

Leonardo e le PMI, il prossimo evento del Roadshow



Torino, 4 Luglio 2019



CYBER SECURITY DIVISION

Leonardo - Our Business

Leonardo is a global company in the high technology sector, and is one of the key actors in Aerospace, Defense and Security worldwide.

RICAVI IN PERCENTUALI

RICAVI 2018

in € mld.

12,2

15%

Da mercato Italia

85%

Da mercati esteri



JOINT VENTURE E PARTECIPAZIONI



Telespazio
(67% Leonardo)



Thales Alenia
Space
(33% Leonardo)



AVIO
(26% Leonardo)



MBDA
(25% Leonardo)



ATR
(50% Leonardo)



Elettronica
(31,33% Leonardo)



Vitrociset
(100% Leonardo)

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ORDINI

15,1

PORTAFOGLIO ORDINI

36,1

R&S

12% dei ricavi

1,4

EXPORT DELLE PRODUZIONI ITALIANE

6,4

NUMERO ADDETTI

46.462

29.244 Italia

17.218 Estero

70% con lauree e diplomi
STEM (Science,
Technology,
Engineering,
Mathematics)

ità



CYBER SECURITY DIVISION

Security and Resilience

PHYSICAL

SECURE PROFESSIONAL COMMS

MAJOR
EVENTS

BORDER
CONTROL

CRITICAL INFRASTRUCTURE PROTECTION



CRISIS MANAGEMENT
AND EMERGENCY RESPONSE

INTELLIGENCE AND ANALYTICS

INFO ASSURANCE

EXTENSIVE KNOW-HOW IN CYBER SECURITY SERVICES

LOGICAL



Homeland Security & Critical Infrastructure Protection



SECURE COMMUNICATION

Heterogeneous radio systems based on professional technologies (TETRA, DMR) and open to broadband evolution through LTE standard and 5G. Leonardo solutions support public safety & security organizations and are open to cooperation between different agencies through the integration platform MCS-CSP Perseus.



HOMELAND SECURITY & CRITICAL INFRASTRUCTURES

Public safety and security solutions that integrate video surveillance, license plate readers, access control, anti-intrusion devices, cyber security and secure multi-technology communication networks for voice, video and data transmission to provide the most comprehensive operational picture.



MAJOR EVENTS PROTECTION URBAN SECURITY

Advanced technological solutions to equip security control rooms, also integrating in-house and third-party developed subsystems, with no impact on critical requirements such as general operational efficiency and timely scheduling.



TRANSPORT & SECURITY

Set of solutions and products to support safety and security of fleet for urban transport through vehicle localization, real-time secure communications with the mobility control center and “on board” video-surveillance to ensure maximum protection of commuters.



Mission Critical Communications

Mission critical networks → designed and implemented for the «worst case scenario»

- 1. Radio coverage:** service available on the whole territory subject to possible intervention, able to communicate even when the radio access stations remain isolated or fail
- 2. Priority and emergency management:** ability to always call also by subtracting resources to communications with lower priority
- 3. Service high availability:** redundant network elements, transport network with multiple alternative routes, immediate reaction to failures, emergency power supply systems with significant autonomies, etc.; Full operation even in situations of peak traffic (disaster scenarios) or natural disaster
- 4. High voice quality:** low latency and low distortion
- 5. Group calls:** simultaneous for all active users in the operating area (hundreds of users distributed on many radio sites or concentrated in a small space)
- 6. Immediate calls:** no perceptible delay for the establishment
- 7. Control rooms:** for the supervision and coordination of field teams
- 8. Secure and protected communications without degradation:** protection against interception and intrusion
- 9. Specialized terminals** for heavy use and in particular environments





Demand evolution



* TCCA CCBBG Broadband adoption roadmap

1. Voice “IS” the Mission Critical service

2. Narrowband data is a Mission Critical Service widely adopted for Public Safety networks: Localization, SDS/Status Messages

Current operative procedures, field proven through years of operational experience, leverage on voice service availability in every circumstances

3. Use of broadband data is emerging as operational need for increased «situation awareness» in Control Room and a more effective and efficient Public Safety management → proactive policing.

