

What's New in ERDAS IMAGINE 2018



- Contents**
- 2D View #1
 - 03jun01144348-Background
 - 2D View #2
 - 03jun01144348-Background

- Retriever**
- SiteMonitoring (c/den)
 - 03jun01144348-m2a
 - 03jun01144348-p2a
 - subresmerge_v16_1

What's New?



64-bit Support

Machine Learning

Zonal Change (custom algorithm support)

New Sensors Support & RADAR Enhancements

New Spatial Operators

Interoperability (ArcPy)

Batch Process Enhancements

SAR Feature toolbar

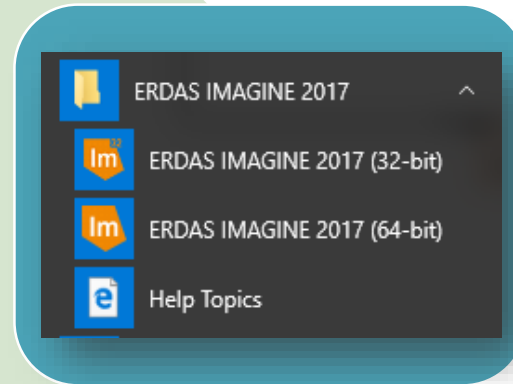
Bug Fixes & More...

DISCLAIMER: The information shared in this presentation is based on a pre-release version. Details may change in the final version.

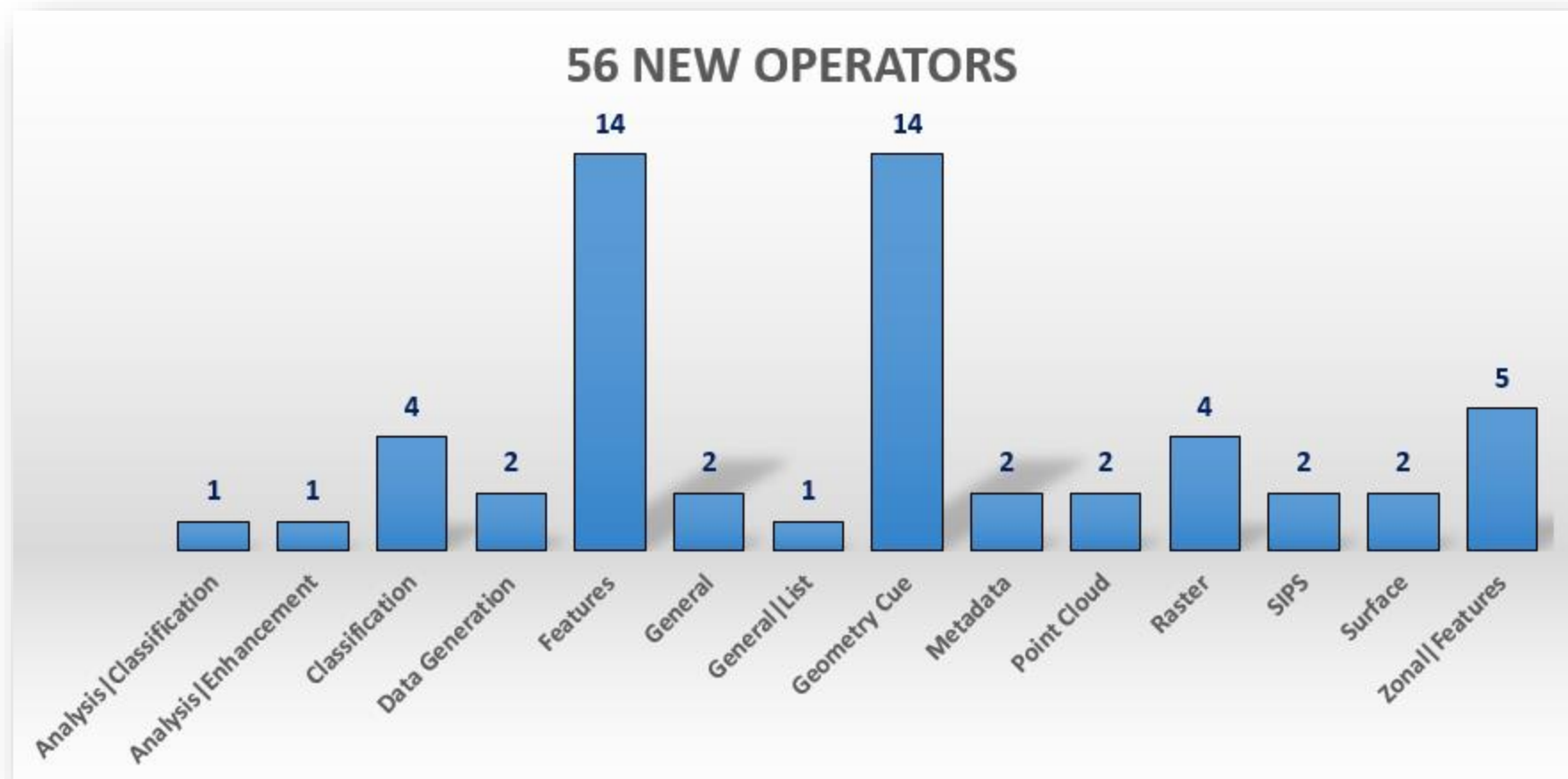
Utilize More Of Your Hardware

User interface
now runs
natively in 64-bit

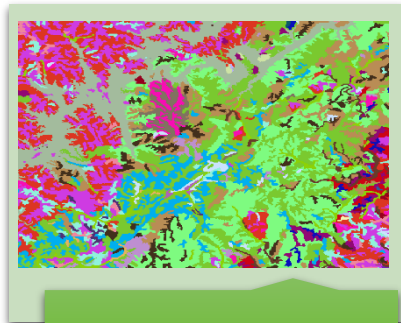
Efficient &
Stable execution



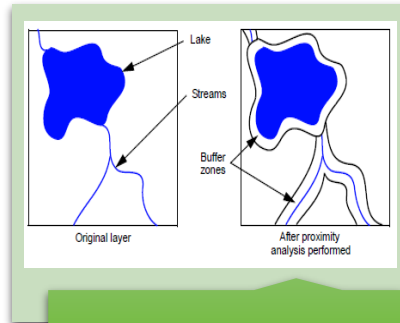
Spatial Operators



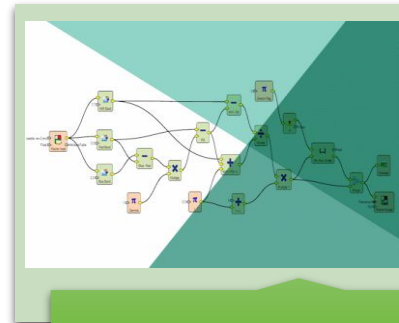
More Operators



Classification



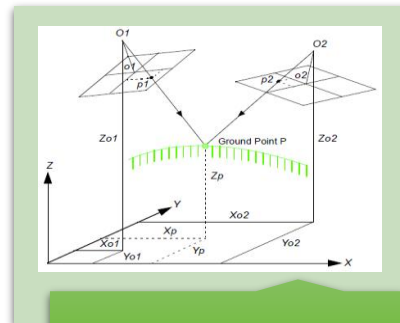
Feature



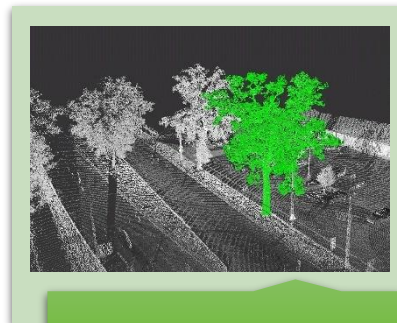
Spatial Models



Raster



Sensor



Point Cloud



Atmospheric

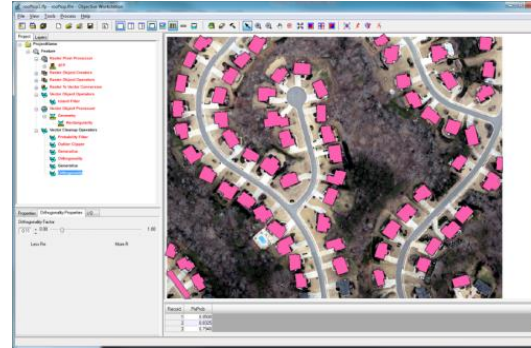
Feature Extraction

Feature Extraction

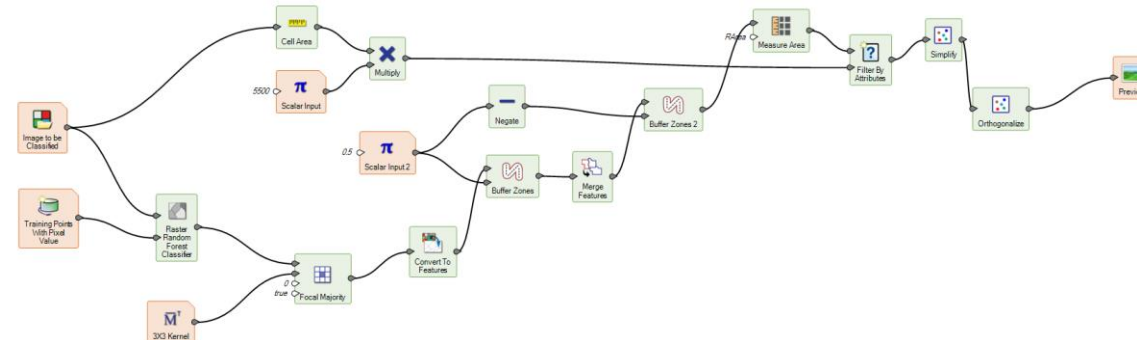
IMAGINE Objective functionality into operators

