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Biometric Technologies: The View from Poland **By Agnieszka Bicz and Wieslaw Bicz**

As is the case in other east European countries, the scale of the development and use of biometric technologies in Poland is relatively limited. There are a few domestic firms--not much more than ten--that are selling and installing biometric devices. These firms mostly cater to larger companies, hospitals, factories, banks, or governmental offices, and the devices they sell are manufactured outside of Poland by large international companies.

However, one new biometric technology was developed in Poland: finger recognition with ultrasound. [Optel](#) has developed a holographic camera which visualizes fingers that has a device that collects acoustic waves scattered by the finger. This technology is considered by many specialists as most promising from the point of robustness, liveness recognition, and achievable resolution.

Poland adopted biometric passports in 2006. A biometric chip encodes the personal information obtained from a paper document as well as facial mapping information directly onto a page in the Polish passport. The introduction of the biometric passport is the only significant biometric action of the Polish government since the introduction in 2001 of the Automatic Fingerprint Identification System (AFIS) for law enforcement purposes. However, it is expected that when the European Union (EU) fully implements biometric border checks (expected to be operational by 2015), the government's next biometric action will be to install biometric devices on its borders with Russia, Belarus, and Ukraine, as well as at international airports and harbors. It can also be assumed that in response to new developments in biometric technologies and EU requirements, Polish government agencies, police, and other institutions will increasingly adopt biometric technologies for a variety of purposes.

There are two scientific institutions in Poland that play a significant role in the development of biometric technologies:

- The Department of Identification Systems and Laser Devices of [The Institute of Mathematical Machines \(IMM\)](#) in Warsaw not only works on biometrics, but also

develops access control devices based on finger recognition modules (from Sony), organizes scientific conferences, and publishes papers and books about biometrics.

- [NASK Biometric Laboratories](#) was established with the cooperation of the [Institute of Control and Computation Engineering](#) at the Warsaw University of Technology. NASK investigates novel biometric identification techniques, develops biometric systems, and integrates them with existing security setups.

Many other universities or scientific institutes have some people who are working on biometric projects or are interested in activities in this area. Some colleges have included courses or lectures about biometrics in their curricula. The scientists working on biometrics in Poland are trying to develop novel biometric recognition methods or to improve existing ones. However, due to the lack of financing and absence of domestic companies with a strong commercial background in biometrics, these activities have only a small chance of bringing significant results. Nonetheless, these institutions have published several articles about their work in international scientific journals. In addition, one book about biometrics has been published in Poland *Wybrane zagadnienia biometrii*, by Krzysztof Ślot, and another book originally written in English was translated into Polish, *Biometria*--originally *Guide to Biometrics*--by Ruud M. Bolle, Jonathan H. Connel, Sarath Pankanti, Nalini K. Ratha, and Andrew W. Senior. Finally, a few conference proceedings and collections of smaller papers about biometrics were published by the IMM and other institutions. Whether the public is interested in biometrics is difficult to gauge since there has so far been no public discussion about the social or ethical aspects of biometric technologies.