We collaborate on software and control systems.

- www.s2innovation.com
- contact@s2innovation.com

History of the company

S2Innovation was founded in December 2017 by:

Piotr Goryl, former Head of IT and Controls at SOLARIS,

Wojciech Soroka, former Procurement officer at SOLARIS

Since 2019 S2Innovation is a Polish-Slovenian Joint Venture (Investment of **Cosylab d.d.**).

S2 INNOVATION

Cosylab

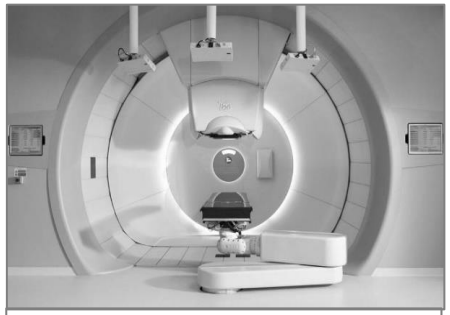
Cosylab provides system integration as well as customer-specific products and solutions covering the entire area of control systems and instrumentation.

INDUSTRIAL APPLICATIONS

Embedded SW, control systems, cloud based applications

BIG PHYSIS

Projects improved with the expertise of the largest independent specialist



PARTICLE THERAPY

All software, engineering and integration you need to run a PT system from one place.

SPACE AND ASTRONOMY

Control system for large telescopes, space technology...

Mission and Vision

- S2Inovation specializes in development of dedicated software for monitoring and control of research devices and processes using both open-source and commercial toolkits.
- Our mission is helping R&D laboratories to work better, faster and more efficiently using the most advanced software tools.

We are software engineers. We do not simply write code - we solve complex problems!

S2 INNOVATION

The team

Additional support from

- Krystian Kędroń,
- Grzegorz Kowalski,
- +3 students.

and we are growing…

Our expertise

- Control systems engineering:
  - For particle accelerators,
  - For large scale infrastructure,
  - For laboratories,
- Software development:
  - Python, C++, Java, .Net, HTML/JavaScript/CSS, Matlab
  - **Tango Controls**, **EPICS**
- Computation,
- Documentation,
- DevOps,

Experience

- EPICS and Tango Controls based solutions
- Cloud Energy Management System
- Alarm Management System (PANIC, IC@MS)

SIEMENS

EPICS

TANGO
Connecting things together

IOT
Internet of Things

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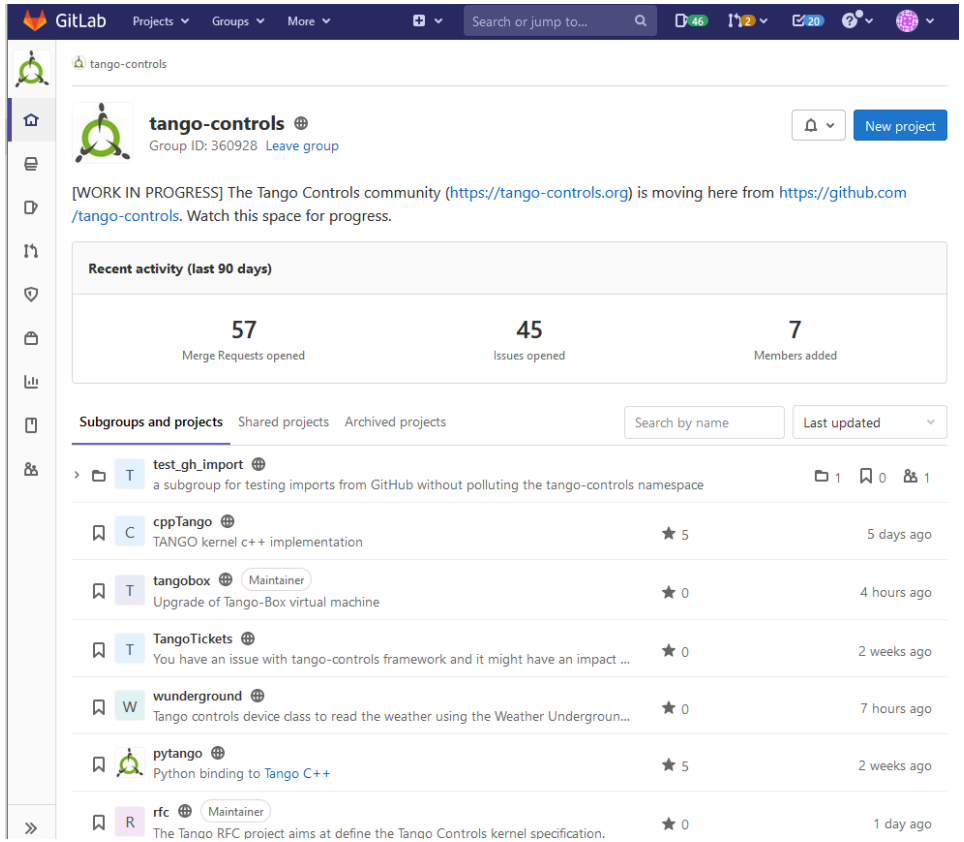
Support for cppTango, PyTango, JTango

(ESRF/Tango Community orders, 2018 -)



- S2Innovation participates in development and maintenance of Tango Controls kernel
- See the following contributions, as an example:
  - https://gitlab.com/groups/tango-controls/-/merge_requests?scope=all&utf8=%E2%9C%93&state=all&author_username=mliszcz
  - 3 years contract with Tango Community awarded in 2021.

