

FUTURECOMPTA

digital for people

CASE STUDY

PALMAR S
OCEAN LIVING & GOLF

BEE2GREEN

Company: Palmares Ocean, Living & Golf

Site: <https://palmaresliving.com>

In the natural amphitheatre of Lagos Bay, Robert Trent Jones II created what became one of the most prestigious golf courses in Europe, the Palmares Ocean Living & Golf. The challenge launched to this exceptional American golf course designer was to create a 27-hole course that maximized the potential of its extraordinary environment.

Palmares, located in Lagos, has always had in its DNA the care and preservation of the environment that surrounds it.

Since its reconstruction in 2009, it has been recognised as an environmental reference field at European level.



ABOUT FUTURE COMPTA

With more than 48 years of existence and living a cycle of expansion of its activity by the recent integration in the FUTURE Group, multinational engineering group, based in Portugal, FUTURE COMPTA, is specialized in the development, integration and optimization of solutions in the field of IT - Information Technologies.

The technology it develops is its privileged way of touching and shaping the Society and the World in which we live. Digital for People is the commitment and responsibility that FUTURE COMPTA assumes to contribute to a world

better and more sustainable where people are first.

FUTURE COMPTA claims globally as a Digital Product Innovation and Development company, where IOT solutions are framed in several markets, having the ability to operate comprehensively as a technology integrator and provider of IT services and integral business solutions.

In the sectors in which it operates, it adds value through the efficient management of its clients' operations and means with an Intelligent Consulting approach.

www.future-compta.com

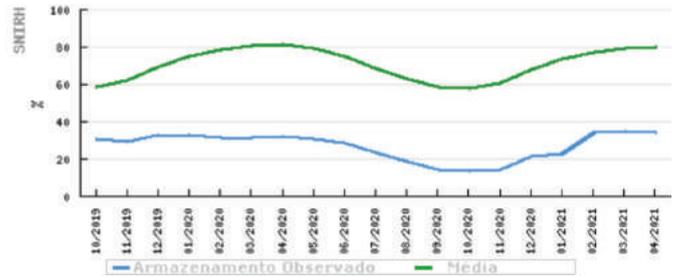


Starting Point

Historically Palmares uses water from the dam, which is fed by rains in the Algarve mountains area. The need for water for the entire property (approx. 200 ha), including the golf course (27 holes) and all landscaped areas in the Resort, was approximately between 550,000 and 570,000 m3 per year. Following the improvements implemented since its construction (which have been very demanding in reducing consumption), it has been achieved to reduce between 10% and 12%.

However, due to low rainfall in recent years, dam levels are at 30% of their capacity, well below their average value of 80%.

Storage evolution in the RIBEIRAS DO ALGARVE Basin.



This caused the Regantes Association, which manages the dam, to limit the annual water supply from 500,000 to 300,000 m3.



On the other hand, BEE2Green is a cloud-based IoT solution accessible anytime and anywhere, enabling multi-site management from the central location, optimizing efficiency, minimizing maintenance costs and providing tools to achieve water and energy consumption savings, compatible with state-of-the-art Grundfos pumping stations.

In the face of a complex activity, with various restrictions and where the safeguarding of resources, efficiency and quality of service are key factors, Palmares Ocean Living & Golf has outlined an integrated management plan of its capture systems and water cycle for the irrigation of the golf course, in partnership with **Grundfos Portugal** and Future Compta.

Project Objectives

The following main objectives were outlined, integrated in the first Water Contingency Plan in 2020 that Palmares drafted:

1. Audited situation of existing energy;
2. Reuse all possible water and reuse it efficiently;
3. Ensure maximum efficiency of the field watering process;

Ensuring, at the same time:

4. Real-time monitoring of pumping stations conditions;





Project Objectives (Cont..)

- 5. Real-time monitoring of lake conditions;
- 6. Automation of all water capture and storage processes;
- 7. Provision of a platform for remote operation;
- 8. Knowledge of effective water and energy consumption for validation with suppliers, either in real time, daily or monthly;

- 9. Availability of efficiency KPIs;



A Implementação

Following a background work prepared by **Palmares** with **FUTURE COMPTA** together with the partner **Bombas Grundfos Portugal**, the **Bee2Green** solution began in 2018, with Grundfos Whole in One, ensuring maximum efficiency in the management of water and energy in the field.

