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A GROUP DISCUSSION AT THE  
3rd SPACEBORNE IMAGING RADAR SYMPOSIUM

**INTERNATIONAL COLLABORATION IN  
SAR GROUND DATA SYSTEMS**

LED BY

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PAGE 424 - INTERIMINARY REVISIONS



SAR GROUND DATA SYSTEMS  
**INTERNATIONAL COLLABORATION**

**CONSIDERATIONS**

- **SUCCESS OF FUTURE SPACEBORNE SAR MISSIONS WILL REQUIRE MULTI-AGENCY AND/OR MULTI-NATIONAL COLLABORATION**
  - JOINT DEVELOPMENT AND OPERATIONS FUNDING
  - SHARED TECHNOLOGY DEVELOPMENT
  
- **GROUND PROCESSING IS TYPICALLY PERFORMED BY EACH AGENCY FOR THEIR USER BASE**
  - LOCAL CONTROL OF DATA PROCESSING QUEUE AND PRODUCT QUALITY
  - COMMERCIAL UTILIZATION, REAL-TIME APPLICATIONS
  - APPLICATION SPECIFIC PROCESSING, GEOPHYSICAL PRODUCTS
  
- **INTERNATIONAL STANDARDS ARE REQUIRED TO ACHIEVE A UNIFORM DATA PRODUCT INDEPENDENT OF THE PROCESSING CENTER**
  - COMMON FORMATS: DATA STRUCTURES, COMMON READERS
  - COMMON PRESENTATION: PRODUCT DEFINITION
  - DATA PRODUCT QUALITY STANDARDS: CALIBRATION, ALGORITHMS



SAR GROUND DATA SYSTEMS  
**INTERNATIONAL COLLABORATION**

**CONSIDERATIONS - 2**

- TO REDUCE THE AGGREGATE COST OF THE GROUND DATA SYSTEMS,  
COLLABORATION IS REQUIRED IN DESIGN AND DEVELOPMENT
  
- EFFECTIVE UTILIZATION OF THE DATA BY AN INTERNATIONAL USER  
COMMUNITY
  - INTERNATIONAL HIGH RATE DATA NETWORKS FOR ELECTRONIC DATA  
ACCESS: INTERFACES, PROTOCOLS, DATA RATES
  - JOINT MISSION PLANNING SYSTEMS
  - DISTRIBUTED DATABASES
  
- COMMERCIALIZATION OF DATA PRODUCTS
  - COORDINATION OF POLICIES BY VARIOUS AGENCIES
  - RATE STRUCTURE FOR DATA PRODUCTS
  
- SECURITY OF DATA SYSTEMS
  - CONTROL OF UNAUTHORIZED DISTRIBUTION
  - CONTROL OF UNAUTHORIZED ACCESS



SAR GROUND DATA SYSTEMS  
**INTERNATIONAL COLLABORATION**

**SOLUTIONS**

- **COMMITTEES**
  - LESS ADMINISTRATIVE, MORE TECHNICAL
  - INVOLVEMENT OF PROJECT ENGINEERS TO ASSURE IMPLEMENTATION OF RESULTS
  - FUNDING FOR REQUIRED WORK, MEMBERS HELD ACCOUNTABLE TO MEET GOALS
  
- **ONGOING COMMITTEE WORK**
  - DATA FORMATS: CEOS SAR WG ON DATA IS INACTIVE, FORMAT MUST BE MAINTAINED
  - DATA POLICY: NEW US/CANADA RADARSAT GROUP, EXPAND ROLE
  - CALIBRATION/ VALIDATION: ACTIVE GROUP, CEOS, NO FUNDING



SAR GROUND DATA SYSTEMS  
**INTERNATIONAL COLLABORATION**

**SOLUTIONS - 2**

- **JOINT DEVELOPMENT OF GROUND PROCESSORS**
  - ERS-1 BETWEEN > 8 INDEPENDENT DEVELOPMENTS OF SAME OPERATIONAL PROCESSOR: MINIMAL COLLABORATION WITHIN ESA PAFs, NONE OUTSIDE OF ESA
  - US AND CANADA: BOTH EMBARKING ON UNDERFUNDED COLLATERAL EFFORTS TO DEVELOP SAME GROUND PROCESSING SYSTEM, NO INTERACTION
- **SHARED TECHNOLOGY**
  - WORKING COOPERATIVELY IS ONLY METHOD TO ENSURE UNIFORM QUALITY DATA PRODUCTS FROM NATIONAL PROCESSING CENTERS
  - SHARED DEVELOPMENT IS MAJOR COST SAVINGS
  - RESEARCH COLLABORATION WILL MORE QUICKLY ADVANCE STATE OF ART IN PROCESSING TECHNOLOGY AND ALGORITHMS: BETTER SCIENCE
  - RESIDENT ENGINEER EXCHANGE PROGRAM



SAR GROUND DATA SYSTEMS  
**INTERNATIONAL COLLABORATION**

SOLUTIONS - 3

- **GEOPHYSICAL PROCESSING/PRODUCTS**
  - **INCORPORATION OF SCIENTIST'S ALGORITHMS INTO OPERATIONAL DATA SYSTEM: ALGORITHM VALIDATION, PRODUCT QUALITY ASSURANCE, MAINTENANCE**
  - **ASF GEOPHYSICAL PROCESSOR: EXPERIMENTAL SYSTEM TO GENERATE ICE MOTION, CONCENTRATION AND WAVE PRODUCTS**
  - **US JOINT ICE CENTER AND CANADIAN ICE CENTER HAVE BEGUN INITIAL EXCHANGE OF PRODUCTS**