



EurusControl – IOT AIR HOME

Smart Living  **ESG**

**Monitoring indoor air quality, ambient & energy utilization through
Big Data Engine and IoT Platform**

Developed & operated by Citistar Design & Technology Co., Ltd.

EosGateway – air quality alert system

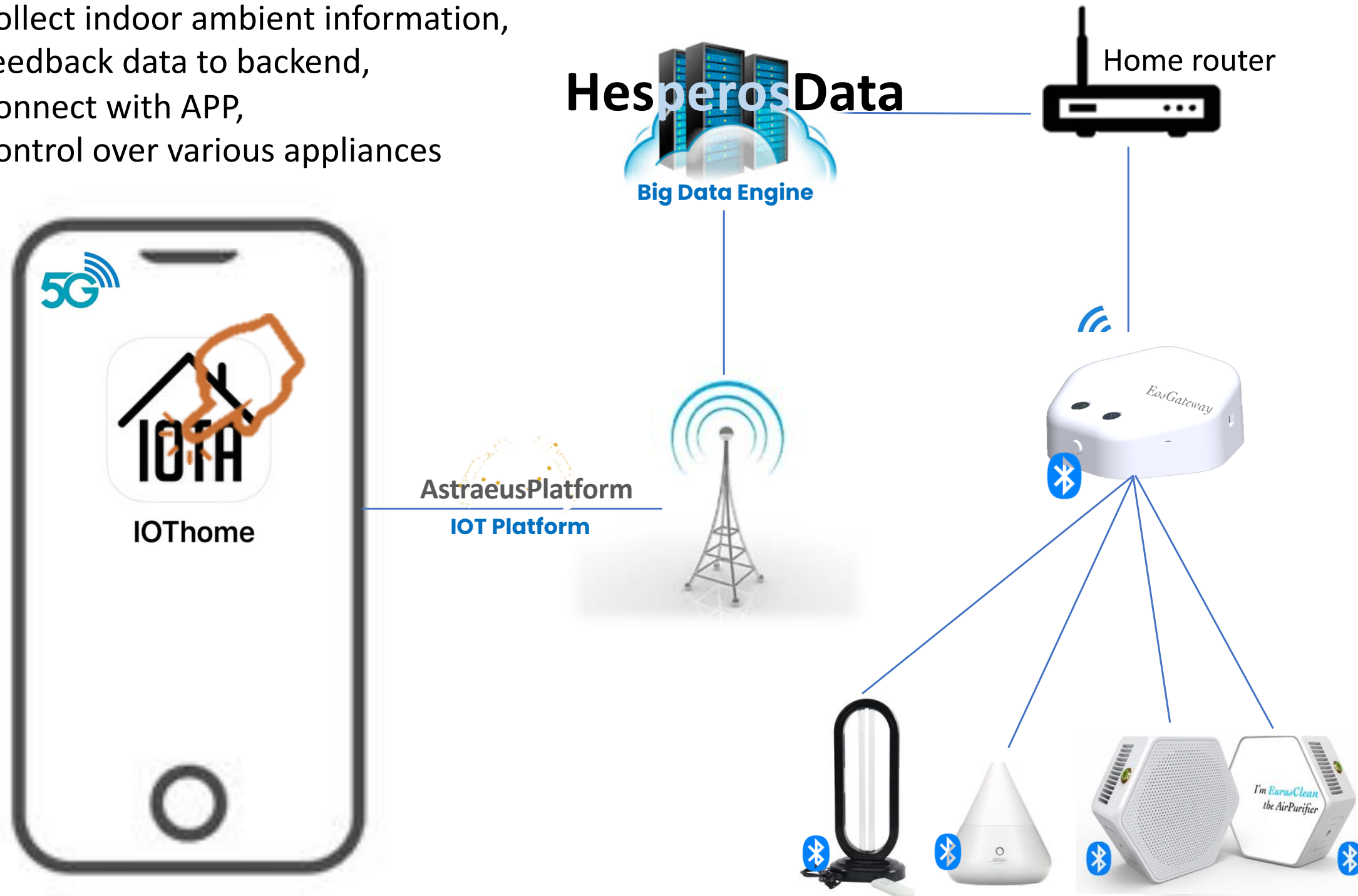
- collect indoor ambient information,
- feedback data to backend,

equips with,
PM2.5 sensor
Temperature sensor
Humidify sensor
Motion sensor
Wi-Fi connection
Bluetooth connection