Build feature extraction workflows

Machine Learning Ops

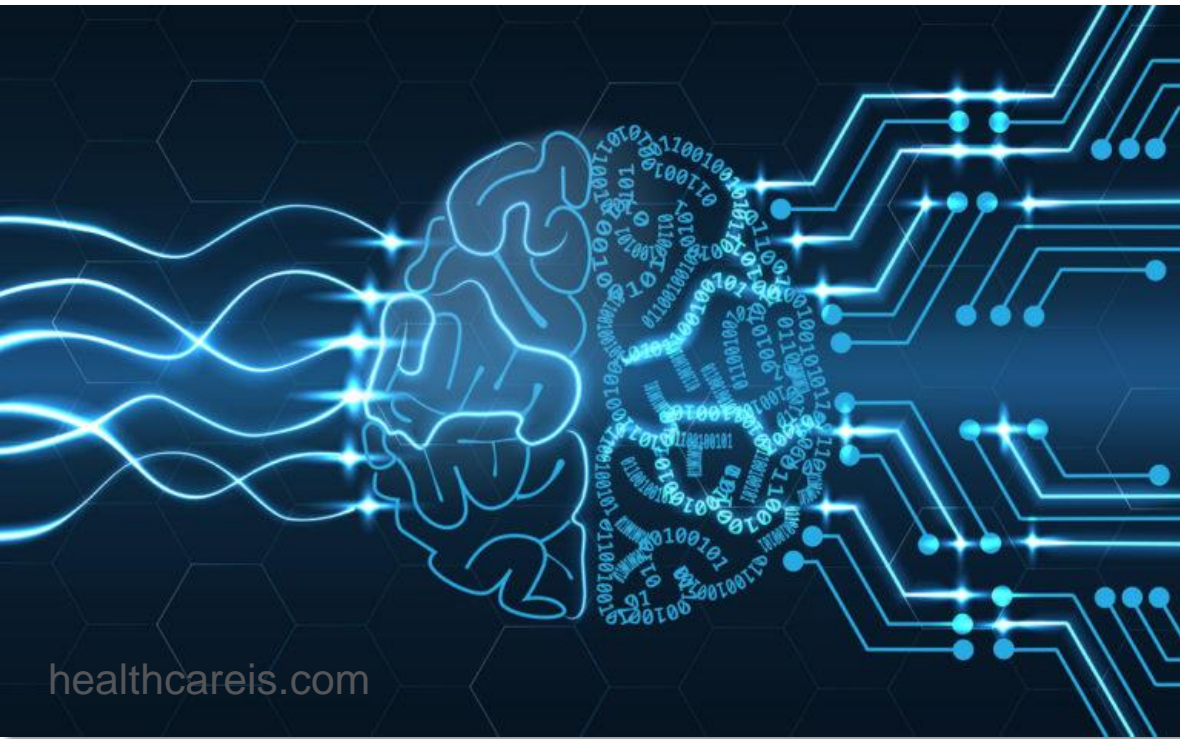


IMAGINE Objective



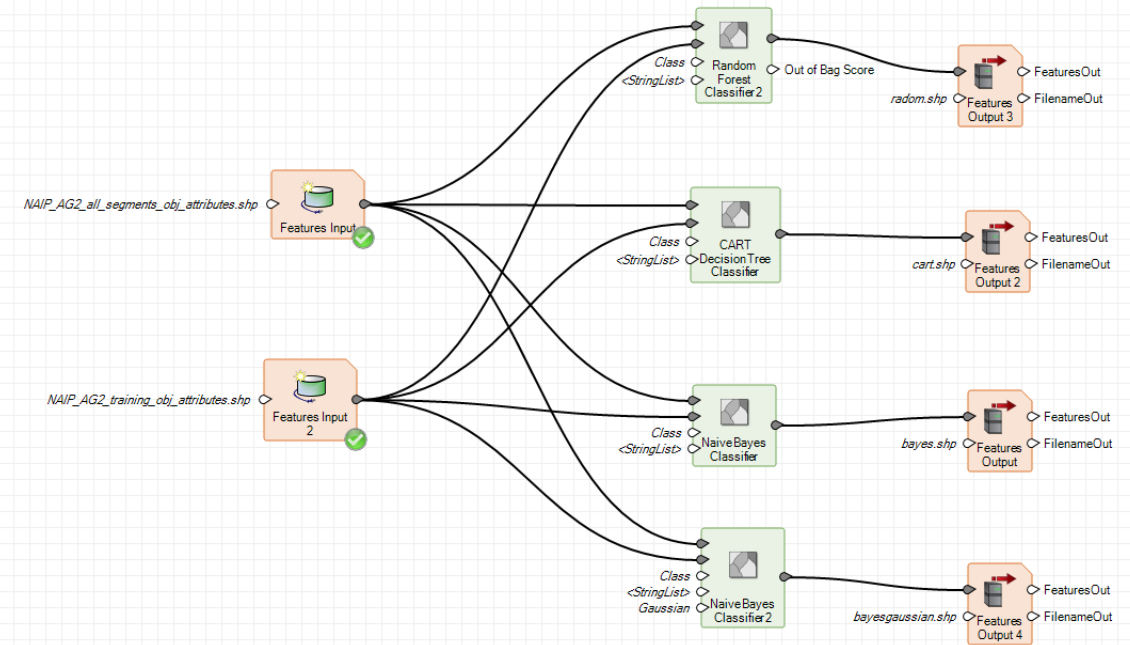
Esempio di utilizzo dei nuovi operatori derivanti da **IMAGINE OBJECTIVE**

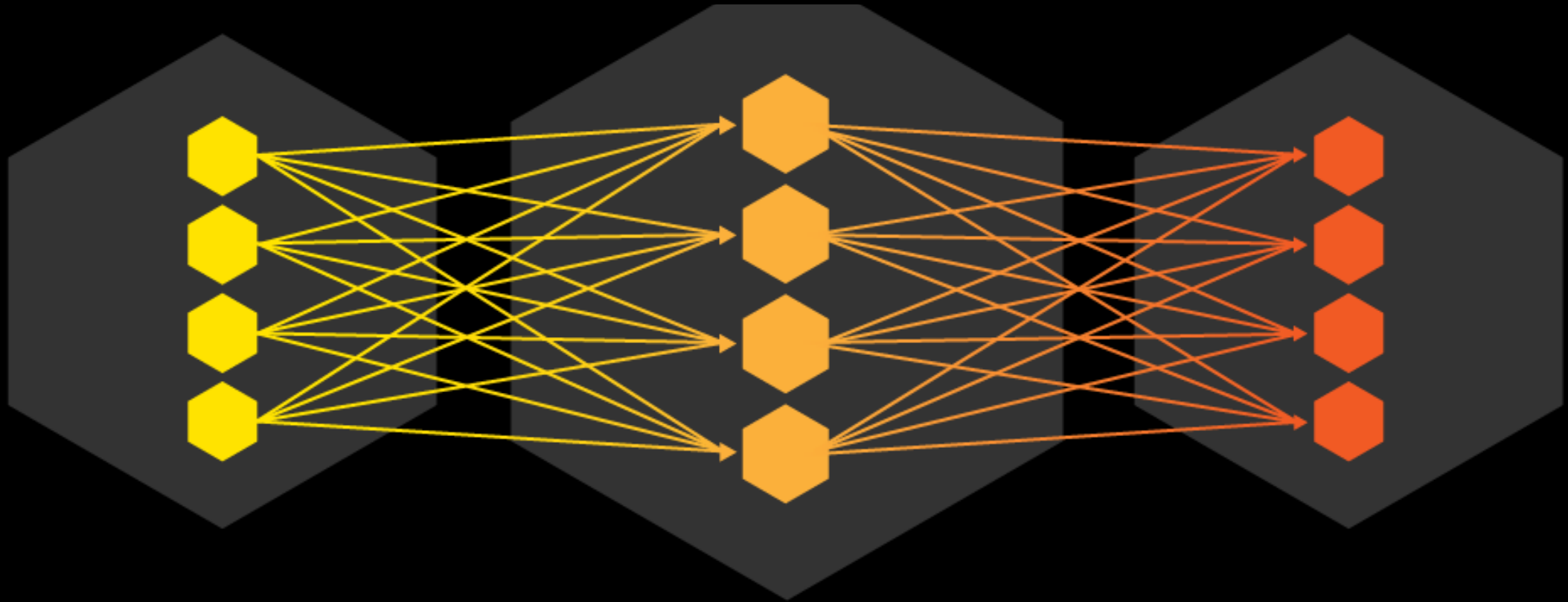
Machine Learning Operators



healthcareis.com

Spatial Model Editor #1 : compare_machine_learning_classifiers.gmdx : Spatial Model





