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RESEARCH & INNOVATION
FOR SUSTAINABILITY CENTER

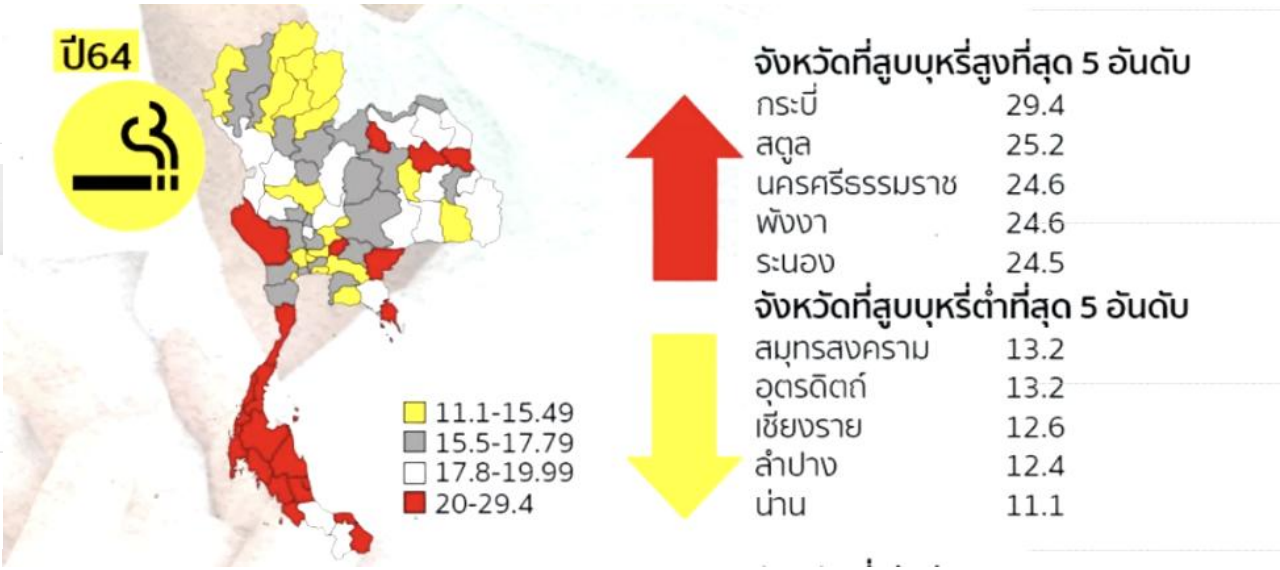
# อัตราการเสียชีวิตมะเร็งปอด VS สัดส่วนการสูบบุหรี่ของไทย

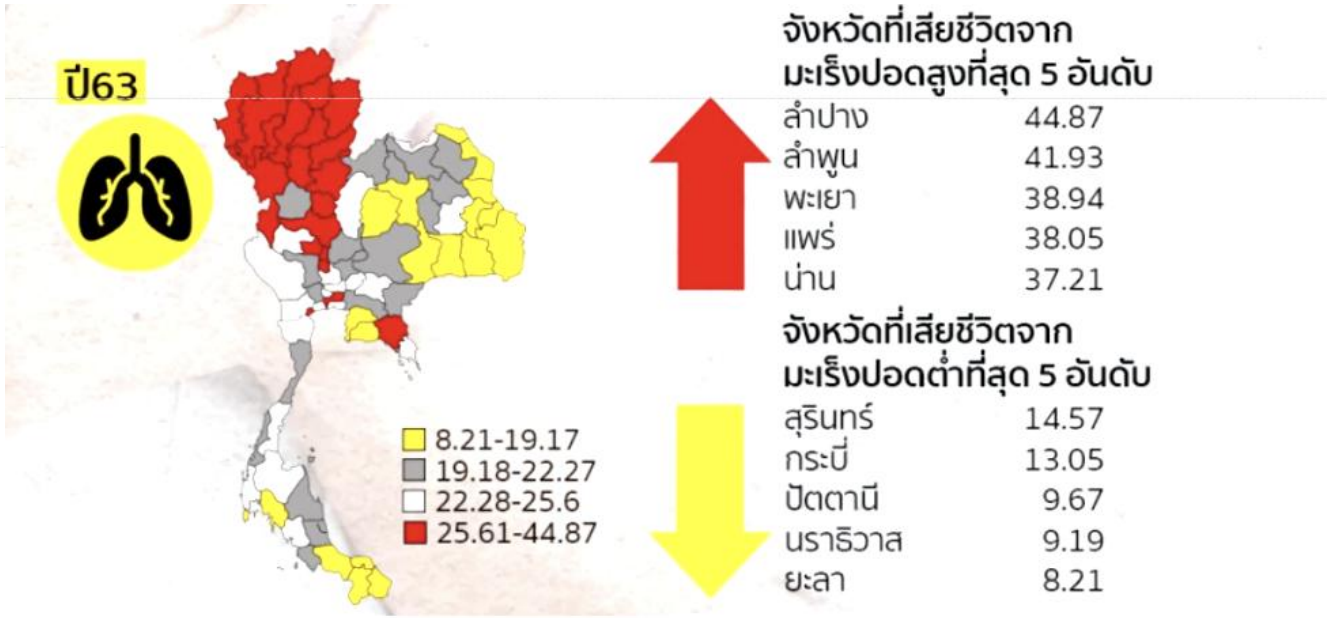
SPRING

การสูบบุหรี่ลดลง 1 ใน 4 เมื่อเทียบกับ 18 ปีก่อน คนอายุ 25-59 ปี สูบบุหรี่มากที่สุด

