

GAIA – PROJECT SUMMARY

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European
Commission

Horizon 2020
European Union funding
for Research & Innovation



Horizon 2020
European Union Funding
for Research & Innovation

G A I A

Green Awareness In Action

<http://gaia-project.eu>



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GAIA – THE STARTING POINT



42

- Energy efficiency in buildings is a key factor for sustainability.
- **Educational buildings constitute the 17% of the non-residential building stock (in m²) in the EU.**
- Either use energy-efficient infrastructure and *materials* to reduce consumption, or promote ***behavioural change*** on people living/working inside buildings.
- Previous research already showed that energy conservation insights learned in school **can be applied at home.**



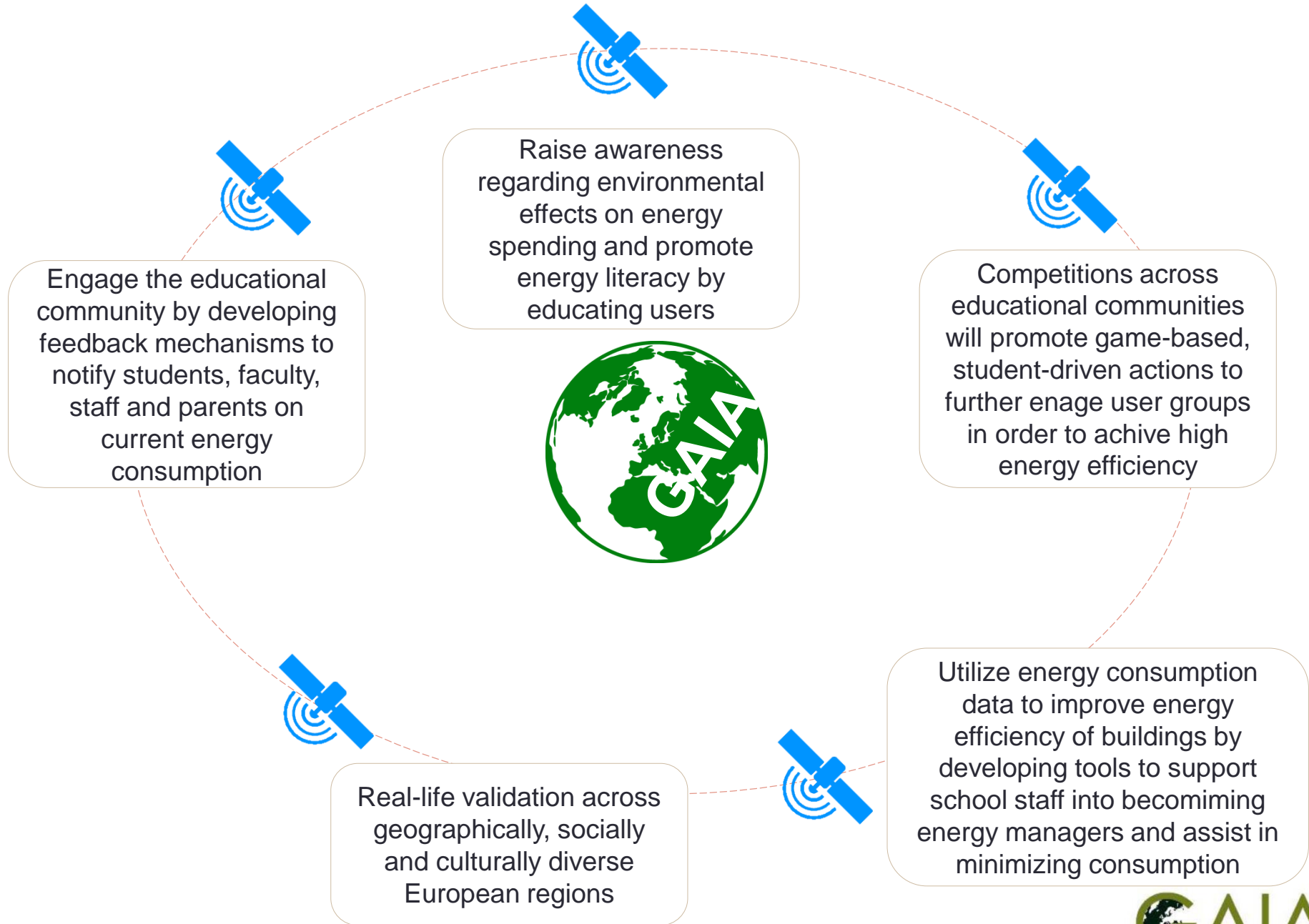
OBJECTIVES

- Engage the Educational Community for Energy-Efficient Living
- Utilization of Energy-Consumption Data to Improve Efficiency of Buildings
- Development of a culture for Energy-efficient living
- Educate towards Better Resource Usage
- Competitions Across Communities
- Operation and Real-Life Validation



