

# Solution Brief I – OMNI-2100 VOC Analyzer



## Introduction

Autonomous VOC analyzer providing real-time air quality measurements



## Deployment

Fast and easy deployment without the need of an operator or carrier gas



## Data Access

Worldwide data access and remote management via cellular and Wi-Fi connectivity

## Deployment of OMNI-2100 for the Detection of BTX Around Refineries

### Omniscent, Inc.

**Introduction-** The Omni-2100 is an autonomous high-performance Volatile Organic Compounds (VOCs) analyzer that provides real-time air quality measurements. The highly integrated design - proprietary MEMS sensor, data logger and communication module – eliminates the need for field operators and the use of carrier gas. The Omni-2100's low level detection (ppb), short sampling and analysis time, speciation detection capability, and cellular and Wi-Fi connectivity make it an ideal solution for both indoor and outdoor applications. Multiple Omni-2100 units can also be networked together to monitor a geographic region. The diagram in figure 1 shows a typical oil refinery installation where sensors are placed several hundred meters apart and monitor the perimeter of the facility. Other use cases include gas stations, cities, buildings, and automotive.

**Deployment-** Deployment of Omni-2100 is fast and easy. Simply, take the unit to the desired location and power it up. The Omni-2100 will connect to the internet via Wi-Fi or cellular LTE and enable the user to remotely to control the unit and manage its functionalities. Ease of field installation, remote management, and the use of ambient polluted air as carrier gas (i.e., no gas tanks needed) reduce the installation cost and eliminate frequent maintenance visits and their associated cost. Deploying multiple sensors in a given area and capturing time-lapsed data enable users to generate pollution gradient maps. For example, a user can

program each analyzer to conduct up to 100 back-to-back samples at desired intervals. The results are made available in a tabular or raw chromatograph format (Table 1, Figure2).

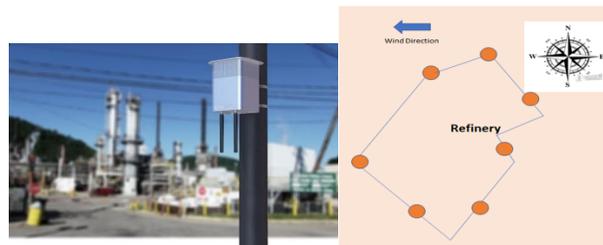


Figure 1: Typical Refinery Installation for Fenceline Monitoring

### Data Access & Data Integrity-

Data access and remote management is available to users worldwide via internet access. Multiple users can access the same unit simultaneously from different locations. Data resides on Omniscent servers but can be redirected to customer specific servers. If the internet connection is disrupted, data will be stored on the analyzer. Upon reconnection to the network, the Omni-2100 will upload the data to the portal. All historical data is maintained for further review. A FedRAMP option is available for customers requiring government compliance.

Table 1: Tabulated results

Chemical Name	Concentration (ppb)
benzene	1.1
toluene	0.55
m-xylene	0.55
o-xylene	0.55

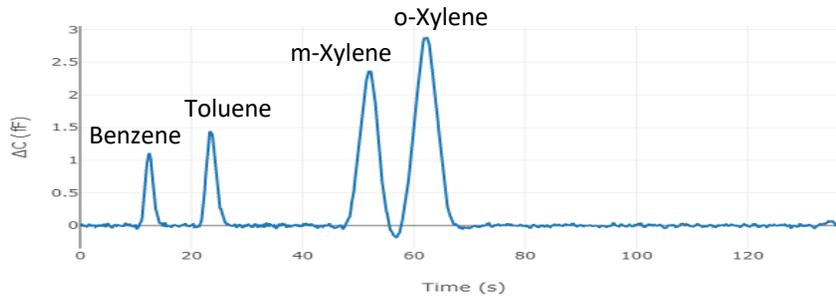
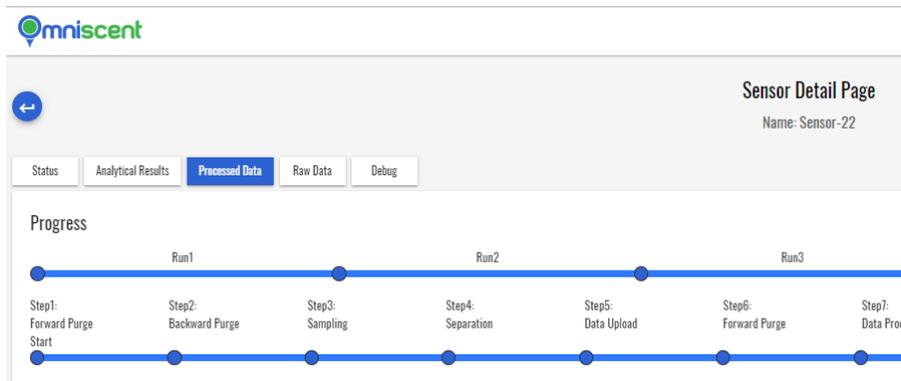


Figure 2: Representative BTX Chromatogram showing 70sec Runtime



OMNI-2100 Portal GUI