

An aerial photograph of a landscape, likely a river delta or a coastal area. The image shows a mix of dark green forest, reddish-brown land, and a large body of water on the right side. The overall color palette is dominated by greens, browns, and blues.

N|V|5

NV5 Geospatial and the ENVI Ecosystem

2024 NV5 Geospatial Japan Conference

Cherie Tyrrell, Asia Pacific Regional Manager

N|V|5

NV5 provides solutions that help clients develop and deliver cost-effective, sustainable projects to improve lives.



\$937M
Revenue for '24

100+
Offices
Worldwide

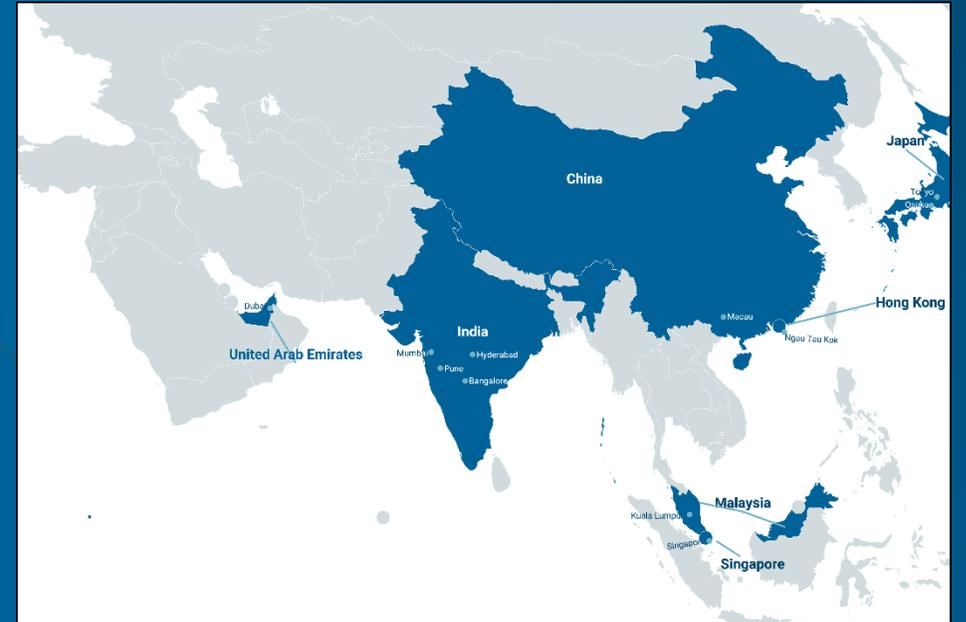
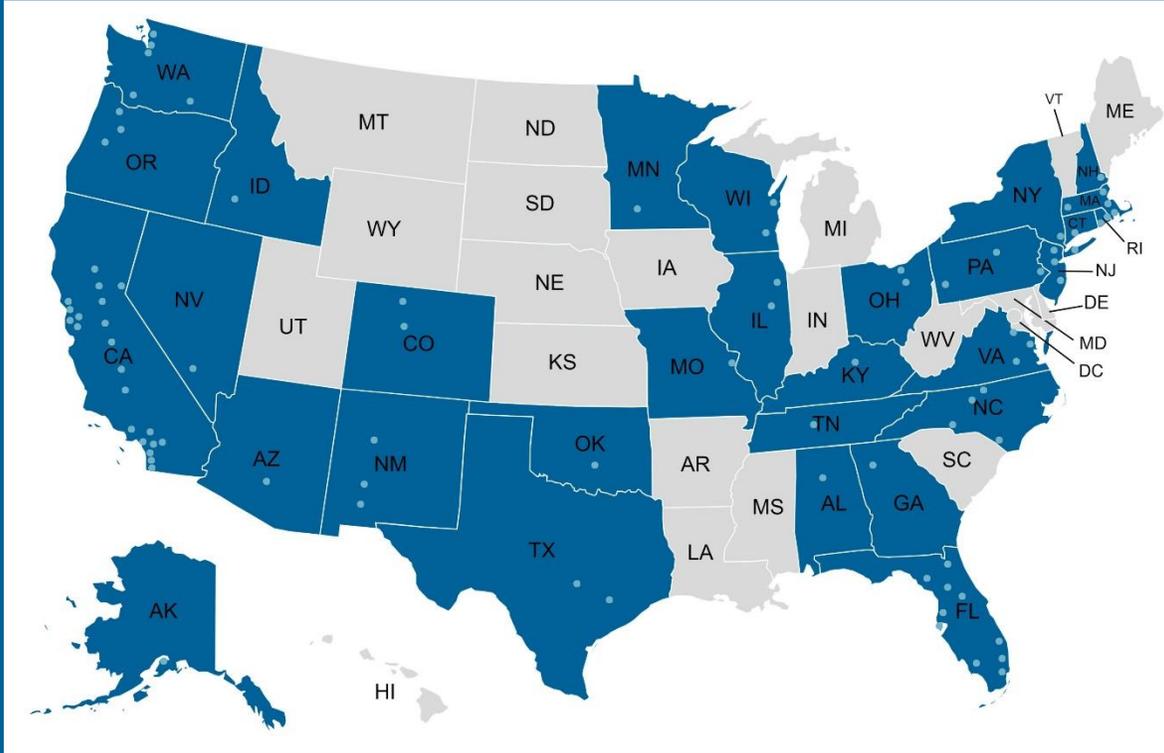
4K+
Employees

