

### Ενεργειακή Αποδοτικότητα, Έξυπνα Κτίρια και Έξυπνες Πόλεις



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#### **Our Profile and Focus**

#### **General Profile**

- National & Kapodistrian University of Athens (UoA, <u>uoa.gr</u>) – the oldest and with the first ranking among all Greek Universities
- We form a research and innovation unit in Department of Informatics & Telecommunications (DIT, <u>di.uoa.qr</u>): Software Centric & Autonomic Networking Lab (SCAN, <u>scan.di.uoa.qr</u>)
  - 20 researchers, engineers and support personnel
  - More than 20 EU Funded Projects (since FP6)
    - SCAN-NKUA coordination (both PM and TM) in several of them
  - More than 10 Industry Contracts
  - Several patents filed in European Patent Office,
  - More than 500 publications,
  - More than 4000 citations,
  - Support of BSc/MSc/PhD dissertation thesis: ~15 per year.

#### **Focus Areas**

- Mobile/Wireless Communications (5G, LTE)
- MEC Cloud
- Internet of Things Smart Cities Connected
   Cars
- Software-Defined Networks (SDN) Network Function Virtualisation (NFV)
- Big Data (Data Analytics, Predictive Analytics, Data Economy)
- Future Internet (FI-WARE Advanced Apps and Services)





## **EU & Industry Projects**































































# **Energy "Golden nuggets"**



5G-IoT +Data





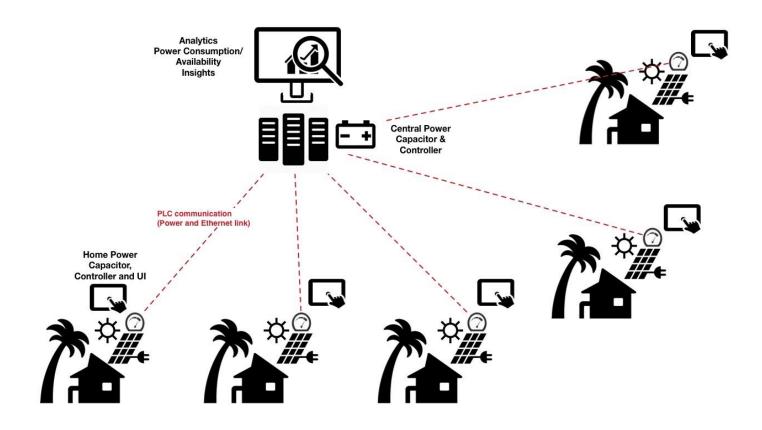


Smart Grid
Smart Mobility





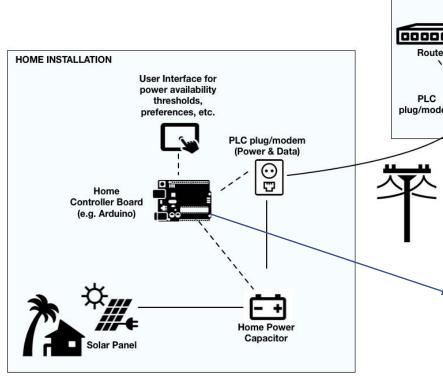
## **Energy positive neighborhood- Dynamic Energy Sharing**

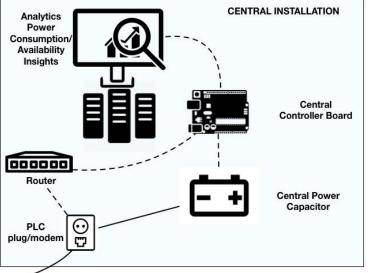






## **Design Architecture**



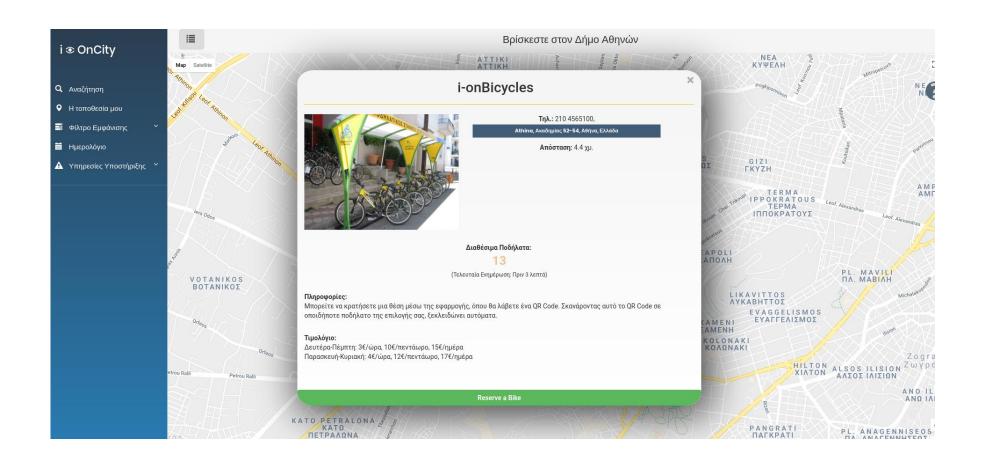


- Block-chain based contracts for Energy Trading
- The energy trading contracts are maintained on the Home Controllers in a distributed manner
- Revenue sharing mechanisms can operate on top of the same distributed architecture





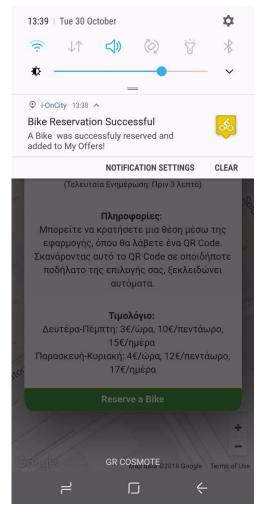
# I-onBicycle: Smart Mobility – Electric Bicycles







## i-onBicycle: Mobile booking - payment



Fleet Management - metadata

Current bicycle Position (on the map)

Type of bicycle

Status – moving, parked....

Bicycle record – routes, stations ....

Dynamic updates for bicycle routes, availability etc.







# Thank you!

#### **Main Contact**

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