

THALES



➤ Focus on vertical markets

Focus on Ground Transportation

**Ground
Transportation**



**Critical
Infrastructure**



Government



**Industry and
Finance**



Ground Transportation



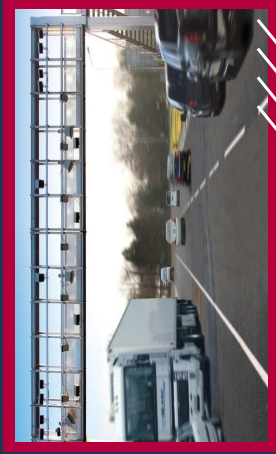
Main Line



Metro



Road



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Ground Transportation



High barriers to entry

- Large scale system projects to manage
- Safety requirements
- Very specialised skills – transport know how
- References are essential
- National certification



Clear drivers

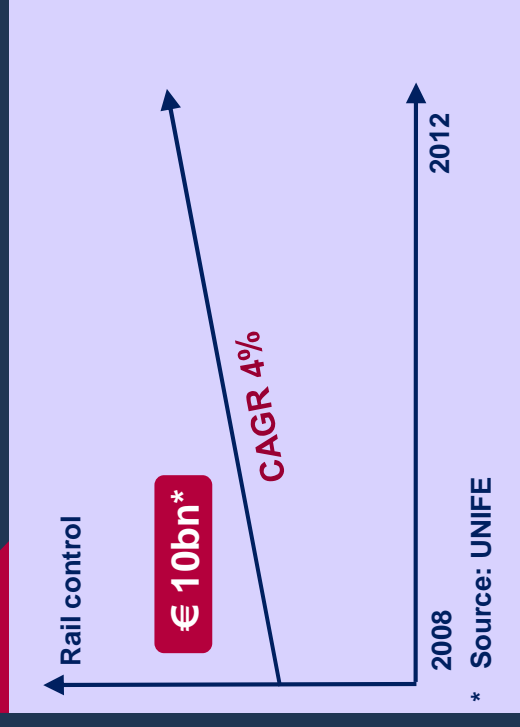
- Signalling / Supervision / Communications
 - Deployment of **ETCS** across Europe and beyond
 - Continued investments into technology to support railways' competitiveness vs. air traffic and road
 - Growing acceptance of CBTC (Radio) for urban rail
- Electronic Ticketing
 - Larger cities drive the need for fast ticketing systems
 - Political drive towards regional / national interoperability
 - Acceptance and availability of contactless technology

//// A long term growing market ...



Large growing market

- Ecological awareness
- Deregulation & liberalisation
- Urbanisation



Ground Transportation

Regional growth drivers

Europe
Main Line + Metro
High speed lines, ETCS
CBTC

North America
Metro
Refurbishment

India
Main Line + Metro
Refurbishment
Freight Corridors

Middle East & Africa
Main Line + Metro

Asia Pacific
Main Line + Metro
New lines, ETCS

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Ground Transportation

////// Thales positioning in rail control

Rail/Metro Infrastructure Project

Civil Works

Mission-Critical Systems & Services

Rolling Stock

Power Supply

- Advanced signalling systems
Controlling train movements safely
 - European Train Control System (ETCS)
 - Communications Based Train Control (CBTC)
- Integrated Communication and Supervision Systems (IC2S)
Operating Command & Control - Passenger information
CCTV & passenger safety monitoring
- Integrated fare systems
Nationwide ticketing systems

Thales: Mission-Critical Systems Integrator



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Ground Transportation

//// Thales leadership in rail control



No.2 worldwide in advanced signalling systems

- N°1 in European Train Control System (ETCS)
- N°1 in Communications Based Train Control (CBTC)
- N°1 in electronic axle counters



- No.1 provider of integrated fare systems worldwide
- Unique provider of nationwide ticketing systems



- No.1 in integrated communication and supervision system
- Unique provider of end-to-end systems

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Ground Transportation

//// Facts & figures

- 6000 Thales employees dedicated to transport market
- More than 100 customers worldwide trusted Thales
- 40 years of excellence on the world transport market



World longest tunnel supervised by Thales
(Lötschberg, Switzerland) 34,6 km



- 100 million fare transactions are processed every day by our ticketing systems worldwide
- About 40 cities worldwide use Thales supervision systems