12K+
Clients

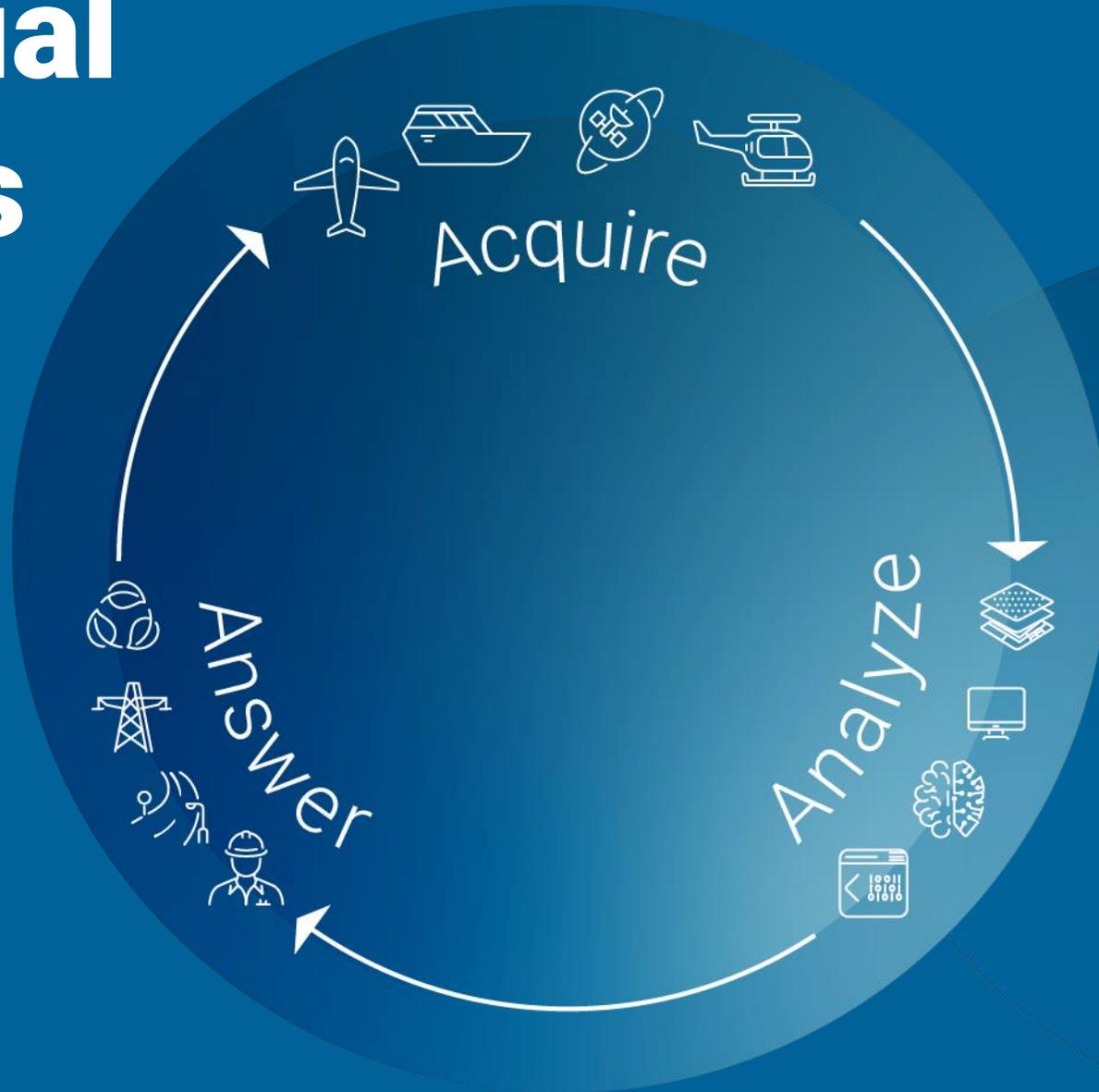
#24 ENR Top
500 Design
Firms (2022)

