

AI IN SPACE FOR ISR

OPERATIONAL PERSPECTIVE

SCOPE

RESTRICTED TO KEY AREAS OF IMINT CYCLE FOR GATHERING
OPERATIONAL AND TACTICAL LEVEL INT

PAYLOAD PLANNING

- FUSING OF MULTIPLE AGENCIES DEMAND – TARGETS IN CLOSE PROXIMITY
 - PRIORITISATION LEVELS
 - SPECIFIC SENSOR REQUIREMENTS
 - CURRENCY & PERIODICITY FACTORS
- CUEING INPUTS
 - OSINT
 - COMINT
 - SIGINT
 - ELINT
 - HUMINT
 - WEATHER - EO/SAR

PAYLOAD PLANNING

- MAXIMUM UTILISATION OF RESOURCES vs PRIORITY DEMANDS
- AVAILABILITY OF ALTERNATIVE RESOURCES

IMAGE PROCESSING

- IMAGE FUSION – WIDE AREA
 - PSNC
 - EO+SAR – TEMPORAL DIFFERENCE
 - HYSIS + EO – SPATIAL RESOLUTION DIFFERENCE
- ENHANCING SPEED OF MULTIPLE PRODUCTS

IMAGE ANALYSIS

- OBJECT
 - DETECTION
 - IDENTIFICATION
 - CLASSIFICATION
 - CHANGE DETECTION BASED ON OBJECT OF INTEREST

CHALLENGES OF WIDE SWATH, LOW RESOLUTION, SMALL TARGETS

- CONTEXT BASED
- TARGET BEHAVIOUR PATTERN ANALYSIS
- CORRELATION OF DATA IN IMAGE WITH OTHER SOURCES OF INT (ELINT, COMINT.....)
- CORRELATION OF DATA FOR CUEING IN THE NEXT CYCLE OF PLANNING
- CORRELATION INPUTS WITH ARCHIVED DATA (NOT TIME SERIES ANALYSIS)
- IDENTIFICATION OF CRITICAL VULNERABILITY IN THE TARGET SYSTEM

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