

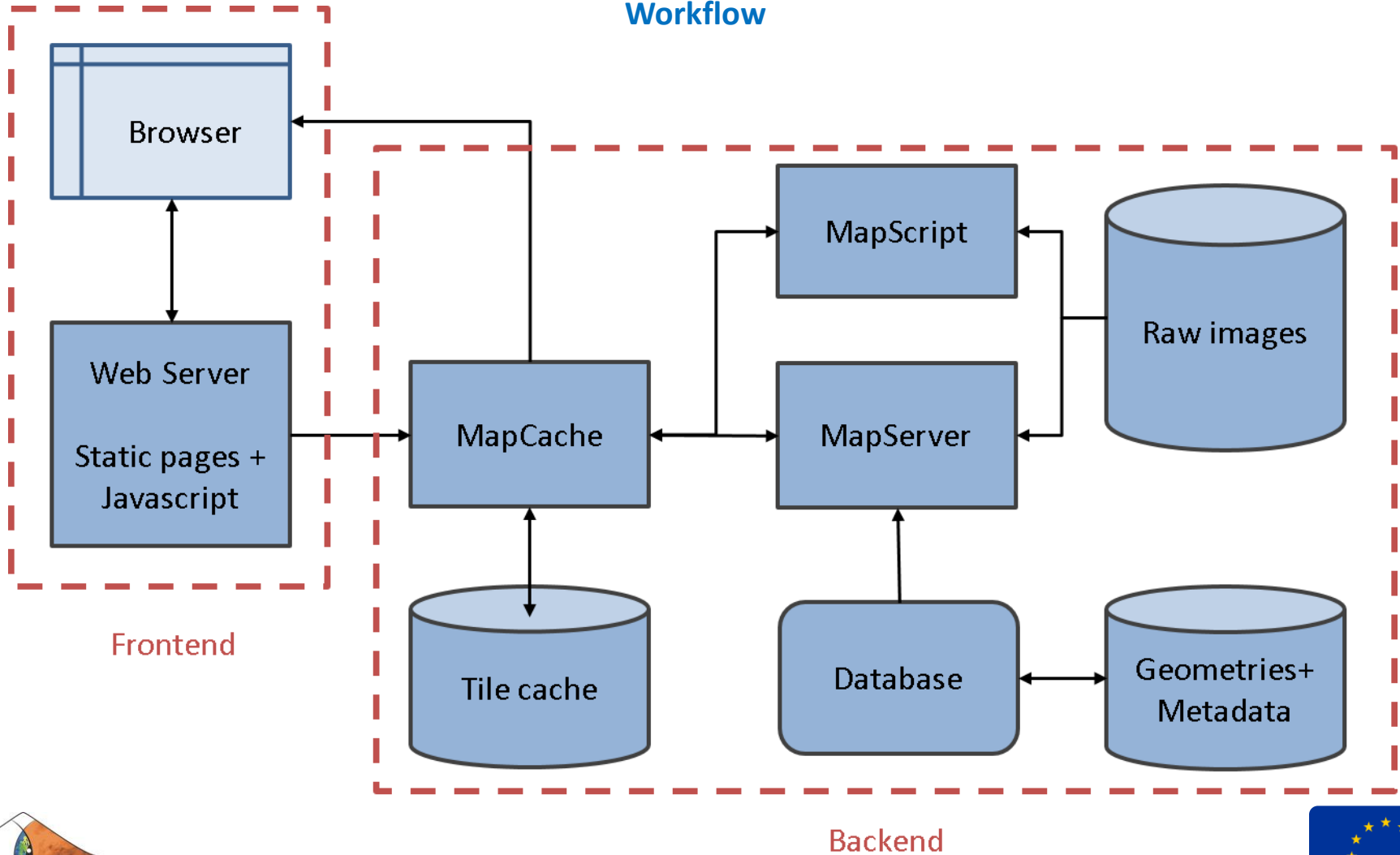
iMars - Analysis of Mars multi-resolution images using auto-coregistration, data mining and crowd source techniques

iMars webGIS for visualisation
of new global products from iMars

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iMars webGIS – System Design

Workflow

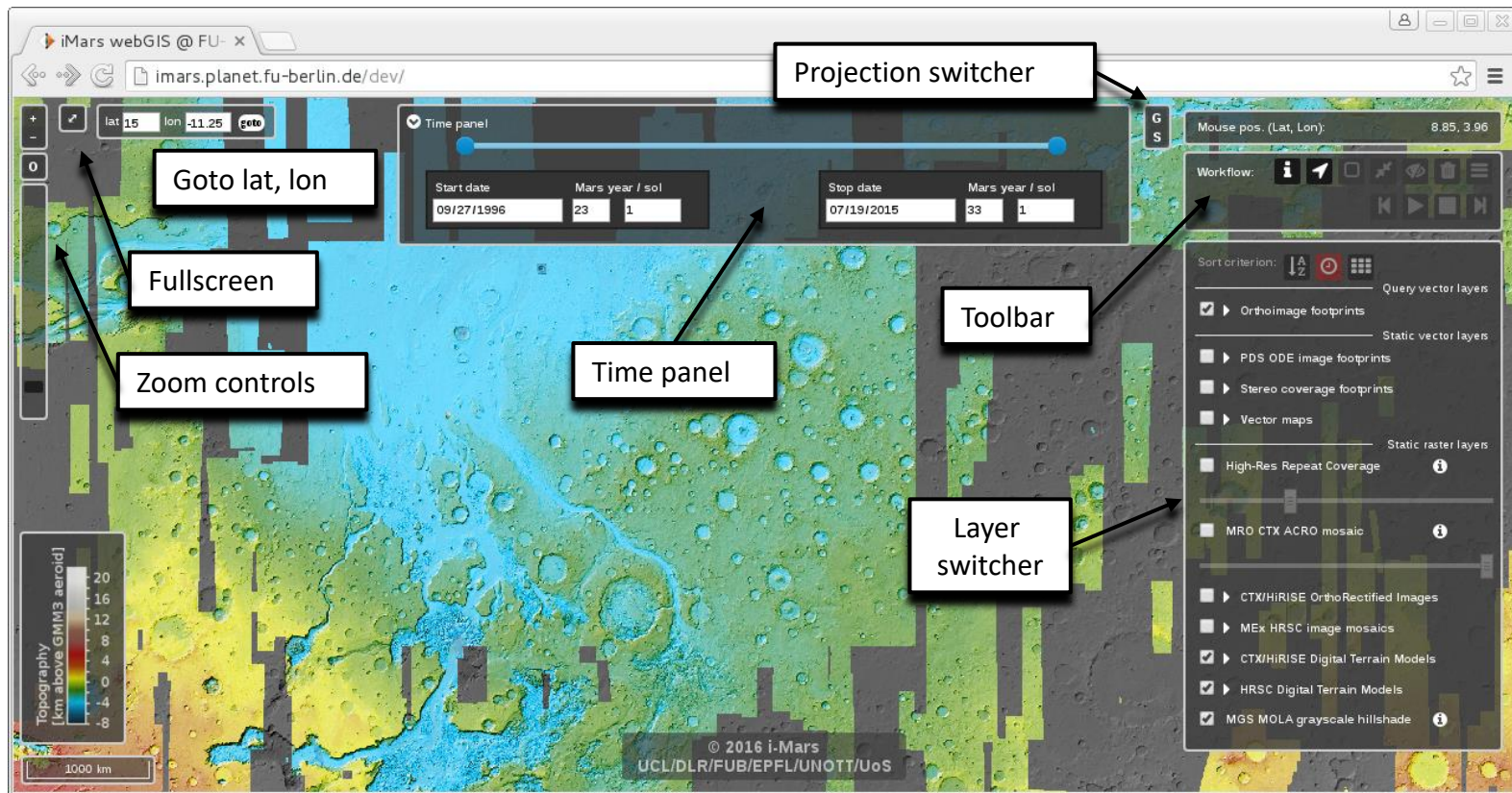


Frontend

Backend

iMars webGIS – System Design

User interface (frontend)



