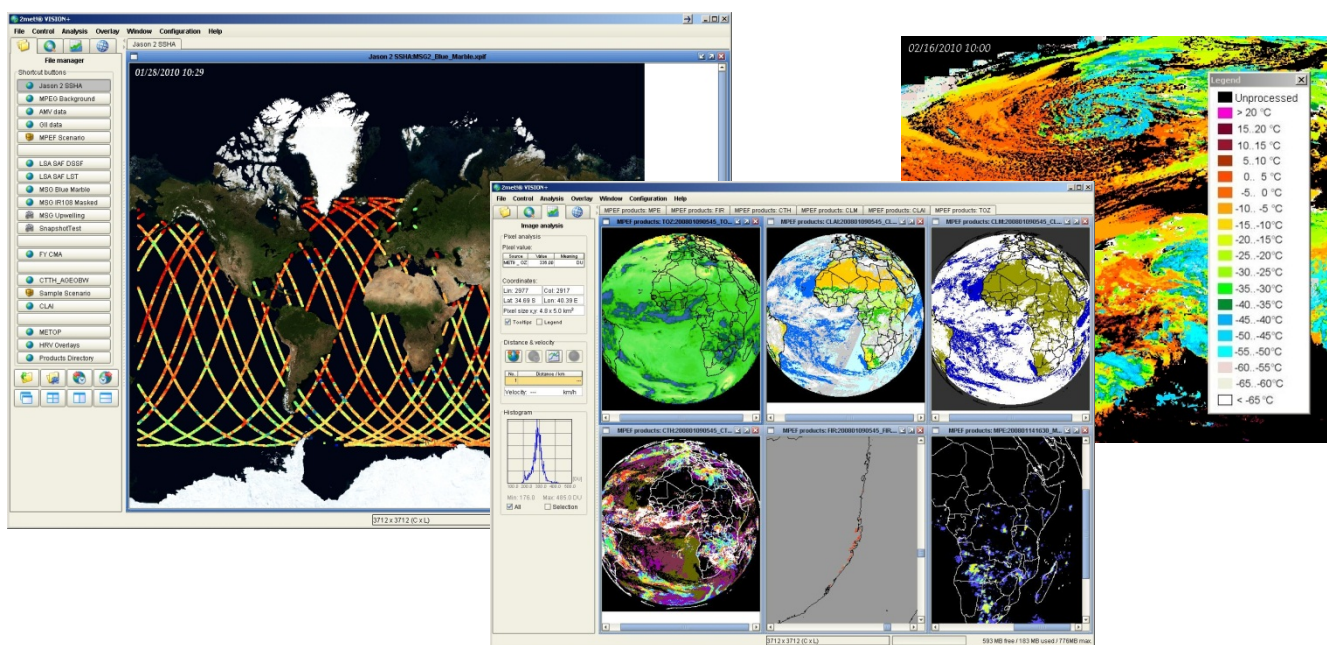


2met!® VISION+

Release 1.8

Image Display and Analysis Software for Forecasters and Scientists

2met!® VISION+ is the second generation of image display software. It is based on requirements of a wide 2met!® User Community comprising National Meteorological Services, Universities, Research Institutes and Aviation Forecasters. It focuses on forecasters' requirements allowing quick and easy access to imagery and overlay data, supporting a wide range of data formats provided via EUMETCast or received and processed by direct readout ground stations. For example, in combination with 2met!® PROCESSING the MPEF products broadcasted via EUMETCast can be analysed: TOZ, CLAI, CLM, CTH, FIR and MPE.



Highlights

- Support of BUFR, XPIF, XRIT, HDF and other formats
- Display of wide range of EUMETCAST and SAF data, including MPEF products in XPIF format
- Easy data access by configurable Short-Cut buttons
- Real time image control functions like zoom, pan, ...
- Sophisticated False Colouration Manager
- Support of unlimited number of Overlay Planes
- Support of Land/Sea Masking
- Shape Files (Points, Lines, Polygons) can be imported as overlays
- Synchronous Zoom/Pan/Animation of multiple images
- Sophisticated Pixel Analysis and Histogram Functions
- Real-time display of analysis data
- Export of histogram data to CSV files
- Colour maps may include a reference to a JPEG legend
- Sophisticated tool tip for analysis and BUFR details
- SW includes all 2met!® PROCESSING functions
- Processing of archived data interactively
- Support of Windows XP, Windows 7 and Linux platforms
- High-speed data access

The Philosophy

2met!® VISION+ allows the display of a wide range of satellite data in different formats. Due to the flexibility of nowadays dissemination systems like EUMETCast or GEONetCast, the range of data formats and the availability to the users have been increased enormously.

