Framework Nazionale per la Cyber Security

www.cybersecurityframework.it

Roberto Baldoni

baldoni@dis.uniroma1.it

@robertobaldoni

Cyber Security National Laboratory Director

Consorzio Interuniversitario Nazionale Informatica (CINI)

also Director of Research Center of Cyber Intelligence and Information Security

University of Rome La Sapienza

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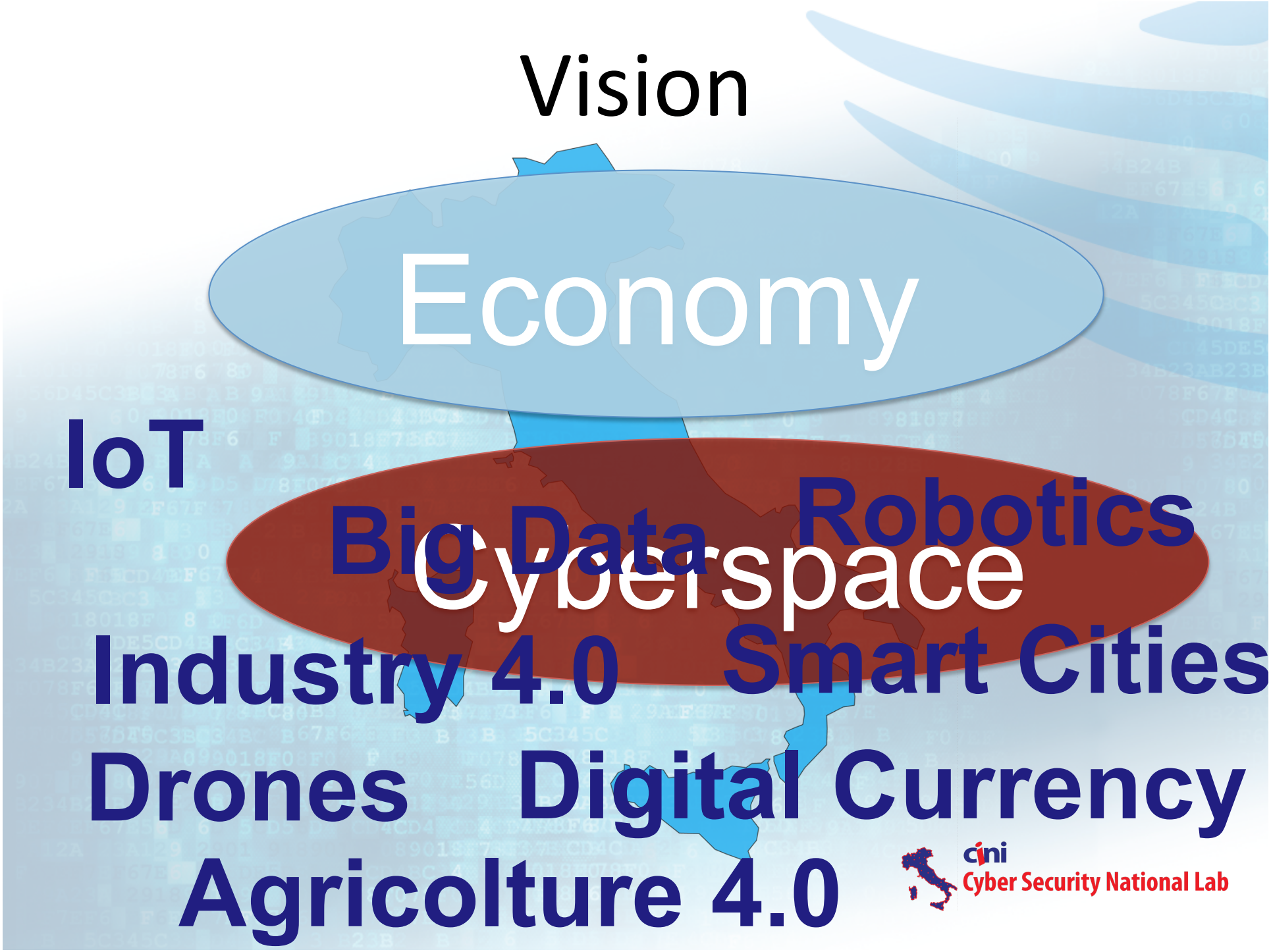
Vision