EosGateway – air quality alert system

- collect indoor ambient information,
- feedback data to backend,
- connect with APP,
- control over various appliances





HesperosData

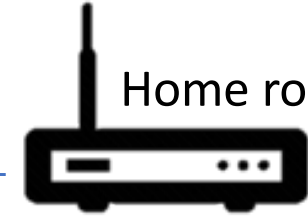


Big Data Engine

AstraeusPlatform
IOT Platform



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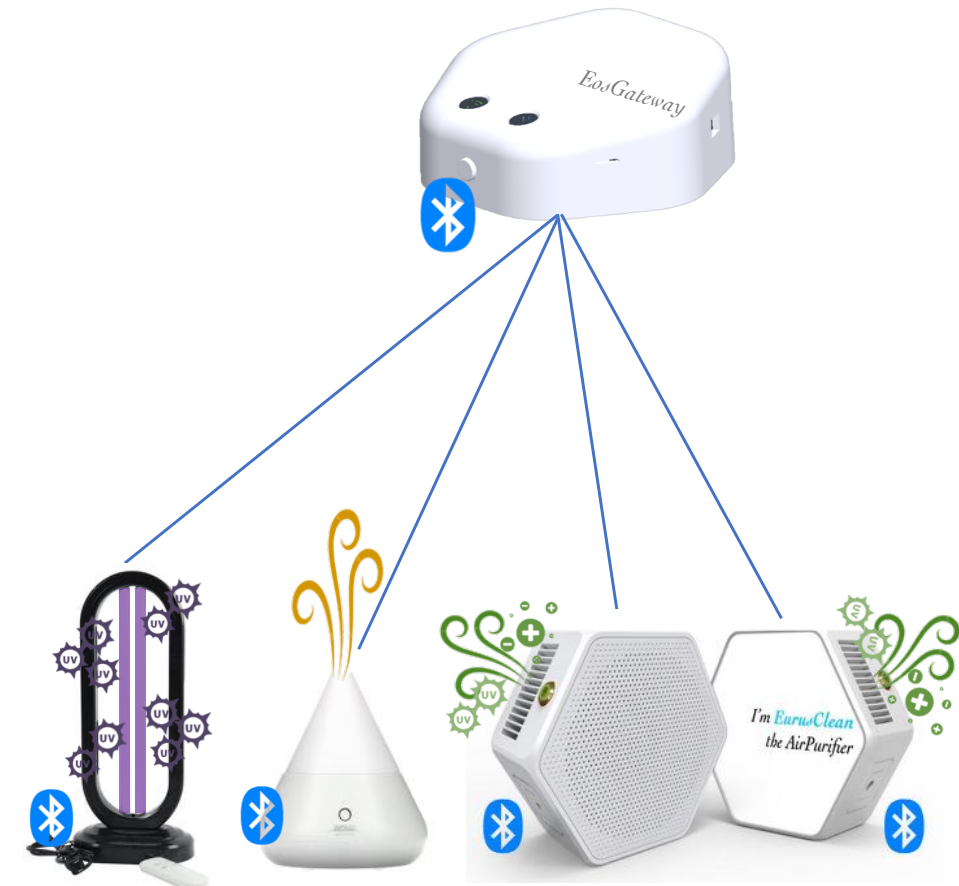
Home router



