

IMAGINE SAR INTERFEROMETRY

IMAGINE SAR Interferometry is a single, cost-effective module that fully integrates ERDAS IMAGINE's advanced interferometric processing capabilities. With this package, even the radar novice can extract high-quality digital elevation models (DEMs), generate Coherence Change products, or map Surface Displacement at the centimeter level.

EXPERTISE STRENGTHENED THROUGH PARTNERSHIP

Recognizing the need for user-friendly, robust, and technically sophisticated interferometric tools, Hexagon Geospatial initially partnered with the German Space Agency (DLR). World-renowned for their development of the Space Shuttle Radar Topography Mission (SRTM)/X-SAR and the TerraSAR-X satellite, the collaboration with DLR leveraged expertise from both organizations to simplify state-of-the-art algorithms. Thus, the unmatched interferogram unwrapping technology that processed SRTM interferometric images forms the engine of IMAGINE SAR Interferometry.

In addition to DLR, continued partnership with other international experts such as Planetek Italia in Italy, Space and Defense Technologies (SDT) in Turkey, and Neva Ridge Technologies in the United States, ensure IMAGINE SAR Interferometry continues to deliver cutting-edge functionality.

CAPABILITIES

SENTINEL-1

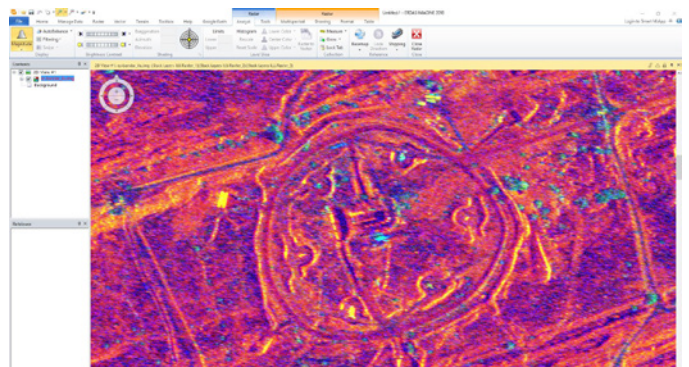
ERDAS IMAGINE ingests more imagery types, including Sentinel-1 imagery, than any other remote sensing product

in the market. With their paradigm of free data distribution and continuous imaging, the Sentinel-1 radar satellites have revolutionized the use of radar imaging. To increase the uptake of radar technology for myriad applications, ERDAS IMAGINE has fully automated processing of Sentinel-1 data so anyone can easily extract information; no need for radar expertise.

COHERENCE CHANGE DETECTION (CCD)

By comparing two radar images taken at different times, CCD functionality can detect changes at the wavelength scale. This means that surface change of an inch or less can be detected over areas of hundreds of square miles. This provides regional monitoring at a previously unattainable level.

Because CCD is such a powerful and useful change detection technique, Hexagon Geospatial and its partners have invested significant effort into developing operational tools to make exploiting this technology fast, accurate and easy. Simplifying, while building on our CCD capabilities, EZ-CCD and EZ Sentinel CCD are easy to use, requiring no radar expertise, but are computationally optimized to produce all CCD products 5 to 10 times faster than the traditional CCD workflow.

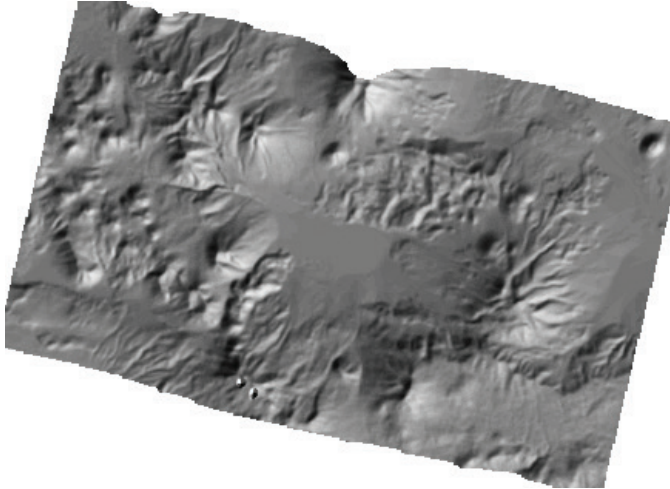


Interferometric ILU Change Detection Product showing detailed activity at surface-to-air missile (SAM) launch site.



