Sustainable tourism?

Yes, thanks to new technologies.

Axians Italia's project for the **Municipality of Venice**

The pandemic and tourism in numbers

It is now well confirmed: the global health emergency has turned our lives upside down, changed our habits forever and brought several sectors to their knees.
Among the sectors most affected is, undoubtedly, tourism.

According to ISTAT data, **in the first nine months of 2020 tourist presence in the big Italian cities fell by 73.2%.**

Remember the photos of Rome deserted under a clear sky? Or the Venice lagoon that had taken back its blue color?

Powerful and memorable images that have woken many people up to an increasingly alarming topic.

-73,2%
tourist presence

While it is true that tourism is a benefit to many places, it is also true that **huge tourist flows in large cities stress the environment and the entire urban ecosystem,** leading to disastrous consequences.

Is there a way for tourism and the protection of the environment to live in harmony? and even to protect the cultural heritage of cities at the same time?

The answer is in **new technologies.**

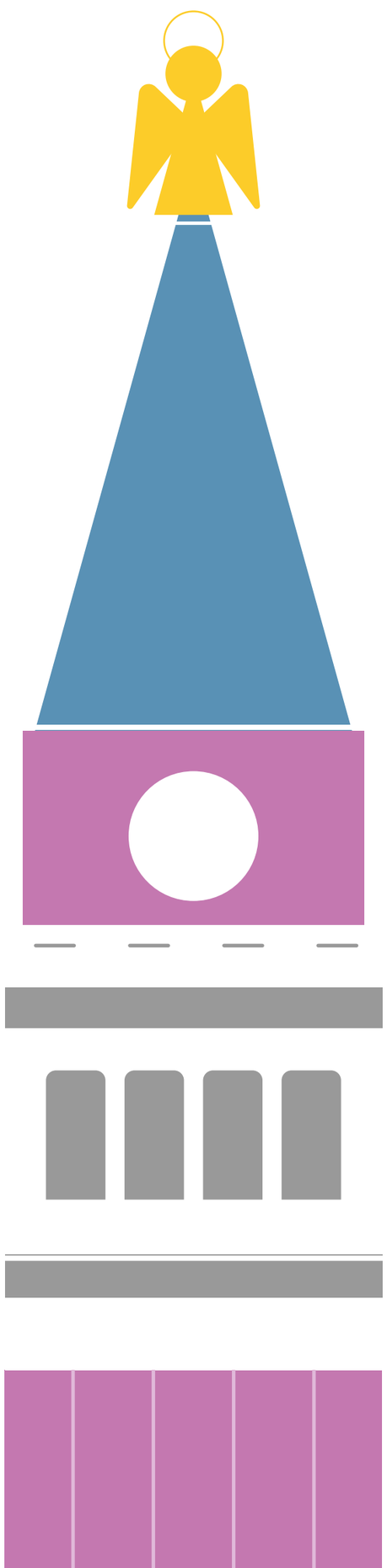
And now and we can prove it with a concrete example: **Axians Italia's project for the Municipality of Venice.**

Source: https://www.istat.it/it/files/2020/12/REPORT_TURISMO_2020.pdf

The hit and run tourism of Venice: resource or threat?

For decades Venice has been trying to figure out how to **manage the exponential number of tourists visiting the city.**
While tourism forms part of the economy of the urban fabric, on the other hand the high presence of tourists adversely affects the **quality of life of residents** and puts a strain on an **urban habitat unique in the world and already extremely fragile in itself.**

Every year Venice receives 27 million tourists: 75% of whom are just one day visitors. These flows and quantities are becoming less and less sustainable, and create heavy pollution, congestion on public transport and in urban spaces, a reduction in the quality of the services offered and an increase in operating costs.



How the collaboration with **Axians Italia** was born

In February 2019 Venis Spa — the company entrusted with the design, development and technical management of an ICT network – launched a call for proposals to find a solution that would allow the intelligent management of visitor flows.

Axians Italia won the tender by proposing a network of **“intelligent sensors” capable of monitoring pedestrian flows.**

Read on to find out more!

Controlling tourism to safeguard cities and the environment

In the first phase of the design, we selected **35 strategic positions** in Venice to locate gates **equipped with sensors** to accurately and consistently track the trends of pedestrian flow along the most famous tourist routes. These included sites between Piazzale Roma and the train station of Santa Lucia, up to Piazza San Marco.

The solution

Following an in-depth analysis of all the technologies on the market, we selected the **simultaneous use of Wi-Fi and BLE (Bluetooth Low Energy)** as the most suitable solution to anonymously track the passage of people.

The sensors collect different data from the field, including:

- The counting of the number of people in each direction of travel;
- The density of people in a specific area;
- The travel speed in a specific area.

These sensors, through the 4G network, communicate the collected data to a **Smart Control Room.** Data which is then saved, normalized and sent to the top layer for analysis.

The challenges we overcame

To complete the project, we at **Axians Italia** had to overcome several challenges.

PROBLEM	SOLUTION
The need to cover large areas without being able to install specific sensor mounts from scratch, and having to take advantage of a few public lighting poles or walls of buildings.	In some cases, it was necessary to provide an **array of sensors synchronized** with each other **to uniquely cover** particularly large environments.
The inability to find 24-hour power supply at most sites.	We chose a **smart power solution** with **back-up batteries** placed in a series to power existing public lighting.
To source a miniaturized sensor of low size and weight, able to integrate perfectly in a city like Venice.	The chosen device guarantees different installation modes and can be exposed to weathering.
To be able to eliminate, at source, any possible risk of dissemination of sensitive data.	The technology used is completely in line with current privacy regulations (GDPR). The solution involves **the extraction of data directly on the sensor:** the data produced by the sensors is exclusively numerical and agnostic, no video stream or image is taken, transported or saved.