**คนใต้สูบบุหรี่มากกว่าภาคอื่น**

**ภาคเหนือสูบต่ำสุดแต่อัตราเสียชีวิตจากมะเร็งปอดสูงสุด**




ที่มา: กองยุทธศาสตร์และแผนงาน กระทรวงสาธารณสุข
16.11.2021

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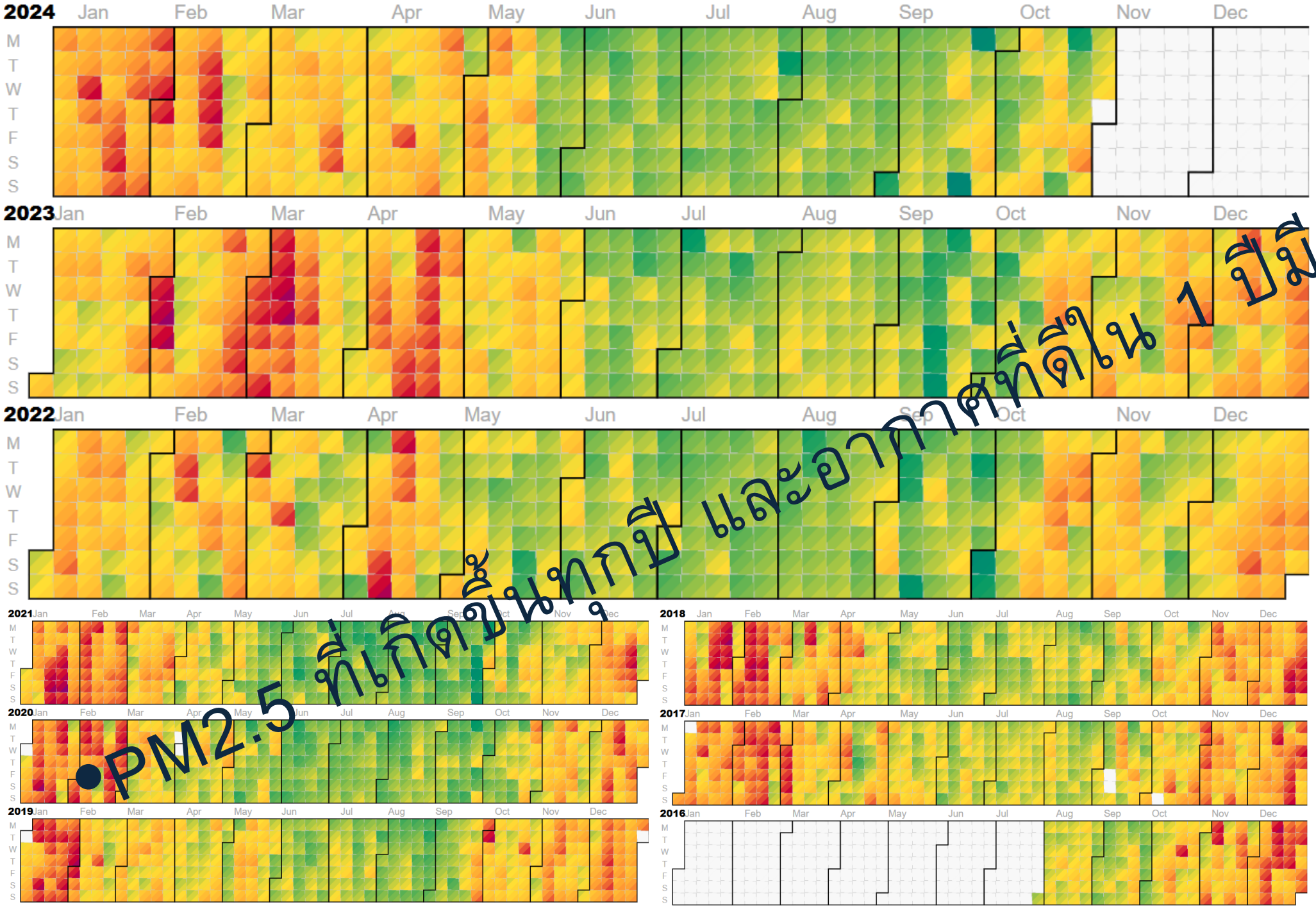
2024
2023
2022
2021
2020
2019
2018
2017
2016
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
M T W T F S S
0~25
25~50
50~75
75~100
100~125
125~150
150~175
175~200
200~300
300~400
>400
BANGKOK
PM2.5
HISTORICAL DATA
•PM2.5 ที่เกิดขึ้นทุกปี และอากาศที่ดีใน 1 ปีมีน้อยลง
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# นวัตกรรมฟอกอากาศชุมชน
# “ฟ้าใส”

TO CLAIM THE RIGHT TO HAVE GOOD AIR TO BREATHE

TO EXTEND THE BOUNDARIES TO THINKING OUTSIDE THE BOX TO CREATE A SAFE HAVENS.