4. Main services requested by end users are

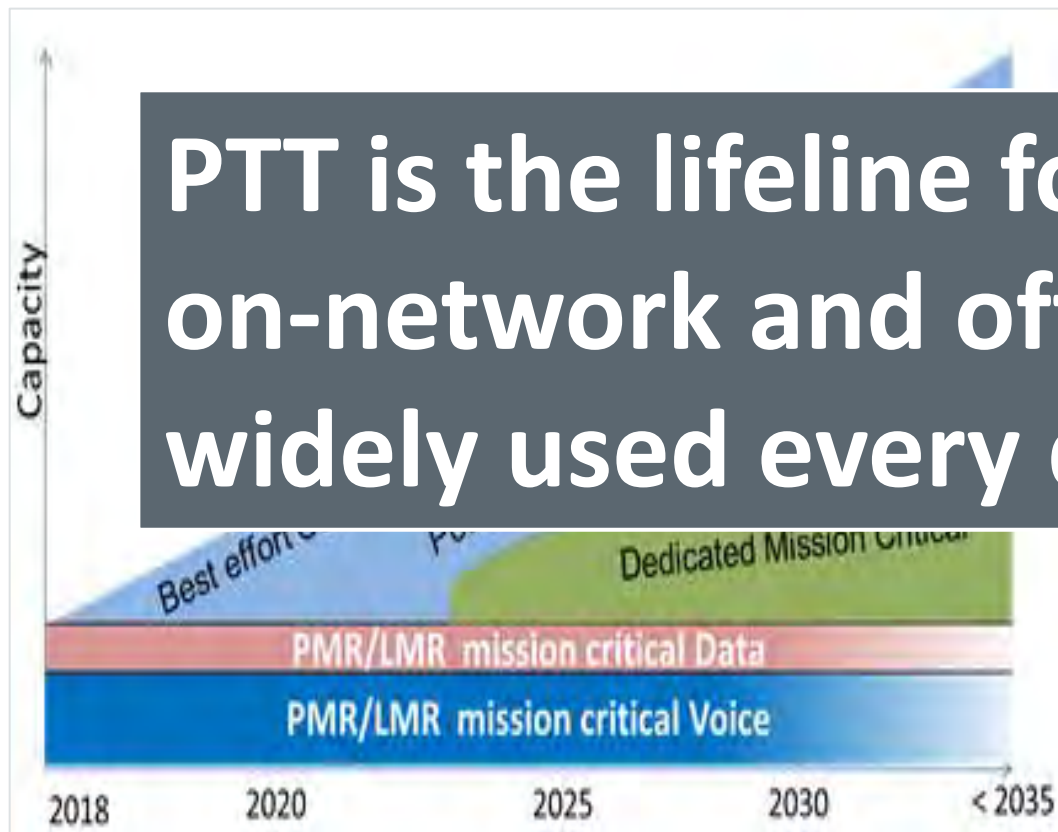
1. On the move video and image sharing
2. On the move DB access
3. On the move Integrated Video Analytics & AI

Definition of updated operative procedures exploiting the new capabilities enabled by broadband data is still underway; in most cases the new services are perceived as added value on top of voice and narrowband data services

Communication needs typical of PPDR (*Public Protection and Disaster Relief*) users are not technology driven as in the mass market, but defined by the service operational requirements



Demand evolution



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PTT is the lifeline for first responders, on-network and off-network. It is widely used every day and it is proven