Citistar, all right reserved, 202202



Distant control over appliances





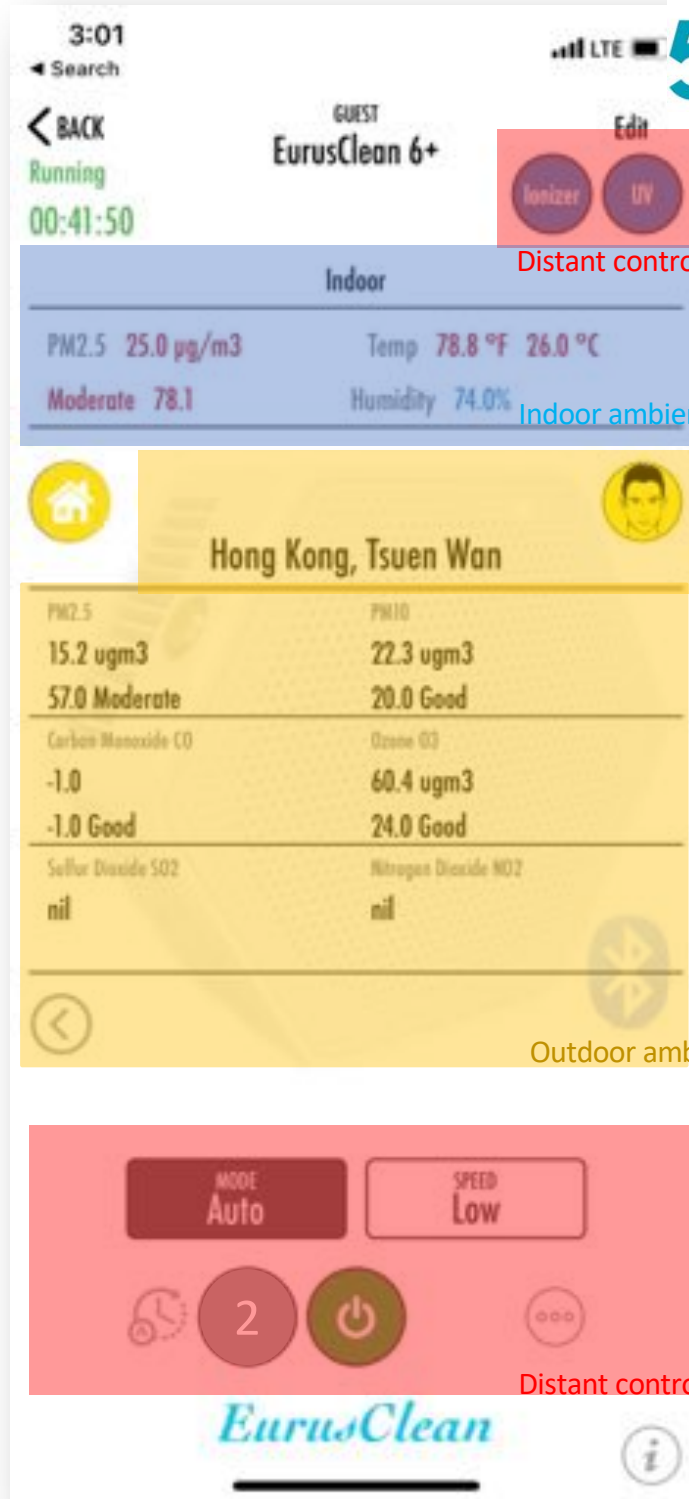
HesperosData



Indoor
ambient
information

Outdoor
ambient
information





Distant control over appliances

Indoor ambient information

Outdoor ambient information

Distant control over appliances

HesperosData



EurusControl - Smart Control System



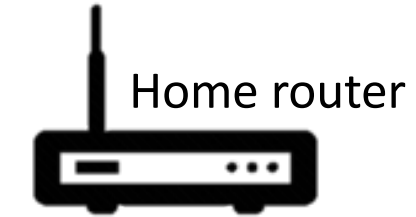
Surveil both indoor & outdoor ambient environment

