

# MOBIO

## Mobile Biometry

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### D7.4: Second report on dissemination activities

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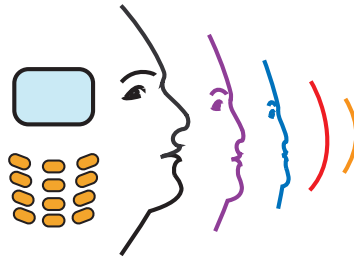
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## D7.4: Second report on dissemination activities

### **Abstract:**

This report addresses MOBIO dissemination activities from Month 15 (March 2009) till Month 26 (February 2010). It covers scientific publications, dissemination to general public, evaluations, Web pages, Community of Interest (CoI), trade fairs and projects related to MOBIO.



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# 1 Scientific Dissemination

## 1.1 Scientific publications

The research results related to the project were presented at international conferences and in journals. In total, 23 conference papers and 3 journal papers were supported by MOBIO in the reporting period. Several journal papers are under review and several were already accepted to events held in 2010. One PhD thesis and one public technical report are also linked to MOBIO. Several publications (both presented and accepted for 2010) are related to invited talks. A consolidated list of publications is maintained at MOBIO publication web-site<sup>1</sup>. Section “References” contains full list of publications in this reporting period

UNIS paper on semi-supervised learning problem in bimodal authentication, received an award at ICB2009.

BUT paper ”Brno University of Technology System for Interspeech 2009 Emotion Challenge” won ”Best special session’s paper prize” at the INTERSPEECH 2009 Emotion Challenge session in Brighton, UK.

## 1.2 Scientific workshops

In September 2009, Matti Pietikainen (UOULU) co-organized an International Workshop on Machine Learning for Vision-based Motion Analysis (MLVMA’09) in conjunction with IEEE International Conference on Computer Vision 2009 (ICCV’09)

BUT was selected to host two important events for the speaker recognition community: NIST 2010 SRE evaluation workshop<sup>2</sup>, and Odyssey2010<sup>3</sup>.

## 1.3 Invited talks

- July 2009: Abdenour Hadid (UOULU) gave a series of lectures and seminars in Japan: University of Tokyo, Tokyo Institute of Technology, and Nissan Research Center.
- September 2009: Abdenour Hadid (UOULU) presented a tutorial on Image and Video Analysis Using Local Binary Patterns at the Asian Conference on Computer Vision (ACCV 2009) in Xi’an, China.
- September 2009, Matti Pietikainen (UOULU) presented a tutorial on Local Texture Descriptors in Computer Vision at the International Conference on Computer Vision (ICCV 2009), Kyoto, Japan.
- July 2009: Honza Cernocky (BUT) had speaker verification talk at University of Crete (ICS Forth Institute), Grece.

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<sup>1</sup><http://publications.mobioproject.org/>

<sup>2</sup><http://www.itl.nist.gov/iad/mig/tests/sre/2010>

<sup>3</sup><http://www.speakerodyssey.com/>

- Guillaume Heusch, Chris Mc Cool and Sebastien Marcel talked at the IAPR/IEEE International Conference on Biometrics (ICB 2009).
- Sebastien Marcel was invited to give a presentation on MOBIO at the 1st ACTIBIO Workshop held during INFOSECURITY in London on April 28 2009.
- July 2009: Norman Poh (UNIS) gave a lecture entitled “Embedding quality measurements in multiple classifier fusion” held in Alghero, Italy.
- September 2009: Josef Kittler (UNIS) gave a talk at University of Nanjing, Wushi Polytechnical University, and Chinese Academy of Science.
- In October 2009, Josef Kittler gave a talk at Biometrics2009 exhibition and conference.
- December 2009: Josef Kittler (UNIS) gave a talk at Bristol Vision Institute Symposium.
- Matti Pietikainen (UOULU) visited the Czech Technical University in Prague on December 2-3. He acted as a member of M.Sc. Jan Sochman’s Dissertation Thesis Committee. Prof. Pietikainen also gave an invited talk ”Motion and Activity Analysis with Spatio-temporal Local Binary Patterns” in conjunction with the Autumn 2009 Pattern Recognition and Computer Vision Colloquium.
- Matti Pietikainen (UOULU) also gave a talk in a seminar arranged by the Pattern Recognition Society of Finland in Tallinn, Estonia, on December 4.

