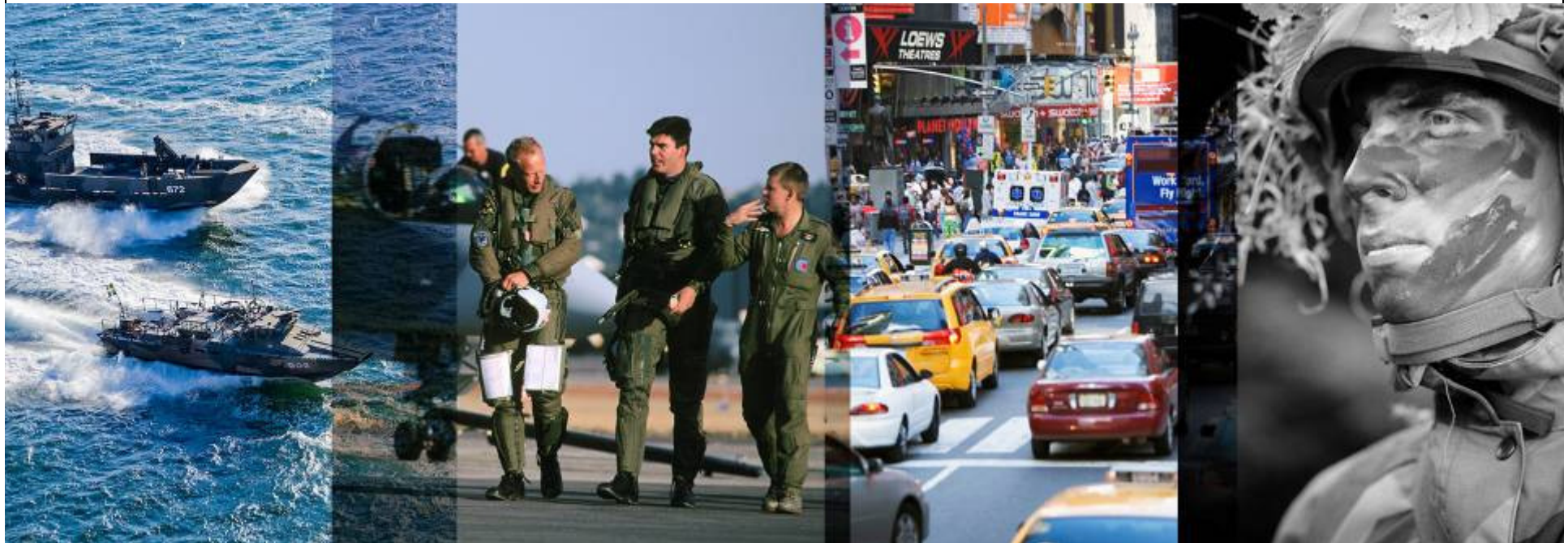




SAAB | **75** YEARS OF
DEFENCE AND
SECURITY

Development of interoperable systems for defence and civil security



Elisabet Ressner
20120903

Saab market areas

SOLUTIONS



**COMMERCIAL
AERONAUTICS**



**CIVIL
SECURITY**



AIR



NAVAL



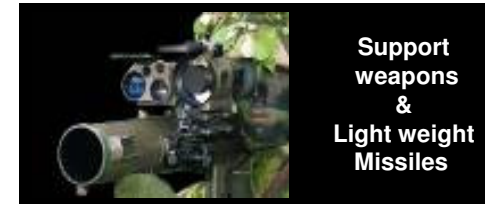
LAND



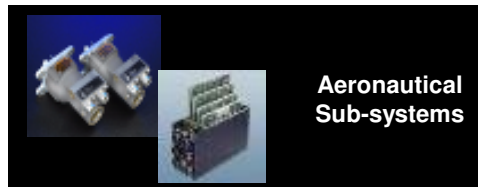
**Aeronautical
Platforms**



**C4ISR
systems**



**Support
weapons
&
Light weight
Missiles**



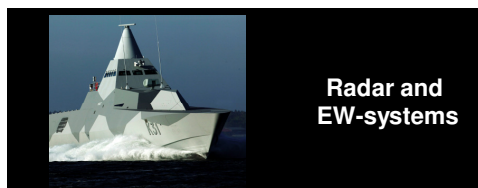
**Aeronautical
Sub-systems**



**Civil security
systems**



**Training and
Simulation**



**Radar and
EW-systems**



**Signature
management**



**Underwater
Systems**

SERVICES

Customer Support and Services

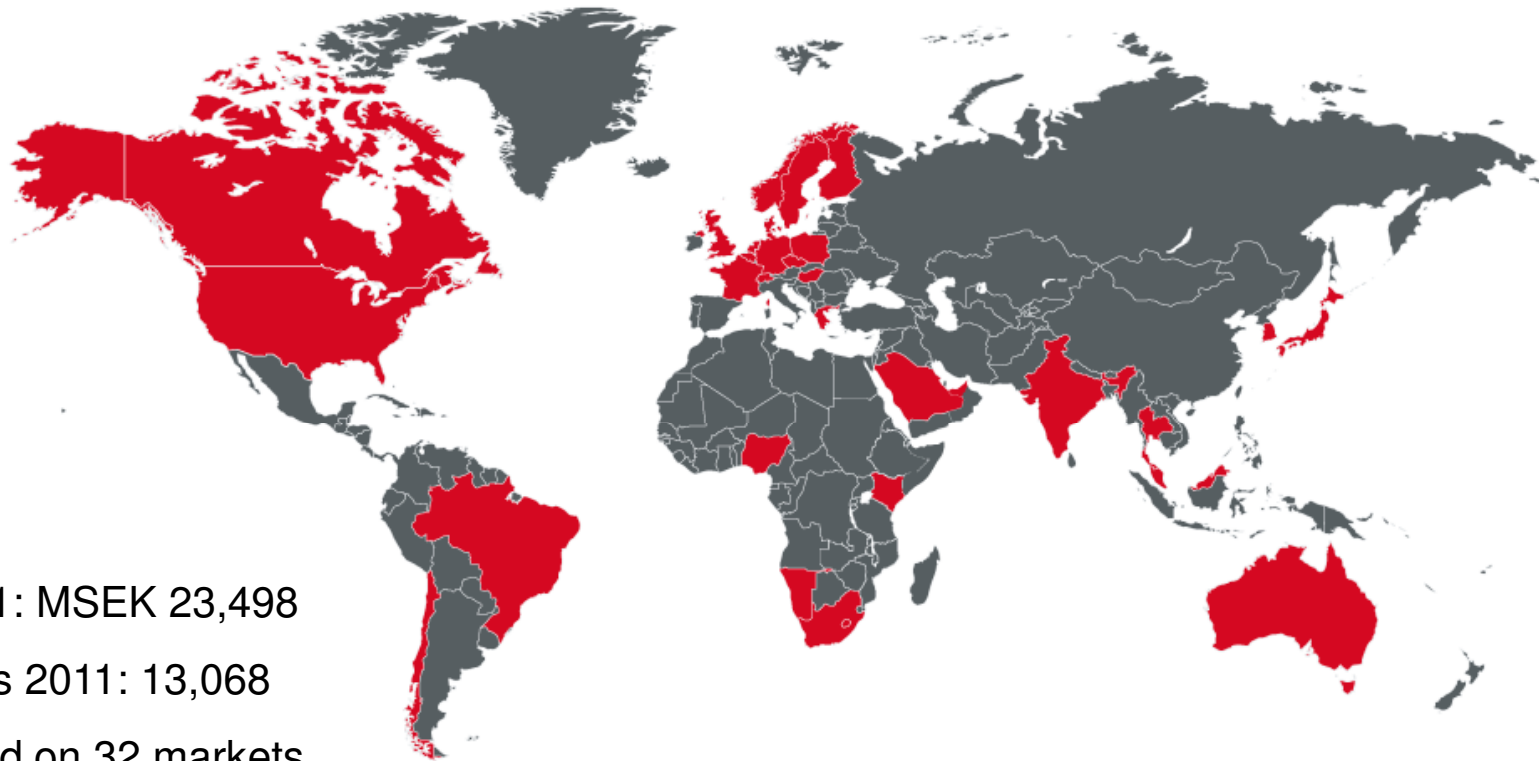


SAAB

75

YEARS OF
DEFENCE AND
SECURITY

Saab in brief



- ▶ Sales 2011: MSEK 23,498
- ▶ Employees 2011: 13,068
- ▶ Established on 32 markets
- ▶ Sales to 100 markets
- ▶ 63% of sales outside Sweden



Global Presence

Employees 2011

Sweden	10,321
South Africa	1,064
USA	652
Australia	324
UK	147
Czech Republic	143
Finland	74
Denmark	68
Norway	55
Switzerland	46