Economy
IoT
Big Data
Robotics
Cyberspace
Industry 4.0
Smart Cities
Drones
Digital Currency
Agricolture 4.0
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Il concetto di velocità

- La trasformazione economica sarà sempre più veloce, inarrestabile, implacabile cambierà il lavoro, uccidendo vecchi posti e creandone di nuovi
- Cambierà pesantemente gli equilibri tra stati, tra aziende e tra stati e aziende

Economia

Cyberspace

La protezione del Cyberspace è condizione necessaria per la prosperità economica di una nazione

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Economia

Cyberspace

La protezione del cyberspace non è (solo) un problema tecnico, ma è un problema di business

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Unicità del Cyberspace

- Non esiste divisione tra pubblico e privato, tra militare e civile. Un ambiente dove tutto è duale!
- Vulnerabilità non numerabili, attacchi in costante aumento per precisione e potenza
- Nessuno può pensare di gestire questa complessità in isolamento

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Economia

Cyberspace

Risposta come sistema paese alla protezione del cyberspace nazionale

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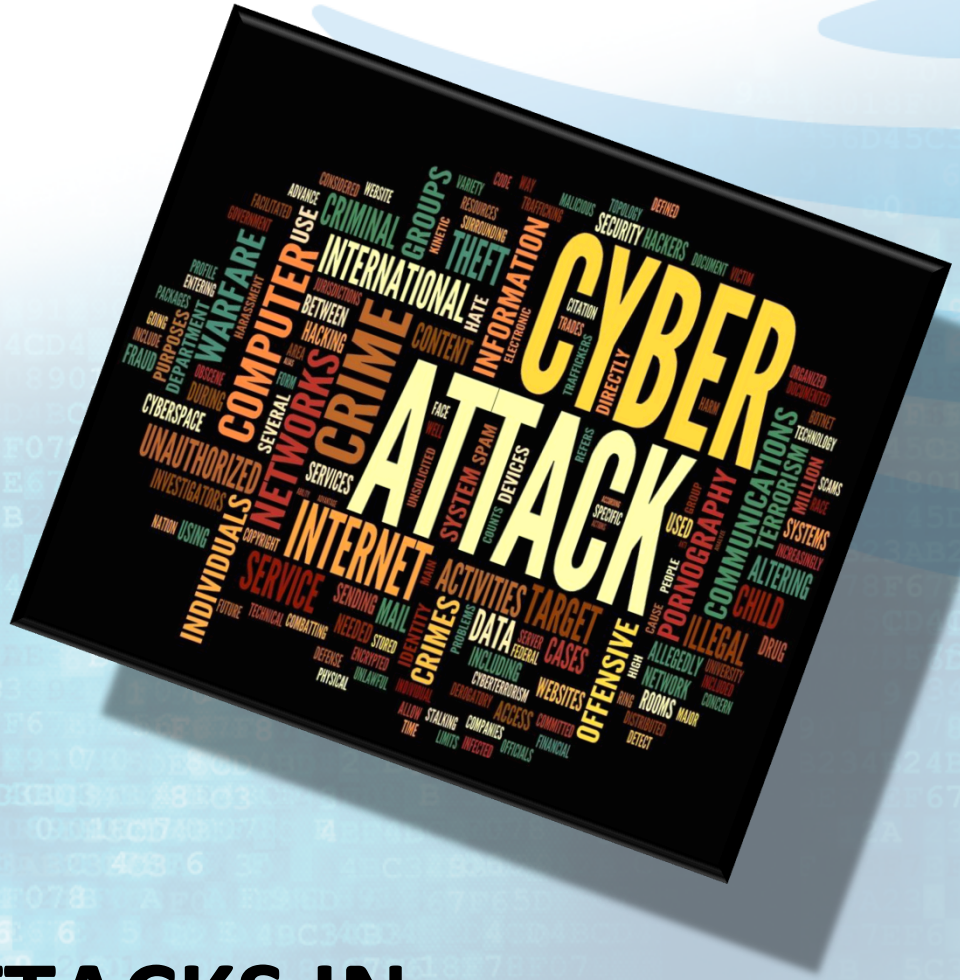

2015 TRENDY ATTACKS IN CYBERSPACE

Ramsonware
Denial of service
Cyber espionage
Wiping
Cyber2Physical
Dox(x)ing

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Ramsc

Denial

Cyber

Wiping

Cyber2Physical

Dox(x

MILITARY

FOR THE SECOND TIME EVER, A CYBERATTACK CAUSES PHYSICAL DAMAGE

IT'S THE DAWN OF A NEW KIND OF WAR

By Kelsey D. Atherton Posted 12 hours ago

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Ukraine blackout is a cyberattack milestone

