

From *EuroDefense* to *EuroSecurity*



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The *EuroDefense* Council of Presidents

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Advanced Concepts: Mission Statement

- Missions
 - Thinking (about) the Future
 - Conceptual Context
- Roles
 - External: Pathfinder and Dialog Partner
 - Internal: Advisor, Red Team Player, and Supporter

“If I had asked my customers what they wanted, they would have said faster horses”.
Henry Ford

AC Global Outlook: Some Illustrations (1)

- Global Outlook: Analysis of Trends and Parameters
 - Hedging against Uncertainty
 - Limited Budgets
 - Manpower Constraints
 - Shift of Economic Power
 - Shift of Military Power (incl. Proliferation)
 - Adaptability of Opponent, Tactical Response Options
 - No/Low Collateral Damage
 - Not-Going-It-Alone Approach, Coalition Operations and Cooperative Security
 - In-Between Scenarios, Internal/External Security, Post-Conflict Engagements, Nation-Building
 - Overlapping Defense and Security / Mission Convergence
 - Mass Data Gathering
 - Cyber Space Security and Warfare
 - Threat from Within

AC Global Outlook: Some Illustrations (2)

- Deduction Process
 - Customer Challenges
 - Security Capability Requirements
 - Industrial Capability Requirements
 - System Requirements
 - Services/Products/Technologies
- Here: Only First Two Steps for Illustration

Translating Evolving Demands into Future Capability Requirements (1)

- Hedging Against Change, Uncertainty
- Limited Budgets
- Manpower Constraints
- Shift of Economic Power
- Shift of Military Power
(incl. Proliferation of WMD, Dissemination of Hi Tech)
- Flexibility, Versatility, Multi-Role/ Multi-Purpose/Multi-Use, Modularity, Adaptability, Scalability, Growth Potential, Spiral Development
- Affordability, 80/60 Solutions, COTS, Plug 'n Play Solutions, New Financing Models, PPP, LSI, Provider Solutions, Outsourcing, Spiral Development, Modularity, Growth Potential, Upgradability
- Reduced Manning Requirements (e.g., Automated Surveillance), Cooperative Recruitment Models, Joint Teams (e.g., SUZ), Outsourcing, PPP, Services, LSI, Provider Solutions
- Providing Competitive Systems; Maintaining Technology and Innovation Base; Partnering
- Robustness, Hardening, Redundancies, Autonomy, Fail-Safe Procedures, Resilience, Immunization, Absorbability, Disaster/Consequence Management, Counter-Countermeasures

Translating Evolving Demands into Future Capability Requirements (2)

- Adaptability, Tactical Response Options
- Ability to Go Against Concealed and Intermingled Targets, Urban Security Missions, Precision, ISR
- No/Low Collateral Damage
- Accurate Intelligence, Continuous Surveillance, Exact Target Acquisition, Precision Engagement/Strike, Scaled Effects
- Not-Going-It-Alone Approach, Coalitions
- Interoperability, Plug 'n Play / Plug 'n Fight Solutions
- In-Between Scenarios
- Interoperability, Civil-Military Cooperation
- Post-Conflict Engagements, Nation-Building
- Sustainability, Endurance, Logistic Support, Maintainability, Reliability, CIMIC, Scaled Effects, Surveillance, Behavior Prediction / Crowd Control
- Overlapping Defense and Security / Mission Convergence
- Interoperability, CIMIC, Robust Security Equipment, Infrastructure Protection
- Mass Data Gathering
- Automated Evaluation, Assessment Support
- Threat from Within
- Behavior Checks, Plausibility Tests

Planning for the Unknown

- In General: Hedging
 - Base Line: Risk-Orientation, Not Just Probability
 - Planning Against Strategic Disruption
- Insensitivity Against Huge Assumption-Variations
 - Flexibility, Versatility, Multi-Role/Multi-Purpose/Multi-Use, Modularity, Adaptability, Scalability, Growth Potential, Spiral Development
 - Robustness, Hardening, Redundancy, Maintainability, Reparability, Autonomy, Resilience, Absorbability, Immunization
 - Fail-Safe Procedures, Emergency Procedures Ensuring Minimum Functioning, Reconfigurability
 - Disaster/Consequence Management, Training & Exercises, Decision-Making Tools (incl. Data Fusion / Data Assessment/ Evaluation Tools, Simulation Tools)
- Base-Line
 - Continuum between Guerrilla-like and Conventional-style Warfare
 - Difficult Dilemmas for Defense Planners