## 2 Dissemination to general public

We have also presented MOBIO results to non-scientific community in different forms:

### 2.1 Newspapers, magazines

Timo Ahonen’s dissertation received attention in 2 Finnish newspapers: Kaleva, and Helsingin Sanomat.

### 2.2 Seminars, Management meetings, Divers

Sebastien Marcel presented MOBIO at the International advisory board of IDIAP (with management members from IBM, MS, University of Berkeley, etc.).

Phil Tresadern from UMAN, gave a presentation of the MOBIO project and its ethical implications to a focus group on System Interoperability at Kings College, London, in December.



Also, Phil Tresadern from UMAN has enrolled as a UK STEM (Science, Technology, Engineering and Maths) Ambassador which will involve outreach work in local schools where he will present and discuss the MOBIO project with younger audiences aged 11-18.

## 3 Evaluations

### 3.1 MOBIO Internal evaluations

MOBIO Internal evaluations in 2009 were running on BANCA database (see deliverable D7.1). With the availability of Phase 1 MOBIO data, the evaluation protocols and data-sets were defined and results produced already on MOBIO data.

### 3.2 MOBIO ICPR Evaluation

We are organizing **MOBIO Face and Speaker Verification Evaluation** for the next International Conference on Pattern Recognition (ICPR) to be held in 2010 at Istanbul on August 23. Phase1 of MOBIO database was distributed to the participants, the sites are required to provide their results on a development set before receiving evaluation data. This contest focuses on evaluating the performance of uni-modal face and speaker verification techniques in the context of a mobile environment, thus offering challenging recording conditions (adverse illumination, noisy background). See ICPR MOBIO competition web page<sup>4</sup> for details.

### 3.3 Participation in other evaluations

MOBIO groups and researchers also organized and participated in the following evaluations:

- ICB2009 face verification competition<sup>5</sup>: UNIS has coordinated the first known effort in assessing video-to-video face matching under unconstrained environment (with mobile devices). The result of the competition was presented in the International Conference on Biometrics 2009, in Sardinia. Six academic institutes have participated, including IDIAP (which contributed to a significant number of system submissions). The paper on a face video competition organized in ICB2009 was extended and submitted to IEEE IFS for review (the paper title is "An Evaluation of Video-to-video Face Verification").
- NIST language recognition evaluations<sup>6</sup>: BUT participated and LIA produced results on evaluation data. This evaluation is out of scope of MOBIO, but many techniques were ported from SRE to LRE (such as Joint Factor Analysis).

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<sup>4</sup><http://www.mobioproject.org/icpr-2010>

<sup>5</sup><http://face.ee.surrey.ac.uk/>

<sup>6</sup><http://www.itl.nist.gov/iad/mig//tests/lre/2009/>

- Interspeech 2009 Emotion Detection Challenge <sup>7</sup>: Although having no previous track in emotions, BUT won a prize in 2-class detection. Emotion detection is also out of scope of MOBIO, but techniques ported from SRE (JFA) were found very useful also in this domain.
- UNIS participated in MBGC (Multiple Biometric Grand Challenge). Their system was placed second in the controlled evaluation and third in the uncontrolled evaluation. Both evaluation schemes involved comparing a still image with a video of a person walking towards the camera (the portal scenario).

## 4 Web pages

The web pages of the project<sup>8</sup> maintained by IDIAP are fully operational. The private section serves for exchange of documents and is completed by wiki pages. The server also features bibliography system to maintain information on papers supported by MOBIO.

An important section covers the ICPR MOBIO evaluation.

## 5 Dissemination to the industry

### 5.1 Professional events

IdeArk was present at the following events:

- **ITU World Telecom – Geneva**: This flashy event which came back to Geneva after a few editions abroad was a slight disappointment. Major European operators did not even have a stand, and mobile companies from Middle East, China or Japan were present to show their splendor only. Nevertheless some contacts were made with little companies interested in the MOBIO technologies. The use of a demo of face authentication working on a N95 happened to be very useful to interest potential partners.
- **Biometrics2009 – London**: This is THE event to attend if you're in the biometry domain. Actually, MOBIO will most likely tie with Biometrics2010 to organize its CoI workshop. Brilliant presentations and a rather small but of quality exhibition area were the ingredients of a top class event. People met in London were quite knowledgeable about the speech and face authentication methods. Few were a bit skeptical about having all this work on a regular mobile phone.
- **ACTIBIO workshop and Infosecurity Europe 2009** Stephane Rey of IdeArk and Sebastien Marcel of IDIAP attended on April 28-29 2009 a workshop of another FP7 project (ACTIBIO) which took place at the Infosecurity Europe 2009 exhibition.