India	44
Kenya	34
Germany	26
Other	70
Total	13,068



Saab policies and goals

- ▶ It is a human right to feel **safe**
- ▶ It is Saab's core business to help our customers to
 - identify **patterns**
 - **anticipate** tomorrow
 - **prevent** harm and **protect** societies



ENHANCING OPERATIONAL EFFECTIVENESS



LAND OPERATIONS SOLUTIONS

- ▶ Force Protection
- ▶ Collaborative Training
- ▶ Weapon Systems
- ▶ Integrated Support Solutions

SUPPORTING CAPABILITY GROWTH



NAVAL OPERATIONS SOLUTIONS

- ▶ Situational Awareness
- ▶ Decision Superiority
- ▶ Precision Engagement
- ▶ Communications
- ▶ Underwater Security
- ▶ Electronic Warfare
- ▶ Simulation & Training
- ▶ Infrastructure Security

SOLUTIONS FOR A SAFER AND MORE EFFICIENT SOCIETY



- ▶ Air Transportation and Airport Security
- ▶ Energy Production and Distribution Security
- ▶ Maritime Transportation and Port Security
- ▶ Prison Security
- ▶ Guard and Event Security
- ▶ Land Transport and Urban Security
- ▶ National Security and Infrastructure Protection
- ▶ Police and Rescue Solutions
- ▶ Field Facilities Solutions
- ▶ Border Security Solutions