Improve the indoor ambient environment



Monitor the indoor human activities

Schedule the appliances running

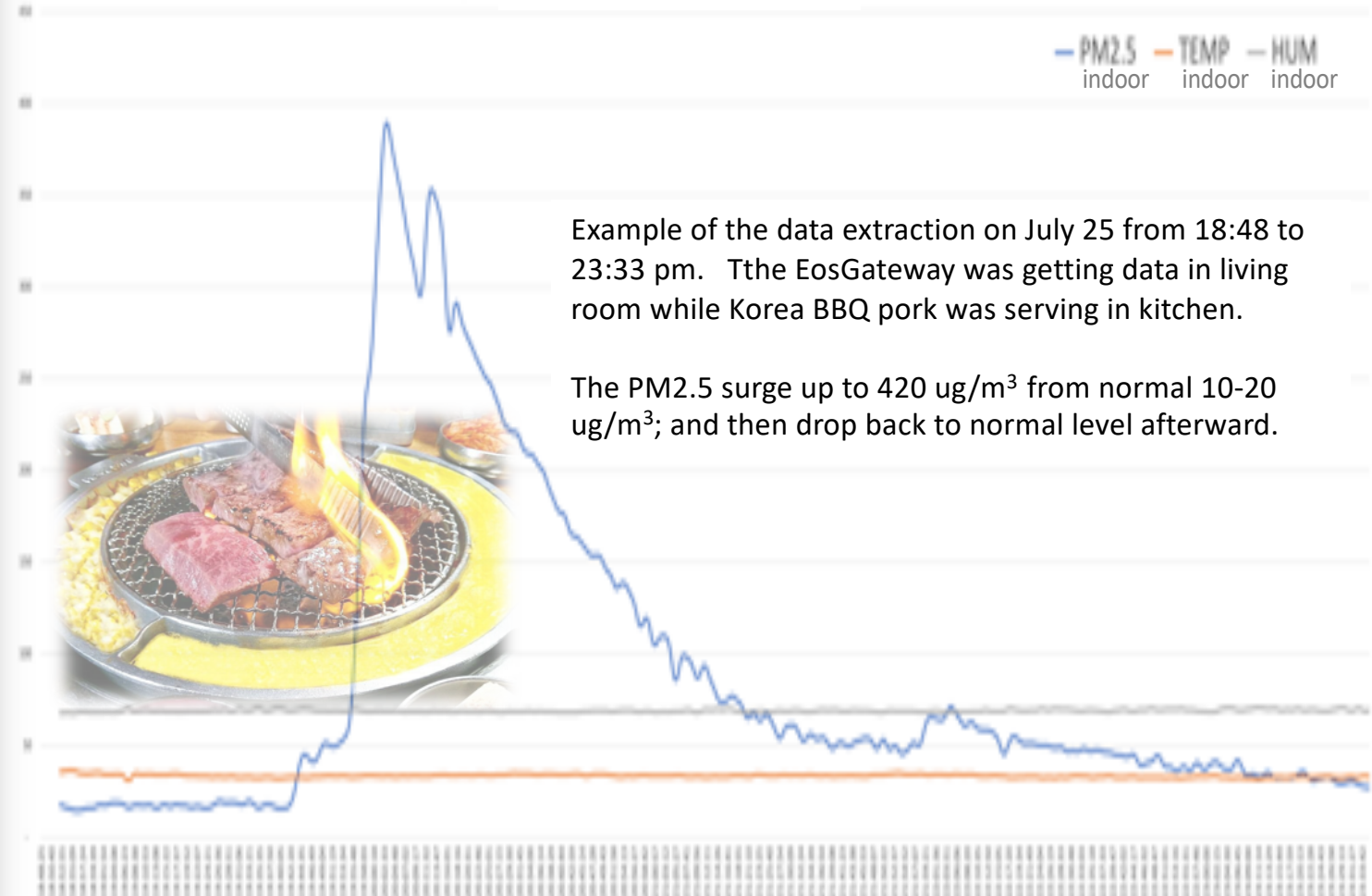




HesperosData



PM2.5 / Temp / Humidity from 18:48-23:35 on July 25 (weighted moving average x 3)