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<sup>7</sup><http://www.interspeech2009.org/conference/programme/session.php?id=6810>

<sup>8</sup><http://www.mobioproject.org/>

The invitation from ACTIBIO (a member of the MOBIO Community of Interest) was aligned with the collaborative mood of European project. Sebastien Marcel got the opportunity to present the MOBIO project in details, and to discuss and collect useful feedback.

The visit of Infosecurity Europe 2009 gave some good insights of the future trends in the security domain, even if the exhibitors were more in a unidirectional selling mode of communication. Potential members of the CoI were approached.

- **SmartEvent '09** Taking place annually in September in the Sophia Antipolis technology park, Smart Event offers a forum of knowledge-sharing, learning, and networking in the fields of e-ID, e-Mobility and Smart Security.

Smart Event encompasses 3 international tech conferences covering complementary areas:

- e-Smart: The future of digital security technologies, smart cards & digital security,
- Smart mobility: The building of trusted mobile platforms, applications & services
- World e-ID: The next generation of e-ID management technologies, services & e-Government Applications.

Subjects of interest to MOBIO were thought to be found mainly in the theme "building trusted mobiles services", but the focus of all participants appeared to be the security between the device and the application or the service provider or the clearing house. It was a common shocking agreement that the mobile, more precisely the SIM card, is the token. Although this paradigm is understandable for micro-payment or less crucial applications, this issue of authentication between the mobile and the user was pushed to many participants. Some stated understandably that it was not their area of focus, but some acknowledged the problem and recognized that MOBIO could bring a clear solution.

IdeArk harvested 10-12 industrial leads out of this conference, of which 5 appear serious in terms of CoI participation or technology interest.

- **GSMA Mobile World Congress** The annual gathering of everybody who has to do anything in connection with mobile phones took place in Barcelona on March 15-18, 2010. Too big to really offer good meeting opportunities for small actors, MWC innovated by offering through the Europe-Enterprise-Network a tool for speed dating (for business). More than 1000 profiles were entered in the database, which then allowed easy searching and meeting querying. The meetings turned out to be really focused and fruitful.

IdeArk gathered 7 serious leads for not only participating in the CoI, but strongly interested in developing a use case for MOBIO.

## 5.2 Community of Interest (CoI)

The CoI<sup>9</sup> is the key channel for communication of MOBIO with industrial partners. In 2009, the CoI was launched by IdeArk with the help of personal contacts of project members. Around 135 direct and indirect contacts were asked for CoI participation till end Feb '10.

IdeArk observed 2 issues to overcome before getting an agreement from a lead to join the CoI:

- fear of workload people are flooded with newsletters and other communication
- personal interest vs. company's commitment in larger companies, people often don't want/can't represent their company

In order to make the CoI less formal, a LinkedIn group<sup>10</sup> was created to allow easier and less intrusive communications. Indeed, with LinkedIn, members can manage themselves how and how often they can be reached. Also, with the LinkedIn platform, people sign in under their personal name, and not to represent their company. Clearly the fact of having demos to show will attract more companies in the community.

CoI members are the following (mainly industrial) partners:

- ACTIBIO (EU FP7 project)
- atracsys (Switzerland)
- BioID (Germany)
- BIOMETRY.com AG (Switzerland)
- Cnoté (Switzerland)
- Daon (USA)
- GREYC (France)
- Extol (Malaysia)
- Isra University, (Jordan) - academic CoI partner
- KeyLemon (Switzerland)
- kooaba (Switzerland)
- Mi-Pay (UK)
- mill'event (France)

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<sup>9</sup><http://www.mobioproject.org/community-of-interest/>

<sup>10</sup>[http://www.linkedin.com/groups?gid=2525906&trk=hb\\_side\\_g](http://www.linkedin.com/groups?gid=2525906&trk=hb_side_g)

- ReallaeR (USA)
- Retia (Czech Republic)
- RISEPTIS (Ireland) - EU FP7 project
- SeMarket (Spain)
- United Kingdom Biometrics Institute (University of Kent, UK)
- University of Calcutta (Mobile Adhoc Networks) - academic CoI partner
- ValidSoft (Ireland)

with several other expressions of interest that are being processed.