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Rail Control

//// Main competitors

Main Line

Metro



Signalling



Integrated Communication & Supervision Systems

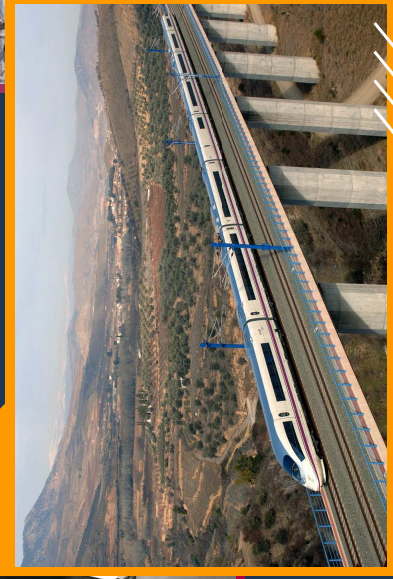
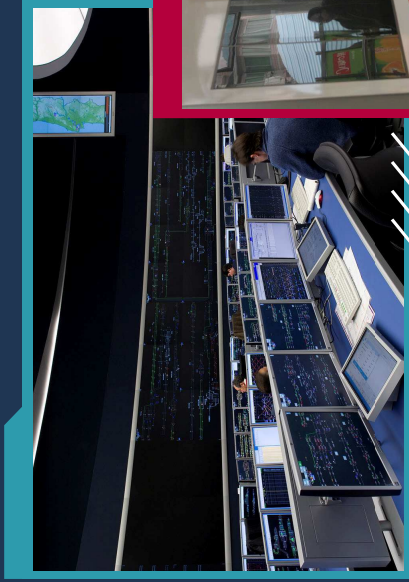


Revenue Collection



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Ground Transportation



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Focus on Critical Infrastructure

Ground
Transportation



Critical
Infrastructure



Government



Industry and
Finance



Critical Infrastructure



Energy and Utilities



- Oil & Gas sites
- Electricity facilities
- Nuclear + water plants



Airports



- Passenger terminals
- Cargo area



Sensitive Sites



- Military bases
- Ports



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Critical Infrastructure



Clear drivers

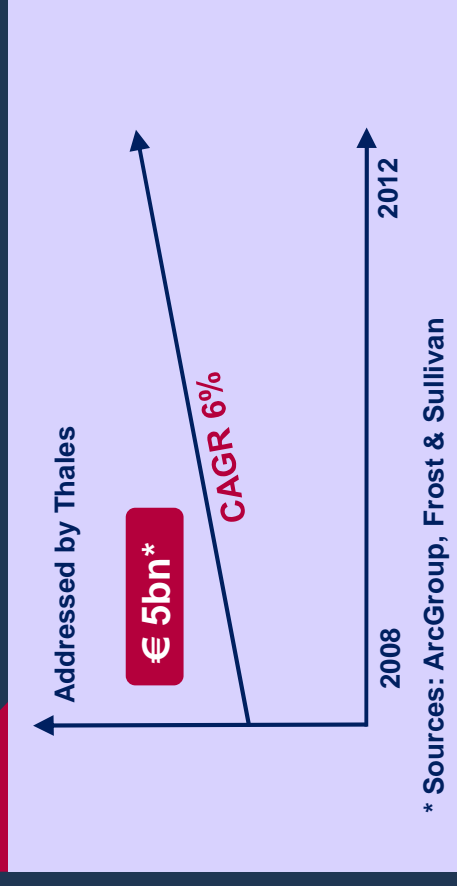
- Strong concern for Security in critical infrastructure
- Booming security needs for Oil and Gas in risky areas
- Airport: more passengers, more risks, more complexity
- Regulations covering Security & Safety:
 - Infrastructures / activités d'Importance Vitale → France
 - Seveso 2 → Europe
 - High Committee for Industrial Security → Saudi Arabia
 - ICAO for Airports Security



Strong momentum...

- Natural resources competition (Energy, Water)
- Terrorism Threat
- Large investments in Oil & Gas countries