SOLUTIONS FOR COMMERCIAL AIRCRAFT



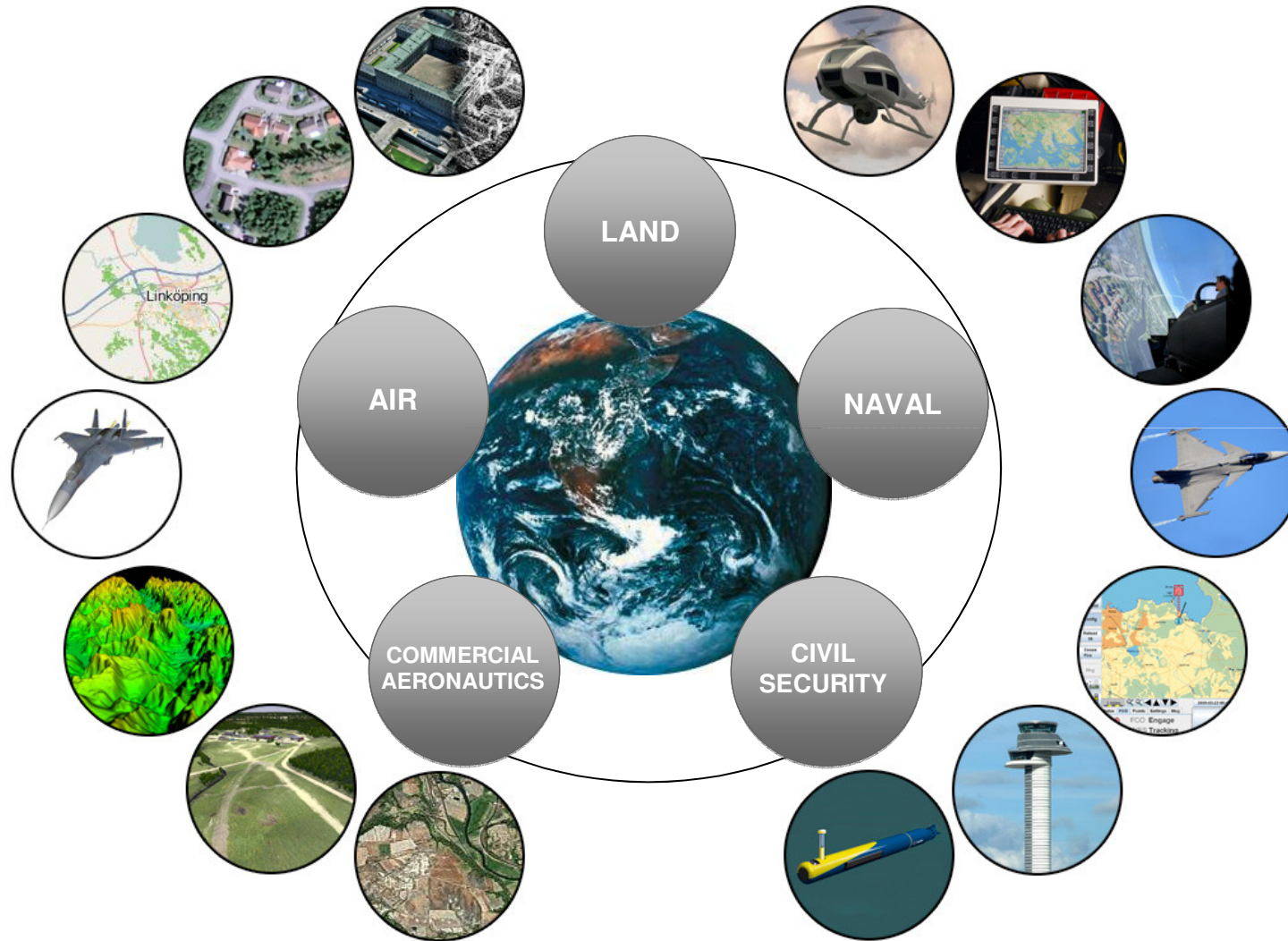
- ▶ Aircraft Design and Manufacturing
- ▶ Aircraft Subsystem and Equipment
- ▶ Aircraft Support Solutions
- ▶ Engineering Services
- ▶ Regional Aircraft Sales & Leasing
- ▶ Air Traffic Management

Anticipate tomorrow

- ▶ **Defence is likely to increase in importance** as population growth, climate change, resource scarcity and instability, threaten the ability of countries to provide security for their populations
- ▶ Many future efforts will be **international** and linked to globalisation, implying the need for major powers to operate globally and for alliances and partnerships that defend common interests
- ▶ The environment is characterized by **fast changes** and more **complex situations**



