

## Internship title

**Building Customer Usage Profiles (CUP) to build reliability models**

## 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,



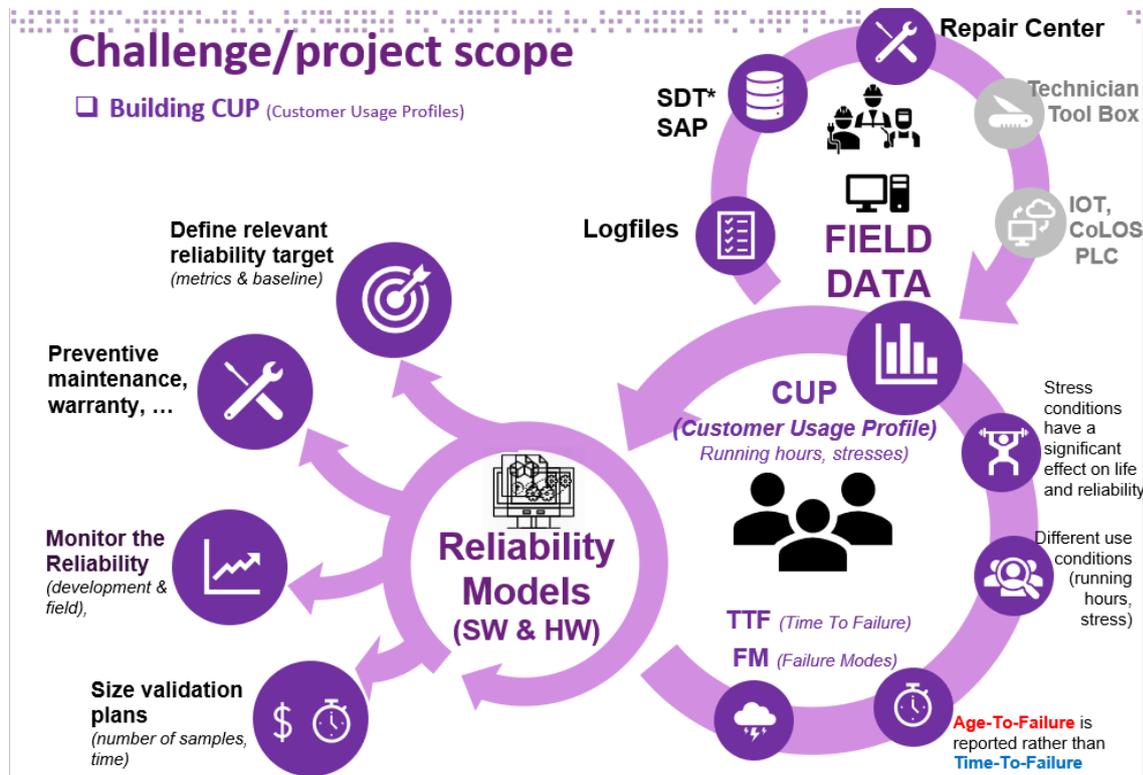
## Context introduction

An important requirement for designing useful reliability tests is to have a good idea of how the product is actually going to be used in the field. The tests should be based on a realistic expectation of the customer usage, rather than estimates or "gut feelings" about the way the customer will use the product. Tests based on mere speculation may result in a product that may not have been rigorously tested and consequently may run into operational difficulties due to use stress levels being higher than anticipated. On the other hand, tests that are designed with a strong basis of information on how the product will be used will be more realistic and result in an optimized design that will exhibit fewer failures in the field.

Customer usage profiles can be set up that actively gather information on how the customers are actually using our products. This can range from a simple questionnaire to a sophisticated instrumentation of the product that feeds back detailed information about its operation (log files, ...). Some of this information already exist but scattered in several databases.

An incentive is often useful to get customers to sign on for a usage measurement program, particularly if it is an intrusive process that involves the installation of data collection equipment. Customers could also be eager to participate in the knowledge that the information that they provide will ultimately result in a more reliable and user-friendly product.

The figure below illustrates why customer usage profiles are one of the main inputs to build reliability models.

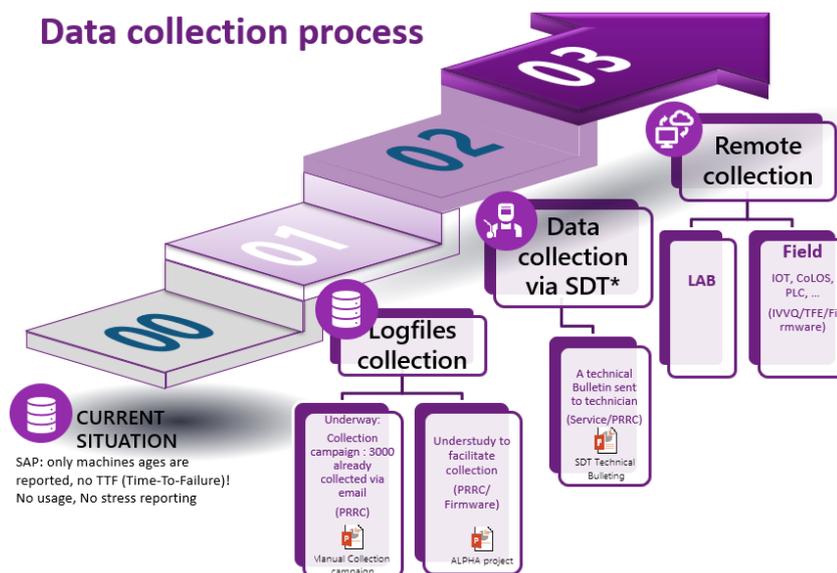


## Mission & Deliverables

This internship aims at building Customers Usage Profiles and using them to build reliability models to address the issue described above. The mission includes the following tasks:

- Improving our field data collection process (see picture below)
- Using the data collected to build Customer Usage Profiles
- Using these CUP to build reliability models (Reliasoft is available)

### Data collection process



## Keywords

Customer Usage Profile (CUP), Data Collecting and Analysis, Reliability Modeling

## Location

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

## Skill profile

- Bac+5 in reliability/quality engineering or industrial engineering or data scientist or applied mathematics
- 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: customer usage profile, reliability modeling, data analysis, IVVQ (Integration Verification Validation) process
- 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 or USA), in departments like Reliability, Quality or IVVQ.

## 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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