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# PRODUCT SPECIFICATION

The process begins by drawing in polluted air from below using an exhaust fan. This air is then passed through dual layers of high-speed spray nozzles, each serving different purposes. These nozzles are part of a dust trap structure designed to increase the water's surface tension, effectively capturing particles as small as 0.3 microns. The purified air is then disinfected by the system, utilizing UVGI technology for thorough cleaning. It is released at breathing level, aided by a propeller to achieve the desired volume.

The hybrid power system is synchronized to reduce electricity usage during the day (The automatic variable speed depend on measurement sensor), while some of the water is recycled and sterilized using ozone technology and a water filtration system

## SPECIFICATION

| | |
|---|---|
| Air capacity | I 60,000 m3/h (4 outlet x 15,000 m3/h) |
| Particle capture | I 0.3 micron and above |
| Wind force radius | I ~ 5m. |

## TECHNICAL

| | |
|---|---|
| Filter technology | I Venturi scrubber |
| Energy consumption | I 600W-3,000W(max 6,000W) |
| Water circulated | I 50 Liters /day |
| Diameter | I Base 1.35m, Top 2.04m |
| Height | I 3.25m |

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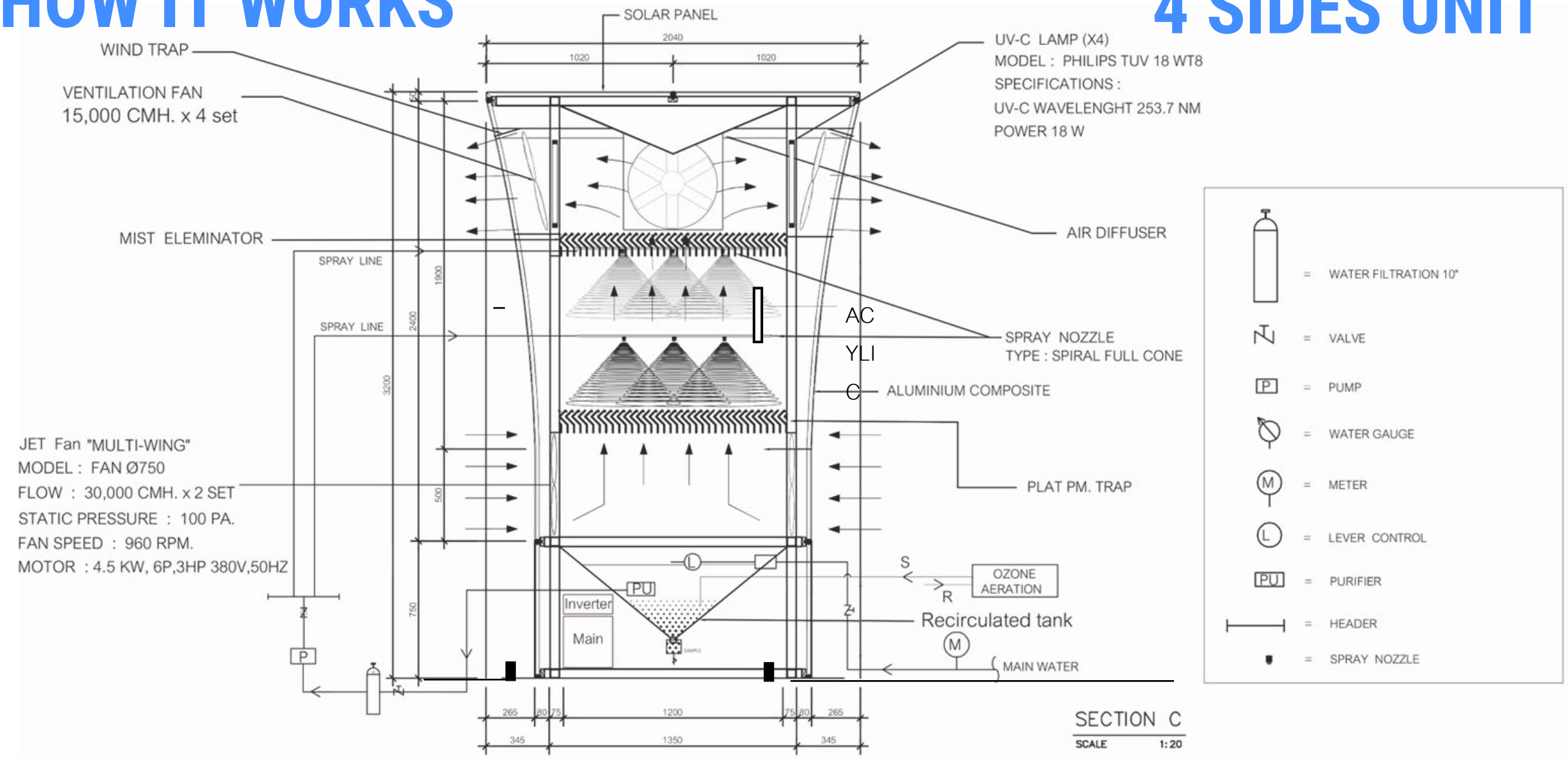
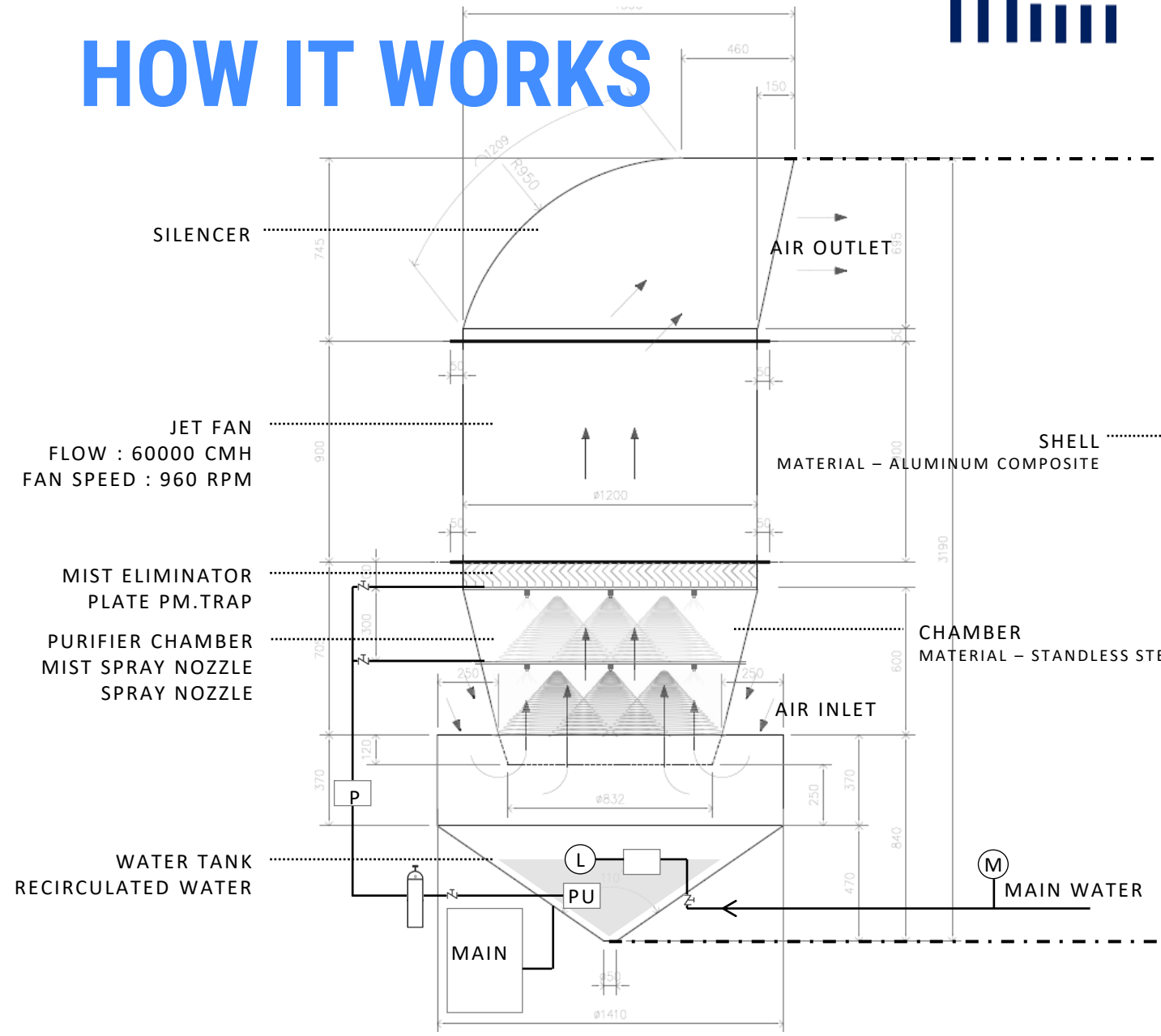
# HOW IT WORKS

