



Manchester Metropolitan University

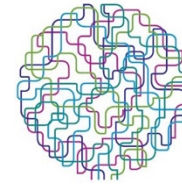
Mohammad Hammoudeh

M.Hammoudeh@mmu.ac.uk

This presentation is for

- Workshop 1** Big Data
- Workshop 4** internet of Things

Description of the Organization



ICTURKEY
ISTANBUL 2016

- A history dating back 150 years
- MMU is one of the top performing new universities in the UK in terms of its research
- Dedicated administrative teams to support and manage research projects
- Facilities and resources: IoT Lab
- Current research projects: total value > €400,000

Description of the your research interest



- Head of MMU IoT Lab
- Seven academics researching the following areas:
 1. IoT – Security, applications (healthcare, transport, smart cities, etc.)
 2. Cloud Computing
 3. Big Data
 4. Digital Forensics
 5. Intelligent transport
- Several EU and nationally funded projects.

IoT-01-2016: Large Scale Pilots

Extending the Internet of Things to Create Smart Living Environments for Ageing Well



ICTURKEY
ISTANBUL 2016

- Objectives:
 - Experience building: Establish a learning process within a common experience platform on smart environments in collaboration with key innovation, commercial and city partners to identify factors associated with risk for assisted living among older people
 - Living-lab: Replicate smart environment systems to design a package of tools for key stakeholders
 - Empowering elderly people in smart cities: Identify and implement methods to raise citizens awareness of the personal benefits of smart environments
 - Leverage big, open and smart environment data to create new services: Use open data to offer enhanced or new urban services
 - Holistic approach to common goals: Develop integrated products in the form of applications that contribute towards common goals of smart cities
- Expected results
 - The learning platform aims at identifying further application of effective and preventing intervention in elderly community to make their independent living at home possible
 - key stakeholders take investments decisions in an efficient and inclusive manner
 - To improve general user acceptance of smart solutions and put them in a position to optimise their environment
 - Design services for businesses to offer personalised services for elderly customers
 - Standardising smart environment management practices

Consortium - required partners

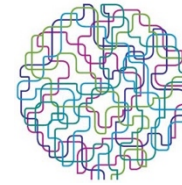


ICTURKEY
ISTANBUL 2016

No	Partner Name	Type	Country	Role in the Project
01		RTD		Big sensory data analytics and visualisation
02		SME		Elderly care – charities – requirements gathering & testing
03		IND		Intelligent transport, smart cities, etc.
04				
05				
06				
07				
08				

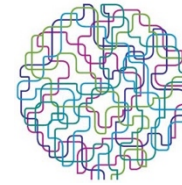
IoT-03-2017: R&I on IoT integration and platforms

Lightweight, scalable and platform independent privacy preserving authentication of smart objects in the IoT



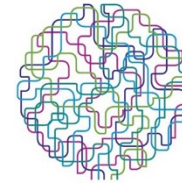
- Objectives:
 - to design and build into the core of IoT devices the ability to perform strong authentication
 - to develop a mechanism to ensure that the device is booted in a known valid state
 - to develop a cryptographic mechanism to allow readers of messages received from a manipulated device to confirm that the device was not compromised when the previous message was sent
 - . Finally,.
- Expected results
 - the envisaged solution combines high-integrity smart object identity verification with backward enabled object support to recover from attacks
 - ensures compliance with the security policy, before a device can transmit authentication messages to other network actors
 - methods for protecting the device credentials that are used for exchanging authenticated messages will be implemented to ensure that these credentials are bound to a specific object and cannot be exported to other objects

Consortium - required partners



ICTURKEY
ISTANBUL 2016

No	Partner Name	Type	Country	Role in the Project
01		RTD		Any role related to securing IoT systems.
02		SME		
03		IND		
04				
05				
06				
07				
08				



ICTURKEY
ISTANBUL 2016

Mohammad Hammoudeh

Manchester Metropolitan University

School of Mathematics, Computing & Digital Technology

United Kingdom

+44 161 247 2845

M.Hammoudeh@mmu.ac.uk

www.hammoudeh.net