MOBILE DEVICES LABORATORY
FREDERICK UNIVERSITY • CYPRUS

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Research Profile of the Mobile Devices Laboratory

The Mobile Devices Laboratory (MDL) focuses its activities on two dimensions: applied (industrial) research and scientific research. In the former, it focuses on working in collaboration with the industry on projects, for developing innovative native applications, as well as Web-based and Mobile Computing Systems. MDL is co-sponsored by Microsoft Cyprus and Frederick University, and it is also supported by Cyprus Telecommunications Authority (CYTA). The lab has formed collaborations and obtained sponsorships from several industrial companies. In the latter dimension, MDL focuses on scientific research on Web and Mobile Computing and Data Management systems that exploit Cloud technologies. The emphasis is on Smart, Mobile and Natural Interaction Devices, including system on chip, sensors and actuators, for the development of smart and cloud-enabled applications.

Participation in EU and National Research Projects

The MDL **personnel** are actively involved in the 6th, 7th Framework, Erasmus+ and Erasmus Mundus EU funded projects. MDL currently employs 5 personnel, including 4 lecturers and 1 lab research assistant. The Laboratory also employs in industrial and research projects 2 post-graduates and 2 undergraduates. The Laboratory has access to extensive hardware and software facilities that include 40+ smartphone devices and tablets, 10+ microprocessors, cloud, middleware and GRID platforms, multimedia and teleconferencing environments.

Participation in EU H2020 Funding Programmes

The MDL Laboratory is strongly interested in participating in proposals in the following topics of the **H2020 Work Programme 2016-2017**.

- ICT-01-2016: Smart Cyber-Physical Systems
- ICT-03-2016: SSI - Smart System Integration
- ICT-04-2017: Smart Anything Everywhere Initiative
- ICT-06-2016: Cloud Computing
- ICT-10-2016: Software Technologies
- ICT-11-2017: Collective Awareness Platforms for Sustainability and Social Innovation

Industrial Competitions and Initiatives

The MDL Laboratory secured various industrial grants and sponsorships, such as the Microsoft Open Government Data Initiative Grant. In the past years, the MDL boasts several distinctions:

- **Microsoft Open Government Data Grant.**
  - Development of the first Open Data Cloud Infrastructure in Cyprus.
- **World Finalist** of the Microsoft Imagine Cup Competition, Seattle, USA 2015.
  - Smart Ecological Cultivation System.
- **Winner** of Microsoft Imagine Cup competition (category World Citizenship), Cyprus, 2015.
  - Smart Ecological Cultivation System.
- **Winner** of the Microsoft Hackathon Competition, Cyprus, 2015.
  - Smart and Cloud-based Crowd Control.
- **Winner** of the online competition Best migration from Windows Phone to Windows 8 applications, 2013.
  - 3D Racing Game
- **Winner** of the Cyprus Hackathon Competition, Cyprus, 2012.
  - Augmented Reality Educational Point of Interest.

Participation in other EU Funding Programmes

The MDL Laboratory is strongly interested in participating in proposals in the following topics of the **Erasmus+ 2016**.

- Key action 1 – Mobility of individuals.
- Key action 2 – Cooperation for innovation and the exchange of good practices.

The MDL Laboratory is also strongly interested in participating in proposals in the **Eurostars-2 Programme 2016**.

EU AND NATIONAL RESEARCH PROJECTS IN WHICH MDL PERSONNEL WAS INVOLVED.

GrowMeUp EU H2020 aims to answer the demographic change challenge, by providing an affordable service robotic system able to learn the older persons needs and habits over time and enhance its functionality to compensate for the elder's degradation of abilities, to support, encourage and engage them to stay active, independent and socially involved, in their daily life at home.

JudEx+ EU JUST/2014 aims to support a positive judicial experience for children victims of sexual violence by improving the skills of professionals involved in representing children in judicial proceedings through trainings which consider children's rights, their developmental needs and social background in countries the Lanzarote Convention has been recently ratified.

SCICHALLENGE EU H2020 focuses on developing novel concepts to actively integrate young people in science education using a contest-based approach to self-produced digital education materials from young people for young people.

PaaSage EU FP7 project aims at creating a platform and a methodology for helping software engineers creating new applications and migrating old applications that can run on multiple Cloud platforms.

Prosperity4all EU FP7 focuses on developing the infrastructure to allow a new ecosystem to grow and create a robust cross-platform spectrum of mainstream and assistive technology based access solutions required.

Miraculous: Miraculous-Life for Elderly Independent Living EU FP7 aims to design, develop and evaluate an innovative user-centric technological solution, the Virtual Support Partner (VSP), attending to the elder (65+) daily activity and safety needs, while the elder goes about his normal daily life.

COIN IP EU FP7 aims to research, develop and prototype an open service platform comprised of enterprise **CO**llaboration and enterprise **IN**teroperability services.

INTACT EU Erasmus Mundus is a scholarship programme for students and researchers/professionals on Bachelor, Masters, Doctoral, Post-Doctoral as well as Academic and Administrative Staff members from Regional Asia to European Union and vice versa. The main areas of interest are STEM. In total, there are over 170 scholarships/fellowships available.

LEADERS EU Erasmus Mundus is a scholarship programme for students and researchers professionals on Undergraduate, Masters, Doctoral, Post-Doctoral as well as Academic and Administrative Staff members from South-East Asia to European Union and vice versa. It is offering mobility opportunities of high quality students, emerging, early stage and established researchers and administrators.

Strong-Ties EU Erasmus Mundus is a programme for Strengthening Training and Research trough Networking and Globalisation of Teaching in Engineering Studies in mobility of high quality students, emerging, early stage and established researchers and administrators into Europe from the East-Asia region.

VALS Erasmus LLP will define sustainable processes to build knowledge partnerships between Higher Education (HE) and companies to collaborate on resolving real business problems through open innovation mediated by the use of OSS.

The Connected Vitality Personal Telepresence Network (CVN) AAL aims to provide a video based communications network to link groups of senior citizens through activities of shared interest.

MUSIC EU FP6 develops open-source software to facilitate self-adapting applications in highly dynamic user and execution contexts.

FireWatch (G.I.S.-assisted Wireless Sensor Networks for Forest Fires - National Framework Programme for RTDI 2009-2010) aims to design and develop a ubiquitous fire detection and prediction system, coined FireWatch, based on technologies in WSNs, GIS, Terrain Analysis & Digital Terrain Modelling and Collaboration Systems.