

# Datasheets $\neq$ Facts

## The Necessity of Testing

András Fehér  
Engineer-Economist

Csaba Otti  
Security Engineer-Economist

**ABI**  

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**INSTITUTE**

[www.abibiometrics.com](http://www.abibiometrics.com)

START

**ABI**  
INSTITUTE



**Introduction**

The Problem

The Solution



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- **INTRODUCTION\_ABI Institute**

- | Óbuda University since 1395**

- | 6 main faculties, 11 sites, 15.000 students**

- | Security Engineering, Electrical Engineering, Informatics, etc.**

- | BSc, MSc, PhD**

- | ABI Institute founded in 2011**

- INTRODUCTION\_ABI Institute

- | Audits, consulting, concepts

- | Publications, lectures and classes

- | Tests, classifications

Information Vulnerability

$\int$  **Security** +  $\int$  **Risk** = **[ Security Science ]**

Physical Social Engineering

ABI  
Standard



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- **INTRODUCTION\_Partnerships**

- | ASIS International – Hungarian Chapter co-founder**

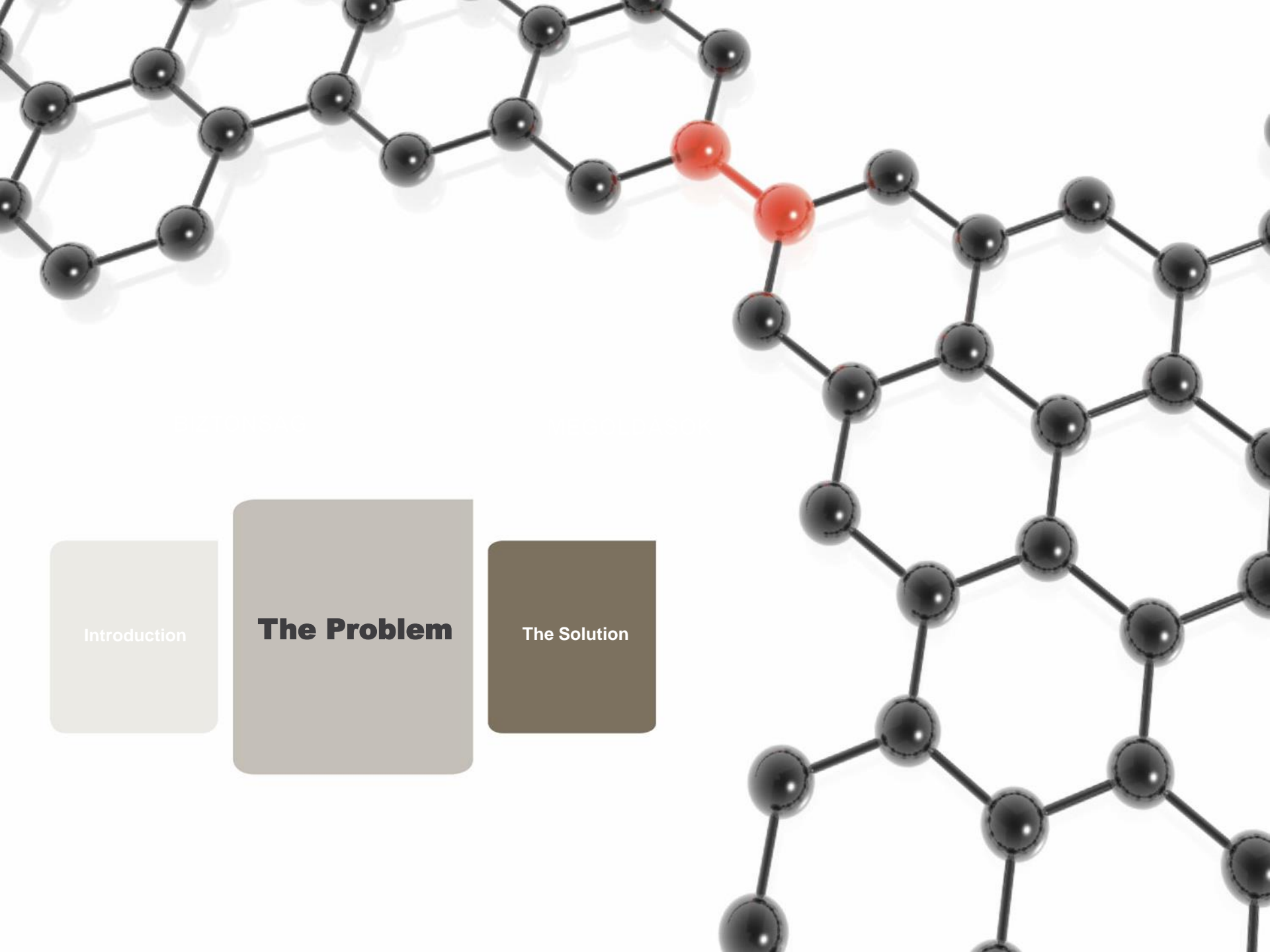
- | ISACA International**

- | TÜV Rheinland**

- | IEEE**

- | EOQ**

- | NSA Hungary**



Introduction

**The Problem**

The Solution



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- **THE CHALLENGE\_ Evolution**

- | **Technology flowing into the economy well ahead of knowledge**
- | **No independent decision making environment**
- | **Manufacturer's information = sales**



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- **THE CHALLENGE\_Biometry**

- | **The appearance of probability and statistics: FAR, FRR, EER, FTE, etc.**
- | **The incompleteness of standards**
- | **Unknown index-numbers, lack of methodics**
- | **No authentic verifier and classifier institute...!**





