ON▸DO™
SMART FARMING SOLUTIONS

**Sustainable farming
with less resources**

Team

Founding team a.k.a. I³

Ilia Iordanov
20 years in IT

Ivan Dragoev
25 years in IT

Ivaylo Enev
10+ years in agri-tech

Ilia and **Ivan** are the founders of **IndigoVerge** - a software development company with 15 years of history and 100+ completed projects for companies such as Siemens, Telerik, Microsoft, ETM, Honeywell. Throughout the recent years the company has been primarily focused on Internet of Things development.

Ivaylo is ONDO's agritech and sales specialist. He spent the last 10 years in the agri-tech sector, selling and integrating crop technology management solutions across Eastern Europe, working for a leading Israeli company. He also has 15 years of entrepreneurial experience in IT infrastructure projects.

The team

- 1 Agronomist/sales
- 5 Developers and a QA
- 2 Marketing/PR experts
- 1 UI/UX Designer
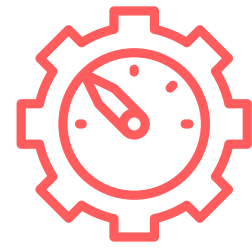
Anton Samsonov
Representative in South Africa

Hille Meetsma
Advisory Board, Entrepreneur

Zvezdomir Jelev
Advisory Board, As. Prof at Agricultural University Plovdiv

Farmers' challenges

Low efficiency

The inefficient usage of resources (water, fertilizers, etc) as well as the low level of digitalization have a negative effect on the quality and quantity of the yield, leading to bad economic results for the farmers.

- Overdosing fertilizers is frequently used to boost yield, but its long-term damage to the ecosystem is already acknowledged and targeted via policies like the EU Green deal.

- Available agritech solutions tackle separate problems each, do not work together and require time and qualification to manage and monitor.

Labor shortage and human error

Between 2005 and 2018, the average rate of decline in the volume of agricultural labor used across the EU as a whole was -2.5 % per year (~35% for the period)[1]. The access to highly qualified agronomists with know-how in modern methods and technologies is becoming difficult and expensive. Even a low-qualified working force is hard to hire. Both lead to increased levels of human errors and losses.
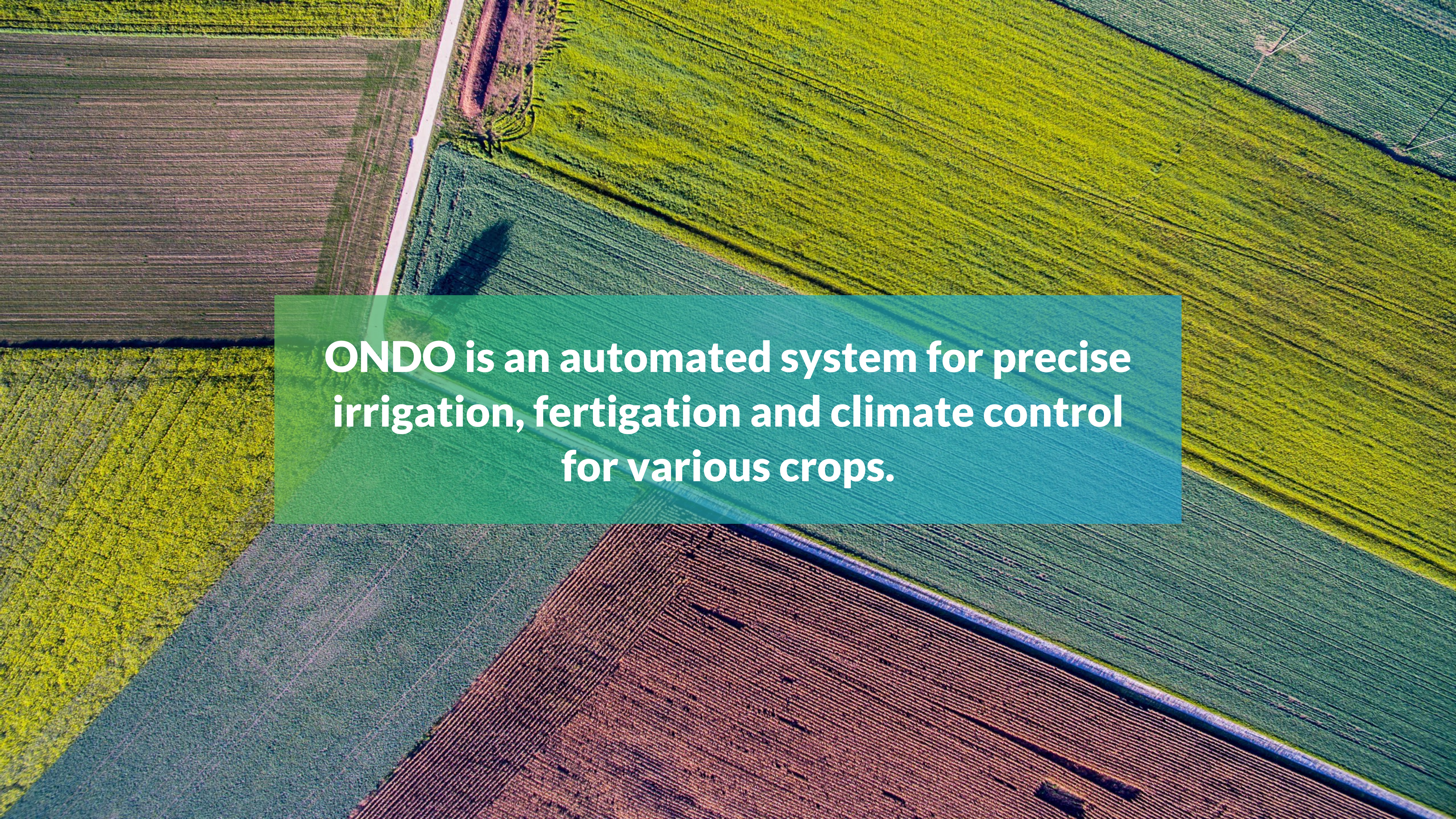
Climate Change