Attacco a Swift

- Conti statunitensi della banca centrale del Bangladesh
- Traferiti attraverso 30 transazioni swift false per un totale di 850M$. Di cui 80M$ scomparsi in una banca filippina
- Truffa avvenuta inserendo operazioni fraudolente nel protocollo swift
- Altre situazioni simili stanno emergendo

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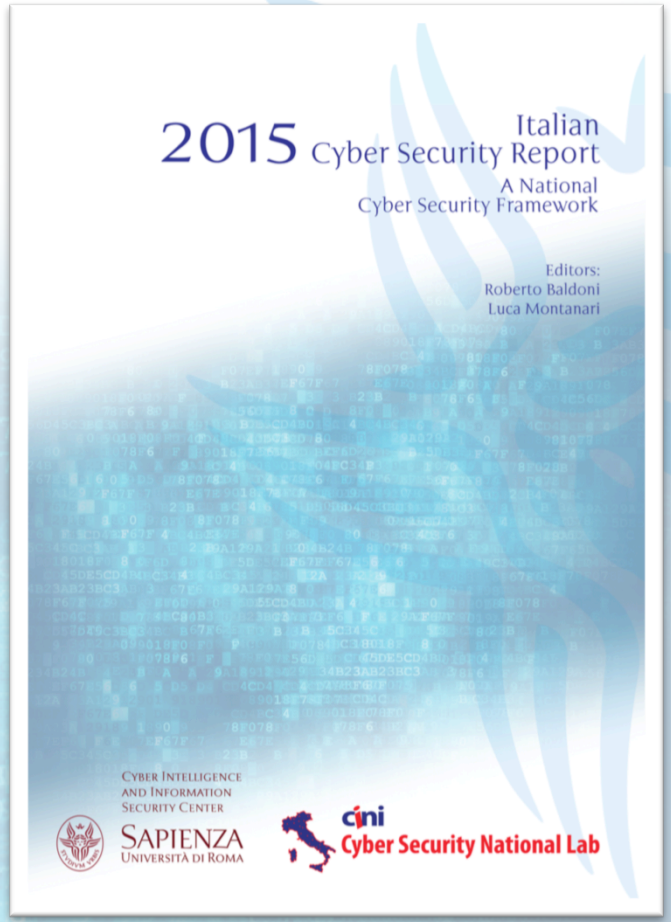

NATIONAL CYBER SECURITY FRAMEWORK

WWW.CYBERSECURITYFRAMEWORK.IT

Framework initial objectives

- Bring **cyber risk** in the **executive board** of organizations (not confined to the technical space)
- Approach **cyber risk** as an economic risk (part of the organization's overall **risk management** and decision making processes)

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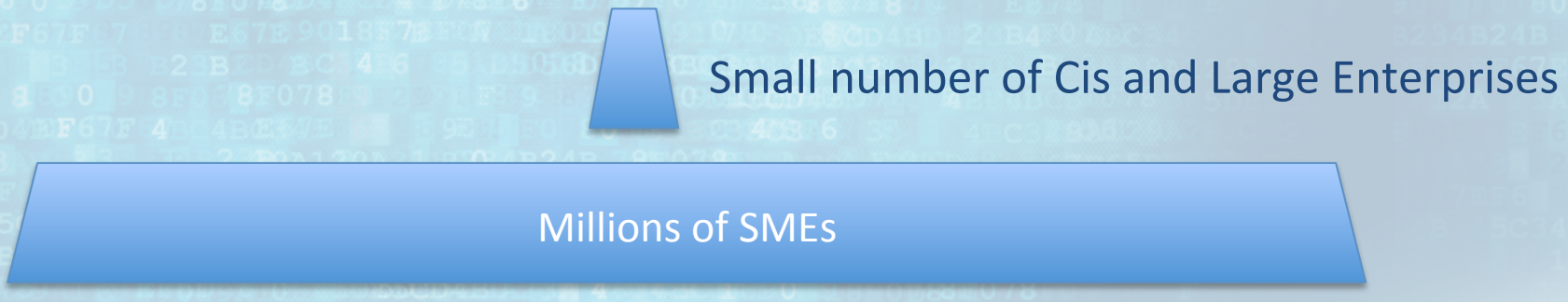
Framework initial objectives