iMars webGIS - Layers

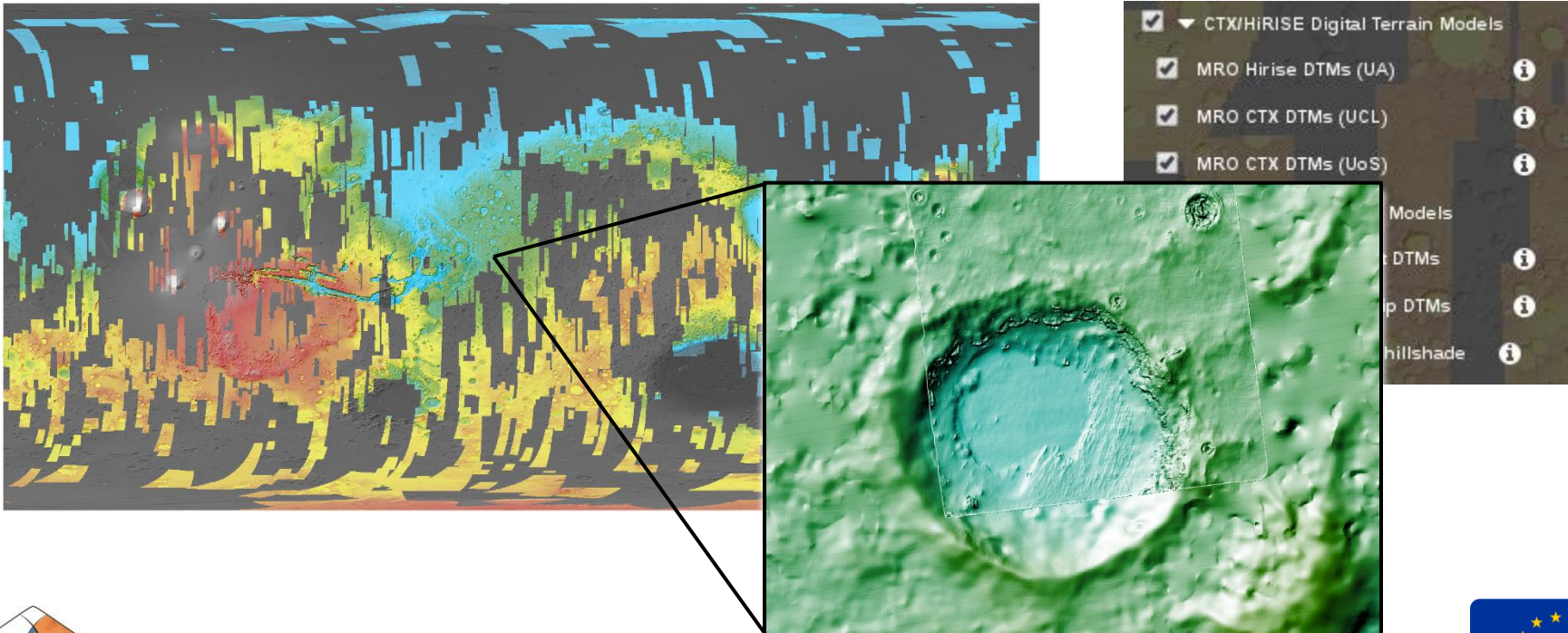
Overview

- Topographic base layers – group of DTM layers
 - MOLA, HRSC single, HRSC mosaic, CTX, HiRISE
- HRSC image mosaics
 - Panchromatic and colour with transparency slider
- CTX/HiRISE Orthorectified images
 - Orthoimages from UCL & UoS
- High-Res Repeat Coverage
- Vector Maps (Landing site markers, quadrangle scheme, nomenclature)
- Coverage maps (from NASA and iMars)
- Queryable image footprints (ACRO + HRSC)

iMars webGIS - Layers

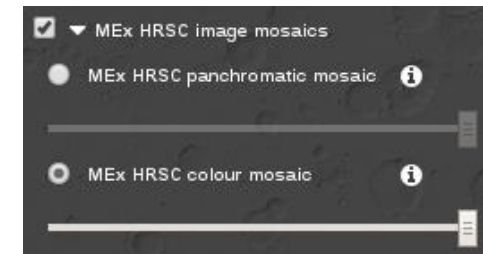
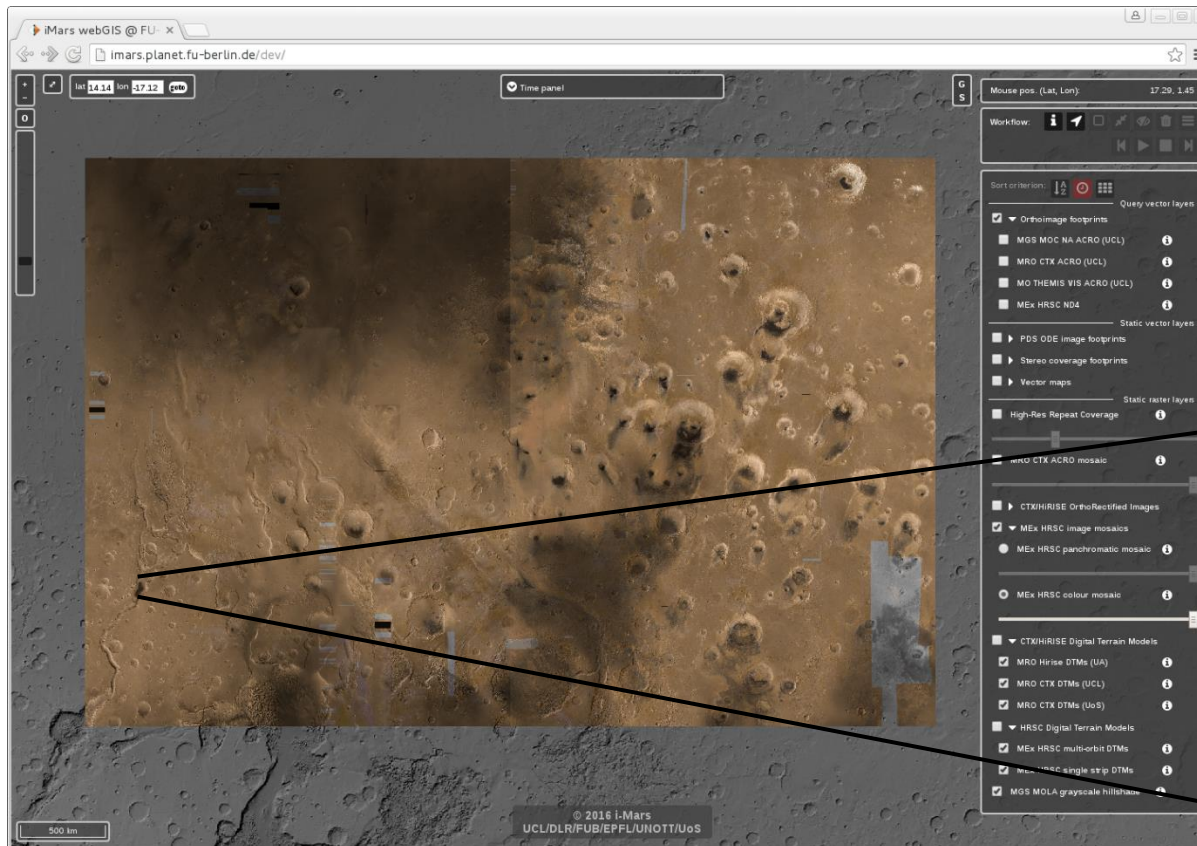
Topographic base map layer

