

# INFOSECURA

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High security and brand protection:  
spot the difference

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## The debate on **ethics in biometrics**

*The biometrics industry has shot to prominence relatively recently, with the attack on New York in September 11th, 2001 as the catalyst. But even before that, governments and industry had thought about developing biometric means of identification. While the technology advanced, the debate on the ethical implications of biometrics had hardly begun, until the EU launched the BITE Project.*

To close the gap between technical developments in biometrics and awareness of the ethical implications, the European Commission initiated the BITE Project, which aimed to prompt research and to launch a public debate on the ethics of biometric technology. The project ran from 2005 to 2007 and held a number of conferences and debates and produced reports that can be accessed under [www.biteproject.org](http://www.biteproject.org).

At the last Intergraf Security Printers' Conference, Professor Emilio Mordini, Director of the Centre for Science, Society and Citizenship in Rome, and coordinator of the BITE Project, gave a lecture on ethics and biometrics. He focused mainly on one aspect: identity.

Prof. Mordini argued that identity is a philosophical riddle, and when one speaks of personal identity and personal identification one is referring to an important social practice, which changes over time and across different cultures. His second argument was that identity results from the intersection between different sets to which one belongs, any society and culture defines those sets that it believes to be relevant. Personal identification systems are all based on the fiction that there is an ultimate set made up only by one individual and no other.

It is obvious that the state has an interest in the identity of its citizens. But until the modern era most people did not need to demonstrate their identities, except a few categories of mobile people such as pilgrims, beggars and messengers. In August 4, 1794, five years after the French Revolution, France enacted the first law in the west that fixed identity to birth certificate. Beginning with the French Revolution there has been both conceptually and historically an indivisible unity of citizenship and personal identification.

Today, there is no identity without a state, which legitimates it. Conversely, any identity can be cancelled and created by a state, as it is shown by the extreme cases of people in judicial witness protection programmes, transsexualism, and other legal identity changes.

In modern western states, identity is based on the birth certificate, an official document that proves the fact, the place and the date of birth and the parentage. These elements are vital to affirm that an individual is citizen of a given state. All other identity elements, which

have been important in other historical periods, or which are still important in other cultures (e.g., religion, ethnicity, race, cast, etc), become immaterial.

Prof. Mordini argued that in a globalized world, a personal identity scheme based on legal name, birth certificate and citizenship is less and less tenable, mainly because many ID documents are not up to the task.

But identification and verification matter today more than ever: The world is in increasing and constant transit. On any given day, about 8 million people are travelling by plane. The figure was 100,000 in 1983, and 3 million in 1999. 698 million people travel internationally (WTO 2000). The number of mostly involuntarily mobile people is also huge: there were 22 million refugees and uprooted people (UNHCR 2002), 10 to 15 million undocumented migrants (ILO 2000), 70 to 80 million migrant workers (ILO 2001) and 700,000 to 2m survivors of trafficking (U.S. State Dept. 2002). Many of these people forced to be mobile, will have unreliable ID documents or none at all. Documents may also be of bad quality, they may be fakes or have unreliable transliterations of different alphabets and many will lack the backing of a birth certificate. In 2000 UNICEF calculated that 50 million babies (41% of births worldwide) were not registered and thus without any identity document. Pakistan, Bangladesh, Nepal have not yet made mandatory child registration at birth.

### **Biometric identity**

Conventional identity checking at its most basic compares a person that is physically present with a document. When using the Internet for purposes, where identity is important, i.e. web banking, online trading, remote management of confidential databases and access to personal information etc., the physical person is never present. The conventional means of identification (e.g. passwords, PIN) can be easily compromised, observed or forgotten. Biometrics seems to provide a solution in being able to validate a claimed identity and to search for an unknown identity. Biometric identities are based only on the body, without need of any token, as the body is the token. This is the deep revolution that biometrics is introducing in the history of human civilization. Is this revolution ensuring more "certain" identities? No, it is not, Prof. Mordini said. It is just a new phase in the history of identities.