- Take **economic landscape** of Italy into account
  - More than 69% of the Gross Domestic Product comes from SMEs



- Usable by SMEs

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Framework initial objectives

- Be **compliant** with other **international** frameworks and standards in order to improve information sharing and national **duty of care**
- Be compliant with other frameworks and not reinventing the wheel (starting from **NIST Cyber Security Framework** for CI)
- Increase the computer security market helping the structuring of the demand

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"...it is an important step toward the empowerment of the italian companies irrespective of size and market sector with a strategic self evaluation reference....."

2015 Intelligence report to the Italian Parliament (march2016)

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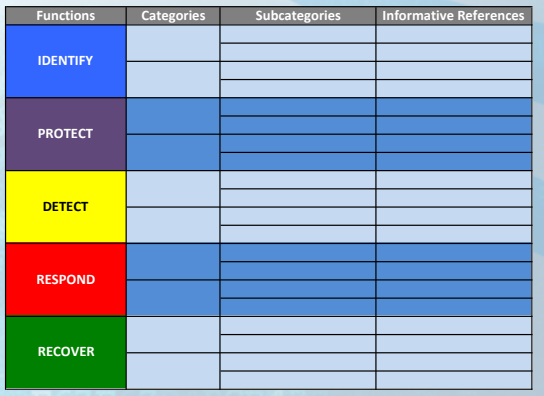
From NIST CI Framework to Italian National Framework

- Implementation tiers
- Framework core
- Profiles



- Priority levels
- Maturity levels
- Some Legal IR
- Guidelines

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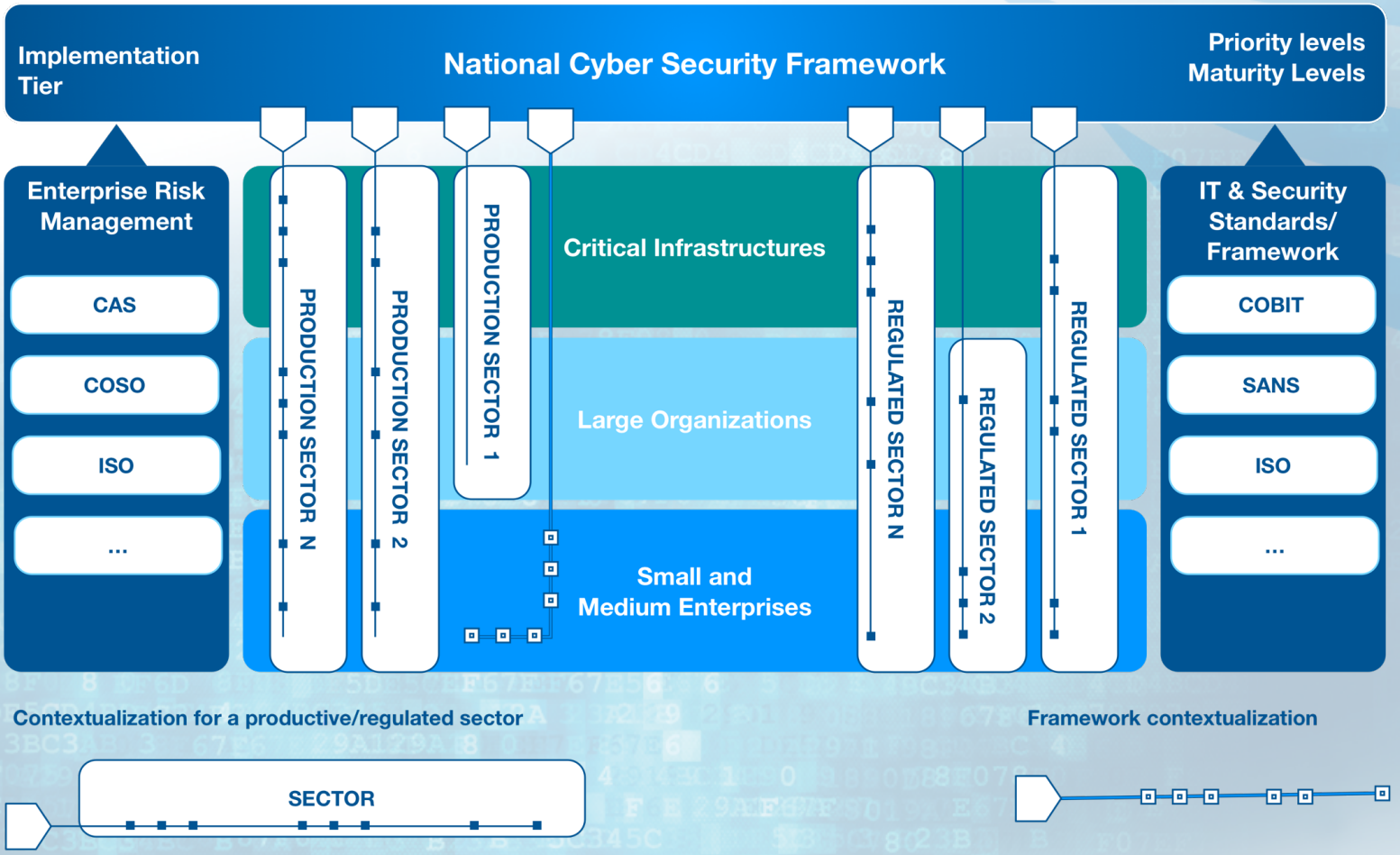
Framework as link between ERM & IT Standards