gh years of
availability in

creased «situation
nt Public Safety

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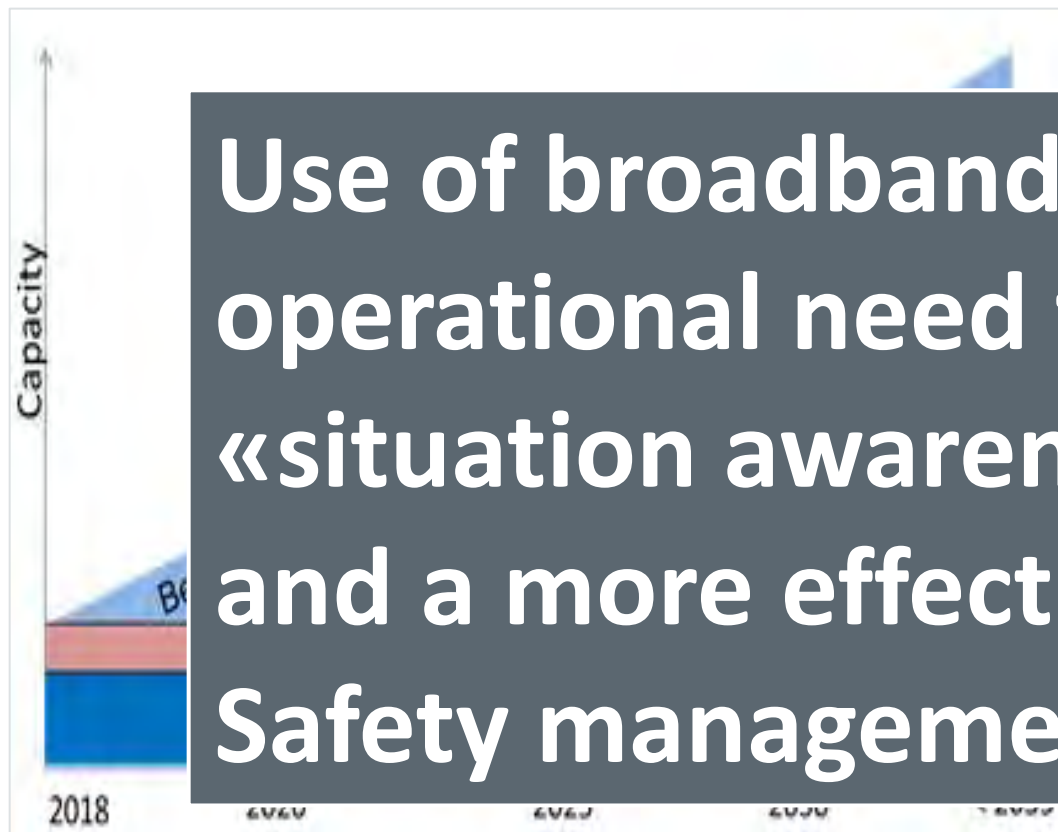
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5G: an enabler for Mission Critical Intelligence



- Broadband can provide **massive flow of data** into the Control Room
- Making those data actionable is the hallmark of the shift from **Mission Critical Comms to Mission Critical Intelligence**



faster response times, lower incident rates, better use of resources, proactive policing
Safer citizens

Mission Critical Comms		Mission Critical Intelligence
Connecting People Voice centric	▶	Connected Everything Voice & Data Centric
Situational awareness Command and Control	▶	Contextual awareness Intelligent edge
Physical Private resources Dedicated network computing & storage	▶	Virtual Private Resources Shared infrastructures, cloud/data
Product & Devices HW centric	▶	Intelligent Ecosystem HW & SW & Services
Critical Communications React & Respond	▶	Critical Intelligence Predict & Prevent + React & Respond



MC-PTT: Mission Critical Push To Talk

The Push To Talk standard for emergency situations

- **Standards compliance is at the core of what we do**
- Leonardo has a wide portfolio of standard solutions for PPDR communications: formerly DMR & TETRA, now **MCPTT**
- Our standards-based Broad Band PTT solution is already compliant with the 3GPP MCPTT reference architecture and information flows (**Rel 14**)
- Participation to **MCS ETSI Plugtests** and **TCCA pre-certification** are proof of quality of Leonardo implementation



The Mobile
Broadband Standard

Mission Critical Services in 3GPP





CYBER SECURITY DIVISION

Leonardo Safety & Security Platform (SC2)

SC2 è la piattaforma Leonardo progettata per aumentare la consapevolezza della situazione, il controllo e le capacità di coordinamento al fine di aumentare l'efficacia degli operatori della sicurezza:

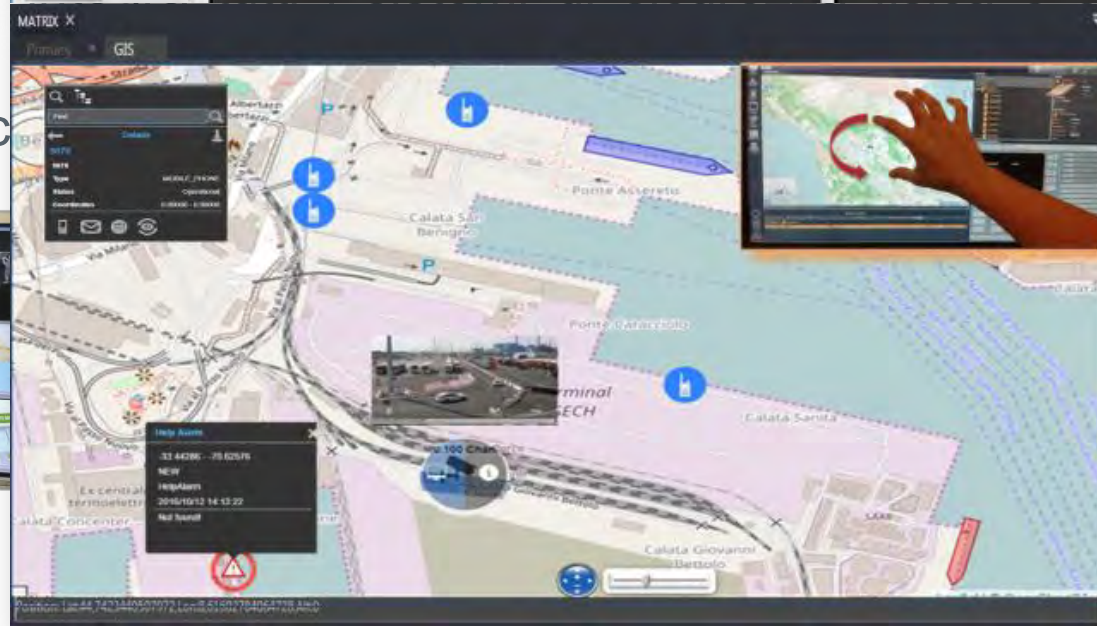
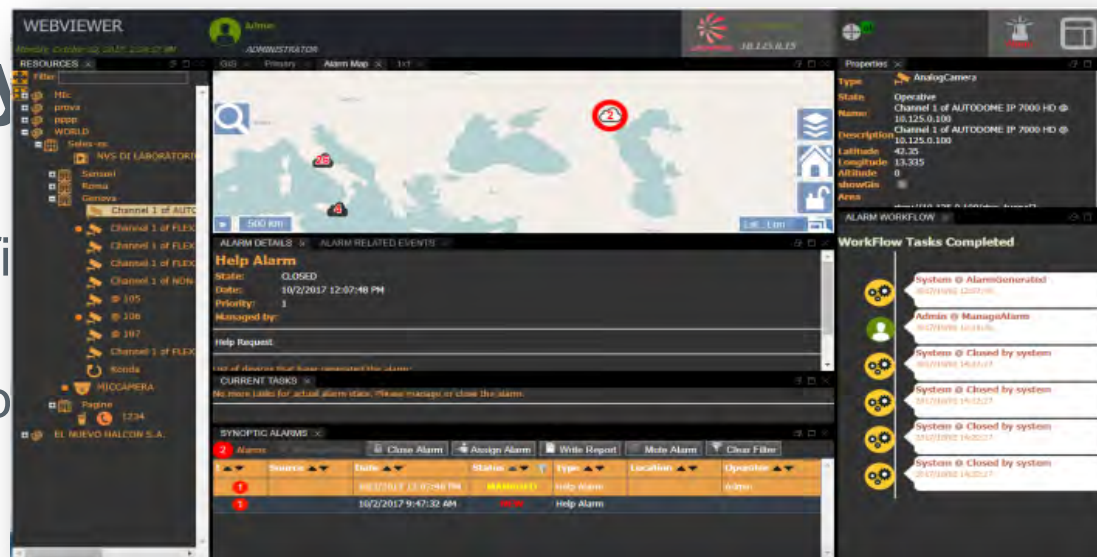
- un quadro operativo comune per supportare gli operatori di sicurezza nella gestione efficiente di situazioni ordinarie e critiche
- un ambiente interoperabile avanzato che integra tutti i sistemi di sicurezza fisica e altri sistemi avanzati
- tecnologia aperta e scalabile per il centro di controllo, sala di controllo mobile, organizzazioni multi-sito



Leonardo Safety & Security

SC2 è la piattaforma Leonardo progettata per controllo e le capacità di coordinamento al fine sicurezza:

- un quadro operativo comune per supporto efficiente di situazioni ordinarie e critiche
- un ambiente interoperabile avanzato che sistemi avanzati
- tecnologia aperta e scalabile per il coordinamento di organizzazioni multi-sito





PPDR
COMMUNICATION

MISE 5G Italian Trial Bari-Matera [3.6 – 3.8 GHz (Banda C)]



#BariMatera5G

www.barimatera5g.it

<http://www.barimatera5g.it/>



Public Safety	
Sicurezza della popolazione e supporto alle forze dell'ordine Wearable Cam, braccialetti smart per eventi di massa Uso di droni per sicurezza pubblica Controllo territorio e gestione emergenze Integrazione 5G con piattaforme esistenti per la sicurezza di grandi eventi Stadio Matera 2019 C.A.R.A. Aeroporto...	
Partner - TIM - Fastweb - UNIBA - CNR - NTT Data - Planetek - InnovaPuglia - Leonardo - Bosch - Athonet - Aeroporti di Puglia	Potenziati Beneficiari - Comune di Matera - Comune di Bari - Polizia municipale - Compagnie Assicuratrici - Stadio San Nicola di Bari - C.A.R.A. di Bari - Polizia di Stato - Protezione Civile - Aziende di sicurezza privata - Organizzatori di eventi di massa ... cittadini