- Stack of colour-coded shaded relief maps of available DTM data
- HRSC mosaics, HRSC single-strips, CTX, HiRISE



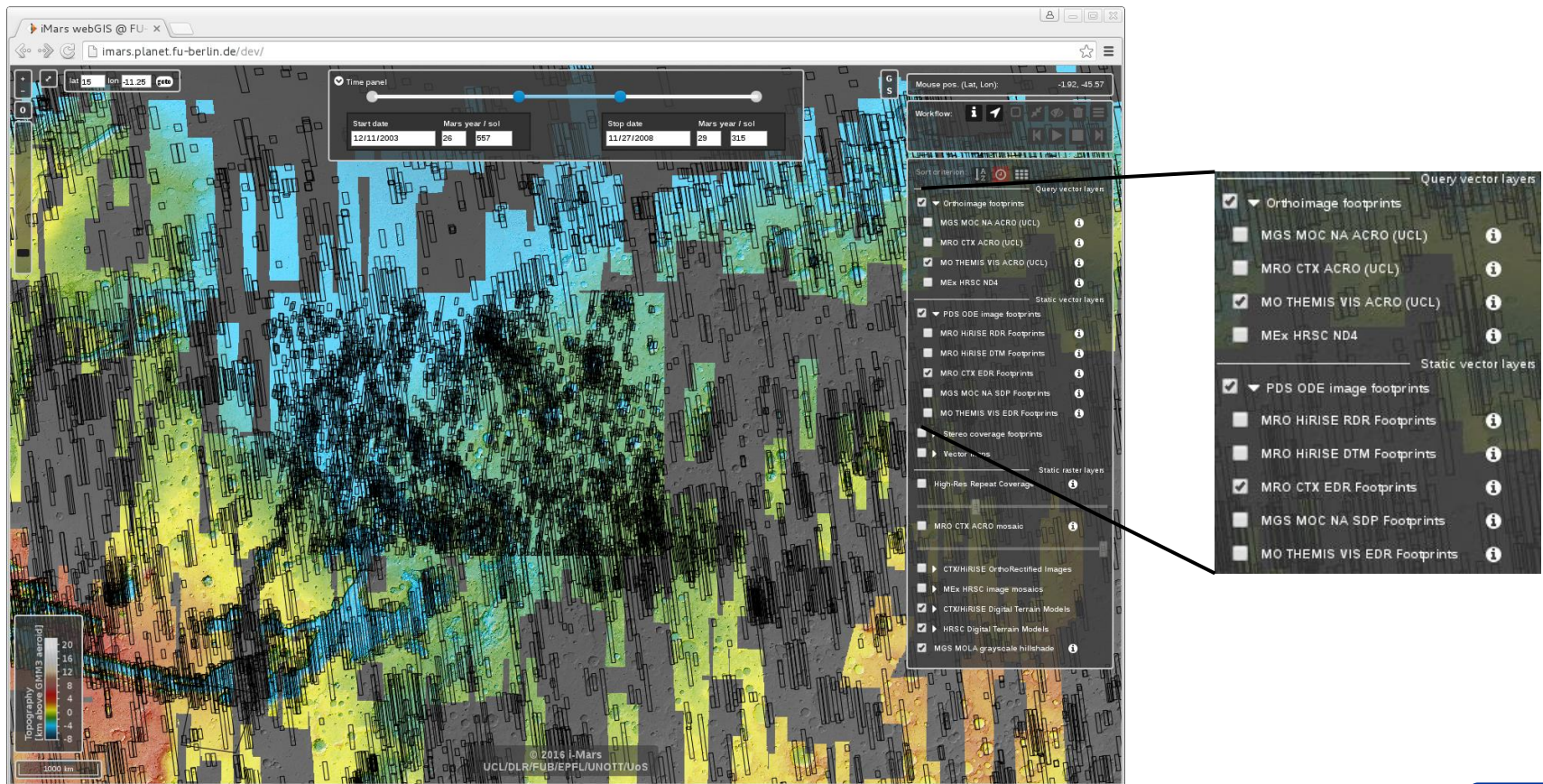
iMars webGIS - Layers

Mex HRSC MC11 image mosaics (panchromatic + colour)



iMars webGIS - Layers

Footprint coverage layers (NASA + iMars)



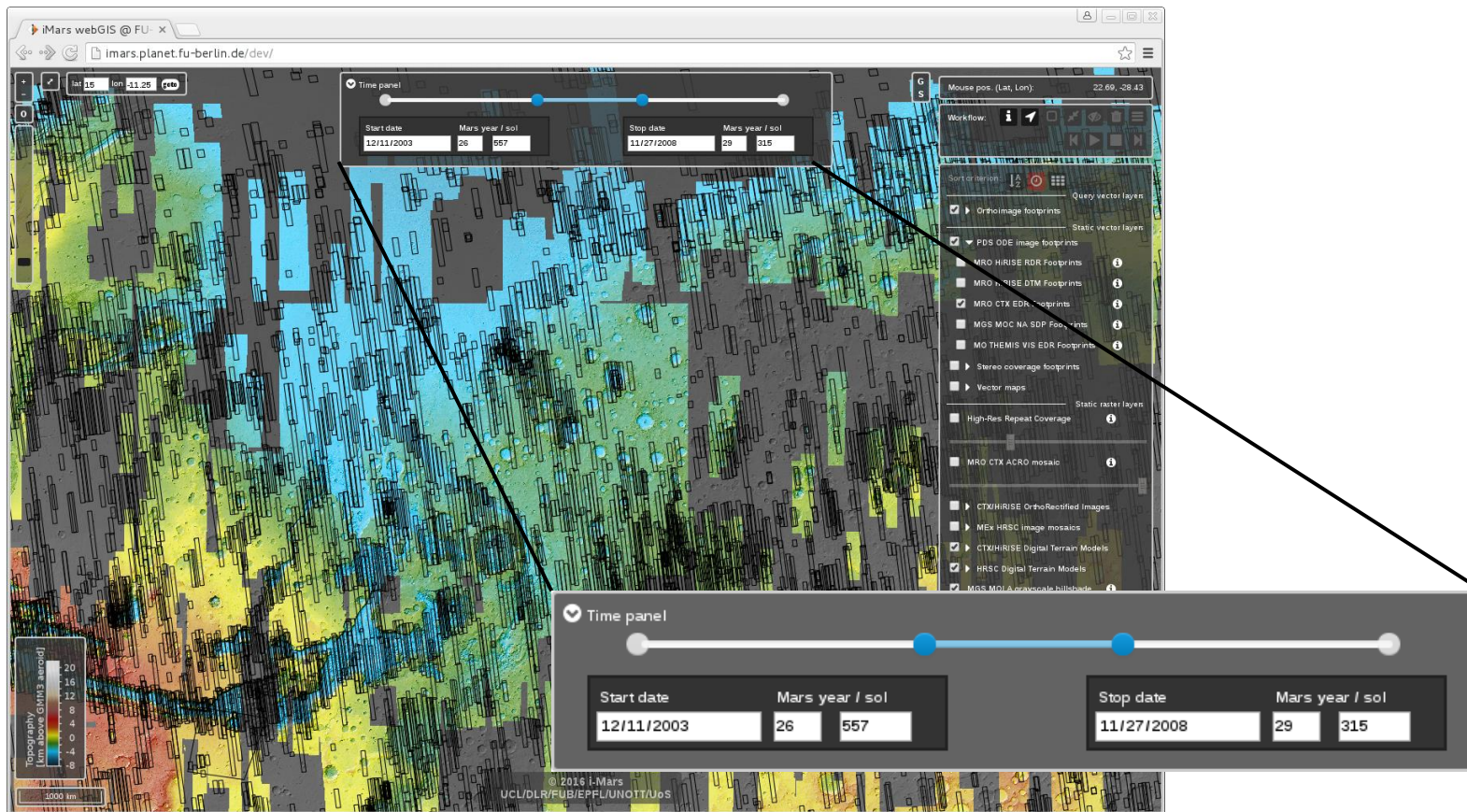
The screenshot shows the iMars webGIS interface. The main map displays a topographic view of Mars with various footprint coverage layers overlaid. The interface includes a time panel at the top center, a layer list on the right, and a topographic map at the bottom left. A callout box highlights the 'Query vector layers' section of the layer list.