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6. A Framework contextualization for SMEs

Function	Category	Subcategory	Priority	Informative References
	Asset Management (ID.AM): The data, personnel, devices, systems, and facilities that enable the organization to achieve business purposes are identified and managed consistent with their relative importance to business objectives and the organization's risk strategy.	**ID.AM-1**: Physical devices and systems within the organization are inventoried	**HIGH**	· CCS CSC 1 · COBIT 5 BAI09.01, BAI09.02 · ISA 62443-2-1:2009 4.2.3.4 · ISA 62443-3-3:2013 SR 7.8 · ISO/IEC 27001:2013 A.8.1.1, A.8.1.2 · NIST SP 800-53 Rev. 4 CM-8
		ID.AM-2: Software platforms and applications within the organization are inventoried	**HIGH**	· CCS CSC 2 · COBIT 5 BAI09.01, BAI09.02, BAI09.05 · ISA 62443-2-1:2009 4.2.3.4 · ISA 62443-3-3:2013 SR 7.8 · ISO/IEC 27001:2013 A.8.1.1, A.8.1.2 · NIST SP 800-53 Rev. 4 CM-8
		ID.AM-3: Organizational communication and data flows are mapped	**LOW**	· CCS CSC 1 · COBIT 5 DSS05.02 · ISA 62443-2-1:2009 4.2.3.4 · ISO/IEC 27001:2013 A.13.2.1 · NIST SP 800-53 Rev. 4 AC-4, CA-3, CA-9, PL-8
		ID.AM-4: External information systems are catalogued	**NOT SELECTED**	· COBIT 5 APO02.02 · ISO/IEC 27001:2013 A.11.2.6 · NIST SP 800-53 Rev. 4 AC-20, SA-9
		ID.AM-5: Resources (e.g., hardware, devices, data, and software) are prioritized based on their classification, criticality, and business value	**MEDIUM**	· COBIT 5 APO03.03, APO03.04, BAI09.02 · ISA 62443-2-1:2009 4.2.3.6 · ISO/IEC 27001:2013 A.8.2.1 · NIST SP 800-53 Rev. 4 CP-2, RA-2, SA-14 · **Mandatory for the Governative Agencies according to 50-bis, comma 3, lett. A of CAD**
		ID.AM-6: Cybersecurity roles and responsibilities for the entire workforce and third-party stakeholders (e.g., suppliers, customers, partners) are	**HIGH**	· COBIT 5 APO01.02, DSS06.03 · ISA 62443-2-1:2009 4.3.2.3.3 · ISO/IEC 27001:2013 A.6.1.1

Function	Subcategory	Reference to the Guide	Level 1	Level 2	Level 3
IDENTIFY (ID)	ID.AM-1: Physical devices and systems within the organization are inventoried	Table 6.1: Assets identification (IA)	Assets inventory, classification and update (intended as information, applications, available systems and equipment) are performed mainly manually according to a defined and controlled process	Assets inventory, classification and update are performed in part in automatic mode that allows at least to automate the "discovery" phase of systems connected to the network, by detecting their characteristics (installed hardware, software, configurations, etc.) and registering the target inventory in a central repository	Inventory, classification and update of assets is done completely in automatic mode, allowing to manage the entire lifecycle of an asset (identification, assignment, status changes, removal, etc.)
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Contextualization of the framework

