	STAGE **SUPPORTO ATTIVITA' QUALIFICHE TECNOLOGICHE**
ThalesAlenia Space a Thales / Leonardo company **Thales Alenia Space Italia S.p.A.**	

OBIETTIVI

Descrizione Obiettivi	Acquisire competenze in merito alla Redazione Piani di Qualifica SMT, prove sperimentali atte a validare la configurazione, lettura ed analisi di un rapporto di DPA, redazione Report finale e validazione Schede CT.
	Acquisire competenze nella compilazione schede Catalogo Tecnologico e nella gestione delle stesse fino alla chiusura dell'attività di qualifica ad essa associata
	Acquisire competenze nella valutazione delle configurazione proposte secondo gli standard delle ECSS

ATTIVITA'

Descrizione Attività	Per lo svolgimento delle attività sono necessari i seguenti skills: uso del Sistema Operativo Windows 10 uso dei software Excell, Word, power point, outlook L'attività è indirizzata alla stesura di piani di qualifica secondo gli standard aziendali. Dovranno essere emesse tutte le schede di catalogo per le configurazioni proposte. Dovrà essere seguita tutta la filiera di assemblaggio delle schede e dei test richiesti. Saranno necessarie interazione con altri enti come M&P – Produzione – Facility Dovrà essere emesso un report di qualifica e dovranno essere aggiornate tutte le schede nello stato Released/Failed
	Presentazione settimanale per il manager per controllare l'avanzamento delle attività

	STAGE
Thales Alenia Space Italia S.p.A.	**PCDB MANAGEMENT & REACH COMPLIANCE SUPPORT**

OBIETTIVI	
Descrizione Obiettivi	PCDB data base management support; data entries, specific updating of all attributes necessary to have a correct materials o mechanical parts procurement
	Support to Reach regulation compliance for TASI process and products

ATTIVITA'	
Descrizione Attività	Data analysis and revision both procurement specifications and incoming procedures
	Analysis of SVHC substances presence in material and process used for TASI products; support to certification issue for all products delivered ; coordination of substitution activities for related manufacturing process and lines

M_PCDB is the material and mechanical components general Data base, common to all TAS site and managed to share the procurement specification and incoming rules among the sites. The main objective is the convergence for materials and processes to reduce the costs and improve the infofmations exchange in the Company.
Compliance to REACH regulation is a legal obligation for all Eu and non Eu Entities that intend to exchange APS in EU

	STAGE
Thales Alenia Space Italia S.p.A.	**3D ALM PROCESS DEVELOPMENT**

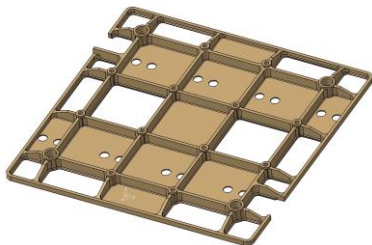| OBIETTIVI	
Descrizione Obiettivi	Development and qualification of 3D Additive Layer Manufacturing Process
	Development of printing procedure for parts made by different technopolymers; Evaluation of different post processing and finishing techniques
	Development of qualification test plan for parts and assemblies made by technopolymers and light metal alloys

ATTIVITA'	
Descrizione Attività	Printing of 3D ALM parts made by technopolymers with available equipment; execution of different post processing and finishing treatments on printed parts; evaluation through testing in cooperation with other Dept's
	Support to execution of extensive testing campaign at internal labs or at external facilities on samples, prototypes and assemblies made by ALM

Quality Control Department is looking for a candidate with high school technical diploma or bachelor degree with good potential and technical knowledge that, starting from the theoretical notions acquired during the course of study, can acquire skills in the following areas:

➢ Ability to read drawings and construction documentation;

➢ Quality Control Inspections of PCBA, Modules and Units in accordance with the procedures and in line with the steps provided by the production flow;

➢ Problem-solving skills development by familiarizing with common issues during the daily activity and learning from more experienced employees;

➢ Rigorous application in verifying that the quality requirements are correctly applied;

➢ Ability to transfer the problems encountered and authority in directing the correct application of the requirement;

➢ Familiarity with use of IT systems for traceability and reporting;

➢ Control of compliance with procedures and verification of behavioral rules in the production area

➢ Participation in Lean activities (daily SIM, walk around, etc..).

Minimum level of education required:

➢ High school diploma or bachelor degree with electronic, chemical or IT technical address;

➢ Use of the Office package programs;

➢ Basic knowledge of English language.

Additional requirements:

➢ Ability to work under pressure;

➢ Ability to adapt and compare with other and predisposition to team work;

➢ Ability to work and communicate effectively and courteously with co-workers;

➢ Good dexterity and spirit of observation.

No specific experience in the sector is required since an initial theoretical training period and continuous training on the job with a senior specialist is planned.

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PCBA Manufacturing and Equipment Integration Department is looking for graduated in technical studies with good potential, technical knowledge and strong skills in organizing their own and others' work activities who, starting from the theoretical notions acquired during the course of study, can acquire skills in the following areas:

- Manual soldering of EEE components on PCB (SMT and THT technology)

- Preparation of EEE electronic components (degolding, pretinning, preforming)

- Using automatic PCB assembly machines with SMT technology

- Mechanical integration of electronic equipment

- Deposition of protective coatings of assembled PCBs

- Structural or dissipative bonding of components mounted on PCBs or parts in Modules and Units

- Self-control of soldering and integration operations

Skills:

- Minimum education level: high school diploma with technical-industrial address (electronic, chemical or mechanical)

- Computer skills: use of the Office package programs. Predisposition to learning specific software for traceability and reporting

- Language skills: basic English

- Attitude and effectiveness to precision manual work, spirit of observation

- Ability to read and understand drawings and construction documentation

- Ability to adapt and compare with others, predisposition to teamwork and problem solving.

