Smart AgriMatics Programme

Smart Greenhouse Management & Control on FIspace B2B platform

The FIspace platform
Sokratis Barmpounakis, University of Athens

What is FIspace? To whom is it addressed? How FIspace platform facilitates:
- Seamless cross-organizational Business-to-Business collaboration
- Unprecedented visibility and timely control of processes
- Rapid, easy, low-cost development and deployment of customized solutions
- Agile formation of business networks and ecosystems

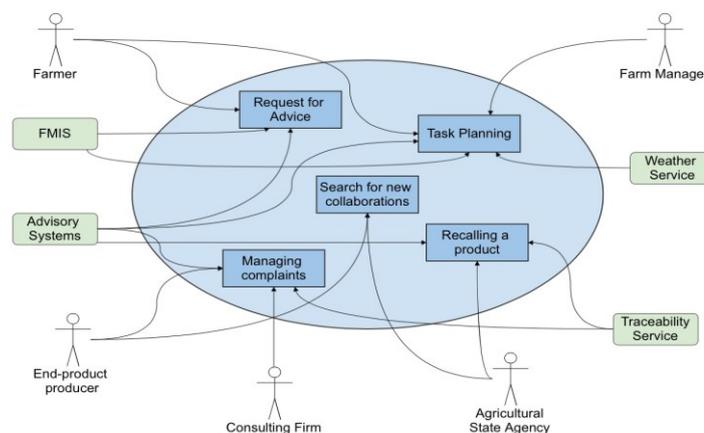### Greenhouse Management & Control Business Scenarios
Sokratis Barmpounakis, University of Athens

This session will focus on giving a brief description of the scope of the Greenhouse Management & Control trial by presenting the business value of the different scenarios, which are investigated in the context of the trial. The diverse stakeholders, legacy systems and Key Performance Indicators are going to be discussed for each one of the scenarios.

For each one of trial scenarios, several business stakeholders are participating, i.e.: farmers, greenhouse managers, advisory services enterprises, agronomists, end-product producers, Farm Management Information System (FMIS) owners, an agricultural state agency, a weather service, as well as a product traceability platform. What is going to be tested, is whether and to which extent, certain Business KPIs are improved.

Overall, via the use cases, which will be presented below, it is expected that:
- Farm managers/Farmers will be able to manage their Greenhouses in a more efficient way and handle their tasks more efficiently
- End-Product Producers will be able to discover potential partners in a much more efficient way and retrieve updated information about products
- Legacy/Back-end systems' owners will deploy their systems in several collaborations.
- Developers will be able to upload their Apps via the FIspace Store
- Diverse business actors who will be involved in the different scenarios like Consulting Firms, State Agencies etc. will also gain profit from participating in such collaborative processes

Greenhouse Management & Control app development
Aggelos Groumas, University of Athens

Based on the trial scenarios, an overview of the several FIspace apps that are developed in the context of the Greenhouse trial will be presented. Greenhouse Advice app, Task Planning app, Complaint Management app, Marketplace Operations app as well other additional smaller apps/widgets available on the FIspace App Store will be demonstrated and discussed upon their innovative features.

Remote assistance for smart greenhouses
George Alyfantis, PhD, Mobics Ltd CTO

Remote diagnosis of crop problems and assistance is currently a field of active research. The existence of smart greenhouses and the ubiquitous availability of capable mobile devices enables the proliferation of such application that can allow for prompt reaction and costs cuts. As part of the FIspace Greenhouse Management trial, Mobics is developing an end-to-end solution relying on Future Internet concepts. The talk will introduce the audience to the state-of-the-art in the area and will describe the applications

developed in the context of FIspace. A discussion about future directions and emerging topics will close the presentation.

Demo
Aggelos Groumas, University of Athens

A real-time demonstration of the Greenhouse trial implementations in FIspace will be given using Greenhouse sensors.

Challenges in the Internet of Things integration
Aggelos Groumas, University of Athens

Given the plethora of devices capable of providing information today, integrating all these heterogeneous information sources is an exigent task. Investigating the approach FIspace has taken as well providing an overview of the technical challenges imposed in integrating sensor information, will help elaborate alternative solutions that can be deployed, in order to enhance the integration process.

Discussion – workshop on potential new apps using the FIspace toolkit – The "FIspace-zation" of Agri-Food Business Processes
This session will include discussions on ideas with regard to potential new useful and small widgets/apps, which could be developed, in order to further demonstrate the value added by the platform with regard to the business processes of the trial.
The tools, which are provided by the FIspace platform, will be presented, and afterwards, a brainstorming session will follow, during which new ideas on innovative and smart apps will be discussed.

What would you like to see from your perspective in such a B2B collaboration platform?
People from the agri-food domain will be asked to express their thoughts and give their feedback, in relation to the FIspace's current features and what kind of additional features they would like to see in such a cloud-based B2B platform.

Description of the involved parties

SCAN group - University of Athens
The National and Kapodistrian University of Athens (NKUA) team is leading the Greenhouse Management & Control trial of FIspace. In particular, the Software-Centric & Autonomic Networking (SCAN) group of NKUA (http://scan.di.uoa.gr) is a pioneering lab in the Dept. Informatics and Telecommunications of N.K. Univ. of Athens. SCAN members have wide expertise in technical and project management, system design, autonomic and cognitive networks, network management, service provision and mobile applications. SCAN has been involved in numerous international, mainly EU, and national projects. In FIspace, NKUA contributes to development based on its expertise w.r.t mobile/ wireless technologies.

Mobics Ltd
Mobics is an SME based in Athens, Greece, which was established in 2006 as a spin-off company of the National and Kapodistrian University of Athens (Department of Informatics and Telecommunications). Mobics specializes in the design, development and provision of innovative applications and value added services for mobile, Web and pervasive environments, with an emphasis on geographic and contextual information. Being a spin-off company of the University of Athens, Mobics invests in knowledge and people to lay the foundations for successful long-lasting collaborations and offer innovative solutions on the cutting edge of technology. The Mobics R&D team is led by internationally well known researchers with a long record of research contributions in the areas of mobile and pervasive networking services and applications, and participation in many international, national and regional R&D projects.

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