Agriculture accounts for more than half (51.4% in 2014) of the freshwater use in Europe, more than all other sectors combined. Most of the irrigation occurs in areas already affected by water stress, and where water scarcity might increase under future climate change[2].

Climate changes - rising temperature, dry periods with no rain and drying rivers/dams, severe winds, etc - severely impact the availability of water resources and predictability of climate conditions, thus leading to **unpredictable harvesting results and economic outcome for the farmers.**

With a growing Earth population and limited land to grow agricultural produce on, we need a solution that can address the efficiency, labor shortage and predictability issues of farmers. This will ensure sustainable agricultural production and profitability of the agricultural business in the long run.

1. **Performance of the agricultural sector** by Eurostat, November 2019
2. **Agriculture and environment,** p 34, by the EU Commission Directorate-General for Agriculture and Rural Development, 2018

ONDO is an automated system for precise irrigation, fertigation and climate control for various crops.

Key Functionalities

Irrigation & Fertigation

- **Recipes for fertigation** - allow to precisely set up fertigation processes by time, quantity, proportional quantity and other criteria
- **Programs** - perform irrigation with or without fertigation recipes specific to the crop grown
- **Schedules** - for automated recurring running of irrigation and fertigation
- **Wireless control of valves and sensors** - ensure low installation costs and easy maintenance

Climate control (Greenhouses only)

- **Target temperature & humidity** - complete management and synchronization of all climate control devices in the greenhouse, so targets are constantly met
- **Strategies for vents, circulation fans, misting and thermal screens** - allow to define specific behavior of all devices throughout the different times of the day, depending on high/low temperatures, humidity, etc.
- **Weather station** - for monitoring of the external environment

Monitoring & Reports

- **Remote access** (subscription) - farmers have full control over the processes from any part of the world
- **Alarms & notifications** - keep the farmer up to date with the most important activities done by the system or any deviations from the expected workflow
- **Reports** - generated automatically by ONDO on a weekly or monthly basis. They provide a summary on the water and fertilizers used, the average temperature and humidity and more
- **Historical data** - for irrigation, temperature and humidity, weather data, activities log, etc
- **24/7 support**

ONDO is a super computer that connects to and controls the farm infrastructure for irrigation, fertigation and climate control. A specialized software allows the farmers to automate and monitor remotely all irrigation, fertigation and climate control processes.