Geospatial Information in Saab Systems

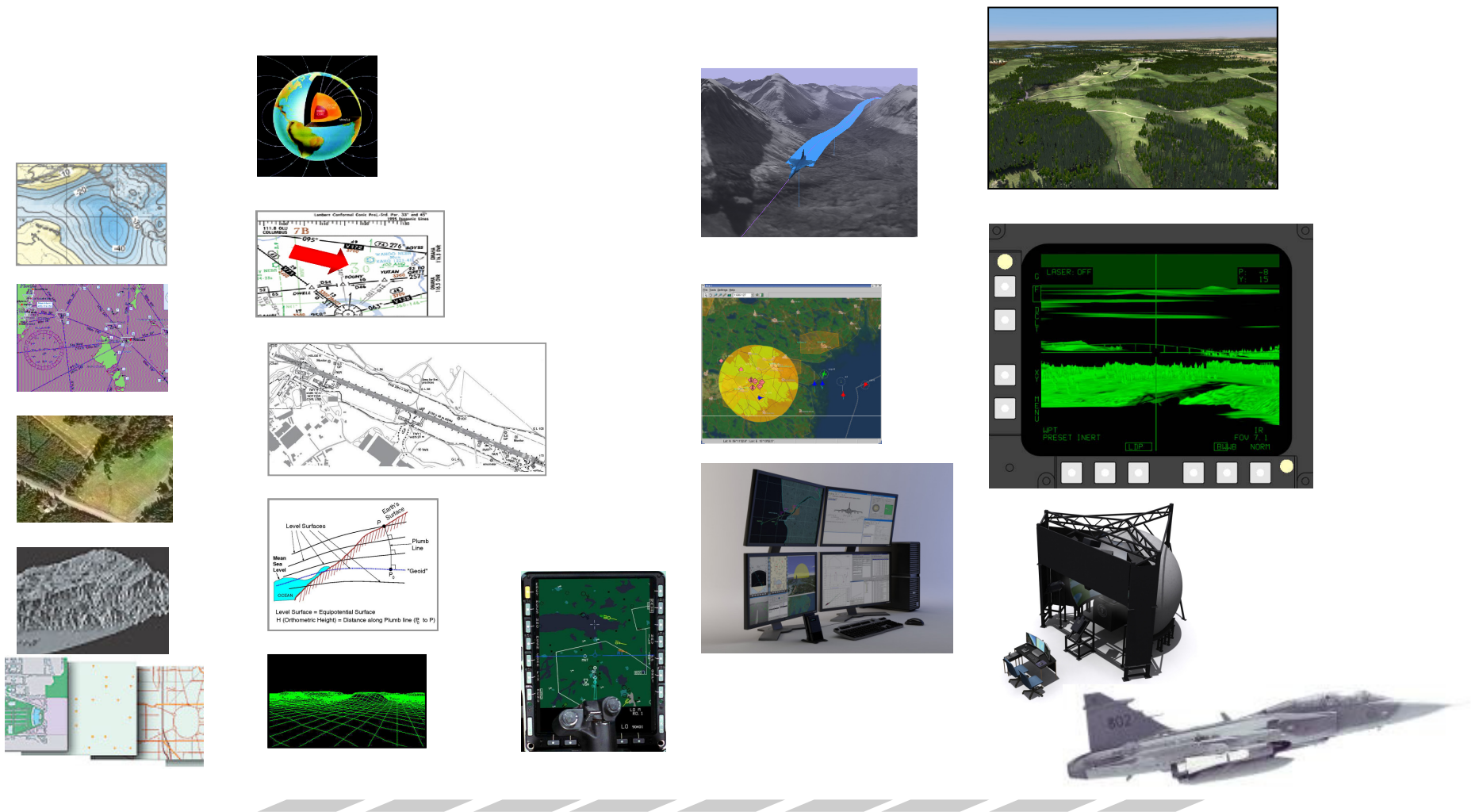


Geospatial Information in Saab Systems

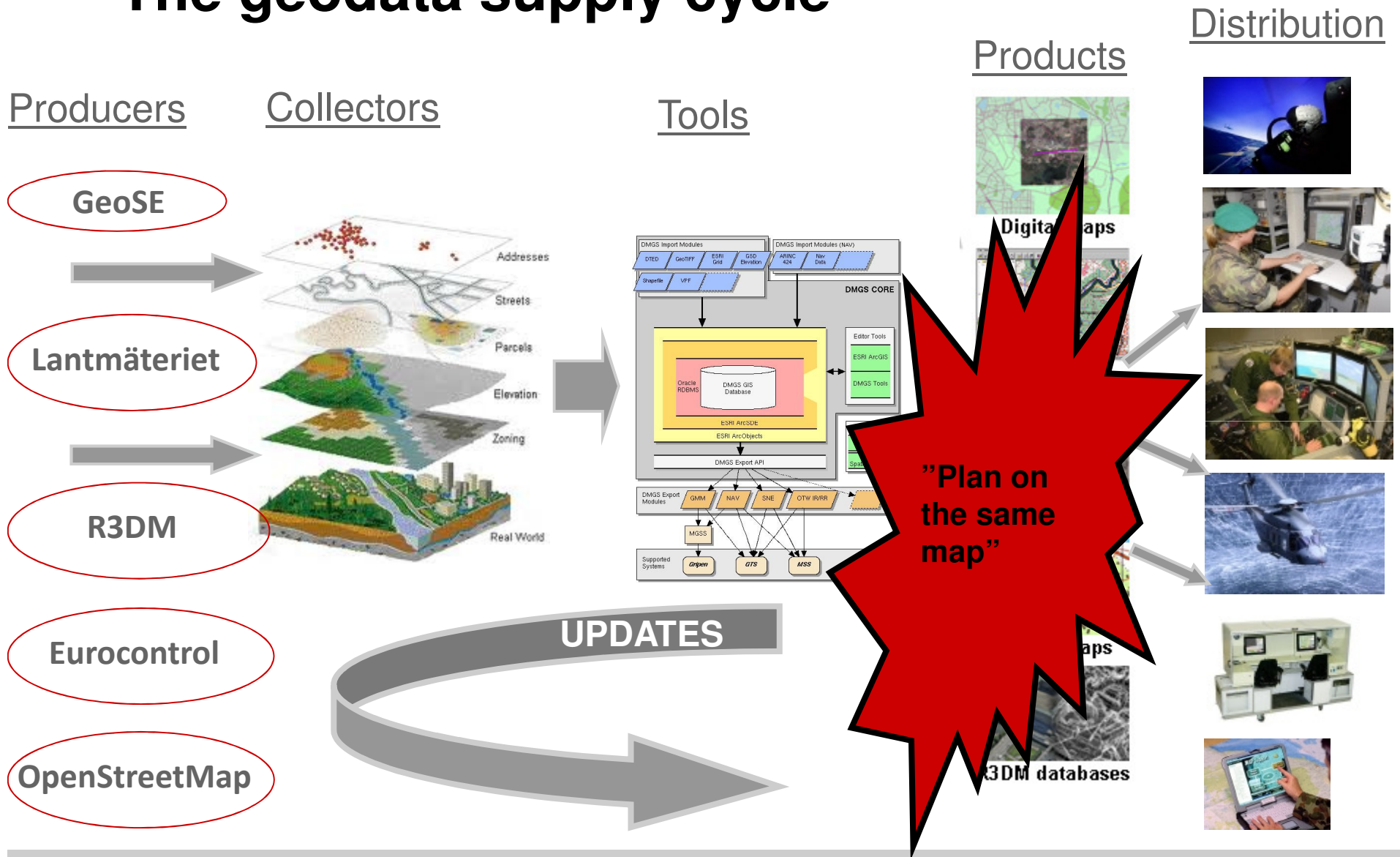
- A majority of Saab systems includes geographic information
- Central functionality
- Our customer needs geodata for
 - Situation Awareness
 - Infrastructure
 - Simulators for training
 - Organisation
 - Warning systems
 - In this systemet....and that
- It's embedded



