RAINBOW® 5

50.0 km

METEOROLOGY

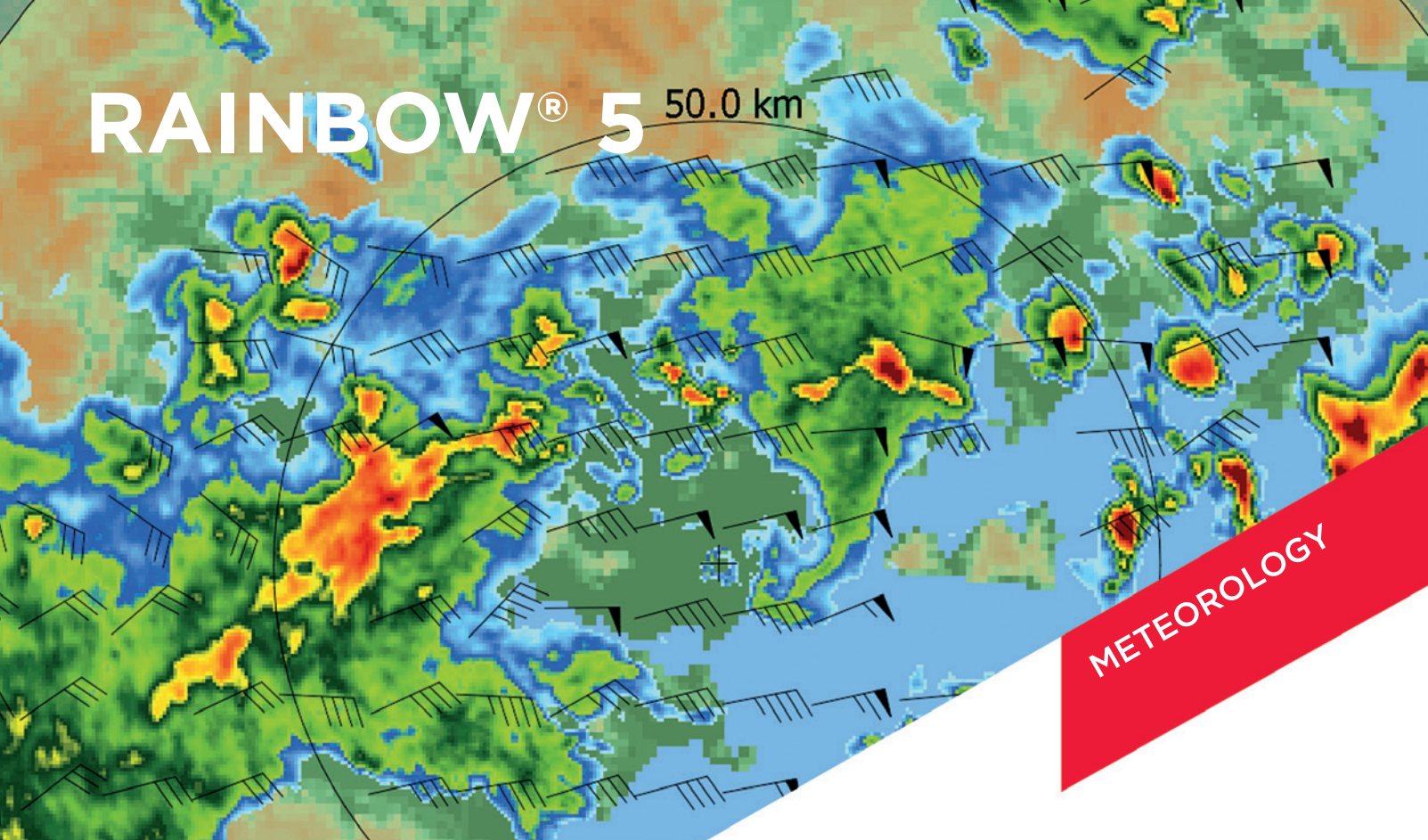## RAINBOW® 5
APPLICATION SOFTWARE

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 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

✦ LEONARDO

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
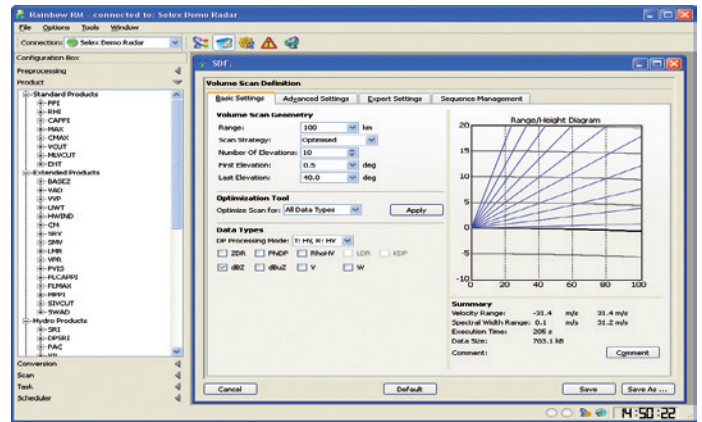
METEOROLOGICAL PHENOMENA DETECTION / ANALYSIS

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 Risc 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

LEONARDO