TECHNOLOGIES

- Internet of Things (IoT) – Raspberry Pi & Remote Sensors
- Cloud Technologies – IoT Data Management & Analytics
- Gamification – Serious Games
- Open Source Hardware & Software, Datasets



9 partners
1.775 M €

36 months
Feb 2016 – Feb 2019

266 PMs total effort



Our pilots



SWEDEN
1 HIGH SCHOOL
1000 STUDENTS
110 STAFF



ITALY
1 HIGH SCHOOL
1400 STUDENTS, 110 STAFF
1 UNIVERSITY
400 STUDENTS, 40 STAFF



GREECE
13 SCHOOLS
4500 STUDENTS, 860 STAFF

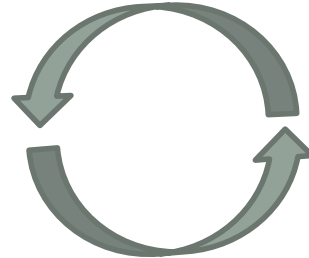
Set up a quiver of applications

GAIA challenge

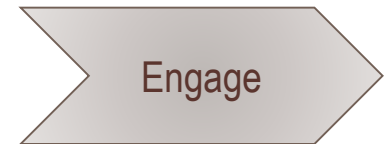
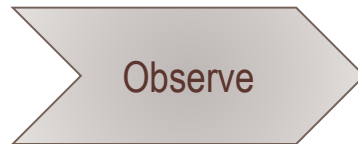
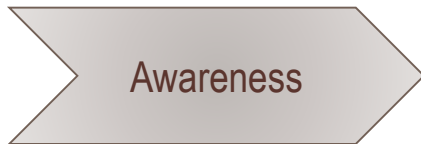
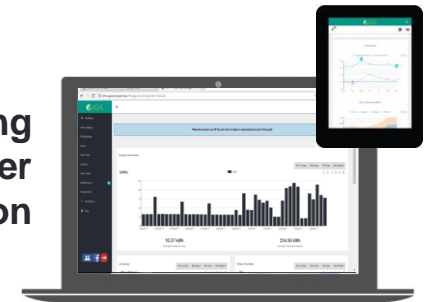


