



## *III Workshop 2024 - EMBM-VD*

Mqqt Integration and 2D Viewer



# CONTEXT:

- Integration of environments connected to ARENA;
- Development of a 2D Viewer
- New features implemented into the simulation.



# GOALS OF THIS PRESENTATION

- Show the next steps regarding the MQTT integration process
- Show the current status of the 2D application development

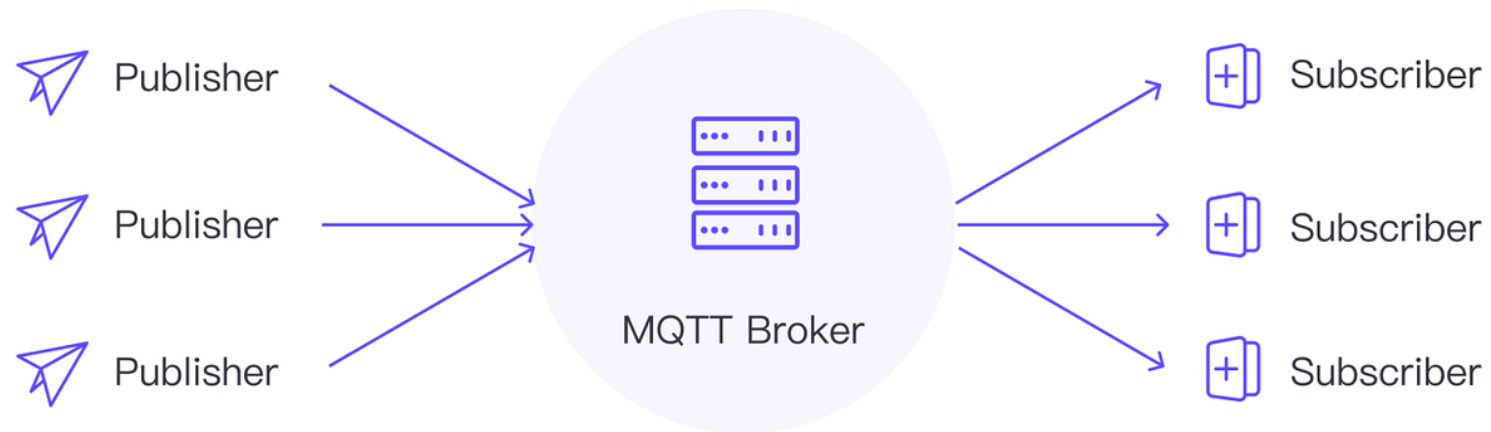


# SUMMARY

- MQTT Protocol
- 2D Viewer
- Weather API



# MQTT Protocol

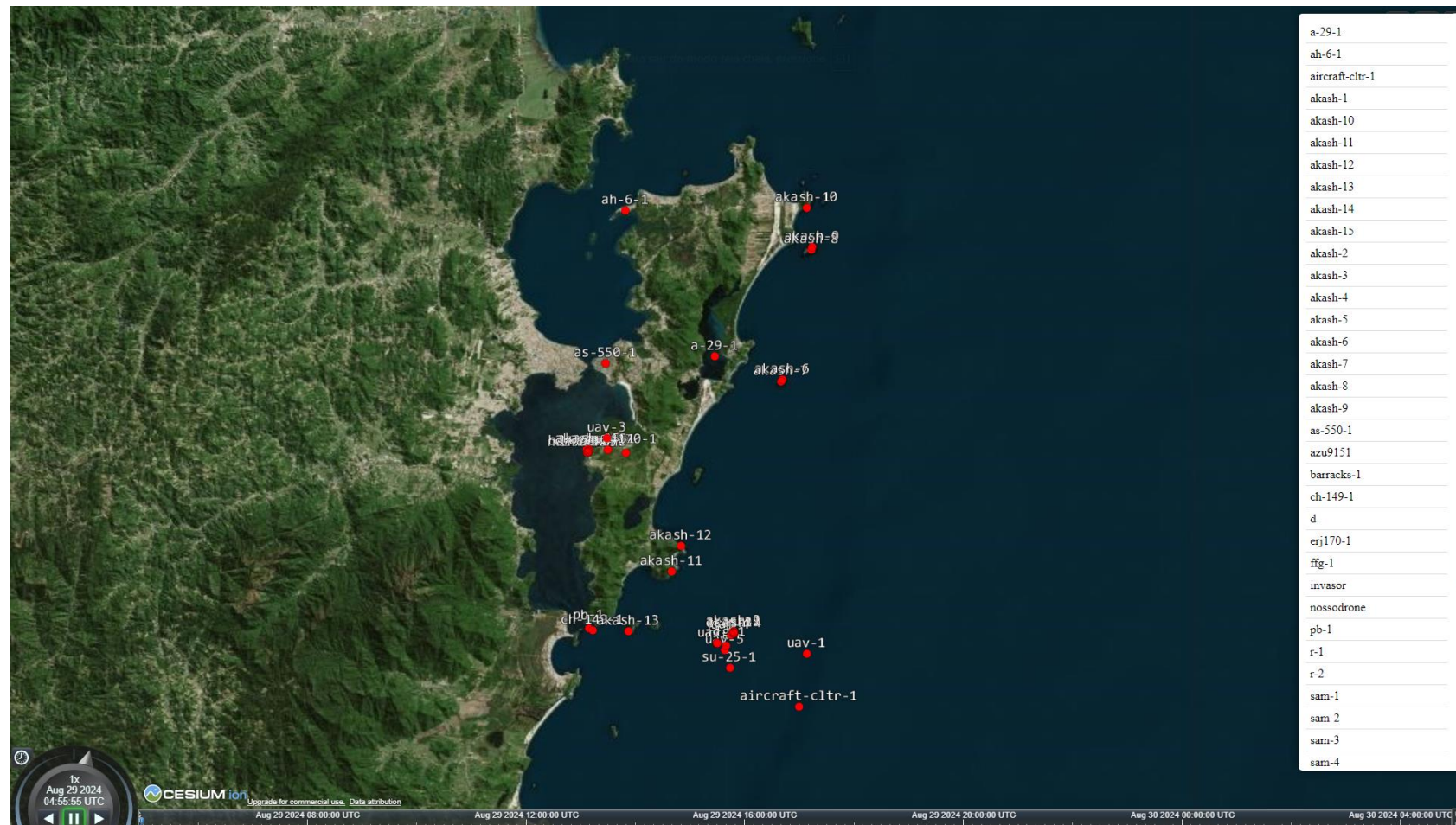


- IoT Protocol
- Topics Format
- Stateless Message Handling





# 2D Viewer



- Real-Time Update
- Entity Creation
- Adjustable Map





# Weather API



```
mqtt_client = mqtt.Client()
Conectado: Código 0
Publicado no tópico conceptio/weather/São_José_dos_Campos: {"temperature": 19.27, "pressure": 1025, "humidity": 72, "wind_speed": 2.57, "wind_direction": 60}
Publicado no tópico conceptio/weather/Salvador: {"temperature": 23.98, "pressure": 1023, "humidity": 75, "wind_speed": 10.98, "wind_direction": 127}
Publicado no tópico conceptio/weather/Florianópolis: {"temperature": 20.68, "pressure": 1026, "humidity": 75, "wind_speed": 7.2, "wind_direction": 340}
Publicado no tópico conceptio/weather/Curitiba: {"temperature": 17.94, "pressure": 1025, "humidity": 68, "wind_speed": 3.09, "wind_direction": 10}
```



# Next Steps

- Optimization of MQTT nodes and topic systems;
- Enable creation and control of entities through the 2D viewer;
- Adapt weather API to vary according to altitude





**Final considerations**

# Questions/Comments?!



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