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- **PROBLEMS\_Devices**

- | Lack of approach from the device vs. a stand-alone sensor or technology**

- | Algorithmic data vs. reality**

- | Incorrect implementation**

- | Software errors**

- | Hardware interfacing errors**

- | Design errors**



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- **PROBLEMS\_FRR**

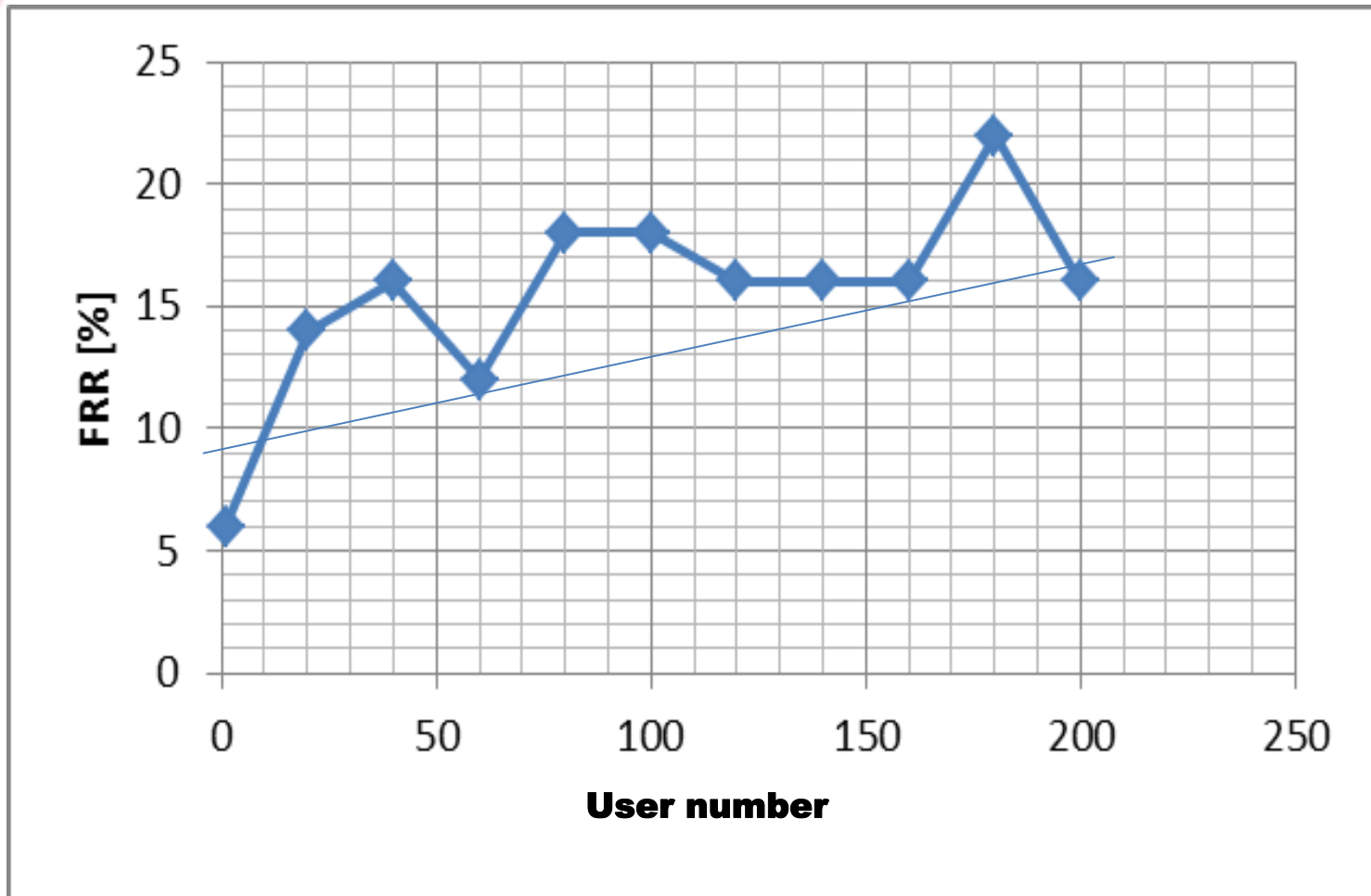
- | FRR – False Rejection Rate**

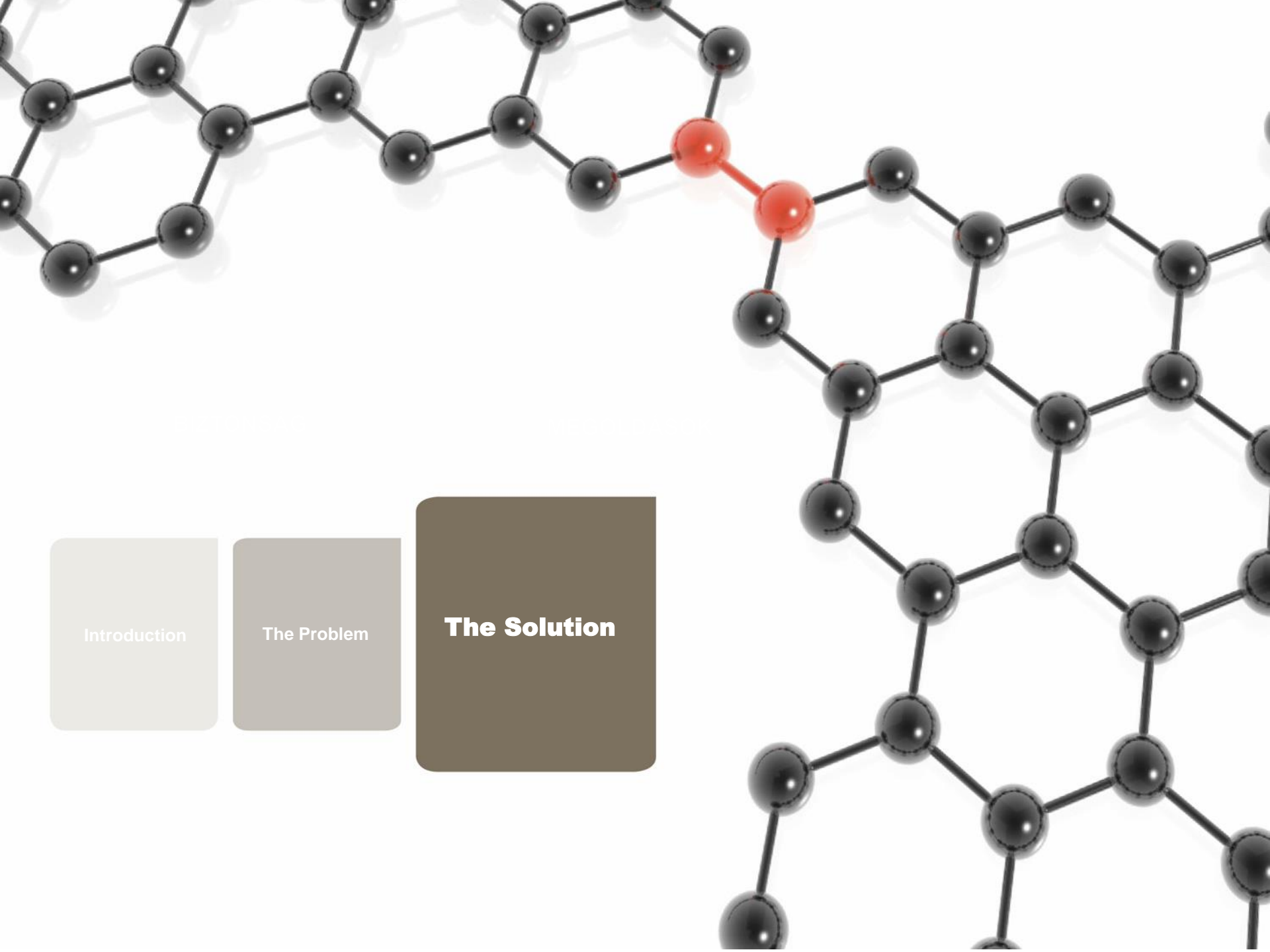
- | The measure of the likelihood that the system will incorrectly reject an access**

- | On paper: 0,01%**

- | In reality...**

- PROBLEMS\_FRR





Introduction

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- **ABI INSTITUTE\_The real questions**

- | **Technology limitations**
- | **User number limitations**
- | **Average enroll and access times**
- | **Environment**
- | **Human factor**
- | **Security level**
- | **Vulnerability**



- **ABI INSTITUTE\_The answer**

**Standards and beyond!**

**| We offer classification of devices from our fully independent and professional laboratory.**

**| We test all aspects of any devices by mathematicians, IT security experts, physical security experts, database experts, computer programmers, designers, etc.**

**| On detecting any risks and/or security problems, we inform our partners first and allow them the possibility for modification, communication, etc. before publication.**

**| We frequently present our results to security professionals at conferences and symposiums.**

**| We are resident presenters on Hacktivity conference each year.**

**We work within the frame of our ethical codex.**



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- **ABI INSTITUTE\_The answer**

