

SPACEOPS 96
HIGHLIGHTS AND CONCLUSIONS OF SYMPOSIUM
Track4: Mission Control and Mission Product Processing

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Summary

- presentation of 20 papers
- good to very good presentation form
- geographical distribution well covered
- focus on future plans
- emphasis on innovative approaches
- high actuality
- wide range of presented themes within the track
- interagency aspects

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Geographical Distribution

Space Agency (acc. to first author) (alphabetical order)	Number of papers
DASA	1
ESOC	5
EUMETSAT	1
GSOC	1
ISRO	1 (canceled)
NASA	3
RMCC/RKK	2

Industry (acc. to first author) (alphabetical order of country)	Number of papers
Belgium (SAS)	1
Denmark (CRI)	1
Germany (CAM)	1
Netherlands (ORIGIN)	1
USA (JHU, Lockheed, Wigand)	3

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Future Plans

- majority of papers on new or starting missions
- about a quarter on projects planned or under decision
- 1 very futuristic outlook (+ intensive discussion on commercialization, which is a nucleus topic also at this SpaceOps, culminating in the statement that satellites will be controlled via Internet)

Actuality was obvious

- wide variety of project size (from International Space Station to Small Satellites)
- broad diversity of themes
 - Complete Mission Control Systems or Subsystems
 - International Mission Control
 - Payload Data Processing Systems
 - Software Systems, Subsystems and Tools
 - Theoretic Approaches

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Highlights

- MSFC Paper on International Payload Integration and Operation
 - GSOC proposes test and exercising of these activities in the European environment in a precursor mission
 - Payload User Station proposed by industry
- Papers on ISO, EnviSat, XMM and Cluster classical scientific missions
 - cost saving tendencies have been identified also these missions are highly effective and ambitious
- Both Centralized and Decentralized Operations have their justifications
 - „Avoid interfaces and duplication of functions“ - versus - „Use the know-how where it is“
- Two presentations on Russian Space and Ground Segments

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Tools

- TDRSS offers network relay capabilities for small satellites
- GSOC Open Management Subsystem reduces operational costs through centralization of Control Center elements management
- Sophisticated Man Machine Interfaces and Applications lead to savings in staffing and training activities and increases reliability (Command Management, 3-D Data Monitor, Advanced Crew Terminal & Flexible Automation Monitoring and Operations User Station, SOE Keyword File Generator & MTP Product Generation)

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Post Sentence

One aspect has been discussed intensively, namely commercialization of SpaceOps. There are of course controversial opinions:

The Track Manager's proposed solution is very simple: Since cooperation between governmental institutions and industry in space operations was necessary in the past, is necessary nowadays and will be necessary especially in the future, it's only the way of cooperation which has to be defined according to current requirements and the situation of today.