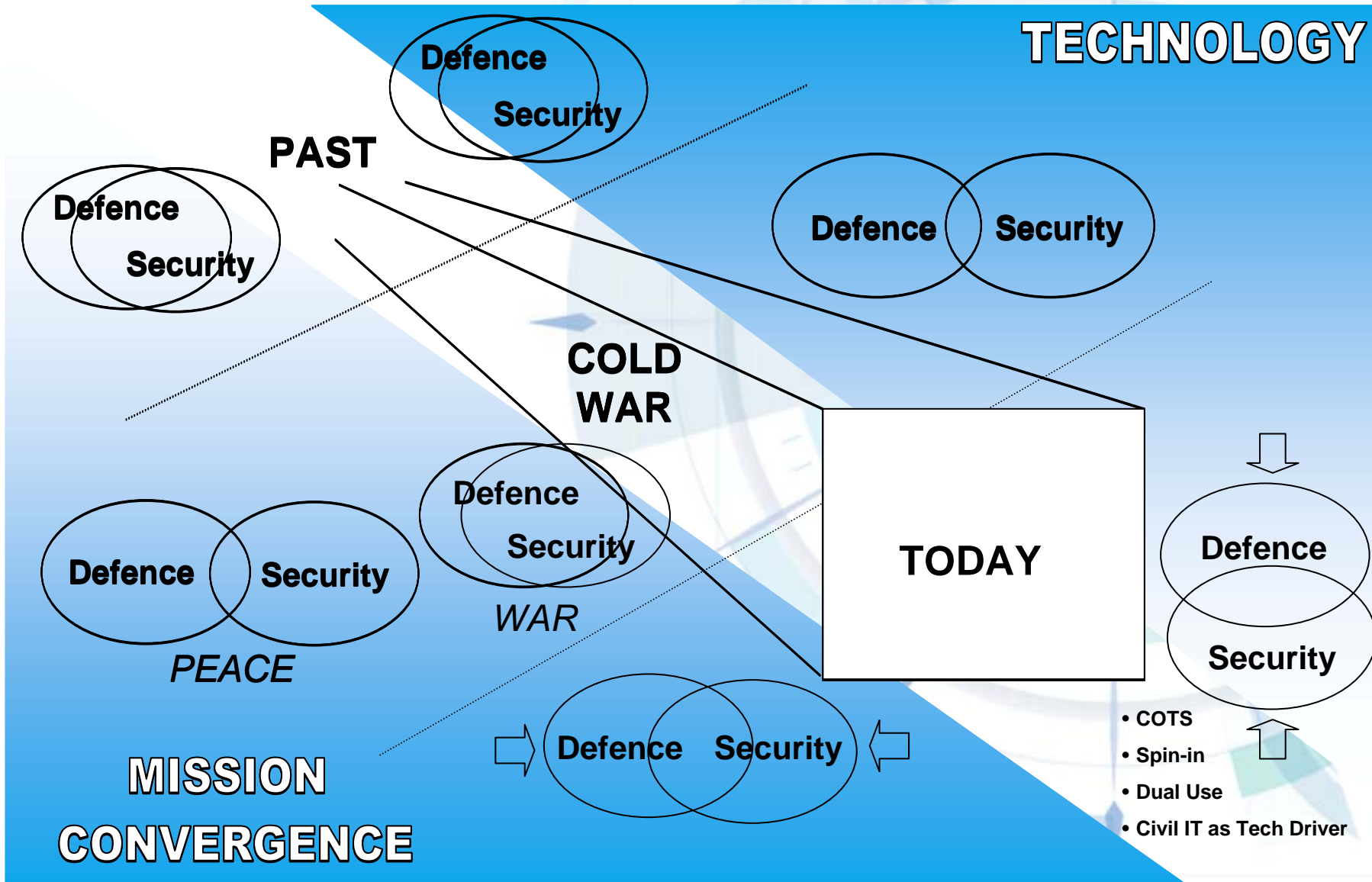
Defense and Security: What Does It Mean?

- **Attacks: Who Is in Charge?**
 - Bio-Terror Attack in Home Country: Local Fire Brigade
 - Hacker Attack: Ministry of the Interior
 - Attack against Galileo: EU Ministry of Transportation
 - Hostile Take-Over of Key Companies: Ministry of Economics
- **Hard to Distinguish: Source of Attack**
 - Domestic: Terror Organization, Crazy Individuals, Riots, Organized Crime, Social Unrest, Ethnic Tensions, etc.
 - External: Asymmetric Warfare, Terror Organizations, Organized Crime, Refugee Movements, etc.
- **Mission Profile (Tasks) for Both Armed Forces and Security Forces Similar/Overlapping in Some Areas**

Defense and Security: Requirement Spectrum

- Forms of Attack / Security Challenges
 - 2,000 Tanks or 2 Hackers?
 - 500 Aircraft or 5 Microbiologist?
- Defense Requirements
 - 500 Tank Drivers or 5 Computer Security Specialists?
 - 500 Pilots or 500,000 Nurses, Medical Doctors, Tropical Disease Specialists, Pharmaceutical Experts, etc.
- Full Spectrum: From Armed Forces to Security Personnel
- Comprehensive, Coherent, Interoperable (Joint, Combined, Inter-Service) Approach