MISE 5G Italian Trial Bari-Matera: Bari Port Security and Access Control system

Use Case description



Main functionalities and capabilities:

Video-analysis:

1. **Face Recognition** for suspect identification/access control
2. **People Counting** (people and vehicles leaving the ferry)
3. **Object Detection** (vehicles in the parking lots wrong positioning, vehicles parked in forbidden areas, suspect vehicles)

Public Forces communications:

1. **Broadband communications over 5G** for field operators coordination and TETRA systems interworking

Main Objectives and use case benefits



Use of 4K cameras to improve access control and security management at port entrances and piers



To improve management and control of ferry operations at departure and arrival



To improve communication of PS forces through broadband and 5G

Partners



End Users



CYBER SECURITY D

MISE 5G Itali



Use of 4K control and port entrance and pier

Partners



End Users





MISE 5G Italian Trial Bari-Matera: monitoraggio e la gestione avanzata di eventi critici nell'ambito di manifestazione Matera Capitale della cultura

Use Case description



Lo scenario proposto mira a supportare la gestione della sicurezza durante eventi pubblici che si terranno a Matera nell'ambito delle iniziative di Matera Città della Cultura.

Video-analysis:

1. **Face Recognition** for suspect identification/access control
2. **People Counting** (overcrowded areas)
3. **Object Detection** (suspec objects in the area)

Public Forces communications:

1. **Broadband communications over 5G** for security personnel

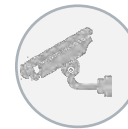
Main Objectives and use case benefits



Monitoraggio real time di eventi pubblici per evitare potenziali situazioni di rischio



Migliorare le capacità di comunicazione degli addetti alla gestione della sicurezza



Migliorare gestione della sicurezza in aree critiche (es. varchi) grazie a telecamere 4K ad alta definizione

