

Training title: Continuous Integration tool chain**Field: Operations and R&D**
Speciality: Software development

Subject

The Sensor Processing Chain department designs and develops image processing chains for earth observation satellites. The systems we build are delivered to multiple customers in many contexts, but rest on common frameworks and tools developed by our team. The tools we use were developed a few years ago and were augmented through the years with many options. We want to update our tools in order to generate a system using MAVEN3 and custom plugins; then identify how a CI (Continuous Integration) could be made to deploy and validate parts of a system.

This training will include:

- Analyzing the current framework
- Conceiving and developing MAVEN3 plugins based on the framework code
- Analyzing the CI needs and implementing the appropriate solution

In the CI context from a delivery point of view, we need to produce documentation for the customers. Our documentation delivery process is moving to the latest tools and languages, such as AsciiDoctor, Antora, OpenAPI and Nodejs.

Within this context, we need to clarify some remaining show stoppers in order to enter in a normalization phase.

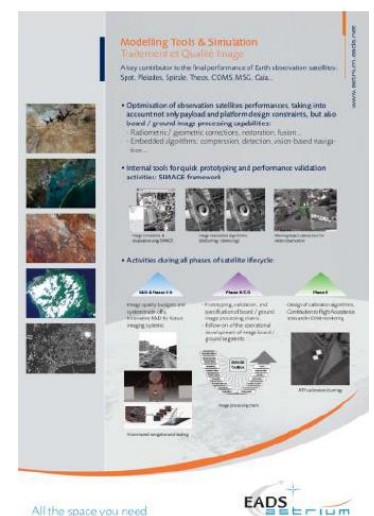
This training is about structuring all the documentation toolchain, this includes:

- contribute to Antora upstream development on PDF generation,
- develop Antora-ui theming for Airbus and customers,
- study implementation of traceability,
- study implementation of documentation revision follow-up,
- study documentation toolchain integration in our CI (Continuous Integration) pipelines (mvn plugin, ...)

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, KazEOSat-1 or PeruSat, 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 90 engineers in 2019, constituting the Image Chain department (TESUI). 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.



Required skills

- Autonomous and willing to communicate with several interlocutors to gather information,
- Interest in backend programming with languages such as Java, Python,
- HTML/CSS/JS,
- Continually trying to automatize builds and releases,
- Focused in providing clear and user friendly documentation pack to customer,

Appreciated knowledge, but not mandatory:

- Nodejs
- AsciiDoctor, Latex, Markdown, DocBook
- Linux operating systems
- Git / Gitlab and/or Github
- maven 3

Desired education

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

Training period length: **5 to 6 months in 2019**

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