Defence and Security: Convergence

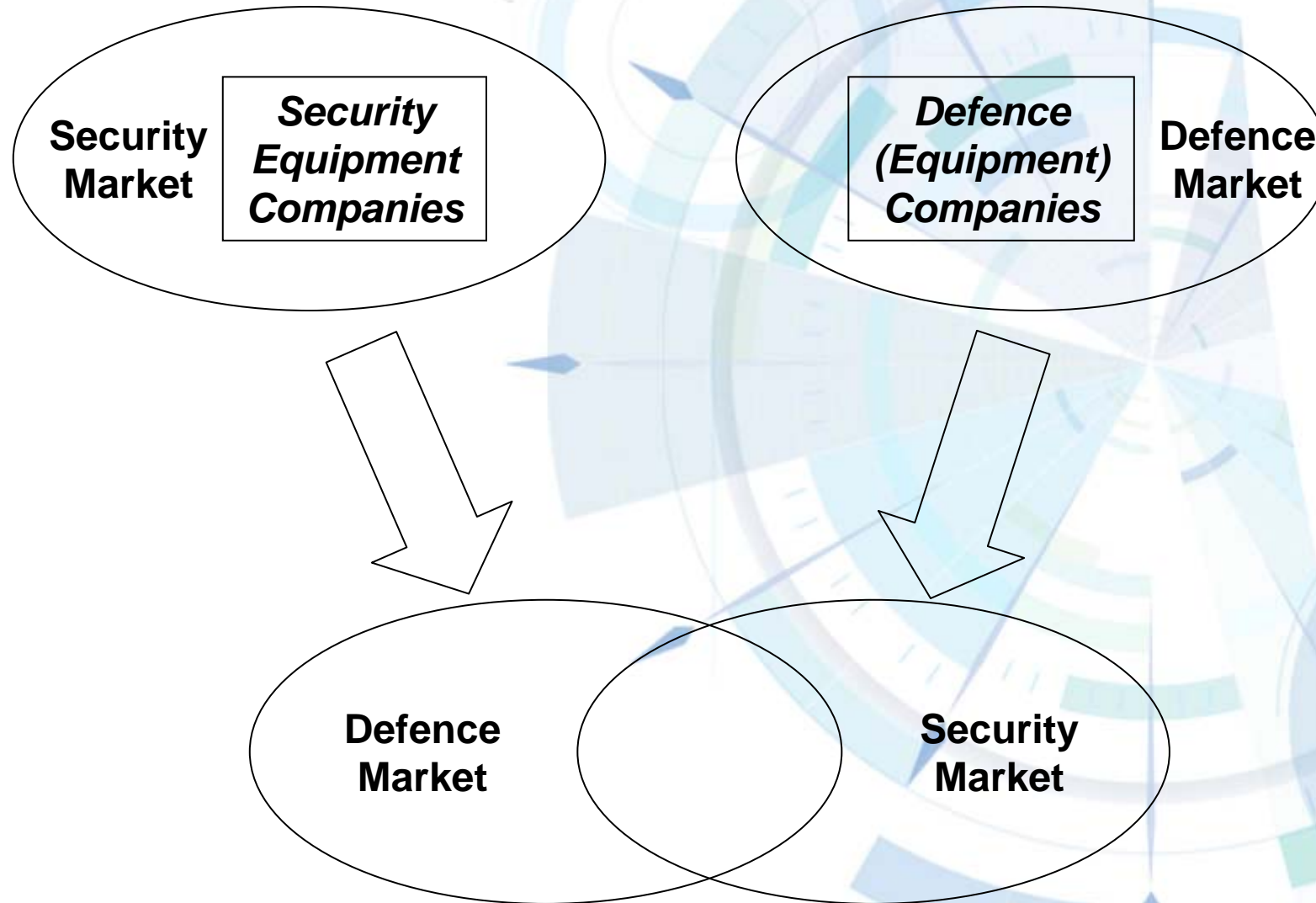


Security: The Forgotten Dimension?

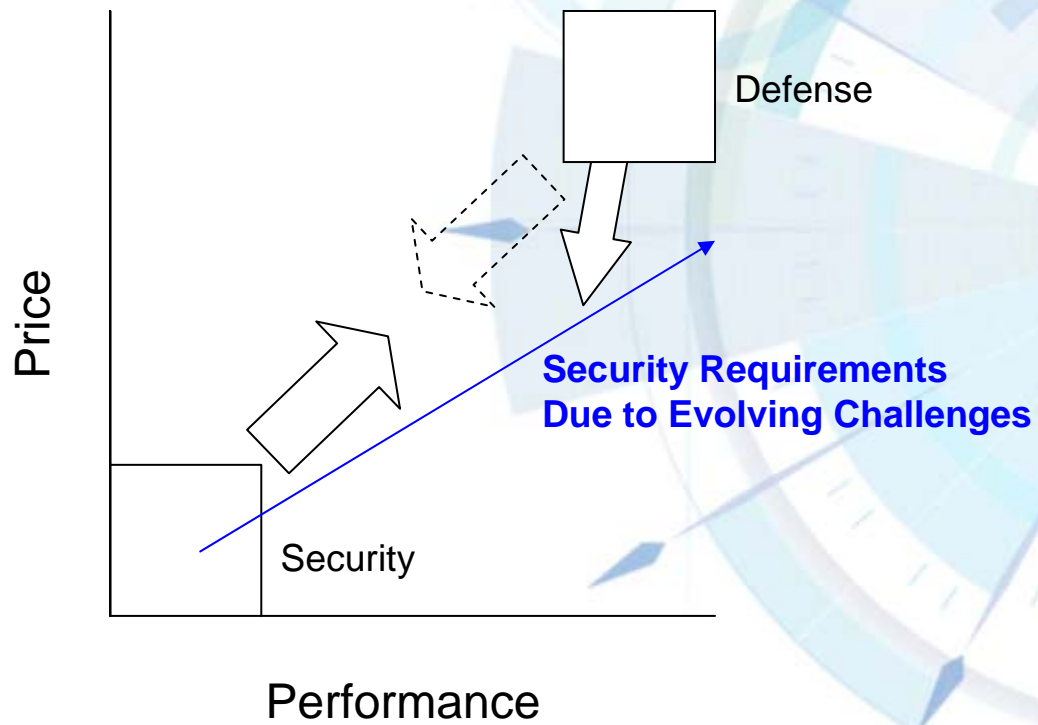
- Costs ↓
- Efficiency ↑
- Centralization, Harmonization, Standardization
- Outsourcing

And What About Security?