Geodata supply to the Gripen System

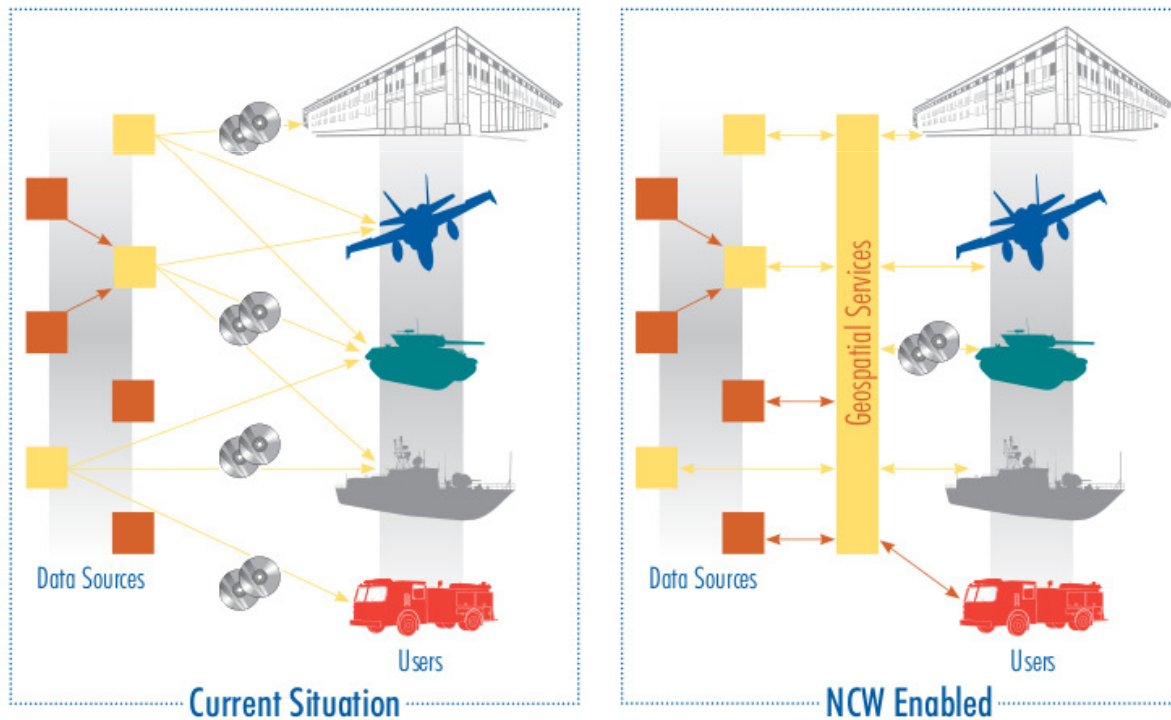


The geodata supply cycle

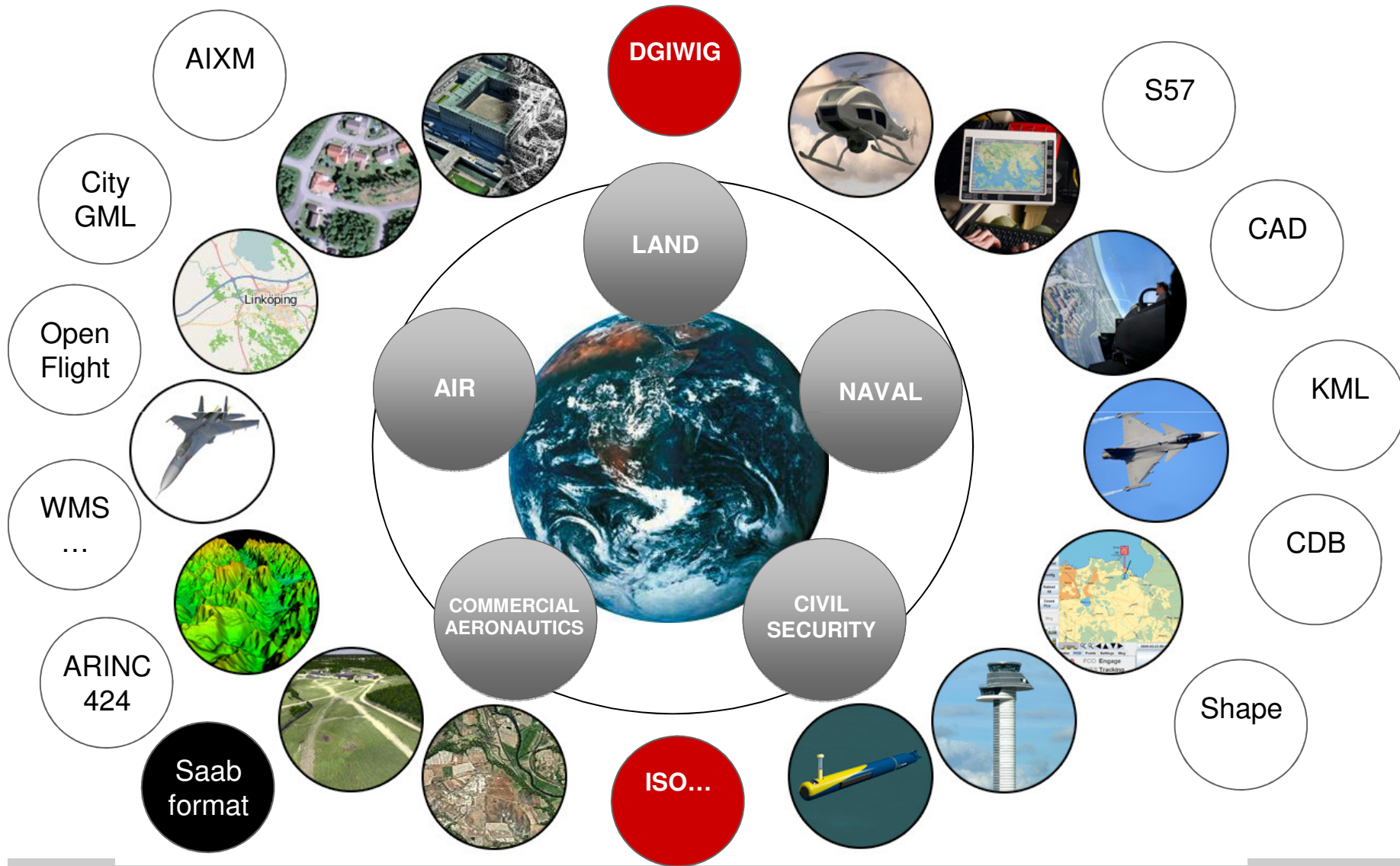


Interoperability requires...

- ▶ Many systems shall be able to read the same data at the same time
- ▶ Standards format and served distribution

