

# Smart City environmental module with 9 sensors

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weather  
parametr  
monitored

5

air  
pollutants  
measured

up to

240

sensors  
in one  
network



## The Idea

The main objective of Tesla Blatná was to develop a modular sensor to measure the key parameters of air quality, interoperable with IQRF Ecosystem (can extend functionality of street lighting solutions). The device must be scalable for other sensors, if necessary. The number of devices can exceed thousands in the city.



## The Solution

Smart City environmental module contains sensors of:

1) CO (0-500 ppm)	2) SO <sub>2</sub> (0-50 ppm)
3) NO <sub>2</sub> (0-20 ppm)	4) O <sub>3</sub> (0-20 ppm)
5) humidity (0-100% RH)	6) dust (25-500 µg/m <sup>3</sup> )
7) light VIS/UVA/UVB (0-100%)	
8) temperature (-40 °C to +125°C)	
9) pressure (260-1260 hPa)	



## The Results

A combined environmental module contains mostly used sensors for outside environment in a city. Based on measured values warnings for citizens can be made in case of limit values exceeding. This combined sensors can be connected to the common IQRF network containing devices also of other vendors to work together, typically street lights.



## The IQRF Benefits

IQRF network can host more than 200 devices. In case of more devices needed, additional networks on different channels can be made. Values from all sensors can be collected in a bulk within seconds. Communication is bi-directional which means that also device control or automation can be done.