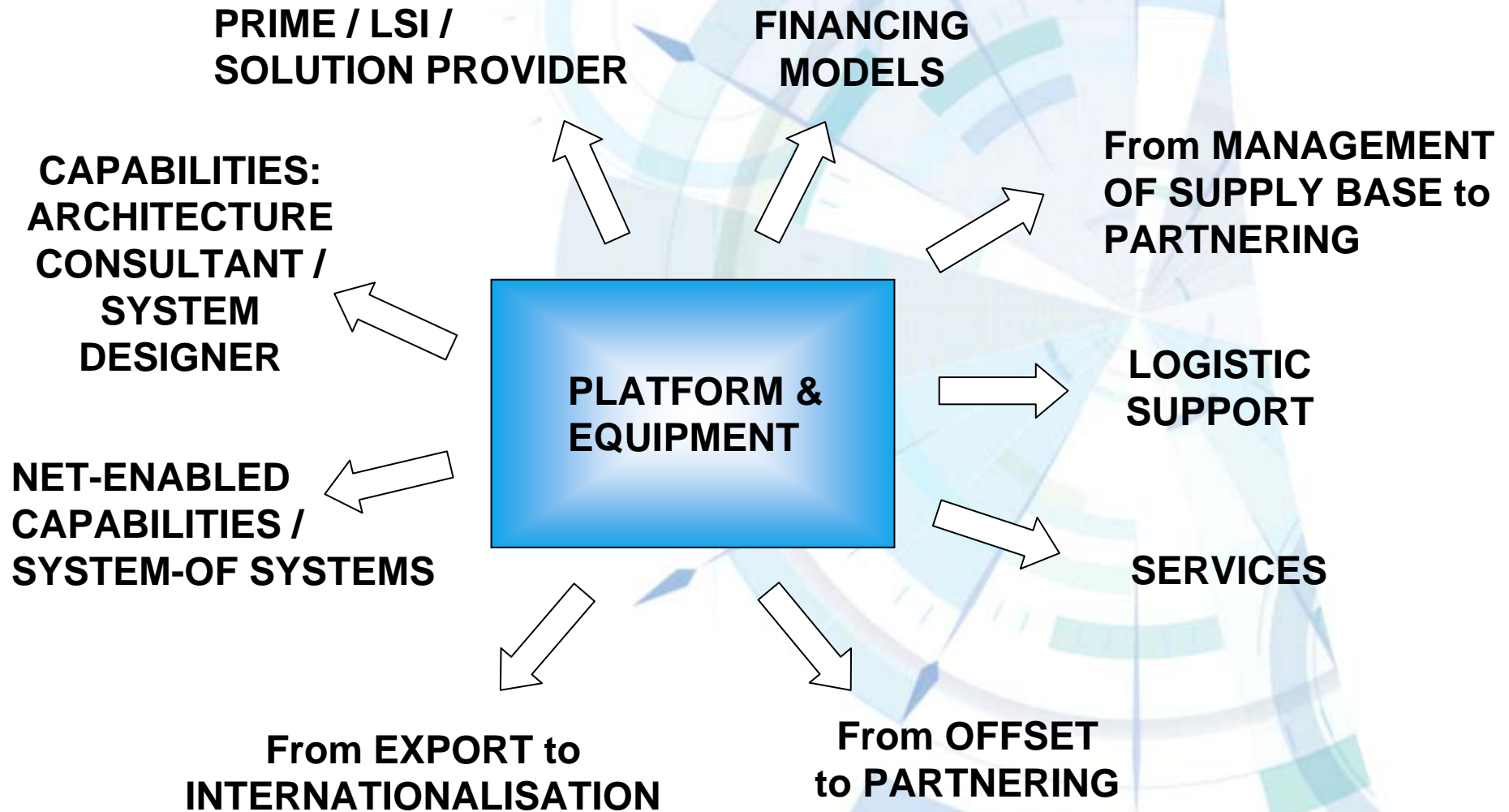
Defence and Security Supplier/Provider



Defence and Security Characteristics



From Platform/Equipment to ...



Characteristics of Urban Operations and Urban Security Missions (1)

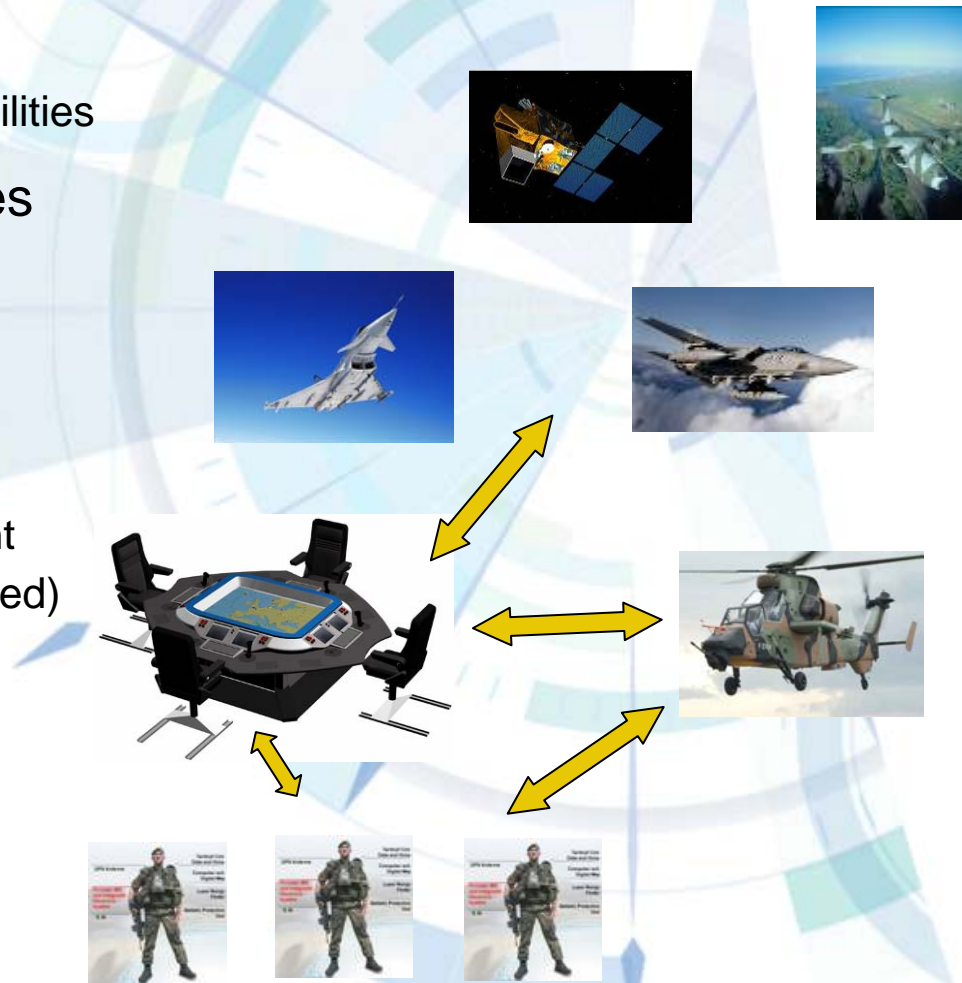
- Civilian Environment
 - Target Acquisition Difficult, if Target Is a Human Being
 - Preventing Collateral Damage / Casualties Difficult
 - Supply of Own Forces Is Vulnerable to Attack
- Urban Operations Are Manpower Intensive
 - In any Case: Skilled Personnel Required
 - Not Only Quality, but also Quantity
- Multi-Dimensional Problem
 - Three Space Dimensions plus Time
 - Defense and Security; Different Legal Frameworks
 - Changing Missions and ROEs; "War by Committee"

