

[www.QinetiQ.be](http://www.QinetiQ.be)

## Vacancy for 'Process Engineer'

**QinetiQ Space, located in Kruibek, develops scientific experiments for research in space focused on the International Space Station and other microgravity environments.**

**QinetiQ Space is also active in the development of satellites.**

**We wish to strengthen our team with a 'Process Engineer', to support the activities in the field of Life Support Technology, MELISSA related projects, In-situ Resource Utilisation and Life Science.**

### **Job description:**

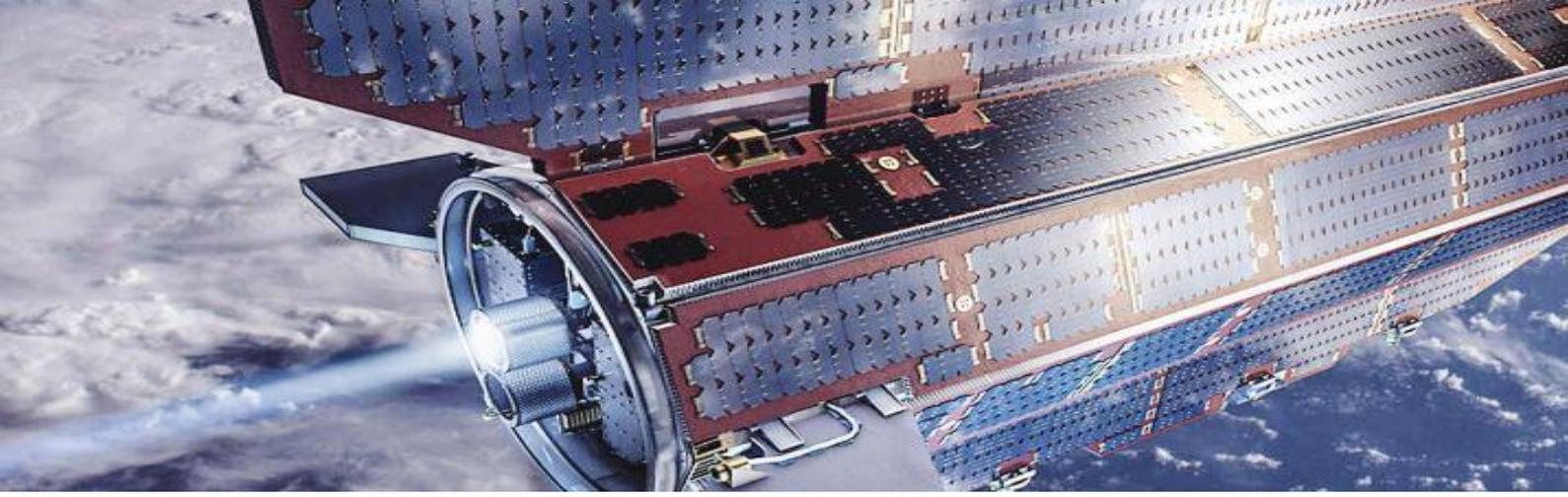
In this position, you will participate in the development of technology required to survive in space conditions. This includes the production of water, food and oxygen from recycled materials and in-situ resources.

- Conceptual design of process flows to produce drinking water, oxygen, food from recycled materials or in-situ resources (Process Flow Diagrams)
- Detailed design and engineering of laboratory and pilot scale demonstrators (Process & Piping Diagrams)
- Support the design by mathematical modelling to create a virtual plant model for the simulation of selected processes
- Define the key manipulated variables of the process and define control strategies
- Translate the design in a development plan, prepare a functional description and identify the requirements for equipment
- Coordinate the purchase/manufacturing/assembly of the equipment in cooperation with the system, mechanical and electrical engineering teams and suppliers/contractors
- Define a test and evaluation plan with associated procedures
- Evaluation of process performances based on laboratory and pilot scale (process 'capability' and 'performance' parameters)
- Prepare technical documentation, manuals, test reports...
- Prepare operational scenarios for future space application of processes
- Adapt selected technology to the space environment (radiation, reduced G, vacuum,...)
- Translate phase A/0 concepts to requirements for future space technology development (phase B/C/D)

### **Desired skills/ experience/ knowledge:**

- MSc or PhD in the field of bioscience engineering (environmental engineering, chemistry and food technology, bioprocess simulation and control, cell biology, ...)
- Familiar with key biological, chemical and physical processes for water treatment and (waste) material processing, including;

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- Microbial dynamics and growth kinetics
- Biological and chemical oxidation-reduction processes, bio-electrochemical processes
- Water chemistry
- Liquid/gas equilibria and transfer processes
- Solids separation and transport processes
- Membrane technology
- Affinity for process design supported by mathematical modelling of involved processes
- Affinity with laboratory procedures and pilot scale testing for validation of processes
- Familiar with instruments and sensors to measure process parameters
- Familiar with disinfection and sterilisation technology and evaluation methods
- Knowledge of biological and chemical material compatibility
- Awareness of specific space conditions such as radiation, vacuum, reduced gravity and their effect on process performance
- Enthusiastic result-oriented and fast-learning team player with good communication skills at all levels.
- Fluency in English and preferably also in Dutch.

**Offer:**

The leading edge technological aspects and variety of work makes working at QinetiQ Space an exciting challenge. QinetiQ Space offers you a unique opportunity to fully develop your talent/career and prove yourself in one of the top high technological companies in Flanders. A challenging and exciting opportunity in a team of enthusiastic and inspiring colleagues is waiting for you.

**Work location:**

QinetiQ Space Kruikebeke, Belgium.

**Want to be part of our team?**

Visit our website <http://qinetiqspace.talentfinder.be/index.aspx>  
and mail us your motivation letter + cv.