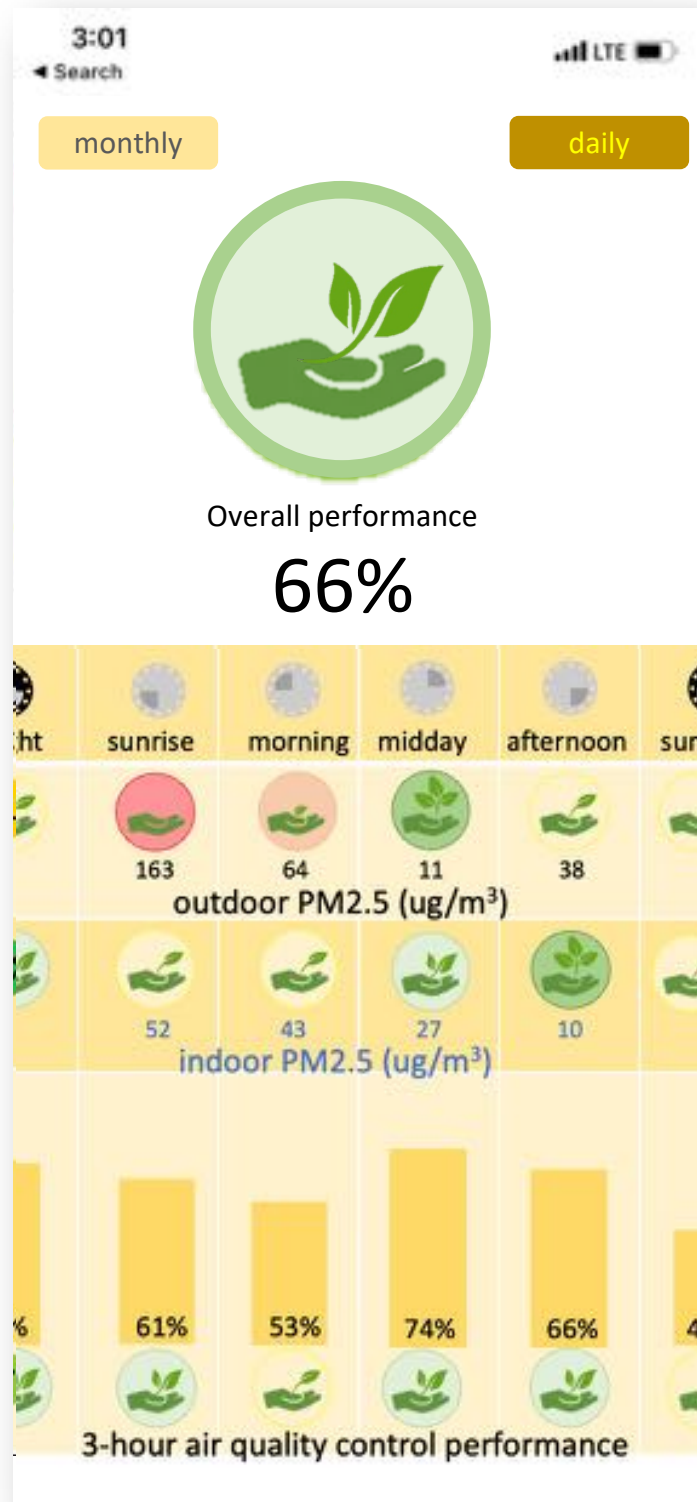
Example of the data extraction on July 25 from 18:48 to 23:33 pm. The EosGateway was getting data in living room while Korea BBQ pork was serving in kitchen.

The PM2.5 surge up to 420 $\mu\text{g}/\text{m}^3$ from normal 10-20 $\mu\text{g}/\text{m}^3$; and then drop back to normal level afterward.

