

The document describes potential user groups, and discusses which solutions fit which customer and on which customer we will focus. In general, our product is aimed towards farmers who can deploy the robot on their fields. However, there are different kind of farms and different kind of farmers. By the nature and purpose of the robot, it should be evident that robot is aimed towards farmers who grow crops and experience negative effects from weed growth on their fields. This excludes farmers who only keep animals, or do not have a weeds growing on their fields (like in greenhouses).

Hence the main prospective user group is farmers who grows crops outside (so not in a greenhouse or anything alike).

We can identify multiple different type of farms in this subgroup, however.

1. Open farms: farms with their fields scattered around the area, where the areas between the farms can contain roads, buildings or other entities, not owned or controlled by the user. On such farms, the environment is highly variable and uncontrolled. People or animals can be found around or even on the fields.
2. Closed farms: farms with their fields on a single, or set of, properties owned and managed by the user. These properties are closed for the public and the environment is controlled. Anything that happens on the farm can be controlled and adjusted in a way the user desires.
3. Next-gen automated farms: farms which are in an experimental phase and are aimed towards full automation. As such, these farms are designed and managed for and by robots. Outside interaction is (very) limited. Conditions are controlled. (example: pixel farming)

Each of these user groups will require the robot and autonomous system we are discussing to behave differently.

For open farms, a user must either pick up the robots from fields and place them at fields themselves, or the robot must be able to maneuver public grounds and roads autonomously. Moreover, each field or set fields that is disconnected from other fields, must either have a charging and emptying point, or the user must manually move the robots to such points. Or even have to empty and charge the robot manually. Clearly, a fully autonomous robot could do such things autonomously, but for the near future such autonomy does not exist yet. Designing, implementing, and testing it would cost a lot of time and money and hence we decide to not offer such autonomy. The user-unfriendly nature of manual pick-ups and drop-offs of the robots is unlikely to appeal to any real customer, and as a result, we will not focus on this user group our system.

As far as closed farms are concerned, an automated system is easier to realise. The movement between fields, charging and emptying points is not hindered by any entities, assuming the user enables this: proper briefing of staff and keeping routes obstacle free will allow an automated system to function effectively. Given this, our robot system will be able to operate effectively and efficiently: since we do not offer full autonomy, the routes in between fields, charging and emptying points will have to be provided to the system, as such, these routes should be kept

fully accessible at all time. In conclusion, closed farms are a consideration for the main target group for this project.

Finally, there is next-gen automated farms. By the nature of these farms, our robot would be a perfect fit in such environments. Hence such farms are a consideration for the main target group for this project.

In order to maximize the number of potential users, and the experimental nature of “next-gen” farming, we have chosen to focus our product towards closed farms.