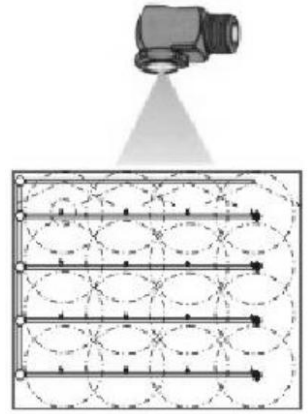
# 4 SIDES UNIT



# HOW IT WORKS

# SINGLE SIDE UNIT



Hollow Cone Nozzles

| | |
|---|---|
| VALVE | |
| WATER FILRATION | |
| PU | OZONE PURIFIER |
| P | WATER PUMP |
| M | WATER METER |
| L | LEVEL CONTROL |

# Product features

## Max Capacity 60,000 CMH PM2.5 Purifier

Advanced Air Purification Technology. The FAHSAI air purifier tower utilizes cutting-edge filtration systems capable of removing particulate matter (PM2.5, PM10). This ensures a comprehensive purification of outdoor air, improving air quality significantly in public spaces, urban centres, and large private estates.

## Venturi Scrubber 50 L/day Recirculated water

The use of water in a Venturi scrubber effectively minimizes waste generation and enhances environmental sustainability.

## Continuous Operation ALL-DAY Performance

The FAHSAI air purifier tower integrates an energy-efficient design with advanced smart technology to enhance its functionality. Equipped with an air quality sensor, it continuously monitors PM2.5 levels in the surrounding environment. Based on real-time air quality data, the system automatically adjusts its operational speed, ensuring optimal purification efficiency

## OZONE Water Treatment

some of the water is recycled and sterilized using ozone technology and a water filtration system


120m

พื้นที่สนามฟุตบอล 10,800 ตารางเมตร

~~FAHSAI~~ MINI

ปริมาตรการฟอกอากาศ 60,000 ลบ.ม./ชม.

รัศมีครอบคลุมพื้นที่ 12,000 ตารางเมตร

(อ้างอิงความสูงครอบคลุม 5 เมตร)

# 1 ชั่วโมงฟอกอากาศได้ 1 สนามฟุตบอล

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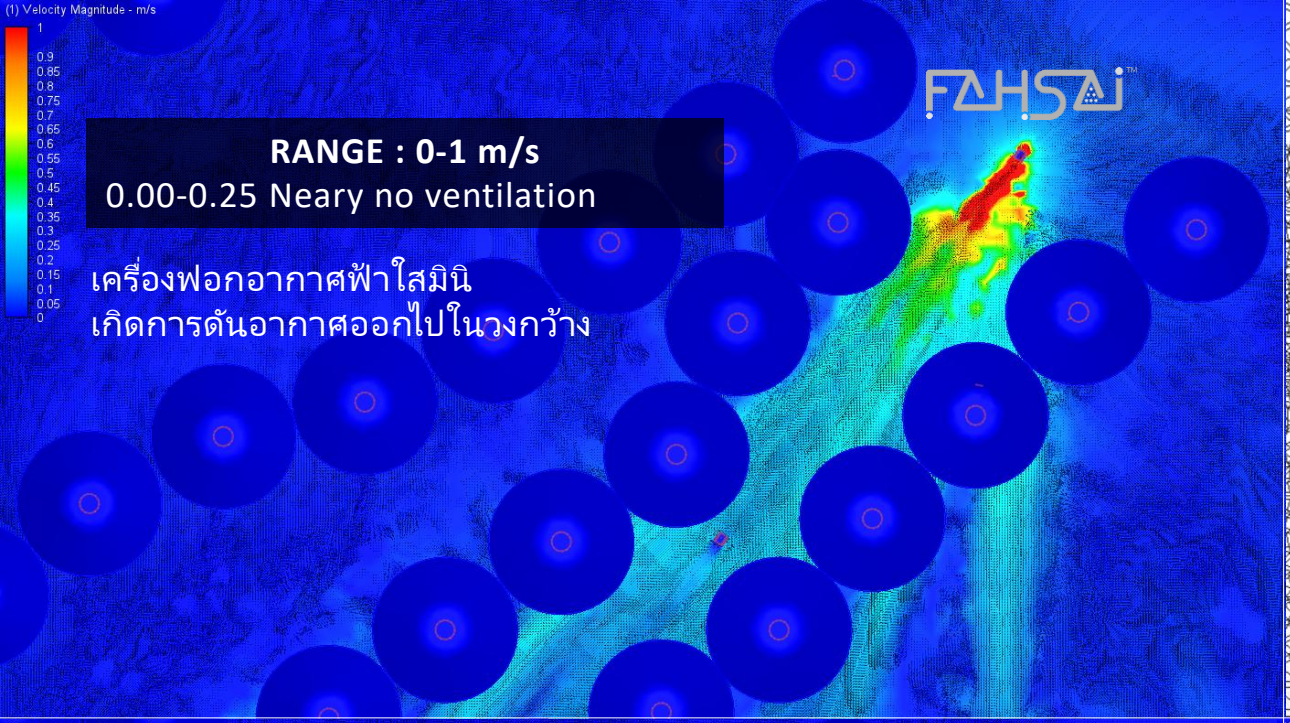