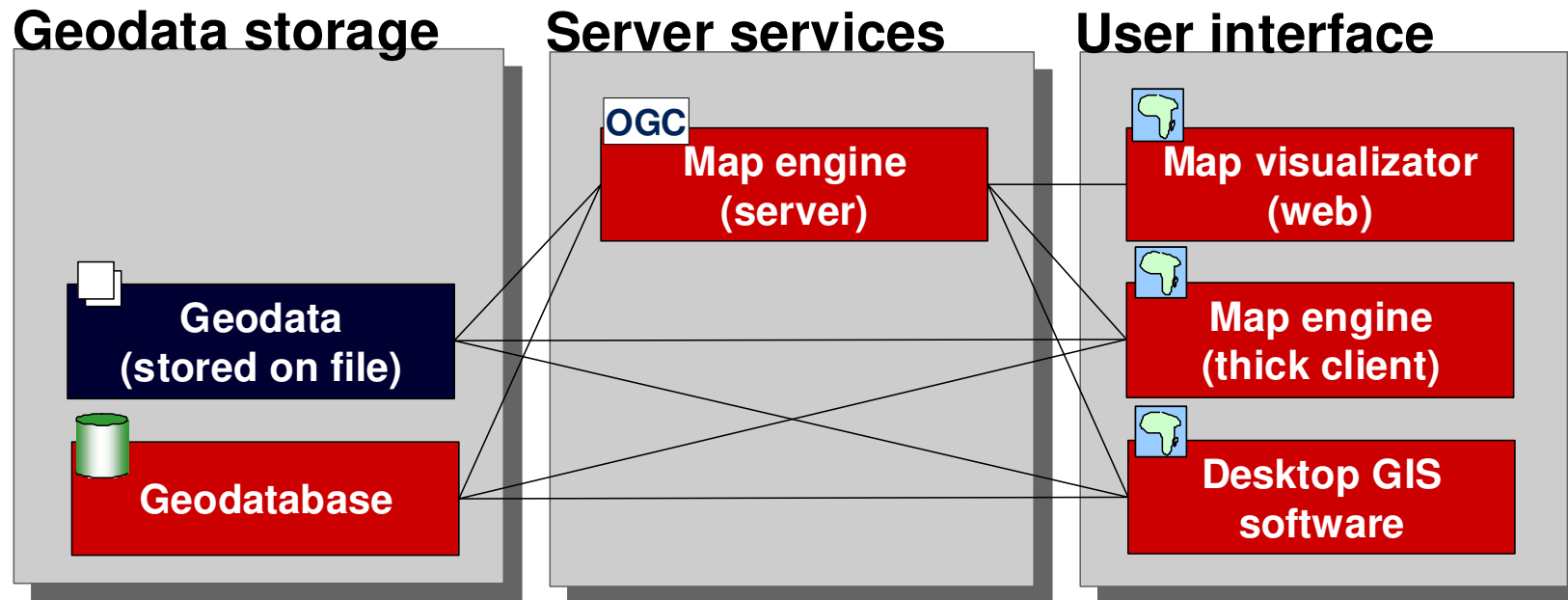


Geospatial Information in Saab Systems

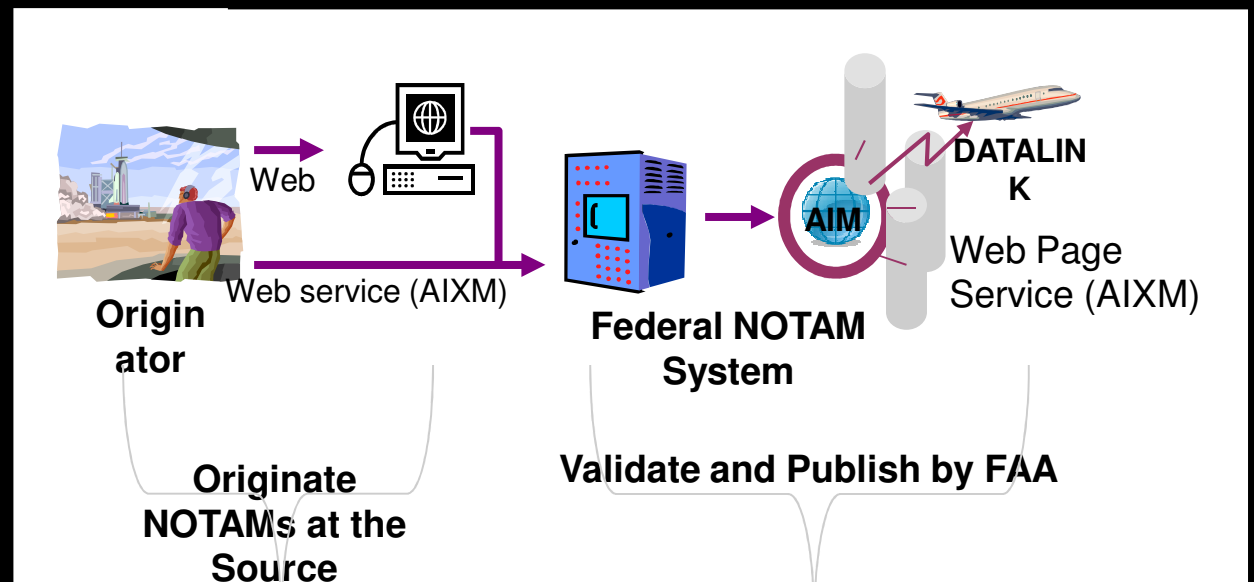