Characteristics of Urban Operations and Urban Security Missions (2)

- Existing Technology and ConOps: Optimized for Urban Environment?
- Lack of Transparency; Limited Understanding of Enemy Behavior; Strong Element of Surprise
- Like in Almost all Operations: No Clear Front-Lines
- Combat Activities While Supporting Civil Population at the Same Time
- Level of Cooperation
 - Jointness, Combinedness
 - CIMIC
- Density of Media Presence/Coverage

Air-Ground Partnership

- Resource Limitation
 - ⇒ Multi-Purpose Technologies
 - ⇒ Best Use of all Available Capabilities
- Air Support for Ground Forces
 - ISR
 - Fire Support
 - Tactical Mobility
- Technological Challenges
 - Real Time Mission Management
 - Interoperability (Joint & Combined)
 - Precision
 - Minimizing Operational Risks
- Results
 - Force Multiplier
 - Protection



Networking

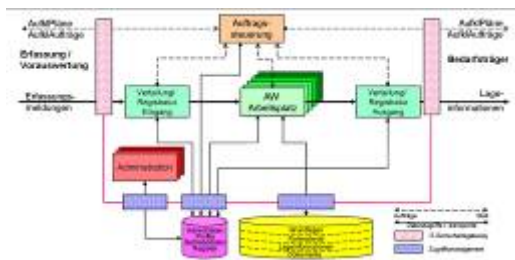
- Flexible and Open Architectures
- Cyber Security and Cyber Warfare
- Turning Mass Data into Knowledge
- Store and Use Experience



Communication Infrastructure



Command & Control
e.g., FülInfoSys Heer



ISR Data Management
and Evaluation



Urban Operations: ISR Capabilities

Space
(Radar, Optronics)



