Business challenge

To address regional drought concerns, iFarming wanted to help local farms better manage their water usage and empower regional authorities to better map planned crops to the local climate.

Transformation

To help farmers use less water, startup business iFarming developed a new smart irrigation solution. The platform, supported by IBM® Watson® and IBM Cloud™ technology, uses IoT sensor data to forecast water needs and control irrigation in real time, adjusting water levels based on crop growth and local weather.

Results

40% water savings
by better aligning irrigation efforts with plant needs

25% lower costs
for irrigation on average, alongside 30% higher productivity

Greater flexibility
with a scalable, open-source cloud platform

iFarming

More crops. Less water. Better planet.

Established in 2017, iFarming is a part of the Sofia Holding group. The business develops solutions focused on modernizing the agriculture industry, incorporating AI and IoT technology into everyday farming. The organization is presently headquartered in Tunisia and maintains additional offices in France.

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—Amine Lasram, Co-Founder, Sofia Holding

Growth season

For a planet that is made of mostly water, the struggle to remain hydrated can be surprisingly difficult. Plants develop complex root systems. Animals localize around common watering holes. And from time immemorial, humans have built their societies alongside major water sources and developed technologies to transfer usable water from these natural lakes and rivers to their homes and their fields.

But when global temperatures rise and rainfall averages drop, these efforts can quickly prove insufficient.

"Lately, it's been quite the challenge for all of the Mediterranean countries," explains Amine Lasram, Co-Founder of Sofia Holding, an IBM Business Partner and the parent company for a number of technology businesses in Europe. "In the region, we've had five years of decreased rainfall, and people are really suffering. And about 70 percent of our water usage is going towards agriculture."

With such a high demand and a low supply, farmers throughout the Mediterranean have been facing increasing pressures to eliminate water waste. And Sofia believed that it was in the perfect position to help.

Already active in the healthcare and automotive industries, the business began to explore how it could repurpose its IT and Internet of Things (IoT) advances to bring assistance to the farming community. An exploration that led to the founding of iFarming.

"Agriculture is big business in Europe," elaborates Lasram. "And iFarming lets us bring smart agriculture to the region."

AI, IoT and H2O

For its initial offering, the new business developed a smart irrigation platform, Phyt'Eau, which empowers farmers to monitor plant health and irrigation needs in real time. The solution, relying on Watson™ technology, can make targeted watering recommendations based on the nature of the crop, its growth level as well as current and predicted weather patterns, helping farmers to avoid over- or underwatering.

"It's all about reducing water usage," adds Lasram. "We track the stress point for each plant, and we tell them whether or not it needs water. And if the software is tied into their irrigation system, it can send the command automatically."

Hosted in an IBM Cloud environment and built with the IBM Watson IoT™ Platform, the Phyt'Eau solution actively pulls temperature and barometric data from sensors throughout the monitored fields as well as from The Weather Company, an IBM Business. And armed with this stream of information along with IBM-provided seven-day weather forecasts, the solution can calculate the stress point for each plant every 30 minutes and make corresponding watering recommendations.

Less water. Less waste.

Already deployed at farm sites in Tunisia and France, Phyt'Eau is having a noticeable impact.

"Whether they are growing almonds or olives or oranges," explains Lasram, "our average users have cut their water use by 40 percent. And we used Phyt'Eau for a golf course here in France. We gave them a 30 percent savings."

This reduced water use, in turn, helps cut overall irrigation costs by 25 percent and increases the productivity of farming efforts, on average, by 30 percent.

Beyond this savings, iFarming is also pleased with the ongoing level of support it has received from IBM. "We looked at other cloud platforms, and those others don't have the same support. With IBM, you don't just get the cloud, you get the people. We're a small company, and from the moment we signed up, they were giving us feedback – asking us, 'Why are you doing it that way?' and, 'Why don't you try this?' It really helped."

To further help iFarming mature its Phyt'Eau offering and build more mature cognitive skills, IBM also provided the firm with access to the IBM Scale Zone program, a cooperative effort driven by IBM that connects startups with potential large-scale clients.

"We are very pleased to partner with IBM for this," concludes Lasram. "If we would have done this with someone else, it would have been completely different. We would have to follow their architecture recommendations. But IBM, it's open source. We can customize everything to how we want it and still benefit from the IBM security and scalability."

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