

Mid Annual Status Update Meeting (MASUM) 2022

SKA-Mid Engineering Operations & Performance

Corrie Taljaard

11 April 2022

Workstreams

1.Planning and Roadmaps

2.Project Support

3.Develop Technical Information:

(Operational, Organisational and Maintenance Procedures)

1.RAM Requirements, Modelling and Performance

Analysis

2.Maintenance and Support Plan, Support

Establishment

3.Engineering Management System



RAM, Support Engineering and Project Support

- Tender Evaluation Support
- Design Review Support
- Project Management Systems Engineering and Mission Assurance support
- Provide Inputs to AIV
- Inputs to the Interface Requirements
- Inputs to the RAM Requirements

- Dish Review
- MeerKAT integration



Develop Technical Information

- Problem Reporting and Tracking (PRT) Rules and Procedures
- Site and General Maintenance Rules and Procedures
- Inventory Management Rules and Procedures
- Transport to and on-site Rules and Procedures
- Access to Site Rules and Procedures
- Detail Tender Evaluation Support
 - Design Review Support
 - Project Management Systems Engineering and Mission Assurance support
 - Provide **Inputs to AIV**
 - Inputs to the Interface Requirements
 - Inputs to the **RAM Requirements**
- Technical and Short Descriptions
- Network and Power Diagrams
- Replacement Procedures
- Fault Finding Procedures
- Equipment Specific Safety Procedures

- Problem Reporting and Tracking (PRT) Rules and Procedures
- Site and General Maintenance Rules and Procedures
- Inventory Management Rules and Procedures
- Transport to and on-site Rules and Procedures
- Access to Site Rules and Procedures
- Detail Tender Evaluation Support
 - Design Review Support
 - Project Management Systems Engineering and Mission Assurance support
 - Provide **Inputs to AIV**
 - Inputs to the Interface Requirements
 - Inputs to the **RAM Requirements**
- Technical and Short Descriptions
- Network and Power Diagrams
- Replacement Procedures
- Fault Finding Procedures
- Equipment Specific Safety Procedures



RAM Requirements, Modelling and Analysis

- System-level FMECA / FTAs and Availability Diagrams
- Availability Modelling
- Analysis of Failure Data to Identify Problem Areas
- Analysis of the Failure Data to Improve the Availability Estimates
- Analysis of the Maintenance Processes to Improve the Process and Capturing of Data

- System-level FMECA / FTAs and Availability Diagrams
- Availability Modelling
- Analysis of Failure Data to Identify Problem Areas
- Analysis of the Failure Data to Improve the Availability Estimates
- Analysis of the Maintenance Processes to Improve the Process and Capturing of Data



Maintenance and Support Plan, Establishment

- Structure for Maintenance and Logistics
- System and Integration of Lower-level FMECAs
- Identifications of Maintenance Tasks
- Identify Maintenance Task Requirements
- Development and Optimisation of a Maintenance Plan
- Establish the Maintenance and Support Systems

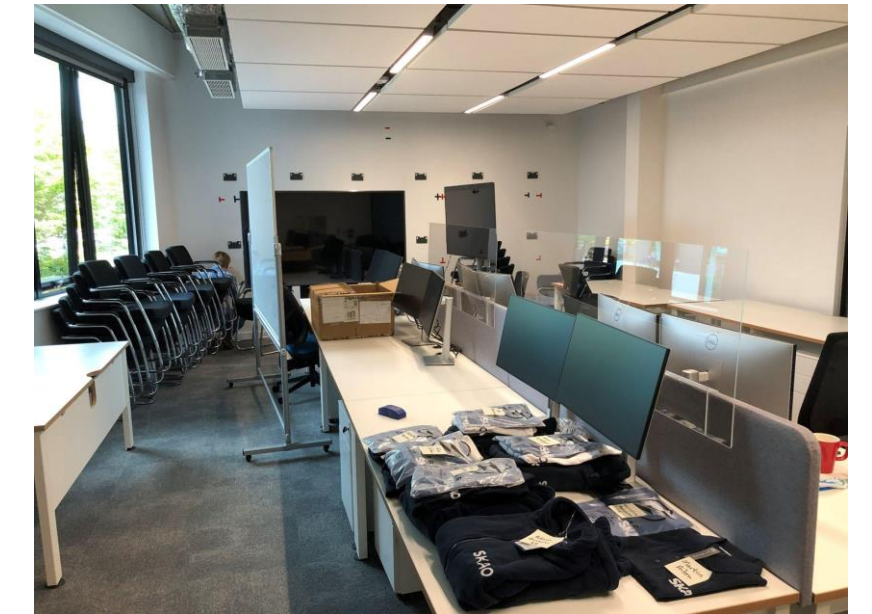
- Structure for Maintenance and Logistics
- System and Integration of Lower-level FMECAs
- Identifications of Maintenance Tasks
- Identify Maintenance Task Requirements
- Development and Optimisation of a Maintenance Plan
- Establish the Maintenance and Support Systems