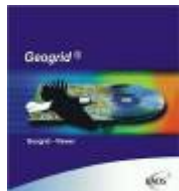
HALE



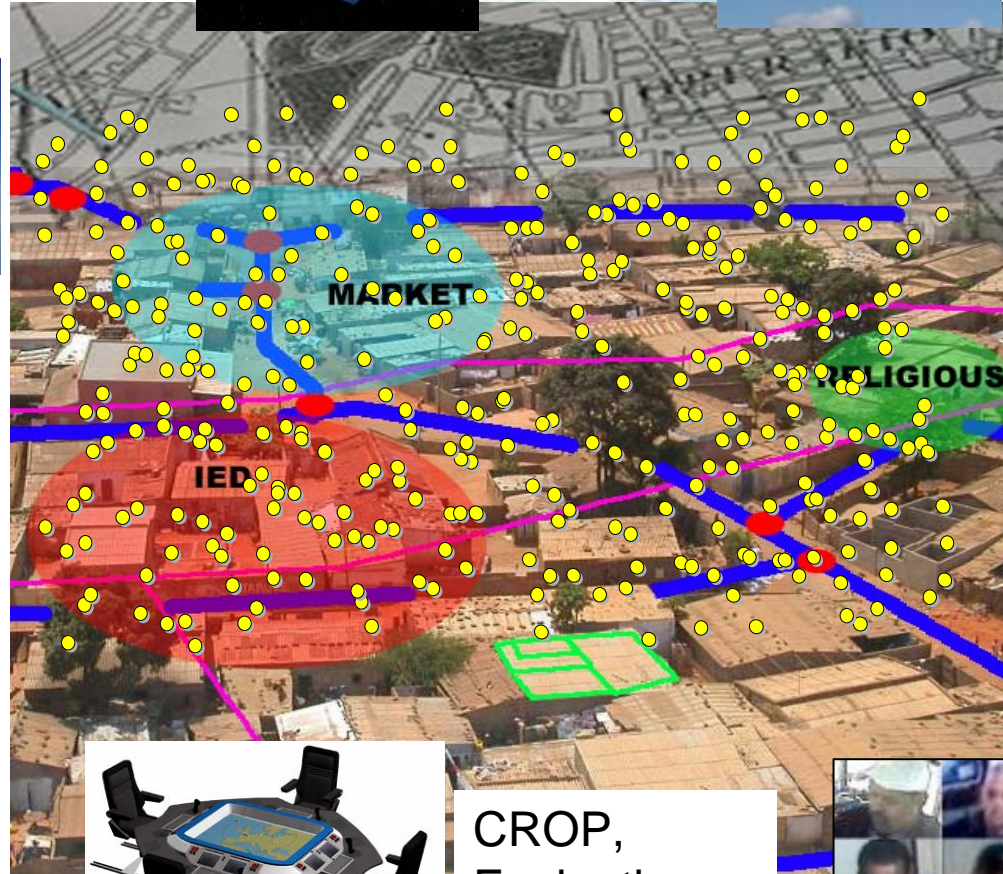
MALE



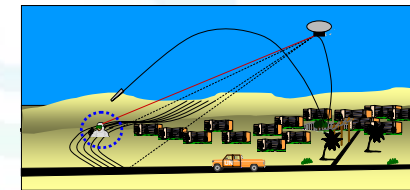
VTOL UAV



Digital Maps



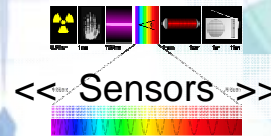
Tactical UAV



Lighter Than Air



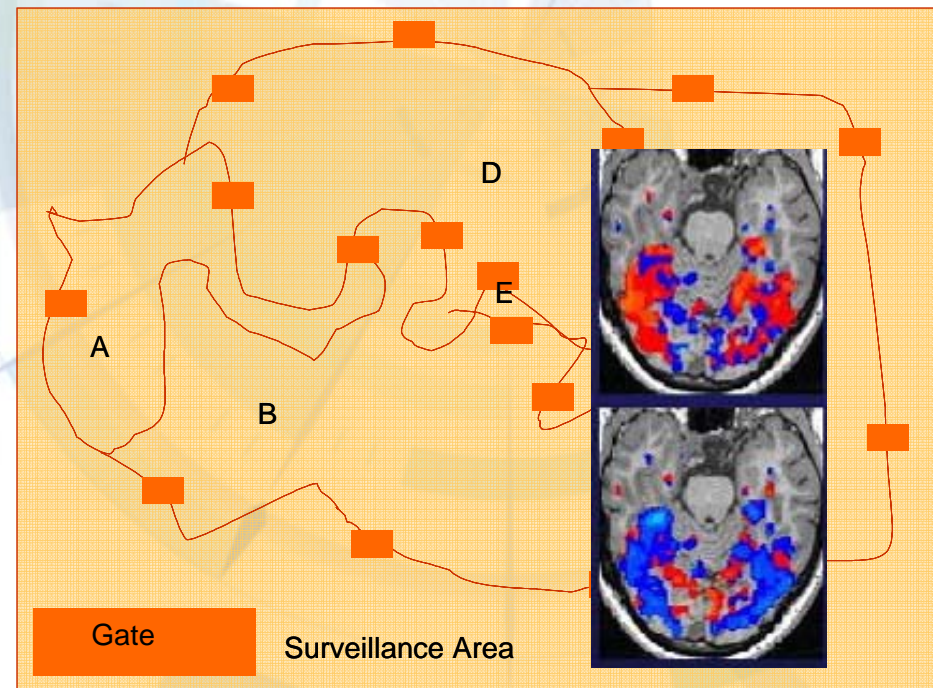
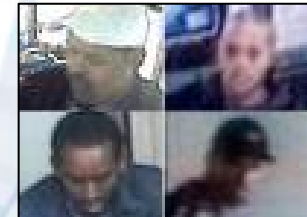
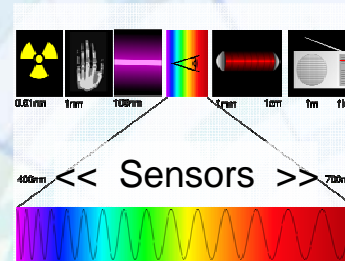
CROP,
Evaluation,
Networking



Unattended Ground Sensors

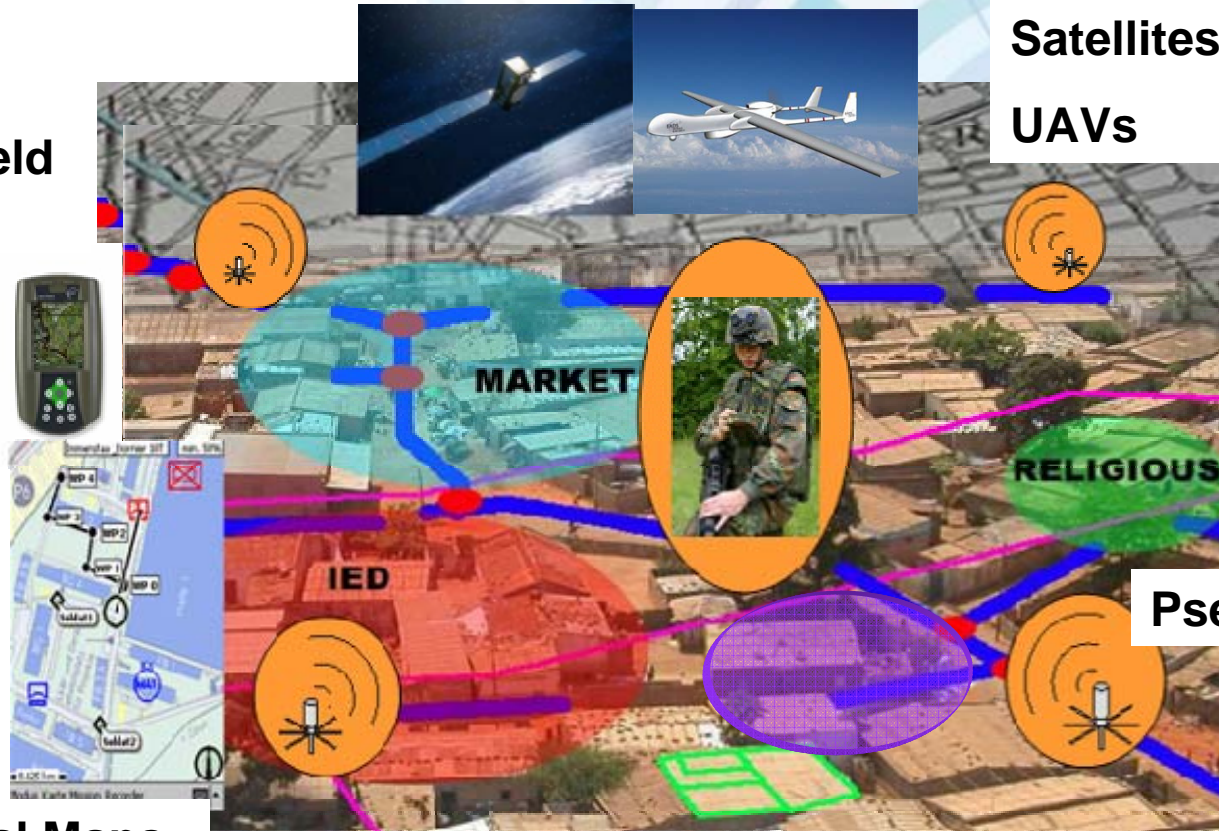
Urban Operations: From Mass Data to Knowledge

