

2.2. Creation of Digital Twin

INTRODUCTION

This document describes the necessary steps for creating a new digital twin on the DENODL® App platform. The steps of the process are:

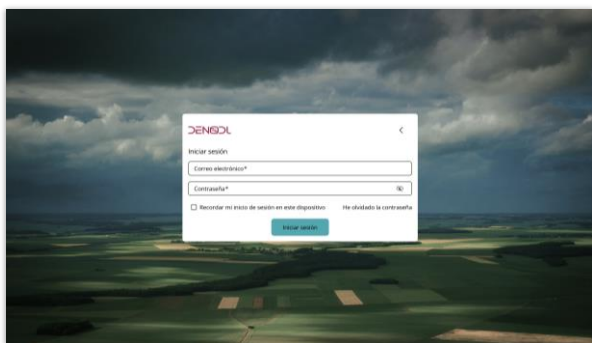
- Registering the client and users on the platform.
- Defining the boundaries of the farm.
- Defining organizational units.
- Defining irrigation sectors.
- Implementation of sensors and other elements.

CLIENT AND USER REGISTRATION

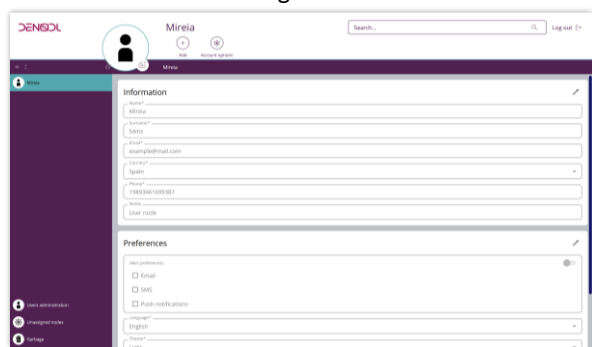
The first step to create a digital twin is to register the client and the main user on the platform. This task is carried out by the sales distributor. For this, the following data will be provided to DENODL® Customer Service and Software Development via email*:

- Name of client (company)
- Main user (Admin):
 - o Name.
 - o Last name(s)
 - o Phone number
- Main user credentials
 - Email address
 - Password
 - The node can be urban, agriculture, golf, soccer, or green spaces.

Once Software Development confirms the registration, log in using the credentials by accessing the website zero.denodl.com or the DENODL® App available for iOS and Android.



After logging in, the screen displaying the user's information and preferences will appear, from which you can begin creating the digital twin.



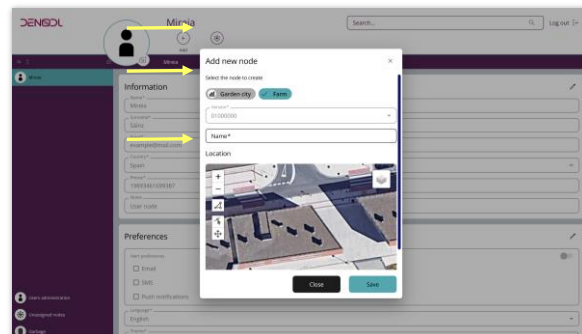
*fslabclientes@denodl.com y software@denodl.com

DELINEATION OF THE FARM OR OPERATION

The farm is the element that will encompass the different irrigation sectors and sensors. To define it, use the "Add" button located in the header of the app.



In the pop-up window, enter the name of the farm in the corresponding field, and draw its geometry on the map.



DEFINITION OF ORGANIZATIONAL UNITS

From the farm screen, organizational units are defined. These are elements (sometimes optional) that serve simply to organize other subordinate elements within them. They are created using the same button and options as the farms.

DEFINITION OF UNIT MANAGEMENT

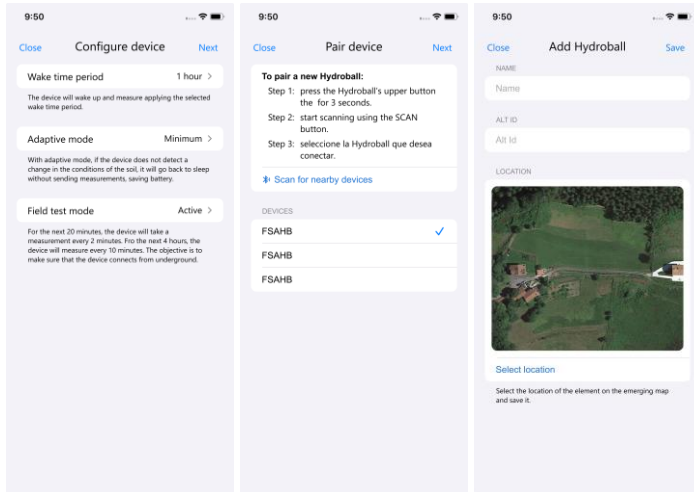
From the screen of the farm or the corresponding organizational unit, management units are defined. The management unit is the element where all the information from the sensors will be displayed. Generally, management units correspond to the existing irrigation sectors. To define a new management unit, you must click the "Add" button on the screen of any farm or organizational unit. This will create a new management unit within the element from which it is created. When clicking the button, a window will appear allowing you to define the name, location, and geometry of the element, in the same way as was done with the farm and the organizational unit.

Implementation of Sensors and Measurement Elements

Sensors can be added to the digital twin from any management unit. This can be done either through the web app, in the same way that all other elements have been created, or via the mobile app by linking the sensors through Bluetooth and capturing the device's location to position the sensor within the digital twin.

HYDROBALL® sensors can be configured with different measurement intervals, "Adaptive Mode," and "Field Test Mode," as well as setting the sensor's name and its unique "Alt ID" identifier.

The flow of screens for linking the HYDROBALL® sensors is as follows:



In addition to sensors, DENODL® digital twins can also include virtual weather stations that, through APIs, collect data from real weather stations for monitoring purposes*.

*For monitoring metrics, please refer to document: 3.0. DENODL® App User Guide.