INPUT TERMS

FEATURES
PREDICTIONS
ATTRIBUTES
PREDICTABLE VARIABLES

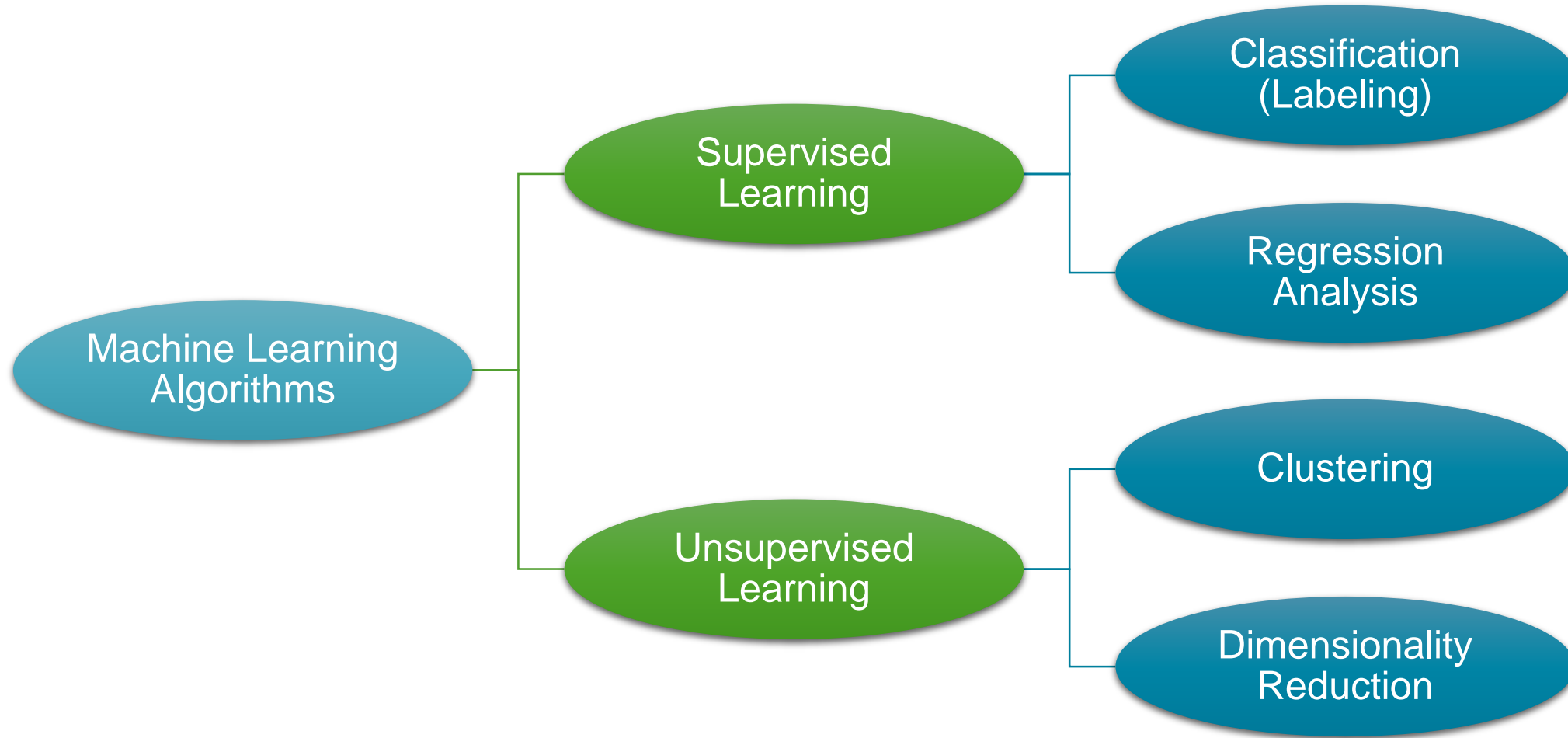
MACHINE

ALGORITHMS
TECHNIQUES
MODELS

OUTPUT TERMS

CLASSES
RESPONSES
TARGETS
DEPENDANT VARIABLES

Machine Learning Algorithms



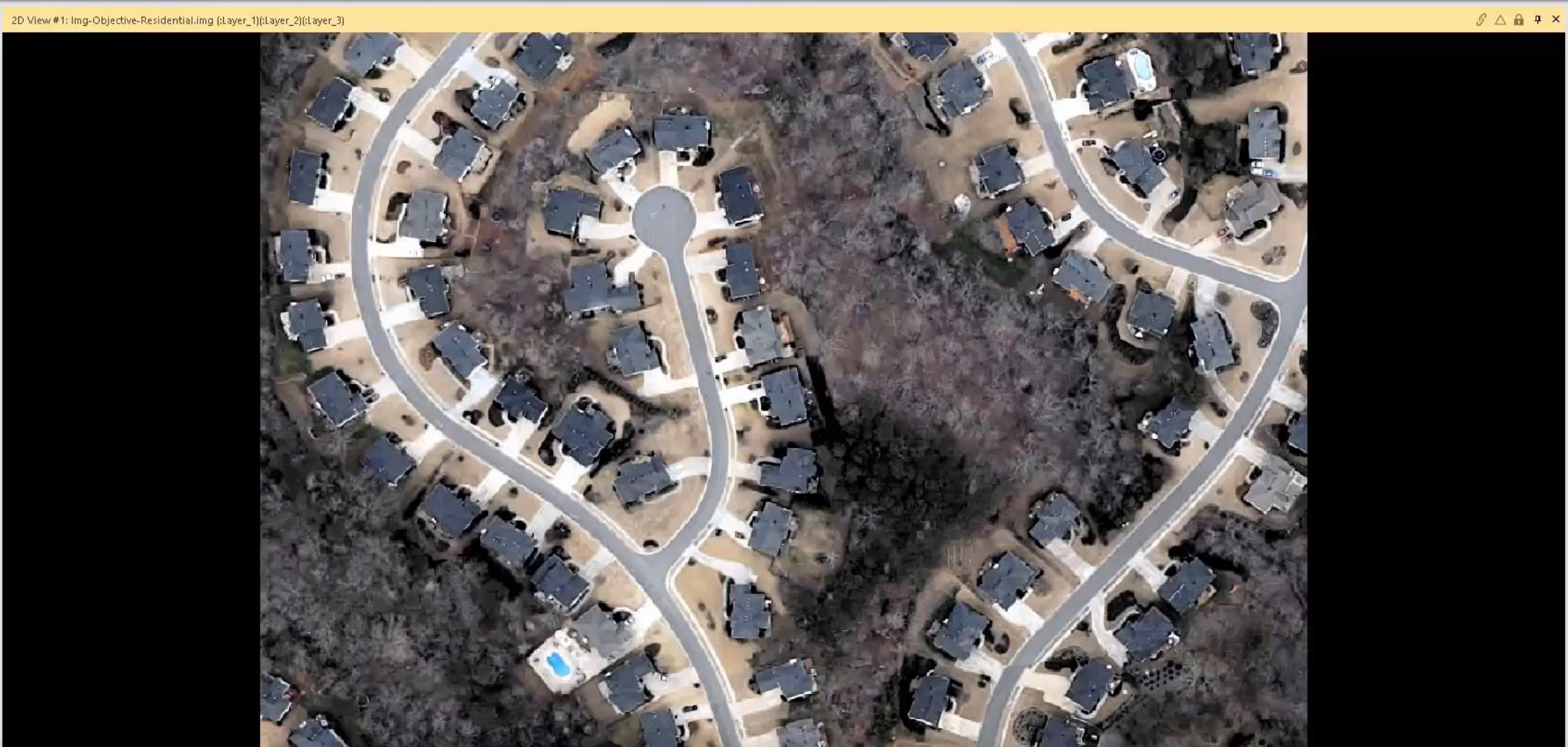
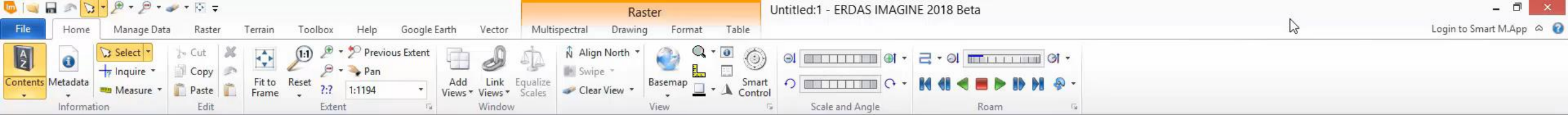
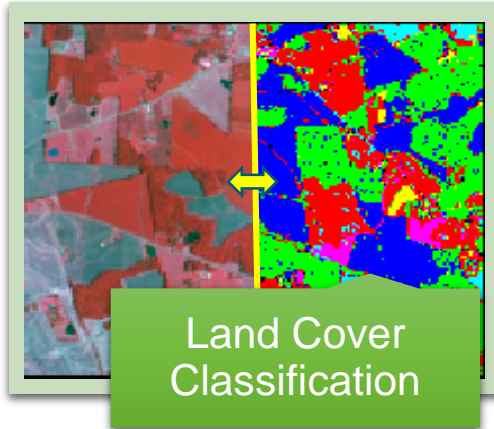


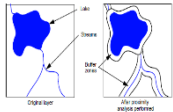
IMMAGINE DA CLASSIFICARE

Applications of Machine learning in Geospatial Industry



Feature Extraction Operators

Feature Extraction



- Attribute Definition
- Attribute Expression
- Create Bounding Box
- Create Convex Hull
- Create Fitted Bounding Box
- Create Oriented Bounding Box
- Create Centerline
- Features Convert To Surface
- Kurtosis Texture Per Feature
- Line Link
- Line Remove
- Line Snap
- Mean Euclidian Distance Texture Per Feature
- Orthogonalize
- Raster Statistics Per Feature
- Remove Attributes
- Rename Attributes
- Set Primary Geometry
- Simplify
- Skew Texture Per Feature
- Variance Texture Per Feature

Geometry Cue Operators

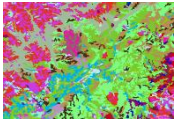
Geometry Cue



- Compute Axis Length
- Compute Circularity
- Compute Compactness
- Compute Concavity
- Compute Convexity
- Compute Eccentricity
- Compute Horizontal Skewness
- Compute Orientation
- Compute Orthogonality
- Compute Primary Axis Skewness
- Compute Rectangularity
- Compute Secondary Axis Skewness
- Compute Vertical Skewness
- Count Corners

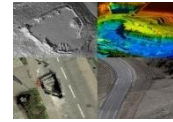
Other Operators

Raster \ Classification \ SIPS



- Create File Dataset Reference
- Set Band Names
- Update Statistics
- CART Decision Tree Classifier
- Naive Bayes Classifier
- Random Forest Classifier
- Raster Random Forest Classifier
- Tasseled Cap
- Get Multispectral DRA Params
- Get NITF Options
- Get SIPS Defaults

Point Cloud \ General \ Analysis

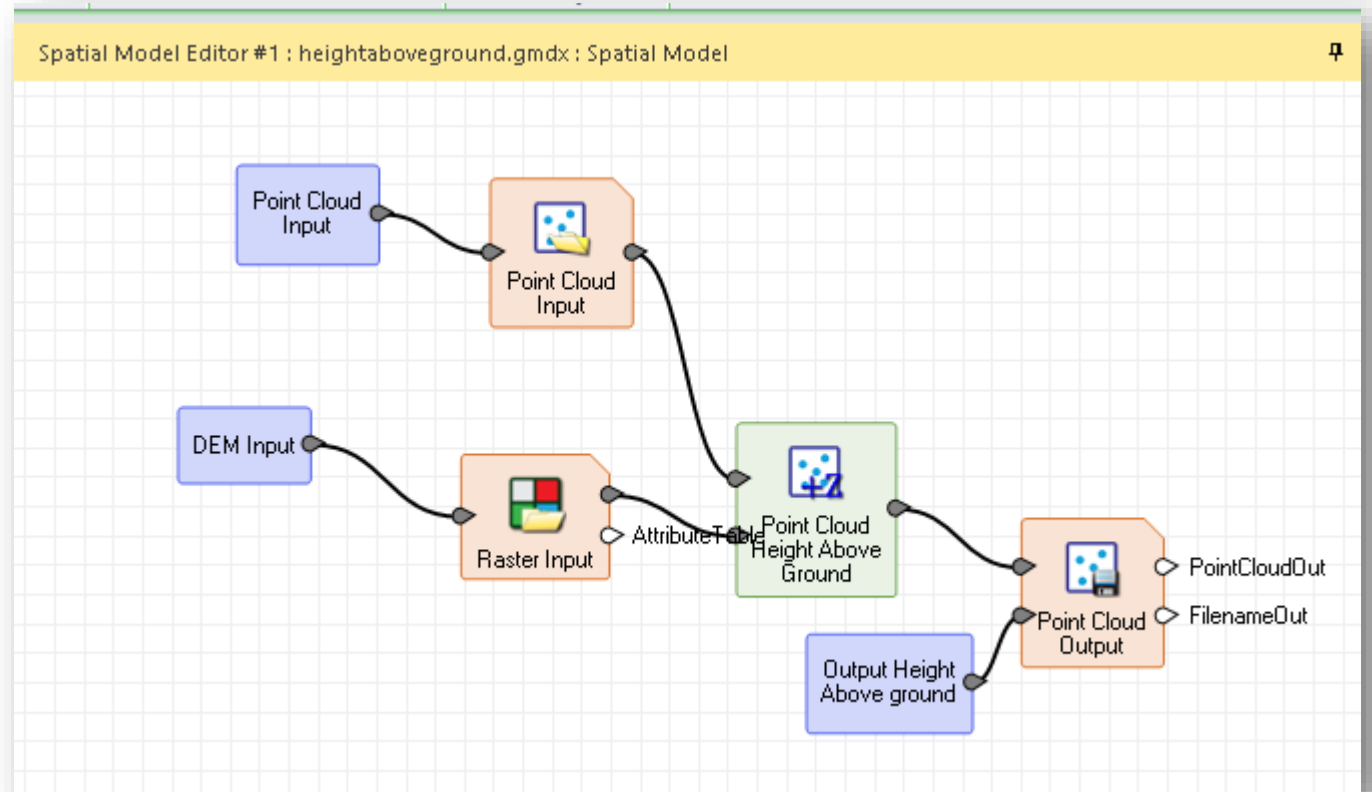


- Data Information
- Find Item
- Generic Atmospheric
- Get Preference Value
- Get Multispectral DRA Params
- Point Cloud Convert To Surface
- Point Cloud Height Above Ground

Height Above Ground

Based on Point Cloud Data

Used to create
Flooding/Building
Height & Forest Canopy
models

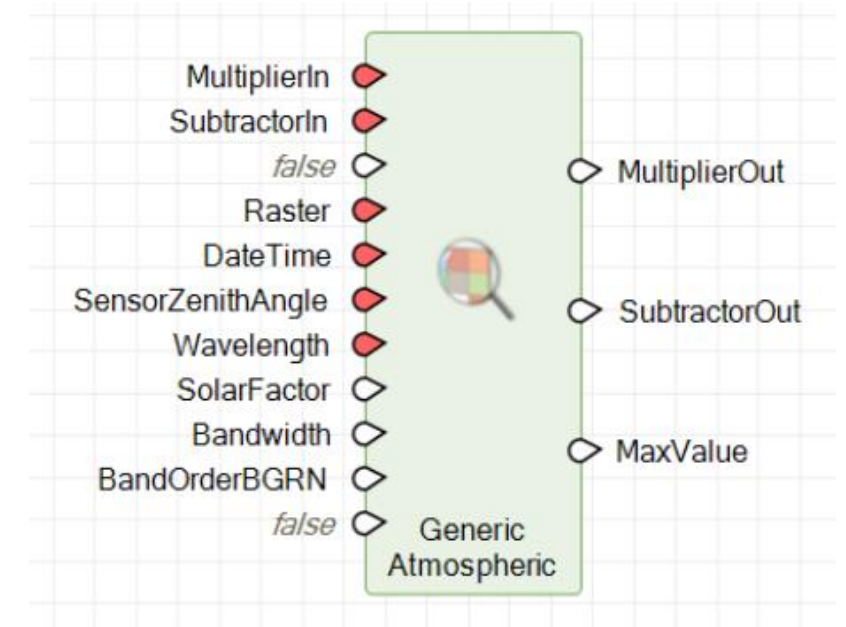
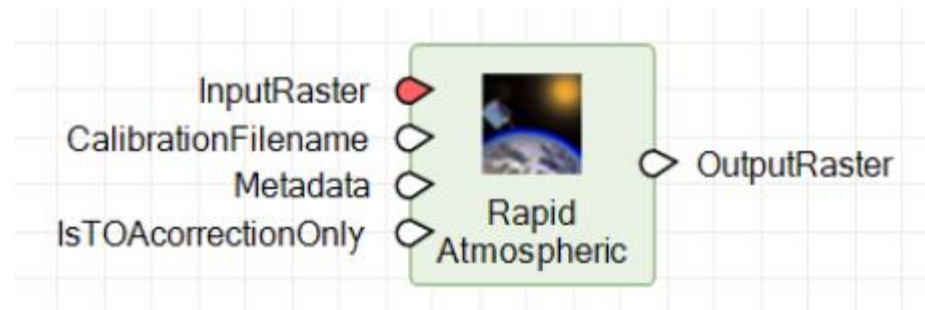