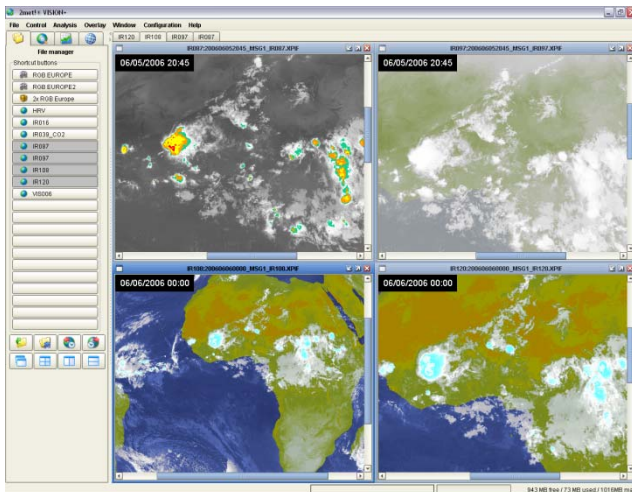
2met!® VISION+ supports:

- LRIT and HRIT (MSG, GOES, MTSAT)
- XPIF (PIF) as the native SCISYS format
- Standard graphic formats like PGM, PBM, BMP, JPEG, TIFF, PNG, ...
- GRIB2 (as overlay and imagery)
- BUFR (as overlay and imagery), edition 4
- HDF5 (as available from SAF)
- HDF4 IMAPP Level 1b
- ENVI flat binary (IMAPP Level 2 and others)
- EPS Level 0, 1, 1B
- JASON 2 data SSHA, SWH_C + SWH_KU as overlays
- Others may be added on request

The software is easy to use. There are a number of Control Panels that can be activated just by a mouse click. Within each Control Panel the user will find a number of Action Buttons as well as tables and graphs depicting the most important information at a glance.

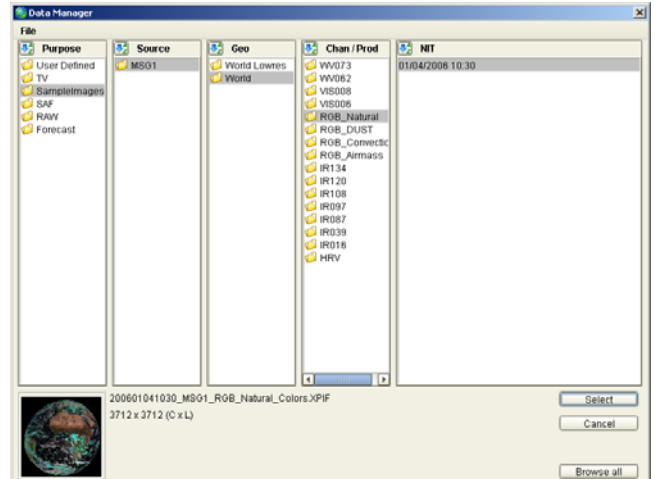
File Management

The Short-Cut Area allows the user to define a number of individually named short-cut buttons. Clicking on the short-cut button opens the actual single images, loops or scenes using all pre-defined set-up values automatically.



Furthermore, the user configurable Scenario group buttons allow combining various images and animations to be loaded and displayed in the same window order as configured by one click.

Searching and placement of image data is a one-click action saving time during your work!



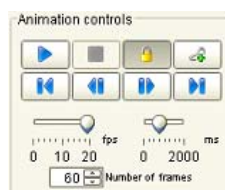
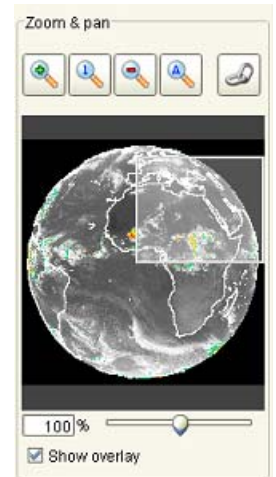
Quick and easy access to a wide range of image and other data is an important issue for the daily work of both, scientists and forecasters. The File Management Panel allows fast access of the data.

Image Control

Within the Control Panel the user finds all tools to control the image in real-time:

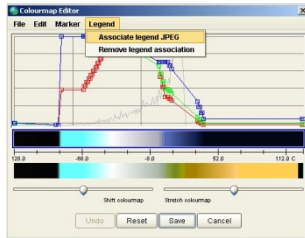
- Zoom & Pan
- Image Enhancement
- Colour Palette selection
- Colour Palette Editor
- Animation control
- Synchronizing zooming of images
- Synchronizing animations

Most important image control functions like zoom and pan are also available by typical mouse-controlled actions. Action-buttons can also be configured to be available in the main menu bar to allow their use while different work panels are active.



Animations can be easily controlled by typical action-buttons including play, stop, pause, first frame, last frame, previous and next frame.

