



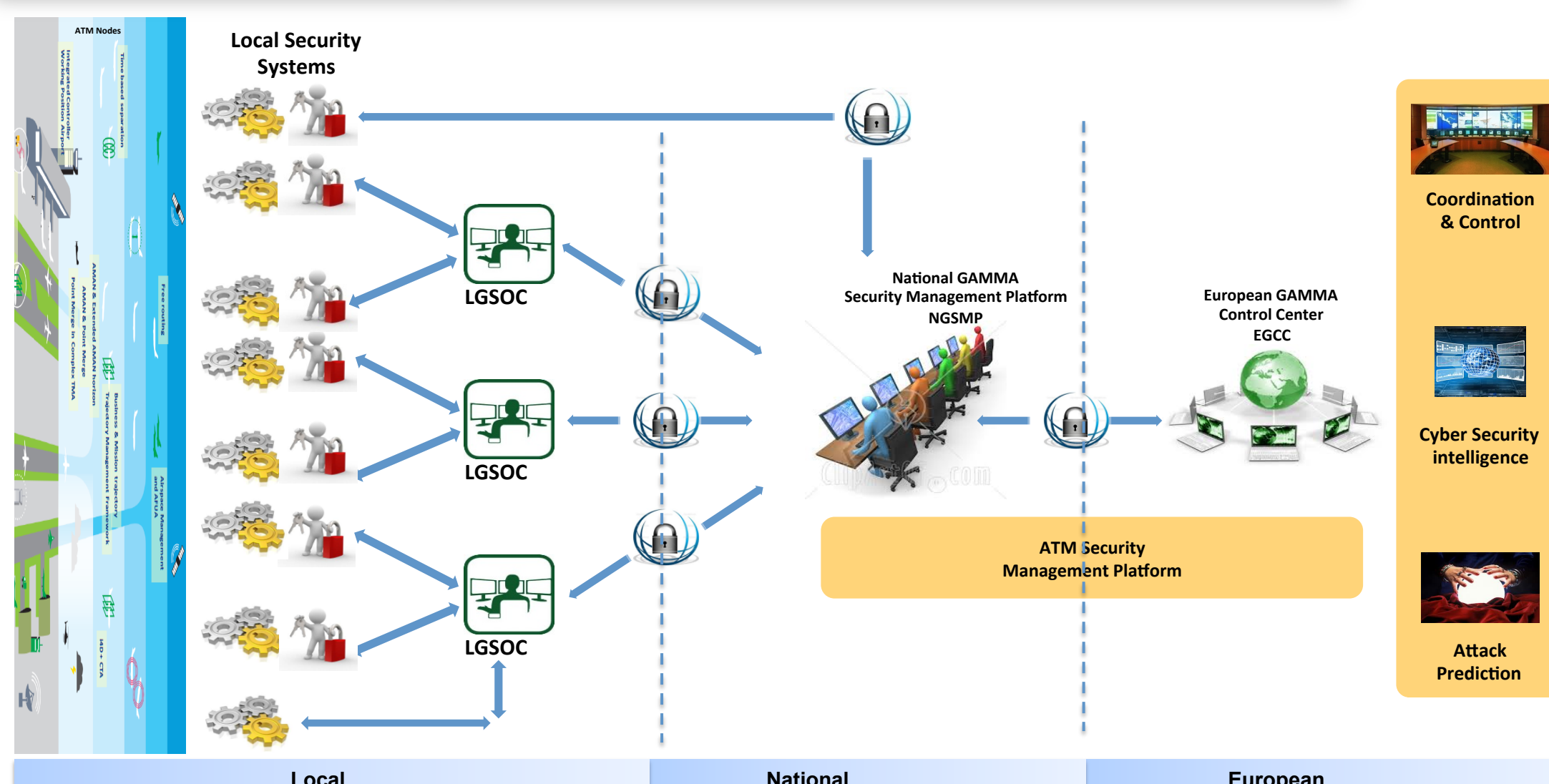
GAMMA

Global ATM Security Management

Objectives

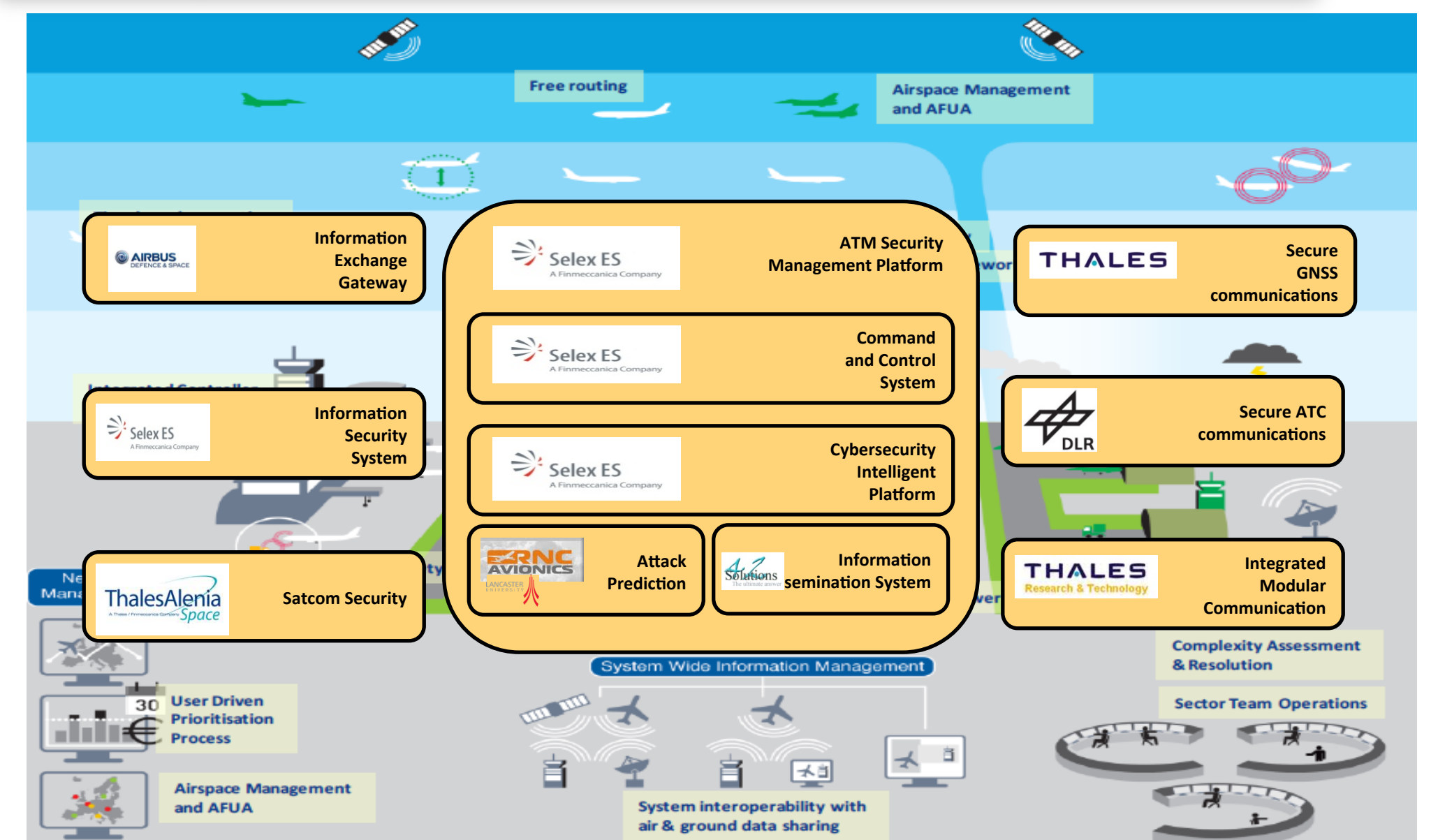
- The goal of the GAMMA project is to propose solutions to emerging Air Traffic Management threats supported by validation activities and practical proposals for their implementation
- GAMMA builds on SESAR results, adding a new Security Service for the ATM system while remaining open for future extensions, including SESAR 2020

GAMMA Concept



- The GAMMA concept builds on the principles and concepts related to Security Management in a collaborative multi stakeholder environment, while maintaining a strong link to the current international and European legal framework and the constraints given by the respect of national sovereignty.
- The GAMMA concept can be conceptualized as a network of distributed nodes embedded within the ATM system and providing interfaces to (ATM) internal and external security stakeholders.
- GAMMA defines three different layers for managing Security at Local (**LGSOC**), National (**NGSMP**) and European levels (**EGCC**).

Concept validation in GAMMA



- The GAMMA concept is developed within the GAMMA project by a central prototype named **Security Management Platform** (SMP) and other security prototypes that support the validation of the concept by acting as detectors of security events in the ATM domain.
- SMP is the “core” of GAMMA solution, and provides a basis for the management of security throughout phases, from prevention to the identification of security incidents and the efficient resolution of the resulting ATM crises.