Atmospheric Correction Operators

Atmospheric Correction

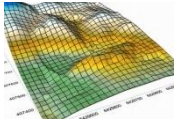
16-bit imagery

4-band



Other Operators

Data Generation \ Metadata \ Surface

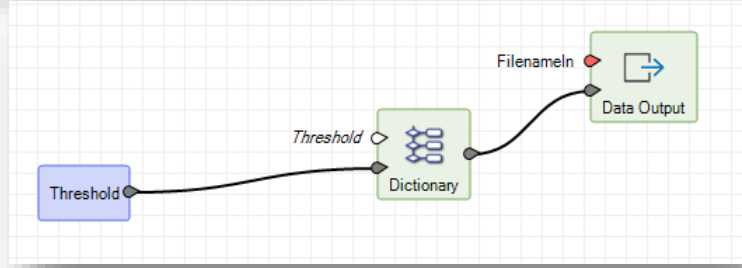
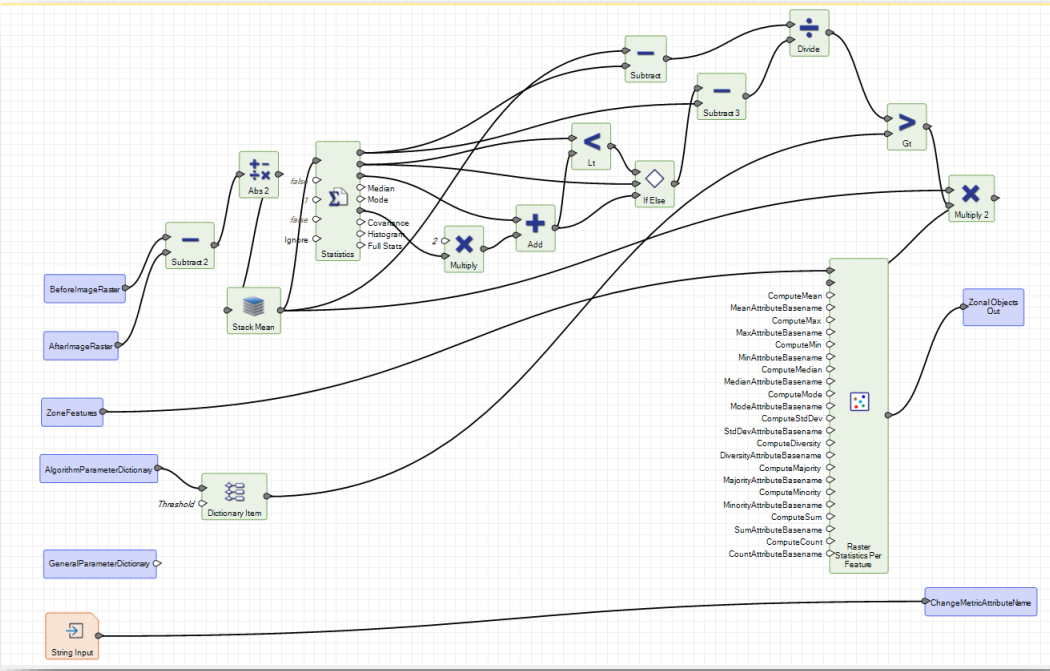


- Extract NITF Shapefile
- Get Referenced Dataset
- Get NITF Options
- Line Of Sight
- Metadata Input
- Read Sensor Metadata
- Analyze Radiance

Zonal Change Detection

Custom Change Detection Algorithm

Optional Algorithms

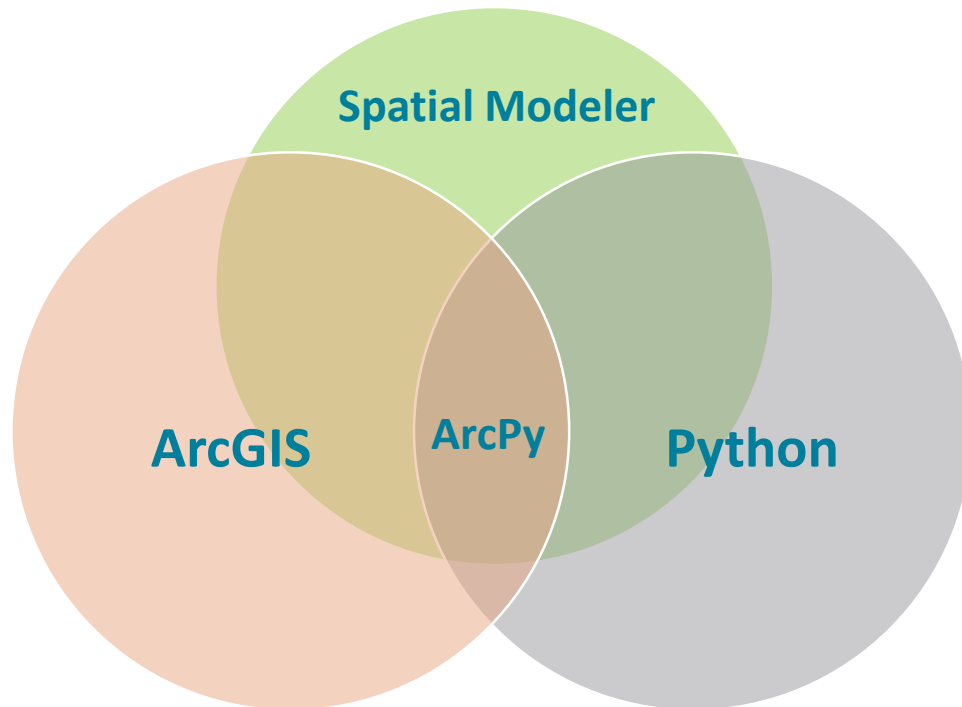


Zonal Change Detection DEMO

Dati: © (CNES) 2015 -2017

Distribution Airbus DS

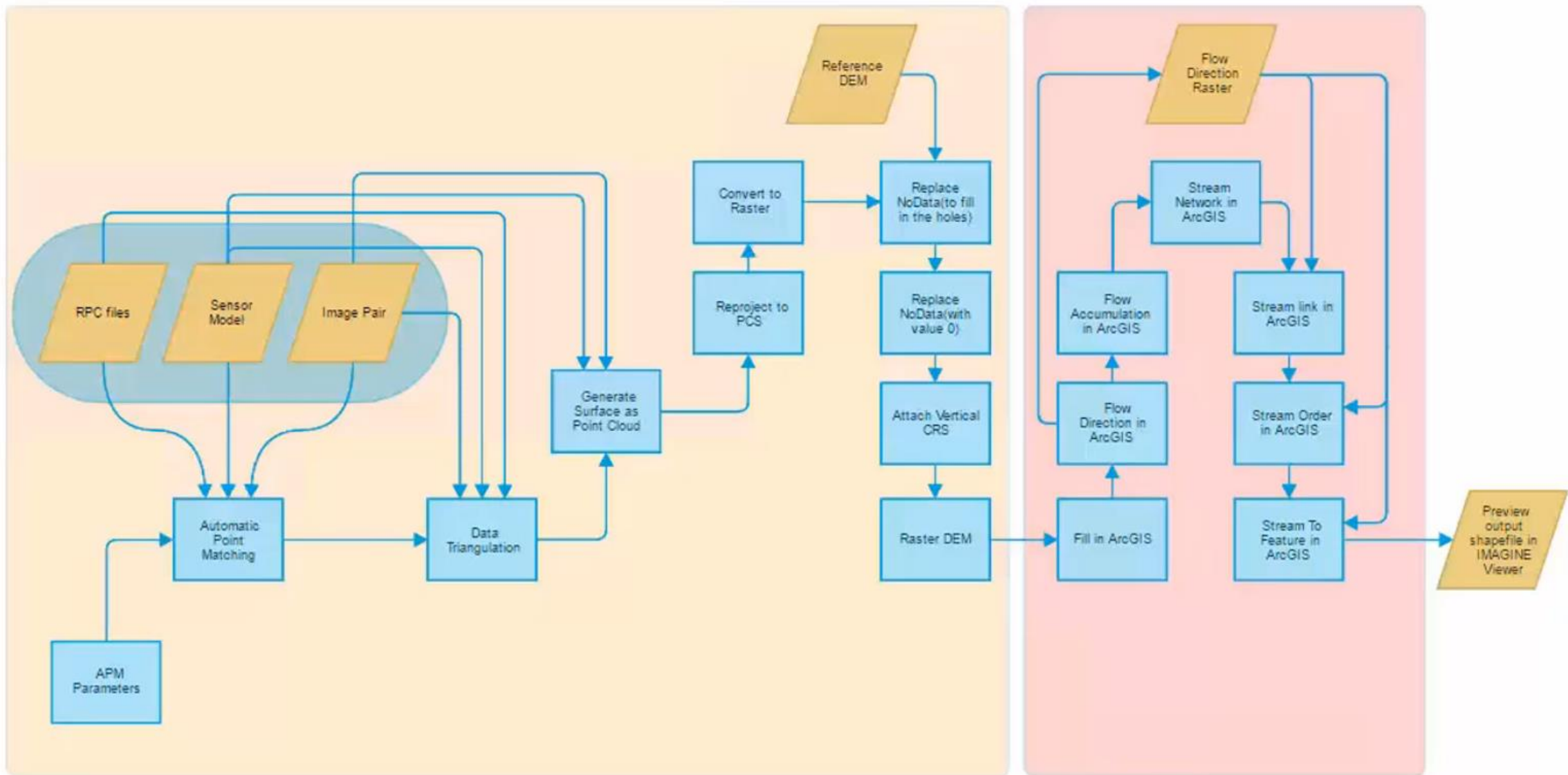
Interoperability



Support to ArcPy scripts

Can be used in combination with other operators

Spatial Modeler e Arcpy DEMO



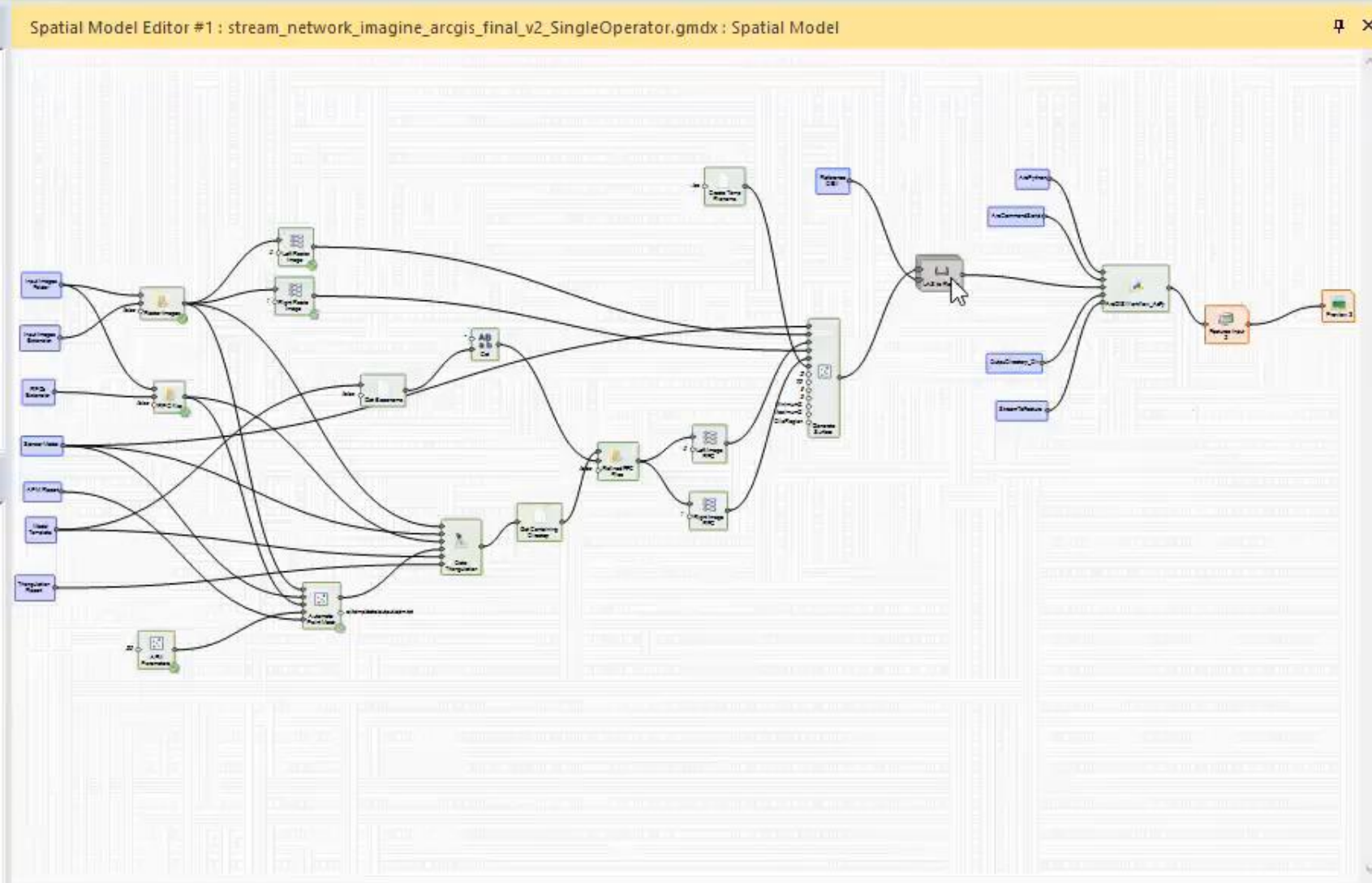
File Home Manage Data Raster Vector Terrain Toolbox Help Spatial Modeler Login to Smart M.App

