UMOBILE

An overview of the project

Universal, mobile-centric and opportunistic communications architecture

The R&D activities of the European Research Projects have been recently focused on the creation of **new alternative communication systems** to be provided even **when standard networks are either out of service or overloaded**, for instance in an emergency situation due to a catastrophic event.

The "UMOBILE" project, supported by the Research and Innovation Action (RIA) of **Horizon 2020**, aims at developing an **alternative wireless technology** where services and contents are made available to users, regardless the status of network infrastructure.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 645124

UMOBILE focused on service-continuity oriented models, overcoming the "host-centric" architecture, **to assist users in getting access to the contents and share information directly with other peers without relying on infrastructure or expensive connectivity services**.

To achieve this, the Project Partners developed a universal mobile-centric and opportunistic communications architecture (UMOBILE), which integrates the principles of **Delay Tolerant Networking (DTN)** and **Information Centric Networking (ICN)** in a common framework.

THE "FINAL DEMO"

The UMOBILE outcomes may be successfully applied during emergencies and, more in general, **in Civil Protection use cases**.

During the Final Demo, it was shown how low or unsufficient connectivity may be overcome, thus allowing users to communicate and have access to services and contents.

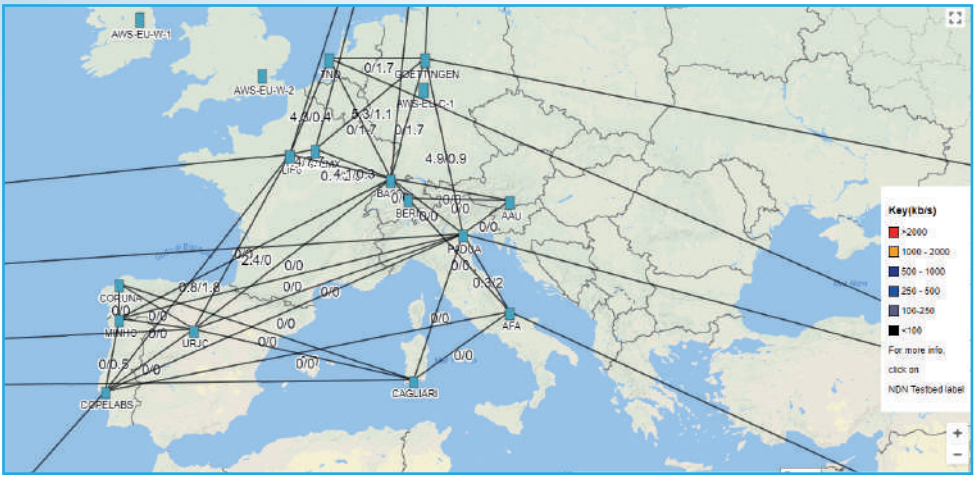
Some of the users acted in the Final Demo as **information 'carriers',** though this function is more effectively exploited by **UAVs**, as demonstrated in the Portugal Demo.

UMOBILE APPS

Oi!: it allows users to communicate and exchange messages based on their social inter-action level, regardless the status of either internet access or wireless infrastructure.

PerSense Mobile Light: it allows researchers to collect wireless roaming data, without interruptions and in a user-friendly way.

UMOBILE LAB



One of the outcomes of UMOBILE, is the "UMOBILE Lab", **a test-bed including all the UMOBILE components** which, **thanks to its Internet access, is available for new configurations and tests**.

The Lab **is connected to the Worldwide NDN Test Bed**, being one of the two Italian nodes.

At the conclusion of the UMOBILE project, the Lab **will be open to the R&D Community**.

Now@: a tool to share "opportunistic" data, by means of NDN (Named-data Networking) environment, based on users' interests.

KEBAPP: an emergency framework to locally share applications and data, without applying to a centralized service.

ATHENA

Athena promotes innovative information, communication, environmental and knowledge technologies in the all scientific and engineering sectors

UCL

The University College London has a leading role in the area of communications research; the department's activities span areas across all the layers of the communication protocol stack

UNIVERSITY OF CAMBRIDGE

The University of Cambridge undertakes teaching and research into topics including computer architecture, operating systems design, network monitoring and protocol design

copelabs | universidade lusófona

COPELABS is a research unit of University Lusófona, Lisboa, Portugal, focused on the interdisciplinary study of cognitive functioning, social interaction and behaviour inference

tecnalia Inspiring Business

TECNALIA is the first leading private and independent research and technology organization in Spain and the 5th largest in Europe

TEKEVER

TEKEVER Autonomous Systems (TEK-AS), an OEM UxV Platforms manufacturer and UAV and UGV system providers with experience for the security, aerospace, civilian and commercial market

Senception
Sense. Capture. Infer.

SENCEPTION, a micro-company developing a personal cloud platform for contextualization and inference of roaming habits via wireless networks

fon | fontech

Fon, the world's leading carrier WiFi provider. Pioneers of residential WiFi sharing, created a globally connected WiFi network and offering best-in-class WiFi products and services

AFA SYSTEMS

AFA Systems , an ICT company, based in Italy, specialized in network solutions and advanced IP communications, in terms of networking projects and systems integration, as well as production of integrated IP platforms

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