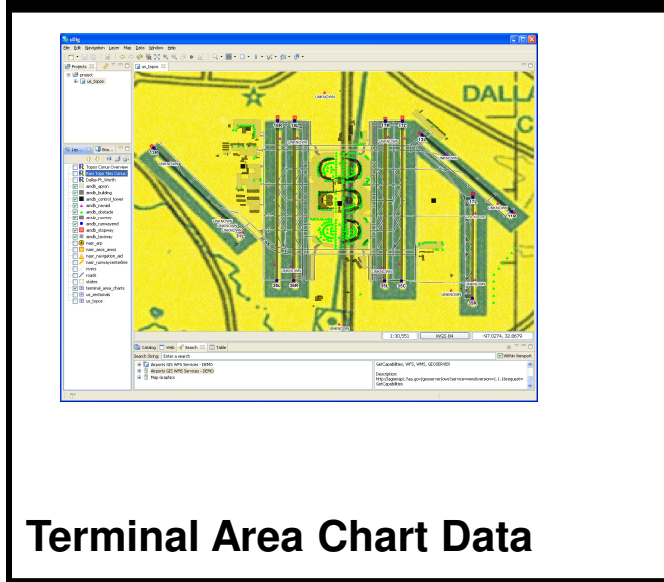
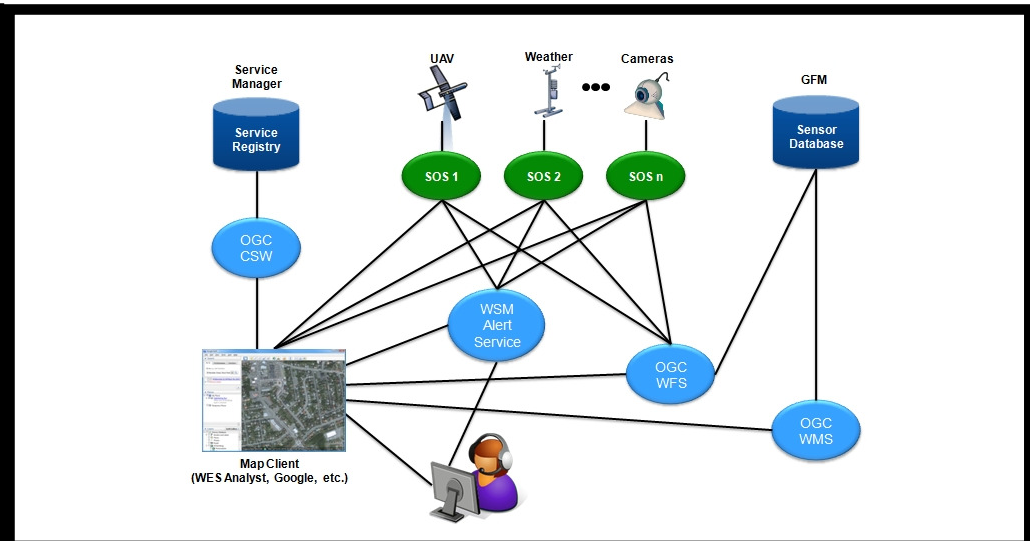
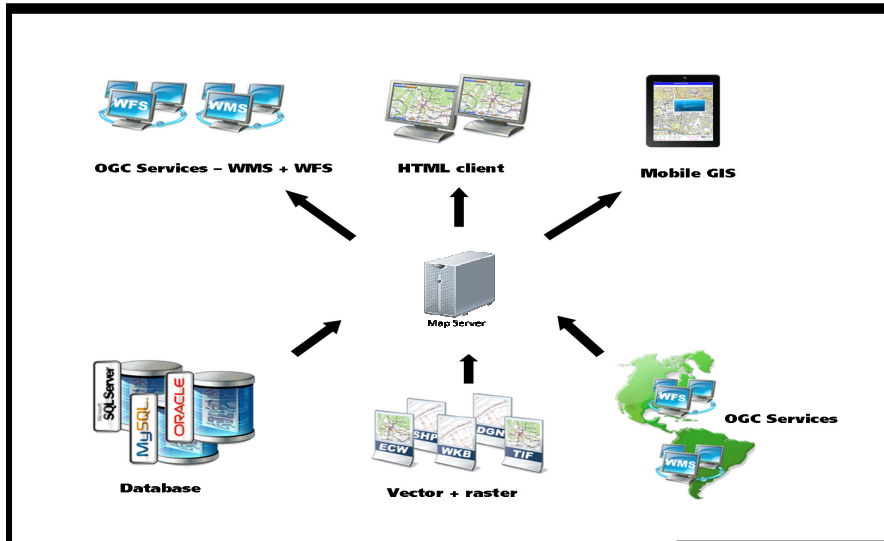


