SIAMOS - Green and Efficient Airport
- AODB and Airport Process Integration Platform
- Optimized Resource Management
- FIDS Passenger Guidance and Advertisement
- Airport Performance Manager supporting A-CDM
- Airport Command and Control Center Solutions
- Product, Integration and Turn Key Provider for Baggage, Cargo, Building Technology, Airport-IT

www.siemens.com
Ulrich Kraenzle
ulrich.kraenzle@siemens.com

OSYRIS - Queue Management
- Arrival & Departure planning
- OSYRIS Flow & Capacity planning
- OSYRIS Trajectory Prediction TP
- OPS center Safety Net and ATC surveill. displays
- ODS Toolbox for CWP user interfaces
- Airport Control Room software & large displays

www.barco.com/AirTrafficControl
Michael Eisele
michael.eisele@barco.com

HubControl-Turnaround Management
- Links CDM milestones directly with all ground handling processes progress in real-time
- Considers all transfer information
- Calculates and updates real time triggered TOBTs
- Cost model based what-if capability for dec. supp.
- Condenses relevant KPIs for ground handling

www.groundstar.de
Gero Hoppe
gerohoppe@inform-ac.com

System Leadership in Aeronautical R&D
- Concept development and evaluation
- Process analysis and optimization
- Validation knowledge and infrastructure
- Expertise in system ergonomics
- Inventor of the TAM concept

www.dlr.de
Karl-Heinz Keller
karl-heinz.keller@dlr.de

Associated Partners:
Surface Management
- Automated Routing and Guidance
- Surface Trajectory Based Operation
- Advanced Taxi Time Calculation
- Tower Simulation

www.atrics.com
Dr. Moritz Strasser
moritz.strasser@atrics.com

Competence and Efficiency
- One of the first airports with comprehensive process support by one integrated IT system
- Experience in air- and landside process optimization based on quality and process monitoring system
- 5 year AODB experience
- Process optimization consultancy for airlines and ground handling companies

www.stuttgart-airport.com
Erich Geigenmüller
geigenmueller@stuttgart-airport.com

TAMS Project Partner Background:
Airport operations are complex due to a large number of processes, constraints, dependencies, stakeholder interests and responsibilities. During the day of operation often things are different to what was planned before. In order to efficiently use the resources under all conditions it is of utmost importance for the operators involved to maintain situational awareness, anticipate impacts of new constraints in due time and collaboratively find joint solution strategies on-the-fly. TAMS provides powerful IT solutions supporting all these requirements.

TAMS goes beyond Airport CDM in three respects: First, by a balanced consideration of both airside and landside processes and their dependencies. Second, by extending the time horizon to a pre-tactical range of several hours. Finally, by introducing new concept elements like Airport Operations Plan and Airport Operations Control Center.

The figure shows the overall concept of decision making on a pre-tactical level in an Airport Operations Control Center (APOC), regardless of whether it is realized in a distributed form or as a single control room. The diagram depicts how APOC decisions provide orientation for the existing tactical operation centers without infringing on their local decision making authority.

A suite of IT systems – both commercial-off-the-shelf (COTS) products proven in the field and novel solutions addressing the specific requirements of an APOC – is integrated to dynamically support the collaborative planning process in the APOC, including efficient coordination with the existing tactical centers.

TAMS Facts:
TAMS is a joint research project of five partners led by SIEMENS, with an overall budget of approx. 30M€, running from December 2008 to November 2011. The DLR simulation environment in Braunschweig and Stuttgart Airport will serve as test and validation sites. Further information can be found on the TAMS website.

Expected Operational Improvements & Benefits
The productivity of an airport is significantly increased by the Total Airport Management Suite – TAMS. TAMS offers perfectly adjusted solutions that consider the entire flight process chain and the related passenger processes holistically. Precise and reliable information in due time – for instance for off-block times – is the core enabler for improved resource management and proactive optimized capacity and demand balancing.

Seamless decision support including, for example, what-if-scenario techniques is provided by TAMS to the operators throughout all phases of flight handling and airport operations: from seasonal flight planning over daily flight plan deployment, execution during the day of operations, to post-operation statistical analysis. Such decision support has been proven to provide significant reductions in delay, fuel burn and emissions, and takes into account human factors requirements based on workflow and task analysis.

Managed airport processes:
These productivity gains through advanced TAMS technology will boost the competitiveness of an airport in a changing market.

Different visualization technologies – from smartphones over desktop monitors to large display walls – are supported to deliver relevant information to the various parties involved in airport operations, dramatically increasing common situational awareness.

By taking airline preferences and constraints into account, TAMS is a key enabler for collaborative planning processes that improve the service level provided to airlines.

TAMS solutions provide these functions based on an open system architecture according to Service Oriented Architecture (SOA) principles. Among other characteristics, it avoids vendor lock-in by loose coupling and conformance to ATM interoperability standards like EUROCAE ED 145. Therefore, TAMS is capable to integrate its novel products and solutions with existing legacy systems and products from different manufacturers in a step-by-step approach, tailored to the needs of each individual customer.