

## QUESTIONS FOR THE RECORD

### THE HONORABLE LARRY BUCSHON (R-IN)

U.S. House Committee on Science, Space, and Technology

#### *The Current and Future Applications of Biometric Technologies*

Tuesday, May 21, 2013

Responses by John Mears, IBIA Board Member, Tuesday, June 25, 2013

Q1. My understanding is that some of the insights that biometric technologies can provide only come to light as the field advances. That is, we do not know what we do not know. (a) Do you think that much of the potential promise of biometrics lie in areas of research that have yet to be explored? (b) As policy makers, how can we measure success of research investments against unknown potential benefits?

A1(a). At the IBIA, we believe that the potential promise of biometrics includes enhanced collective and individual security, along with personal convenience and collective facilitation of commerce. We believe that these benefits will be realized when more extensive deployments of existing biometrics (for instance, in mobile personal applications) are implemented. This is not to say that additional research isn't important – it is very important to IBIA and is very important to the future of our industry. However, we have observed that commercial and Government adoption of existing biometrics capability often lags the state of the art, which, ironically, slows the funding of less mature technology and fundamental research. This is certainly the case in industry, but also, we believe, in Government-sponsored endeavors. If the public good is more completely served by biometrics, then there will be a natural tendency to support more work in the area.

A1(b). In industry, we require a projected benefits statement (often in the form of a "business case"), as a part of the justification for any research. When the research is new or disruptive, it is often hard to formulate such a justification, although it is possible. In the case of the artificial nose (for scent biometrics), we researched the market for trained security dogs of various kinds as a proxy for the market potential for the eNOSE (electronic Nano-Olfactory Sensing Equipment). For rapid DNA identification, we looked at the FBI's National Crime Statistics to project the need for DNA identification testing at police booking stations. As the technology is developed and deployed, it is possible to measure unit acceptance of the associated biometrics devices and systems

against the original business case projections. We recognize that the Government may use a different calculus to make such decisions, but this is how we do it in our industry.

Q2. We are facing a very difficult budget environment right now. We have to responsibly prioritize our research and development investments. (a) As Congress looks to reauthorize our federal research agencies, should we increase prioritization of biometric technology initiatives, knowing that this will require decreases in other research areas? (b) Is the technology at the point that the private sector should and could be the primary source of innovation and research and development?

A2(a). It is difficult from a distance to state that biometrics research is more important than any other research opportunities. For instance, if a cure for pancreatic cancer could be had in the next year with research money that would have otherwise been allocated to biometrics, the IBIA membership would probably vote for the pancreatic cancer research. This being said, research on biometrics is important to our industry, and we are certainly well-practiced in making difficult decisions on research priorities. Conceptually, we create a spreadsheet of research opportunities with associated descriptions, potential benefits, and costs, and then we stack rank them by objective criteria (typically assessed benefits). Then we calculate cumulative project costs starting with the top project on down, until we reach the point where the cumulative costs of the projects equal the available budget. Then we “draw the line” and the projects above the line are funded, and the ones below are deferred. This process is best done by subject matter experts who can accurately normalize cost estimates and potential benefits of a given project vs. any others. Because we believe strongly in this process, we are willing to provide IBIA subject matter experts to Congress to advise on prioritization of (biometrics or other associated) research, should you require such help.

A2(b). The answer to this question generally splits along the lines of the intended uses of biometrics. Biometrics used for authentication (1:1 matching of subject to biometric) will gain more and more traction in mobile devices and consumer/commercial applications (including physical and logical access control), and are therefore more relevant to the private sector (although we know the Government is a part of this market). Biometrics used for identification (1:N searches of larger databases for an unknown subject) are more relevant to Government applications such as law enforcement, homeland security, defense, and intelligence. These applications are inherently Governmental, and should benefit from research support by the Government. The mix between private sector funding and Governmental funding will change over time as more Governments around the world adopt biometrics and a viable world-wide Government market develops which warrants more private investment.