Reporting Incidents using JIRA Software at Synchrotron SOLEIL

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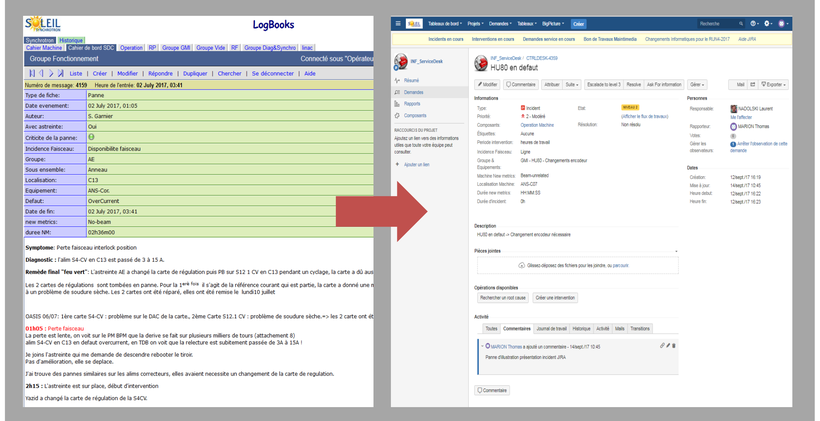
Synchrotron SOLEIL is the 3rd generation French synchrotron light source. It has been in operation since 2007 providing photon beams to 29 beamlines with a maximum intensity of 500 mA, 5000 hours a year.
Since the beginning of 2018, the operation group has been migrating to JIRA Atlassian Software as the unique tool for reporting failures. The tool was already used by the computing division for managing user requests, software evolutions, problems, etc. On the operation level, JIRA is already recording all the demands of interventions and access to the tunnels. It provides a better interaction between the reporter and the support groups that are involved in the process of resolution. Anyone can report a failure related to the accelerators by creating a ticket. Here we will describe the workflow to manage an incident during its full lifetime and give a first operational feedback.
In order to make the reporting more convenient, a simplified web page has been developed by an operator. It procures an interface to anyone without knowledge of JIRA and allows us to free ourselves from errors by skipping unnecessary steps.
Automatic reporting is also made in case of failure occurring on injection or insertion devices. It is programmed in Python thanks to a JIRA plugin. Dashboards are available for all support groups reporting incident by severity level, which is a major asset compared to the previous logbook we used in terms of quality, interaction with people and review. It improves also integration between support, developers and operations.

Migrating from Elog to JIRA

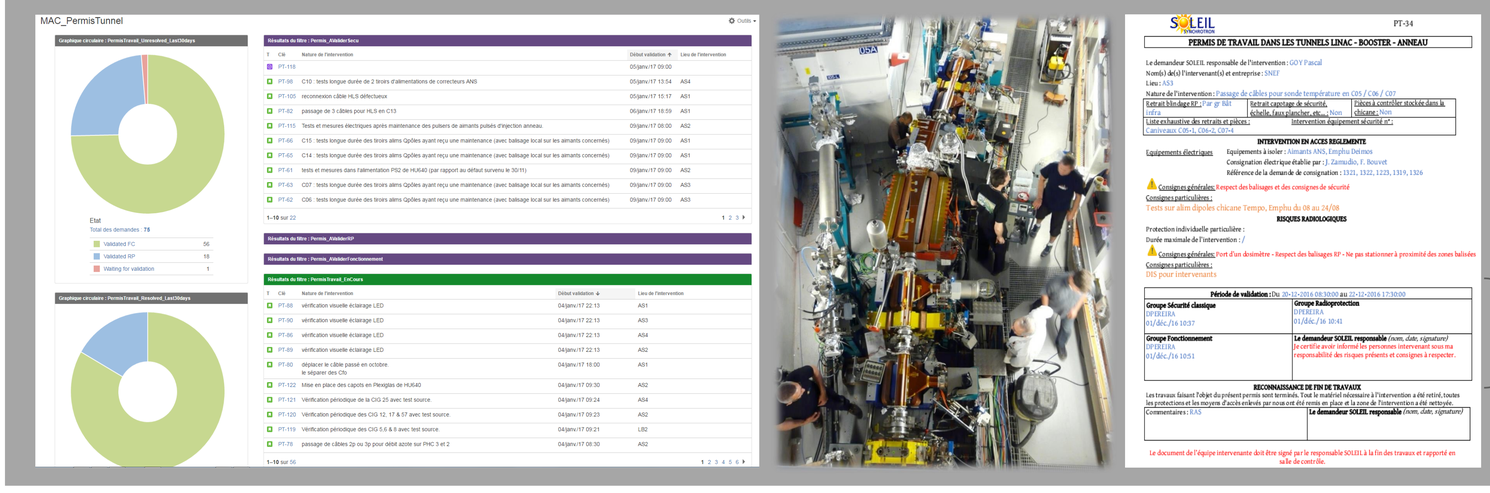
Starting January 2018, we migrated the Machine incident tracking from ELOG to JIRA in order to improve traceability and interaction between groups.