Cut Delete Operators Properties Operator Info Messages View
 Copy Undo Operator Preview Run Execute
 Paste Redo Operator Clear Results Configure Operator Operator Help
 Rename Operator Add Port Remove Port Rotate Left Rotate Right
 Create Submodel Expand Submodel Collapse Submodel Processing Properties Auto Layout Model
 Add to My Models Share Fit to Frame Show All Ports Show Flow Control Show Gridlines Show

Arial 24 B / U A Text Style

Contents

- Spatial Model Editor #1
 - Spatial Model
 - LAS to Raster



Operators

Enter keyword search here

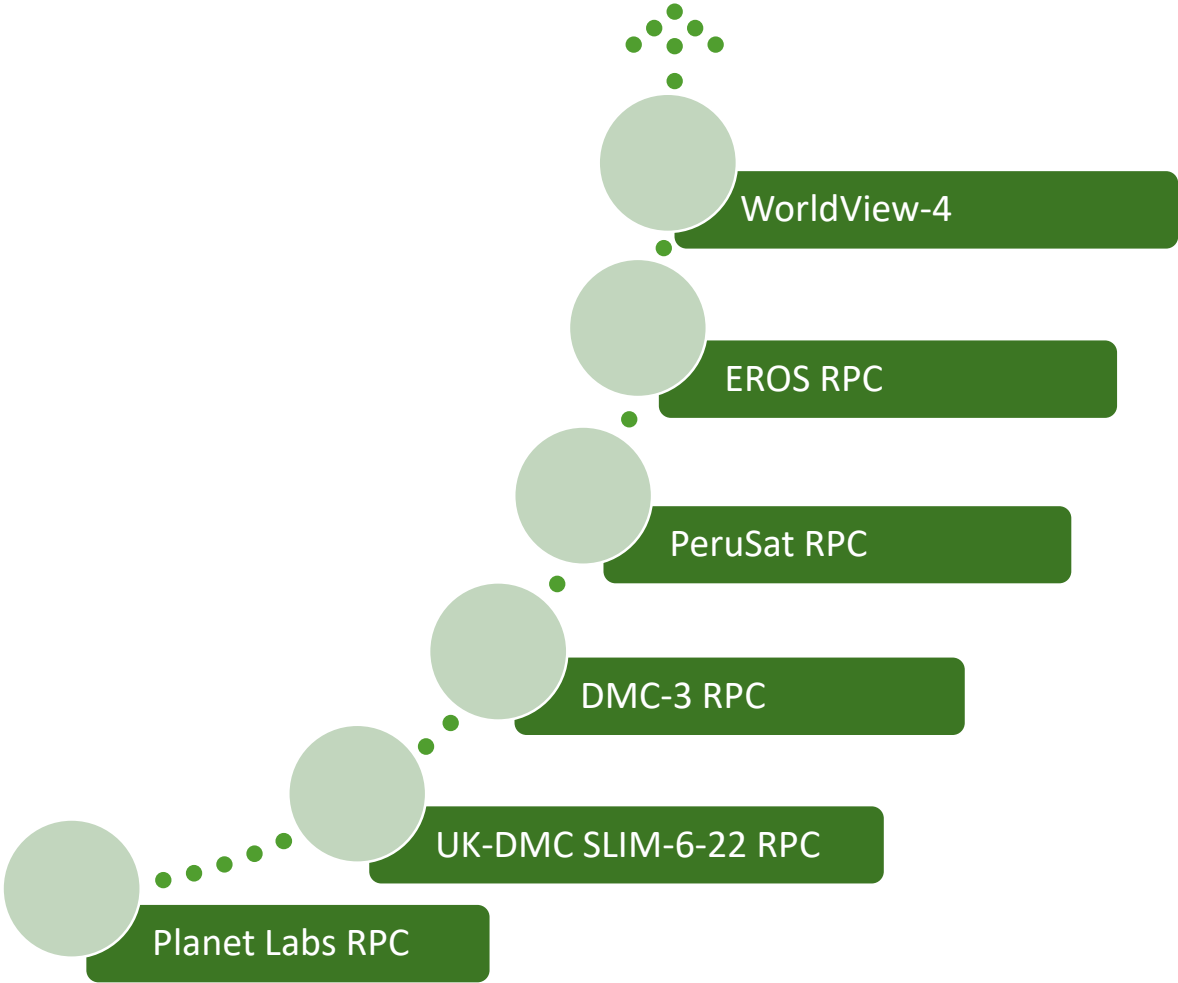
- Favorites
 - Raster Input
 - Raster Output
 - Features Input
 - Features Output
 - Port Input
 - Preview
- Recent
 - Port Input
 - Python Script
 - Preview
 - Features Input
 - Attach Vertical CRS
 - Create Temp Filename
- Analysis
- Attributes
- Bitwise
- Boolean

Properties

| Show | Name | Value |
|-------------------------------------|--------------|-----------------------|
| <input checked="" type="checkbox"/> | Input Images | //ingmet.com/in/sgj/c |
| <input checked="" type="checkbox"/> | Input Images | *.tif |
| <input checked="" type="checkbox"/> | RPC's Exten | *rpc.txt |
| <input checked="" type="checkbox"/> | Sensor Mode | CARTOSAT RPC |
| <input checked="" type="checkbox"/> | APM Report | c:\temp\data\output\ |
| <input checked="" type="checkbox"/> | Model Temp | c:\temp\data\output\ |

Retriever

New Sensor Support



Worldview - 4

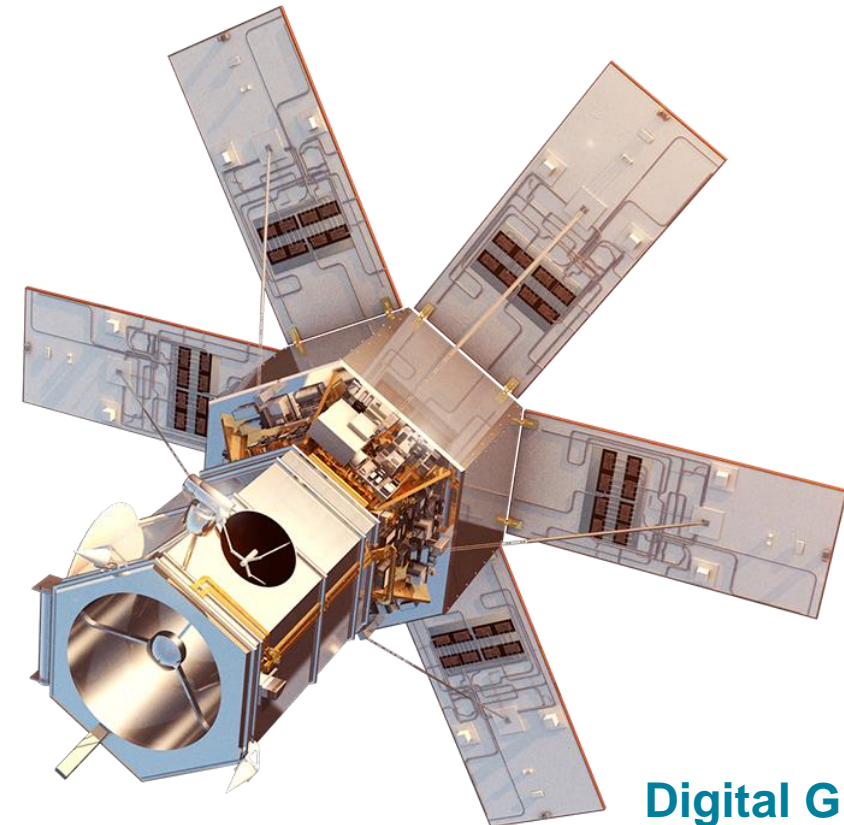
See freedom



See health



| | |
|----------------------|---------|
| Panchromatic Nadir: | 0.31 m |
| 20° Off-Nadir: | 0.34 m |
| 56° Off-Nadir: | 1.00 m |
| 65° (earth limb): | 3.51 m |
| Multispectral Nadir: | 1.24 m |
| 20° Off-Nadir: | 1.38 m |
| 56° Off-Nadir: | 4.00 m |
| 65° (earth limb): | 14.00 m |



Digital Globe©



Planet Scope



PLANETSCOPE

Bands

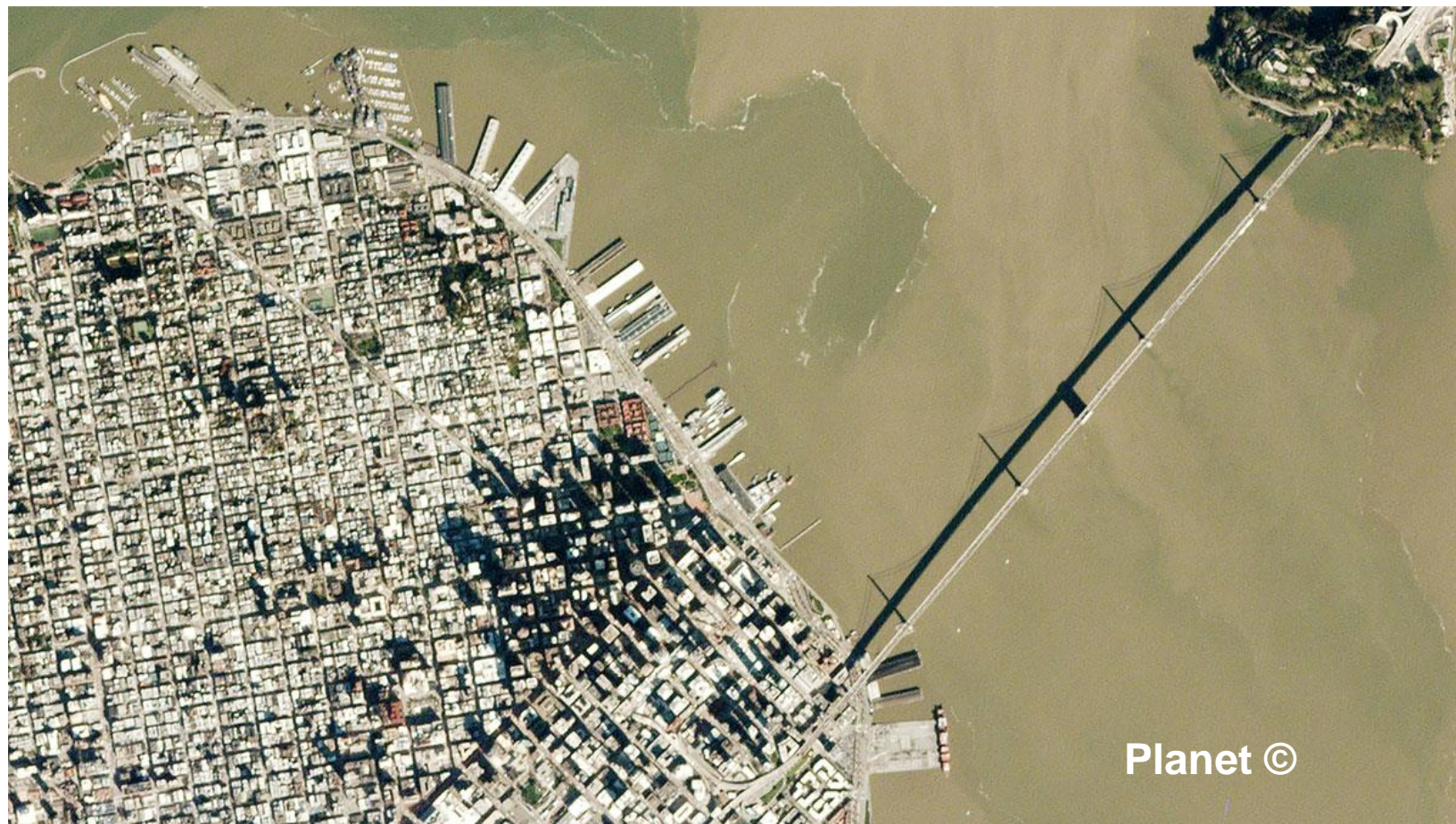
4 (RGB, NIR)

