



Use of U.S. DoD visual information does not imply or constitute DoD endorsement



L3HARRIS NOISE & OPERATIONAL MANAGEMENT SYSTEMS (NOMS)

Prepared for: Palm Beach County Department of Airports

Meeting Date: Monday, November 14, 2022

L3Harris Overview



L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains. L3Harris has approximately \$17 billion in annual revenue and 50,000 employees, with customers in 130 countries.



25+ Year Partnership with the FAA

- Largest single contract award holder
- Prime contractor on five of six [Next Generation Air Transportation System \(NextGen\)](#) programs
- Enabling aviation innovation for the future
- Early leader in emerging UAS communications technology

Key Capabilities and FAA Programs: Surveillance and Broadcast Services (SBS i.e., ADS-B), NextGen Data Feed, Space-based ADS-B, Data Communications Integrated Services (DCIS), System Wide Information Management (SWIM), Weather Information Systems (WARP, CSS-Wx), FAA Telecommunications Infrastructure (FTI), NAS Voice System (NVS)

Experience With Airport Noise & Operations Monitoring



- L3Harris is a U.S. based company with our Corporate Headquarters in Melbourne, Florida.
- The Symphony Team has been deploying flight tracking and noise monitoring systems since 1974.
- We support over 75 flight tracking systems that utilize L3Harris NextGen Surveillance Data for noise and operations management:
 - 26 ANOMS
 - 13 Public Portals
 - 36+ Operations Monitoring Solutions



Symphony Noise Management Portfolio



- ✓ L3Harris NextGen Data*
- ✓ EnvironmentalVue with EnvironmentalVue Portal*
- ✓ PublicVue*
- Contours with Virtual Noise Monitors (VNMs)
- Noise Monitoring Terminals (NMTs)
- NMT Support and Maintenance Services – available for hardware manufactured by Larson Davis and Envirosuite (B&K) NMTs
- Exclusive PlaneNoise Integrated Resell Partner

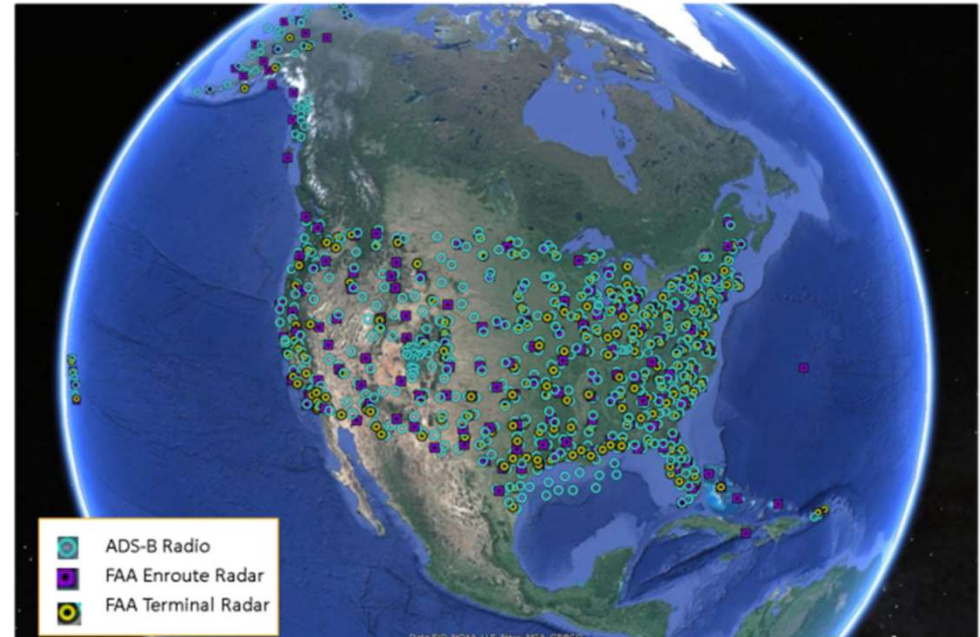
*Symphony products highlighted for West Palm Beach within this presentation. Further information for any products listed above is available should West Palm Beach be interested.

L3Harris NextGen Surveillance Data



L3Harris is the world leader in radar data, maintaining a repository of the most accurate flight track data in the United States. In addition to managing FAA SWIM data, L3Harris owns the ADS-B infrastructure and licenses the data to the FAA.

