System Usage: First steps with Sen2-Agri system
Connection to the system Graphical User Interface
Connection to the system Graphical User Interface

Username: sen2agr

Password:

login
Connection to the system Graphical User Interface
Automated mode requires to define at least 1 site (extent + monitoring period/season)

1. Create your site: Name and extent
2. Configure your site:
   - monitoring period
   - automatic job scheduling by processors activation [optional]
3. Launch the automated mode by enabling and saving your site
Create your first site: name & extent

| Site name | Short name | Seasons | | | | | |
|-----------|------------|---------|---|---|---|---|
|           |            | Season name | Season start | Season mid | Season end | Enabled |
|           |            |           |              |            |            |          |
|           |            |           |              |            |            |          |

Logged in as sen2agri | DB version 1.8

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Create your first site: name & extent
Create your first site: name & extent

- Enter a **unique site name**
Create your first site: name & extent

Upload a **shapefile** with the site extent: bounding box or simple site delineation

The uploaded file will have to be in a “.zip” archive that contains a shapefile. Mandatory files are “.shp”, “.dbf”, “.prj” and “.shx” files.
Create your first site: name & extent

Your site has been successfully added!

<table>
<thead>
<tr>
<th>Site name</th>
<th>Short name</th>
<th>Seasons</th>
<th>Enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>MyRegion</td>
<td>myregion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To configure the season, press the *Edit* button corresponding to the newly created site.
Configure your site: defining the monitoring period

Then press the « + » button to set your season information.
Configure your site: defining the monitoring period

### Edit Site

**Site name:**

MyRegion

**Enabled sensor:**

- S2
- L8

**List of Seasons**

<table>
<thead>
<tr>
<th>Season name</th>
<th>Season start</th>
<th>Season mid</th>
<th>Season end</th>
<th>Enabled</th>
<th>Active processors</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OFF</td>
<td>L2A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L3A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L3B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L4A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L4B</td>
<td></td>
</tr>
</tbody>
</table>

**Enable site:**

OFF

- **Insitu data**

- **Strata data**

**Controls:**

- Delete Site
- Save Site
- Abort
Configure your site: defining the monitoring period

Enter an explicit season name

<table>
<thead>
<tr>
<th>Season name</th>
<th>Season start</th>
<th>Season mid</th>
<th>Season end</th>
<th>Enabled</th>
<th>Active processors</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 Season</td>
<td></td>
<td></td>
<td></td>
<td>OFF</td>
<td>L2A</td>
<td></td>
</tr>
</tbody>
</table>

Enter a season name for your site and select the enabled sensors.
Define the **Start date of your season**, this date will be the starting date of your monitoring period.
Define the **mid date of your season**, this date will be used to schedule the execution of the crop maps.
Define the **end of season date**, this date corresponds to the end of your monitoring period for this season.
Enable your newly created season

<table>
<thead>
<tr>
<th>Season name</th>
<th>Season start</th>
<th>Season mid</th>
<th>Season end</th>
<th>Enabled</th>
<th>Active processors</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 Season</td>
<td>2018-03-01</td>
<td>2018-06-30</td>
<td>2018-11-30</td>
<td>ON</td>
<td>L2A</td>
<td></td>
</tr>
</tbody>
</table>

Enable site: OFF

Insitu data

Strata data
Optionaly activate the automatic scheduling of processor(s) execution

- **Atmospheric correction (L2A)**  run automatically → it is a mandatory input for all the other processors
- **L3A** = Cloud free composite produced every month
- **L3B** = Vegetation Status (LAI and NDVI) produced for each L2A product
- **L4A** = Cropland Mask produced every month starting from the middle of the season
- **L4B** = Crop Type map produced at the middle and at the end of the season
Configure your site:
automatic job scheduling by processors activation

Press the « floppy disk » button to save your season settings
Configure your site:
Enable and save your site

![Image of a website configuration screen with options to create a new site, enable and save it. A pop-up window for editing a site is visible with fields for site name and a list of seasons with start, mid, and end dates, enabling status, and action buttons.]
Your first site is created!
STEP 1
Configure and launch the automated mode

