



ALMANAC

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Join our workshop on M2M technologies

ALMANAC is organising a full-day workshop on novel M2M technologies and their applications in co-operation with TDC Denmark and Telecom Italia. The workshop takes place on 30th September in Copenhagen.

The workshop will focus on how the telecommunication industry can embrace the opportunities from Machine to Machine (M2M) networks - matching the growing needs for Smart City solutions in terms of connectivity and platforms for cost effective development of applications.



The journey will take you from the discussion of core technologies and network technologies to business development issues, ending up with views from the users: The cities – what are the real needs?

See the programme and find more information on the [ALMANAC website](#) where you can also register. Participation is free of charge.

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ALMANAC knowledge used in the deployment of capillary networks in Italy

The capillary network technologies developed and tried in ALMANAC are being engineered and pre-deployed in four Italian cities during the next two years.

In co-operation with the Italian Utility for Water, Gas and Electricity (IREN), Telecom Italia and its affiliated company Olivetti will be deploying technologies for capillary networks involving 11,526 gas meters, 4600 water meters and a total of 22,135 sensors in Genova city, Parma city as well as in the Reggio Emilia and Scandiano areas.

The deployment is a pre-deployment, partially funded by the Italian Authority for Electricity, Gas and Water (AEEGSI) which aims at making 12 million gas meters in Italy (60 % of all meters) smart by 2018.

The capillary network technologies used in the pre-deployment are based on the same technologies as the ones used in ALMANAC prototypes: the 169 MHz frequency and WMBus protocol, and Telecom Italia is leveraging the knowledge and the prototypes developed during the Almanac project for the pre-deployment.

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Meet ALMANAC

Meet IoT 2015

1-2 October 2015, Turin, Italy
The focus of the event is on IoT technologies and their impact on daily life. ALMANAC partners ISMB are co-sponsors and ALMANAC will be exhibiting at the conference.

Workshop on novel M2M technologies and their applications

30 September 2015, Copenhagen, Denmark

The workshop, organised by ALMANAC in co-operation with Telecom Italia and TDC will focus on how the telecommunication industry can embrace the opportunities from M2M (Machine to Machine) networks, matching the growing needs for smart city solutions in terms of connectivity and platforms for cost effective development of applications.

Deliverables released

The following deliverables have been completed:

- D3.1.2 System Architecture Analysis & Design Specification 2 (public)
- D5.1.2 Design of the abstraction framework and models 2 (public)
- D7.3.1 Cloud based APIs for Smart City applications - Developers Guide 1 (public)
- D8.6 Application Definition - Citizen-centric Application (public)

Paper presented at the FiCloud conference

The federated Smart City Platform developed within the context of ALMANAC was presented by Dario Bonino from ISMB.

ALMANAC is among the few currently available approaches to smart cities where federations between different public administrations and private companies are explicitly tackled as core features, involving trust, security and data sharing.

Based on service exchange agreements, covering legal and political issues, the ALMANAC framework enables multiple Programming Interfaces to participate in federations, offering services across entities, cities and nations.



Dario Bonino presented the architecture of federation together with other key features of the platform, including: A middleware supporting semantic interoperability of heterogeneous resources, devices, services and data management; and the integration of external applications, exploiting functions and services through cloud-based REST API's.

Read the [paper abstract on the ALMANAC website](#). It will be possible to access the paper from the IEEE Xplore library soon.

The FiCloud conference, held on 24th and 25th August in Rome, focuses on the Future Internet of Things and cloud with the aim to promote the state of the art in scientific and practical research of the IoT and cloud computing.

[Read more about the conference.](#)

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Hello – my name is Smarty and I am a smart bin

Demonstrations of the latest waste and water management solutions were shown at the IoT Week 2015.

In the waste scenario, the ALMANAC Smart City Platform integrates sensor data on fill levels from waste containers and notifies the driver if thresholds are reached, offering an update of the collection route to solve the issue.

Issues, such as abandoned garbage, reported by citizens on their smartphones will also notify the system and link the issue to existing collection routes.

Public deliverables can be downloaded from the project website after they have been reviewed and approved by the EC:

www.almanac-project.eu

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Read more at:
www.almanac-project.eu



In the water scenario, the user applications for smart metering were showcased, demonstrating how meters report and show consumption data to utilities and consumers.

"Consumers are more empowered and can now monitor their water consumption live on their smartphones, thereby realising how much water they actually use when doing the dishes, having a bath or watering the garden," says Thomas Gilbert, Software/ICT Engineer at the Alexandra Institute.

The capability of the ALMANAC system to quickly detect water leakage was also demonstrated by the platform, delivering push notifications whenever water was consumed continuously over a selected period.

"The strength of ALMANAC lies in detecting water leaks, especially in people's own homes, thereby preventing water damage and subsequent high bills. Another advantage is that the ALMANAC algorithm for detecting leaks makes it possible to reduce the cost of smart meters considerably, since the meters do not have to have a built-in leak monitoring," explains Thomas Gilbert.



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What would make your city smart?

Residents from the housing initiative SHARING in Turin help shape Smart City applications.

One of the aims in ALMANAC is to engage citizens in the development of Smart City solutions based on access to the open data and the other applications (waste and water) in ALMANAC.

To collect initial needs and ideas about the design of such solutions, a first co-design workshop was

organised in April for residents from the social housing project SHARING in Turin, which offers temporary, energy efficient rental apartments at a low cost and with a low environmental impact.



Several suggestions surfaced as to what an application should ideally feature, including:

- Integrated waste collection support, notifying residents about what type of waste is collected when and which waste bins closest by are available here and now. The system also provides information about how to recycle.
- Integrated bike sharing management system, providing real time information about the availability of shared bikes; automatic reporting of problems with the bikes and integration with external city bike sharing services.
- Issue management system, reporting issues arising at building and city level and integrating other relevant data such as the weather forecast and social media.

An important point during the discussions was that even if notifications were useful, too many notifications would be counterproductive. A solution would be to filter the notifications and thereby customise the service to the user's own needs.

The next co-design workshops will focus on prototyping and then evaluating the developed applications.

You can read more about the results from the workshop and the applications in the deliverable *D8.6 Application Definition - Citizen-centric Application* which will be made available to the public once approved by the EC.

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