N|V|5

Global Office Locations



Geospatial Business Unit



1300+

Worldwide
Geospatial
Professionals

Localized
Contracts in All

50 States

Completed
Projects on all
7 Continents +

182
Countries

500K+

Software Users
Around the World

NIV5

Our Software

ENVI® Ecosystem

Industry-standard image analysis, automation, and collaboration tools.

SARscape

Professional and operational software for SAR data analysis

Helios®

Real Time Weather Analytics

INSITE

Data Management Platform

Jagwire™

Data Management and Dissemination

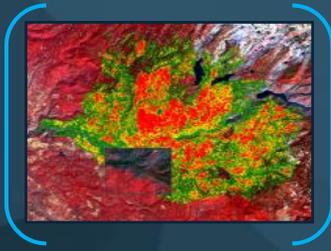
DATEM

3D information from stereo data

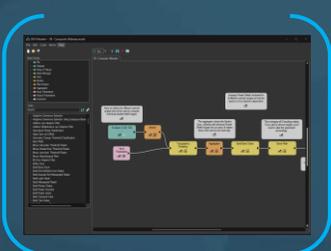
IDL®

Scientific Programming Language

The ENVI Ecosystem: Analytics to Answers



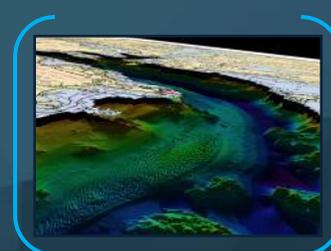
ENVI Spectral Analysis



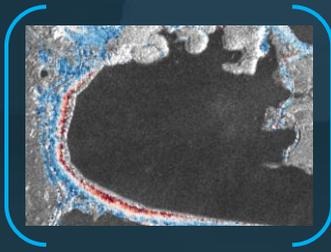
ENVI Modeler Automation



Extensible with IDL



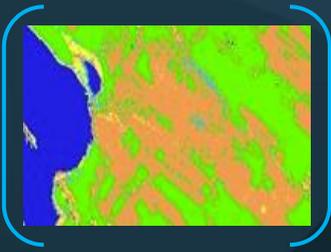
Atmospheric Correction



SAR Analysis



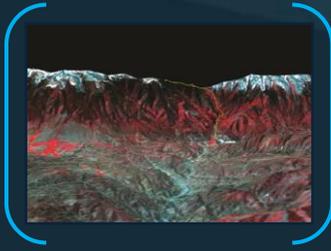
NITF



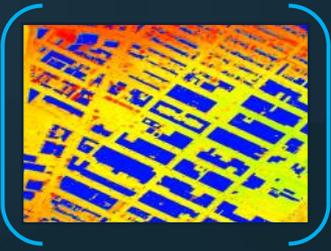
Machine Learning



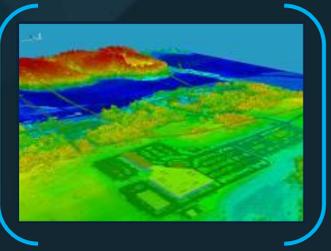
Deep Learning



DEM Extraction



Photogrammetry



Feature Extraction



Crop Science

Enterprise Ready

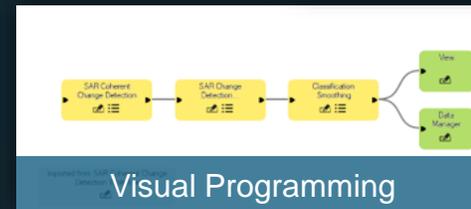
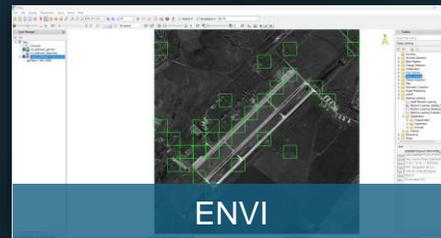
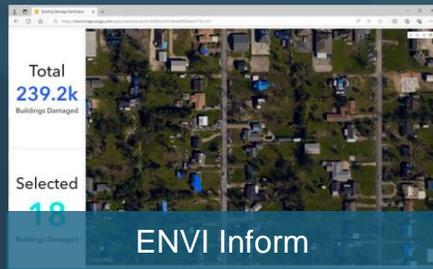
