COST

European Cooperation in Science and Technology

Introduction to the

COST Framework Programme

COST is supported
by the EU Framework Programme

Added value and impact of participating in a COST Action

Milena Djukanovic, PhD
ICT COST Actions IC1204, IC1306, IC1403 – finished
CA COST Actions CA16222, CA16116

Action description – IC1204

Trustworthy Manufacturing and Utilization of Secure Devices (TRUDEVICE)

- Hardware security - increasingly important for many embedded systems applications.

- Its relevance is expected to increase.

- The vulnerability of hardware devices that implement cryptography functions has become the Achilles heel in the last decade.

- Therefore, the industry is recognizing the significance of hardware security.

- This COST action aims at creating a European network of competence and experts on all aspects of hardware security.

Action presentation –

Trustworthy Manufacturing and Utilization of Secure Devices

Participations

Country	Date	Status
Austria	09/09/2013	Confirmed
Belgium	21/09/2012	Confirmed
Croatia	15/07/2013	Confirmed
Czech Republic	06/12/2012	Confirmed
Denmark	19/09/2014	Confirmed
Estonia	24/09/2013	Confirmed
Finland	10/09/2012	Confirmed
France	25/07/2012	Confirmed
fYR Macedonia	25/10/2012	Confirmed
Germany	05/07/2012	Confirmed
Greece	29/08/2012	Confirmed
Ireland	11/09/2014	Confirmed
Israel	15/10/2012	Confirmed
Italy	28/11/2012	Confirmed
Montenegro	04/06/2015	Confirmed
Netherlands	27/06/2012	Confirmed
Norway	20/12/2012	Confirmed
Portugal	26/09/2012	Confirmed
Slovakia	02/09/2012	Confirmed
Slovenia	08/11/2012	Confirmed
Spain	22/10/2012	Confirmed
Sweden	20/09/2012	Confirmed
Switzerland	16/07/2012	Confirmed
Turkey	08/05/2013	Confirmed
United Kingdom	13/06/2012	Confirmed
Total: 25		

ICT COST Action IC1204

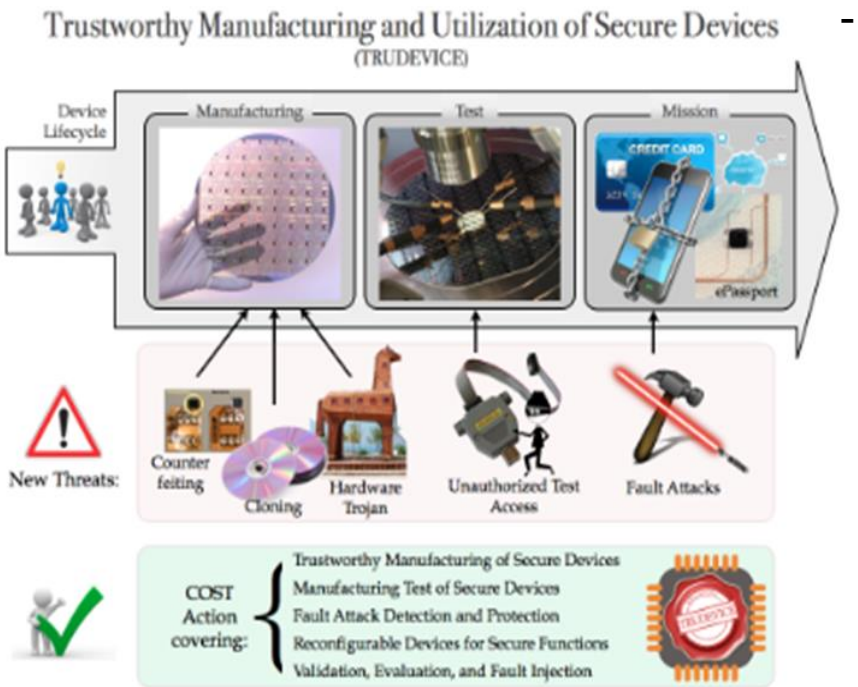
Management Committee

MC Chair	Dr Giorgio DI NATALE (FR)
MC Vice Chair	Prof Ilia POLIAN (DE)

Important names in the area of Hardware Security:

Prof. Stefan Mangard,
Prof. Ingrid Verbauwhede
Dr Nele Mentens
Prof. Marin Golub
Dr Lejla Batina
Prof. Nicolas Sclavos

Action presentation – Trustworthy Manufacturing and Utilization of Secure Devices



- In the time of applying - Montenegro was a Non-COST country, so the procedure took around 6 months for UoM to be accepted in this action.

MoU	4135/12
CSO Approval date	07/06/2012
Start of Action	12/12/2012
End of Action	11/12/2016
End of prolongation	—

Networking activities – Personal highlight experiences

- STSM – Short Term Scientific Missic
  - Especially useful for Early-St collaboration, to learn a new using instruments and/or me institution/laboratory.

