Climate change and food security are factors that are rapidly changing the context in which rural economies operate. 3a, thanks to its in-depth knowledge of environmental and agricultural issues, has developed solutions for climate monitoring, IT systems to support decisions, and solutions for the digitisation of agri-food companies.

**4.0 Solutions for agriculture**

**Technology and Platforms for sustainable production**

Meteorology and field surveys

Phytopathological models for phytosanitary defence

Irrigation guided by mathematical models

Vegetational indices and prescription maps

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3a Srl
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**Green Planet**

A support system for sustainable agriculture. It is based on agro-meteorological monitoring, numerical forecasts and field observations. It elaborates bioclimatic indices and risk indices for plant adversities.

**Irriga-Smart**

An integrated system consisting of four components: the cloud platform that receives the weather data, the model for estimating irrigation needs, the planning module and the field control unit that drives the irrigation system.

- **Weather**
  - It displays the raw and elaborated measurements, provides bioclimatic indices, allows for comparisons between stations and a spatial visualisation on the map.

- **Alerts**
  - The configurator enables the combination of up to three rules at the same time. Something that is very useful for frost alerts.

- **Phytopathological modelling**
  - Models: supervises the processing of outputs of phytosanitary models activated for the specific user and linked to field monitoring points.

- **Technical assistance bulletins**
  - The data collected and processed by the platform are summarised in a technical document to support agronomic choices and sent by email to a list of recipients pre-set by the user.

- **Satellite vegetation indices and prescription maps for precision agriculture**
  - Each week a new satellite update provides useful information on the health of the foliage through maps and graphs of the main vegetation indices.

- **Configurator**
  - The system allows you to configure the farms managed by the system, the Irriga-Smart Units, irrigation sectors and valves, irrigation shifts, and the customised crop coefficient curve.

- **Remote control of valves**
  - The platform transmits the irrigation advice to the control unit in the field, which, based on user-defined time windows, controls the system and the volume of water delivered.

- **State of the irrigation sector**
  - The Sector Monitor displays the list of sectors and, at a glance, displays some information on the status of the sector. For example, it indicates whether the system automation is running and the status detail (On/Off) or whether irrigation of the sector is managed in manual mode. The sector line also shows some information about any commands executed at the Sector level, and the detail and condition of the associated valve.

- **Irrigation report**
  - Allows you to set the desired date range and generate a summary report for an irrigation sector: the master data of the sector and the corresponding batch, the irrigations carried out (both in manual and automatic mode), the valve opening times, the irrigation advice provided by Irriga-Smart and any manual commands launched by the user (skip and increase).

**System 4.0**

A mathematical model estimates water needs and a field control unit controls the irrigation system.

**A digital ecosystem of applications for the sustainable management of agricultural production**

**Sustainability and Innovation.**

**Powered by**

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