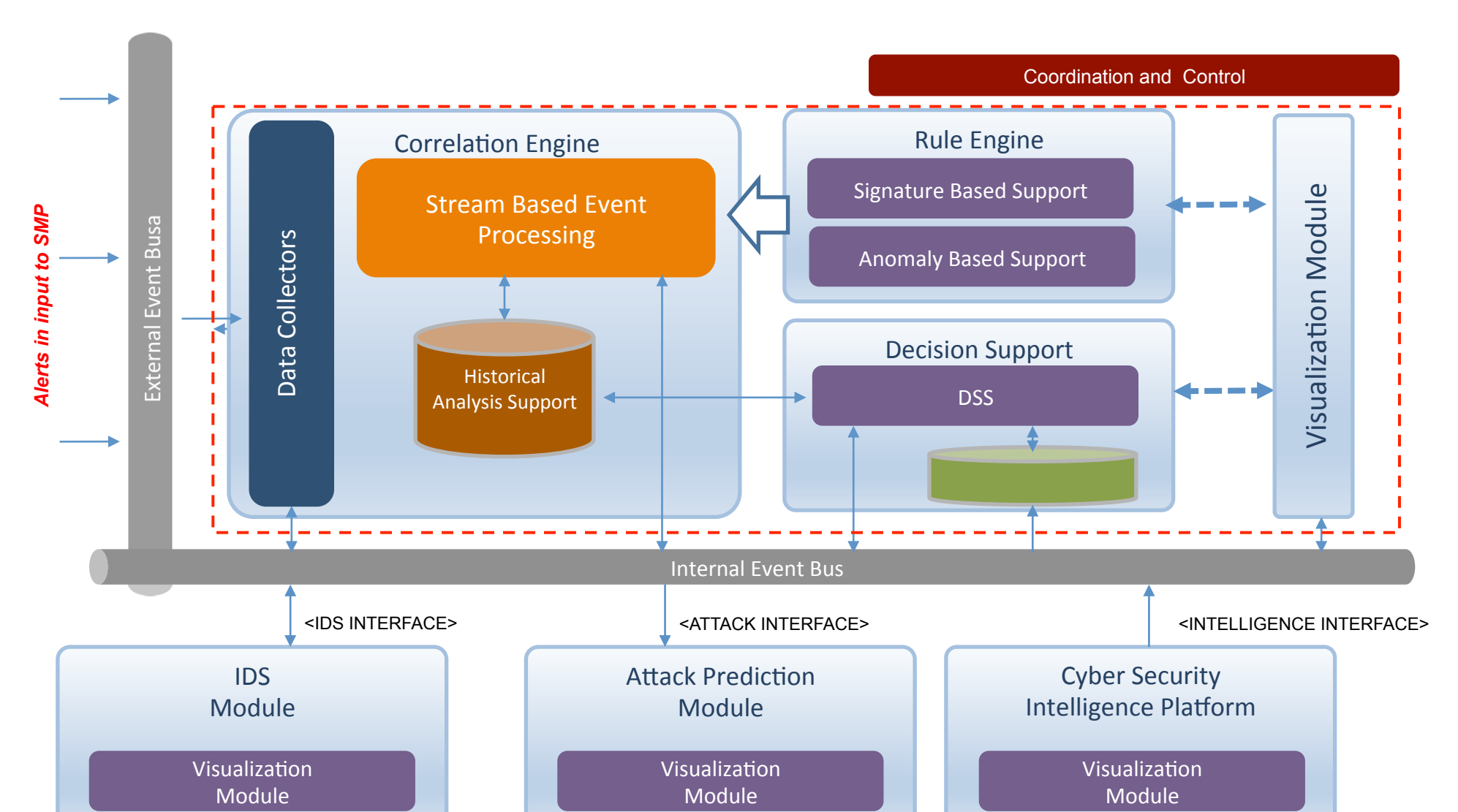
Security Management Platform

SMP main functions

- **Coordination & Control System:** Provides Alarm Correlation, Security Monitoring and Decision Support for Incident/Crisis Management
- **Attack Effect Prediction:** Provides prediction for the adversary actions and possible (expected) impact based on the information received from the SMP.
- **Cyber Security Intelligence Platform:** provide information regarding emerging threats to ATM security, Social and Political contingencies with a possible impact on ATM security.
- **Information Dissemination System (IDS):** Disseminate automatically security reports from the SMP at European level to connected SMPs at National levels, applying (automatic) filtering conditions, and allow the SMP operator at National level to disseminate manually security reports to other connected Security Management Platforms at national or European level

SMP proactive capabilities

- Through the Cyber Intelligence Module the operator can find information affecting the security of the air traffic domain. Such information can be disseminated to instances of SMP in other countries as well as to the SMP in the EGCC for European coordination
- Through the Attack Effect Prediction module (AEPM), GAMMA operators can obtain a prediction for the adversary actions and possible (expected) impact based on the information received from event detectors. The AEPM estimates the possible strategies which are most probable, listing possible counter-actions, given the estimated attacker strategy and event detectors values
- Through the Decision Support module, the GAMMA operator can obtain a list of possible countermeasures (that have been recorder earlier) in relation to alarms received from ATM connected systems and Local Security systems



WebSite: www.gamma-project.eu/

