

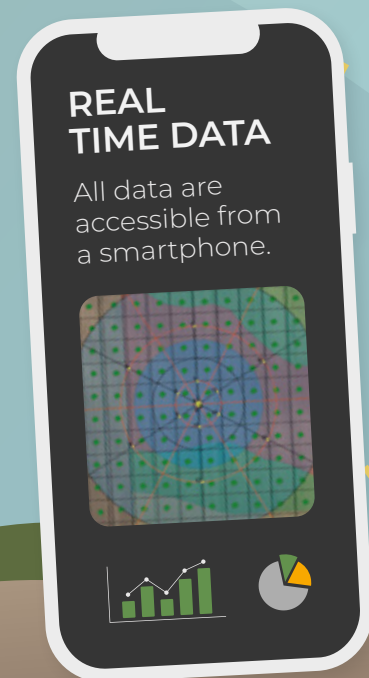
## How does a Finapp probe work?

**CRNS means Cosmic Ray Neutron Sensing**, i.e. detection of cosmic neutrons.

The neutrons arrive from space and interact with water present in the ground. Some are absorbed, others escape and travel into the air. **These neutrons are the messengers that tell us how much water is present in the soil** in a specific area.

**Finapp translates neutrons into numbers** so that anyone can understand their message.

This is the CRNS technology.



## Why should I use a finapp probe?

→ Current technologies do not allow to really know soil moisture.

Punctual probes provide fairly accurate data but valid for a couple of meters, however, soil moisture values can vary by as much as 30% in less than 100m. A single punctual data, therefore, does not provide valid information for an entire soil. The satellite provides large-scale data, but it does not penetrate the soil except for a couple of cm. Therefore, it does not get information on moisture deep down, where plant roots draw water.

### Finapp provides large-scale, in-depth soil moisture knowledge.

This allows you to irrigate correctly, never to miss a beat!

- 1 No waste of water
- 2 Economic savings
- 3 Higher yield: +20% approx.
- 4 Higher quality: the crop is never under water stress
- 5 It prevents the growth of fungus and moulds

## Is CRNS technology reliable?

Sure it is! CRNS technology has been used for almost 20 years and is approved by the scientific community, it's not a Finapp invention.

The **FAO says that CRNS technology is the best actually available to practicing "smart agriculture."**

## What as Finapp made innovative?

Finapp has optimized the CRNS technology, reducing size, costs and weight, fitting it in a little and versatile probe (covered by numerous patents).



## What does Finapp do for agriculture?

→ Finapp provides: **SOIL MOISTURE**

- On **large scale** to 20ha
- **In depth** - 50 cm
- **In real time**
- **Not invasive**
- Insensitivity to soil texture, density, salinity
- Gravimetric or volumetric data

## With a single probe:

- **Lightweight and compact**
- **Installable anywhere**, does not require connection to the power grid or a level ground.
- Positioned **2m above the ground**, so as not to interfere with the agricultural activities!

## Who we are

Finapp is an innovative startup, a spin-off of the University of Padua/Italy.



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# WE USE THE COSMIC RAYS TO MEASURE SOIL MOISTURE