- | Tests: scenario, operational, vulnerability**

- | Methodology ~ 500 pages**

- | Tests up to 1.000 users**

- | 10 laboratories**

- | 10 different technologies**

- | More than 100 devices**

- | + IP cameras**

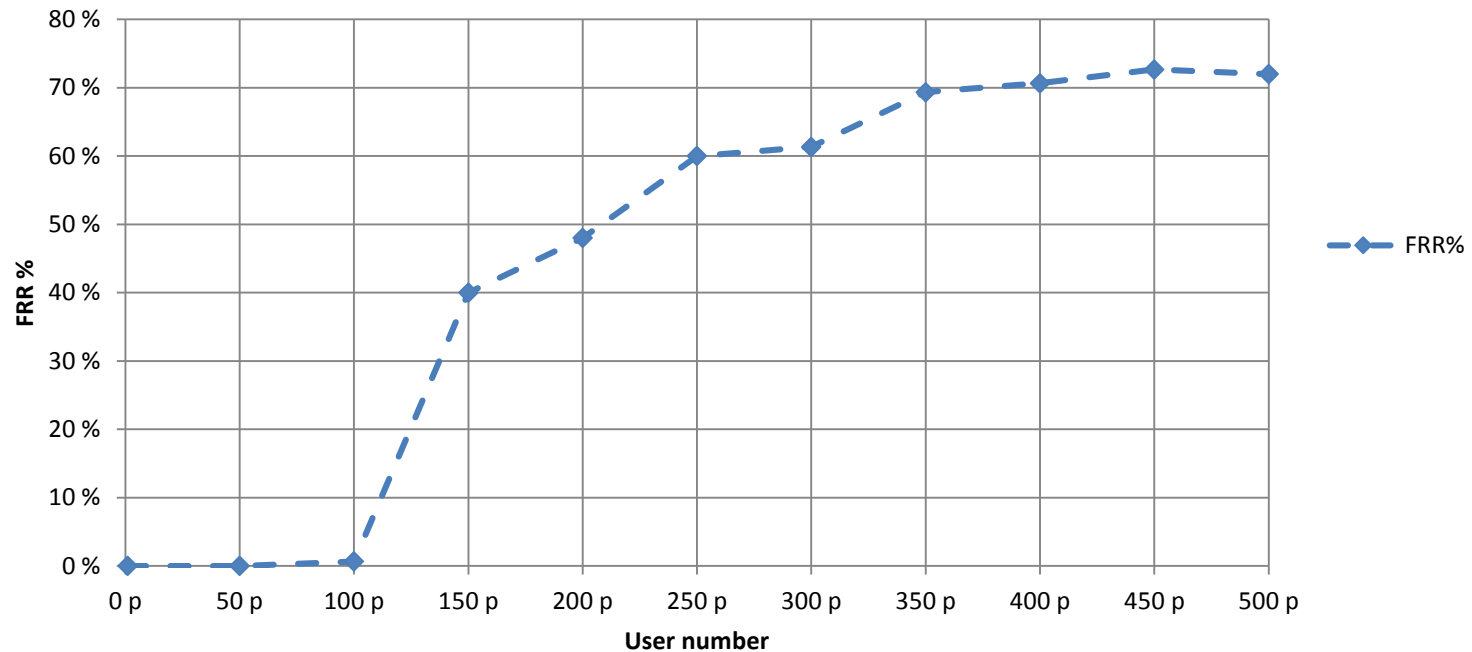
- ABI INSTITUTE\_Example

Face recognition device, 15 testers results											
FRR as a function of users											
	1 person	50 p	100 p	150 p	200 p	250 p	300 p	350 p	400 p	450 p	500 p
1st	0 %	0 %	0 %	40 %	50 %	40 %	40 %	70 %	50 %	50 %	40 %
2nd	0 %	0 %	0 %	0 %	0 %	20 %	30 %	30 %	80 %	50 %	70 %
3rd	0 %	0 %	0 %	20 %	20 %	20 %	40 %	50 %	30 %	20 %	30 %
4th	0 %	0 %	0 %	0 %	10 %	60 %	70 %	70 %	50 %	100 %	90 %
5th	0 %	0 %	0 %	10 %	80 %	100 %	80 %	100 %	80 %	90 %	90 %
6th	0 %	0 %	0 %	0 %	0 %	0 %	10 %	50 %	80 %	70 %	80 %
7th	0 %	0 %	0 %	20 %	20 %	40 %	30 %	20 %	50 %	70 %	40 %
8th	0 %	0 %	0 %	40 %	40 %	10 %	50 %	60 %	30 %	40 %	70 %
9th	0 %	0 %	0 %	50 %	20 %	70 %	40 %	80 %	80 %	90 %	80 %
10th	0 %	0 %	0 %	70 %	100 %	80 %	100 %	90 %	90 %	100 %	90 %
11th	0 %	0 %	0 %	70 %	90 %	70 %	70 %	70 %	60 %	70 %	70 %
12th	0 %	0 %	0 %	70 %	100 %	100 %	90 %	90 %	100 %	100 %	100 %
13th	0 %	0 %	0 %	70 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
14th	0 %	0 %	10 %	60 %	60 %	100 %	70 %	70 %	80 %	50 %	50 %
15th	0 %	0 %	0 %	80 %	30 %	90 %	100 %	90 %	100 %	90 %	80 %
FRR%	0 %	0 %	1 %	40 %	48 %	60 %	61 %	69 %	71 %	73 %	72 %



