Enhanced Situational Awareness

in Degraded Visual Environments

The Solution

Sferion® assists pilots with real-time information of relevance so that the right key decisions can be made by the crew. It ensures seamless situational awareness including tactical, environmental and spatial considerations. Smart visual cues reduce the pilot's workload and thereby increase flight safety and the certainty of mission success, particularly in crucial mission phases under adverse visual conditions.

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Key Benefits

- Increased safety
- Extended operational envelope
- Reduced mission planning
- Reduced pilot workload
- Improved situation awareness including tactical, environmental and spatial considerations
- Smart visual cues reduce the pilot's workload
- Increased mission success
- Reduction of pilot's workload
- More efficient and better-informed decision-making in all phases of flight
- Consistent visualisation and HMI tailored for the specific needs of the mission, the flight phase and the cockpit
- Scalable solution according to operational requirements
- Integrated with cockpit avionics
- Platform agnostic, modular and open architecture

SFERION®
Scalable and modular subsystem solution providing real-time situational awareness

SferiAdvise®
Configurable mission management

SferiAssist®
Pilot assistance in degraded visual environments

SferiSense®
Sensor-based recognition of surrounding areas

SferiRec®
Flight and mission data recording & management

Avionics Computing Platform
Sferion® functions as well as a common data base, the interfaces towards the sensors, the avionics environment and the displays are hosted on the common Avionics Computing Platform.

The Challenges

- Degraded visual environment, such as brown-out, white-out, zero-light conditions
- Obstacles, such as wires, poles, trees
- Unknown surface and moving objects in landing zone
- Rapidly changing tactical situation
- Complex navigation tasks in a confined environment
- Short pre-planning time

The Solution

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SferiAdvise®
Mission planning, execution and debriefing
SferiAdvise is a new generation, configurable, high performance Mission System, which is founded on a modular architecture based on industrial standards and developed in accordance with civil regulations. It supports the crew in flight through decision making especially under extreme conditions like night, fog, known out or with extreme weather situations. It retrieves relevant information from the on-board database, data link and sensor based on all available information providing the basis for creating on-board database.

SferiAssist®
Pilot assistance in degraded visual environments
SferiAssist ensures safe take-off and landing. SferiAssist is designed for a safe take-off and landing in degraded visual environments. The visualisation is already relevant for on-board databases, sensors and other data sources.

SferiSense®
Sensor-based recognition of surrounding areas
SferiSense combines flight and retrieval data recording, data transfer and analysis capabilities which are key capabilities for the complete mission lifecycle (planning, flight and debriefing). The Flight and voice data are recorded and are secured stored on a crash-protected memory, both fixed-installed and deployable.

SferiRec®
Flight and mission data recording & management
SferiRec provides data acquisition and data handling functions for the whole mission lifecycle (planning, flight and debriefing).

SferiSense®
Sensor-based recognition of surrounding areas
SferiSense is a 3D sensor system based on laser detection and ranging technology. It provides warning of potential and relatively distant threats and objects (e.g. trees, trees or pole), are displayed as different symbols on the helmet-mounted display or head-down display. In another version, classified in real-time according to their risk level and type (e.g. wire, tree or pole), are displayed as different symbols on the helmet-mounted display or head-down display.