- 1,158+ total air traffic surveillance sensors on the NextGen network.
 - 695+ ADS-B Towers
 - 425 FAA radar systems
 - 38+ ASDE-X/ASSC Systems
- Fused multi-sensor aircraft surveillance data
- Geo-referenced
- Real-time and historical NAS wide data
- Provides Service Level Agreement
- No MOA required

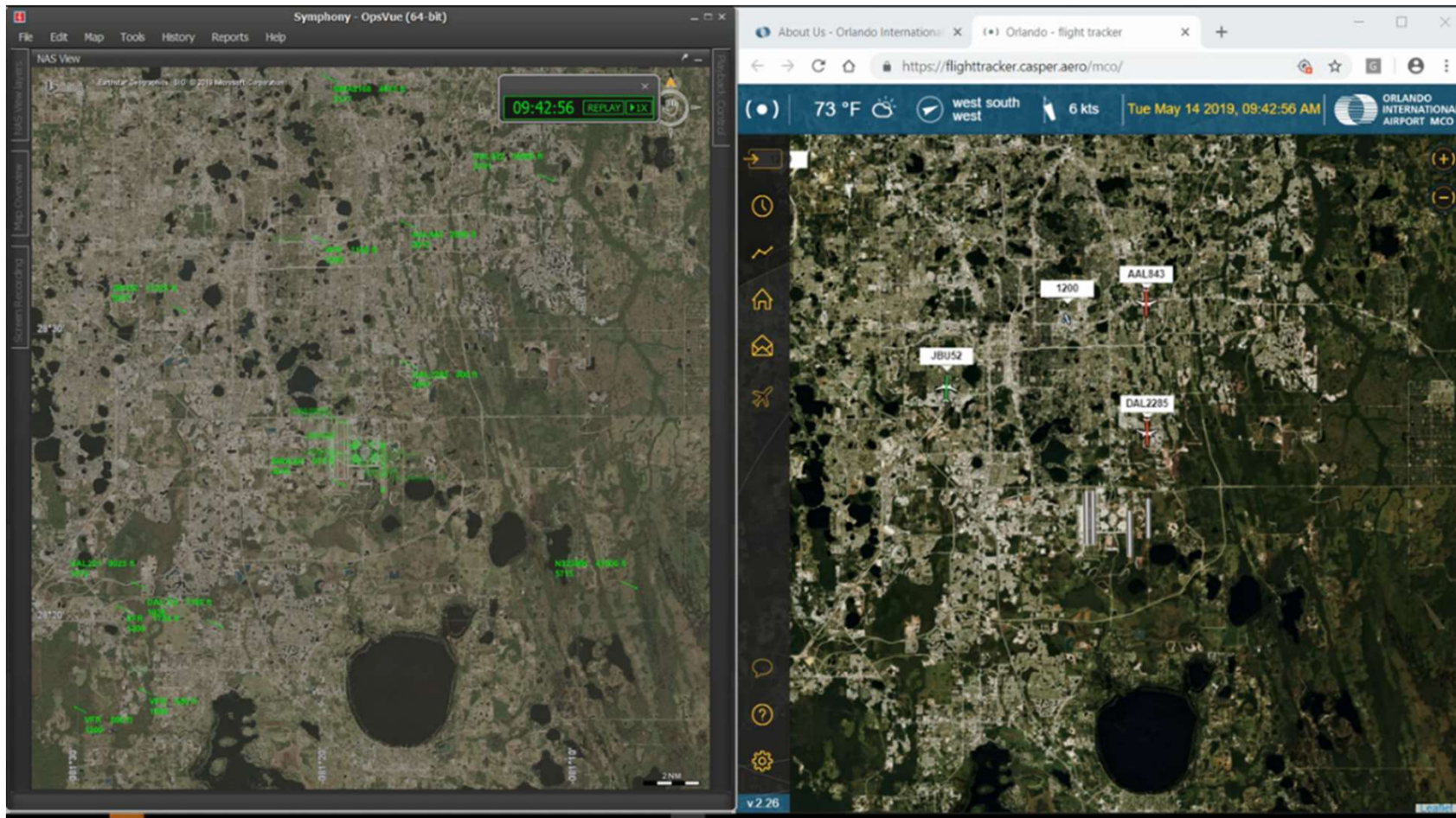


L3Harris provides the largest surveillance network in the world.