The framework can be “contextualized” by:

- Selecting the subcategories of interest
- Defining priority levels
- Defining maturity levels

According to (for example):

- Organization’s economic sector
- Organization’s size
- Organization’s business
- …

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Framework come insieme di pratiche di un Duty-of-care per mitigare rischi cyber

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Current cyber profile

Target profile

National Cyber Security Framework: Advantages for large enterprises

- **Top Management Awareness**
- **Help to prioritize their cyber security actions**
- **Help to create a substainable improvement of cyber security (including cyber insurance)**
- **Protection of the supply chain**

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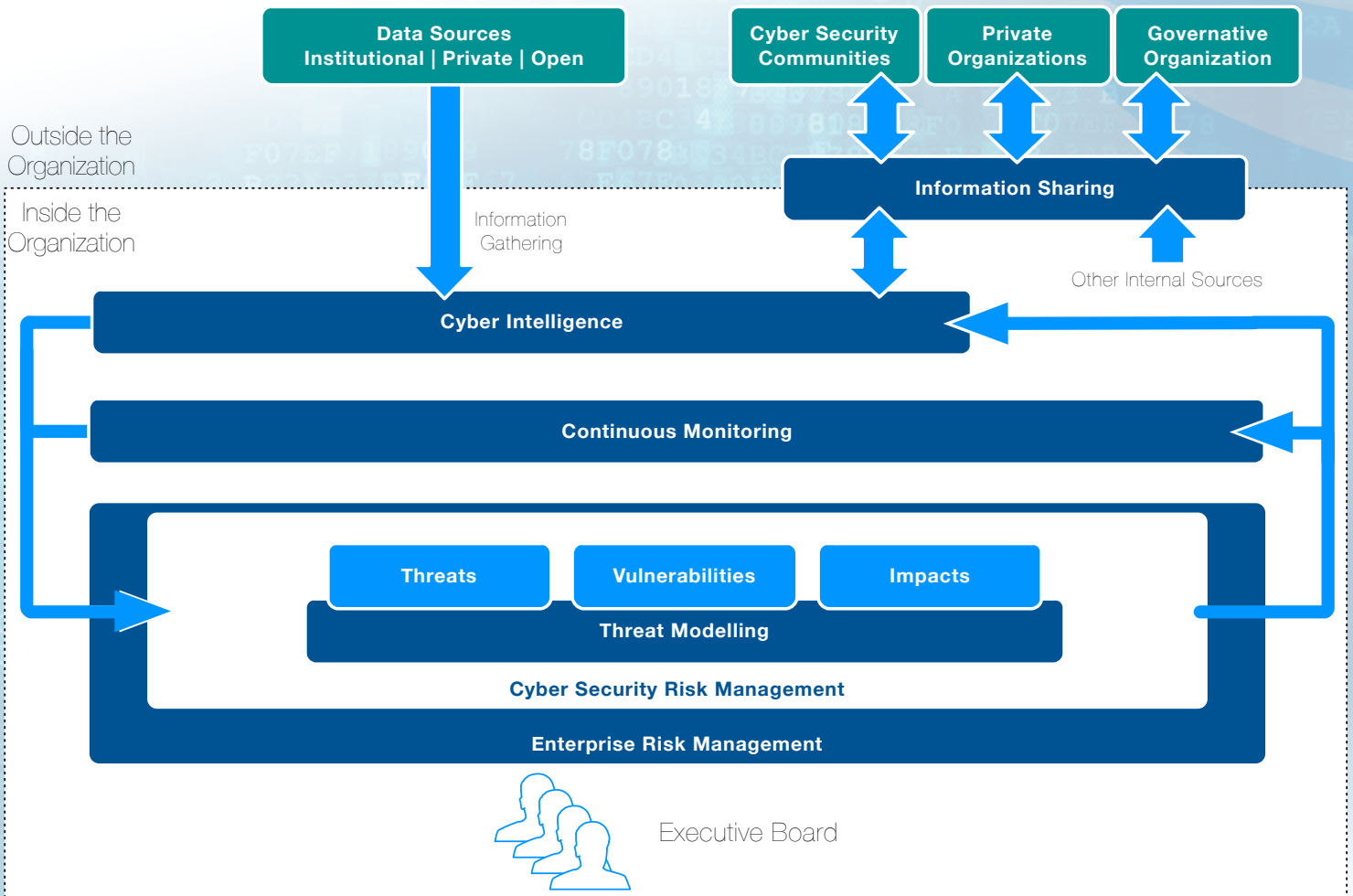
Advanced Cyber Risk Management



