



MTA
Mission Tactical
Workstation for
CH-53 GS/GE

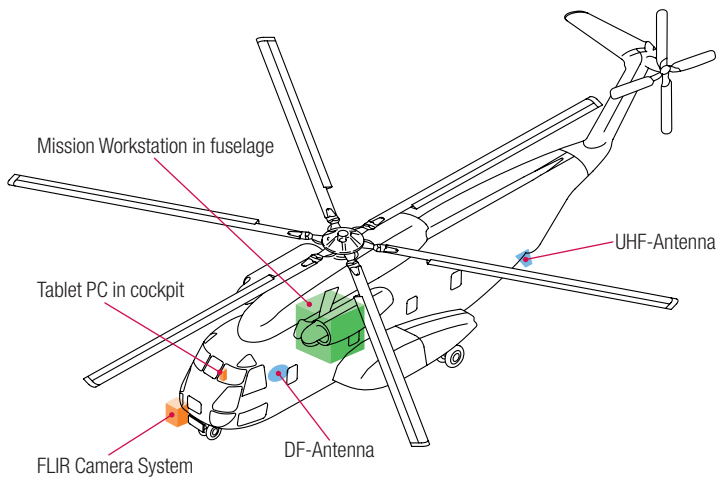
Photo: Dr. A. Zeitler

MTA – Mission Tactical Workstation

The MTA is a military development of ESG's Police Tactical Workstation (PTA), adapted for environmental qualification with enhanced component robustness. The MTA offers all functions required for carrying out personnel recovery missions in one mission package. The MTA receives position data and text messages from the personal locator beacons of the survivor and displays it to the mission operator. The MTA supports the "PRC-434G/SV" and "PRC-112B1" personal locator beacons as well as "COSPAS SARSAT" emergency locator transmitters. The MTA also features a wide frequency spectrum reception capability, enabling it to conduct classic search and rescue (SAR) missions. By using a camera system with an extensive sensor set (IR, TV, LLTV, LRF, L-illum., IMU), the mission operator can visually survey the environment

around the aircraft and the target area of the survivor's assumed location. The MTA mission software with the integrated "FalconView" mapping system offers centralised information processing and a clearly structured user interface. From the MTA, the mission operator has a wide range of communication options. Being fully connected to the intercommunication system of the aircraft, many different radio devices and the satellite communication system can be used. In the cockpit, a tablet PC serves as an additional source of information for the crew. This PC may be used in a multi-function role as part of ESG's Sensor Based Landing Aid (SeLa) system. For long endurance missions, particular attention has been paid to the ergonomic aspects of the MTA; many functions are adaptable for the individual MTA user.

ESG SCOPE OF WORK	
▶ Coordination with end user and certification agency	▶ Development of ground test bench
▶ Development of mission requirements with operator	▶ Technical documentation for maintenance, operation and training
▶ System development of MTA mission package and adaption to specific helicopter type	▶ Manufacture of MTA mission packages
▶ Equipment design, development coordination and equipment certification	▶ Integration of MTA mission package
▶ Hardware selection and procurement	▶ Support for Ground and Flight Tests
▶ Mission software development and integration	▶ Certification
	▶ Training



MTA Workstation

MTA GROWTH POTENTIAL

Missions

- ▶ Navigator workstation
- ▶ Flying command post
- ▶ Forward air controller

Platforms

- ▶ Military, e.g. Mi-8, UH-60, Sea King, NH-90, AW-101 and others
- ▶ Civil, e.g. EC-135, MD-902 and others

Interfaces

- ▶ Interconnection with existent system: Sensors, MFDs
- ▶ New Sensors: Radar, new FLIR, sonar
- ▶ Communication: New radios, SATCOM, new PLBs

- ▶ Navigation: New GPS, INS
- ▶ UAVs: Video link, control

Software

- ▶ Video recording
- ▶ Picture pattern recognition
- ▶ Advanced map overlays
- ▶ New digital map systems
- ▶ Advanced flight management tasks
- ▶ Integration in (existing) tactical data/comms networks

Certification

- ▶ Additional military certification
- ▶ Civil certification (FAA, EASA)

MTA ADVANTAGES

- ▶ Fusion of all mission-relevant functionality in one workstation
- ▶ Minimum helicopter integration effort
- ▶ Reduced crew workload by separation of flight and mission operation
- ▶ Customer-specific adaption of MTA
- ▶ Exploitation of existing helicopter fleet by flexible integration of mission packages
- ▶ High growth potential for future mission requirements
- ▶ New mission capabilities without permanent limitation of payload (space/weight)
- ▶ Short program realization period
- ▶ Overall program responsibility

ESG established its own integration and acceptance test bench for the development phase and which will continue to be available, for carrying out further analyses as well as providing a basis for further development. With its large growth potential, the MTA can accommodate further tasks, e.g. in the field of navigation, communication and reconnaissance. The modular design of the hardware and software components supports the integration of other system components and software upgrades. The MTA Mission Package concept supports the integration into other airborne systems together with multifunctional use. ESG has developed the concept and design for the MTA in compliance with the user's specific requirements in direct coordination with the Federal Office of Defense Technology and Procurement (BWB). In the design phase, the BWB was supported with expert consultancy from the German Army Aviation Combat Development Division (BWE).

MTA KEY FUNCTIONALITY

- ▶ Communication with Personal Locator Beacons "PRC-434 GSV" and "PRC-112B1" and C/S beacons
- ▶ Direction-finding (DF) between 30 and 407 MHz
- ▶ Communication with broadband V/UHF radio with Have Quick I/II and Saturn capability
- ▶ Voice and data communication via SATCOM
- ▶ Integration of digital map system "FalconView-PFPS"
- ▶ Tactical reconnaissance with multifunctional camera system (IR, LLTV, TV, L-Illum., LRF)
- ▶ NVG-compatibility
- ▶ Concentration of all required functions in one mission package
- ▶ Ergonomic user interface (HW/SW) for long endurance missions
- ▶ Integration of a mobile display as an additional cockpit information source
- ▶ Visualization of survivor information/position as overlay on digital map