



## PRESS RELEASE

### Security assessment of Intrinsic-ID's PUF technology made public by UNIQUE partners

*Extensive security evaluation of Physical Unclonable Function technology at 65 nm by Thales Communications & Security and UNIQUE partners shows a higher level of protection against attacks like reverse engineering, Side Channel Attack (SCA), light emission, and fault injection.*

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**Eindhoven, The Netherlands – October 2, 2012** – Thales and Intrinsic-ID teamed up with other partners in the European-funded UNIQUE project aimed at the protection of hardware against security vulnerabilities such as: counterfeiting, cloning, tampering and reverse engineering. The UNIQUE consortium published the results of the assessment, which focused on the practical aspects of Physical Unclonable Function (PUF) technology implementations such as reliability, uniqueness, requirements and robustness.

“This extensive security evaluation of PUFs at 65 nm, in which Thales Communications & Security has taken part, is the first of its kind to go public. We are pleased with the promising results that this PUF technology achieved in our assessment. Beyond the protection against counterfeiting, PUFs can be used to securely conceal cryptographic keys used by functions such as local memory protection,” said Jérôme Quévremont (Head of a SoC/SoFPGA development lab, Thales). “The PUF technology is a new security primitive that could in the future add a new layer of protection in security chips. Thales will continue to investigate PUF technology and has already started work in a new use case-based R&D project in collaboration with Intrinsic-ID.”

Security mechanisms using PUF technology aim at becoming an essential part of Hardware Intrinsic Security (HIS). HIS is based on the fact that secret keys are extracted like a silicon biometric or fingerprint from silicon hardware directly and only when required. Attackers have nothing to find because no key is stored nor present in the power down state.

“Our evaluation of SRAM PUFs as provided by Intrinsic-ID clearly shows a real protection against attacks like reverse engineering, SCA, light emission, and fault injection towards the key storage,” added Jean-Christophe Courrège (ITSEF Technical Manager, Thales). “PUF technology would provide a powerful solution to security product designers in order to address key management problems.”

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### **About Intrinsic-ID**

Intrinsic-ID provides security solutions based on top-level security IP and software for cloud storage, mobile payments and content protection.

The company's unique and patented Hardware Intrinsic Security (HIS) technology – also referred to as Physical Unclonable Function – offers superior anti-tamper and anti-cloning features. HIS allows binding software, applications and content, to a particular hardware device. Intrinsic-ID's HIS technology has received public endorsements by leading companies in the field of smartcards, automotive, set-top box and pay-TV, networking & communications, FPGA and government applications.

Intrinsic-ID's security IP excels by its ease-of-integration in a standard manufacturing flow, its availability in all modern technology nodes, its scalability and small area and/or software footprint, which enables mass-scale deployment in cost-sensitive consumer applications. Intrinsic-ID delivers complete, one-stop-shop solutions including security IP, security architectures and reference applications to offer customers a fast-track to market.

Intrinsic-ID was founded in 2008 as a spin-out of Royal Philips Electronics and is headquartered in Eindhoven, The Netherlands.

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### **About Thales**

Thales is a global technology leader for the Transport, Aerospace & Space, Defence & Security markets. In 2011, the company generated revenues of €13 billion with 67,000 employees in 56 countries. With its 22,500 engineers and researchers, Thales has a unique capability to design, develop and deploy equipment, systems and services that meet the most complex security requirements. Thales has an exceptional international footprint, with operations around the world working with customers and local partners. [www.thalesgroup.com](http://www.thalesgroup.com)

### **About UNIQUE**

UNIQUE is co-financed by the European Commission under EU Framework Programme 7. The project is running for 2¾ years from September 2009 until May 2012. The consortium of the UNIQUE project consists of eight European organizations. UNIQUE brings together five academic and research institutions (including three leading universities and two research SMEs) and three large microelectronics companies from six European countries (Austria, Belgium, France, Germany, Ireland and the Netherlands). These organizations are forming an unbroken chain stretching from basic research and security design to applied research and end-user producers for consumers and industry. [www.unique-security.eu](http://www.unique-security.eu)

### **Key figures UNIQUE**

|                  |                   |
|------------------|-------------------|
| Project Number:  | 238811            |
| Project Start:   | September 1, 2009 |
| Total Costs:     | € 4.215.000,-     |
| EC-Contribution: | € 2.954.211,-     |

The UNIQUE project has received funding from the European Union's Seventh Framework Programme (FP7 / 2007-2013) under grant agreement number ICT-238811.

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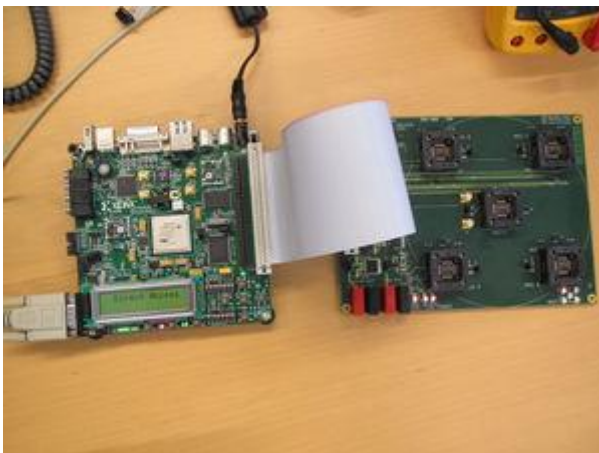
Images



Title: **UNIQUE ASICs**  
Caption: 96 UNIQUE ASICs. Each chip includes 6 different PUF types.  
Copyright: UNIQUE Consortium



Title: **UNIQUE ASIC**  
Caption: UNIQUE ASIC on the ASIC Board.  
Copyright: UNIQUE Consortium



Title: **UNIQUE demonstrator**  
Caption: PUF rapid prototype platform including ASIC Board and FPGA Board.  
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