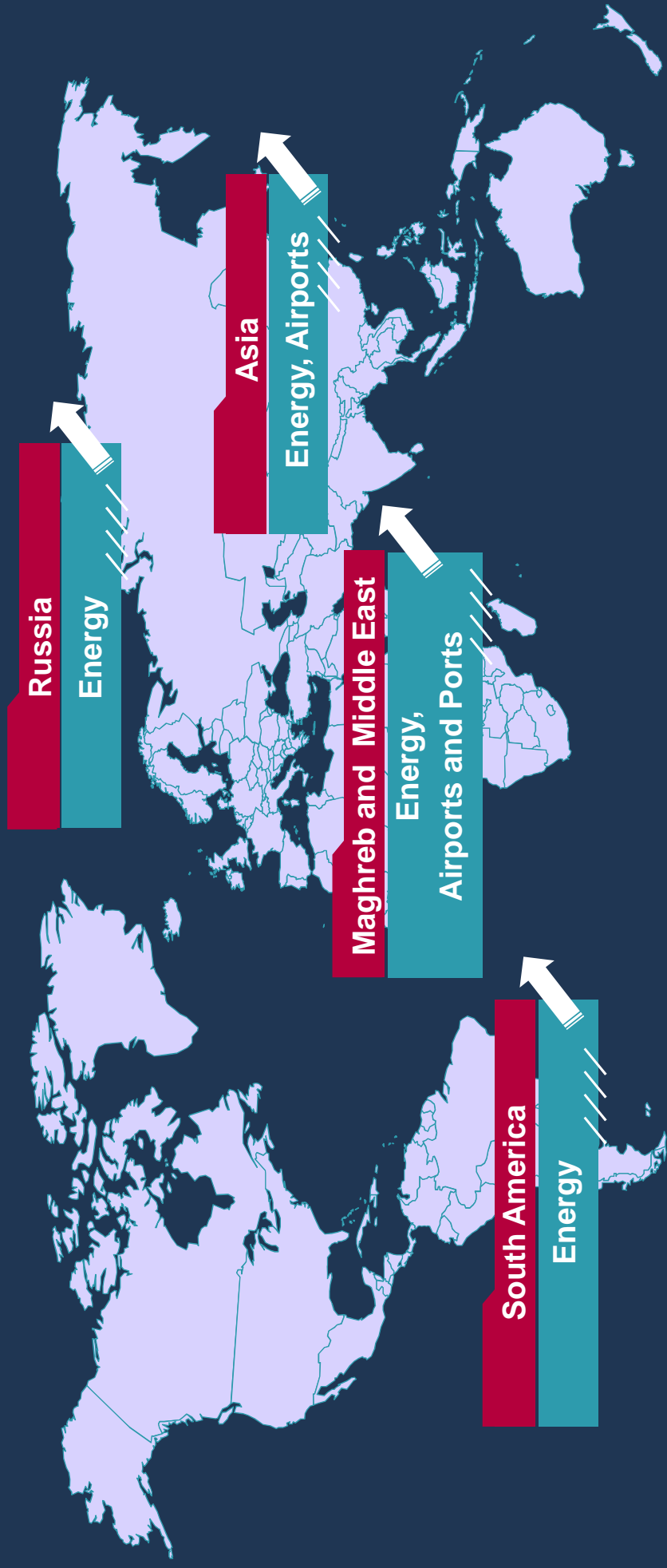
//// A growing market ...



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Critical Infrastructure

//// Regional growth drivers



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Critical Infrastructure

//// Main competitors



Security and
Safety

Oil & Gas

SIEMENS

Honeywell



Airport

SIEMENS

Honeywell



Operation
Control

SIEMENS

TELVENT

Honeywell



EMERSON



CSE

Exxact



YOKOGAWA

ARINC

SITA

SIEMENS



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Critical Infrastructure

//// Facts & figures

More than 51 000 km of pipeline supervised and secured by Thales



Security of the world biggest Oil terminal (10% of the world oil daily supply)

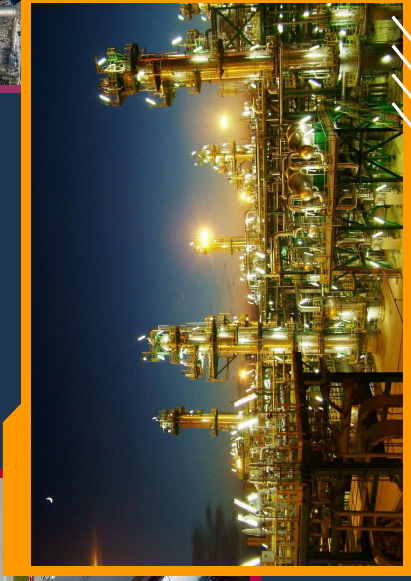
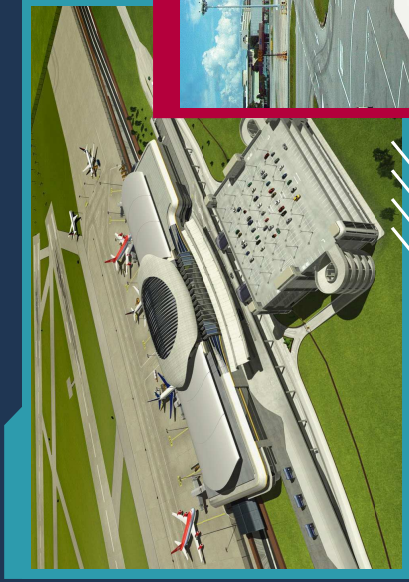


In Dubai => 50 Million passengers per year are secured by Thales Solutions (2000 access control points, 1700 cameras, 45000 subscribers on the IP network)



