

# THALES

## UniPi / Thales Italia – R&T and Innovation

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# UniPi / Thales Italia – Activities in R&T and Innovation

## Long term collaboration (since 2008) in cyber security

- Proposal of Research collaborative programs at local and European level
- Graduate thesis, fellowships

## Examples of Collaborations in the past

### ➤ TRACE-THEM (European, ERASME)



- Objective: New framework for localization and tracking services
- Two important goals:
  - To avoid compromising data security even on wireless (confidentiality, authenticity and integrity)
  - To enable security supervision by respecting Privacy Rules
- UniPi was in charge of:
  - Development of a specific application dedicated to the management of people privacy data while maintaining high levels of system efficiency

# UniPi / Thales Italia – Activities in R&T and Innovation

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## > PITAGORA (2012, Regione Toscana)



- Objective: Design an innovative Airport management system
- Main goals: Extension of Thales's AOCC by improving its robustness and increasing number of features (Airport operation, resources management, process management, crisis management and passenger experience)
- UniPi was in charge of:
  - Development of a Public Key Infrastructure to secure communication between the PITAGORA platform and any external service providers
  - A context-based ACS for the control of smart cameras

## Recent H2020 ICT collaboration

### > POLYBIUS (2018, H2020 ICT Call)



- Objective: create a collaborative tech. environment to exchange insights, expertise and tech. on Cyber Security Framework
- UniPi role: Lead the user requirements and system specifications, part of Italian Hub

# Critical Information Systems and Cybersecurity

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- 5,000 tecnici IT & Security, inclusi 1,500 specialisti cybersecurity
- Leader europeo nel mercato cybersecurity
- Leader mondiale nella protezione dei dati
- 5 Cybersecurity Operation Centres – CSOC (Francia, Olanda, Regno Unito, Hong Kong)
- 1 CERT-IST (Computer Emergency Response Team – Industry, Services and Tertiary sector)
- 5 Data Centre ad alta sicurezza in Francia e Regno Unito
- Prodotti con elevato grado di sicurezza (confidenziale o top secret) per 50 paesi, incluse nazioni NATO
- Soluzioni e prodotti per 200 clienti, inclusa la protezione dell'80% delle transazioni bancarie mondiali. Sicurezza per 19 delle 20 più grandi banche mondiali
- Cybersecurity per 9 dei 10 Giganti Internet
- Gestione & cybersecurity dei sistemi informativi critici di 130 clienti
- Laboratori di Ricerca Thales



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## Thales Italia Cyber Security: ambiti operativi

### ■ Infrastrutture critiche :

- Power Plant, Nuclear Plant
- Transportation (Metro, Tranvie, Treni)
- Aeroporti
- Oil & Gas
- Aerospazio/ Spazio
- Specificità: SCADA / ICS /Industrial IoT/Critical Systems

### ■ Difesa

### ■ Finance/Bank

### ■ Industry



# Thales Cyber Security – Scenari di azione

## Thales in veste di:

- **Produttore di tecnologie (HW+SW) di cyber security**
- **Consulenza, design, progettazione**
- **Integratore di soluzioni**
- **Sviluppo progetti**



# Thales come sviluppatore di tecnologie di Cyber Security

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<b>DIAGNOSING</b> <ul style="list-style-type: none"><li>1. Cyber Consulting</li></ul>	<b>MONITORING</b> <ul style="list-style-type: none"><li>2. CSOC</li><li>3. Cybels Sensor</li></ul>	<b>INTELLIGENCE</b> <ul style="list-style-type: none"><li>4. CERT IST</li></ul>	<b>NETWORK SECURITY</b> <ul style="list-style-type: none"><li>5. Network encryptors</li><li>6. XO Mail</li><li>7. ELIPS SD (Data Diode)</li></ul>
<b>TRAINING</b> <ul style="list-style-type: none"><li>8. Cyber Range</li></ul>	<b>DATA SECURITY</b> <ul style="list-style-type: none"><li>9. HSM</li><li>10. Vormetric</li></ul>	<b>MOBILE SECURITY</b> <ul style="list-style-type: none"><li>11. TEO XC</li></ul>	<b>LAWFUL INTERCEPTION</b> <ul style="list-style-type: none"><li>12. LIST/ Spyder/ ULIS</li></ul>

# Capability group – Thales Italia Experiences

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## Functional audit & Governance

- Audits ISO 2700x
- GDPR
- ISMS deployment
- Activity continuity
- Crisis management

## Forensic, Reverse & Penetration testing

- Incidents response
- Reverse Engineering
- Penetration testing
- Vulnerability assessment
- Technical audits
- Source code audits

## Infrastructures & Applications Architectures

- Design Secure architectures
- Architecture audit
- Security governance
- Security accreditation processes

## Safety & Security Evaluation

- Hardware labs (CC)
- Software labs
- Safety labs (CNES)
- Multiple Banking certifications





# Ambiti operativi Thales Italia – Esempi

## Consulting:

- **ECB – European Central Bank (Finance):** Security Audit, Security Process Audit, Vulnerability Assessment; Penetration Test, Remediation Plan (Ita+Ger+Swi).
- **JFK T4 (Airport):** Secure Network Design, Perimetral Defence, IDS/IPS, Security Intelligence (Ita+USA).
- **Tramvie-Metro:** Security Assessment SCADA, Signaling, Networking, IT infrastructure.



## Airport Cyber Security:

- **SESAR 2020 PJ04 – Total Airport Management:** Secure Network /Infrastructure Design, Cyber Security Framework Design, Security Audit, Security Process Audit, Cyber Resilience Audit, Vulnerability Assessment, Penetration Test, Remediation Plan (Ita – EU).
- **BIA – Bahrain International Airport:** Cyber Security SIEM Design, NMS – Network Management System Design, Integration Support.



## Encryption:

- **Finance:** HSM nShield infrastructure per Home Banking (oltre 4 milioni di utenti), High Availability, Strong Authentication, Digital Sign, Disaster Recovery.
- **Cloud:** HSM nShield for Microsoft Azure Cloud Key Vault, BYOK – Bring Your Own Key service, VM protection (Ita).
- **SCADA/ICS environment:** HSM nShield infrastructure, High Availability, PKI, Code Protection, IoT Security, training.



## MMHS (Military Messaging Handling System):

- **JMMHS** XOMail in ambiente VMware+W2012+Oracle. Joint Military Messaging Handling System Non Classificato+Classificato, HA, Disaster Recovery, Training, certificazione Common Criteria dell'intero sistema – ambiente Classificato verso ANS – Autorità Nazionale Sicurezza (Ita).



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# Cyber Security Overview

**Grazie per l'attenzione**

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