SYNTHETIC APERTURE RADAR INTERFEROMETRY (INSAR) DEM

By exploiting the information contained in the radar phase, the InSAR capability can quickly extract high-quality DEMs. InSAR includes a user-friendly wizard that lets you step through the workflow, accepting or modifying the default parameters. The software then automatically processes input images to DEM products, leaving you free to work on other tasks.

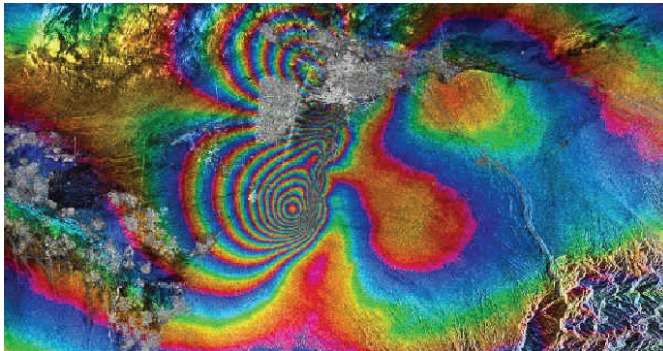


5-meter DEM calculated from full TerraSAR-X scene in fully automatic mode

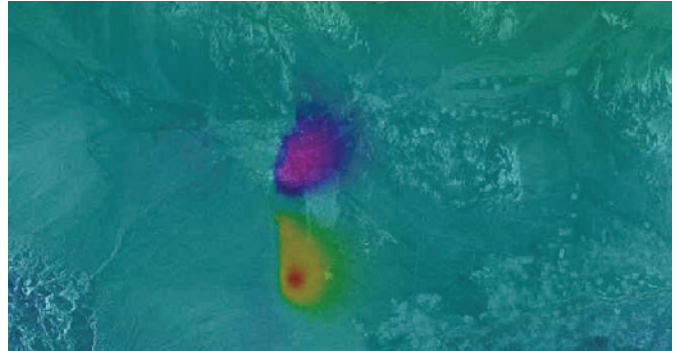
DIFFERENTIAL INTERFEROMETRIC SAR (DINSAR)

DInSAR quantitatively maps surface change at the sub-wavelength scale, providing the ability to precisely map surface displacement, anywhere in the world, from space. This opens up the potential to create regional subsidence maps in areas of oil and gas production, aquifer depletion, sub-surface mining, or tunneling. Natural phenomena, such as earthquakes or volcanoes, can be monitored or evaluated for relief efforts.

Recognizing that the hugely valuable information that can be extracted by advanced DInSAR analysis was beyond the expertise of most persons, Hexagon Geospatial partnered with Planetek Italia to develop a truly innovative solution. ERDAS IMAGINE can be used for routine wide-area monitoring, and areas of interest, or “hot spots”, can be directly submitted from the IMAGINE SAR Interferometry interface for a very detailed time-series DInSAR analysis to be performed by experts. The resultant surface displacement information is delivered as a Shapefile back into ERDAS IMAGINE for evaluation and exploitation.



Interferogram of earthquake in Bam, Iran. Note loss of coherence in the center due to building collapse.



Bam, Iran: Color-coded vertical displacement map fused with radar image.

About Power Portfolio

The Power Portfolio from Hexagon Geospatial combines the best photogrammetry, remote sensing, GIS and cartography technologies available. Flowing seamlessly from the desktop to server-based solutions, these technologies specialize in data organization, automated geoprocessing, spatial data infrastructure, workflow optimization, web editing, and web mapping.

The Producer Suite enables you to intelligently author, analyze, process, and map multiple sources of data.



About Hexagon Geospatial

Hexagon Geospatial is part of Hexagon (Nasdaq Stockholm: HEXA B; hexagon.com), a leading global provider of information technologies that drive quality and productivity improvements across geospatial and industrial enterprise applications. Learn more at hexagon.com.

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