Why Symphony? Incomparable Data Quality



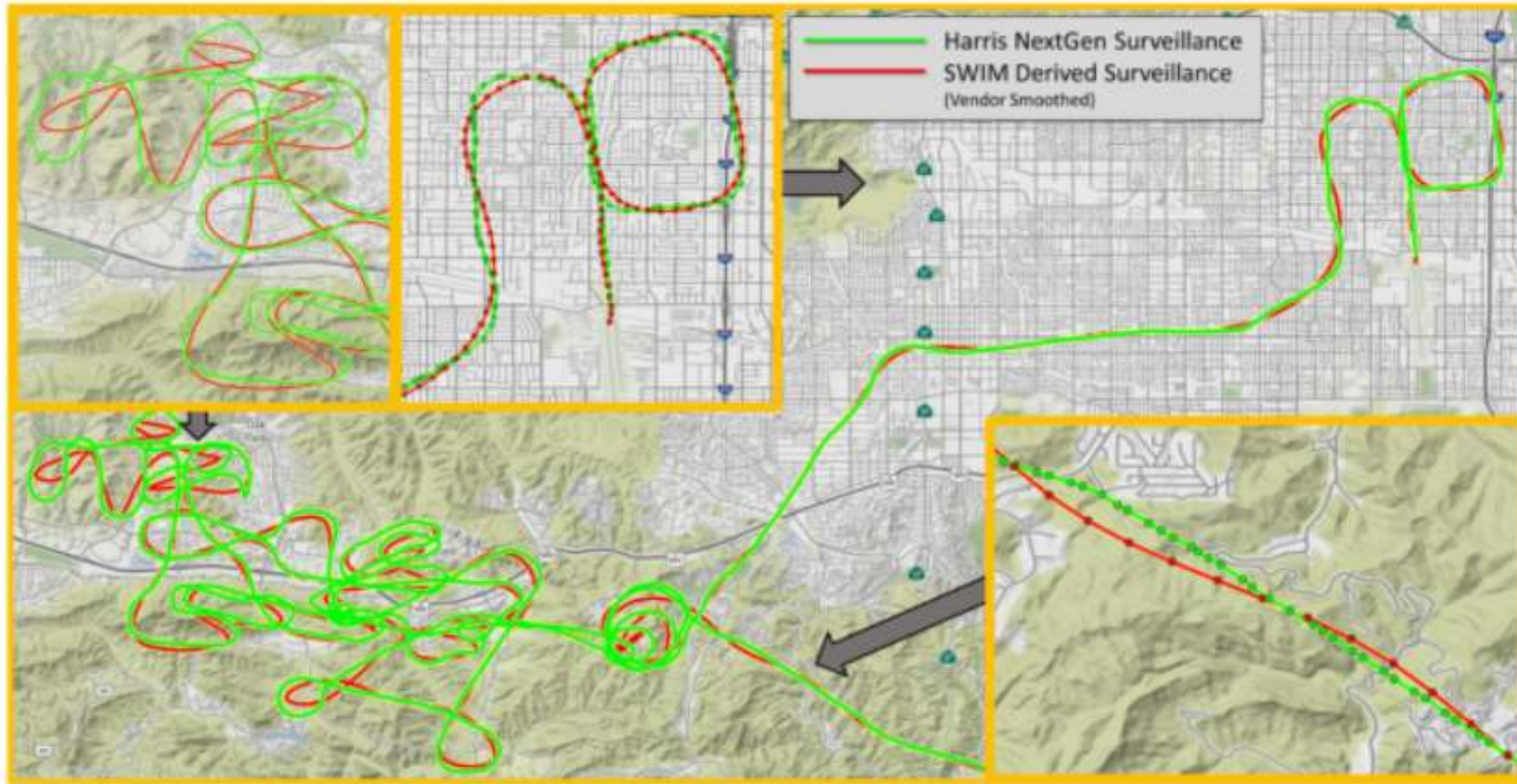
The screenshot below is a side-by-side comparison between L3Harris' real-time aircraft surveillance data (used to power all Symphony software applications, including PublicVue) and a competitor's NOMS software application. These screenshots were taken on the same date and time. As you can see, the L3Harris software contains significantly more aircraft targets due to the fused data feed and overall sensor coverage. This is of utmost important to airport community members looking to file noise complaints.