Query vector layers

- ☒ Orthoimage footprints
 - ☐ MGS MOC NA ACRO (UCL)
 - ☐ MRO CTX ACRO (UCL)
 - ☒ MO THEMIS VIS ACRO (UCL)
 - ☐ MEX HRSC ND4
- ☒ PDS ODE image footprints
 - ☐ MRO HIRISE RDR Footprints
 - ☐ MRO HIRISE DTM Footprints
 - ☒ MRO CTX EDR Footprints
 - ☐ MGS MOC NA SDP Footprints
 - ☐ MO THEMIS VIS EDR Footprints
- ☒ Stereo coverage footprints
- ☐ Vector points
- ☐ High-Res Repeat Coverage
- ☐ MRO CTX ACRO mosaic
- ☐ CTX/HRISE Orthorectified Images
- ☐ MEX HRSC Image mosaics
- ☒ CTX/HRISE Digital Terrain Models
- ☒ HRSC Digital Terrain Models
- ☒ MGS MOLA grayscale hillshade

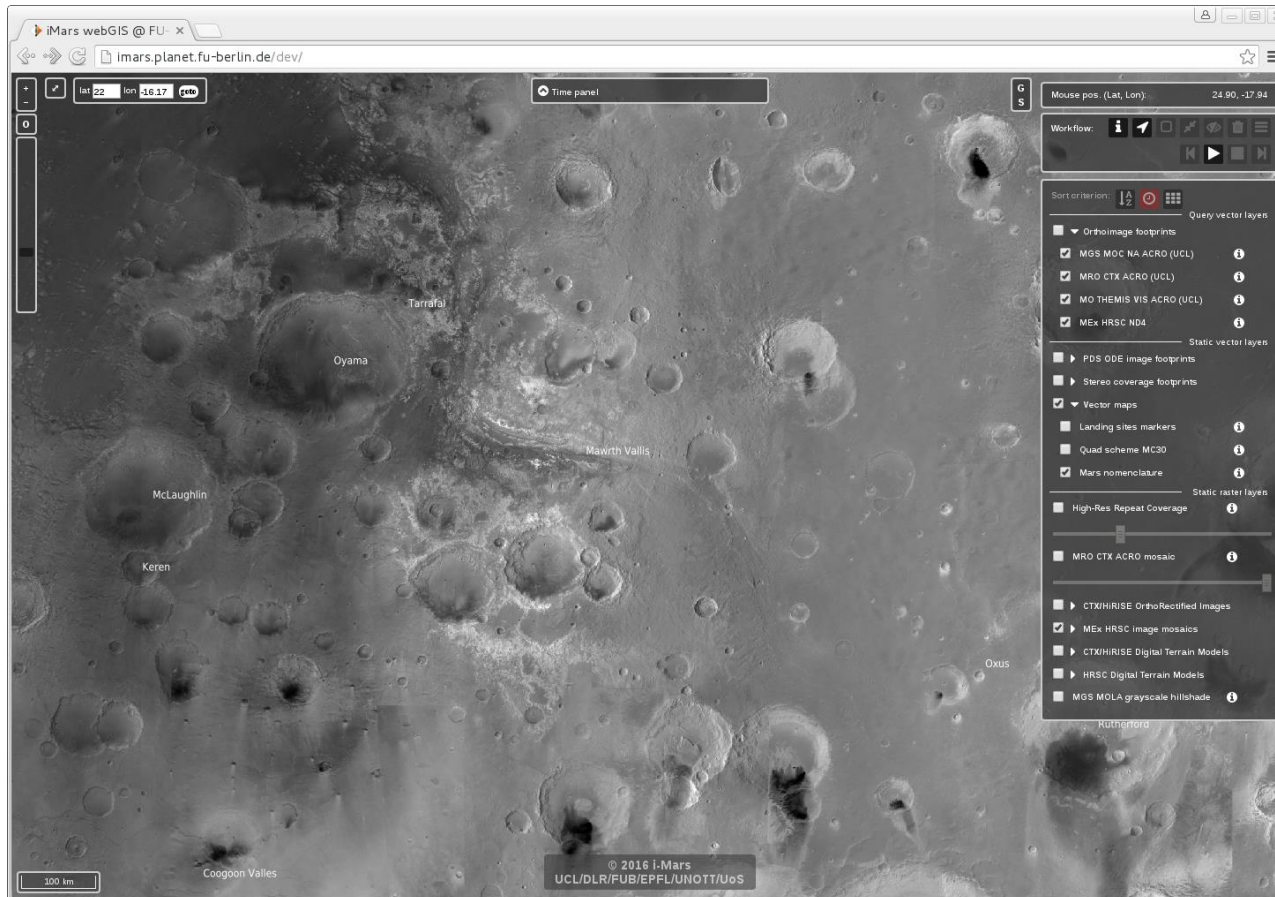
iMars webGIS - Layers

Time Slider



iMars webGIS – Single Images

Dynamic single image layers – workflow example



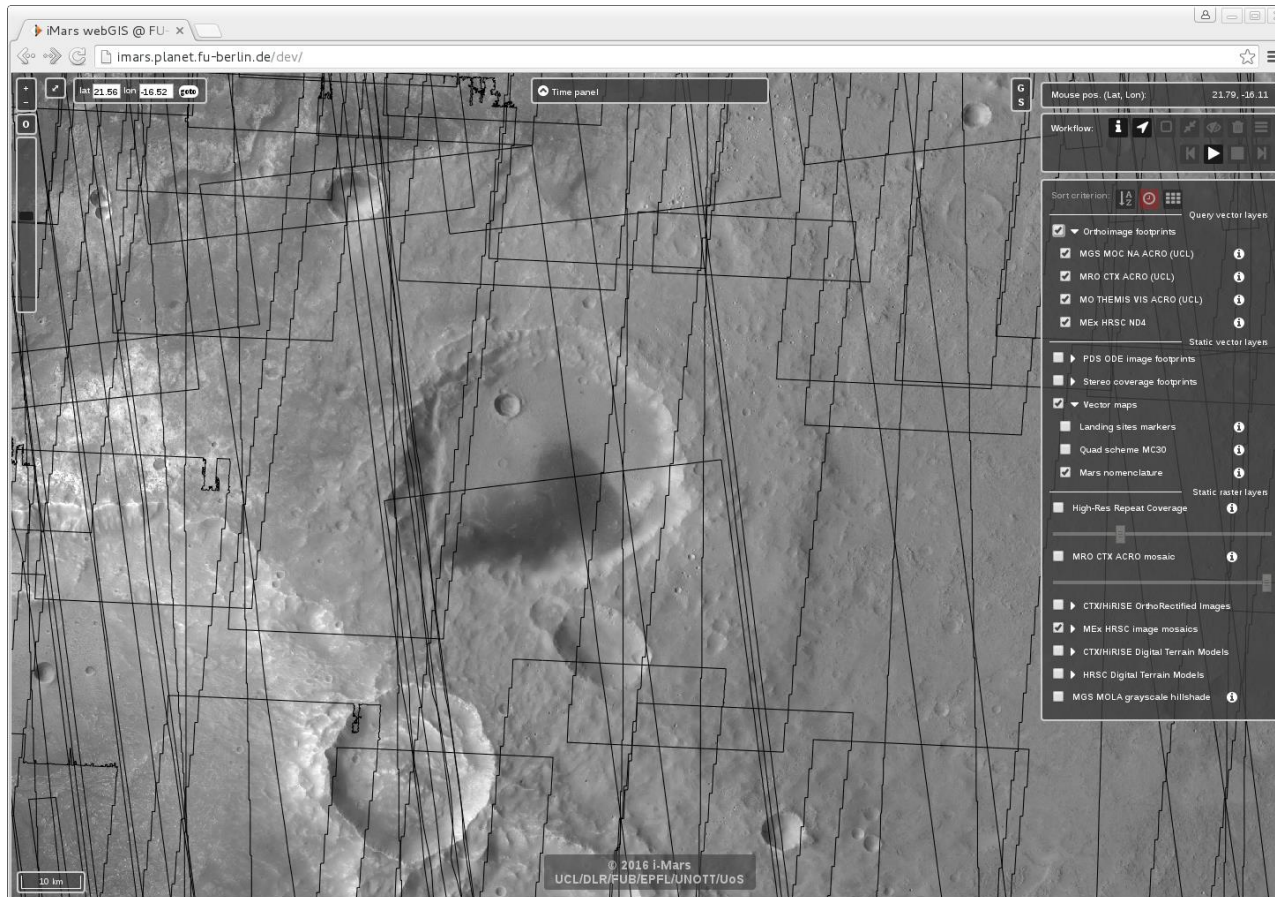
iMars webGIS – Single Images