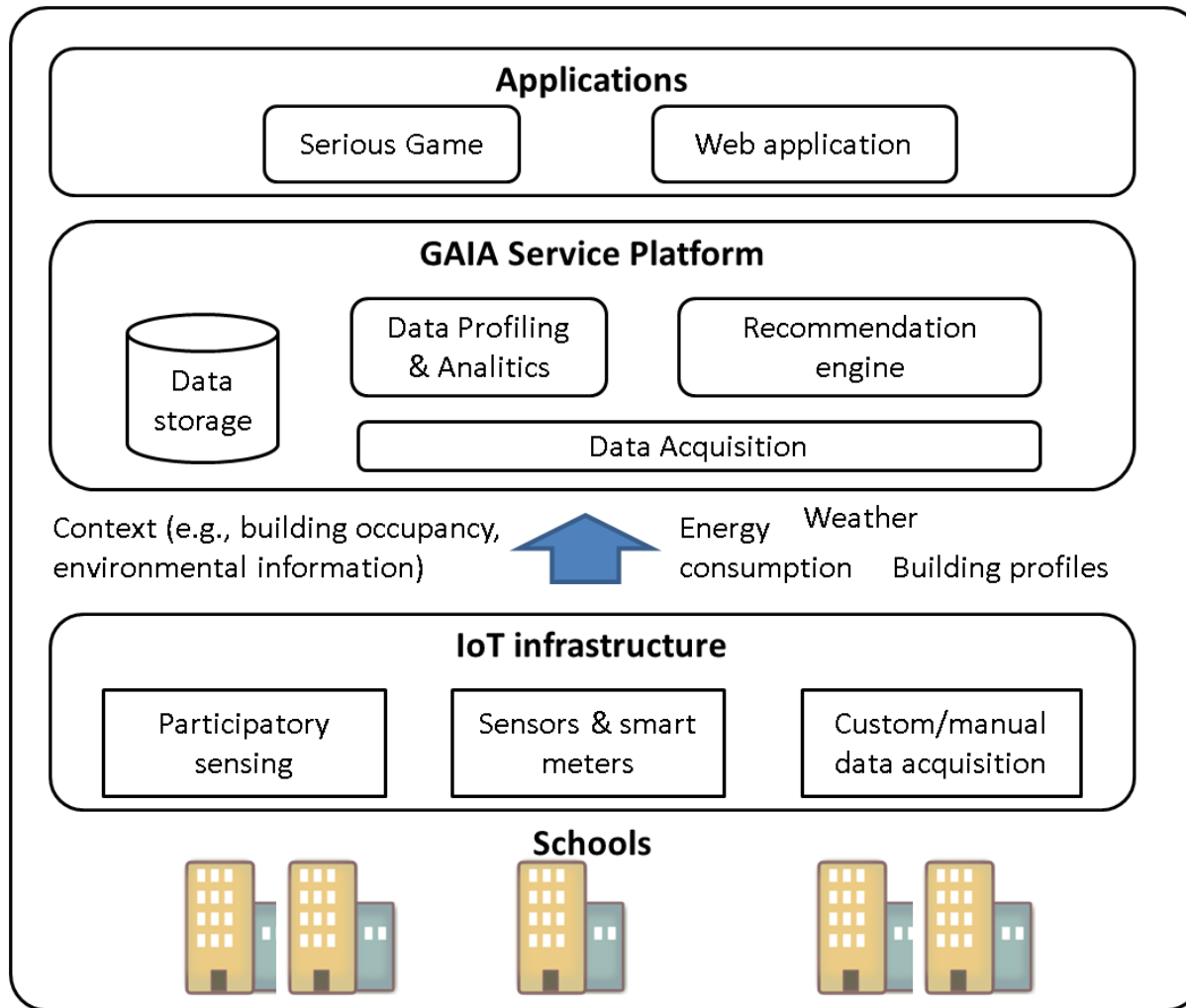
**Scavenger Hunt
#Hashtag game**

Set up a quiver of applications



**Building
Manager
Application**







gaia-challenge.com

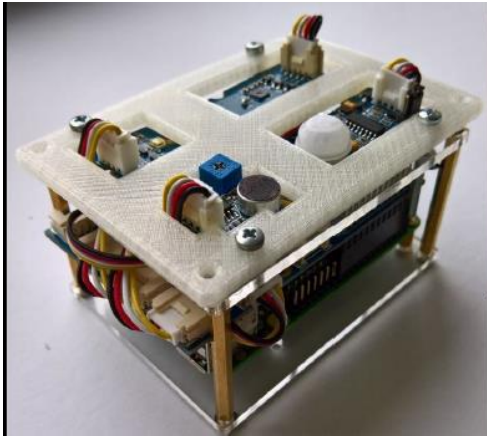


OBSERVE EXPERIMENT ACT



DO IT YOURSELF ENERGY EFFICIENCY (Beginners)

GAIA PI





at

MY KNOWLEDGE POINTS

1400

MY TOPIC PROGRESS



Introduction

Introduction		
Not at all possible	Not at all possible	Not at all possible
Appliances <input checked="" type="checkbox"/>	Temperature and humidity <input checked="" type="checkbox"/>	Light and light bulbs <input checked="" type="checkbox"/>
Not at all possible	Not at all possible	
Emission <input checked="" type="checkbox"/>	Other <input checked="" type="checkbox"/>	

