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Weather conditions, air pollution and health:

new technologies increase the liveability of cities.

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

VINCI ENERGIES

Fine particles in cities: the numbers speak for themselves

In Italy there are **35 provincial capitals which have exceeded** the limits established by law for the daily concentration of fine dust particles (Pm10).
This is just one piece of worrying data reported by **Legambiente** in **the annual Mal'Aria report of City 2021.**

Among the pollutants to be found in the air are **fine particles (PM2.5 and PM10)**, **Nitrogen Oxides (NOx) and Tropospheric Ozone (O3).** All of which have a strong impact on **human health**.
Every year in our country, according to EEA data, there are **more than 50 thousand premature deaths due to excessive exposure to air pollutants.**
Weather trends play a crucial role: prolonged periods of static weather conditions, exceeding 30 days, can lead to air stagnation with high concentrations of harmful components.
The smog emergency requires **structural solutions,** and not just emergency interventions, to achieve clear objectives within specific timeframes.

In this respect, **new technologies can make a difference**.

Source: https://www.legambiente.it/wp-content/uploads/2021/01/Rapporto_Malaria_2021.pdf

Life at Genoa’s Old Port

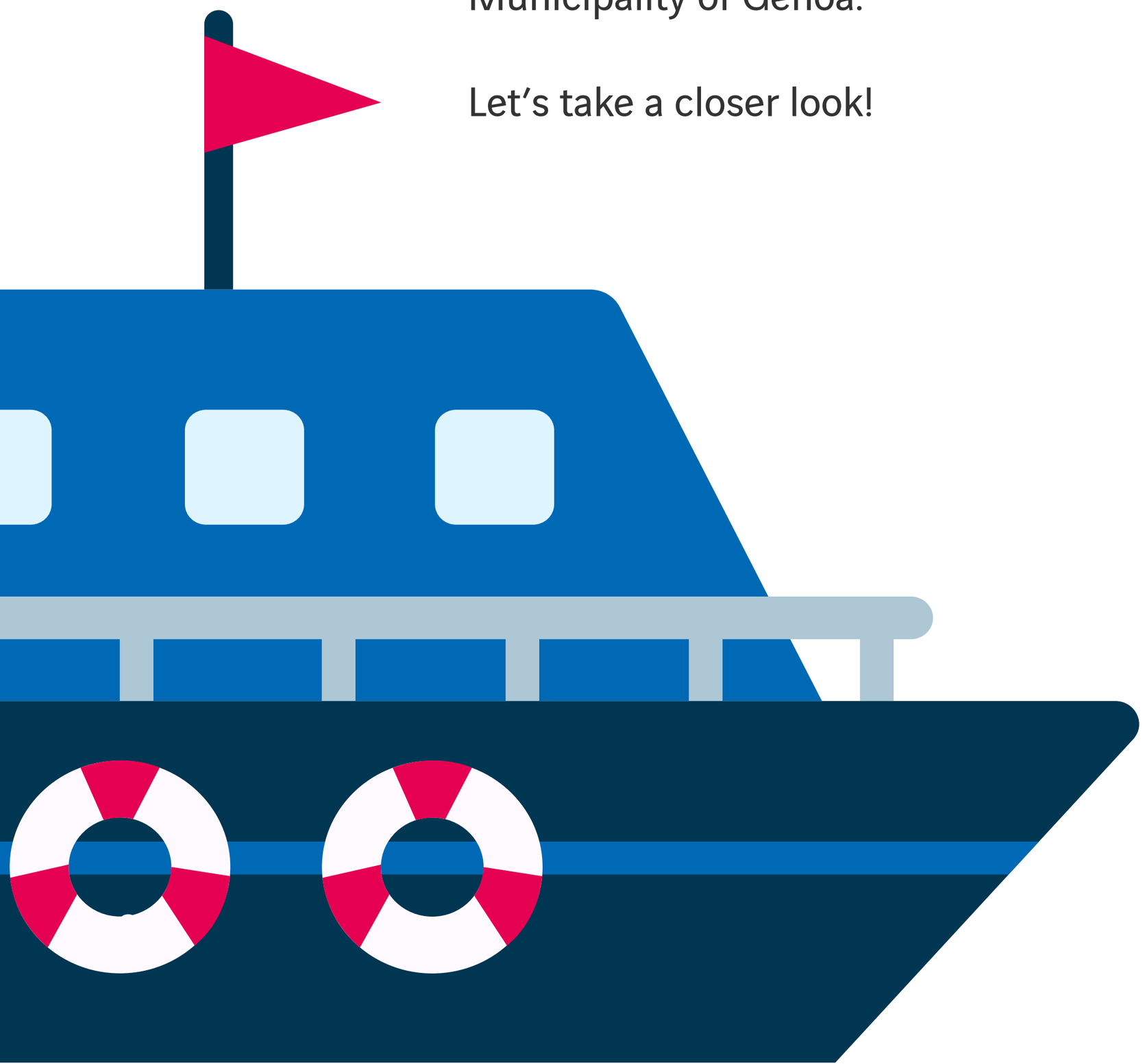
A stone’s throw from the historic center, **the Old Port of Genoa** is the quintessence of the city: a residential district full of cultural initiatives and services, but also famously **exposed to pollution**.

Therefore, the need was to monitor the weather pattern and air pollution in this area.