Dynamic single image layers – workflow example



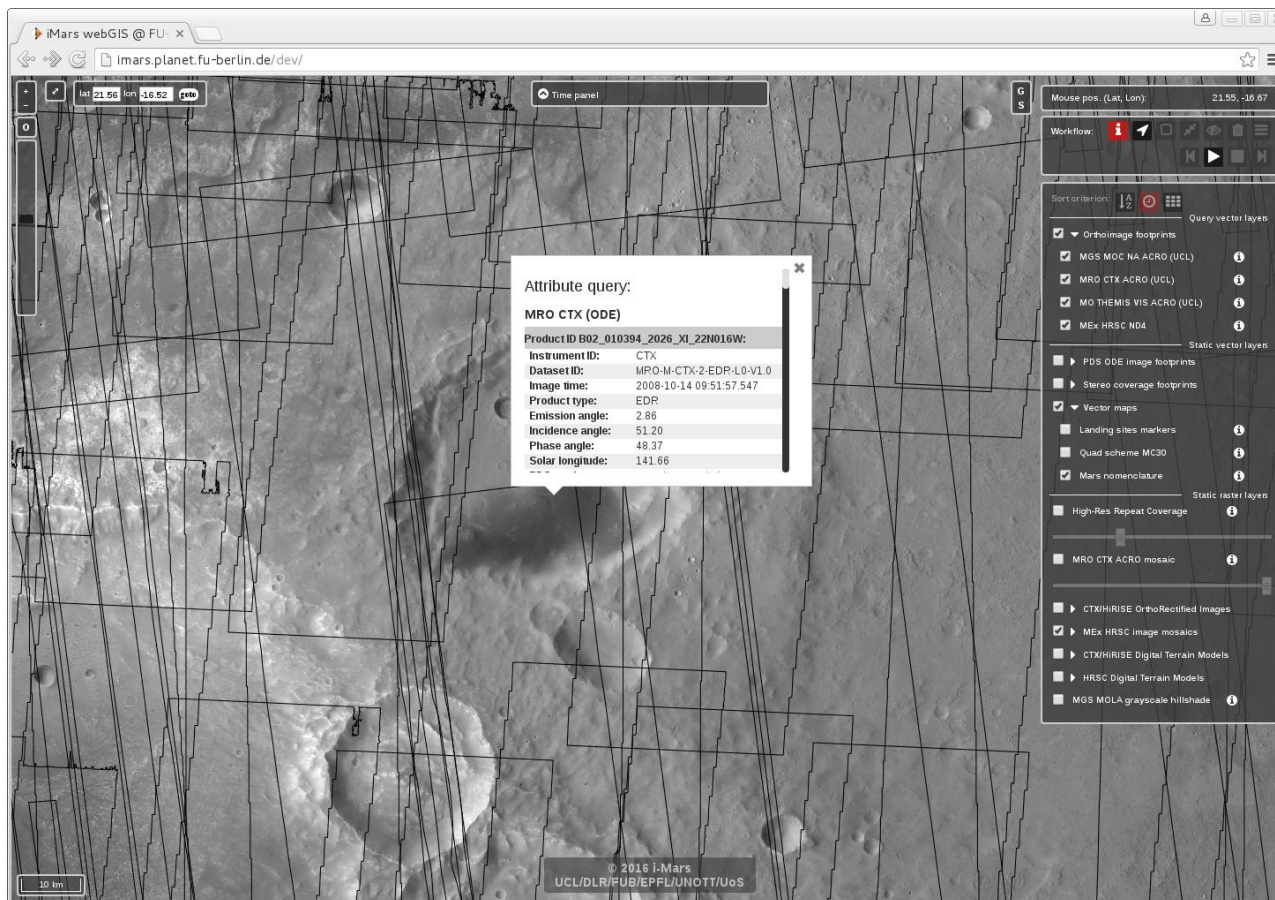
iMars webGIS – Single Images

Dynamic single image layers – workflow example



iMars webGIS – Single Images

Dynamic single image layers – workflow example



The screenshot shows the iMars webGIS interface. The main map displays a grayscale image of Mars with overlaid black lines representing image footprints. A central attribute query window is open, showing details for a specific image. The right sidebar contains a list of layers categorized into 'Query vector layers', 'Static vector layers', and 'Static raster layers'. The top of the interface includes a toolbar with navigation and search tools, and a status bar at the bottom indicating the copyright information.

Attribute query:

MRO CTX (ODE)

Product ID B02_010394_2026_XI_ZZN016W:

