



# Smarter Public Safety Laboratory

## Intention

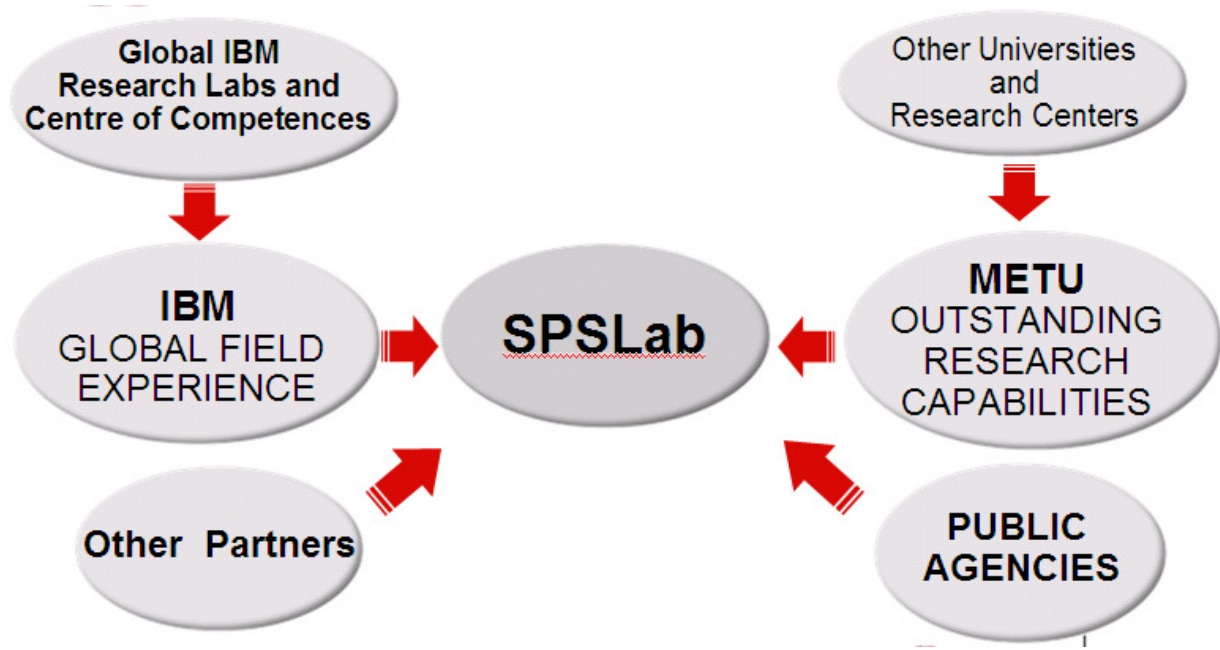
Due to our expertise, knowledge and research capabilities, we as "**Smarter Public Safety Lab**" would be very interested in collaborating researches within the European CIP-ICT-PSP 2011 call for Proposals, *Theme 5.1: "Open Innovation for future Internet-enabled Services in "smart" Cities"*

## Overview of Smarter Public Safety Lab (SPSLab):

The agreement for the "**Smarter Public Safety Lab**" was established by IBM and Middle East Technical University (METU) on the 9th of December 2010.

"**Smarter Public Safety Laboratory (SPSLab)**" is a composition of Middle East Technical University (METU) Computer Engineering Department and IBM with researchers and professors who have high experience in R&D. The Lab is based in the University campus and is aiming to improve "Public Safety" by developing prototypes and solutions for smarter systems involving public safety such as environmental problems, fighting against crime, safe driveways and instant response to emergency situations. "**Smarter Public Safety Lab**" is included in the **Global Network of IBM Labs** all over the world; moreover it is connected with other universities abroad, thus lead a comprehensive approach.

## The Social Network of Smarter Public Safety Lab



### Mission

“Smarter Public Safety Laboratory” (SPSL) has the mission to join the competences of Middle East Technical University (METU) and IBM to develop studies and projects within the scope of Smarter Public Safety. In particular the “Smarter Public Safety Laboratory” (SPSL) is studying how to apply new technologies, solutions and methods to improve “Public Safety”.

### Scope and Objectives

Project scope concerns various domains of Public Safety such as:

- identification and image extraction from security images using image processing, semantic information and data mining methods,
- fusion and multi-relational analysis of different types of data from different sources,
- coordination of different resources (ambulance, fire department, highway etc),
- smarter border checkpoint system by means of image processing, semantic information and data mining methods,
- getting valuable and meaningful information converted from unstructured data to structural data and easy to generate Indications and Warning (I&W),

## **Target Outcomes and Benefits**

The Lab purpose is to bring the outcomes of research activities of METU (*Computer Engineering Department*) and IBM to the field, testing their practical feasibility and their scalability. It is a place where research and service delivery will merge to create **"innovation that matters"**.

Producing safer system with intelligent processing capabilities is the core idea of this "Smarter Public Safety Lab". Solutions created by the Lab will provide competitive advantage to end users (example: security agencies, intelligence organizations, armed forces, highway authorities, municipalities, security systems industries, ministry of interior) on several areas in Turkey and also abroad.

Main benefits would be;

- Enhanced image recognition,
- Automatic tracking of image in video stream,
- Semantic modeling from video streaming,
- Advanced mining behavior patterns,
- Integration with context information,
- Efficient and accurate querying on image,
- Efficient and accurate querying in behavior patterns,
- Complex hybrid queries (against both image and semantic info),
- Comprehensive Business Process that is to be implemented,
- Originate an editor for the sources and the rules for the warnings to be triggered,
- Implementation of a pipe that extracts events from unstructured information,
- Formation of event generation and notification mechanism,
- Forming dashboards and indicators in the user interface,

Other Social benefits would be;

- Promote the deployment of leading edge research outcome and testing their practical feasibility and their scalability,
- Development of prototypes and proof of concept for smarter system to fight against the crime and instant response to emergency situation,
- Promote educational activities and improvement on academic arena,
- Support the thesis and dissertation on the SPS issues and offering some seats for student internships,
- Safer public environments attract people to live there, business to invest there so people's quality life goes up and also the economic development circumstances improve,

### **Activities in Smarter Public Safety Lab (SPSLab)**

The Lab is currently working on two selected re-search areas;

- 1) *Early warning triggers based on unstructured information*
- 2) *Smart progressing and analysis for images and video streaming*

**Objectives of** Early warning triggers based on unstructured information;

- Managing mass amount of diverse information and transform them into actionable intelligence,
- Refining mass amount of data and making accurate predictions and warnings,

**Objectives of** Smart progressing and analysis for images and video streaming

- Development of new, accurate and efficient intelligent techniques and algorithms for automated processing of image and video streams,
- Enhanced image recognition,
- Automatic tracking of image in video stream,

For further information, please do not hesitate to communicate with us.

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