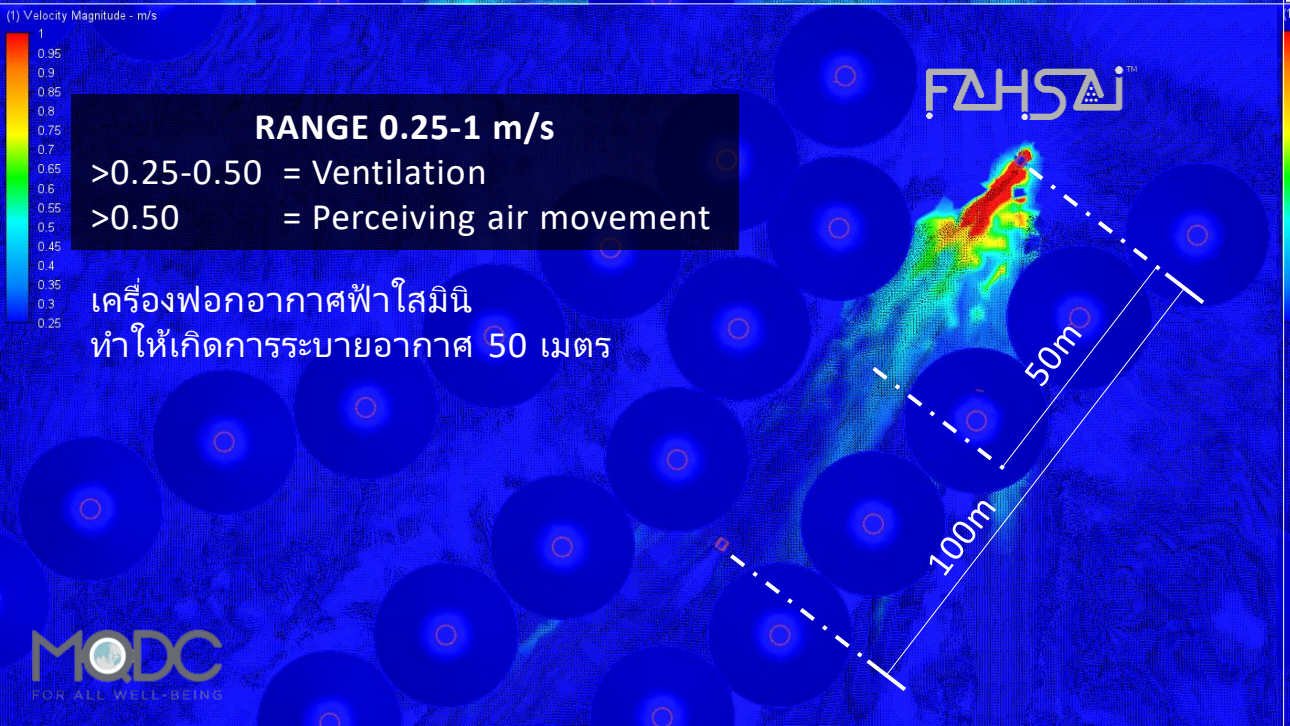



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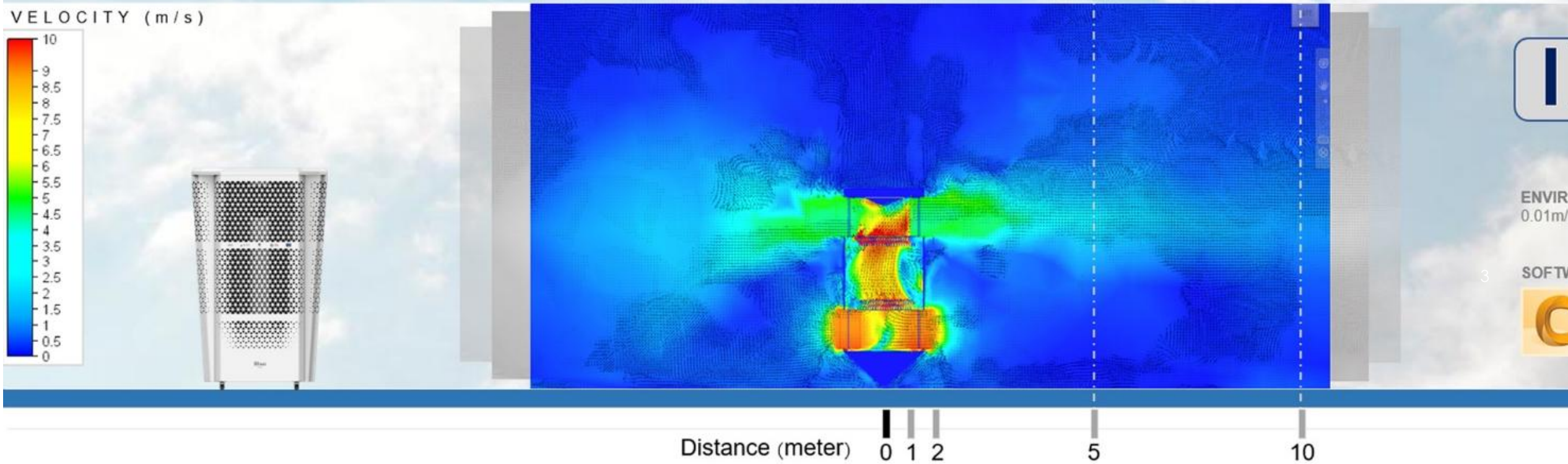
# Using CFD Simulation for system design and performance prediction



