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Future Maintenance Concepts for Land Systems

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GenHLogTr und Kdr TSL/FSHT
Logistic Laydown for Landoperations

AR Logistic Services

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GEAR Field Maintenance Posture

Expeditious Maintenance

WpSysMnt
\[ t > 6 \text{ h} \]

JSS

TRO + LRU
\[ t < 6 \text{ h} \]

Hairline Maintenance

Exp/BDR
\[ t < 2 \text{ h} \]

SysMntNCO

Diagnosis

Field Maintenance
Field Maintenance
Challenges in Current Operations (1)

- front line support
- environmental conditions
- operational requirements (e.g. time)
- readiness requirements
- inappropriate use of equipment
Field Maintenance
Challenges in Current Operations (2)

- Land systems diversity
- Small numbers
- Complex Technology
- Aged beside new land systems
- Life Cycle extension/aging products
- UOR > MOTS products
- COTS products
Field Maintenance
Challenges in Current Operations (3)

Repairman

? Qualification
Specialization
Compensation

Specialist

? Number/Footprint
Training Costs
Occupation Sustainability

Industry

Military fall-back capabilities?

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Make your well trained repairman a specialist through the provision of expert knowledge from the outside just as needed in time!

Telemaintenance
Smart Approach to Field Maintenance

Foresighted log support

PROGNOSIS

MONITORING
Permanent health status monitoring

DIAGNOSIS
Exact fault isolation; Quick decision on scope and place of repair

REPAIR
Rapid and targeted repair with little personnel

Telemaintenance

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Telemaintenance

User/Operator
TM level 0
onboard

Sys Maint & Mtr Sgt and BDR/Maint Team
TM level 1b

MobileEngine
Repairman
TM level 2a

Knowledge pool
TM level 3

Knowledge pool
TM level 3

back end

Manufacturer; TM level 4

Server in theater

Server

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on site

Telemaintenance Functional Model

Operator

Sys Maint Spec
Repairman

Bw Support Center

Manufacturer

IETD
Operator part

ITS

Rescue buttons

Fault descriptions

Practical instruction

Data

cabling

Telemetric remote diag

Diagnostic eqpt

Adapter

Dialogue unit

Bundeswehr
helpdesk

Empirical values

Online assist

Pic/Video

Virtual layout/diagnostic/test diagrams

Manufacturer's
database

Manuf's
hotline

Update

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Modular Approach

Operation

1. IETD ++
2. Trainer

Training

Maintenance

Repairman

Teletutoring

Operator

Consumption

Monitoring Prognosis

Diagnostics Repair

Transmission

Helpdesk Knowledge Basis

Demonstrator

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"Telemaintenance"
Expert knowledge for the Professional
Module 1A: Monitoring and Prognosis

User/Operator

ITS+

Status reports

Tactical commander

Embedded logistics

Tactical comms network

Tactical comms network

User/Operator

TM level 0

onboard
Module 1B: Monitoring and Prognosis

User/Operator

Sys Maint Sgt

Upon request

Remote Control

Tactical comms network

Module 1b

ITS+

RC ITS+

onboard

P/D-G

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Module 2: Diagnostics and Maintenance
Module 3: Transmissions
Module 4: Helpdesk and Knowledge Database
Module 5: Operational Demonstrator

- Gain experience
- Collect data on Comms
- Fine tune project
- Build-up expert knowledge

PRT

ETS

Maint Sgt on site

Specialist on site

LogBasis

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Telemaintenance

Way Forward

• Telemaintenance enters CPM Process;
• Telemaintenance components to be fielded to ISAF;
• Work on operational telemaintenance demonstrator to be continued;
• Telemaintenance capabilities integrated into new products, such as BOXER, PUMA;
• Knowledge management to be studied;
• ’Future Repairman concept‘ to be developed.
Telemaintenance

- The future project of the GEAR Maintenance Corps
- The core element of the 'Future Repairman Concept'
- Will revolutionize the approach to training and to the repair of complex materiel

Logistic Capabilities

Logistic Footprint

Military fall-back capabilities
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Telemaintenance