The collaboration **with Axians Italia**

At **Axians Italia**, together with **Allnet.Italia** – an independent distributor and innovation partner in the ICT field – we participated in a project that responded directly to the problem of the Municipality of Genoa.

Let’s take a closer look!



A solution to protect health

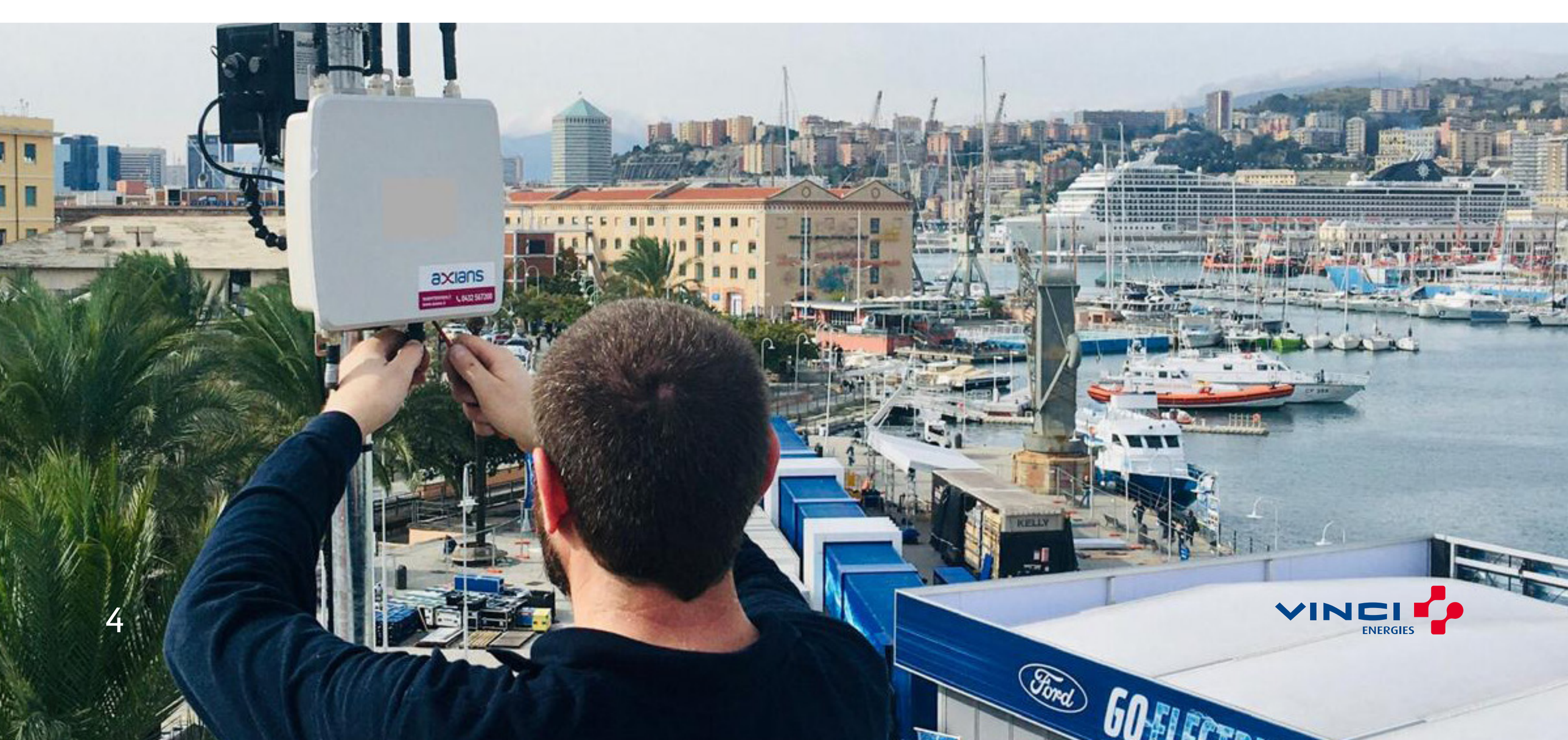
To respond to the air pollution emergency of the Municipality of Genoa, we have developed a complex and ambitious Internet of Things **(IoT) project.**

Thanks to the use of **state-of-the-art technology** we are able to monitor different parameters (noise, temperature, humidity, atmospheric pressure, solar radiation) and detect in real time, the main indicators defined by the **Air Quality Index (AQI).**

For the Municipality of Genoa we have built two control **units:**

- one for the **detection** of climatic conditions;
- one for the **monitoring** of the main pollutants present in the air of the Old Port.

These control units are connected to sensors capable of providing quality first level data. The collected data is transmitted via access point to a gateway using new 5G technology.



The advantages of the project

Smart Cities are designed to make people's lives simple, sustainable, and safe.
For residents, workers and tourists.

The project carried out together with the **Allnet.Italia** team for the Municipality of Genoa is an example of this.

Monitoring pollutants in the air makes it possible to take **proactive action** to ensure that limits laid down by laws are respected.
In this way, the local public administration can guarantee citizens a healthier environment in which to **live**.

A versatile solution

The Municipality of Genoa has shown enthusiasm for the success of this project and has expressed its desire to extend it to other areas of the city.

But this solution should not only be limited to Genoa.
Structural solutions like these should become **a model to be followed** for all cities that need to keep maximum levels of air pollutants under control.

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