Demonstration – video given in separate link

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Hesperos Data

Big Data Engine



00:00~02:59 midnight	03:00~05:59 night	06:00~08:59 sunrise	09:00~11:59 morning	12:00~14:59 midday	15:00~17:59 afternoon	18:00~20:59 sunset	21:00~23:59 evening
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Indoor average	Performance result (%)
Indoor maximum	
Indoor minimum	
Divergence from outdoor	
Overall performance	

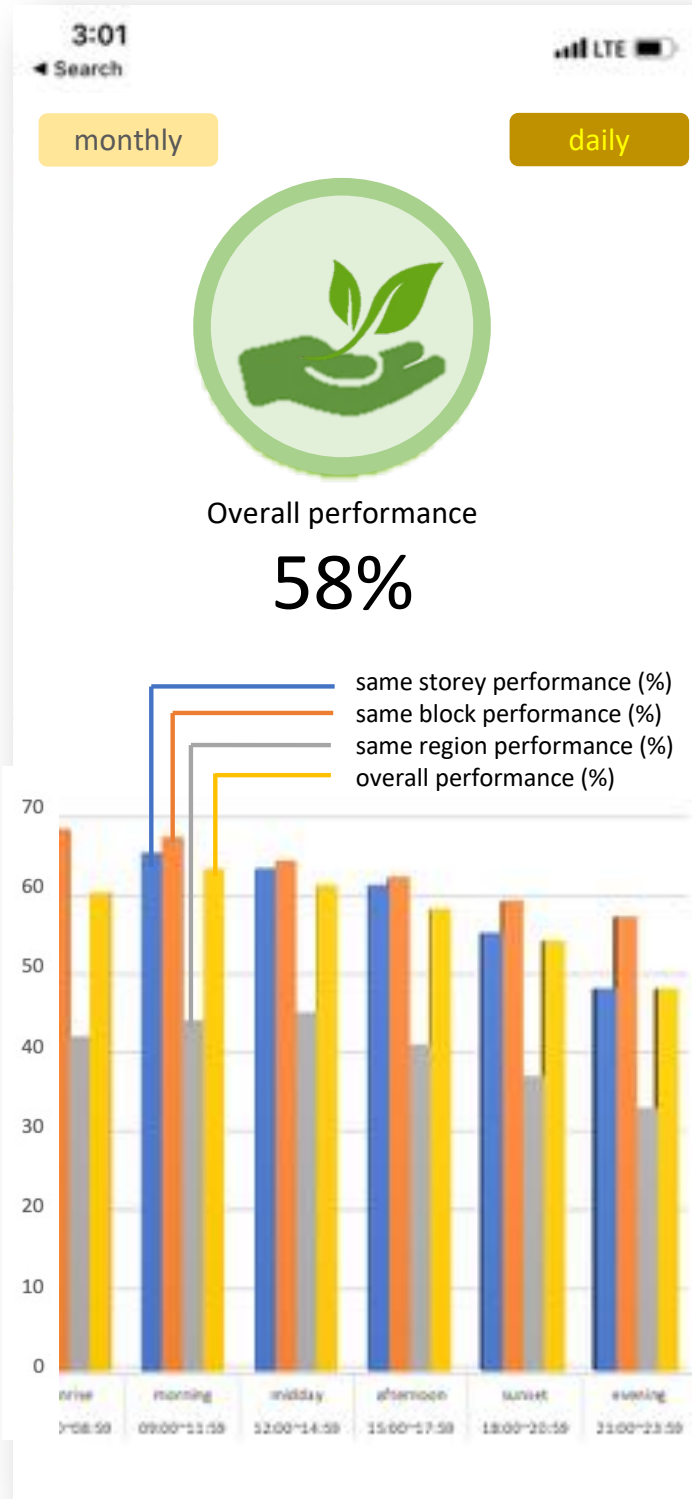
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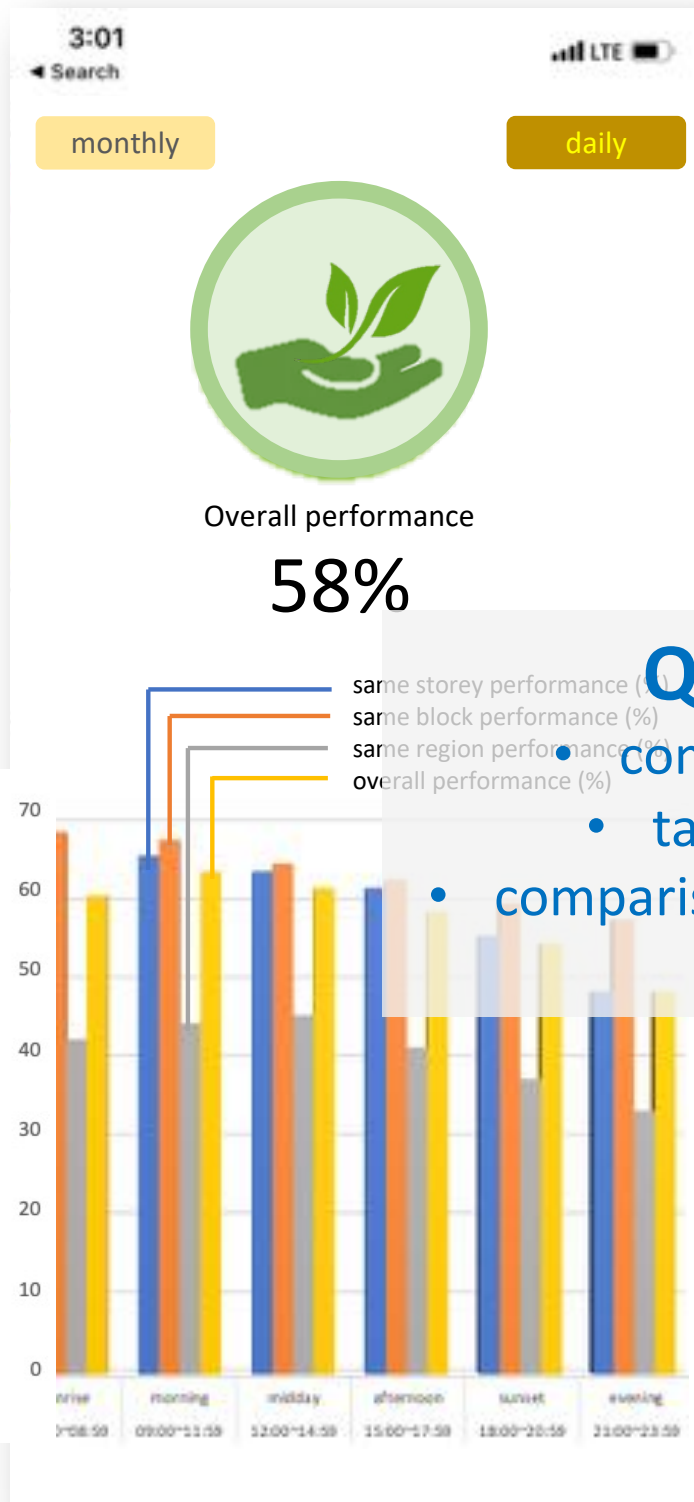
Outdoor average	Historical data; average over weekly, monthly, quarterly and annual
Indoor average	
Indoor maximum	
Indoor minimum	