The benefits of the solution

The project was completed in February 2020.
Due to the Covid-19 health emergency, it has not yet been possible to collect sufficient data to analyze the results of this solution.
However, based on a series of analyses, we have estimated the following **benefits for the city of Venice:**

- optimization of public transport, i.e. reduction of air and water pollution; a situation which is aggravated by boat fuels used in Venice —is 500 times more polluting than those for motor vehicles.
  An optimization of public transport management would also make it possible to reduce this crisis, which has been endangering the city for years.
- redistribution of tourist flows to alternative areas to avoid congestion in the best-known areas, to improve the tourist experience.
- optimization of cleaning, waste collection and routine maintenance controls, reducing the number of operators' journeys.

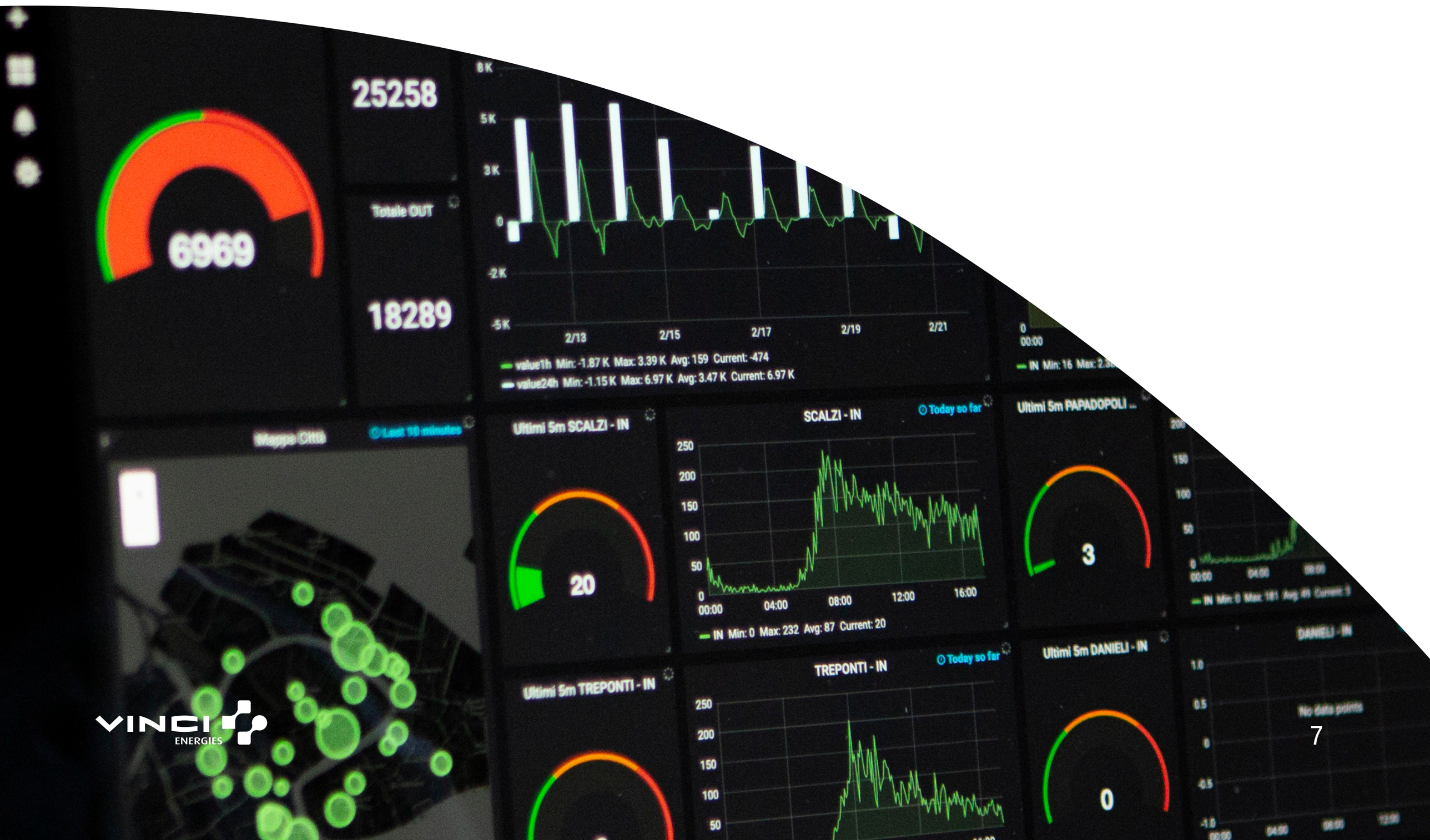
WATCH THE VIDEO

A versatile solution

The Municipality of Venice has credited **Axians Italia** with identifying an all-in-one, compact and easy-to-maintain solution.

This project should not be confined to Venice and could become **a model for other cities to follow that have problems in welcoming a high flow of people;** places where, it is necessary to check and guarantee safe circulation.
Our solution is also perfectly applicable in **enclosed places.** Halls for **presentations, conferences and shows** could benefit even more from such a solution due to these internal spaces posing a greater risk to people's safety.

In the specific case of Venice, the project has had another advantage in the current health emergency to be able to detect any gatherings and crowding in urban areas.



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