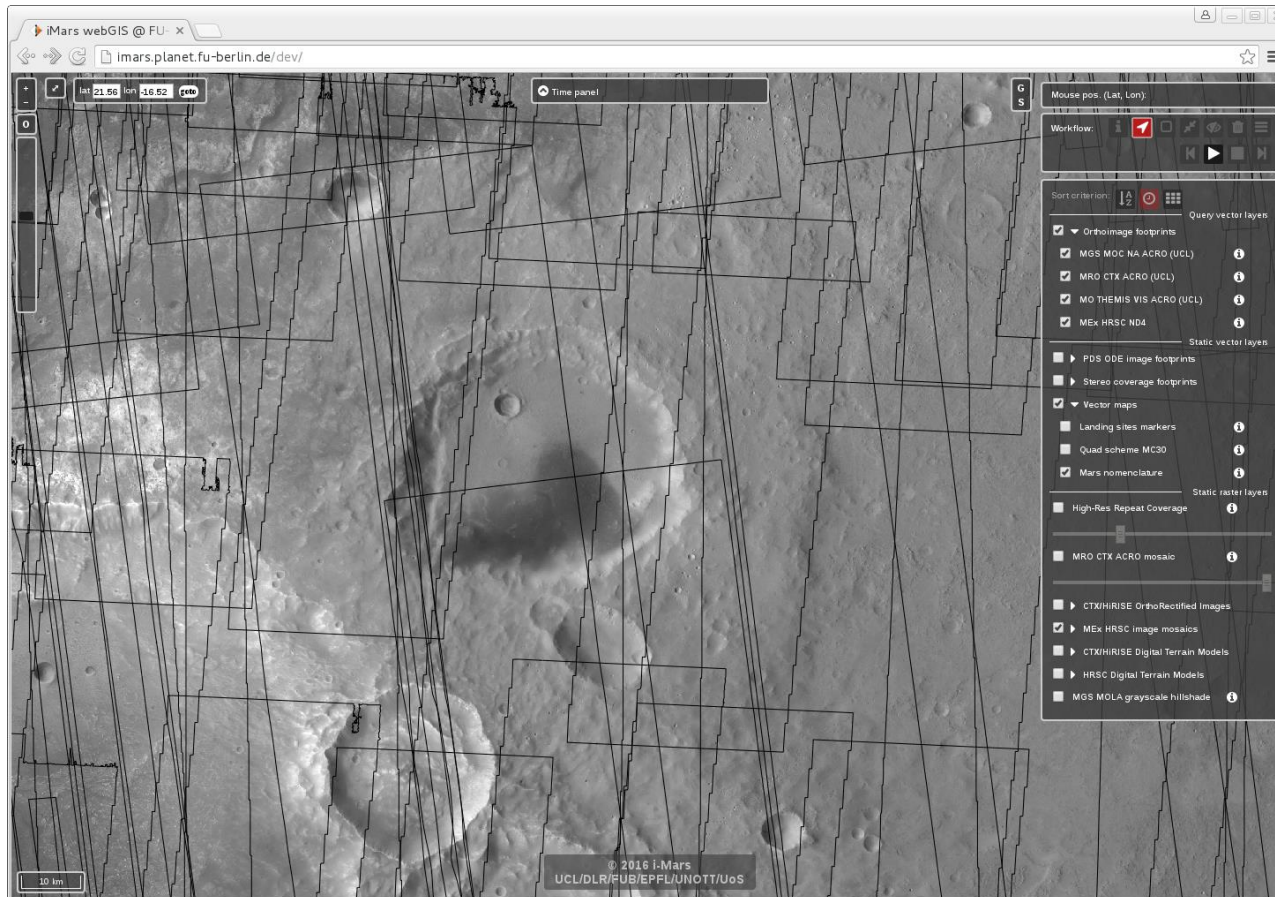
Instrument ID:	CTX
Dataset ID:	MRO-M-CTX-2-EDR-L0-V1.0
Image time:	2008-10-14 09:51:57.547
Product type:	EDR
Emission angle:	2.86
Incidence angle:	51.20
Phase angle:	48.37
Solar longitude:	141.66

Layers:

- Query vector layers:**
 - ☒ Orthoimage footprints
 - ☒ MGS MOC NA ACRO (UCL)
 - ☒ MRO CTX ACRO (UCL)
 - ☒ MO THEMIS VIS ACRO (UCL)
 - ☒ MEX HRSC NDA
- Static vector layers:**
 - ☐ PDS ODE image footprints
 - ☐ Stereo coverage footprints
 - ☒ Vector maps
 - ☐ Landing sites markers
 - ☐ Quad scheme MC30
 - ☒ Mars nomenclature
- Static raster layers:**
 - ☐ High-Res Repeat Coverage
 - ☐ MRO CTX ACRO mosaic
 - ☐ CTX/HRISE OrthoRectified Images
 - ☒ MEX HRSC image mosaics
 - ☐ CTX/HRISE Digital Terrain Models
 - ☐ HRSC Digital Terrain Models
 - ☐ MGS MOLA grayscale hillshade

