



DEBS 2023

## Session 4: IoT



**FORTH**

INSTITUTE OF COMPUTER SCIENCE

**EPAnEK** 2014-2020  
OPERATIONAL PROGRAMME

COMPETITIVENESS • ENTREPRENEURSHIP • INNOVATION



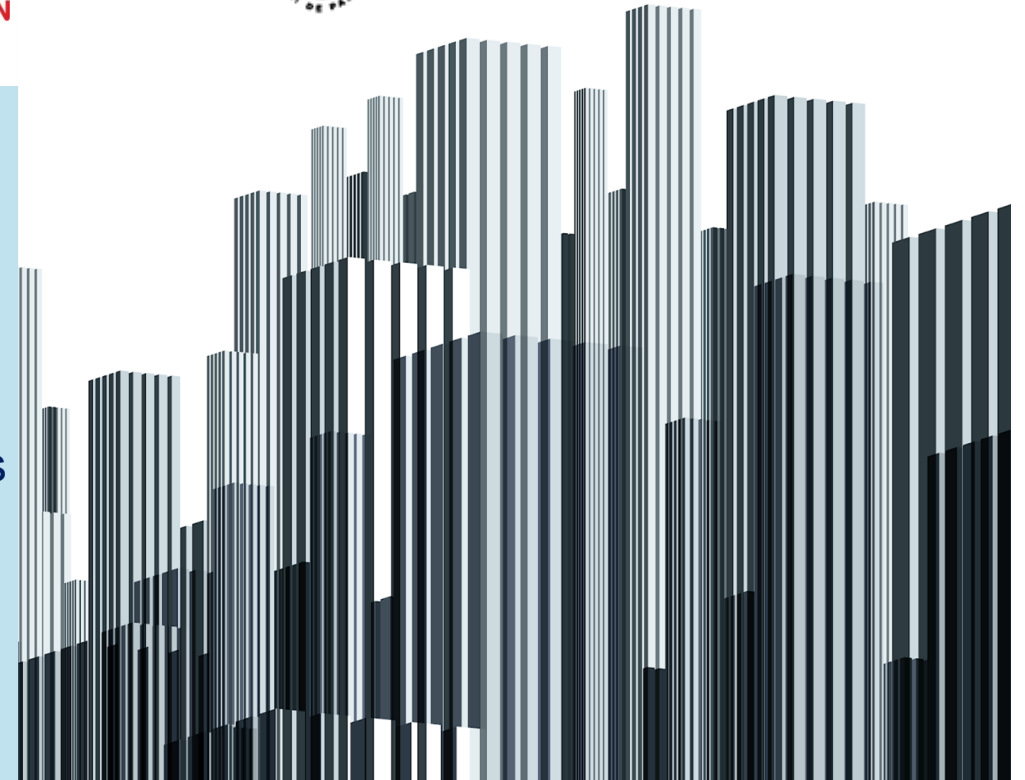
**UNIVERSITY  
OF CRETE**

# Demo: ComDeX Unveiled Demonstrating the Future of IoT- Enhanced Communities

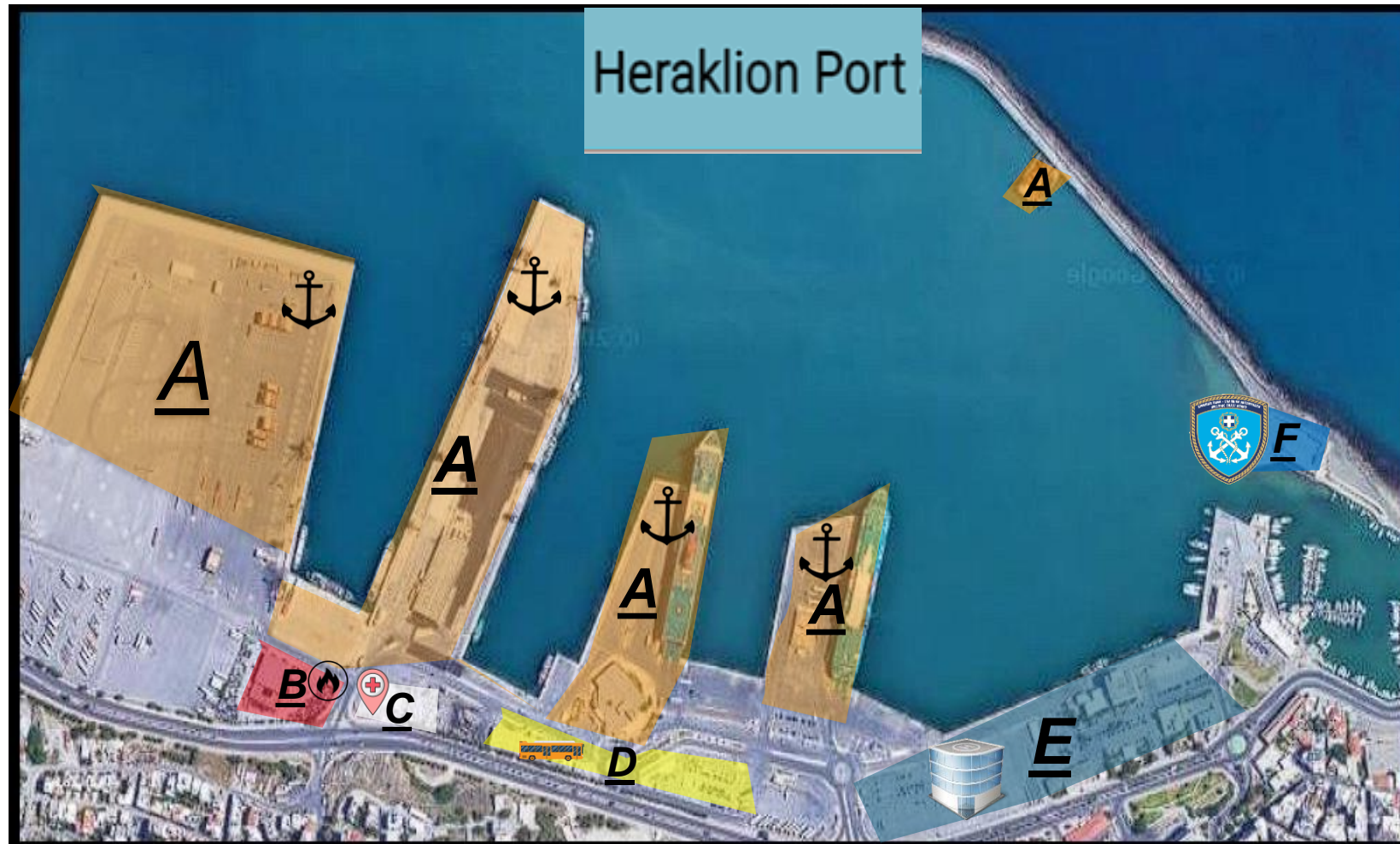
**Nikolaos Papadakis, Georgios Bouloukakis, Kostas Magoutis**

*17th ACM International Conference On Distributed And  
Event-Based Systems*

*27th June 2023 Neuchatel, Switzerland*



# The Complexity of Confluence: Challenging Aspects of Smart Communities



*Port authority (A),  
Firefighters (B),  
Medic Station (C),  
City Bus Transportation (D),  
Private Businesses (E),  
Coast Guard (F)*