- Ability to adapt to changes in job context and workloads

- No specific experience is required as there is an initial training period and continuous specialist training.

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STAGE JOB DESCRIPTION

Stage Title
Security analysis of Quantum Key Distribution on satellite system

Stage Purpose / Obiettivi e finalità del tirocinio
Stage purpose is the study of Security characteristics of Quantum Key Distribution systems and techniques applied to satellite communication system.

The stage will consist first on a study of the mission and user requirements defined for a satellite communication system using quantum technology. The stage will then focus on the identification and design of security characteristics to be taken into account for quantum satellite communication system.

Scope of the stage is to define the security architecture of the quantum satellite communication system. Definition of security architecture will include the definition of asset to be protected, threats and vulnerabilities of the system, security functions to be applied together with definition of security aspects related to protocol to be used for the key distribution.

Stage activities / Attività oggetto del tirocinio e apprendimenti

The stagiare will be asked to acquire initial principles related to characteristics of Quantum Key Distribution technologies.

Afterwards the stage will first focus on the study identification and analysis of security aspects related to the quantum key distribution techniques and then on its application within an on-going study Program where functional architecture is being proposed. Part of the study will be also dedicated on the analysis of encryption and authentication algorithms to be used within the system. These tasks require a multidisciplinary activity of interaction with System department in charge of definition of functional characteristics of the satellite communication system using quantum technology.

Outcomes of the stage will be the identification of security architecture for the Quantum Key Distribution System including analysis of security aspects related to communication protocol to be used. The outcomes will be included in specific security documentation to be drafted in accordance with study Program delivery document.

During the stage opportunity to interact with personnel of external entities (e.g. International Customer of the Study Program) will be also given in order to discuss and verify the proposed security architecture.

Stage task (listed basing on consecutive activities) are the following:

1. Study of Quantum Key Distribution characteristics and techniques 15%
2. Study and analysis of security aspects for quantum key distribution system 25%
3. Definition of security architecture for Quantum Key Distribution satellite system 30%
4. Drafting of documentation in compliance with Common Criteria standard 20%
5. Interaction with System department and International Customer personnel 10%

Requisiti del candidato / Required Qualifications

It can be considered as preferential title to have knowledge on security principles (as e.g. risk analysis application, threats and vulnerabilities) and/or on general principles for Key distribution mechanisms
Required skill are:

- to be proactive on interaction with personnel of different department
- to have will on learning security characteristics from literature
- to be pragmatic on problem resolution when different security solution may be possible and trade off are required

Education / Formazione candidato e Area disciplinare

Degree on telecommunication, aerospace, electronic or informatics engineering are the area of educational qualifications that a stagiaire must possess.

It can be considered as preferential title to have performed dedicated cyber security degree courses.

Livello titolo di studio richiesto:

☐ **Triennale**
☑ **Specialistica/Magistrale/Magistrale a ciclo unico**
☐ **Master/Dottorato/Specializzazione**

Skills, and Abilities / Conoscenze linguistiche , informatiche e altro

- Knowledge of English language (fluent in reading and writing)
- Knowledge of informatics basics

Da compilare se si ritiene utile :

1) *Preferred Qualifications / Requisiti preferenziali*

   Knowledge of security engineering principles
   Cyber security courses

2) *Working Environment and Conditions. Ambinete*

   No specific working conditions and physical demands are required

<u>**STAGE JOB DESCRIPTION**</u>

<u>**Stage Title**</u>
Common Criteria security standard study and application to satellite system

<u>**Stage Purpose / Obiettivi e finalità del tirocinio**</u>

Stage purpose is the study of Common Criteria international standard on security certification and its application on telecommunication and earth observation satellite system.

The stage will consist first on a study of the main concept and characteristics of Common Criteria standard and then on its application on new and ongoing satellite system Programs.

Scope of the stage is to support and carry on a Common Criteria certification process of sensible asset identified within satellite system. Starting from analysis and definition of security architecture, the stage will support the drafting of Common Criteria documentation and the security test execution on the identified asset.

<u>**Stage activities / Attività oggetto del tirocinio e apprendimenti**</u>

The stagiare will be asked to acquire initial principles related to Common Criteria Standard.

In order to perform an On the Job training, after acquisition of initial principles, the stagerie will be asked to support the overall certification process of a sensible asset of Telecommunication satellite system. This will include a multidisciplinary activity in order to define security architecture and security function to be implemented within the asset with the possibility to interact not only with security department personnel but also with production department and integration department personnel.

Outcomes of the stage will be the identification of security architecture, drafting of security documentation and definition/supervision of security test execution on the identified asset.

During the stage opportunity to interact with personnel of external evaluation facility (CeVa) will be also given in order to discuss and verify the certification process execution. Evaluation facility (CeVa) are laboratories accredited for verification on certification process.

Stage task (listed basing on consecutive activities) are the following:

1. *Study on Common Criteria standard 10%*
2. *Definition of security architecture and security function for the identified asset 30%*
3. *Interaction with department external from security department 10%*
4. *Drafting of documentation in compliance with Common Criteria standard 25%*
5. *Security test definition and implementation supervision 15%*
6. *Interaction with Evaluation facility (CeVa) 10%*

<u>**Requisiti del candidato / Required Qualifications**</u>

It can be considered as preferential title to have knowledge on security principles (as e.g. risk analysis application, threats and vulnerabilities, penetration test) and/or on application of security setting configuration to commercial products (e.g. Operating System, firewall)
Required skill are:

- *to be proactive on interaction with personnel of different department*
- *to have will on learning the characteristics of security standard*
- *to be pragmatic on problem resolution when different security solution may be possible and trade off are required*

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   Cyber security training

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