In 2020, with a situation of pressing and worrying available water reduction, a radically important phase in implementation was the obtaining of additional water in two strands:

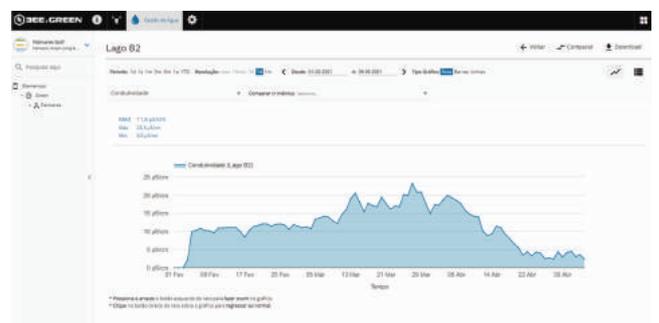
» Reuse of natural lake water present on site, which is naturally replenished by the groundwater level. Due to its proximity to the coast, although filtered through the sands, this water that replenishes the lake is slightly saline.

The water is pumped from this lake to a small well, from where it is then transported approximately 1 km to one of the watering lakes.

Detailed laboratory analysis of this new source showed that it can be mixed with reservoir water in the proportion of 1:5 without adverse effects on salinity.

Still, a monitoring system has been installed here to control in real time the water levels of the well, lakes and the salinity of the water supply.

This will allow the water mixture to be adapted as needed as well as the water supply through the Bee2Green.



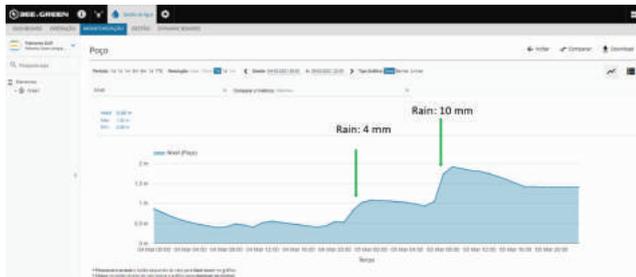


The implementation (Cont...)

» The second strand is the recovery of surface water of about 36 ha. This is also directed to this new well and pumped into the watering lake. **Until then, this water flowed directly into the sea!**

The monitoring of water levels in the well at Bee2Green also allows the evaluation of the reuse of rainwater.

These two strands have allowed Palmares to reuse more than 24 million liters of water by April and aims to exceed 60 million annually.



Results

Water:

- Use of surface waters in 36ha, which flowed directly into the sea;
- Use of rainwater;
- Use of natural lake water with controlled salinity;
- Recovery of more than 6 million liters of water/month;
- Validate billed water vs. water supplied.
- Full, real-time monitoring.

Energy:

- Reduction of energy consumption - new pumping stations Grundfos;
- Identification of energy consumption points external to the system;
- Validation of the energy bill with consumption data and actual costs with tariff integration.

FUTURE COMPTA's BEE2Green is a comprehensive software to remotely operate, automate and manage watering and water management systems.

Joel Nunes - HeadGreenkeeper

"Tomorrow's companies are not the ones that simply sell their product. They are the ones who team up and invest in improving their clients' assets. I have Future Compta as a company that responds to my challenges in order to maximize the resources used, creating management tools where reports and time management are key. For me it is more than a simple company, it is already an integral part of my team and with whom I count daily for the improvement of economic and environmental sustainability."

Tiago Andrade - VP Digital Products

"At FUTURE COMPTA we are putting technology at the service of people, enhancing their existence in a healthier, sustainable, balanced and more natural world."

This project was another opportunity to materialize this vision.

The use of our BEE2Green has a substantial impact, not only from an environmental point of view, but also in terms of financial and operational efficiency. And to be able to see these results in what is one of the Top units in national terms is another incentive for us to continue working for the expansion of our FUTURE COMPTA product line, because across all of them have this concern and rationality of efficiency and environmental preservation."

Sofia Romeiro - Business Director | Digital Products

"Having these results at Palmares Ocean Living & Golf with the implementation of this project is a source of pride and the certainty that success is achieved through the sum of all parts. Palmares is today the ultimate exponent of sustainability, associated with the unique landscape where respect for natural ecosystems is total and at the same time the stage is guaranteed for the sport activity of golf. Bee2Green is the right tool here that allows you to prove the results of the efficiency achieved. But it won't stick around..."