Create once and re-use anywhere.

Whether deployed to on-premises servers, or in the cloud, ENVI was built for automation.

Most analytics can be built with ENVI desktop, then integrated within ENVI Connect for users to access through a web application

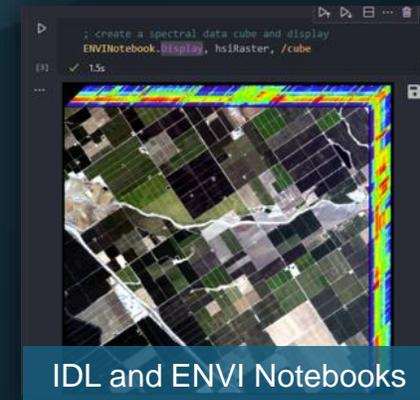
ENVI Ecosystem Across the Organization

The flexibility of ENVI and IDL allow you to process data how and where you want



```
; open our data
raster = e.openRaster(rasterFile)

;+ make our task to classify
task = ENVITask('MachineLearningClassification')
task.input_raster = raster
task.input_model = ENVIMachineLearningModel(modelFile)
task.execute() IDL (and the ENVI API)
```



Near Real Time Oil Spill Monitoring (< 2h).



SMART TWIN MONITORING

Derrames Históricos

- Alerta: Media en: BALAM-TA EN CERCANÍA CON AKAL-B el: 23/7/2023 Área:
- Alerta: Baja en: AKAL-C EN CERCANÍA CON IXTOC-A el: 23/7/2023 Área:
- Alerta: Baja en: CANTARELL el: 23/7/2023 Área: 11.176453 km2

Derrame de Hoy

1 de 3

alerta: Baja en: ID. 3 área: 0.13 km2

ALERTA	Baja
area	0.13
FECHA_DISPONIBILIDAD_TCM	24 de mayo de 2024
FECHA_TOMA_TCM	24 de mayo de 2024
METROS_CUBICOS	0.01
OBSERVACIONES	ID. 3
ORIGEN_EMANACION	CHAPOPOTERA
TAMANO	Baja
TIPO_EMANACION	EMANACION NATURAL
VOLUMEN_BARRILES	0.06

Daily coverage
Source of Emanation
Type of emanation
Alert classification by:

- Wind (3-12 m/s)
- Wind direction
- Alert zone
- Size
- Distance to the coast

Methane Emission Detection

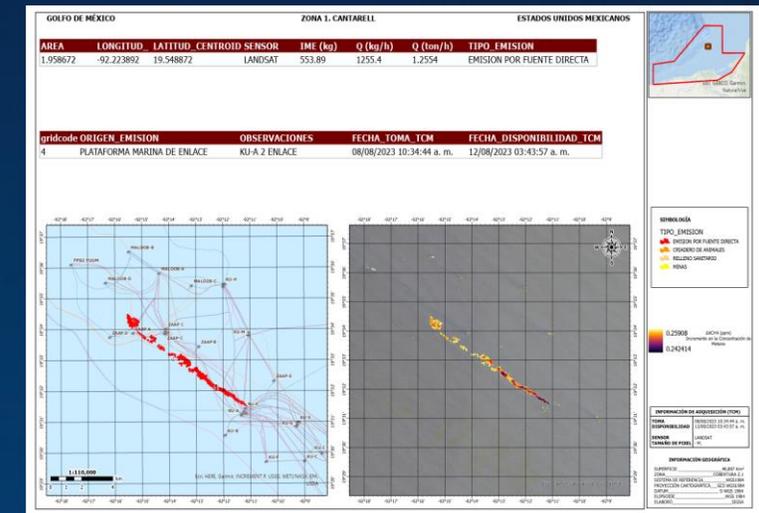


Acquisition

Process and analysis

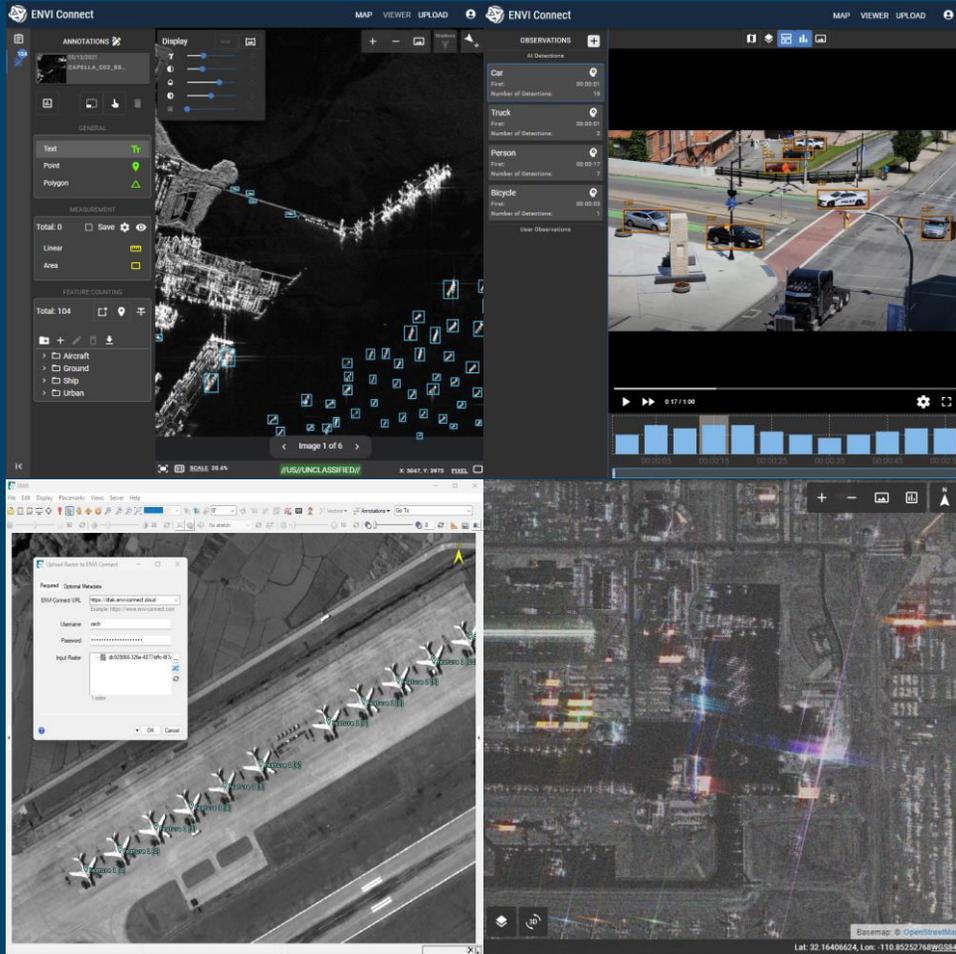
Results

ENVI: Spectral Indices / Band algebra



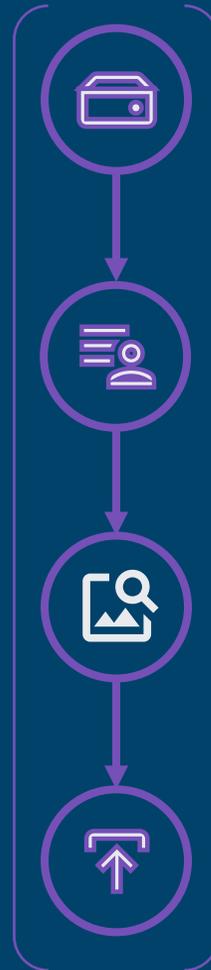
Specialized analysis through the calculation of band mathematics with proven methodologies, with different multispectral and hyperspectral sensors available for the detection of CH₄ (methane) greenhouse gas emissions, most of which come from agriculture, responsible for around one quarter of emissions, closely followed by fossil fuels, and decomposition of landfill waste.