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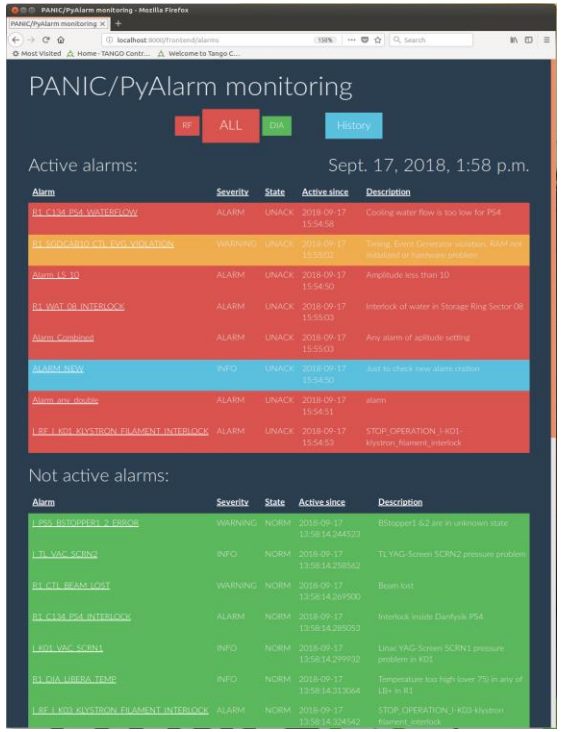
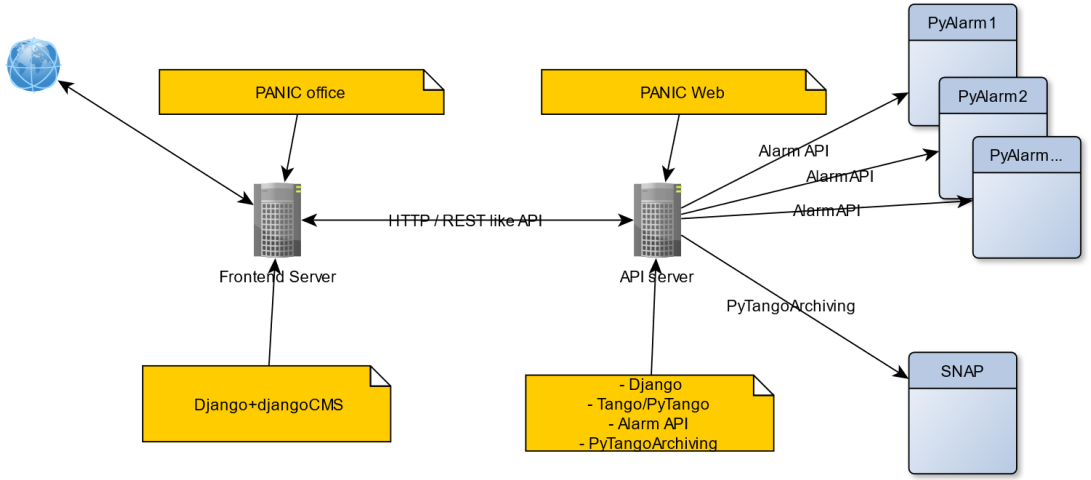
Alarm Management System @SOLARIS



- In 2018 S2Innovation introduced PANIC Alarm Management System at NCPS Solaris (Krakow, PL):
- PANIC is PyTango-based, developed by ALBA,
- S2Innoiavtion:
  - Gather requirements from Solaris Team (general and specification for alarms),
  - Provided training
  - Prepared .rpm packages for SOLARIS,
  - Deployed the system,
  - Preconfigured more than 100 complex alarms,
  - Developed and deployed monitoring web application,
  - Integrated the PANIC with the eLog logbook and provided SMS facility,



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Cooperation with Max IV since 2018

- Development and implementation of the TANGO Controls and Sardana based software for MAX IV accelerators and beamlines control systems,
- Development of controls systems GUIs,
- WebJive development,
- DevOps tasks,
- software documentation,
- software tests.

Services are provided using the following programming languages and technologies: Python, C++, Go, ReactJs, Ansible, Docker, Singularity.