Products

Color enhanced
Visual
Analytic

Pixel Resampled

3 m



Planet ©

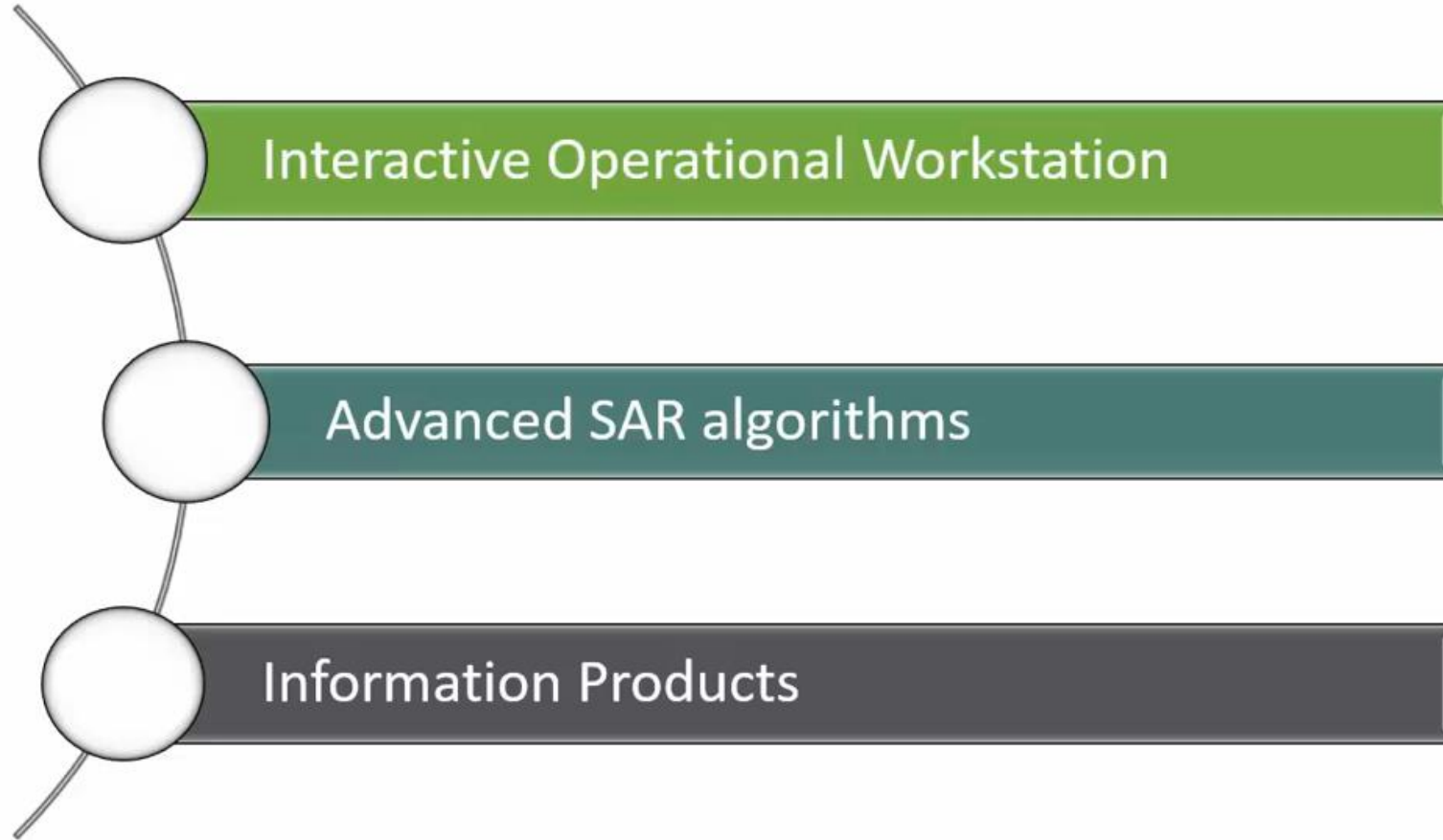
OPSAT-3000



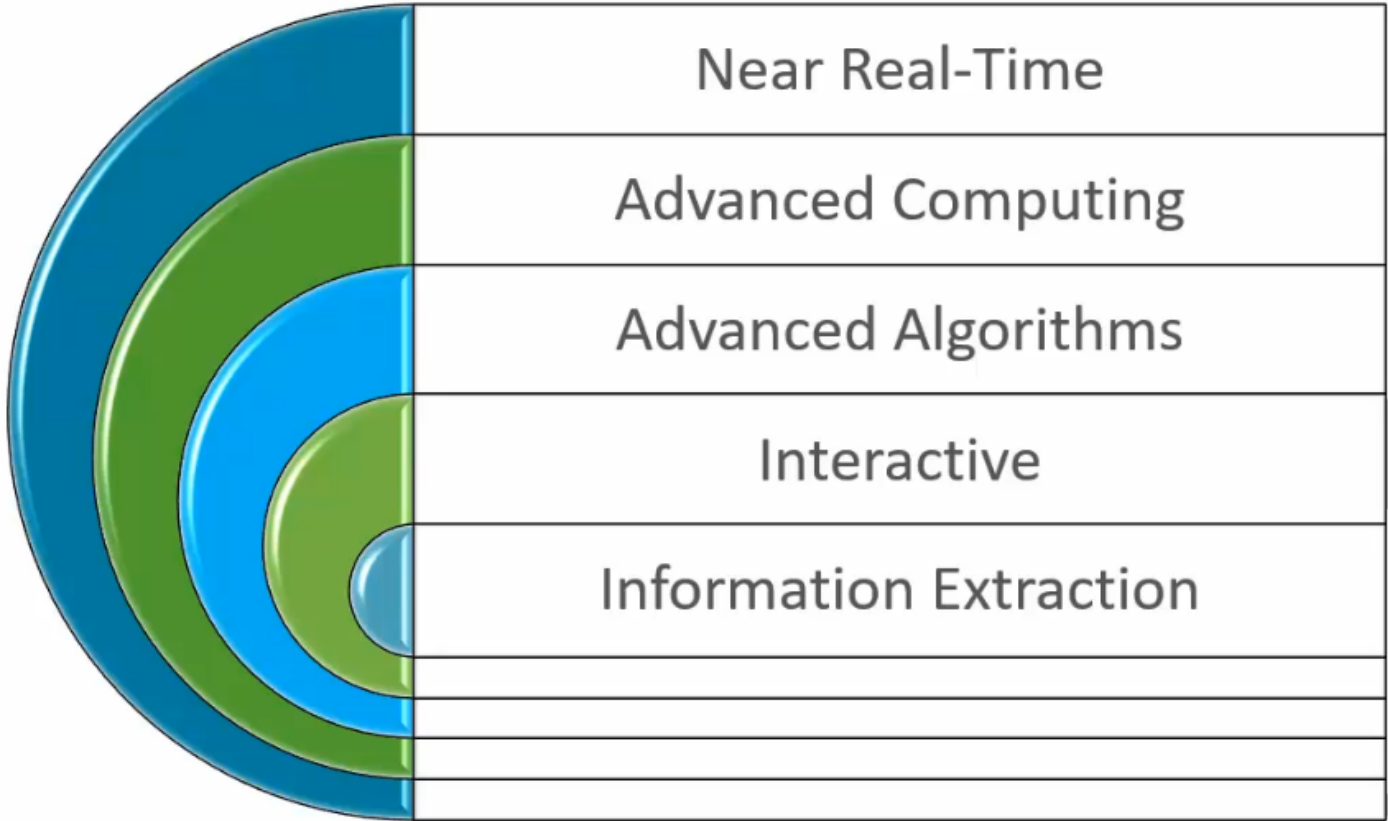
New formats/Enhancements to ...

- Exploit multi-segment NITF
- Open NITF Segments
- Sentinel-2 format update
- Sentinel-2 “True Color” band combination
- New Feature/Vector data formats (PostGIS, CSV)