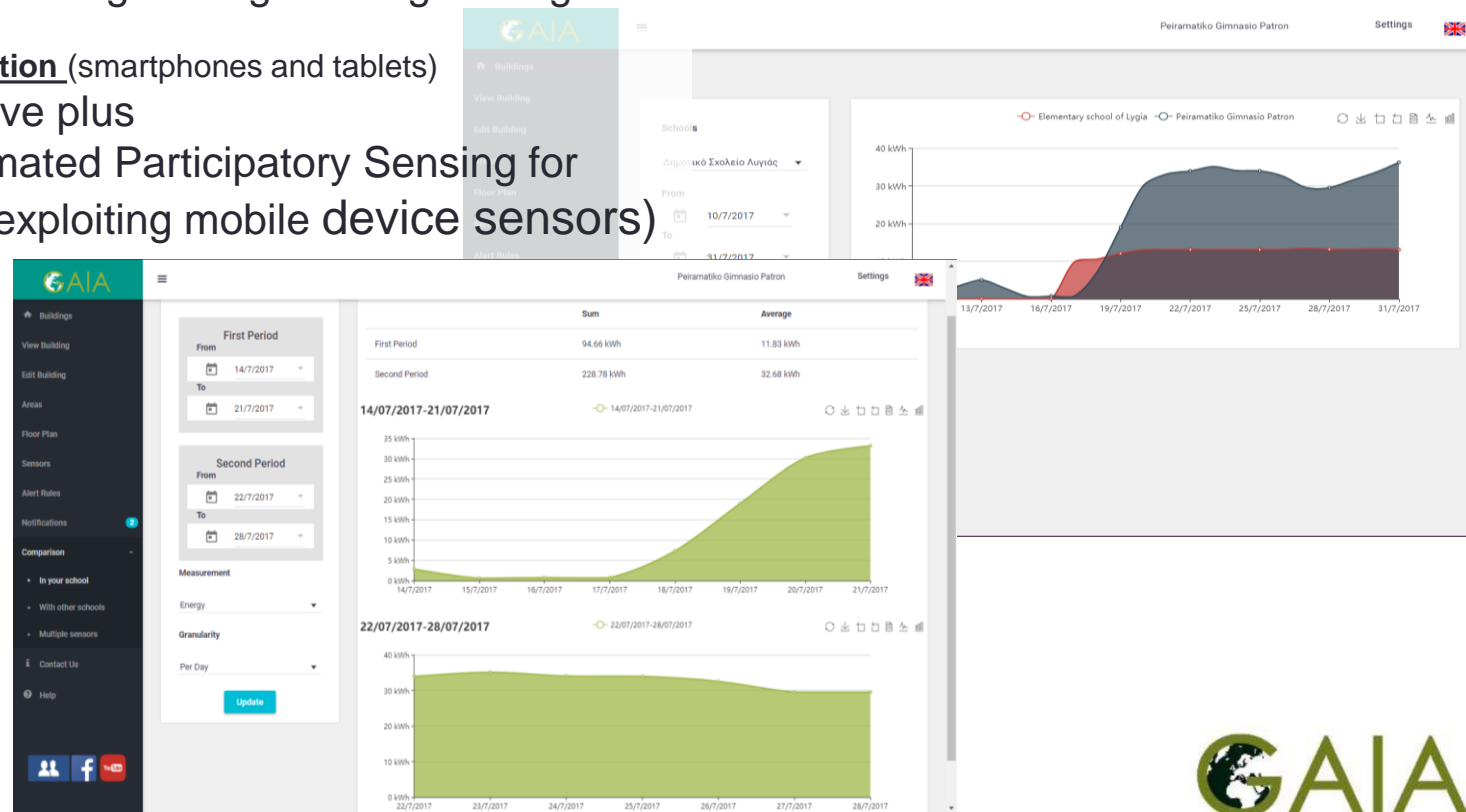
Building Manager Application

Web application (runs in desktop and mobile devices)

1. Measurement Visualisation
2. Comparison among schools and time periods
3. Recommendation/Alerting Component
4. Participatory sensing
5. Social Networking among building managers

Smartphone application (smartphones and tablets)

- A. All the above plus
- B. Semi-automated Participatory Sensing for luminosity (exploiting mobile device sensors)





facebook.com/EUGAIAProject



twitter.com/EU_GAIA



instagram.com/eu_gaia_project



researchgate.net/project/GAIA-Green-Awareness-In-Action



github.com/GAIA-project



youtube.com/channel/UC6BA2B6FMNE83-UFZw34gZA

GAIA workshops

GAIA Energy Day Sweden

Powered by:



#ActGreen

#EUSEW18

GAIA contests

- **3 panEuropean contests**

1. Show us the improvement of your GAIA class!
 - School had to present activities already done for energy reduction in their building
2. Share your GAIA ideas for your next school year!
 - Schools had to present their ideas of how they will use GAIA tools in the next school year
3. Build your GAIA challenge's portfolio!
 - Schools had to enrich their GAIA Challenge portfolio

School year: 2017- 2018

Start: 15.04.2018

End: 22.05.2018 & 31.05.2018

Total participations: 21 school teams



- **1 national (GR) contest**
 - Best GAIA educational scenario

Activities with schools

- Each participating school realized educational activities based on GAIA educational material and tools.
- **GAIA labs** were realized in 7 schools of all educational levels.
 - Gaia lab kit (RaspberryPi, GrovePi, Elektroniks modules, etc)
 - Worksheets for 4 thematic areas (School orientation, Luminosity, Temperature/Humidity, Energy consumption)
- 2 workshops with teachers in Athens demonstrating GAIA BMA and GAIA lab kit.
- Participation with students in Researcher's Night in Athens & Athens Science Festival



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