- ABI INSTITUTE\_Example

Face recognition device, 15 testers results  
FRR as a function of users

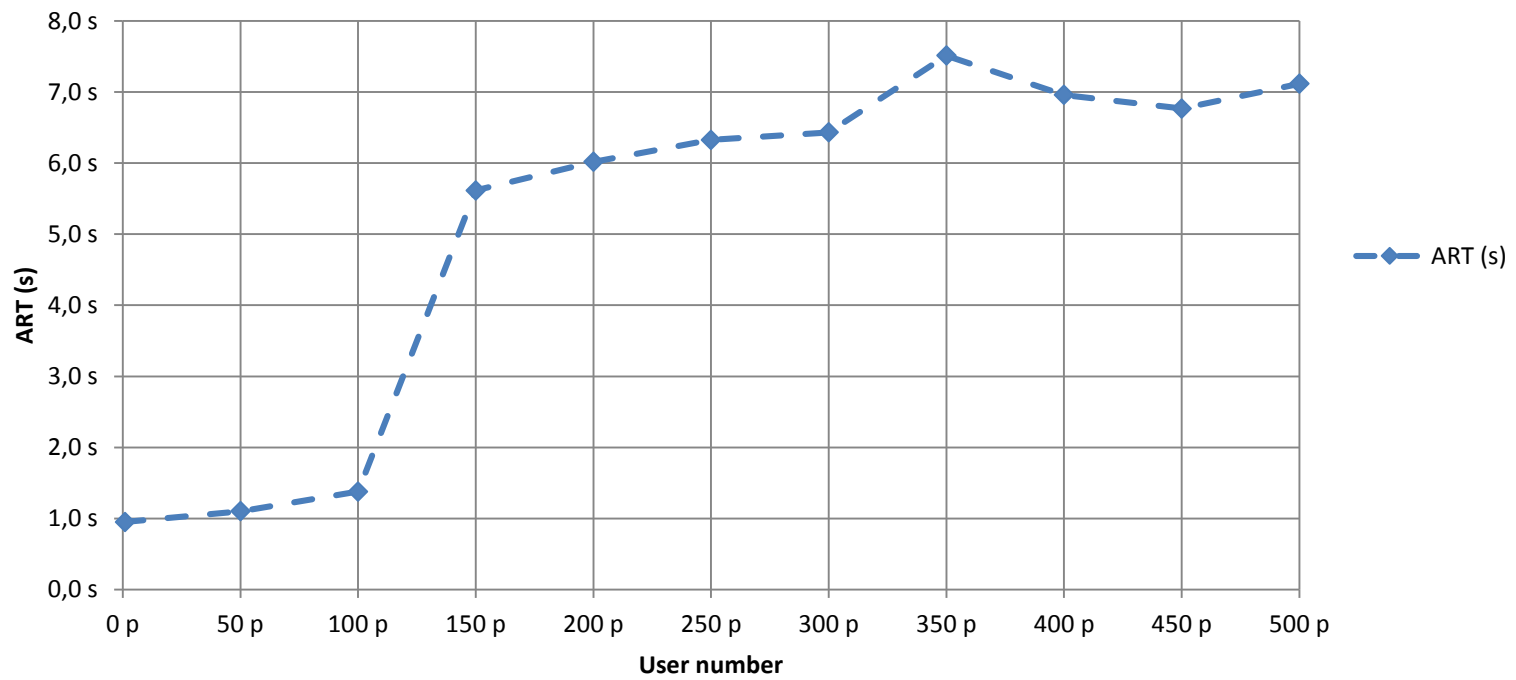


- ABI INSTITUTE\_Example

Face recognition device, 15 testers results											
Average Recognition Time as a function of users											
	1 person	50 p	100 p	150 p	200 p	250 p	300 p	350 p	400 p	450 p	500 p
1st	0,9 s	1,1 s	1,5 s	10,5 s	12,1 s	8,0 s	11,2 s	10,4 s	7,6 s	7,0 s	7,1 s
2nd	0,9 s	1,0 s	0,6 s	3,0 s	4,3 s	10,1 s	5,6 s	9,8 s	7,9 s	8,6 s	10,1 s
3rd	0,6 s	1,2 s	1,4 s	6,5 s	6,6 s	6,7 s	6,1 s	7,6 s	6,8 s	7,3 s	7,9 s
4th	0,7 s	0,8 s	1,5 s	3,9 s	4,4 s	9,2 s	4,8 s	7,6 s	8,5 s	9,1 s	8,5 s
5th	1,0 s	1,3 s	2,0 s	6,5 s	11,4 s	8,2 s	8,5 s	9,0 s	7,5 s	7,2 s	6,2 s
6th	0,6 s	0,8 s	1,0 s	4,8 s	5,0 s	6,5 s	5,7 s	4,1 s	6,1 s	5,0 s	5,0 s
7th	0,6 s	0,9 s	1,5 s	7,6 s	6,2 s	7,7 s	8,1 s	6,6 s	8,7 s	11,0 s	9,1 s
8th	1,6 s	1,0 s	1,2 s	7,0 s	8,3 s	5,5 s	9,1 s	9,2 s	9,8 s	8,3 s	11,2 s
9th	0,8 s	0,9 s	0,9 s	7,1 s	5,5 s	6,8 s	8,2 s	12,6 s	9,1 s	8,7 s	11,8 s