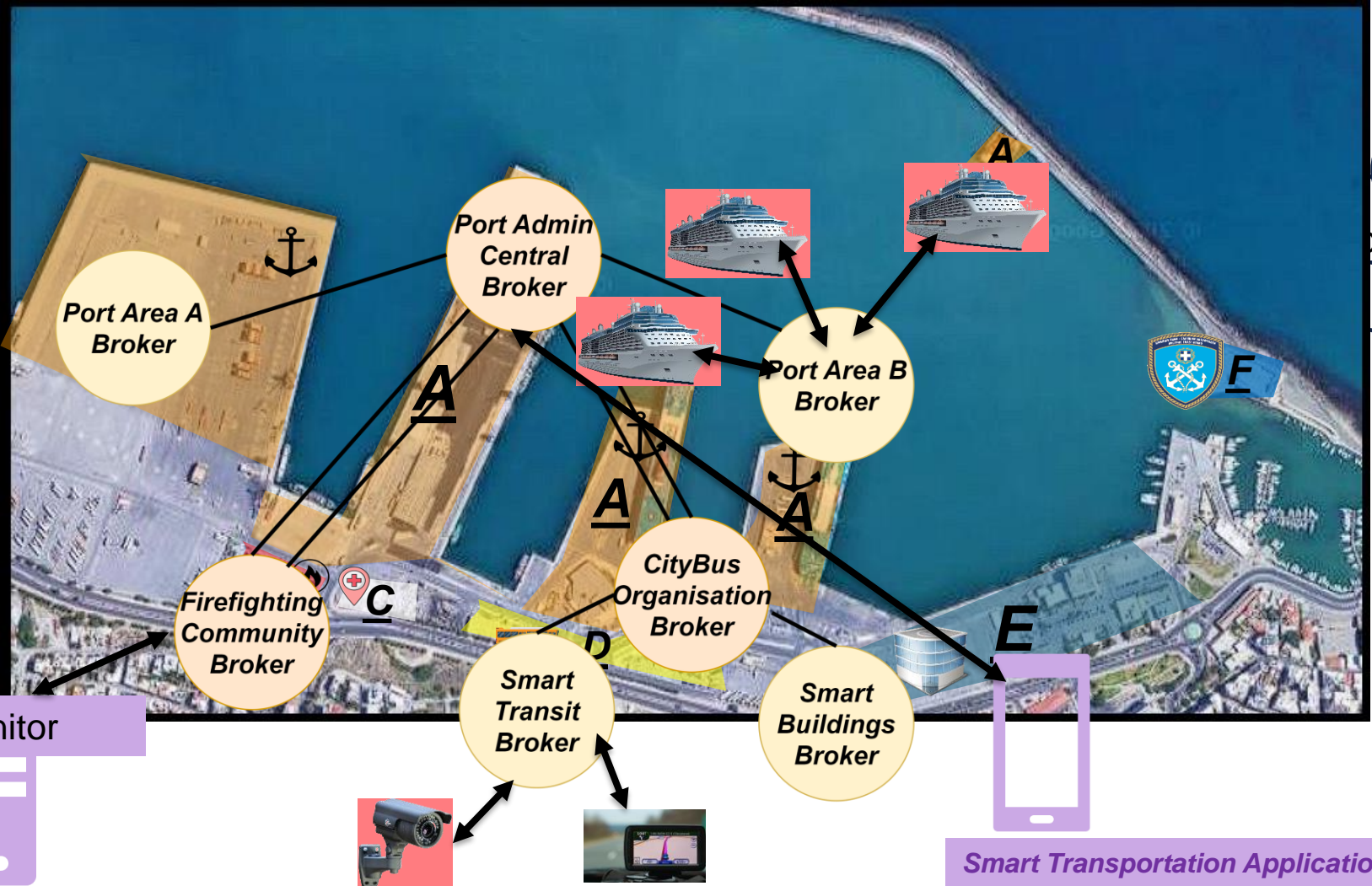


*Each have their own  
applications, requirements,  
devices, data, servers etc.*