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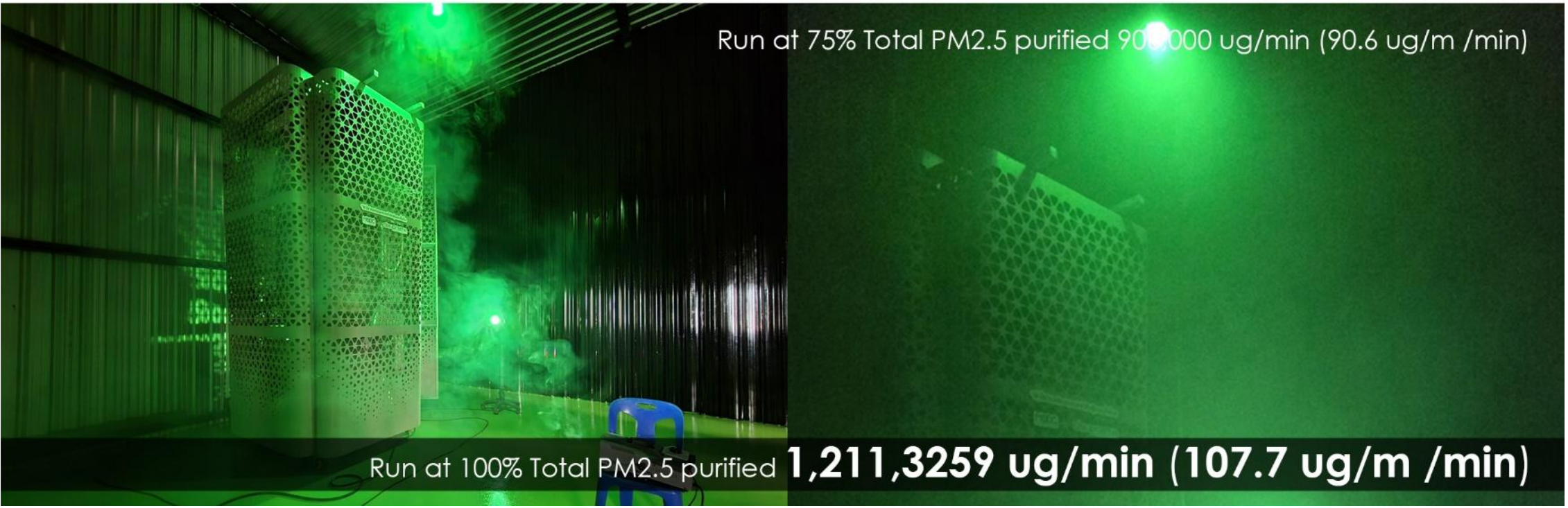
Distance (meter) 0 1 2 5 10 20