10th	1,1 s	1,1 s	1,2 s	4,0 s	3,8 s	2,6 s	3,8 s	3,8 s	3,3 s	3,0 s	2,8 s
11th	1,1 s	1,1 s	1,1 s	3,0 s	3,2 s	2,7 s	2,7 s	2,6 s	3,6 s	4,2 s	4,1 s
12th	1,1 s	1,6 s	2,1 s	4,0 s	4,8 s	4,2 s	4,4 s	4,5 s	5,2 s	4,2 s	4,5 s
13th	1,5 s	1,3 s	1,8 s	3,9 s	3,8 s	4,2 s	3,2 s	3,5 s	8,2 s	5,2 s	6,8 s
14th	1,1 s	1,3 s	1,5 s	4,2 s	5,4 s	5,3 s	5,8 s	5,6 s	4,5 s	4,7 s	4,3 s
15th	0,8 s	1,3 s	1,5 s	8,2 s	5,3 s	7,2 s	9,5 s	15,8 s	7,5 s	8,1 s	7,3 s
ART (s)	1,0 s	1,1 s	1,4 s	5,6 s	6,0 s	6,3 s	6,4 s	7,5 s	7,0 s	6,8 s	7,1 s

- ABI INSTITUTE\_Example

15 testers results  
Average Recognition Time as a function of users





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- **ABI INSTITUTE\_Summary**

**The tests carried out according to the methodology show the different limits of the devices and what purposes they really are capable for and intended to be used at.**

**The residual risk can also be evaluated, thus serving decision making at large.**



**Thank you for your attention!**

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