

Opening remarks
for the
hearing
of the
U.S. Senate Committee on Commerce, Science, and Transportation

**From the Lab Bench to the Courtroom:
Advancing the Science and Standards of Forensics**

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by

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Good afternoon Chairman Rockefeller, Ranking Member Thune and members of the Committee. It is an honor for me, as chief executive officer of the Netherlands Forensic Institute, to be invited here to testify before your committee on the important topic of forensic sciences.

New science and technology are transforming the capabilities of forensic laboratories. As a result of this, forensic science is changing from having a supporting role to becoming a playmaker in criminal investigations and security. The promise of forensic sciences is that it will increasingly enable quick and reliable reconstructions of events, as well as the identification of suspects, through scientifically validated means. Furthermore, it will do so in a relatively cost effective way, with minimal impact on innocent civilians.

As such, forensic sciences are set to play a role similar to chemistry and biology in health care, and automation in manufacturing.

However, in order to live up to that promise, the sector still has some challenges to overcome. These challenges are a result of the way forensic sciences and crime labs have developed over the years.

An important challenge concerns the *scientific validity* of the methods used by forensic scientists to interpret evidence, as was discussed in a well known 2009 *National Academy of Sciences* report. Scientific research is essential to strengthen the *objectivity* of forensic interpretations and to determine the *strengths and limitations* of forensic methods. This is the background of the MoU the National Institute of Standards and Technology and the Netherlands Forensic Institute signed in November 2012.

Furthermore, through scientific research, the sector can move towards more integrated and interdisciplinary *information services*, aimed not only at identifying the *source* of traces but also at reconstructing the human *activities* that led up to them.

The second challenge concerns the strong *technology driven growth* of the forensic sector during the past two decades, even in jurisdictions where crime rates have been

falling. Forensic sciences are increasingly becoming *mission critical* from the point of view of end users. Nevertheless, the forensic community and its stakeholders have struggled to deal with what is essentially an enormous success. In the absence of adequate mechanisms to coordinate supply and demand, and in view of a somewhat reserved attitude in the sector towards professionalization of governance and process management, demand growth has resulted in *backlogs* and *long delivery times* in many labs around the world. These backlogs stand in the way of delivering the full value of forensic sciences to users, and obstruct the scientific development of the field as a whole.

The Netherlands Forensic Institute, which is an independent and not-for-profit government agency with approximately 650 employees, was facing the same problems six years ago. The policy paper that is in your possession describes the journey of the NFI over the past six years. In this period the NFI changed its governance and business model, which involved shaping a more realistic and businesslike relationship with its end users and other stakeholders. These changes have resulted in the elimination of the entire backlog of 18,000 cases, a reduction of the average delivery time by over 90%, and customer satisfaction levels that are now comparable to the private sector. As the weight of backlogs was lifted, the ability to initiate research and development programs was enhanced as well.

Even though some of the changes initially went against the grain of the stakeholder network in which forensic laboratories operate, in the end the results were welcomed universally.

Finally, I would like to discuss a topic that is related to all the aforementioned issues. It concerns the organizational fragmentation of the forensic infrastructure. Not only is there much to be gained if the dozens of different fields of expertise were to cooperate more intensively, the organizational structure of the sector is such that there is a large number of relatively small and local labs, that are managed separately. Fragmentation tends to have the effect that economy of scale and scope are not achieved, and renders expensive R&D programs impossible due to the absence of critical mass. Furthermore, it often gives rise to problems relating to flexibility and continuity. Partly because of this,

most forensic laboratories around the world operate like pure production units, even though they have the knowledge and customer exposure that could propel forensic sciences forward. For that reason, consolidation, specialization, or more formalized cooperation arrangements could be considered, in order for the field to utilize its full potential and develop new capabilities.

Thank you for your attention and I am happy to answer any questions you might have.