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| <b>Template</b> | <b>Last Amendment Date</b> | <b>Country</b> |
| Role Profile    | November 2019              | UK             |



**Role Profile Document**

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|---------------------|--------------------------------|-----------------|----------------|
| <b>Role Title</b>   | Project Science Lead – Gravity | <b>Location</b> | Chelmsford, UK |
| <b>Reporting To</b> | Technical Authority            | <b>Division</b> | Technology     |
| <b>Contact</b>      | Ole.Kock@teledyne.com          | <b>Grade</b>    |                |

**Teledyne-e2v Chelmsford**

Teledyne e2v is an exciting place to work, come and join us!

Across the globe, we deliver innovative developments in technology for high performance systems and equipment across Civil Aerospace, Defence & Security, Space, Industrial, Medical & Science applications. Our expertise has seen our involvement in some of the highest profile projects, from radar control in the Eurofighter Typhoon to kicker magnet control in CERN’s large hadron collider and our components are the x-ray source in 90% of the world’s cancer radiotherapy treatment machines. Our space imaging solutions have visited every planet in our solar system and we cumulated more than 5000 years of flight heritage without failure on missions such as Hubble, MRO, Hinode or Rosetta.

Our Quantum Technology team is developing technologies in order to access new high margin niche markets with revolutionary timing and gravity products, in space and on ground. High precision and accuracy timing solutions are crucial for the synchronization of large networks in telecoms (5G, 6G) and for navigation while gravity sensors could detect objects beneath the ground (sinkhole, tunnels, pipes, etc.) for the construction sector and defence or could benefit to future science space missions.

**Overview of Role:**

The Project Science Lead will be a key member of the growing Quantum Technology team at Teledyne e2v to provide support and expertise on the various activities of Quantum Sensor development. This work will be focussed on the gravity sensors aspect of Quantum technology.

A significant part of the role will involve assembly, integration and test of the quantum gravity sensors. Key activities will include development of the sub-systems, such as lasers, sequencing engines and optical systems, as well as optimisation of the entire systems towards a field deployable sensitive sensor.

An additional part of the role will involve internal and external liaison between Teledyne e2v and other stakeholders within the Quantum science community. These will include other functions within Teledyne e2v, government scientists, national timing institutions (e.g. NPL), university physicists and blue-chip corporate engineering teams, as well as working with, and managing partners and subcontractors.

## Main Accountabilities

- System and sub-system ownership
  - Take ownership of key sub-systems, from requirements to design, manufacture and testing, including where necessary working with partners and subcontractors.
  - Take a leading role in the development and concept Quantum sensor technology at Teledyne e2v.
- Technical Support - Provide the scientific and technical lead to:
  - Project and Technical Manager.
  - Project Team Members.
  - Partners and Subcontractors.
  - Customers.
- Technical Assessment
  - Produce and review sub-system specifications and advise on feasibility of proposals.
  - Identify opportunities for improvement of Teledyne e2v's Quantum technology understanding and implement improvement opportunities.
- Risk Management
  - To determine and manage the technical risk on a project and to implement mitigation activities as appropriate.
- Product verification - Ensure that the requirements of the customer are met:
  - Generate and own appropriate test plans.
  - Statements of Work.

## Essential Experience/Competencies

- Postgraduate or PhD level qualification in relevant field
- Experimental skills in laser physics, atomic physics and electronics
- Good leadership capabilities
- Project risk management techniques
- Persuasive communication and negotiation skills
- Problem solving
- Adaptability to changing situation and continuous process improvement

## Desired Experience/Competencies

- Experience as a post-doctoral or equivalent researcher
- Experience in an industrial R&D environment
- Practical laboratory experience in the operation of an cold atoms based system
- Motivation to further the development of quantum technologies based systems to commercial products
- Experience on atom interferometry based gravity sensor system
- Experience in the development and delivery of Quantum sensors
- Experience in the management of complex stakeholder programmes