Innovating for Impact

A high-tech startup founded at Delft University of Technology (Netherlands) in 2013, aQysta aims to provide sustainable hydro-powered pumping solutions that can have a positive economic, environmental and social impact.

aQysta is strategically located in Yes!Delft, Europe’s biggest high-tech incubator that grants access to expertise, network and research facilities. At its Delft office, aQysta conducts technology research, product design and development, sourcing and global sales.

In the South Asian region, aQysta has its affiliated entity in Nepal, operating since 2015. aQysta Nepal sells and implements pumps in Nepal which serves as the platform for conducting research, experiments and gathering market feedback.

This early success has enabled aQysta to gain customer feedback, technical validation in diverse geographies and market opportunity in diverse socio-economic conditions.

aQysta is on a quest to sustainably provide water for farming!

About Us

Core Competencies

Research

We closely study the global irrigation market and research technological solutions applicable to different scenarios.

To understand the needs of farmers better and develop products that fit the market requirements, we carry out farming activities too.

Product Development

aQysta's expertise lies in translating ideas to technological products and commercializing in the market. We have the capabilities to carry out all the underlying steps of product development, including conceptualization, prototyping, setting requirements and specifications, fluid and solid simulations and embodiment design.

Collaboration & Network

We collaborate with an international network of manufacturing partners and suppliers to manufacture high quality products at reasonable costs.

We are constantly expanding our network of distribution partners in various countries in order to make our products globally available.

Innovative Business Models & Financing Mechanisms

Innovation at aQysta is not limited to product innovation alone but also includes innovation in the way these products are implemented.

We are working with innovative financial mechanisms, e.g. “Pay-After-Harvest”, where farmers pay for the product only after they have harvested their crops and earned revenue from it.
Hydro-powered pumping is the most cost-effective water lifting technique in geographically feasible areas as validated by The Food and Agriculture Organization of the United Nations (FAO).

As 70% of world water is used in agriculture sector, increasing access to irrigation must be done with efficient use of water. aQysta aims to provide water from rivers and canals, sustainably and cost-effectively, using it in efficient ways to sustainably increase agricultural productivity, globally!

**Increased Population: Where is the food?**

By 2050, the world population is estimated to reach 9.7 Billion People which means food production needs to be **Doubled**

**Efficient Irrigation - Increased Production**

Irrigation increases food production by 2 to 5 times
Products

aQysta offers different variants of hydro-powered pumps, that matches with your requirements. All you need is a flowing water source.

Barsha Pump

The Barsha Pump is the first type of hydro-powered pump developed by aQysta.

It is a water wheel propelled pump that utilizes the energy from the flow of rivers and canals to pump water without requiring any fuel or electricity to be operated.

aQysta has deployed Barsha pumps in more than 12 countries globally.

HyPump

HyPump is an innovative hydro-powered pump, designed specifically for irrigation canals to deliver pressurized water to drip or sprinkler systems, thus saving water, without increasing energy consumption or energy costs.

aQysta is demonstrating this technology in Spain and Italy.

Drip Irrigation uses 30 to 50% less Water than Traditional Methods. But, due to the required pressure, Drip Irrigation increases Energy Consumption by 10 times— and with it the Cost for Irrigation.
Team aQysta

aQysta is comprised of a young, committed and global team with 17 team members of 8 different nationalities working across 4 countries, with the common vision of successfully bringing hydro-powered irrigation technology to the world.

The team consists of a unique mix of expert designers and engineers, together with international business developers with sound knowledge on the irrigation context and user scenarios from different parts of the world. Complemented with senior experts who advise aQysta with business expertise, technical knowledge and network to grow further, it is aQysta’s unique set up that is the driving force for its successful growth thus far and its ambitious plans.

Awards & Achievements

- Philips Innovation Award 2012
- Climate-KIC Venture Competition Award 2014 - Europe
- Bearing Point Award 2012
- Siemens Empowering People Award 2016
- Forbes 30 under 30 - Social Innovation Europe-2017
- DOW SISCA 2012
Barsha Pump is essentially a tool to provide water. However, its impact does not end with access to water. The pump can serve as a tool for social and economic transformation, without causing any harm to the environment.

**Impact So Far**

- **200** Hectares of land Irrigated
- **300** Millions Litres of Water Pumped
- **5000** Number of people Served
- **100** Tons of CO2 emissions Saved

Barren Land to Cultivation, Sumba, Indonesia

Our Theory of Change

- Reliable & Cost-effective Irrigation
- Year-round Commercial Farming
- Employment Opportunities & Increase in Income

Our Success Stories

Barren Land to Cultivation, Sumba, Indonesia

- Barren lands next to rivers, with no cultivation in dry-season
- 30 households trained on organic farming
- First harvest after 3 months

Many people in Sumba do not farm vegetables in dry season because sometimes one actually makes a loss at the end of the growing period due to the amount of money we have to spend in buying kerosene to pump water. Now that we have the Barsha pump and do not need to pay for the fuel, more people will grow vegetables. We are very happy and thankful.

Community Leader, Kadahang, Sumba, Indonesia
Chandra Tamang

“Last year, the fish pond dried and our fishes died. With the Barsha pump, it constantly fills the pond, and has helped us enormously.”

Nirmala Choudhary

“Normally, the watermelon produced in our field weighed 8 to 10 kg, but after the use of Barsha pump, now we are able to produce watermelon that weighs 12 to 15 kg. Barsha pump has been very helpful for providing timely irrigation in our field.”

Javier de la Brenna

“The Barsha Pump is helping us drip-irrigate our fruit trees, and save on electricity costs that usually occur for pumping.”

Partners

aQysta has worked with different partners from various sectors (Universities, international development organizations, private distributors, manufacturers and specialized plastics engineering companies) which add complementary expertise to the company, offer their international network and assist in accelerating the innovation and its market introduction.
Our Presence

Distribution - Collaboration

Are you interested in distributing our technologies in your region?
Are you an I/NGO, governmental/private company working on agriculture projects in your country, and are facing irrigation problem?
Do you work on implementing and financing renewable energy technologies?

Yes?
Please get in touch with us and we can explore how we can work together.

Let us Irrigate Better, Together!

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