

# Case History

## Monitoring under extreme conditions

Place: Italian Navy's Palinuro Training Ship.

Installation: 2019

Instrument: PyxisGC BTEX

Customer: Italian Navy



UNIVERSITÀ  
DEGLI STUDI DI BARI  
ALDO MORO



MARINA  
MILITARE

### INTRODUCTION

In line with the attention that the Italian Navy addresses to environmental issues, among the research and monitoring activities developed in collaboration with the University of Bari "Aldo Moro", the scientific director Prof. Gianluigi De Gennaro coordinated the team of Biology Department students and researchers that equipped the Palinuro Training Ship with high-temporal resolution instruments, in order to produce extremely accurate data, necessary for the development of the project "Che aria che tira".

### REQUEST

The campaign is focused on different airborne pollutants monitoring present in the open sea and in different Mediterranean ports. The aim is to assess human activities' impact and determine the possible emissive sources.



### SOLUTION

Pollution Analytical Equipment took part in the project providing a Pyxis GC BTEX to evaluate the different concentrations of Volatile Organic Compounds (VOCs) and Polycyclic Aromatic Hydrocarbons (PAHs) monitored by the sensor installed onboard and activated during navigation and docking in port. This solution allowed to verify the air quality both in the open sea and in the harbor atmosphere, thanks also to a carrier (a sailing unit) that does not substantially alter the context.

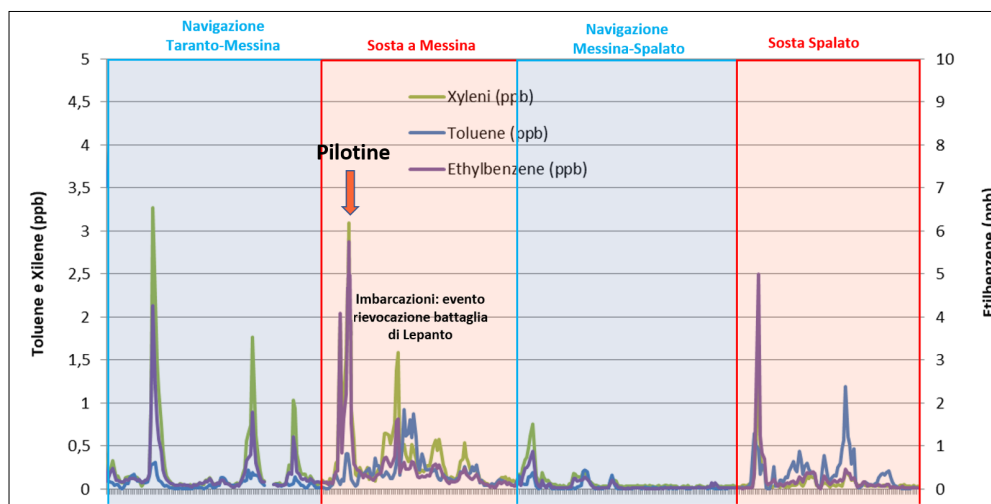
The relevant features, which have added value to the specific purposes of the project, have been:

- ⇒ production of real-time data on-site; this enables to attribute a concentration in ambient air variation to a well-defined moment and context, allowing the association to an ongoing event or a process, with greater accuracy
- ⇒ analytical data reliability; on-site analysis can reduce the error and uncertainty associated with the data, because sampling and subsequent sample handling steps are missing, significantly increasing monitoring results quality;
- ⇒ robust and reliable technology even in complex contexts such as the maritime one;
- ⇒ ease and speed of on-site relocation;



## CONCLUSIONS

Thanks to the data produced by Pyxis GC BTEX, and other high-resolution temporal instrumentation, at the end of the monitoring campaign on Palinuro Training Ship, the researchers of the University of Bari have been able to examine the trends of the pollutants present in the areas analyzed, correlating them to the anthropic activity of that context.



In detail, they have recorded interesting data, even if not particularly relevant, in harbor areas. This evidence confirms the importance of integrated, effective, and efficient monitoring implementation, in terms of human health and environmental protection from possible pollutants that came from nearby human activities.

### POLLUTION S.r.l.

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

[www.pollution.it](http://www.pollution.it)



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