Partners



End Users



MISE 5G Italian Trial Bari-Matera: m critici nell'ambito di manifestazione



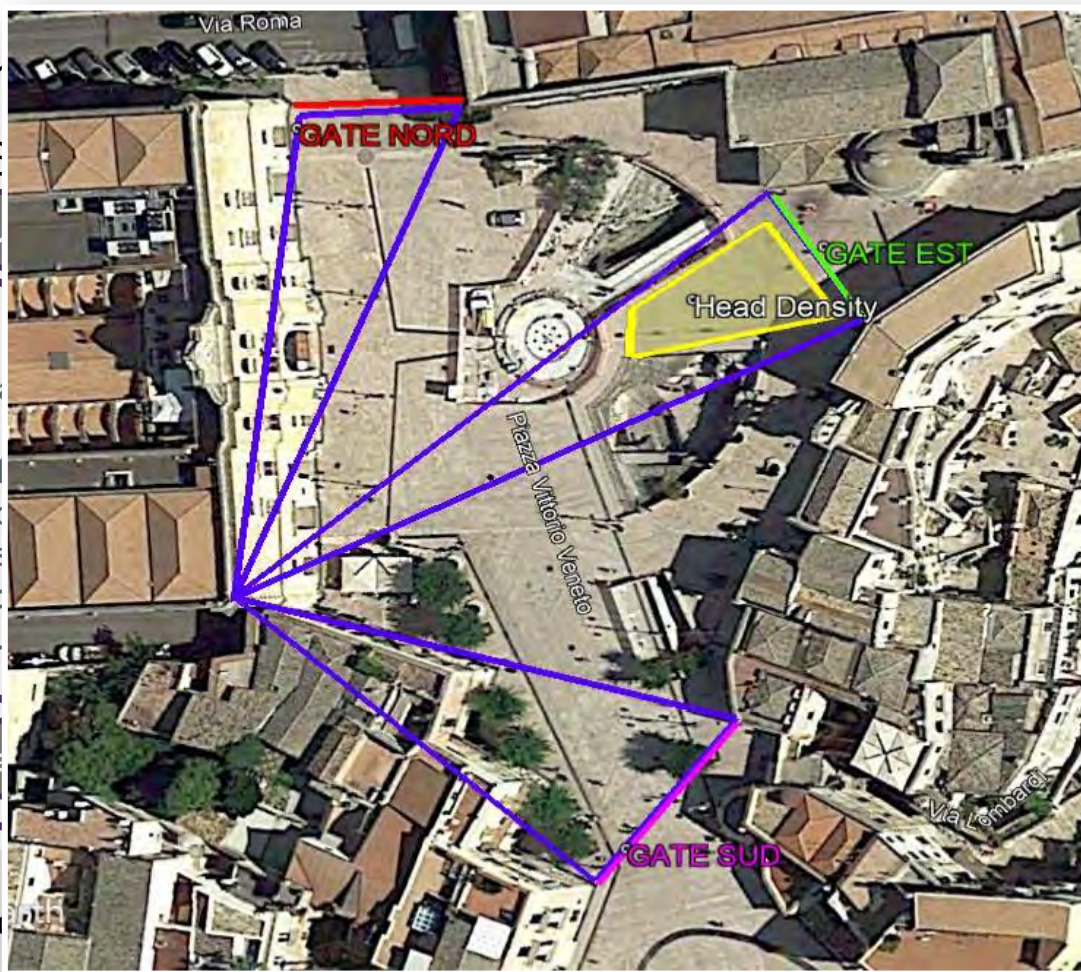
eventi



Lo scenario proposto mira a
Matera nell'ambito delle inizi

Video-analysis:

1. Face Recognition
 2. People Counting (C)
 3. Object Detection (S)
- Public Forces comunicat
1. Broadband commu



Main Obje



Monitoraggio real time di eventi
pubblici per evitare potenziali
situazioni di rischio



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Partners



End Users



MISE 5G Italian Trial Bari-Matera: m critici nell'ambito di manifestazione



eventi



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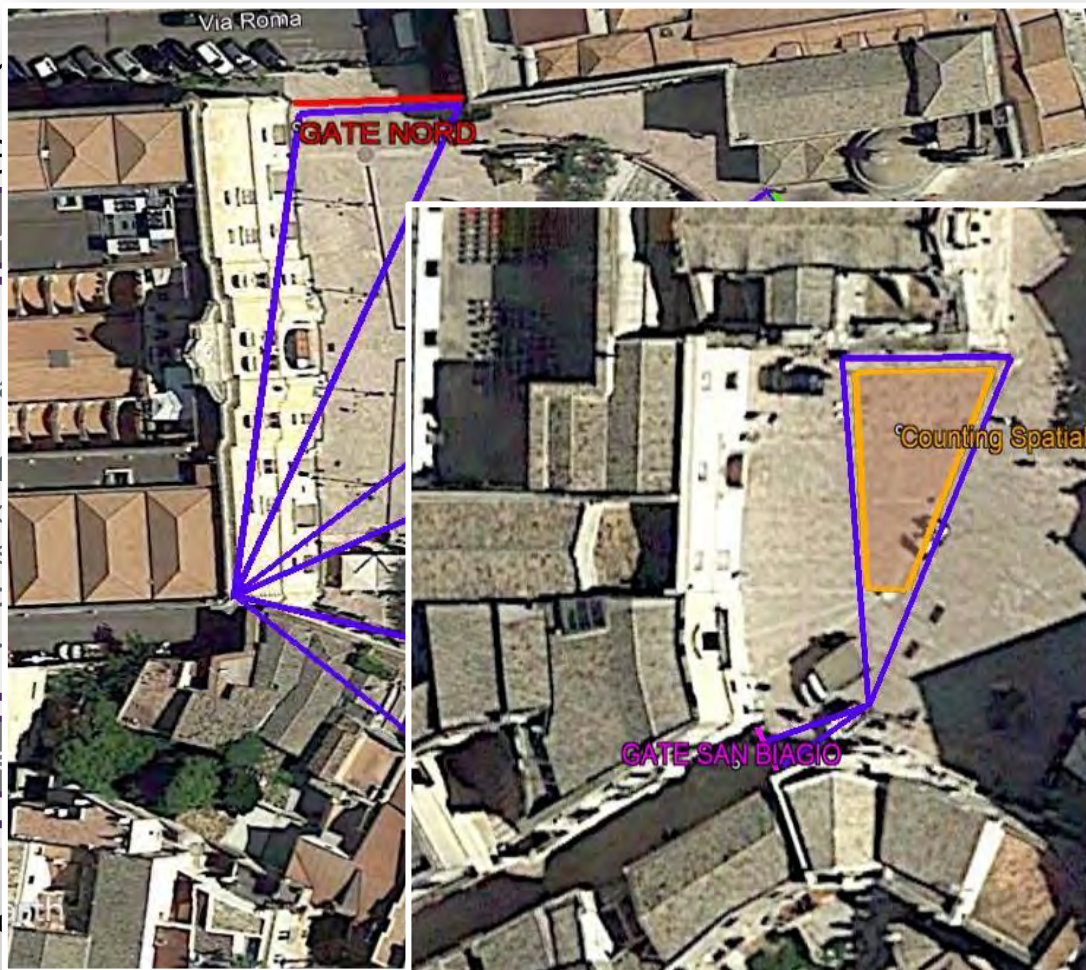
Main Obje