Visidon, former CoI member, became full member of MOBIO consortium in 2009 taking over eyeP Media in integration efforts.

### **5.3 MOBIO newsletter**

As explained above, the newsletter was replaced by information placed on the LinkedIn group. This is less intrusive and allows people to specify the pace for receiving news.

### **5.4 Companies outside CoI**

In addition to CoI, MOBIO partners held consultations with several ventures and companies that are active in the sectors of biometry, mobile communication, speaker and face verification, and related areas, namely:

- Agnitio (Spain)
- Alsop Louie Partners (San Francisco, USA)
- Phonexia (spin-off of BUT, Czech Republic)
- Yahoo! JAPAN Research, Yahoo Japan Corporation
- Omniperception Ltd (UK)

### **5.5 Divers**

MOBIO was selected for a Bachelor work of a student in management from the HESSO-Valais (Switzerland). Goals will be to analyze the market, determine the opportunities and a possible positioning, and evaluate the strengths and weaknesses of the MOBIO solution.

Three movies to tease on a possible use case of MOBIO have been defined and will be shot in March 2010. They are meant to be self-explanatory and innovative so that a buzz could be created.

## 6 Related projects

There are several synergies between MOBIO and projects running at different levels (EU, national):

- BUT team participates in a large faculty-wide research project “Security-Oriented Research in Information Technology”<sup>11</sup> sponsored by Czech Ministry of Education under No. MSM0021630528, running from 2007-2013. BUT’s principal investigator Honza Cernocky, is heading work-group “Recognition and analysis of natural languages”, which includes also speaker verification and identification. The project mainly supports basic research in this area.
- BUT, together with two other Czech speech groups (University of West Bohemia in Plzen and Technical University of Liberec) is working on project “Overcoming the language barrier complicating investigation into financing terrorism and serious financial crimes” sponsored by Czech Ministry of Interior under No. VD20072010B16. The project runs from 2007-2010. While in 2007 and 2008, the main goal was data collection and keyword spotting, in 2009, the main target is speaker identification and verification to meet defense and security needs.
- UOULU team has a collaborative project “Joint Research in Face Analysis and Visual Surveillance” with Prof. Stan Z. Li, Institute of Automation, Chinese Academy of Sciences. The research of UOULU is funded by the European Regional Development Fund (ERDF), the Finnish Funding Agency for Technology and Innovation (Tekes), and four companies.
- UOULU team has research projects funded by Nokia in areas of image & video processing and computer vision.
- The MOBIO project also coincides with N. Poh’s (UNIS) personal research funding, awarded by the Swiss NSF advanced researcher fellowship grant PA0022\_121477, to carry out research on complex adaptive multiple classifier systems. The aim of this project is to design a multiple classifier system, e.g., the bimodal biometric system used in MOBIO, that is capable of adapting its parameters over time, in order to maintain the system performance.
- IDIAP was actively networking for possible collaborations with French clusters:
  - SYSTEM@TIC PARIS-REGION<sup>12</sup>
  - Secured Communications<sup>13</sup>

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<sup>11</sup><http://www.fit.vutbr.cz/research/vzamer/np>

<sup>12</sup><http://www.systematic-paris-region.org/en/index.html>

<sup>13</sup><http://www.pole-scs.org/index.en.htm>

- IDIAP has also established strong relationships with several companies in the CoI (Biometry AG, KeyLemon), with SAGEM Sécurité after the ICB 2009 event and with Starlab after the InfoSecurity event. A direct outcome is the building of a joint collaborative project with these companies.

## 7 Summary

This report addressed MOBIO dissemination activities from Month 15 of the project (February 2010) until Month 26 (February 2010). It covers scientific publications, dissemination to general public, evaluations, Web pages, Community of Interest (CoI), trade fairs and projects related to MOBIO.

It is obvious that MOBIO partners fully exploit their dissemination potential and that they demonstrate excellence in all sorts of dissemination activities, targeted both at scientific community and general public. CoI is an important dissemination channel towards the industry.

Towards the end of the project, MOBIO partners will continue in all above mentioned areas.

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- Stephane Rey (IdeArk)
- Sebastien Marcel (IDIAP)
- Abdenour Hadid (UOULU)

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