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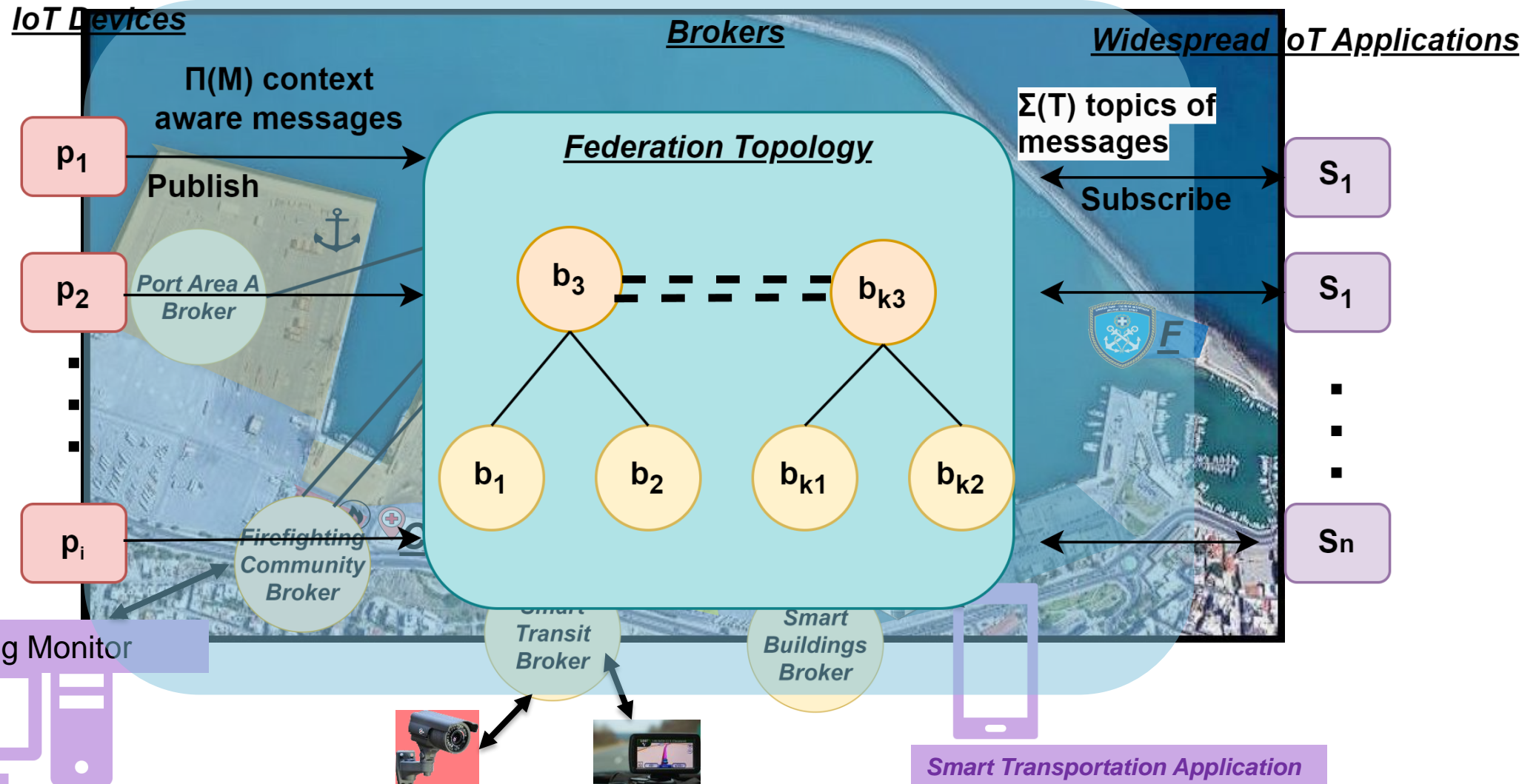
# Enabling Widespread IoT Applications