- Sensor Networking
- Classification
- Identification
- Tracking
- Behaviour Analysis
- Detection of Dangerous Materials
- Measurement of Physiological Parameters
- Experience Storage and Handling



Urban Operations: Communication and Localization

Handheld
PDA

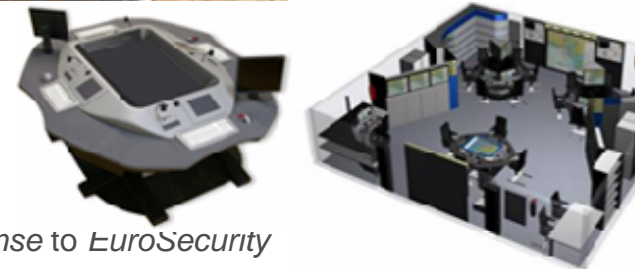


Satellites (GPS, Galileo)

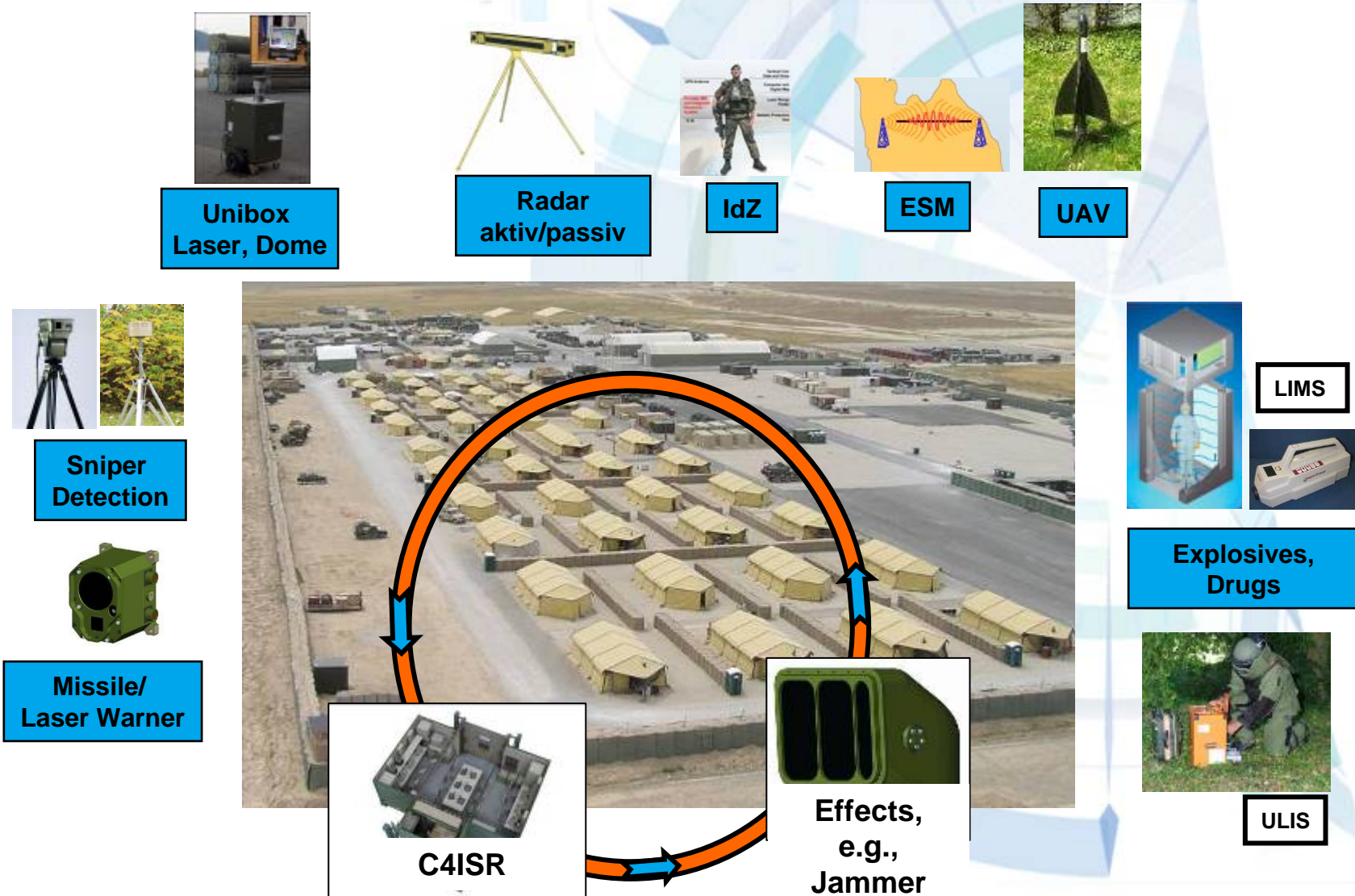
UAVs

Pseudolites

Personal Maps



Camp Protection: Sensors & Information Management (Example)