Monitoraggio real time di eventi
pubblici per evitare potenziali
situazioni di rischio



Partners





Modello Leonardo per l'Open Innovation



Le PMI come motore di innovazione e accelerazione:

1. Commercial Agreement
2. Innovative Product Procurement
3. IPR Procurement: disruptive technology licensing
4. Co-development/exploitation
5. Acquisition

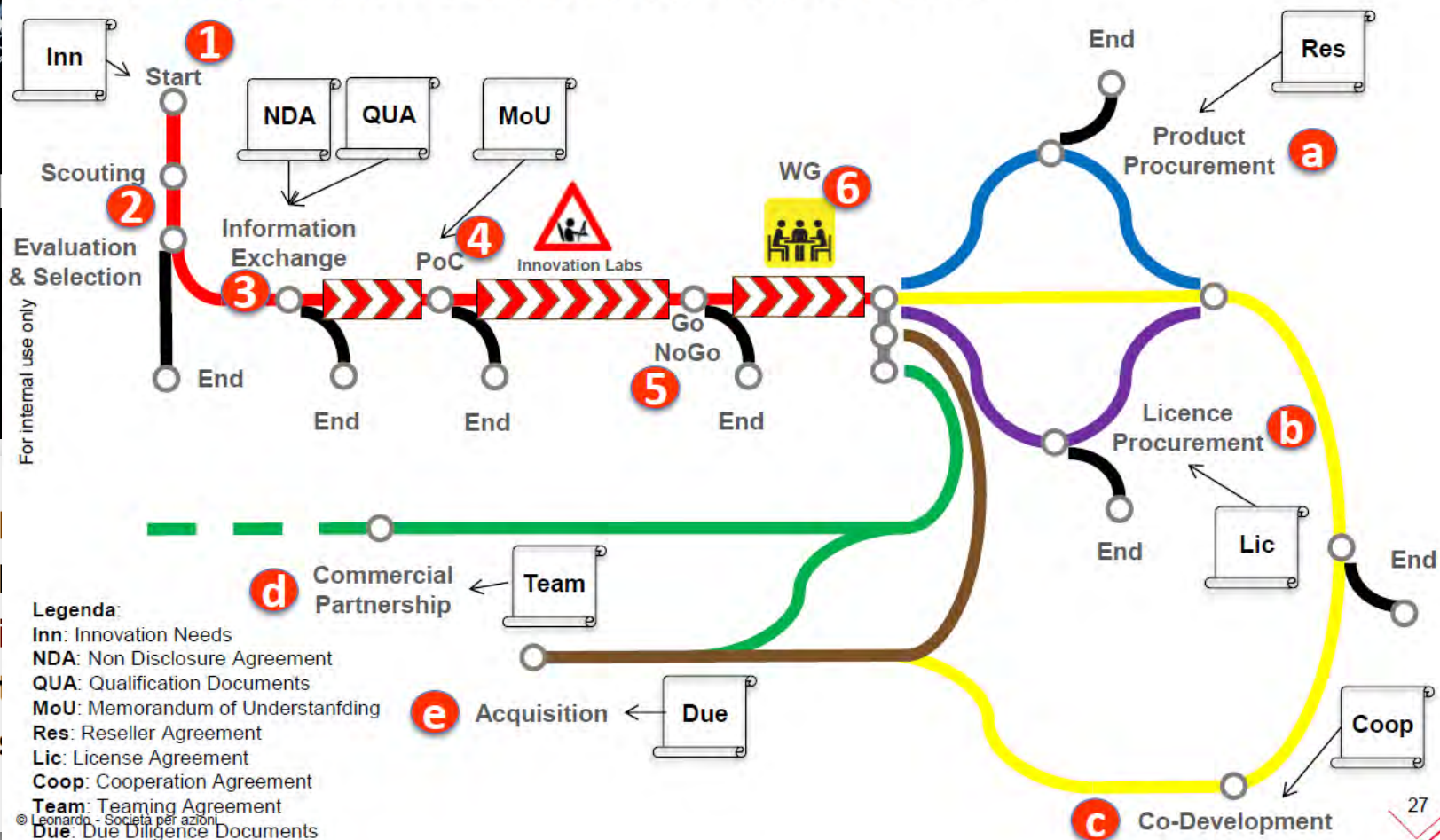
For Leonardo, innovation comes in many forms. It is not purely based on the work of individuals, but also depends on the sharing of ideas and knowledge among many players, both inside and outside the company. These include universities, research centres, SMEs, start-up companies and customers.