With ONDO, farmers create their irrigation and fertigation programs and schedules and define their target temperature and humidity levels (for greenhouses only). The system then takes over the management and control of the connected infrastructure so the schedules get executed and targets met, and alarms get triggered in case of infrastructure malfunctioning or other unexpected issues.
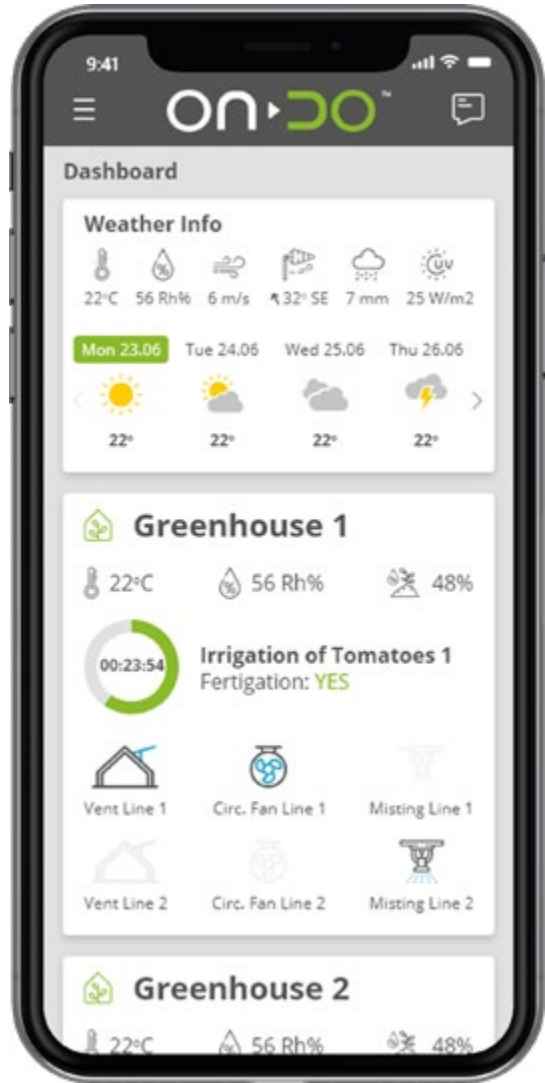
Suitable for Open fields and Greenhouses

Vegetables

Vineyards

Orchards

Maize

Berries

And many more...

First Results

Three customers already completed a full crop cycle with ONDO and shared the results they achieved. These results are presented in detail in our 3 published client case studies (more coming soon). The numbers* are:

30%
Reduction in human resource used

30%
Water savings registered

30%
Energy savings registered

20%
Reduction in fertilizer used

20%
Increase in crop yield

3x
Faster reaction to failures

*The specified numbers may vary depending on the farm equipment, crop, location, size etc.

"Thanks to ONDO we achieved complete automation for our greenhouses. We control the automated irrigation and fertigation, as well as the temperature management. We also control the air humidity inside the greenhouses as well as many other parameters. The key benefit is the immense time savings – we only send commands to ONDO and it does its job. By far we have positive impressions only."

- Marjan Mitev, owner of greenhouse complex MARJAN-MID

Read the case study

"I am already convinced in the benefits and advantages of this type of farming automation. Until now we have integrated in our farm irrigation, misting, fans, but everything is working on its own and requires being handled on its own. ONDO turns everything into one algorithm that works together and can be monitored remotely, 24/7. This makes the entire process extremely precise!"

- Petko Dinev, Owner of greenhouse complex Roseland

Read the case study

"We've been using ONDO for a short time only but every day we leave the field convinced that we've made a good decision. Everything is now happening so fast and easy, and we've been saving considerable water resources which is very important for us."

- Nayden Petrov, Owner of Otbrani farm

Read the case study

COVID-19 boosts the adoption of automation solutions in agriculture

## COVID-19 Impact on the Global Precision Farming Market

The precision farming market is expected to witness a marginal dip in 2020 due to the COVID-19 pandemic. The movement restriction and lockdowns have caused disruptions in the supply chain and shortage of equipment.

However, the crisis is expected to lead to **higher adoption of remote sensing and farm management software tools during the post-COVID-19 period.** Farmers have started focusing more on using wireless platforms for real-time decision making with respect to yield monitoring, crop health monitoring, field mapping, irrigation scheduling and harvesting management.

IoT device installations in agriculture farms around the world are projected to witness a compound annual growth rate of 12,7%. **COVID-19 is further expected to accelerate the installation of IoT devices in agriculture farms across the world to optimize irrigation scheduling and reduce human labor needed.**

ONDO Difference

The ONDO difference is in the business model. Ondo makes the automation accessible to the small and mid-size farmers by lowering the entry price barrier and then charging an annual subscription fee covering full maintenance, support and access to extra ONDO services.
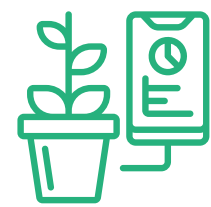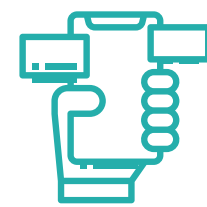
An all-in-one solution that integrates with existing farming infrastructure

ONDO is based on a single integrated controller responsible for the irrigation, fertigation and climate control in a farm. It can integrate with any infrastructure already installed on the farm.
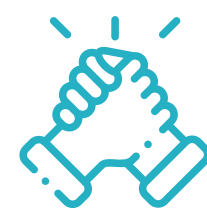
Easy to use

Unlike most of the competitive solutions ONDO has an intuitive interface that any farmer can instantly use.

