take into consideration the changes in both time and frequency domains. Whether the changes are an increase of a decrease in sound and vibration levels.

DEEP-LEARNING AI

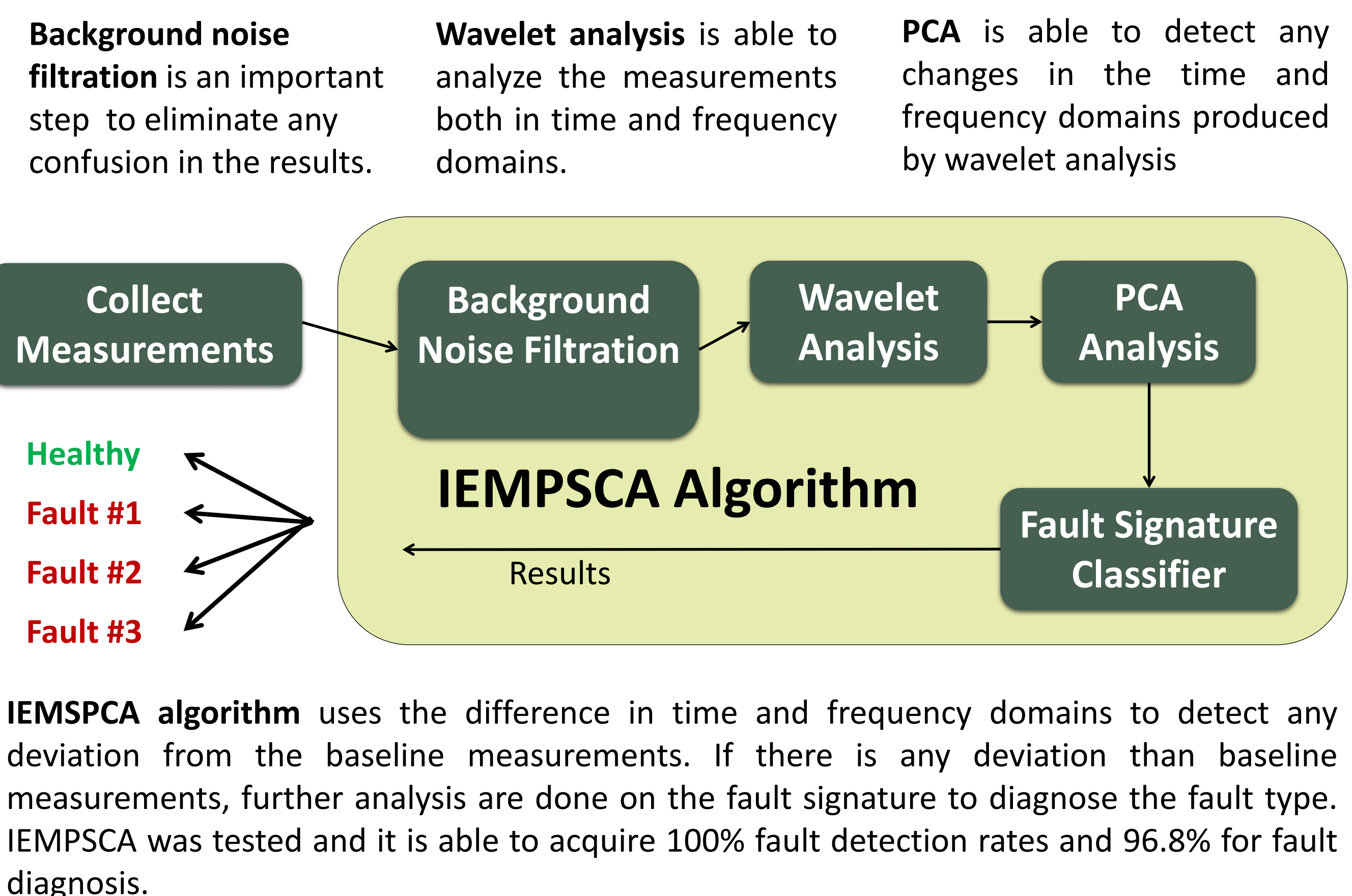


Deep Learning is the leading Artificial Intelligence algorithm in many industries such as speech and image recognition. The Centre for Mechatronics and Hybrid Technology (CMHT) applied Deep Learning on fault detection and diagnosis applications, 100% fault detection success rates were acquired and 97.6% accuracy for fault diagnosis.

SOUND & VIBRATION



IEMSPCA



COMMERCIAL IMPLEMENTATION D&V