Engineering Management System

Maintenance Management Software Features
Dashboard for Engineering Operations
Links between the EMS Software Components
Dashboard and Reports
Web Portal for Technical Information
Databases (LSA, CSDB and Failure,
Maintenance)
Servers, Screens and Hardware Components

MeerKAT Engineering Performance
Dashboards



. **Work Groups**

- Telescope Maintenance Plans
- Service Level Agreements (KPIs)
- Performance Monitoring System
- EMS System and its Requirements
- Documentation System
- MeerKAT asset on-take



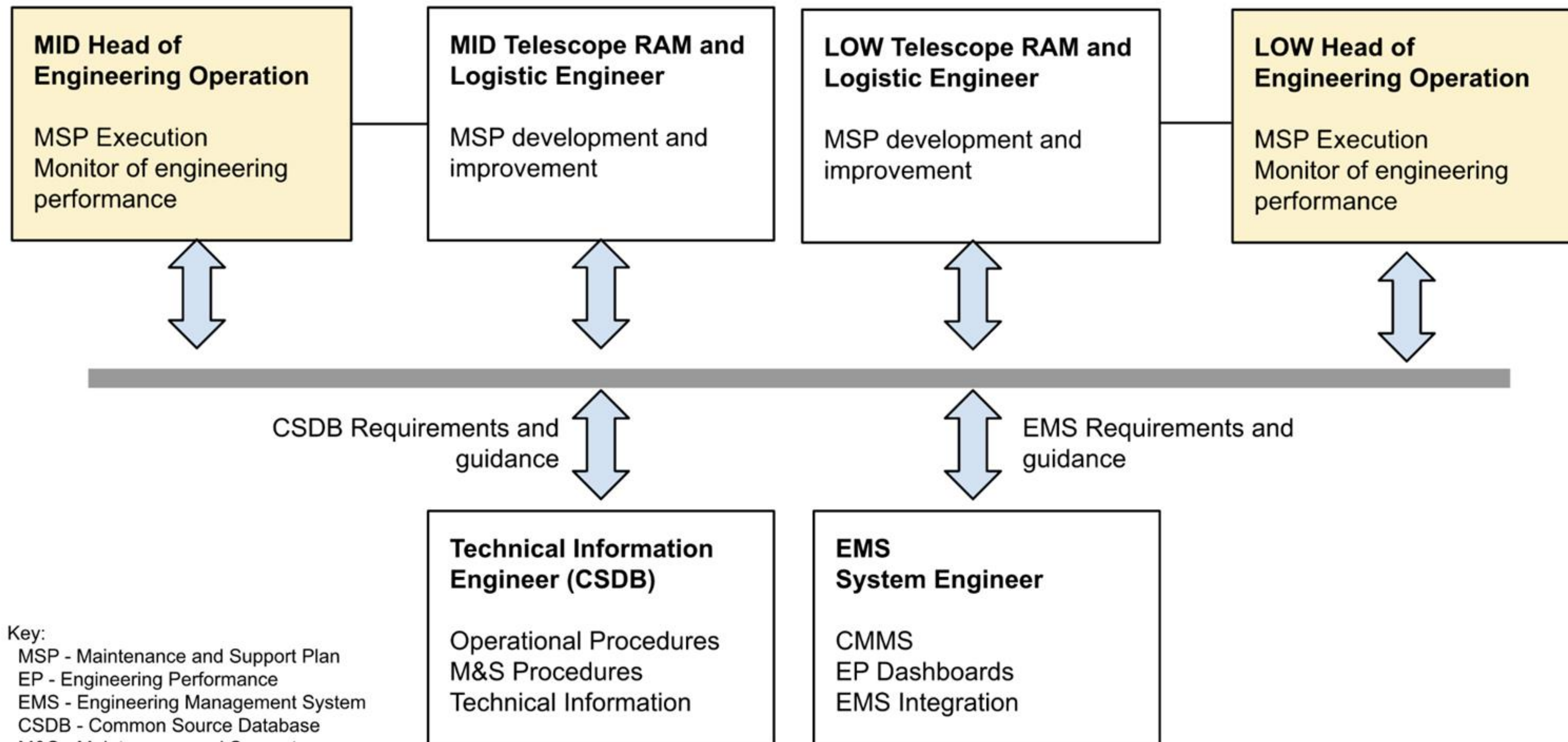
Thank you

*We recognise and acknowledge the
Indigenous peoples and cultures that have
traditionally lived on the lands on which
our facilities are located.*

SKAO

www.skao.int

Engineering Operations Work Group



Key:
 MSP - Maintenance and Support Plan
 EP - Engineering Performance
 EMS - Engineering Management System
 CSDB - Common Source Database
 M&S - Maintenance and Support
 CMMS - Computerised Maintenance Management System