Competetive price

ONDO package pricing makes farming automation **affordable for small and mid-sized farmers.**

Excellent 24/7 support

Reliable support and guaranteed response times in emergency situations. Easy and fast remote updates of the software.
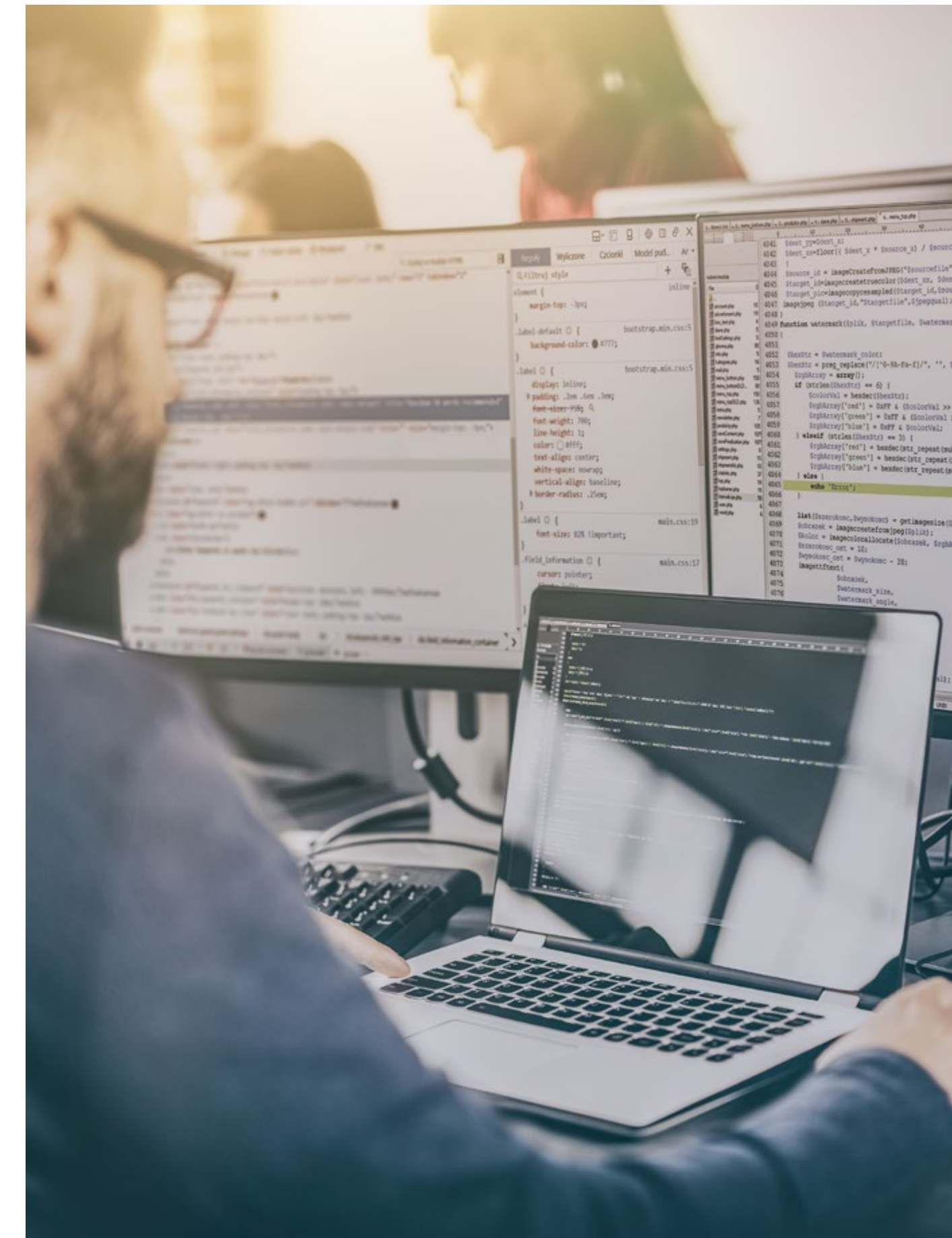
With Ondo everyone can be a successful farmer!

Thank you for your time!

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