<https://www.leonardocompany.com/innovation/open-innovation>



4. OPEN INNOVATION

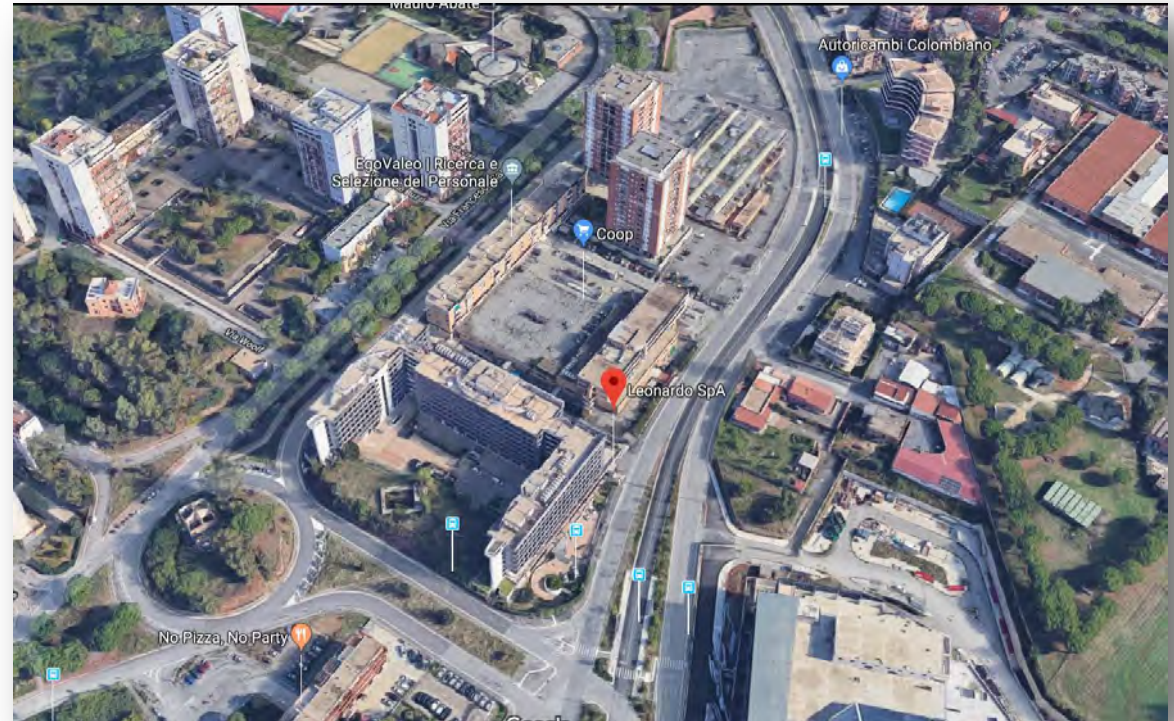
Modello operativo – S&IS New Innovation Process





ETSI Technology Awareness Roadshow for SMEs – Seconda Tappa

- LEONARDO – Innovation Lab
- Sede: Roma Laurentina
- Data: 26-29 Novembre (tbc)
- 5G for Mission Critical Communications and Intelligence
- Le PMI assisteranno alle demo di tecnologie 5G connesse alla realizzazione di soluzioni per la sicurezza realizzate da Leonardo in collaborazione con alcune PMI «campione». Le PMI potranno verificare i benefici degli standard per il 5G come fattore abilitante per le soluzioni di sicurezza di prossima generazione.



LEONARDO
CYBER SECURITY

Innovation Lab



Contacts

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CYBER SECURITY DIVISION



THANK YOU
FOR YOUR ATTENTION

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