



RAINBOW® 5 APPLICATION SOFTWARE

Rainbow® 5 is the most comprehensive, state-of-the-art sensor management system for multi-radar network management, data analysis and display available on the market today. Based on more than 20 years of experience in meteorological software design and development, the new LEONARDO Germany flagship Rainbow® 5 fulfills all needs for a versatile application in the fields of radar management, weather monitoring/nowcasting, hydrology, aviation and research.

State-of-the-art technologies such as platform independent graphical user interfaces and client-server architecture guarantee full and unique performance. The TCP/IP based communication concept supports heterogeneous multi-radar environments.

KEY FEATURES & BENEFITS

- Platform independent: Support of Linux and Windows 7/10 operating systems
- Client / server architecture
- Multi-language / multi-unit (SI, Aviation, etc.) support
- Full local and remote radar control
- Support of single and multi-radar networks
- Integration of 3rd party weather radars, Doppler lidars, low level wind shear alert systems (LLWAS), weather stations, rain gauges, lightning detection systems, satellites, etc.
- Powerful data analysis, research and display application Rainbow® DART embedding product generation and cartographic image projections (PROJ4)
- Rainbow® DART complies with the MDI (Multi Document Interface) standard
- True color support, 24 bit plane standard
- Full scalable product legend supporting up to 256 radar levels and embedded Color Wizard
- GIS data integration (Vector, Raster)
Dynamic severe weather overlays
- 3D Display and interactive 3D cross section
- Support of OPERA/ODIM BUFR, HDF5, XML, ASCII, UF, NEXRAD Level 2, NetCDF, GRIB 1, GRIB 2 etc.
- Graphical image export to GIF, PNG, JPG, etc.
- ATC gateway for Doppler and polarimetric radar information: Asterix CAT008/009 weather messages
- High radar volume update rate due to Rainbow VolumeSplitter®
- GoogleEarth® export

RAINBOW® 5 PRODUCTS

RADAR VOLUME CORRECTIONS

- BBC - Bright Band Correction
- VPC - Vertical Profile Correction
- OCC - Occultation Correction
- ZATC - Attenuation Correction
- 3DCDP - 3D Polar Clutter Map Processing
- EDRC - Eddy Dissipation Rate Calculation

STANDARD METEOROLOGICAL PRODUCTS

- PPI - Plan Position Indicator
- RHI - Range Height Indicator
- CAPPI - Constant Altitude PPI
- MAX - Maximum Display
- CMAX - Column Maximum
- VCUT - Vertical Cut
- MLVCUT - Multi Line Vertical Cut
- EHT - Echo Height offering
 - Echo Top
 - Echo Base
 - Layer Maximum
 - Echo Thickness

EXTENDED METEOROLOGICAL PRODUCTS

- BASEZ - Base Reflectivity
- VAD - Velocity Azimuth Display
- VVP - Volume Velocity Processing
- UWT - Uniform Wind Technique
- LMR - Layer Mean Reflectivity
- VPR - Vertical Profile of Reflectivity
- FLCAPPI - Flight Level CAPPI
- FLMAX - Flight Level MAX
- SWAD - Severe Weather Analysis Display
- SMV - Spectrum at Maximum Velocity
- SRV - Storm Relative Velocity
- PVIS - Point Visibility Analysis
- SIVCUT - Significant Intensity Radial VCUT
- CONTOUR - Contour Lines
- ROWP - Runway Oriented Wind Profiles

HYDROLOGICAL PRODUCTS

- SRI - Surface Rainfall Intensity
- VIL - Vertically Integrated Liquid
- PAC - Precipitation Accumulation
- RIH - Rainfall Intensity Histogram
- RSA - River Sub Catchment Accumulation
- PRT - Point Rainfall Total
- RGRT - Rain Gauge Radar Total

SHEAR PRODUCTS

- ROSHEAR - Runway Oriented Shear
- SHEAR - Shear Wind Detection 1D, 2D and 3D
- HSHEAR - Horizontal Shear
- VSHEAR - Vertical Shear
- LTB - Layer Turbulence

METEOROLOGICAL PHENOMENA

- DETECTION / ANALYSIS
- ZHAIL - Hail Detection

- GF - Gust Front Detection
- SSA - Storm Structure Analysis
- MESO - Mesocyclone Detection
- VERG - Vergence Product
- TVD - Tornado Vortex Detection
- SWI - Severe Weather Indicator offering
 - Storm Structure Analysis
 - Mesocyclone Detection
 - Vergence Detection
 - Microburst Detection
- DSD - Dust Storm Detection
- VBIRD - Vertical Bird Distribution
- VADC - Volcanic Ash Detection and Classification
- VATR - Volcanic Ash Tracking
- SCCL - Stratiform-Convective Classification
- IHL - Icing Hazard Level

FORECASTING AND WARNING PRODUCTS

- RTR - Rain Tracking
- CTR - Centroid Tracking
- LRFC - Lightning Risk Forecast
- WRN - Feature Detection and Warning

DUAL POLARIZATION

- DPATC - DP based attenuation correction
- PHI2KDP - PhiDP filtering and KDP derivation
- ECLASS - Echo Classification
- DPSRI - DP Surface Rainfall Intensity
- DPFLA - DP Freezing Level Analysis
- SCDC - Sea Clutter Detection and Correction
- HAILSZ - Hail Size Estimation
- DPDSD - DP Dust Storm Detection

RADAR MOSAIC / COMPOSITE

- COMP - Radar Composite Products

LIDAR PRODUCTS

- CBHL - Cloud Base Height
- EDRCL - Eddy Dissipation Rate Calculation
- GFL - Gust Front Detection
- MBL - Microburst Detection