The **automatic entries creation** that were already used with ELOG based on no-beam and low-beam events are still present and have been extended to other events (insertion device failures, …)

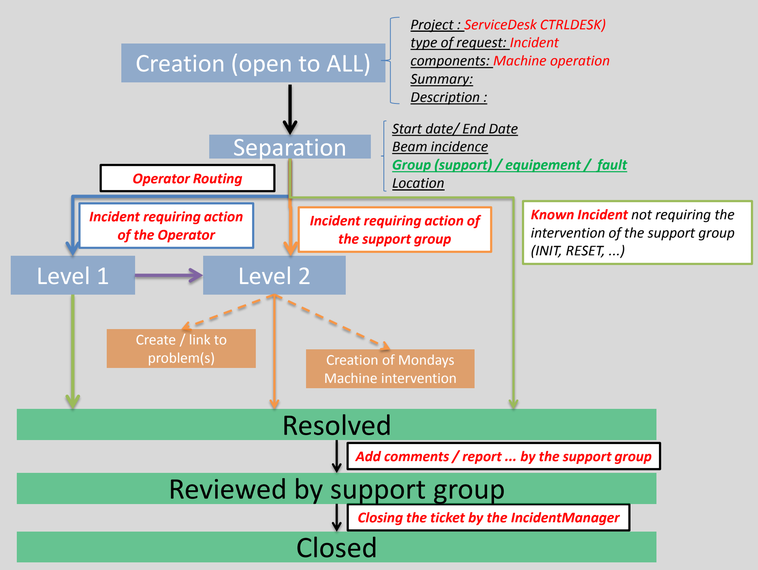


Shutdown Period Managment

The shutdown schedule is built by the operation group according to the requests of the other groups intervening inside and outside the tunnels, the command control and the utilities.
The schedule is discussed and consolidated with the representatives of the different groups concerned during **two dedicated meetings**.
Every operation or visit that is carried out within the tunnel requires a license.
Since December 2016/January 2017's shutdown, we manage tunnel operations with Jira. Each validation step (safety, radioprotection, operation and worker) can be done remotely, then the task is authorized.
All operations are synthesized and tracked through the **status and workflow function** ; they are sorted by state of progress, location and/or date.
This function is used by the operator when, twice a week a progress report is made to all the stakeholders and to the Accelerator division Director.

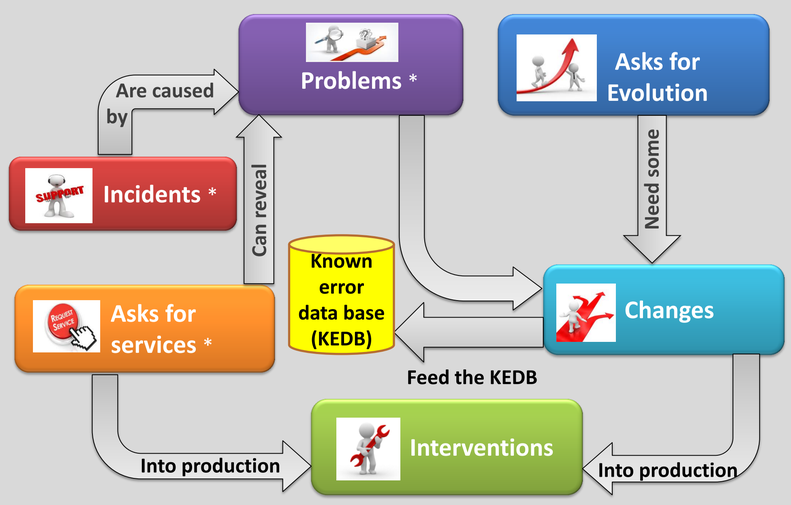


Life Cycle of an Incident



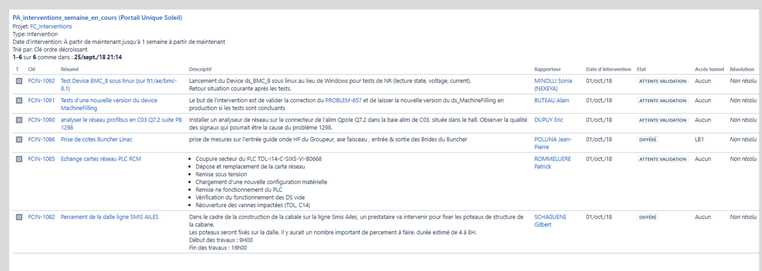
Incident Tracking

Overview of the 6 "Operational Processes"



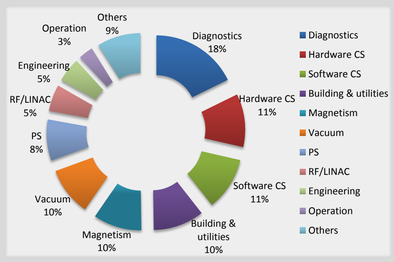
* Currently into production

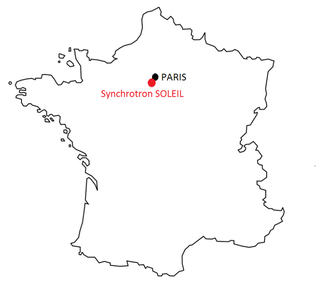
Machine Days Interventions



Jira has been used to register **Machine Days Interventions** since **September 2013**, which makes 1092 entries to this days.

