

## Cryogenic/Thermal Engineer Offer

*Callisto is an international engineering consultancy and equipment development company in the field of satellite communications. Founded in 1993 with presence in the UK, France and Germany, Callisto has undertaken a wide range of engineering consulting projects, building an enviable reputation as a highly skilled partner to satellite operators, integrators and equipment manufacturers. Callisto has been working for many years in the development cryogenic radiofrequency receivers for space telecommunications and radio astronomy and is considered a European leader in this field. The company also designs and build cryogenic test systems and offers services for testing and evaluation of components at cryogenic temperatures as well as maintenance of cryogenic systems.*

*Callisto is a small engineering company depending on team spirit, valuing and investing in our employee's development and oriented towards a culture of quality and efficiency which is good for our clients and good for our staff.*

**Due to expansion of business related to cryogenics, we are seeking to recruit a thermal/cryogenics engineer with experience in working with radio-frequency applications in our offices in South East of Toulouse, France.** The successful applicant will join the established multi-disciplinary engineering team and will report directly to the Cryogenics Business Unit Manager for the responsibilities listed below.

### **Responsibilities:**

*Participation in the design, development and production of cryogenic radio-frequency receiver systems involving:*

- Preliminary and detailed **thermal design**, selection of cryocoolers, definition of thermal insulation, computation of thermal loads and temperature by means of thermal simulations
- Preliminary and detailed **vacuum design**: selection of materials, definition of surface treatment, definition of outgassing methods and procedures, computation and measurements of outgassing rates, computation of vacuum conductance and pumping speed, design of vacuum sub-systems.
- Preliminary **mechanical design** and support to detailed design: cryogenic integration, aspects related to thermal and vacuum designs. This work will be done in conjunction with a CAD technician. The candidate does not need experience in CAD software; however it would be an asset
- **Integration and test of cryogenics receivers**: Mechanical, thermal and vacuum integration, definition of test and validation plans and procedures, execution of tests, production of test reports.

*Leading the design, development and production of cryogenic test systems involving:*

- Preliminary and detailed thermal design (as described above) but also including definition and design of liquid nitrogen systems (tank definition, valves, gauges, piping and connectors selections).
- Integration and test of cryogenic Test Systems.

*Supporting the execution of services related to cryogenics and vacuum systems.*

- Supervision of technicians.
- Undertaking feasibility analysis of customers' requirements

- Providing expertise on diagnosis, maintenance and repair.

*Project management activities associated with the above.*

### **Skills and Experience:**

- The ideal candidate will have at least a relevant professional work experience in cryogenics
- Thermal engineer profile with low temperatures (cryogenics) specialty
- Strong understanding of cryogenic coolers (cryocoolers) types GM and Stirling
- Experience in design and testing of “dry” cryogenic systems (without cryogenic liquids)
- Experience in design and testing of liquid nitrogen systems
- Strong understanding of vacuum application to cryogenic thermal insulations
- Experience in thermal simulation software for cryogenics, for instance ThermXL Communications simulation tools (e.g. Matlab/Simulink)

### **Additional Requirements:**

- Experience in Project Management
- The candidate shall have radiofrequency engineering basic skills and/or demonstrate a true capacity to develop competences in radiofrequency engineering.

The selection of the candidate will be made based on experience, competence and qualifications. The motivation of the candidate will also be a critical factor in the selection process as well as the capacity to acquire and develop skills in theoretical and practical applications of all technological domains associated to Callisto's cryogenic products.

Academics: At least 5-year degree in engineering or physics with focus on thermodynamics, low temperatures/cryogenics and electromagnetic radiation . **Newly qualified PHD welcome.**

The position, subject to French national employment conditions, will be for a permanent contract after a trial period. The employment package includes supplemental insurance package contributed to by the company (health care, retirement and disability), an employee saving scheme linked to company performances. Salary will be discussed depending on experience and qualifications. Relocation allowance will be considered if applicable.

*Every application will be treated in strict confidence.*

For applications, please send your CV, references, together with a letter of motivation to Ms Magali Fauré, tel. +33 561 800 807, mail: [magali.faure@callisto-space.com](mailto:magali.faure@callisto-space.com).. Or on our web site [www.callisto-space.com](http://www.callisto-space.com)