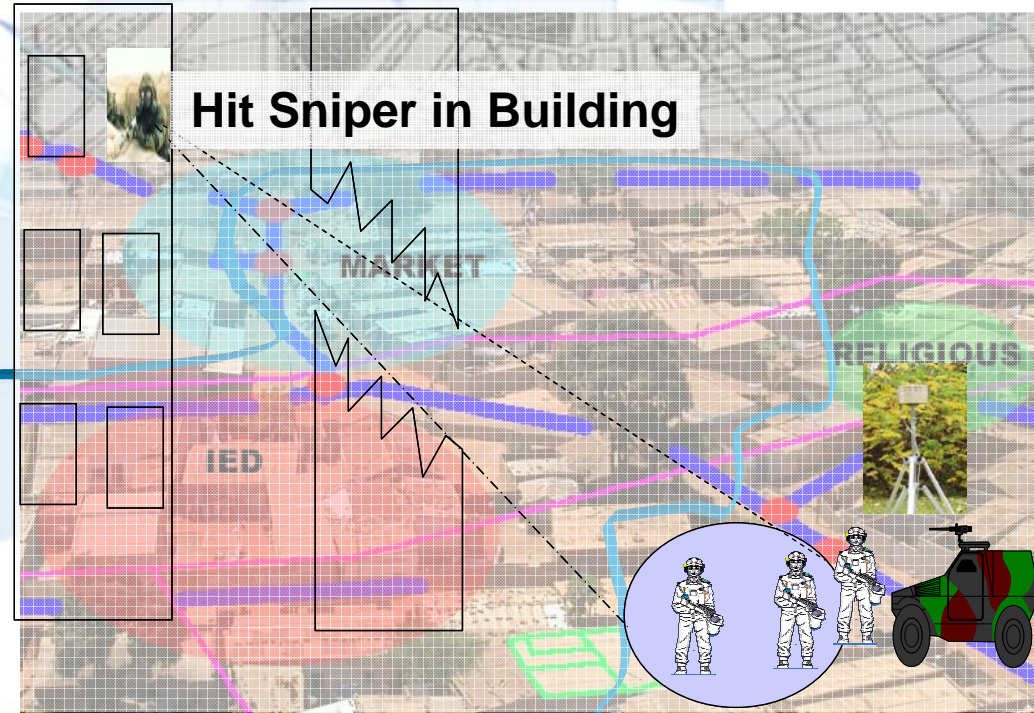
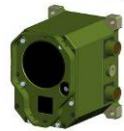


Convoy Protection



Close Air Support

Missile Warner

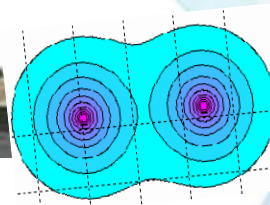


Headquarter

Convoy



IED Detection

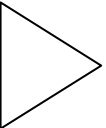


IED Jamming



Mini Missile

Systems in Context – A Few Illustrations (1)

- Mobility and the Virtual Reality Behind It
 - Vectorized Geo Data  3-D-Maps: MS, Google?
 - Navigation Systems
 - Open Commercial Standards in Development
 - Geospatial Intelligence Integrated with Sensor Webs
 - Creating the "Matrix"
 - Cyber Space as an "Regular" Operational Environment (like Land, Sea, Air, Space)
 - Information Warfare: Offense and Defense
 - Customer Will Require Authenticity, Reliability, Confidence, etc.
 - **Role of Defense Prime as Trusted Partner Through Effective Partnerships**

Systems in Context – A Few Illustrations (2)

- Firefighter of the Future
 - Bio Terror Attack: First Responder
 - Protective Suites, Masks, Filters
 - Sensors and Navigation both Outdoor and Indoor
 - Mobile Laboratories (*Quick Agent, Wind Pattern, Weather Analysis*)
 - Networks I (Data Exchange with Laboratories)
 - Networks II (Laboratories, C² Centers, Pharmaceutical Industries, Mayors of Cities and Villages, Health Services, Alert Systems and Procedures, Decision-Making Tools)
 - Command and Control Centers; Situational Awareness
 - Exercises, Training, Education, Simulation
 - Interoperability with Security Services and Military
- **Firefighter of the Future Illustrates Overlap Between Defense and Security Capabilities Central to the Evolving Customer Base**

Systems in Context – A Few Illustrations (3)

- Police
 - Unfamiliar with Robust Requirements;
Just Prepared for "Good Weather"
 - Jamming
 - Denial of Access Attacks
 - EMP Strikes
 - Deadly Environment
 - See: Firefighter
 - **Key: How to Deal with Disruption as Fact of Life?**

Translating Customer Requirements into Future Prime Positioning

- Partner for Customer
 - Dialog Partner about Future Developments
 - Trusted Architecture Consultant (incl. System Design)
 - Affordable Solution Provider, Financing Partner
 - Providing Expertise/Competence
 - Partnering with Firms Preferred by Customer
 - Offering Ways Ahead (Spiral Development, Upgrades, ...)
- Providing Leverage / Unique Selling Points
 - Understanding Extremely Complex and Demanding Requirements
 - Providing Highly Competent Skill-Sets
 - Ability to Manage Large Non-Single Platform Focused Projects; Providing Opportunities for SMEs

From *EuroDefense* to *EuroSecurity*

- Paper Reflects Emerging Reality
- Paper Leads toward the Future
- Paper Outlines Practical Steps Leading to a Common European Approach toward Security
- Content
 - The Convergence of External and Internal Security
 - The Convergence of Defense and Security
 - A Prerequisite for any Solution: A Competitive and Innovative Technological and Industrial Base
 - The Example of Urban Security
 - Recommendations
- *EuroDefense*: In Defense of European Security