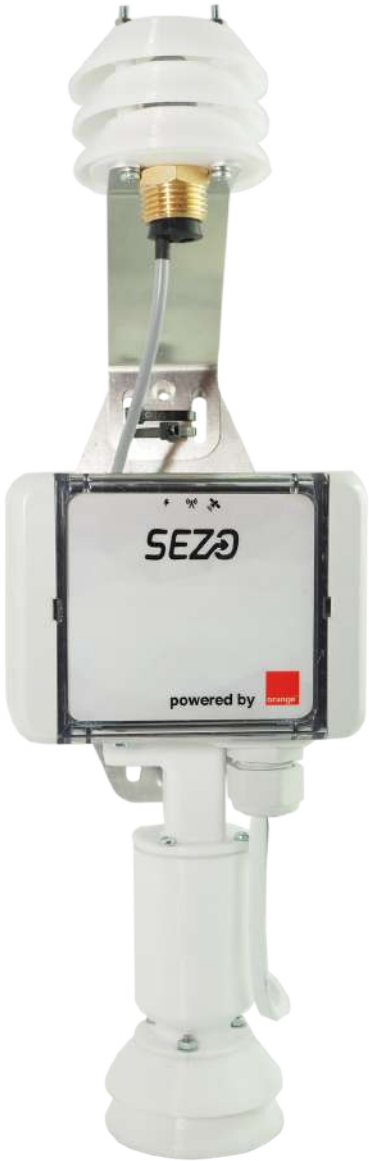
WiRan inside

SEZO PM

PM 1, 2.5, 10 air quality monitoring, air conditioning track provides reliable results in a wide range of environmental conditions

sending data to Orange Live Objects platform via LTE-M



integrated GPS (establishing location)

powered by 230V AC, using a standard power socket

threshold configuration for all measured parameters

OTA (over the air) configuration, no cables needed

POTENTIAL USE CASES

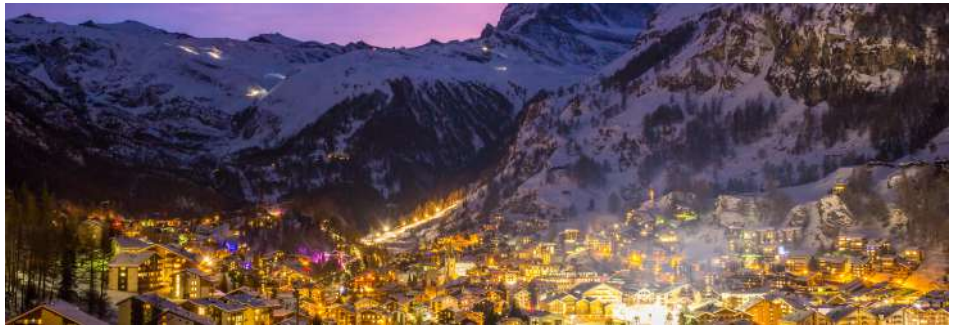
FACILITIES MANAGEMENT

SEZO PM makes refineries and chemical producers more secure.

SEZO PM sensors will not only help monitor air quality, but also help control environmental conditions such as workplace or storage temperature. **SEZO PM** can provide accurate data with immunity to any interference from high humidity.

SEZO PM sensors will also benefit plant managers, who can use them to control conditions in depots, warehouses, or distribution centers.

end device | IoT | facility monitoring
health & security | smart building | outdoor



WINTER RESORT

SEZO PM enables air quality testing at very low temperatures.

As a result, it can be used in many places like winter resorts, cities in Northern hemisphere countries, or other locations with frequent cold and low humidity weather. In these places, there is a need to guarantee precise air measurements. Many sensors at a very low temperature stop taking measurements due to the risk of damage or are not accurate because of humidity interference. Thanks to the heated air inflow track and the temperature sensor extended beyond the housing **SEZO PM** operates very smoothly even down to minus 30 °C.

end device | IoT | environmental monitoring
health & security | smart building | outdoor

POTENTIAL USE CASES

SCHOOLS

SEZO PM makes schools a safer place for children and staff.

School management levarages SEZO PM to detect and prevent exposure to floating dust on school yards and parking lots and therefore make schools a safer place for both, children and staff. **SEZO PM** measures particulate matter such as PM1, PM2.5, and PM10.

The device is powered via a AC 230V power supply, and can therefore be used conveniently in various locations with a standard power socket.

end device | IoT | schools

health & security | air quality | outdoor

INDUSTRIAL PRODUCTION SITES

SEZO PM enhances security processes at industrial manufacturing sites.

Industrial producers have additional health and safety conditions in the workplace. Thanks to constant air measurements, **SEZO PM** allows you to reduce the risk of unconsciously worse working conditions and, in the long run, occupational diseases.

The device is capable of sending data to the Orange Live Objects platform via LTE-M and pulls data from the environment like dust levels (PM1, PM2.5, PM10) and temperature levels.

end device | IoT | industrial

health & security | air quality | outdoor

SEZO PM - TECHNICAL SPECIFICATIONS

DESCRIPTION	- Measuring various parameters i.e. temperature, humidity, atmospheric pressure and suspended dusts (PM1, PM 2.5 and PM10) - Integrated GPS (establishing location) - Flexibility & configurability (threshold configuration for all measured parameters) - Sending data to Orange Live Objects platform via LTE-M - Powered by 230V AC, using a common power socket - OTA (over the air) configuration, no cables needed - Conditioning track, heats up the air before measurement
MEASURED PARAMETERS	Temperature, Humidity, Air Pressure, Particulate matter
OPERATING TEMPERATURE	-30°C - +60°C
MEASUREMENT RANGE AND ACCURACY	- PM: 0 ÷ 500 [g/m^3], ±10 [g/m^3] @<100 [g/m^3] - Temperature: -30 ÷ 60°C, typ. ±0.1°C, max ±0,6°C - Humidity: 0 ÷ 100%, typ. ±1.5%, max. ±3% @25°C @20 ÷ 80% RH - Air pressure: 260 ÷ 1260 hPa, ±1 hPa, max ±3 [hPa]
COMMUNICATION PROTOCOL	LTE-M; microSIM (eSIM/Soft SIM options)
FREQUENCY AND TRANSMISSION POWER	LTE-M band, maximum 21 dBm
DATA TRANSMISSION INTERVAL	Default 15 minutes or event-triggered (configurable OTA)
POWER SUPPLY	Internal AC adapter 100-240V 50Hz max. 1W, Type C European Plug
ENCLOSURE AND MOUNTING	IP55, polycarbonate, our mounting holes for screws and other assembly elements enabling mounting by means of dowels with screws on flat surfaces or steel band clamps on poles.
WEIGHT	615 g
PRODUCT DIMENSIONS	110 x 105 x 360 mm (L x W x H)

About SEZO

SEZO is a suite of long range, customizable IoT solutions. SEZO products are based on LoRaWAN™ and LTE-M / NB-IoT technologies and can be customized based on site requirements.

About WiRan

WiRan Sp. z o.o. is a company providing R&D services on a B2B basis to national and international clients in the space, maritime, railway, industrial and IoT sectors. Our expertise lies in Radio Frequency and Wireless technologies, the development of electronic parts, fast product prototyping, feasibility studies, certifications and EMC testing. Founded in 2002, we are over 20 years on the market as a HW design office - supporting our diverse clients from the conception through prototyping to product quality development of electronic devices You can find our designs mounted around Tricity (air quality measuring systems), and also in space (satellite communication modules), just to name a few. WiRan offices and laboratories are currently located in Gdynia, Poland.