Barcelona, 03 Mar 2016 Contact: info@dmd.solutions

Projects proposals for student internship

Object

This document aims to define five proposals for internship projects in the frame of the cooperation agreement between the "Università degli Studi di Palermo" and the company DMD Solutions, a consultancy in RAMS engineering based in Barcelona.

The projects will have duration of 150 hours and the student will work from Palermo, coordinated remotely by the appointed project manager at DMD Solutions.

The proposals are presented in chronological order, that is, the first project must be developed first.

Project proposals

1) FRACAS

Title: "Potentialities and future development of the FRACAS (Failure Reporting and Corrective Action System) processes for the aerospace industry"

Title (IT): *"Potenzialità e sviluppi futuri del processo FRACAS (Failure Reporting and Corrective Action System) per l'industria aerospaziale"*

Description: The student will conduct a study of the current FRACAS practices in the aeronautic industry, including current applications and uses in the field of reliability engineering and its derivate advantages in Safety, Maintainability and Logistics. The student will also investigate the latest developments and innovations and its potential applications in the industry.

Outcome: The student will deliver a Power Point presentation with their findings, as well as a complete summary (Word document) and a visual presentation in Prezi.

2) FMECA

Title: "Methodologies in Aerospace Reliability Engineering: FMECA (Failure Mode Effects and Criticality Analysis)"

Title (IT): *"Metodologie dell'ingegneria dell'affidabilità aerospaziale: FMECA (Failure Mode Effects and Criticality Analysis)"*

Description: The student will familiarize him/herself with the FMECA method, learning how product designs can be improved with functional and component FMEA and stablishing a criticality measurement method. The student will have access to theoretical documents as well as several examples derived from practice in the industry.

Outcome: The student will deliver a Power Point presentation as well as a complete Manual, including examples, best practices and frequent errors. The material will be used as a base for a professional workshop by the company.

3) FAULT TREE

Title: "Methodologies in Aerospace Safety Engineering: Fault Tree Analysis"

Title (IT): *"Metodologie dell'ingegneria della sicurezza aerospaziale: FTA (Fault Tree Analysis)"*

Description: The student will familiarize him/herself with the FTA method, learning how to identify the best ways to reduce risk or to determine event rates of a safety accident or a particular system level (functional) failure. The student will have access to theoretical documents as well as several examples derived from practice in the industry.

Outcome: The student will deliver a Power Point presentation as well as a complete Manual, including examples, best practices and frequent errors. The material will be used as a base for a professional workshop by the company.

4) RELIABILITY CENTERED MAINTENANCE

Title: "Methodologies in Aerospace Maintainability Engineering: Reliability-Centred Maintenance"

Title (IT): *"Metodologie dell'ingegneria della manutenibilità aerospaziale: RCM (Reliability-Centred Maintenance) and MSG-3"*

Description: The student will familiarize him/herself with the RCM method, learning how a solid process allows maximum availability of technological products while keeping safe minimum levels of maintenance. The student will explore its connection with reliability methods, as well as gain understanding of the several standards that regulate RCM in the different industries, such as MSG-3 for aeronautics. The student will have access to theoretical documents as well as several examples derived from practice in the industry.

Outcome: The student will deliver a Power Point presentation as well as a complete Manual, including examples, best practices and frequent errors. The material will be used as a base for a professional workshop by the company.

5) MARKET RESEARCH IN AIRCRAFT MANUFACTURERS

Title: "Market research of potential users of Aerospace Reliability methods in Italy"

Title (IT): "Indagine di mercato di potenziali utenti di metodi di affidabilità aerospaziale in Italia"

Description: The student will investigate the market of aircraft, helicopter and other aeronautical or aerospace product manufacturers and will collect the business relevant information to define the market segments they belong to. The student will provide an estimate of the size, volume and penetration rate of the targeted market in the frame of the business plan for a software project developed in-house.

Outcome: The student will deliver a complete table with detailed business information of companies who belong to the target market in Italy. The student will also provide their estimate for volume, size and penetration rate for the targeted market.

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