



# CASE STUDY

## INDUSTRIAL SHIELDS

### CONTROL OF HVAC SYSTEM FOR SHOPPING CENTRE

Shopping centres require a wide variety of HVAC (heating, cooling, ventilation and air conditioning) solutions to ensure consumer comfort and energy efficiency.

With a PLC from **Industrial Shields**, you can **automate, control** and **monitor** these installations. In addition, the remote programming of a SCADA system makes it possible to manage the automation of the HVAC installation in order to ensure thermal comfort within the commercial premises.

## CHALLENGE

Heating, Ventilation and Air Conditioning (**HVAC**) is an indoor and vehicular environmental comfort technology that provides **thermal comfort** and acceptable indoor **air quality**.

**HVAC** is an important part of shopping centres, residential structures such as single-family houses, industrial buildings, among others, where safe and healthy building conditions are regulated regarding temperature and humidity, using fresh outdoor air.

The Gañar Group company requested the improvement of the design of an HVAC system to manage the heating, ventilation and air conditioning installations of a shopping centre,

The goal was to **automate, control and monitor** the system with **open source** technology. By means of a single PLC with the knowledge and recording of the operating hours, as well as the air conditioning parameters, Gañar Group wanted to **remotely manage** the monitoring of the entire process with quality technology and easy programming.



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## SOLUTION

The solution suggested by Industrial Shields consists of installing a **Raspberry PLC & GPRS 21 I/Os Analog/Digital PLUS** industrial controller.

The installation of this PLC provides the customer with an easily integrable solution because:

- using a variety of inputs and outputs, the controller can be easily integrated into an existing system;
- it is a scalable system, which can be expanded without becoming obsolete; and
- data transfer is improved thanks to GPRS.



## IMPLEMENTATION

Gañar Group, together with its integration partner Square One Project Group, integrated an Industrial Shields **Raspberry PLC** in order to **automate, control** and remotely **monitor** a 5000 m2 area in Pretoria, South Africa.

Gañar first assessed the size of the HVAC unit required. Then, the company began manufacturing and programming the system once the laboratory tests were completed. Finally, the completed unit was shipped to the end customer for on-site commissioning.

The Raspberry's GPRS and WiFi communications facilitate greater data transfer for **remote monitoring** in the SCADA system and greater data management.



Thanks to this application, the 5000 m2 of shopping area can be managed to improve the comfort and health of the mall.



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## ADVANTAGES



### Remote management

With a single PLC, it is possible to remotely manage the entire process.



### Quality

Industrial Shields offers quality technology, guaranteed by verification systems and internal audits.



### Easy programming

The Raspberry PLC can be programmed with the system that best suits the customer's needs.

## WHY INDUSTRIAL SHIELDS?

Industrial Shields won the project and beat its main competitors thanks to the key points below:



**Open solution.** No licence fees.



**Modular solution:** Product specifications can be extended in the future.



**24/7 technical support:** Our team is available 24 hours a day, 7 days a week, by phone, mail or WhatsApp.



Equipment designed and manufactured for **industrial use** at a lower price than competing products.