1. Create your site: extent + monitoring season ✅
2. Configure your site: automatic processors activation [optional] ✅
3. Launch the automated mode by enabling your site and season of interest ✅

• Sentinel-2 and Landsat 8 download will automatically start
  – Will start 3 months before the start of the season date to initialize the atmospheric correction and cloud screening processor
  – Will remain active during 2 months after the end of the season date

  Download of L1 product and processing to L2A are fully automated

• “Schedule jobs” for activated processors will automatically be added to the system scheduler and will be visible in the Dashboard tab
Download has started and a first L2A product is available after ~ 1 hour
You can monitor the downloads
... and your system resources usage
STEP 2
Add a new job to the system scheduler

• Schedule the execution of a specific processor, using the by-default parameterization
• Example of jobs that could be added:
  – Schedule the execution of the Cloud-free composite processor every 2 months
  – Schedule the production of the Cropland Mask every month starting from August

1. Schedule the execution of the Cropland Mask processor (L4A) every month starting from August
   - Upload you in situ data
   - Add a schedule job through the Dashboard
Schedule a new job for the cropland mask processor

Upload your in situ data
Schedule a new job for the cropland mask processor.

In the *Dashboard* tab, press the **Add New Job button** under the **L4A processor**.
Schedule a new job for the cropland mask processor.

Set a job name
Select the **site** on which you want to operate.

Schedule a new job for the cropland mask processor.

Add New Job:
- **Job name**: Cropland_MyRegion
- **Site name**: MyRegion
- **Season name**: Select season
- **Schedule type**: Select a schedule
- **First run time**: 
- **Repeat**: 
- **Action**: Save
Schedule a new job for the cropland mask processor.

Select the **season** on which you want to operate.
Schedule a new job for the cropland mask processor.

Select the **Schedule type** on which you want to operate. Either *Once – Cycle* or *Repeat.*
Schedule a new job for the cropland mask processor.

Select a date which corresponds to the **first run date of your scheduled job**.
Schedule a new job for the cropland mask processor.

In case of *Repeat* and *Cycle* type, you have to set the day of the month or the period in days between two runs.
Schedule a new job for the cropland mask processor.

In case of *Repeat* and *Cycle* type, you have to set the day of the month or the period in days between two runs.

❖ If date is in the **past**, processing(s) will start immediately if resources usage allows it.
❖ If date is in the **future**, processing(s) will be added to the scheduler.
Monitor the job execution

### Current Jobs

<table>
<thead>
<tr>
<th>Id</th>
<th>Processor</th>
<th>Site</th>
<th>Triggered By</th>
<th>Triggered On</th>
<th>Status</th>
<th>Tasks Completed / Running</th>
<th>Current Task</th>
<th>Pause</th>
<th>Cancel</th>
</tr>
</thead>
<tbody>
<tr>
<td>476</td>
<td>L4A Crop Mask</td>
<td>MyRegion</td>
<td>Scheduler Request</td>
<td>2019-03-15 12:19:22</td>
<td>Running</td>
<td>0 / 1</td>
<td>crop-mask-fused</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Disk

- 6 GB / 0 GB

### Load

- 2 / 4 / 3

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*Image source: ESA Sentinel-2 for agriculture monitoring.*
STEP 3
Manual mode to add a custom job

• Manual processing, independently for any processor
• Not scheduled: will be immediately launched
• Fully configurable: easy to change the by-default parametrization for tests

1. Add a custom job for launching the crop type processor
This “Custom jobs” tab allows the user running any processor
- by using only a subset of the available L2A input products and/or
- by running it with custom parameters
STEP 4
Optionally adapt the by-default configuration

The automated mode will be run using this by-default parameterization except if the user wants to change them. The change of the by-default parameters can be performed by using the Sen2Agri configurator application (accessible by running `sen2agri-config`).

Important note: The by-default parameterization were found to be the best generic values after a consistent benchmarking carried out during the project over globally distributed sites. The by-default values should not be changed before a consistent test.