algorithm against time-series data

00:00~02:59 midnight	03:00~05:59 night	06:00~08:59 sunrise	09:00~11:59 morning	12:00~14:59 midday	15:00~17:59 afternoon	18:00~20:59 sunset	21:00~23:59 evening
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Outdoor average	Instant PM2.5 (3-hours period in ug/m³)
Indoor average	
Indoor maximum	
Indoor minimum	



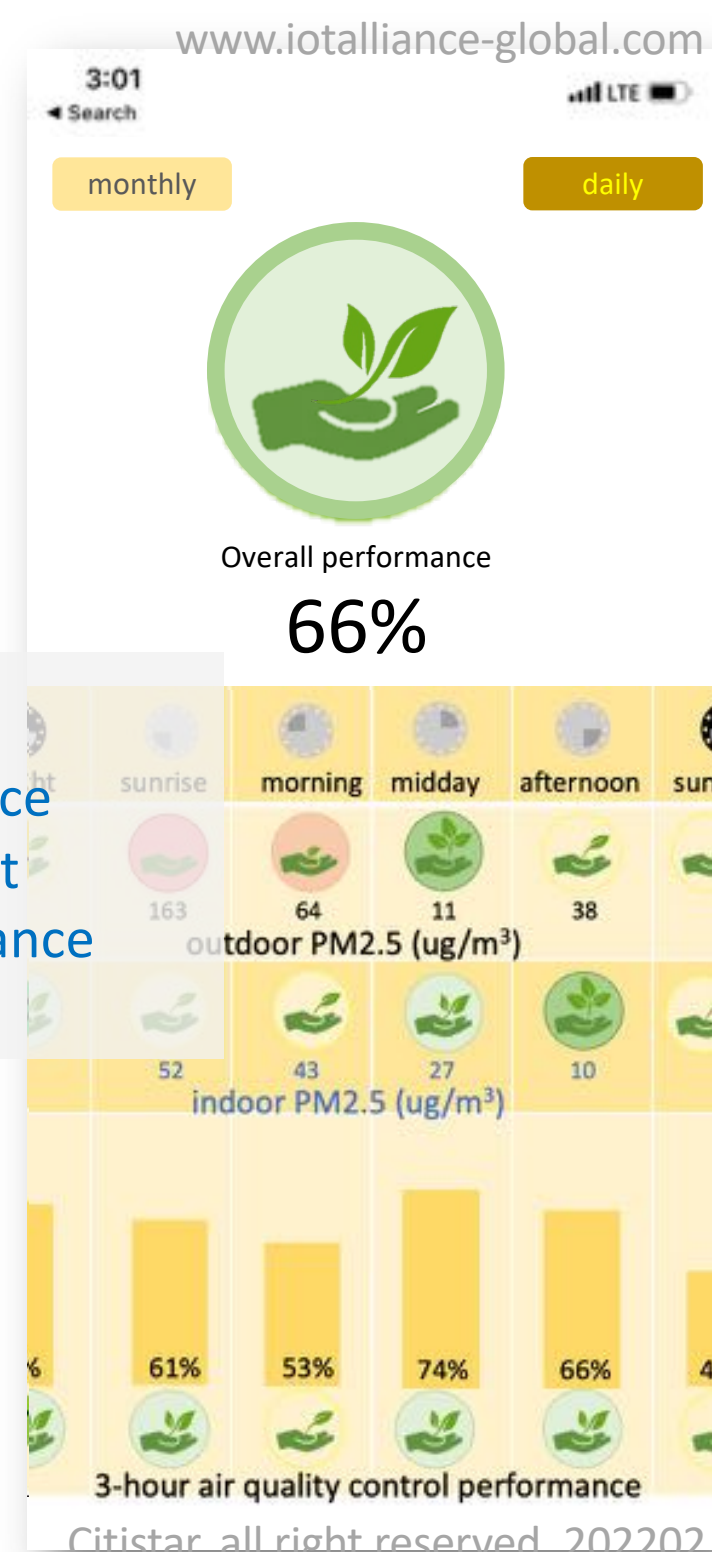


**algorithm against
geospatial data**

Quantitative parameters

- comparison with historical performance
- take necessary internal improvement
- comparison with neighborhood's performance
- ESG assessment

**algorithm against
time-series data**







future development



**RECORDS OF
WORKPLACE
UTILIZATION**



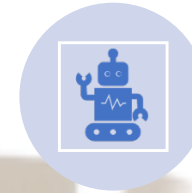
**RECORDS OF
APPLIANCES
UTILIZATION**



**DATA ANALYSIS
ENGINE
DEVELOPMENT
AGAINST
TEMPERATURE &
HUMIDITY, APART
FROM AIR QUALITY**



**AI ENGINE
DEVELOPMENT
AGAINST THE
UTILIZATION OF
WORKPLACE**



**AI ENGINE
DEVELOPMENT
AGAINST THE
UTILIZATION OF
APPLIANCES, AIR
COOLING SYSTEM
AND LIGHTING**

EurusControl – IOT AIR HOME

Practical examples of workplace & home





Thanks for your attention



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