

**Training title:** *Satellite Image Processing: Operational Processing Development.*

**Field:** Processing Development and Studies

**Speciality:** Image processing

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### Subject

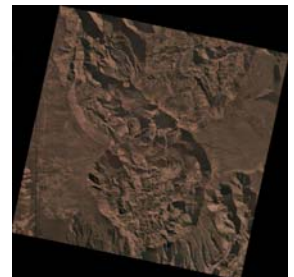
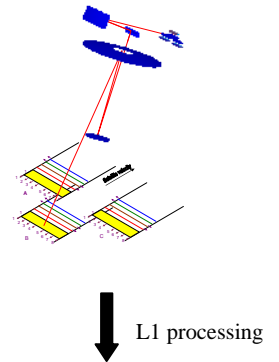
Image production subsystems require light and fast image processing modules. Space Systems have developed a family of image processing modules for image data acquisition, radiometric and geometric corrections.

The objective of the internship is to implement operational image processing algorithms to extend or replace existing operational functions in our operational image processing modules, keeping a high technical quality/performance level (accuracy, timeliness), within an efficient process in terms of development and maintenance.

The technical area may concern radiometric or geometric correction processing, or synchro-decommutation / inventory processing, for still or video optical images.

Operational image processing software will be developed in C++ and Python languages. Matlab might be also used in the course of the activities.

A particular emphasis shall be put on code implementation optimisation and reusability.



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### Company background

The Space System business line of Airbus Defence & Space is the European leader in the field of optical Earth Observation systems. The company, through its history, is a pioneer of space industry, responsible for the development of the first Earth Observation space systems in Europe, starting with the SPOT family. Since this time, the company has led the major European developments in the field, through programs such as METOP, ERS, ENVISAT, HELIOS, PLEIADES or SPOT6. This experience developed is now applied on export turn-key programs such as FORMOSAT, THEOS, ALSAT, CHILI or KazEOSat-1, involving up to sub metric resolution systems, or such as COMS, a geostationary meteorological satellite for Korea.

This evolution conveyed Airbus Defence & Space to develop a strong expertise in Image Quality, Image Processing and Image Simulation through a group of about 50 engineers in 2016, constituting the Image Chain department (TSOTU2). The Image team carries out activities in fundamental image domains such as image simulation, ground processing, image quality, in-orbit testing, embedded processing, vision-based navigation and dedicated R&D activities.

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**Required knowledge**

- Generic knowledge in signal and image processing as well as numerical analysis,
- C++, Python, Matlab.

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**Desired education**

- Engineering school or Master, with specialisation in signal and image processing, or applied mathematics and software development

Training period length: **5 to 9 months in 2017**  
**+ Possibility of a one year internship.**

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<b>Location</b>	Airbus Defence & Space – Space Systems 31 rue des cosmonautes 31402 <b>Toulouse</b> Cedex 4, <b>France</b>
<b>Unit</b>	TSOTU2 – Image Chain department
<b>Deadline</b>	16/12/2016
<b>Contact</b>	David Villa Pascual: <a href="mailto:David.VILLAPASCUAL@airbus.com">David.VILLAPASCUAL@airbus.com</a>

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