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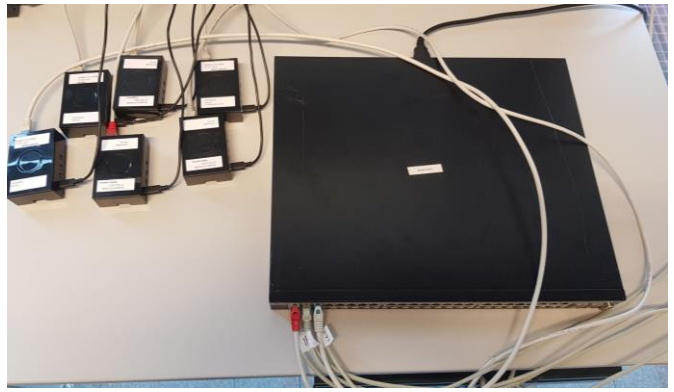
Cooperation with CosyLab

- Software development for Proton Therapy accelerators – Dose Delivery System (C++)
- Web application for **Spring 8 synchrotron facility** in JAPAN (with CosyLab Japan branch).
- Common application for control system and software development services at **ESS** (Framework Contract to be signed in 2021).

Laser beam diagnostic system for ICFO

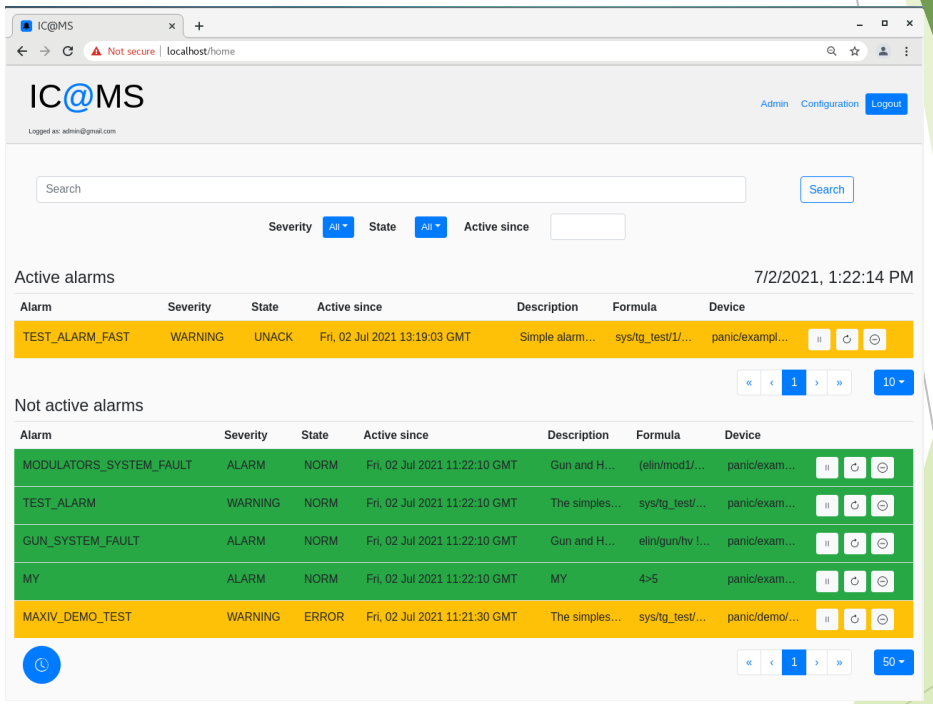


- Deployment of a distributed Tango Controls system for 6 Raspberry Pi computers:
  - Tango Controls base functionality (Database, Starter, libraries, Astor, Jive),
  - WebJive,
  - Bensikin/SNAP archiving,
  - Network configuration,
- Integration of various devices: cameras, spectrometers, photodiodes, a delay generator inti Tango
  - Development of device servers for Basler cameras, Ophir photodiodes, power meters and Ocean optics spectrometers,
  - Reuse of existing device server for the delay generator
- User interface based on WebJive,
- Few improvements to WebJive pushed to its main repository
- All results are available here: https://gitlab.com/s2innovation-partners/icfo

IC@MS – Integrated Critical @larms Management System

CLOUD BASED alarm Management System based on PANIC by ALBA

- Shortened of downtimes,
- Increased efficiency of processes,
- Reduction of personnel stress:
  - Alarms handling streamlined,
  - Increased situation awareness,
  - Integration of production and infrastructure,
- Non-typical situations monitored thanks to runtime alarming formulas definition



S2 INNOVATION

Our main partners

How can we help FAIR?

- Development for Common Middleware (CMW and FESA) – full life cycle:
  - Device servers,
  - GUIs and applications,
- Full-stack software development in C++, Python and Java, various web technologies,
- CI/CD, including software packaging and containerization,
- Software documentation (manuals, developers' documentation, protocol specification etc.),

Thank you!

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