

Internship title

Building Quality and Reliability Knowledge Based System

Company

Markem-Imaje is a trusted world manufacturer of product identification and traceability solutions, offering a full line of reliable and innovative technologies and solutions.

Facts sheet

- 3,000 employees
- 300 engineers
- 7 coding technologies
- 6 research centers
- 30 subsidiaries



3 divisions: USA, UK, FR

Solutions
Product, Case and Pallet coding

Printers technologies
Inkjet, Thermal Inkjet, Thermal Transfer, Laser and Print and Apply Labeling

Substrates
Plastics, glass, metal, cardboard, flexible packaging, directly onto food,...

Markets
Food, beverage, cosmetics, toiletries, electrical & electronics equipment,



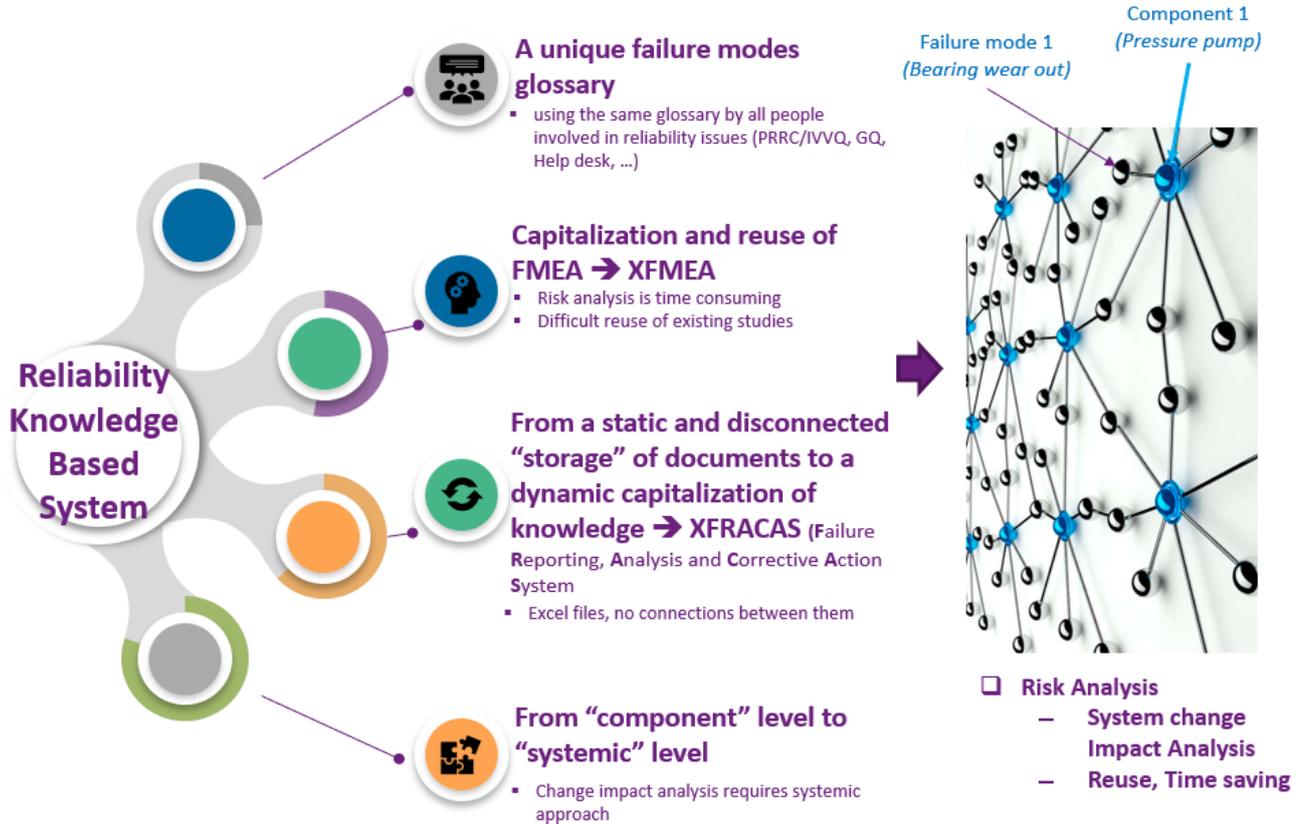
Context introduction

As product development to market times continue to shrink, the amount of allowable time to perform efficient risk analysis and follow best practices for design review is reduced. One strategy for maximizing effective use of time and efforts is to intelligently and appropriately reuse existing knowledge about quality problems occurred during the design, development, production and deployment of previous generations or platform siblings.

Therefore, collecting data from tests, manufacturing, field (ex: in SAP) and problem-solving (ex: 8D) and analyzing it are probably the two major daily tasks for most quality and reliability engineers. How to utilize the modern database and Internet technology to manage this data across multiple departments is a challenging issue that many organizations are facing.

The difficulties could be summarized through the following points:

- People involved in the product lifecycle, from design to after sales service, don't use the same terminology to describe failures and quality problems in general. This induces the following difficulties:
- No efficient capitalization and reuse of knowledge built throughout the product lifecycle: no connections between studies, statistic recording in inadequate format and location (excel, local repositories, ...)
- Difficulty to perform analysis at system level to calculate for example reliability or to define preventive maintenance strategy. Also, it is costly (time and resources) to analyze the impact of a design change



Mission & Deliverables

The aim of this apprenticeship is to:

- Elaborate and implement a unique failure modes glossary throughout the organization, especially the following departments: After Sales Service (to report field failures), IVVQ (to describe failures in FMEA), Reliability (to perform accurate models) and Quality (for accurate monitoring at failure mode level)
- Deploy Reliasoft XFMEA tool to allow FMEA capitalization and reuse
- Deploy a **F**ailure **R**eporting, **A**nalysis and **C**orrective **A**ction **S**ystem (FRACAS). This will allow to move from static and disconnected “storage” of documents to a dynamic capitalization of knowledge. Also, by using the unique glossary and the XFMEA tool, the FRACAS tool will allow to connect Failure Modes (FM) identified during development phase with effective FM identified in the field
- Elaborate and implement a process and tool to allow change impact analysis. The tool could be a sort of Failure Modes Network intended to connect all the FM, whatever the component they are related to. Thereby, when a design change is decided on one component, its impact on the other components could be analyzed. This ensures a more efficient analysis in terms of time saving and exhaustivity.

Keywords

Knowledge Based System, Failure Reporting, Analysis and Corrective Action System (FRACAS), Failure Mode and Effects Analysis (FMEA), Change Impact Analysis, Failure Modes Network

Location

- Bourg-Les-Valence France
- If required, travel to KEENE, BOSTON or NOTTINGHAM are possible

Skill profile

- Bac+5
- Data science, reliability
- Organizational and leadership abilities
- Excellent communication skills
- Problem-solving aptitude
- Fluent English

Perspectives after the internship

- This multidisciplinary subject will allow you to acquire strong knowledge and skills in the following fields: data science, field data gathering and processing, reliability modeling
- Working during 6 months in a multinational and multicultural company will improve your communication skills and capability to work in an international environment (France, UK and USA)
- Hiring after the internship would be possible in one of our technical centers (France, UK, USA), in departments like Reliability, Quality, IVVQ, or Digitalization.

Internship allowance

- Gross salary: 1100/month
- If the student has two residences in his name, an additional allowance is granted: up to 250 € / month
- Monthly public transit pass: 50% of the monthly public transit pass (train, bus)

Contacts



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