- MC Meetings and Workshops:

- Training School - Portugal

COST Cryptanalysis of Ubiquitous C
March 14-15, 2017, Sutomore, Mont
https://www.cryptacus.eu/

BOOKLE OF ABS

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Gildas Avoine
Julio Hernandez-Castro
Milena Djukanovic

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EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

COST is supported by the
EU Framework Programme
Horizon 2020

Action description – IC1403 Cryptanalysis of ubiquitous computing systems (CRYPTACUS)

- STSM – Short Term Scientific Missions
  - Especially useful for Early-Stage Researchers to foster collaboration, to learn a new technique or to take measurements using instruments and/or methods not available in their own institution/laboratory.

- Milena Djukanovic, from University of Montenegro, visiting Università degli Studi di Roma (Italie) during 27 days to work on "Research in the area of Hardware Security and Side-Channel Attacks"

Template attacks exploiting static power and application to CMOS lightweight crypto-hardware 9 2017
D Bellizia, M Djukanovic, G Scotti, A Trifiletti
International Journal of Circuit Theory and Applications 45 (2), 229-241

Multivariate analysis exploiting static power on nanoscale CMOS circuits for cryptographic applications 6 2017
M Djukanovic, D Bellizia, G Scotti, A Trifiletti
International Conference on Cryptology in Africa, 79-94

Action description – IC1403 Cryptanalysis of ubiquitous computing systems (CRYPTACUS)

- INCLUSIVENESS TARGET COUNTRIES (ITC) CONFERENCE GRANTS

22. doi:10.1007/978-3-030-02577-9_34

Title	Programming of the Robotic Arm/Plotter System
Authors	Milena Djukanovic; Rade Grujicic; Luka Radunovic; Vuk Boskovic
DOI	doi:10.1007/978-3-030-02577-9_34
Type	Chapter
Published in	Advanced Technologies, Systems, and Applications III
Published by	Springer International Publishing
ISSNs	2367-3370; 2367-3389
Link	http://link.springer.com/content/pdf/10.1007/978-3-030-02577-9_34

Action description – IC1403 Cryptanalysis of ubiquitous computing systems (CRYPTACUS)

- INCLUSIVENESS TARGET COUNTRIES (ITC) CONFERENCE GRANTS

ETS 2018

23rd IEEE European Test Symposium | May 28 - June 01, 2018 | Bremen, Germany

PROGRAM

Thursday, May 31st, 2018

16:30-16:40 Opening

16:40-17:40 Invited speaker 1

- **Functional Safety and Security: the Challenges in Developing IP for These Markets**
  Pete Harrod, ARM

17:40-19:00 Regular session 1

- **Comparison of American and European Approaches in RNG online and offline testing**
  Viktor Fischer
- **Security of the robotic ARM/PLOTTER**
  Milena Djukanovic, Luka Radunovic
- **Detection and Defense against Covert Channel Cyber-attack over video stream payload**
  Ofer Hadar, Raz Birman, Yoram Segal and Eldad Hadas
- **Model-Driven Analysis of Security, Reliability, Test, Privacy, Safety and Trust of IoE Services**
  Eugenio Villar

Action description – IC1403

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Editors:

Ubiquitous computing
security
Result of the successfu
Cryptacus
Contributions from to
cryptography
Open Access

About this book

The chapters in this open access
objective of which was to improve
ubiquitous computing framework.
models, cryptanalysis of building l
assessment of real-world systems

The authors are top-class researc
to researchers and practitioners ir

It started with templates: The future of profiling in Side-channel Analysis

Lejla Batina[1], Milena Djukanovic[2], Annelie Heuser[3], and Stjepan Picek[4]

[1] Radboud University Nijmegen, The Netherlands
[2] Faculty of Electrical Engineering, University of Montenegro, Montenegro
[3] CNRS/IRISA, Rennes, France
[4] Cyber Security Research Group, Delft University of Technology, Mekelweg 2, Delft, The Netherlands

Abstract. Side-channel attacks (SCAs) are powerful attacks against cryptographic devices where the most potent ones are profiling attacks. In this case, the attacker has access to a specific device and is consequently able to find the "fingerprints" of all the keys through profiling. Afterwards, he can use that knowledge to extract a secret from another similar device. Profiling side-channel attacks have received a lot of attention in the last years due to the fact that this type of attacks defines the worst case security assumptions. It all started with template attack (TA) [1], a technique that is still the best (optimal) from an informa-

Action description –

New COST actions – New possibilities

- "Hoping to have a Training school or Workshop organized in Montenegro!"

- Hoping to have more COST Actions with Action Chair from Montenegro, as a leading country!!!