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National Cyber Security Framework: Advantages for SMEs

- A contextualization of the framework well suited to SMEs
- 20 quick-wins (similar to cyber essential but coherent with the national framework)
- A guide on how to implement high priority security controls
- Reinforcing the supply chain

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Advantages for the Nation

- Provide a **common ground** where national authorities can issue regulations in a coherent way e.g.,
  - Autority for Privacy,
  - Agency for digitalization of Italy (AgID)
  - Presidency of ministry council
  - Regulated sector authorities
- **International due diligence**
- **Evaluation** of the cyber risk for the whole nation

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Cyber Intelligence and Information Security Center

Sapienza Università di Roma

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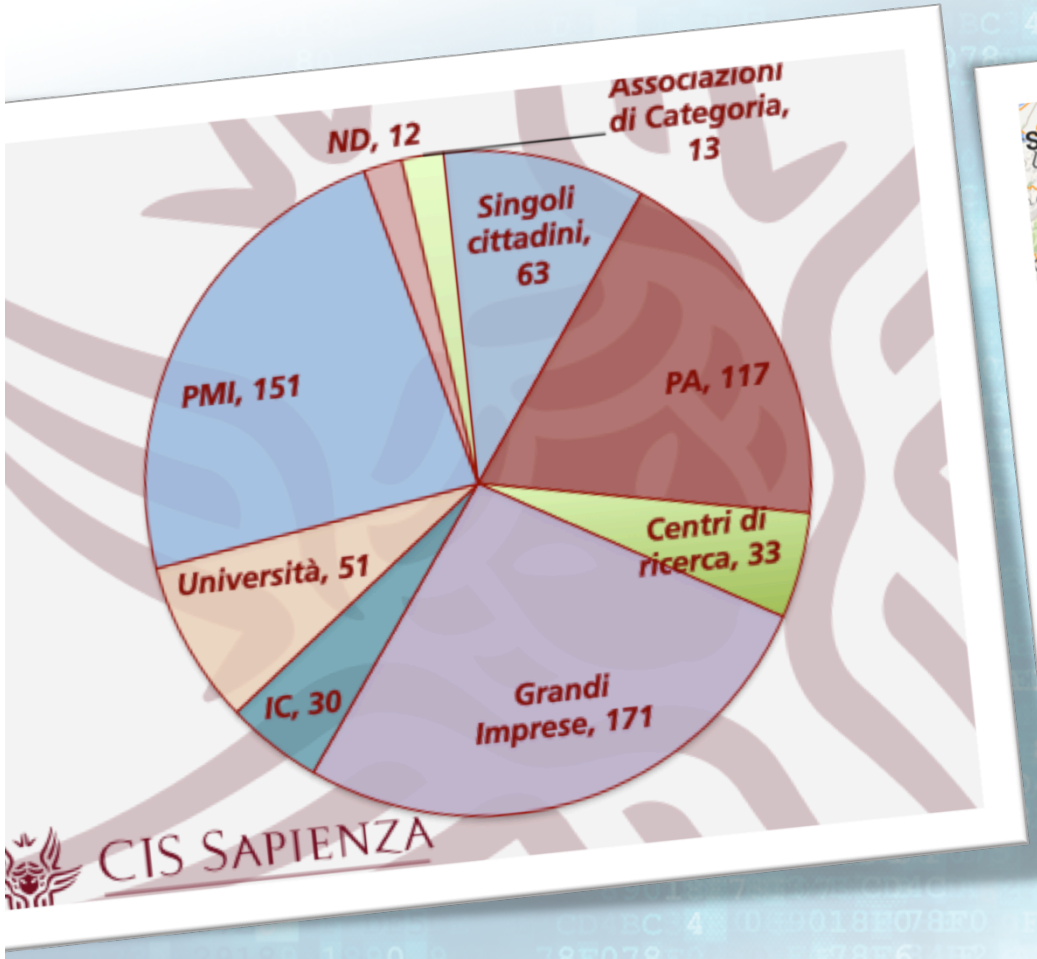

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