Operational Users: ENVI Connect



ENVI Connect

Fuse human intelligence with automation to maximize efficiencies and reduce analyst strain



Ingest

Bring optical, SAR, MSI, and video into the ENVI Connect catalog or use ArcGIS Image Server

Assignment

Track imagery that users need to work with as part of their daily jobs

Analysis

Examine imagery, SAR, and video to find critical insights

Publish

Generate PPT of results, export vector datasets, or send directly to servers

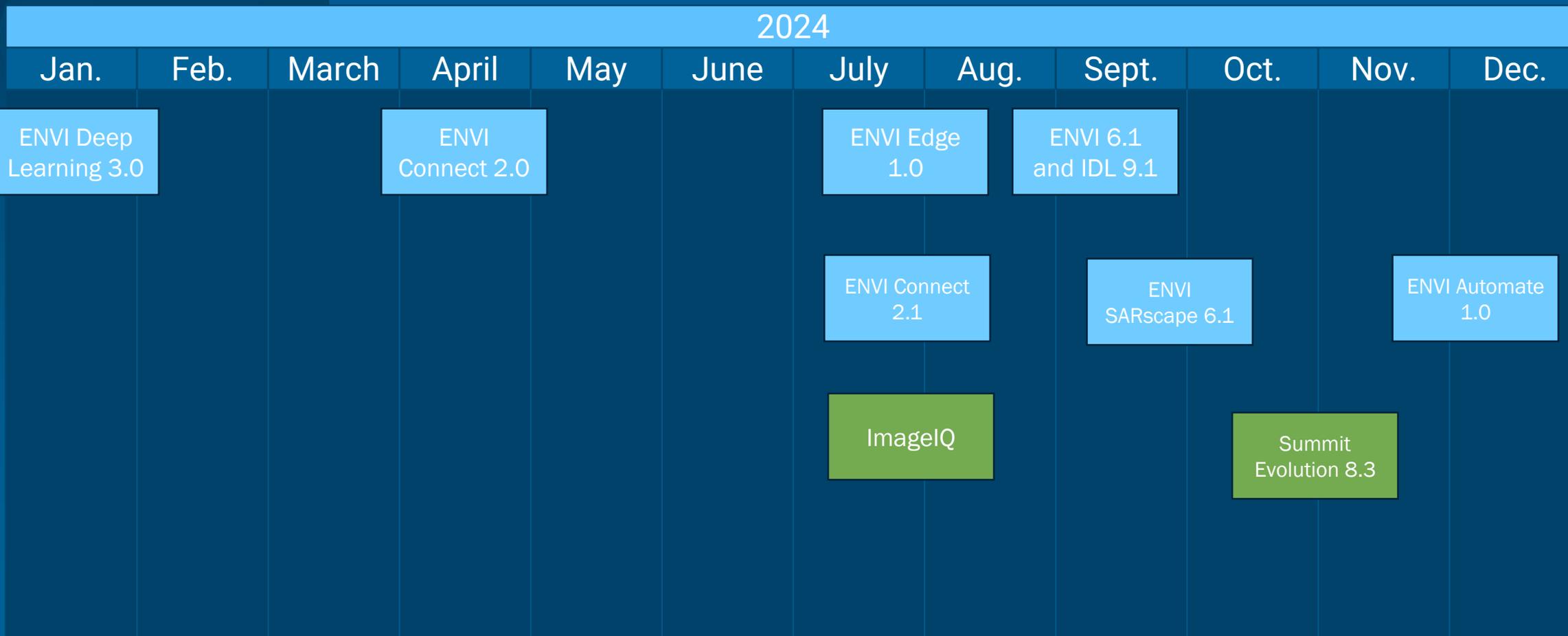
ENVI Connect: Maximizing Analyst Efficiency

- ENVI Connect provides a place for groups of users to collaboratively do work and identify features in imagery
- These features can then be used to create deep learning models and help make analysts more efficient



Labeled aircraft in ENVI Connect, generated using ENVI Deep Learning

2024 Release Schedule



Thank You!

N|V|5

Create. Develop. Analyze.



View. Collaborate. Solve.



Monitor. Answer. Scale.



NV5 Geospatial Solutions

www.nv5geospatialsoftware.com