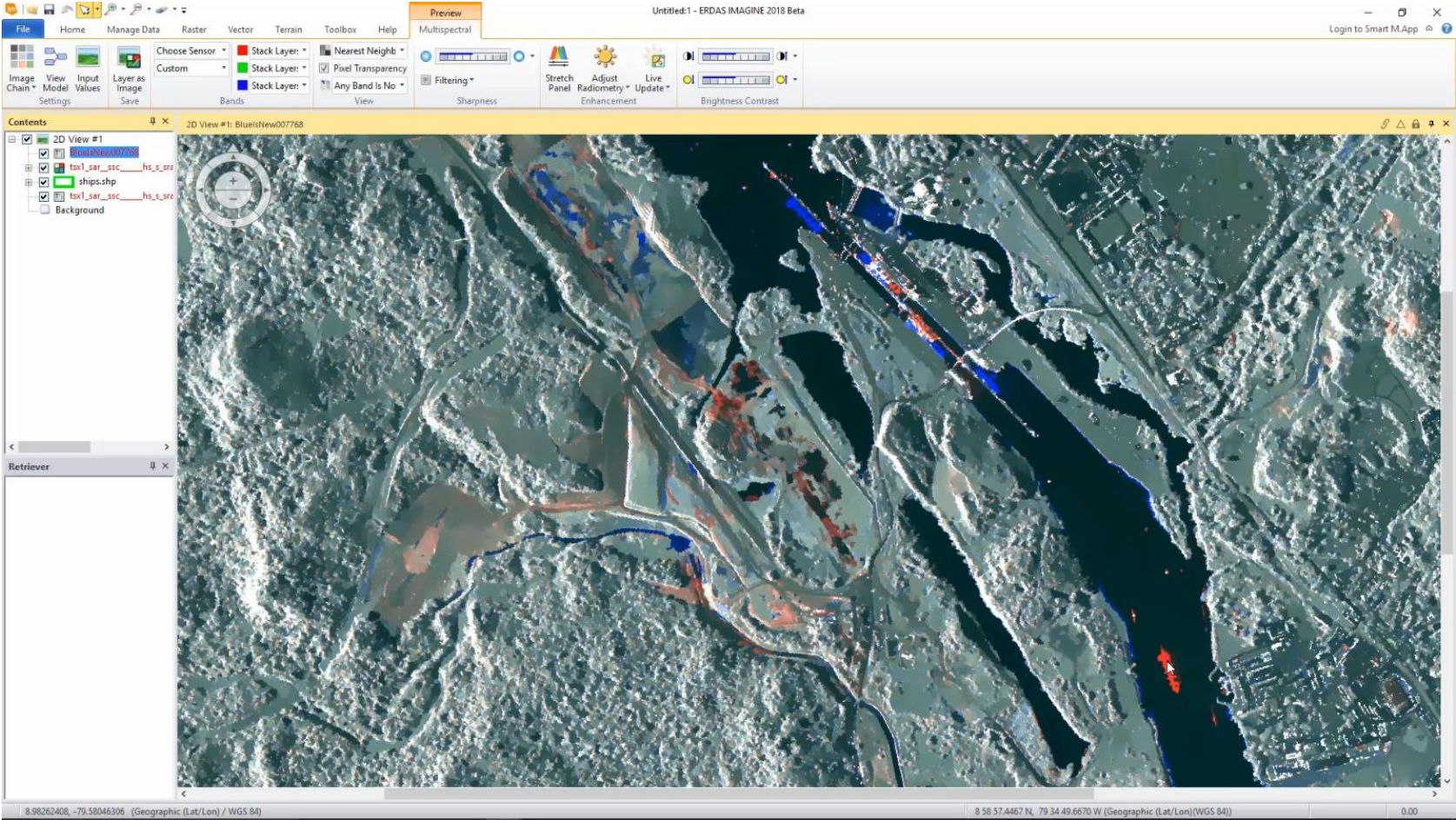
IMAGINE SAR Feature



IMAGINE SAR Feature - Vantaggi



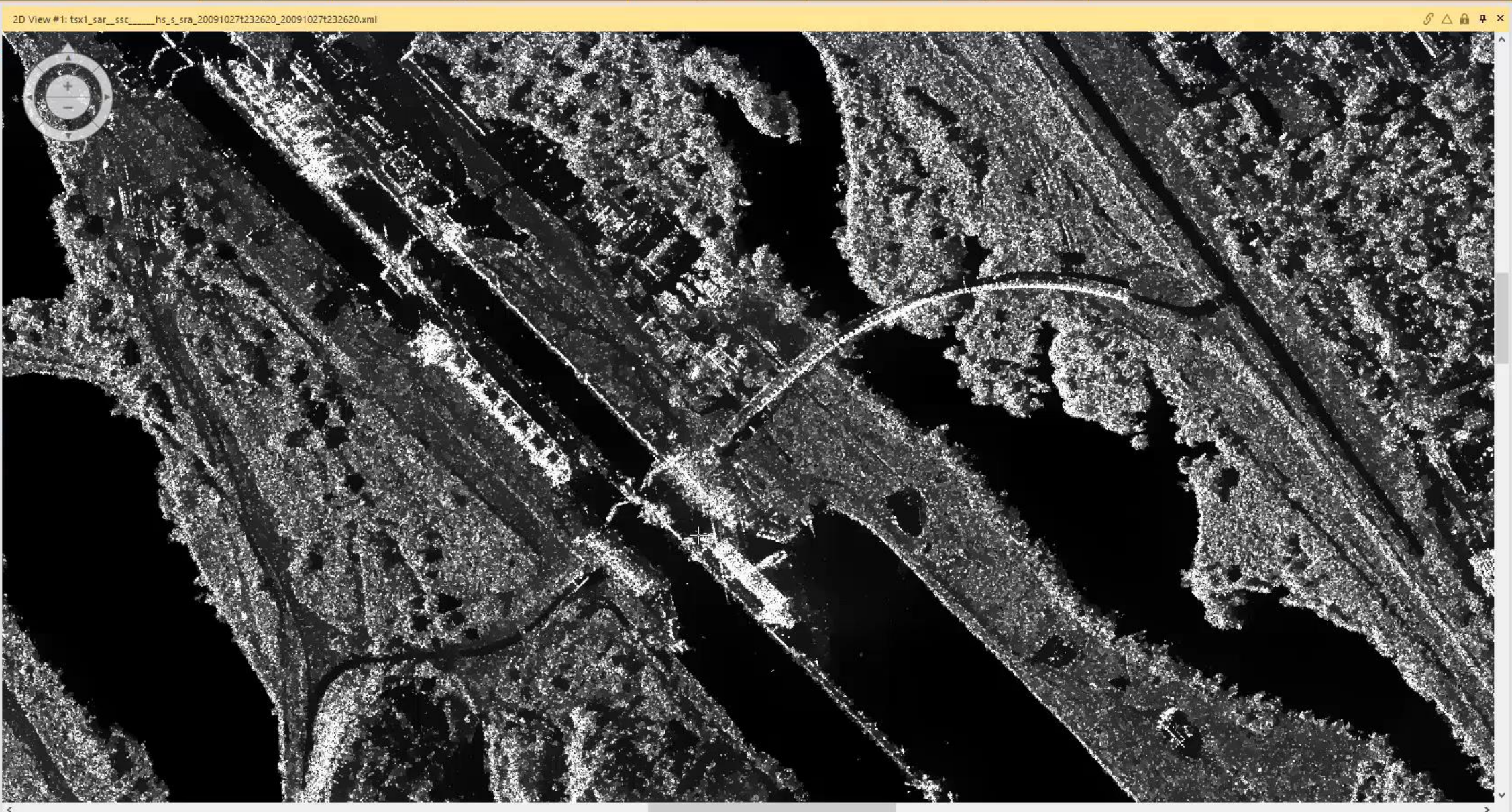
IMAGINE SAR Feature – Change Detection



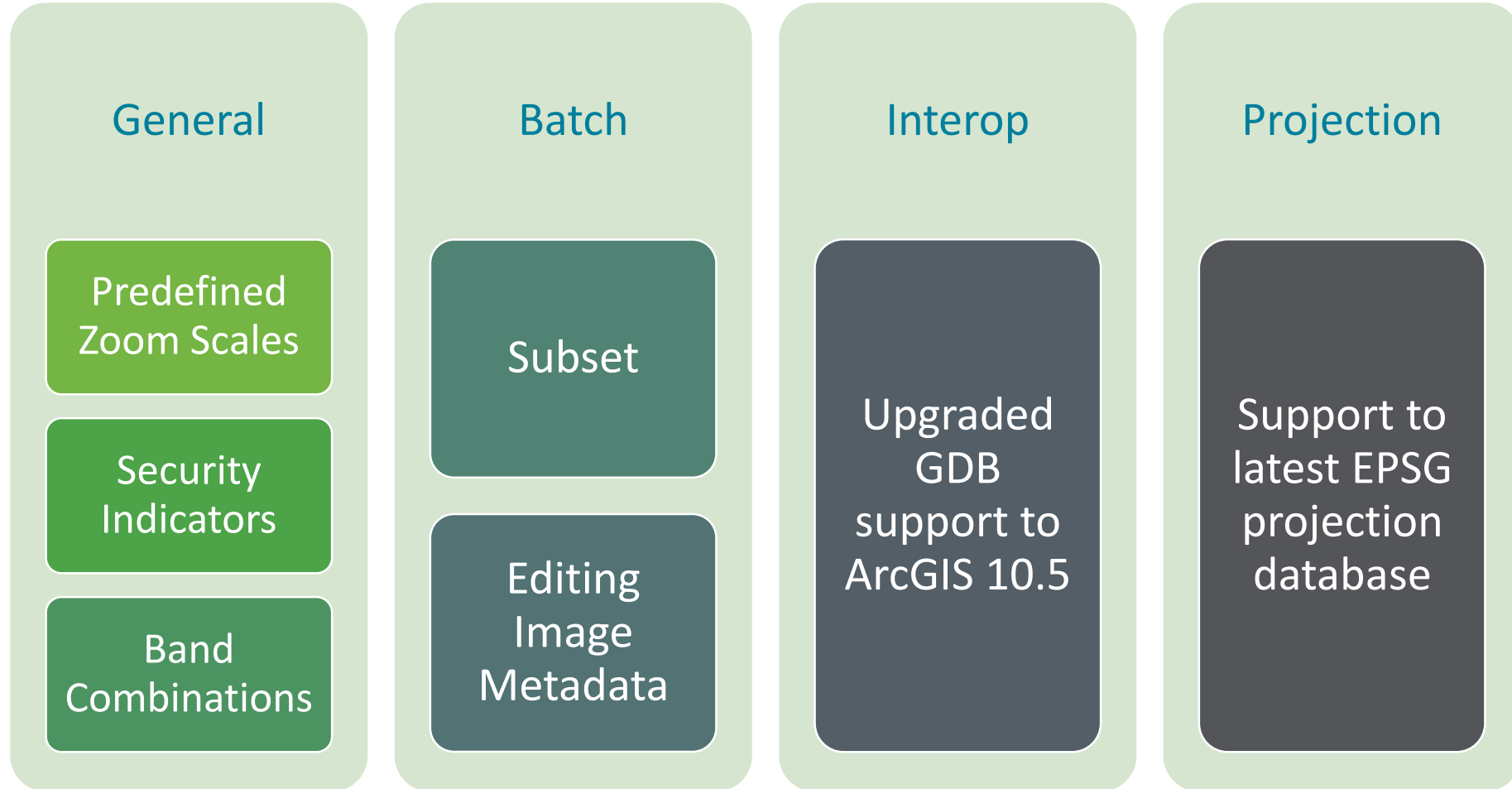
Contents

- 2D View #1
 - tsx1_sar_ssc
 - hs_s_sra
 - Background

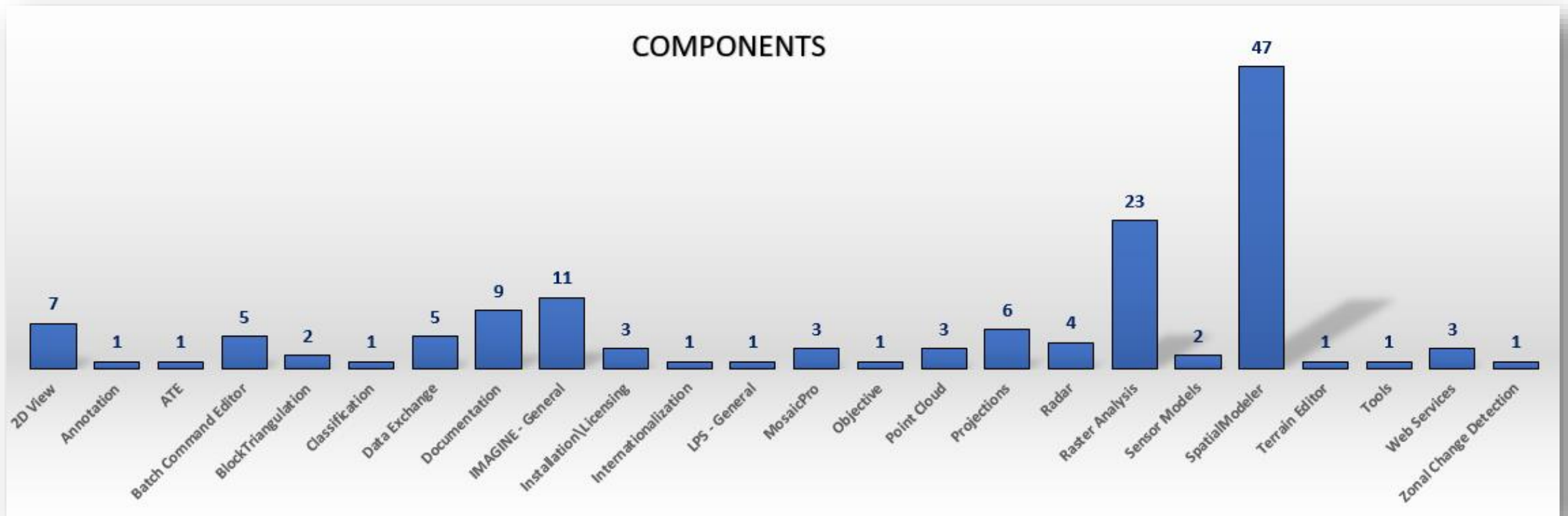
Retriever



Other new features...