175 interventions where carried out in 2017, which gives an average number of five interventions per week.
You can see the distribution per group on the figure on the right.



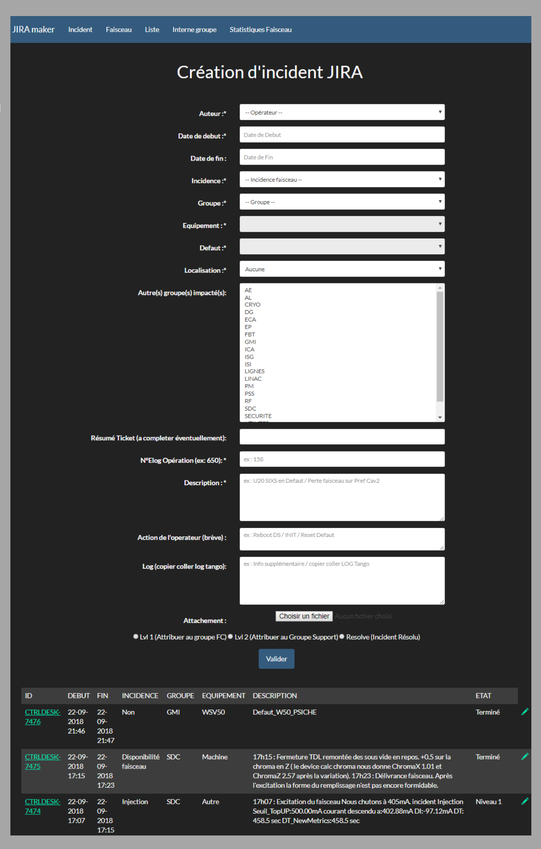


How to Make Reporting and Consulting Easy with JIRA

WEB GUI:
A Graphic User Interface that allows to create, escalate or solve a ticket in one step.

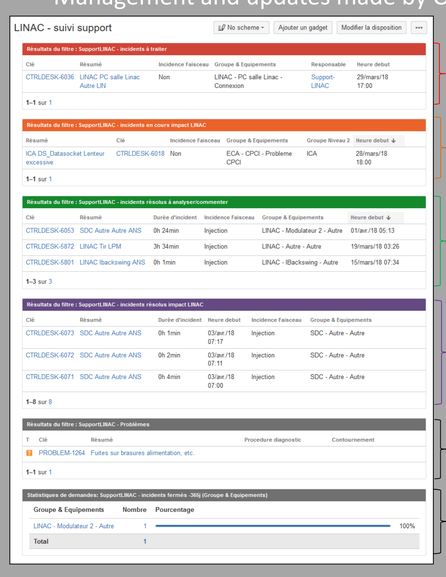
This application has been developped with Python framework DJANGO by an operator.

We can also modify an existing ticket which is a big asset to complete automatic entries.



DashBoard, a new tool :

- Ability to view an updated machine status and a shared state at any time for:
  - Oncall (ongoing incidents)
  - Support group members
  - Group leaders
  - The different roles (IT or PS support, Beamline coordinators, Executive coordinators, or Machine operators, etc.)
- Dashboards created for all support groups
  - Management and updates made by Operation Group



Incidents in progress - **To be processed by the support group**

Incidents in progress - **Group impact**

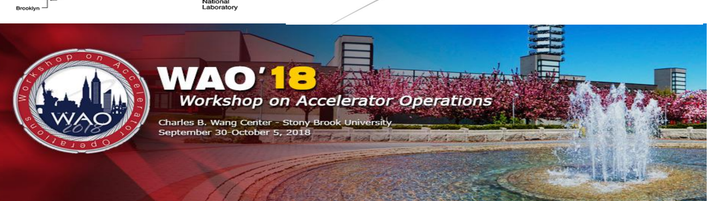
Resolved issues assigned to the group **waiting for REVIEW by the group**

Resolved issues - **group Impact**

Problems

Incidents closed (resolved and reviewed) over 365 days

Operational Feedback

+ **Incident capture is not as complex as with ELOG (thanks to the WEB GUI)**
+ **Top-up regulation and insertion devices failures are created automatically and the tickets contain the crashlogs.**
+ **Better communication and greater visibility (Stability Line incidents, etc.)**

Perspectives:
- Finding a ticket using the search tool is not effective : Filters and dashboards allow you to preconfigure searches; a "Quick Filter" plugin is being tested (similar functionality in ELOG).
- **Next steps for the Accelerators :**
  Improving Service Desk
  Set-Up : Problem management and Change management.
- Extension to beamlines incidents, to safety group entries.