GIS components with OGC services

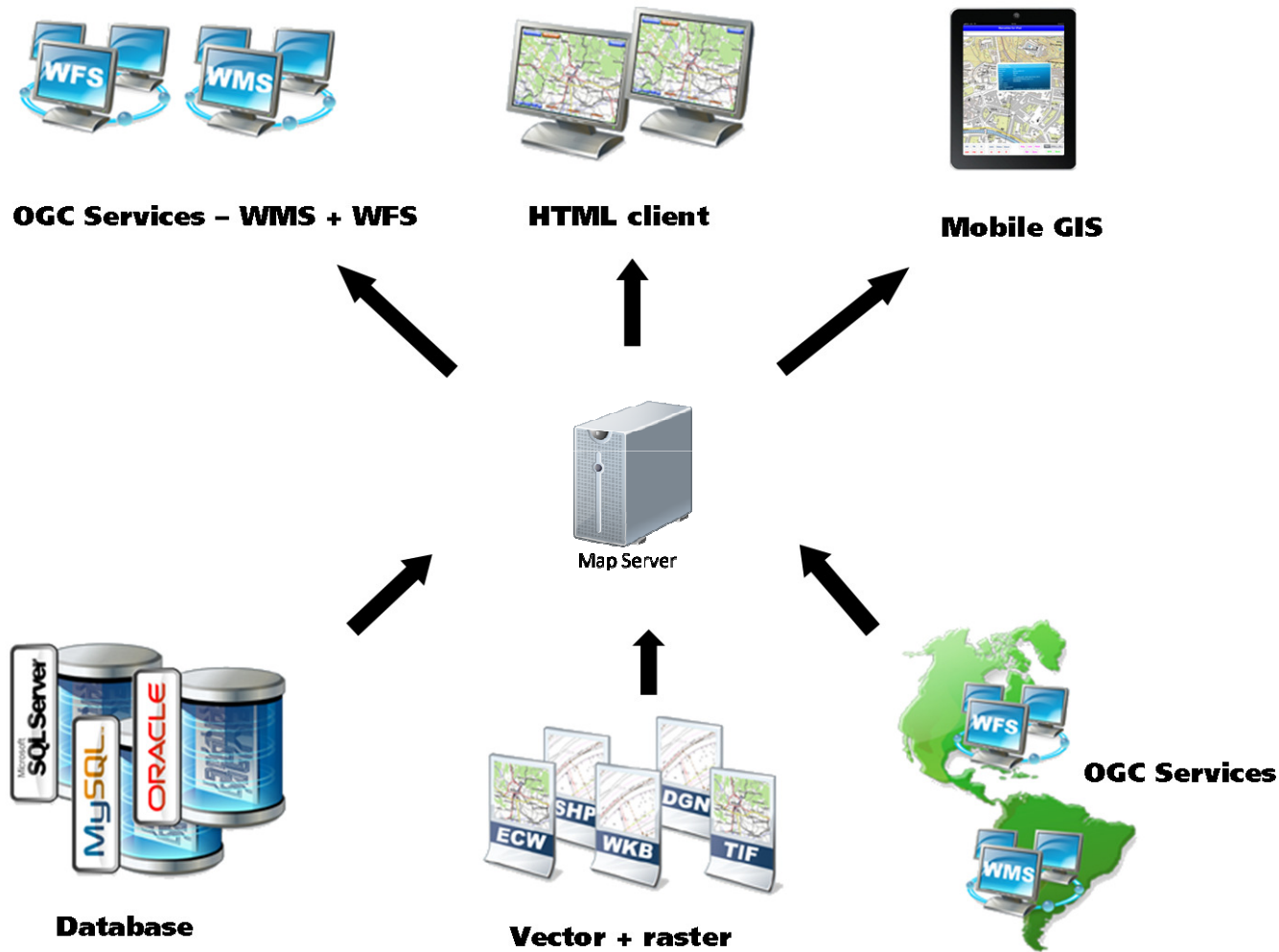
- ▶ Server distributed data



OGC precense in Saab system development

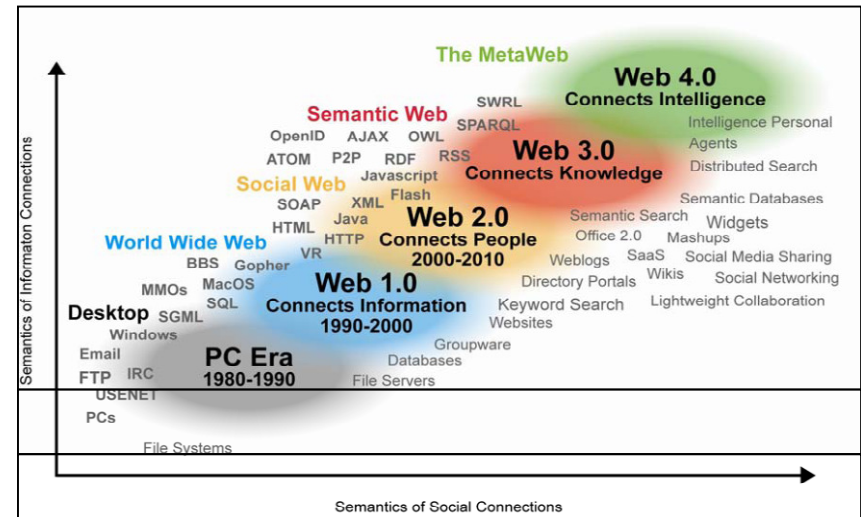


OGC WebService for distribution of data



Trends in IT and technology

- "Big data"
- High resolution
- 3D and 4D
- Data fusion – augmented reality
- Cloud sourcing
- Crowdsourced information
- Sensor network
- Intelligent systems
- Automated world – decision systems and manufacturing processes
- Mobile systems and applications



OGC areas of interest for Saab

- ▶ Security Management
- ▶ GML Schema Tools
- ▶ Architecture Profiles
- ▶ Bulk Data Transfer
- ▶ Cross-Community Interoperability
- ▶ Semantic standards
- ▶ GeoSMS
- ▶ Geo Mobile Apps
- ▶ Metadata
- ▶ Coverage Access
- ▶ GPS Messages
- ▶ Moving Objects in Motion Imagery
- ▶ AIXM and WXXM
- ▶ Digital NOTAM
- ▶ Geometry Processing
- ▶ Transmission to Aircraft
- ▶ Conceptual Mapping Tool
- ▶ Security
- ▶ CityGML



Urban Model of Berlin based on OGC CityGML
Source: www.3d-stadtmodell-berlin.de

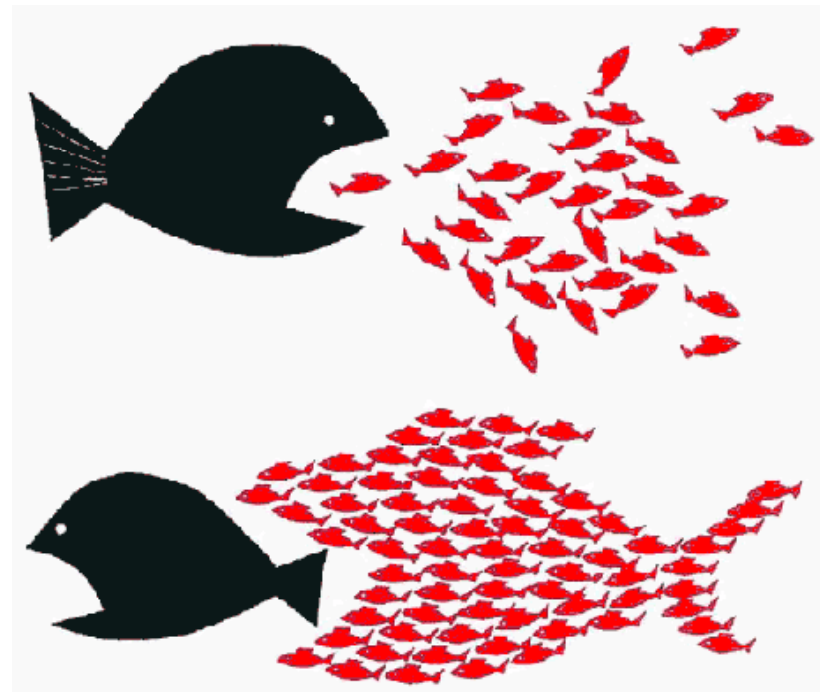
Saab Geodata Competence Centre GDCC



- ▶ The **Geodata Competence Center** is the **company's central resource** regarding **geodata and GIS competence**. It handles ordering and processing of geodata for all geodata consuming systems within Saab. GDCC also serves as a **hub for transfer of knowledge and technology** concerning **map data visualization** and **GIS-components** within Saab.

Development of interoperable systems^{ai} for defence and civil security

- OGC is an important concept for Saab system development
- How can we **cooperate better**?
- What can Saab do for OGC?



Slide 23

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SAAB 75 SAFETY
EFFICIENCY AND
SECURITY

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