## Laboratory Performance Evaluation

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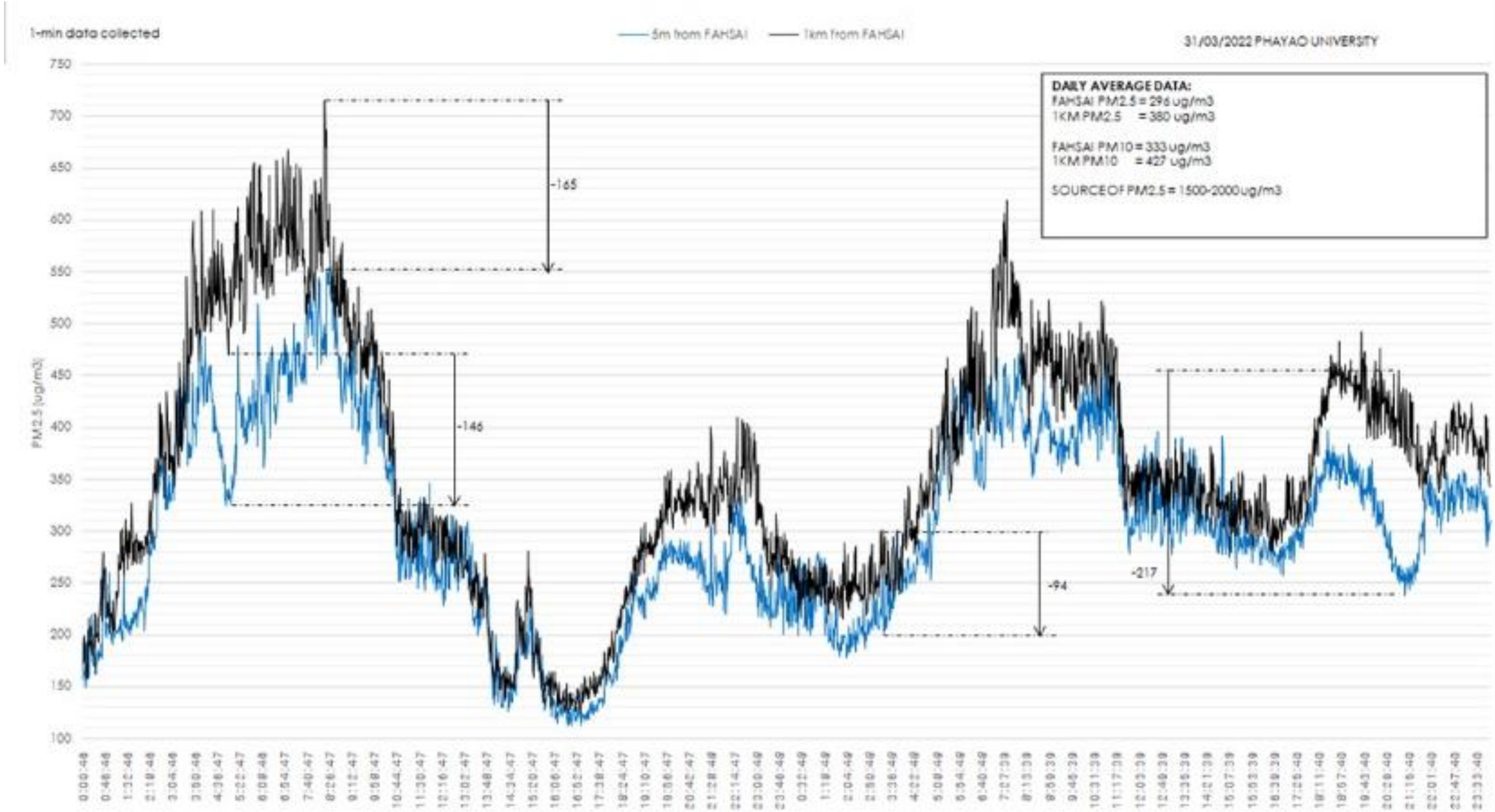
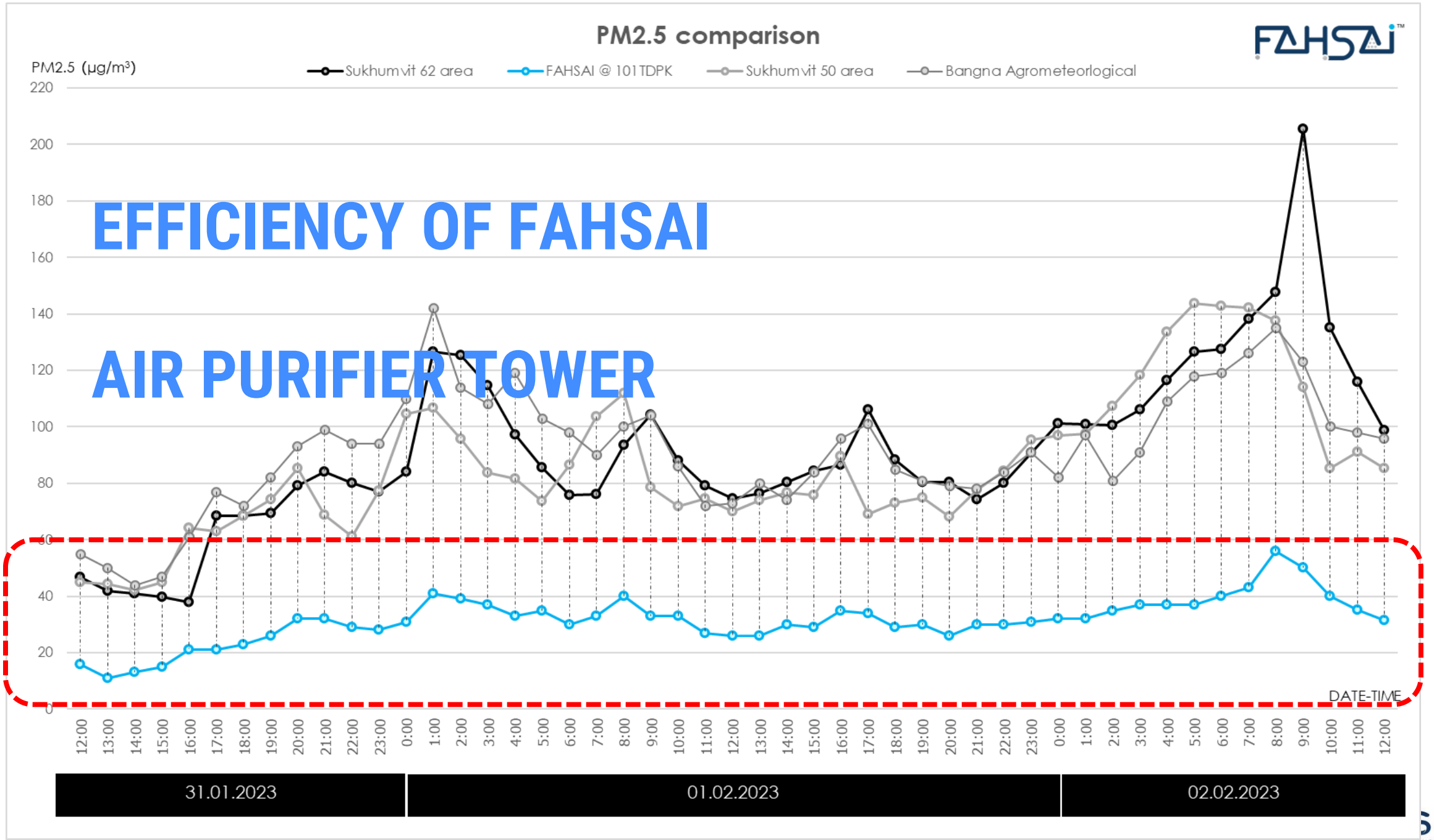

1-min data collected
5m from FAHSAI
1km from FAHSAI
31/03/2022 PHAYAO UNIVERSITY
DAILY AVERAGE DATA:
FAHSAI PM2.5 = 296 ug/m3
1KM.PM2.5 = 380 ug/m3
FAHSAI PM10 = 333 ug/m3
1KM.PM10 = 427 ug/m3
SOURCE OF PM2.5 = 1500-2000 ug/m3
PM2.5 (ug/m3)
-165
-146
-94
-217

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# ลานกีฬาใต้ทางด่วน และ สนามเด็กเล่นภายในโรงเรียน ชุมชน

เป็นพื้นที่ที่มีผู้คนมารวมตัวเพื่อทำกิจกรรมกลางแจ้งเป็นจำนวนมากเป็นประจำ

เศรษฐกิจ สร้างสรรค์เพื่อ จัดการอากาศสะอาด

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