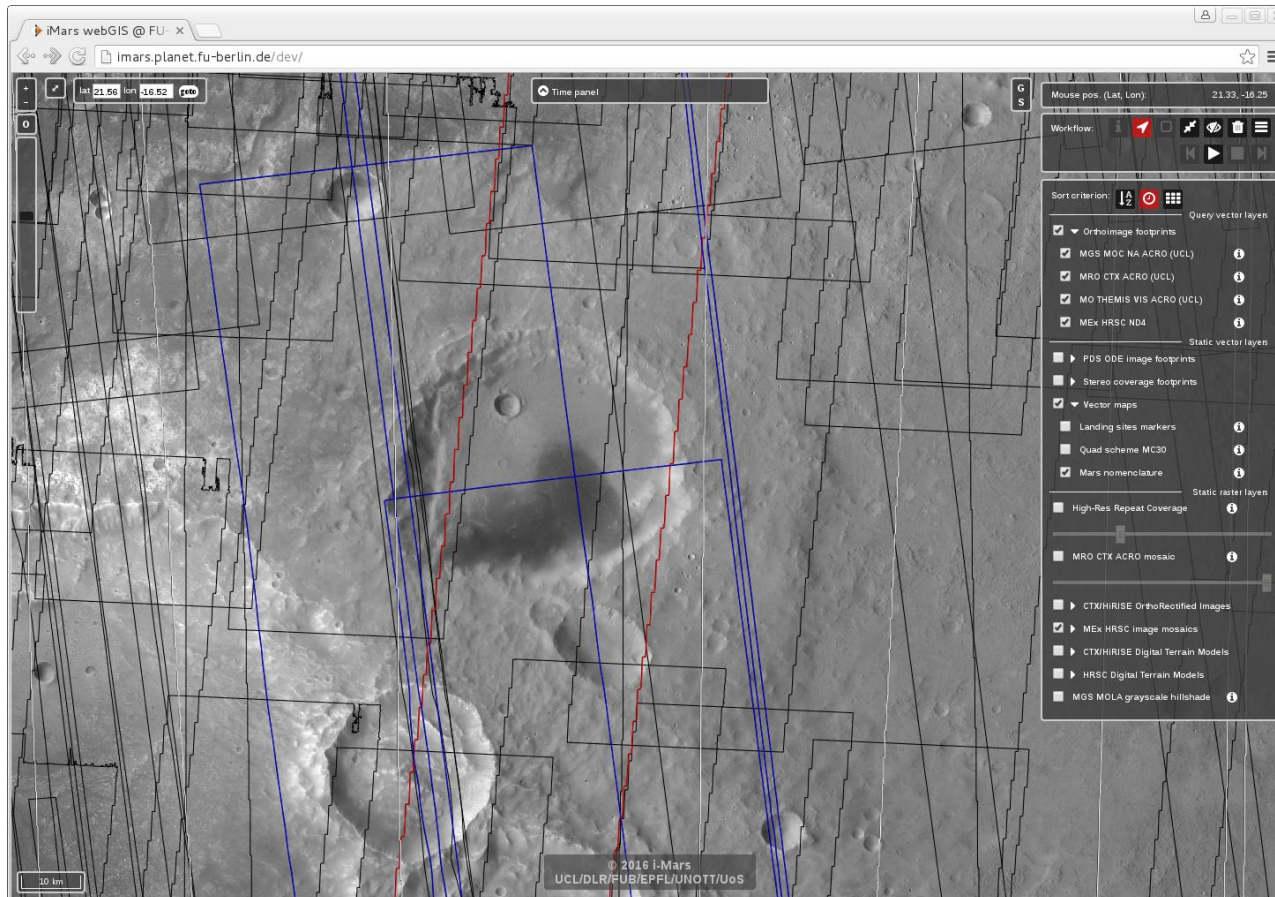
iMars webGIS – Single Images

Dynamic single image layers – workflow example



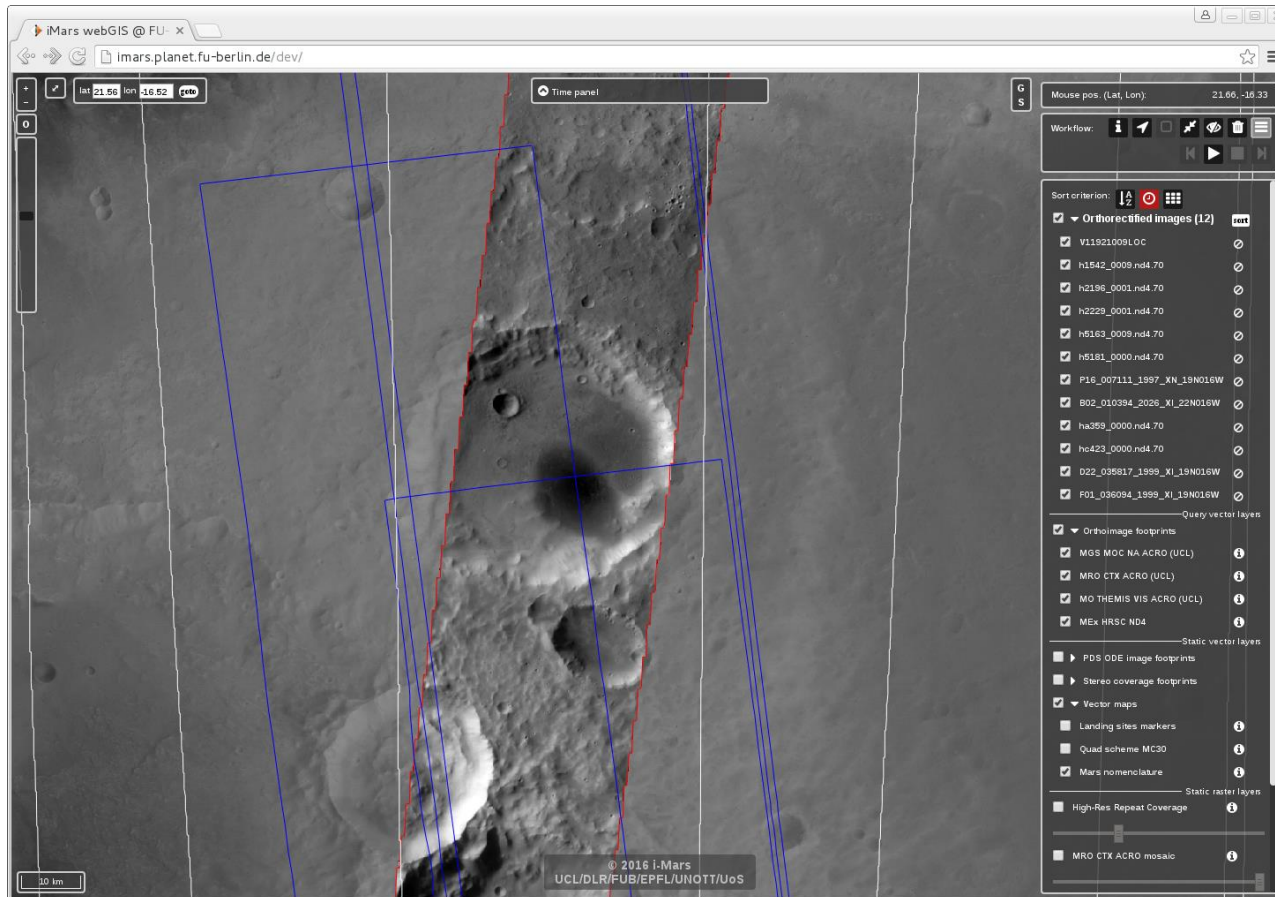
iMars webGIS – Single Images

Dynamic single image layers – workflow example



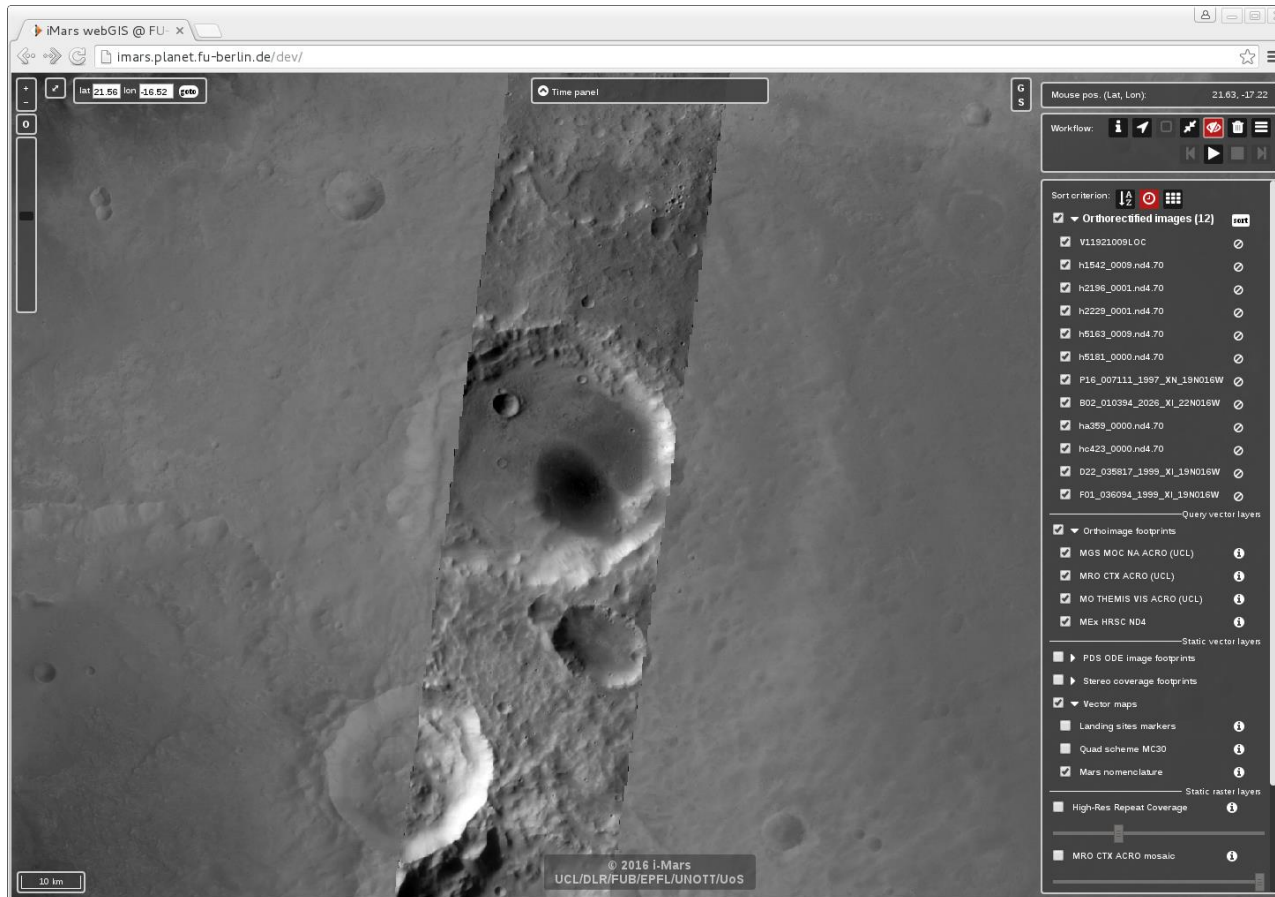
iMars webGIS – Single Images

Dynamic single image layers – workflow example



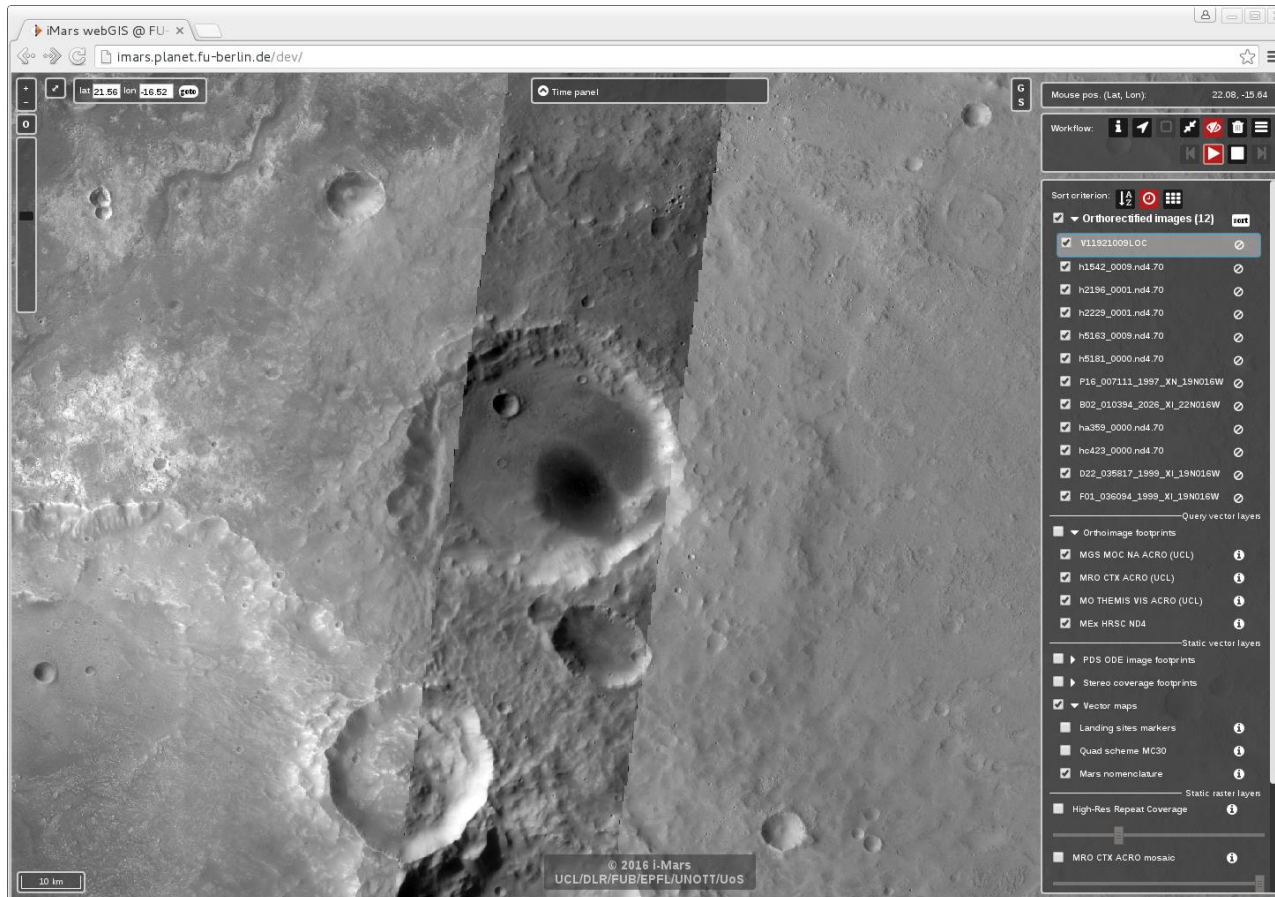
iMars webGIS – Single Images

Dynamic single image layers – workflow example



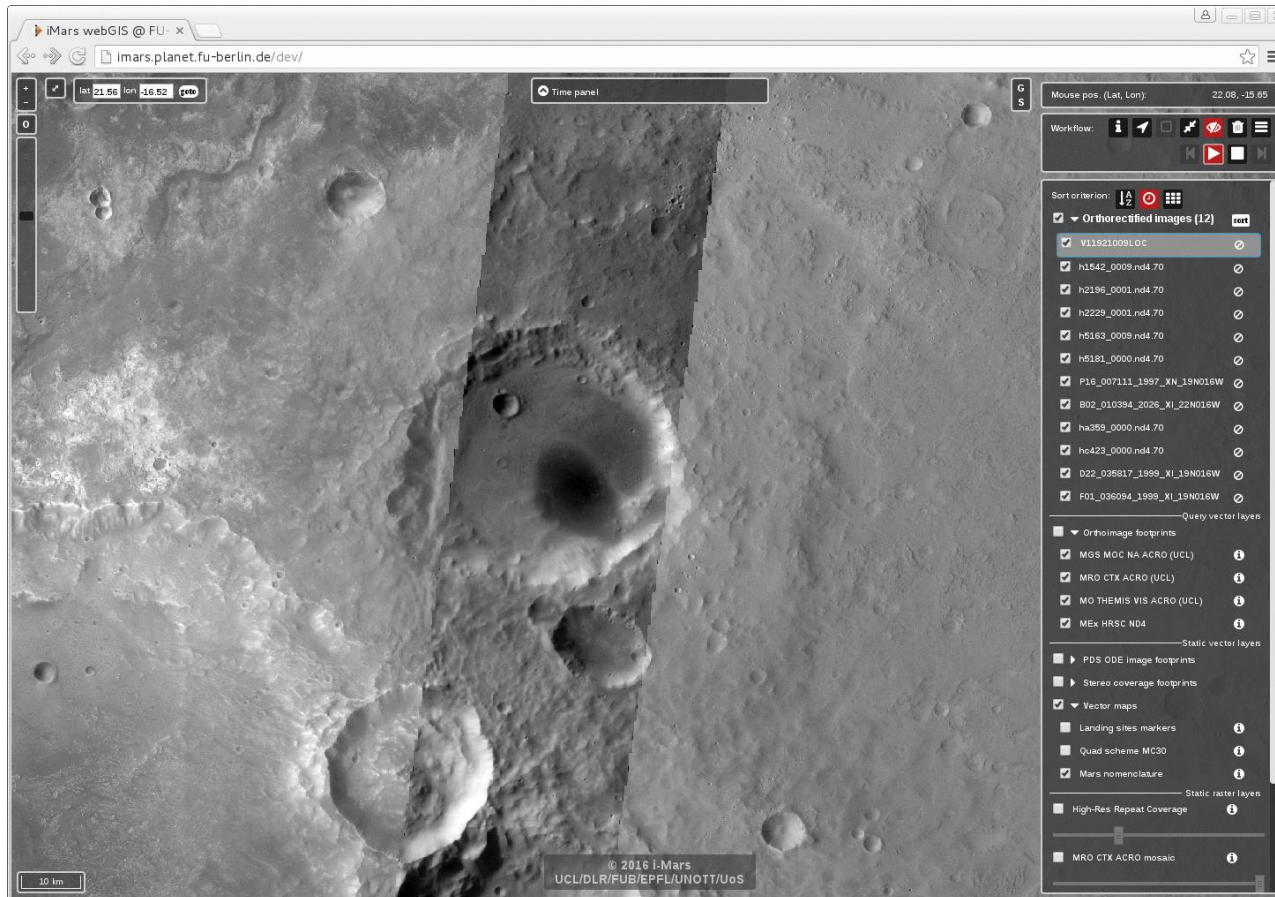
iMars webGIS – Single Images

Dynamic single image layers – workflow example



iMars webGIS – Single Images

Dynamic single image layers – workflow example



iMars webGIS – Conclusions

<http://www.i-mars.eu/web-gis>

- Achieved the main goal of interactive display of the **topographic datasets** and the **time series of images** provided by the consortium
- Ready for use in production - **stable** and **good performance** even for large datasets
- Forms the **core component** for **dissemination of iMars products** and serves as a **window for the project's** achievements
- Continuing updates of **data at UCL**
- **Developments at FUB will continue** with HRSC Map Server