

# SUMO FUNCTIONALITY

## 1. Tasks repository

The definition of the operation and maintenance tasks include:

- ❖ Tasks detailed description (also, the link to a separately defined procedure, where the task is defined in detail, can be provided)
- ❖ Tasks periodicity (if applicable)
- ❖ Links among tasks (if any)
- ❖ Tasks estimated duration
- ❖ Tasks estimated priority
- ❖ Resources needed for each task

The Task Form interface includes the following sections:

- Task Form:** Fields for PT element code (TEL1-IN-SP-CR), Code (TA/TEL1-IN-SP-CR/0001), Task name (Crystal LN2 filling), Priority (High), and Description.
- Description:** A detailed text description of the task procedure.
- Fields:** Fields for Period (in days), Type (Preventive), Duration (in hours), and Comments.
- Linked tasks:** A table showing related tasks and their time intervals.
- Manpower:** A table showing resource allocation, e.g., Mechanical technician | 1 | 1.5.
- Equipments:** A table showing equipment used, e.g., Scissors platform | EOP10... | 1.
- Relative documentation:** A table showing associated documents and files.
- Spare:** A table showing spare parts, e.g., Liquid nitrogen (LN2) | SUP... | 1.
- External services:** A table showing external services and workshops.

## 2. Resources and configuration control

SUMO allows storing and managing the information related to the operation and maintenance resources, such as goods inventory, operation and maintenance related documents, spares, supplies, equipment, workshops, personal profiles and external services.

In addition, the purchase orders generated when acquiring new assets can be registered.

The Purchase Order Form and Spare Form interfaces include the following sections:

- Purchase Order Form:** Fields for PT element code, Code, Title, Description, Responsible, Company purchase order code, Status, and Provider/Company information.
- Spare Form:** Fields for Spare code, Spare name, Amount, Minimal amount, Location, and Date.
- Spare purchases:** A table showing purchase orders for spares, e.g., Elevation drive purchase March 2013 | 1 | 2013/09/27 | 1.
- Consumed spares:** A table showing tasks that have consumed spares.
- Associated PT elements:** A table showing associated PT elements, e.g., TEL1 | Telescope 1 | 1.
- Associated documents:** A table showing associated documents.

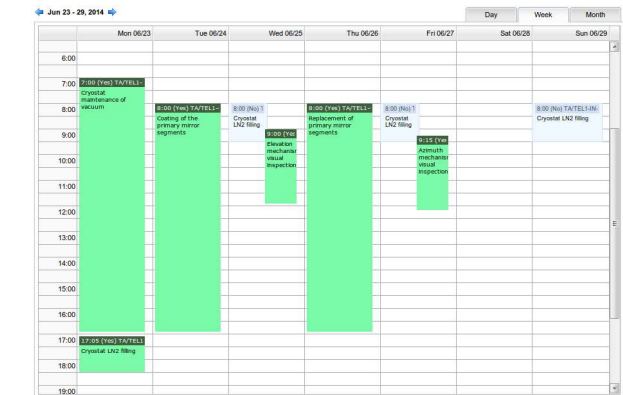
## 3. Problems tracking

Anomalies can be registered and corrective actions scheduled and tracked.

## 4. Tasks scheduler

SUMO allows generating an operation and maintenance schedule for a given period of time, taking into account all the tasks that can be automatically programmed. The task scheduler includes:

- ❖ Automatic update of the periodical tasks and linked tasks
- ❖ Manual edition: task execution date, automatically suggested, can be changed manually
- ❖ Automatic analysis of the feasibility of the generated schedule with the available resources. Warnings are displayed to identify potential resource conflicts



The Validation warnings and Work time users report interfaces include the following sections:

- Validation warnings:** A list of warnings detected, such as "Warning 6: 2014-06-23 The planned task '2014-06-23 | Crystal LN2 filling | TA/TEL1-IN-SP-CR/0001' is assigned outside the time slot defined in the task."
- Work time users report:** A table showing work time usage by user and task, e.g., 2014-06-23 Pedro Garcia | 2014-06-23 | Crystal LN2 filling | 1.5.
- User occupation report:** A table showing user occupation by date and user, e.g., 2014-06-23 Pedro Garcia | 1.5.

## SUMO OVERVIEW

**SUMO**, our **Operation and Maintenance Management Tool**, is a web-based tool intended to manage the operation and maintenance tasks, as well as all type of resources required for the exploitation of a complex facility during the Operation and Maintenance phase. The tool provides:

- ❖ An operation and maintenance information repository
- ❖ Assets and stock control
- ❖ Tasks scheduler
- ❖ Executed tasks archive
- ❖ Configuration and anomalies control
- ❖ Notification and users' management

**SUMO** automatically schedules periodical tasks and facilitates the search and programming of non-periodical tasks. Tasks planning can be visualized in different formats and edited dynamically. This allows to adjust the available resources, take care of anomalies, already allocated dates and other constrains that may occur during daily operation.

**SUMO** provides warnings to the users, notifying potential conflicts such as "the required personal is not available" or "the stock has run out of the spares needed for carrying out the scheduled tasks".

**SUMO** uses an open-source code relational database and provides a graphical user interface based on web forms. No need for any specific software installed on your client computers, just a web browser is enough!

## Why is SUMO needed in a project?

Software tools help managing the big amount of information generated during the lifetime of any project. This is particularly important for geographically distributed organizations, where it becomes essential to keep the project's operation and maintenance information in an electronic format, well organized and easily accessible to all people involved.

**FRACTAL System & Project Suite** includes:

### 1. System engineering and configuration control

The configuration data management tool, **GECO**, helps to track the system development successfully, from the initial high-level requirements up to integration, verification and operation.

### 2. Project documentation control

The documentation management tool, **DOCMA**, helps to organize and keep track of your project documents, improving the internal communication among the different members involved.

### 3. Project management tool

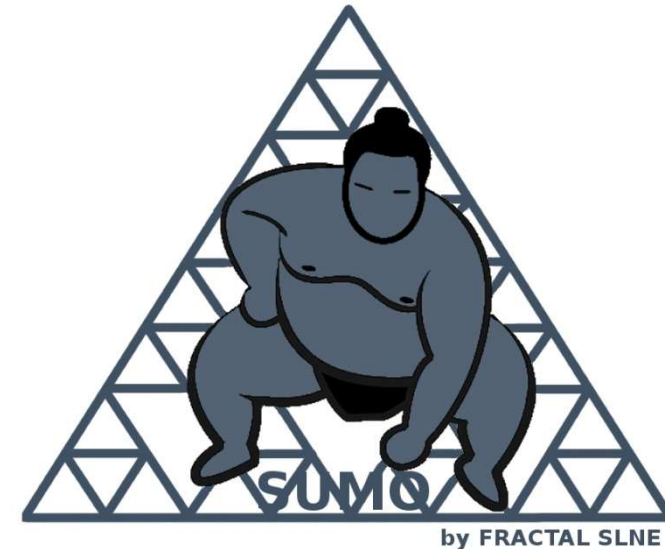
The project management tool, **MANATEE**, helps your organization manage your projects efficiently, by controlling the three project parameters (scope, schedule and budget).

All applications can be used independently or in an integrated way.

A trial license and further information about these tools can be found at:

<http://www.fractalsne.es/>

e-mail: [info@fractal-es.com](mailto:info@fractal-es.com)



Operation and Maintenance  
Management Tool