Image enhancement, false colouration without and with land/sea masking, is an important step to emphasize certain weather situations. The colour tables are based upon physical representation of image data like degrees, Albedo, percent, radiance and more. This allows making use of one and the same Colour table for different images - MSG, Metop and NOAA, 10 bit or 8 bit representation and many more.

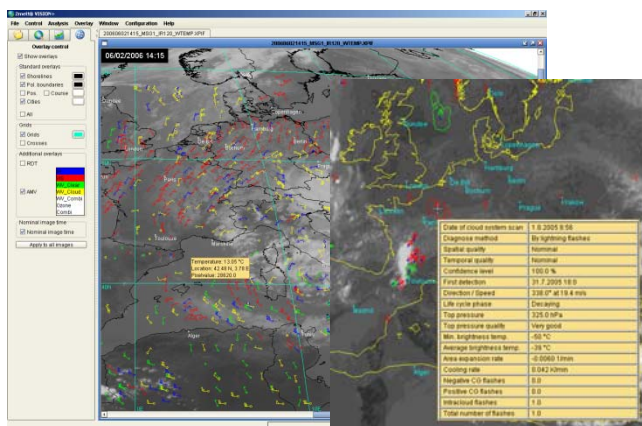


The Colour Palette Editor supports in depicting the histogram of the image in the background. While modifying your colour composition, the complete image will automatically be changed to the new set-up in real-time. Automatic marker settings will be provided based upon the histogram of the loaded image.

Images with discrete values are also supported. The colour palette will consist of a list of colour values for each discrete pixel value for these images.

Overlay Control

Within this Control Pane the user can select the overlay planes and the colours to be displayed. For the standard overlays, such as shorelines, political boundaries, cities and other textual overlays, the system provides a set of different resolutions. This allows an optimum display depending on the image and the selected zoom factor. All overlays are computed on the fly when zooming/panning in the image. Due to this the overlay is always one pixel thick.

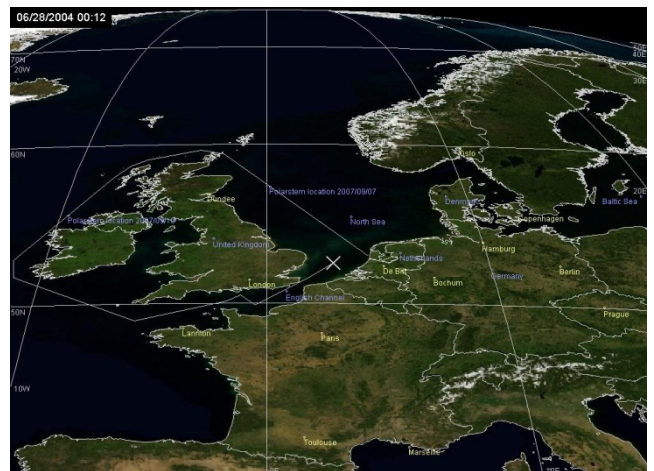


Additional BUFR coded data like Rapid Developing Thunderstorms generated by the Nowcasting SAF can be selected. These data are also displayed in an animation sequence allowing the user to identify the movement and development of the severe weather situations. A tool tip shows all the details of a specific cell just by moving the

cursor to the specific location. While all of this is active, the Analysis Panel provides more information about the image.

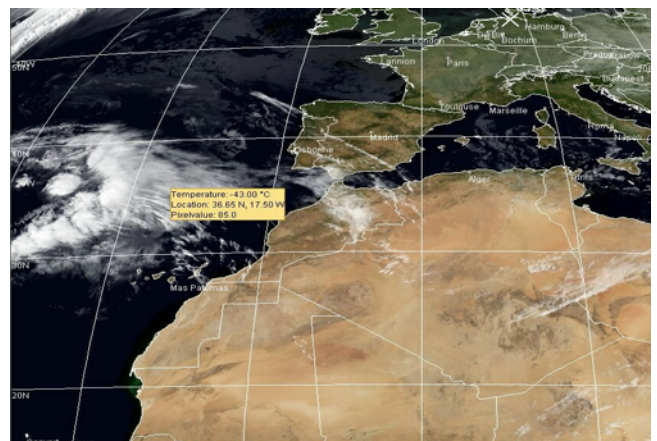
A further BUFR coded product available via EUMETCast is the Global Instability Index (GII). The different indices can be displayed as an overlay in single images or animations. A tool tip will show the details of each cell of 15x15 pixels for which GII data is available.

The Overlay Editors allow editing the list of cities, textual overlay or overlays for position markers, routes and areas.



Blue Marble Underlay

Furthermore for image data from infrared channels a 'Blue Marble' underlay can be selected. Clouds will be displayed semi-transparent with configurable thresholds in front of an arbitrary Blue Marble image (available at the NASA home page). The use of semi-transparency allows configuring thresholds to achieve natural looking clouds without losing any cloud detail.

