

ICZ LETVIS® - CWS

Controller WorkStation

ICZ LETVIS® SYSTEM USER INTERFACE

THE ICZ LETVIS® CWS (CONTROLLER WORKSTATION) PRODUCT PROVIDES A USER INTERFACE (HMI) FOR THE ICZ LETVIS® SYSTEM – FROM DISPLAYING THE REQUIRED INFORMATION (AIRSPACE INFORMATION, SAFETYNETS, STRIPS, ETC.) THROUGH TO INTERACTIVE WORK WITH THE SYSTEM AND INFORMATION.

The ICZ LETVIS® CWS product is the main workstation for the ICZ LETVIS® system. ICZ LETVIS® CWS is a graphical terminal for the ICZ LETVIS® system, enabling the monitoring of the airspace situation and additional information in the form of flight plans, airspace management, sectorisation, etc. It also provides an HMI for work with this information.

[BASIC FUNCTIONS]

ICZ LETVIS® CWS workstation has a main display (radar) window covering the whole screen, which cannot be minimised, shrunk or closed. There are, however, predefined additional radar windows that can be opened/closed, and minimised, and whose size can be changed. The display options are configurable separately for each radar window. In addition to the radar windows, the workstation can provide configurable information in additional windows (strips, safetynets, etc.), and additional supplementary functionality (work with QNH, ASM, etc.).

RADAR WINDOWS

Radar windows are conceptually designed as configurable linking of images made up of multiple layers to create the resulting image. The basic layers are tracking, plotting, scanning, weather, map, and additional user-defined layers. The way the layers are connected is configurable (transparency, etc.).

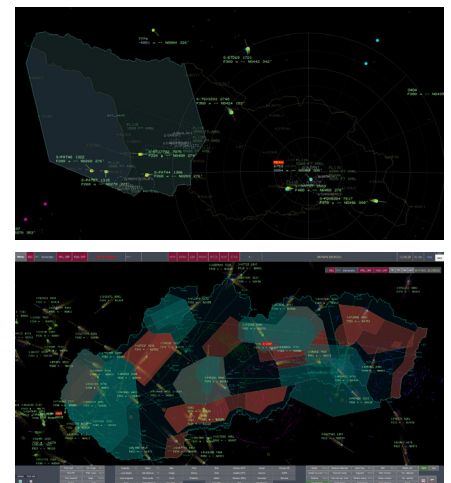
Basic information displayed in the radar window:

- ▶ Multitrack information
 - various track symbols
 - variable-configuration forms
- ▶ Scans ("Raw video") from multiple sources
- ▶ Plots from multiple sources
- ▶ Local tracks from multiple sources
- ▶ Cloud cover (weather image)
- ▶ Static map data (layered vector maps)
 - broken down into object types
- ▶ Dynamic map data
 - performs automatic map rendering
- ▶ Additional information (track trajectory history, route plans, etc.)

Basic options for configuring each radar window:

- ▶ Various projections
- ▶ Predictive timeline
- ▶ Number of displayed tracking points history
- ▶ Configurable position of forms with respect to track symbols
- ▶ Content and display of elements in track forms
- ▶ Track view filters according to altitude and significance criteria and source of position information
- ▶ Window titles, font used in track forms
- ▶ Content and layers of static map background objects
- ▶ Enable/disable display of dynamic map data (FUA spaces)
- ▶ Enable/disable display of scans, plots, and local tracks from individual sources
- ▶ Enable/disable display of supplementary information
- ▶ HMI over the display

ICZ LETVIS CWS



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[BASIC OVERVIEW OF ADDITIONAL WINDOWS AND FUNCTIONALITIES]

Strip windows

The ICZ LETVIS® CWS system reads information about strips and the distribution of plans into strip windows based on information from the ICZ LETVIS® FDP system (planning information management system) and enables:

- ▶ suppression of the display of selected strip windows,
- ▶ various modifications to strip display (content, colour, etc.),
- ▶ various sorting and filtering for each window.

FUA plans

The ICZ LETVIS® CWS system reads information about FUA plans from the ICZ LETVIS® FDP system and enables:

- ▶ FUA plans display in a separate window.

Sectorisation

The ICZ LETVIS® CWS system reads information about sectorisation from the ICZ LETVIS® FDP system and enables:

- ▶ the display of information for its sector,
- ▶ switching between sectorisation schemes (supervisor).

Safety Nets windows

The ICZ LETVIS® CWS system reads information about conflict alerts from the ICZ LETVIS® ATCT system (the central calculation of conflict alerts system) and enables:

- ▶ the display of alerts in the window, in the track forms, in the taskbar,
- ▶ enabling/disabling alert calculation (supervisor).

Additional significant functionality

- ▶ Creation and work with flight plans
- ▶ Creation and work with FUA plans
- ▶ Display and HMI for correlation (track/plan identification)
- ▶ HMI for Handover between sectors
- ▶ HMI for Handover between FIRs
- ▶ Full information about tracks
- ▶ Text event journal
- ▶ Training support (simulation)
- ▶ Data archiving and playback

■ APPLICATION SW AND OPERATING SYSTEM

OPERATING SYSTEM	LINUX SLED 12 (and higher), WINDOWS 8 (and higher)
Application SW	The ICZ LETVIS® CWS SW product includes: <ul style="list-style-type: none"> ▶ ICZ LETVIS® CWS user application ▶ ArchDrec & ArchDrep process

■ HARDWARE AND TECHNICAL PARAMETERS

Basic HW	HP/DELL/COTS - INTEL platform
LAN	Ethernet, TCP/IP, UDP/IP
Special HW	Graphics adapter and high-resolution monitor
Display resolution	2048x2048, 1920x1200, 1600x1200, 1280x1024
Programming language	QT, C++
Graphical interface	OpenGL
Input data protocol	ALAS 6 (ASTERIX 62/65 s ALES SDI) Asterix 01/02, 34/48, 62/65-standard, 19, 20,21 ALES-XML (FPL, ASM, Safety Nets, etc.) ALES-scan ALES-meteo
Guaranteed number of plots per source/64 sources	1 000/64 000
Guaranteed number of local tracks per source/64 sources	1 000/64 000
Guaranteed number of strips	1 000
Map files	Shp, ALES map format
Guaranteed number of map objects	1 000 000 WGS coordinates, 100 display layers

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