Issues Resolved



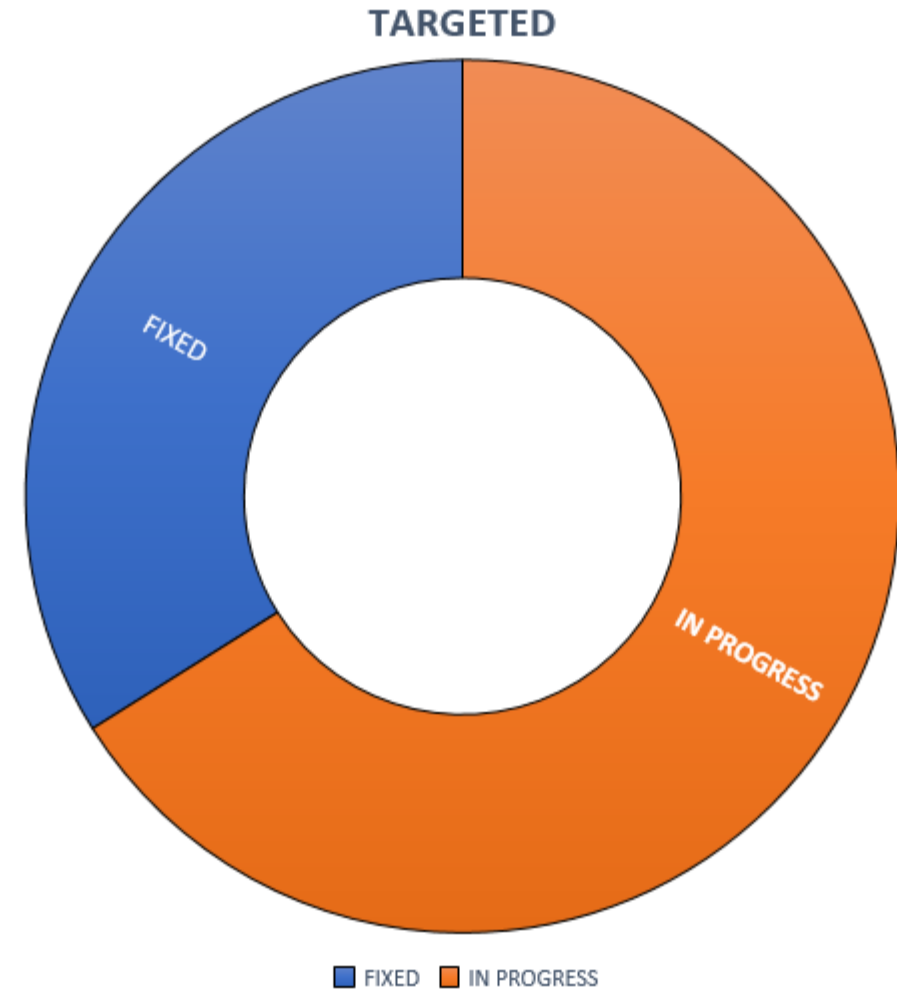
More stability

•~200 issues **RESOLVED** (to date)

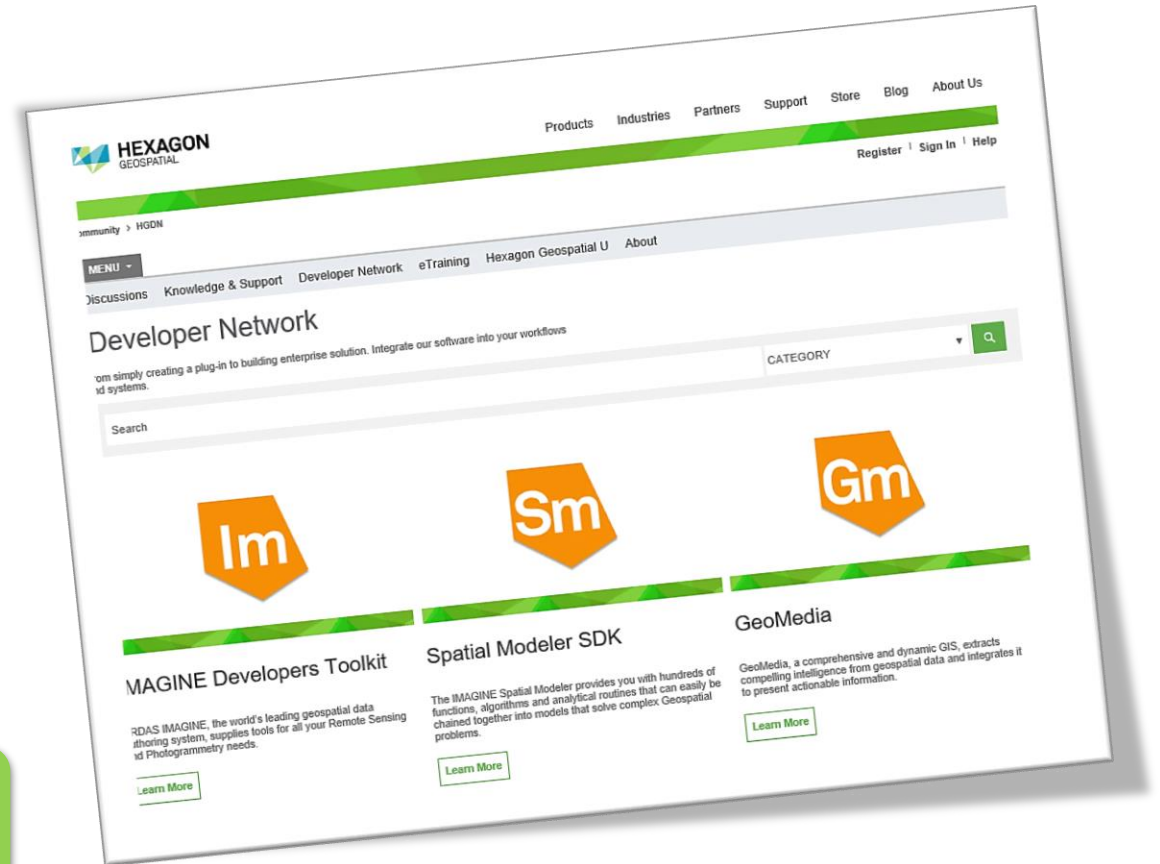
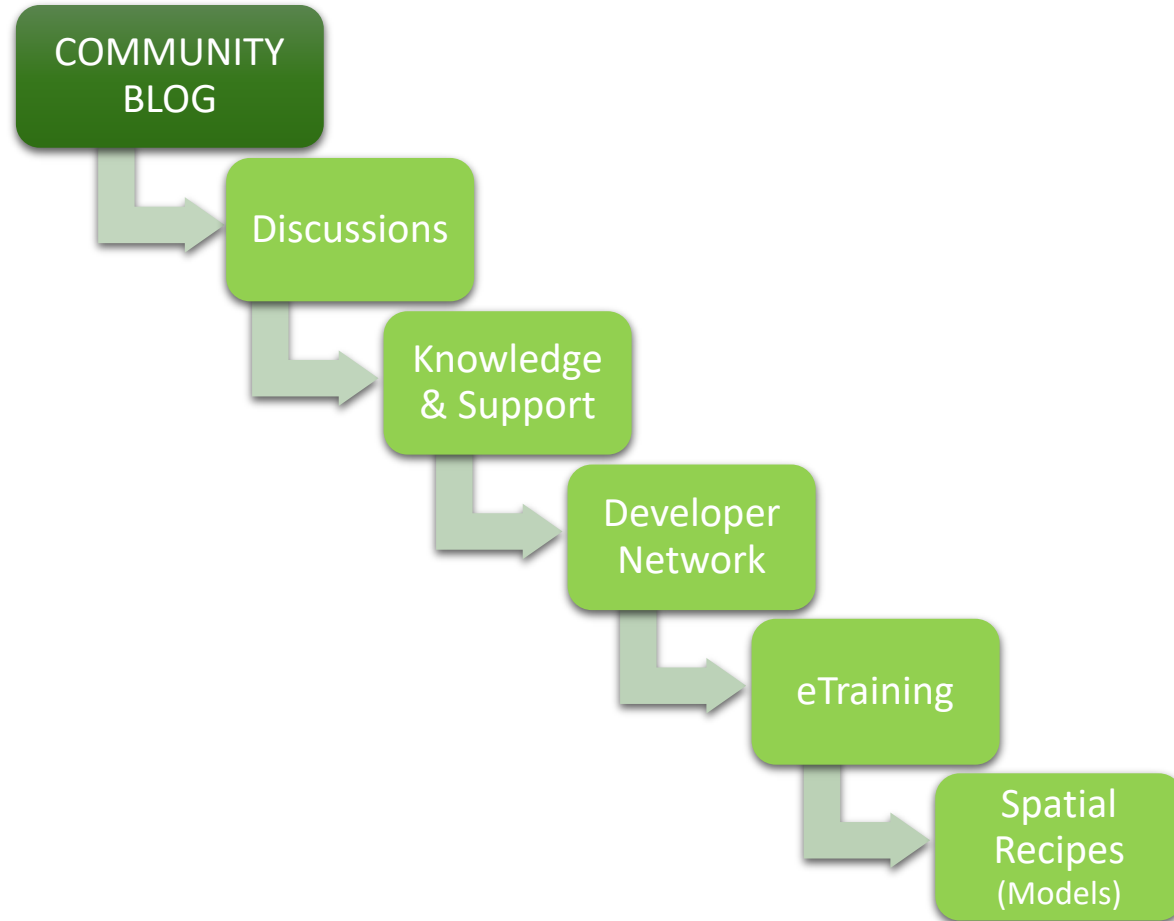
•**TARGETED** ~370 issues by **RELEASE**

•**Majority fixes:**

- Spatial Modeler, Raster Analysis, Projections &
- OLH



Hexagon Geospatial Community



PROMO: ERDAS IMAGINE for Copernicus

ACCESSO AI DATI
E SERVIZI
COPERNICUS

CONNESSIONE
DIRETTA CON IL
SENTINEL DATA
HUB

ACCESSO
IMMEDIATO A DATI
AGGIORNATI

DOWNLOAD
CONTROLLATO E
PERSONALIZZATO
SU AREE DI
INTERESSE



Atmosphere
(CAMS)



Marine
(CMEMS)



Land
(CLMS)



Climate
(C3S)



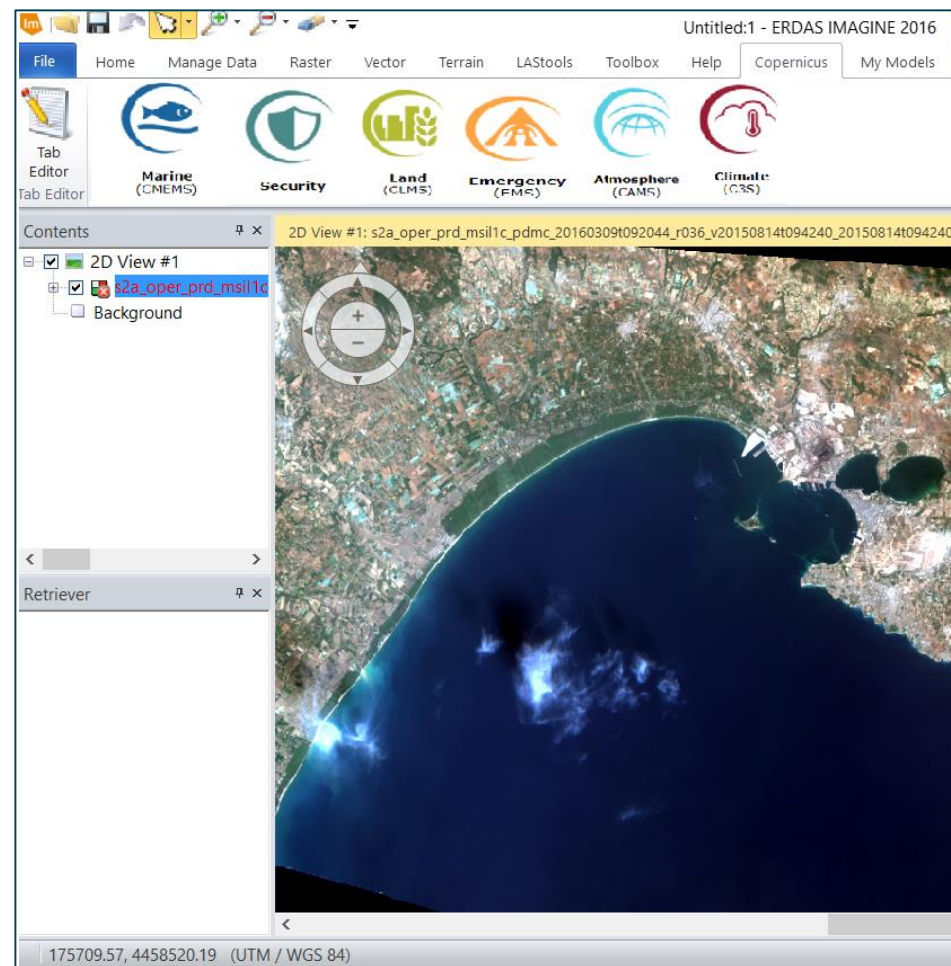
Emergency
(EMS)



Security

PROMO: ERDAS IMAGINE for Copernicus

ERDAS IMAGINE for Copernicus + Corso di formazione



THANK YOU
sales@planetek.it