Information Integration?  
How to do handle the distributed data exchange?  
Selective Sharing?  
Data sovereignty?



# Introducing ComDeX: Brief High Level View



# ComDeX: How It works very briefly



Data Represented as  
context aware property  
graph based entities



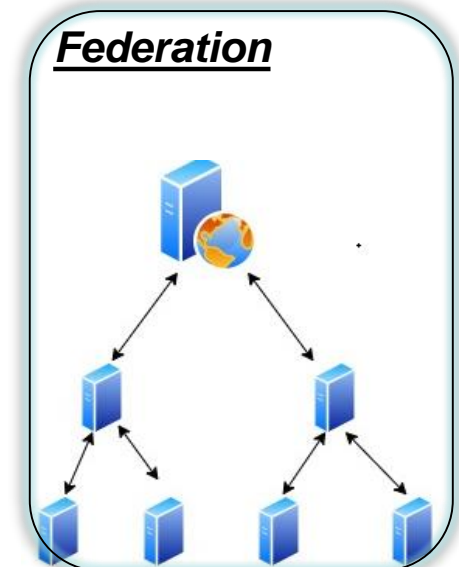
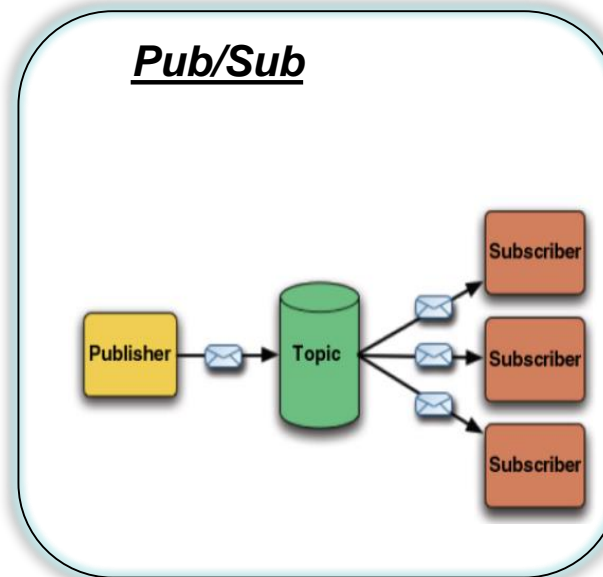
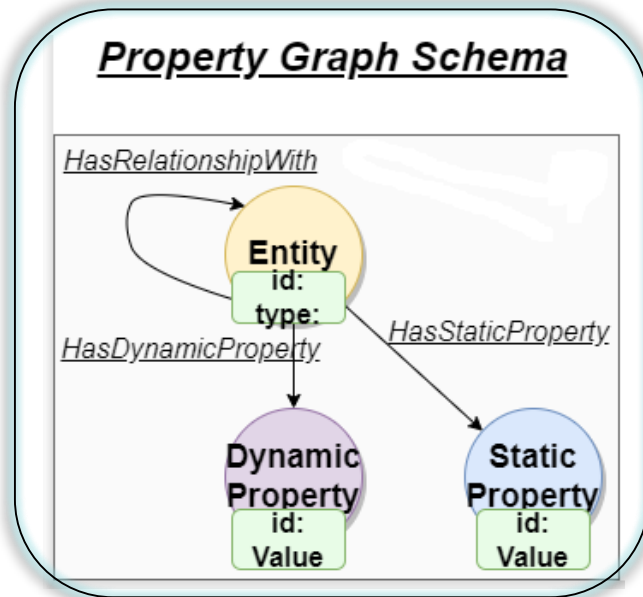
Mapped to Pub/Sub  
Messages



Discovered via  
advertisements



In a federation of  
brokers



## DEMO SHOWCASE



# Live Prototype GUI Interface ComDeX Demo