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Critical Infrastructure



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Focus on Government

Ground
Transportation



Critical
Infrastructure



Government



Industry and
Finance



Government

//// Thales offer



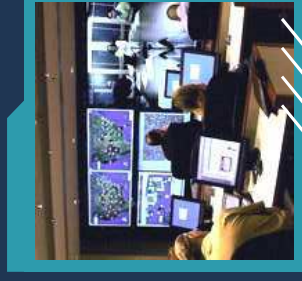
Digital ID

End-to-end Identity Management Solution, automatic multi biometric identification solutions



Public Safety

Large urban security, crisis management, CBRN suite



ICT

ICT security solutions & products to secure critical national infrastructures, trusted platforms for civil national administrations



Security Forces Training

Support the operational missions of the armed & security forces



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Government

//// A strategic market



Clear drivers

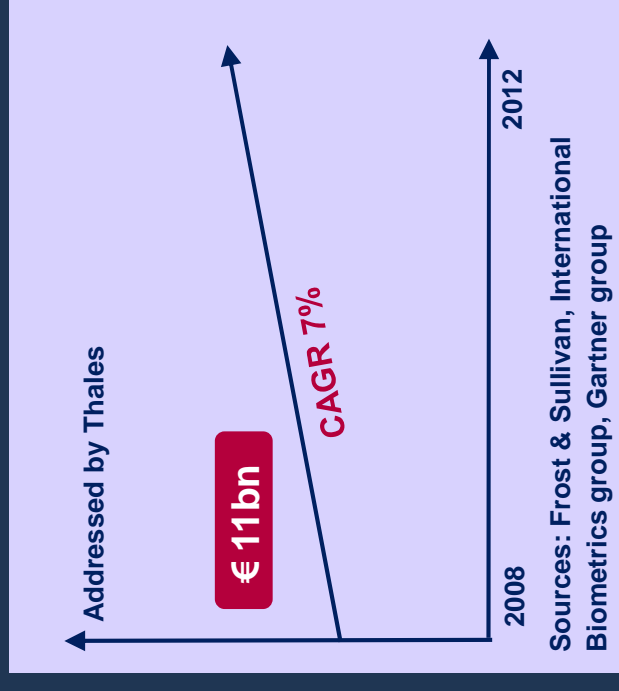
- Digital Identity & Biometrics : new regulations
 - New regulation for secured ID documents (US, UE - Schengen ID checking rules....)
 - Stronger anti-illegal Immigration regulation
- Public Safety : megacities drive the move
 - Increasing security requirements
 - Terrorism threat evolution (incl. CBRN)
 - Emerging urban security forces training demand

Network and communications

- Requirements for resilient & trusted platforms and solutions for e-government & citizens



Large opportunities



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Government

//// Facts & figures



Protecting the lives of four million pilgrims each year in Muslim holy places in the Middle East



Unique experience in turnkey solutions: more than 200 million ID documents in over 20 countries



Thales has processed over 150 million fingerprints using their AFIS systems (Automated Fingerprint Identification Systems)



Well over 300 land system simulators, and 100 helicopter simulators have been delivered by Thales to customers worldwide

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ICT Security



ID Management



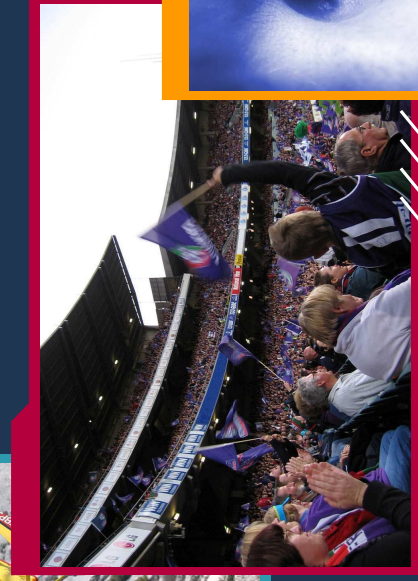
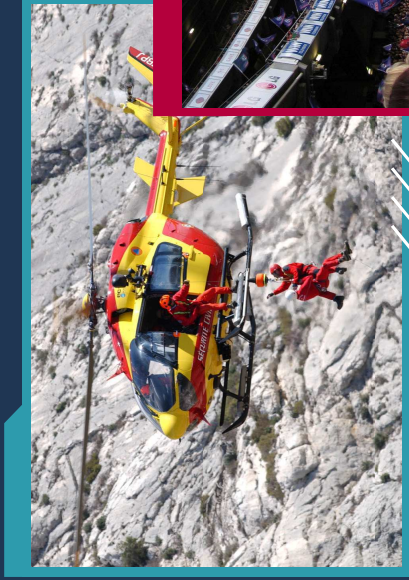
Public Safety



Simulator based Training



Government



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Industry and Finance

Zoom on ICT

Ground
Transportation



Critical
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