EMMA2 Introduction

EMMA2 Demonstration Day
Malpensa, 2009-02-26

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Internet: http://www.dlr.de/emma2
“Don’t ask what Vision 2020 can do for us
... but ask what EMMA2 can do for Vision 2020.”

European Airport Movement Management by
A-SMGCS, Part 2
Focusing on the higher services of A-SMGCS
The Airport

Airport operations:
• bottle-neck
• weather dependant
• state of technology:

Problem solution:
Advanced Surface Movement Guidance and Control System (A-SMGCS)
## A-SMGCS EC-Projects

<table>
<thead>
<tr>
<th>EU-Project</th>
<th>EU-Framework Programme</th>
<th>Duration</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>DETTAMM</td>
<td>EU-Framework Programme</td>
<td>2004-2006</td>
<td>Demonstration of the technology</td>
</tr>
<tr>
<td>BETA</td>
<td>EU-Framework Programme</td>
<td>2006-2008</td>
<td>First implementations under operational conditions</td>
</tr>
<tr>
<td>Part 2</td>
<td>6.</td>
<td>2004-2006</td>
<td>Paving the way to harmonise the implementation of A-SMGCS surveillance &amp; control</td>
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</tbody>
</table>

**Emphasising**

- operational procedures
- validation
- onboard services

... and **higher services** of A-SMGCS.
Structure of EMMA2

GP0 Management

SP1 Concept

SP2 Onboard

SP3 Prague

SP4 Toulouse

SP5 Malpensa

SP6 Validation

GP7 User Forum
Conclusions

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Main Achievements

• Development of a preliminary Concept for a complete A-SMGCS

• Higher-level A-SMGCS services concept developed, integrated and tested at:
  – 5 Tower Simulation Platforms
  – 4 Cockpit Simulation Platforms
  – 3 European Airports (PRG, MXP, TLS)
  – 2 Test Aircraft
  – 1 Test Van and several other Test Vehicles

• Valuable feedback to ATM R&D, in particular to SESAR
Main Results

- Proof of technical feasibility
- User acceptance of new procedures and operational requirements
- Improved situational awareness of controllers, pilots and vehicle drivers
- Workload maintained at a moderate level
- Reduced congestion of the voice radio channel
- Reduction of taxi time
- Reduction of waiting time at runway entry points
Main Recommendations

• EMMA2 has demonstrated
  – operational feasibility
  – operational improvements of A-SMGCS higher services

now ANSPs, airports and airlines should investigate local implementation needs

• A-SMGCS activities should form an important part of SESAR

• Ensure the coordination of A-SMGCS activities in the different SESAR projects e.g.:
  – operational procedures
  – technical enablers
Final Statement

• Starting 2004 the EMMA consortium has validated
  – Surveillance display
  – Runway alerting
  – Onboard Moving Map

• Since 2006 the EMMA2 consortium has shown the operational feasibility of several systems
  – DMAN
  – Routing
  – TIS-B / GTD / TCD / SMA
  – TAXI-CPDLC via Ground EFS and Onboard CDTI

• We want to continue with validation of higher A-SMGCS services for operational use
Thank you for your attention!

Questions?

2-D671 Analysis Report
2-D672 Recommendations Report

www.dlr.de/emma2