

Case History

Monitoring of indoor-outdoor air quality in scholastic areas

Place: Taranto

Installazione: in phase of implementation

Instrument: PhysisGC BTEX - noseP+

Customer: befreest



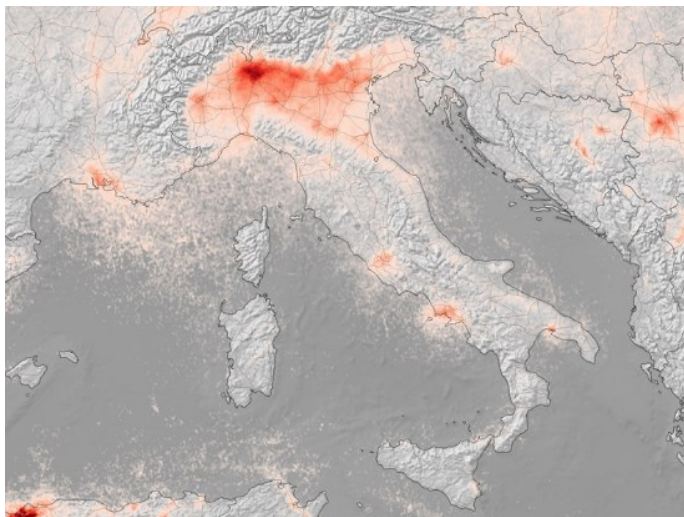
INTRODUCTION

Pollution Analytical Equipment and **befreest**, are two innovative companies operating in the air quality field, outdoor the first one and indoor the second one, which are **met during the Clust-ER Greentech works** of Regione Emilia-Romagna.

The “Indoor Air Quality” works table has constituted an interesting field of comparison where two realities, working in totally complementary sectors, decided to pool their experiences to refine systematic approaches to air quality in a complete sense.

REQUEST

The relationship of outdoor and indoor air quality is a valuable element, in particular, due to the **health effects** already known. The air exchange in buildings is carried out very often, not fully considering the data of outdoor air quality, especially if using natural ventilation techniques. This can increase the health level risk within areas where we spend most of our lives. For Pollution Analytical Equipment and befreest, this problem must to be dealt immediately, in order to help our communities to ensure more security and wellbeing.



SOLUTION

The two companies are developing a management **model of air quality level**, which can be defined as holistic (indoor/outdoor), based on the sharing of the results from their own specific fields, and on that summarized in **analysis processes performed with algorithms in cloud**.

The model intends to:

- ⇒ Constantly monitor the outdoor air quality to measure NO₂, O₃, volatile organic compounds (TVOC), PM₁₀, PM_{2,5}, benzene;
- ⇒ Constantly monitor the outdoor air quality to measure gas random, CO₂, volatile organic compounds (TVOC), PM₁₀, PM_{2,5};
- ⇒ **To display on web platform (hub.befreest.com) the results from indoor and outdoor areas;**
- ⇒ **To correlate the interactions between outdoor and indoor air quality;**
- ⇒ To highlight the differences among indoor areas, in relation to differences techniques of air exchange in buildings;
- ⇒ **To indicate the elements of improvement** of indoor air quality level in relation to the effectiveness of air exchange techniques.

CONCLUSION

The new model will allow our communities to put in the spotlight their relation with air quality and will suggest, or implement, strategies ables to integrate areas that often have been separated by a "boundary wall". The ambition is to create a **link between the smart city and the smart building in terms of wellness and quality of life**, in order to contribute to the creation of what we call a "health city".

POLLUTION S.r.l.

Via Guizzardi, 52 - 40054 Budrio (Bologna)
Tel. +39 051 6931840 | Fax +39 051 6931818
pollution@pollution.it

www.pollution.it



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