The collection and storage of personal data raises huge ethical questions. The concerns are diverse in nature: persons who find it more difficult to prove their identity, such as immigrants, may be unjustly targeted under such a system, disabled people who are unable to undergo biometrics tests may become stigmatised, and personal medical information may be obtainable. On a practical level, privacy laws differ from country to country, which will have implications for the sharing of data and the interrelation of databanks. 'We need to protect weaker groups, which are expected to be the main targets of biometrics technology. Their identities are less defined and less easy to prove and they may not have papers. This cannot mean that their privacy is less protected,' said Professor Mordini.

In Nice Prof. Mordini closed his lecture by saying that in his opinion, the first real political and social crisis that large scale biometric applications are going to face concerns gender, race, age, and physical disabilities. If the biometric industry does not become rapidly aware of all cultural issues related to the body, this crisis will be dramatic.

### HIDE and TURBINE

The conclusion of the BITE Project does not mean that the discussion about ethics in biometrics is finished. The European Commission has initiated – and is financing – another project, also coordinated by Prof. Emilio Mordini of the Centre for Science, Society and Citizenship in Rome, called HIDE (another dreadful EU acronym which is supposed to mean Homeland Security, Biometric Identification & Personal Detection Ethics), which aims to establish a platform for monitoring the ethical and privacy implications of biometrics and personal detection technologies.

In its recent Green Paper on Detection Technologies, the EC argues that personal detection technologies and biometrics are "inherently intrusive" and "their use needs to be care-

fully analyzed, in order to establish limitations to their intrusiveness where necessary". HIDE aims to promote open conversation between technology, security, ethics and policy experts as well as encouraging public discussions and dialogue.

The first focus group meetings of HIDE have started in September and will continue until October, followed by a series of Policy Forum Meetings. Further information under [www.hide-project.org](http://www.hide-project.org).

Another more practical project involving biometrics and also promoted and financed by the EU is TURBINE (TrUsted Revocable Biometric IdeNtitiEs), a research project that aims to develop digital identity solutions for secure, automatic user identification by electronic fingerprint authentication and reliable protection of the biometrics data through advanced cryptography.

Research efforts will focus on transformation of a description of fingerprints, so that the result can only be re-generated by the person with the fingerprints. TURBINE will assure that the data used for the authentication, generated from the fingerprint, cannot be used to restore the original fingerprint sample, the individual will be able to create different "pseudo-identities" for different applications with the same fingerprint, whilst ensuring that these different identities (and hence the related personal data) cannot be linked to each other, and the individual is enabled to revoke an identity for a given application if it is no longer needed. The results are intended for applications such as eBanking, eGovernment, eHealth, physical access control and mobile telecommunications.

TURBINE will be run by a consortium including Sagem Sécurité, Philips Research Europe, Sagem Orga, as well as academic research groups from Katholieke Universiteit Leuven in Belgium and Gjøvik University College in Norway. The project started in February this year and will run until 2011. Further information under [www.turbine-project.org](http://www.turbine-project.org).

### German **electronic ID card** to be issued in 2010

*Germany will not be the first country to introduce electronic ID cards that fulfil a state-mandated public function and a private one. Estonia got there well before, but their use in a large country may stiffen the back of some British politicians, who are still fighting for such cards to be introduced in the UK.*

The German news magazine Der Spiegel wrote that the German government has decided to issue electronic ID cards as of November 2010. The card will be in format ID-1 and it will contain a chip on which personal data and a digital photograph are stored. The latter is to be read only by the police and border authorities. In contrast to the electronic passports in use

in the EU and in much of the developed world, recording a fingerprint on the ID card will remain voluntary. Plans by interior minister Wolfgang Schäuble, to make storing a fingerprint on the card mandatory, were rejected by the SPD, the social democrat party, which is the junior partner in the governing coalition in Germany.