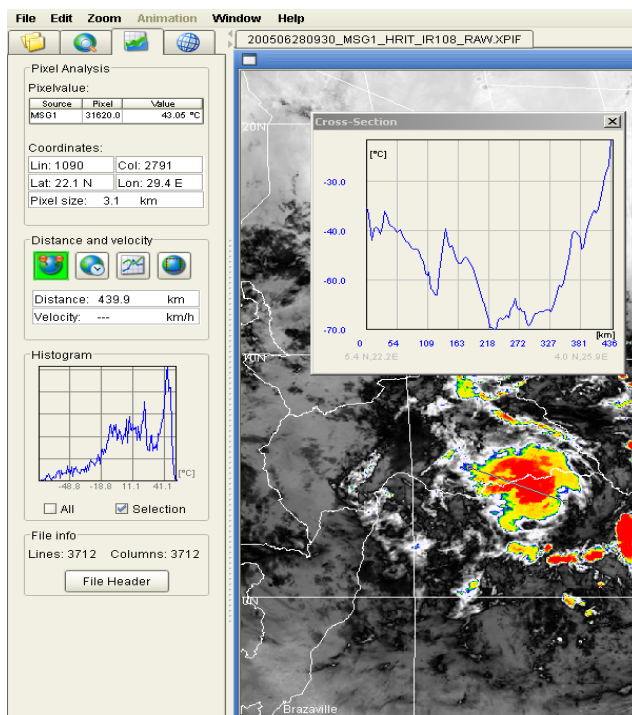


Selection of a blue marble underlay again is a one-click action!

Image Analysis

All image analysis features have been improved in the new software application. The Analysis Panel provides a number of image information at a glance:

- Basic file information (spacecraft, spectral channel, date/time)
- Cursor Lat/long position including pixel value, physical value and pixel size
- Pixel values with full description (tool tip) at cursor position for overlay maps or MPEF products
- Histogram
- Colour palette bar incl. physical representation



Further information can be easily gathered by Action Buttons. The Distance and Velocity buttons allow to set start and end positions in one or consecutive images, measuring the distance and the velocity of certain objects. A cross-section diagram provides for example the distribution of the temperature. By activation of the Histogram Selection toggle button allows for the histogram display of a rectangular box defined by the cursor setting. Further detailed information is available using tool tip functions or certain property windows.

Interactive Data Processing (OPTIONAL)

2met!® VISION+ can be upgraded with interactive processing - providing all capabilities included in 2met! PROCESSING. for processing archived data like MSG, AVHRR, MODIS and many more. The defined processing scenarios can be easily transferred to automatic processing

system for operational usage. This tool can be used concurrently to the display without big performance impacts.

Computer Configuration

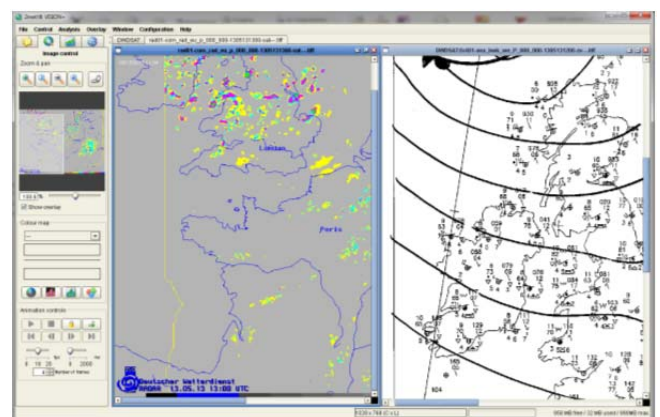
2met!® VISION+ is implemented in Java® allowing rapid development of the fast evolving requirements in the field of meteorology and earth observation. Due to the increase of image data caused by MSG and other satellites, the performance for both, software and hardware is important. To allow the exploitation of the capabilities of this software, the appropriate computer hardware is necessary. SCISYS Deutschland GmbH recommends the following equipment:

- Operating System is Windows XP, Windows 7 or Linux
- CPU min. 3 GHz, RAM min. 2 GB, Disk min. 2 x 146 GB SCSI or SATA, Network 1 Gigabit Ethernet, Monitor/Graphic min. 1280 x 1024 x 32 bpp – 32 MB VRAM

Smaller systems can also be used for our application but will provide less performance.

New Features in Version 1.8

- Support of ASCAT BUFR data as overlays
- Support of Shapefile overlays of type 1, 3, 5, 8, 11, 15
- Support of DWDSAT images in TIFF format
- Support of images in JPEG format
- Support of ASCII text via File > Open Text file
- Support of new MPEF products TH, CSR, ASRH
- Shortcut Buttons between 20 and 500 (Scroll-List)



Contacts

If you have any questions, please contact our Marketing and Sales Department at 2met@scisys.de



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