Symphony NextGen Data

Competitor SWIM Data

L3Harris NextGen Data vs. Competitors' Data



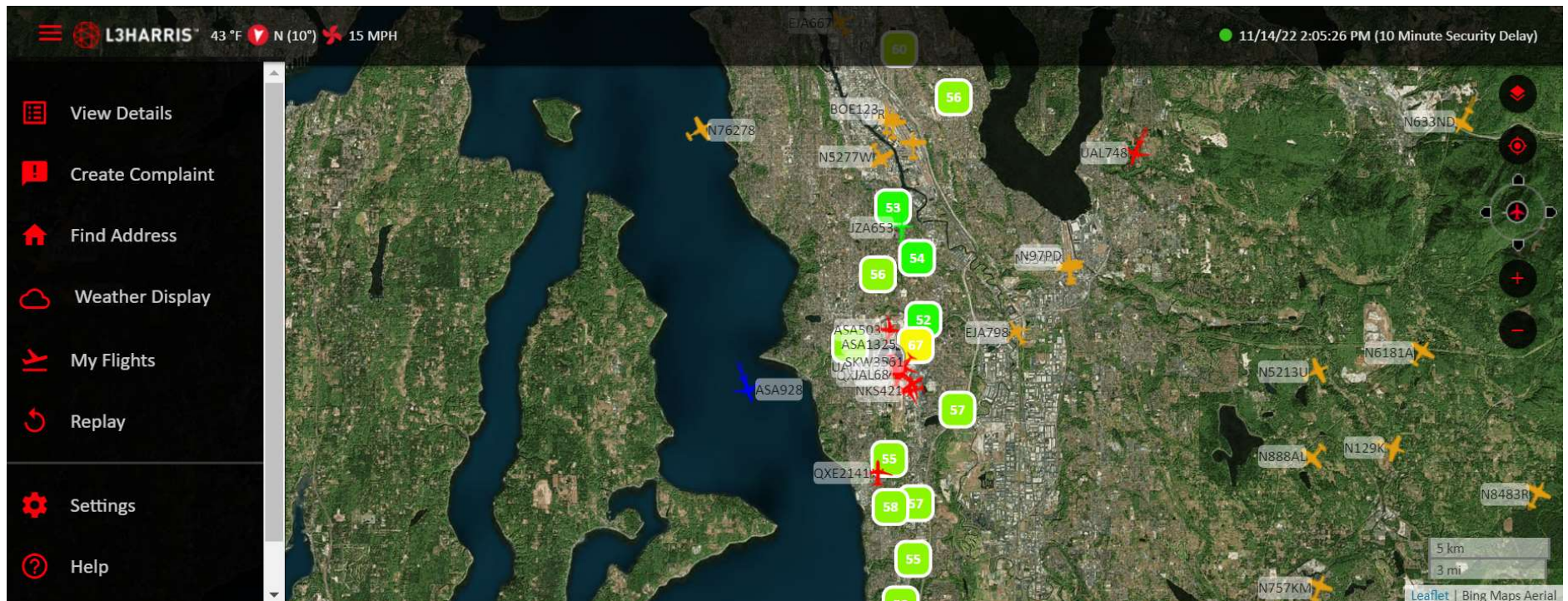
- Higher resolution flight paths
- More accurate track placement
- More complete tracks

L3Harris NextGen Surveillance Data powers all Symphony software applications and is held to the highest performance metrics (99.5%) of all data suppliers in the industry – per the FAA.

Symphony PublicVue



PublicVue is a web-based solution that provides the airport community with accurate, complete and reliable visualization of aircraft traffic. The tool includes extensive analytical capabilities for submitting community complaints. PublicVue utilizes L3Harris NextGen surveillance data providing the most comprehensive view of flight activity around the airport. PublicVue is hosted and maintained in the United States in a state-of-the-art data center.



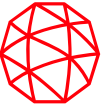
Screenshot: Seattle-Tacoma International Airport PublicVue Application

Key PublicVue Features & Benefits



- ✓ User configurable displays which run on most web browsers – tablet and smart phone compatible
- ✓ Historical replay feature for flight tracking
- ✓ Data is available real-time or near-real time with an airport-defined security delay (optional)
- ✓ Map feature displays relative aircraft position, bearing and altitude in relation to the user's mobile device location
- ✓ Address Lookup and Locate Me feature enables public to define location and show relative position of the aircraft to the defined location
- ✓ Customizable displays including seven different map overlays and real-time weather integration
- ✓ Tabular data support filtering of arrivals, departures and overflights for public users who are interested in analyzing specific operations
- ✓ “Flight following” feature with optional display of the full flight path and slant angle feature (showing homeowners the exact route and profile of a flight in the vicinity of their location).
- ✓ Fast system deployment allows PublicVue to be operational in just days

Additional PublicVue Benefits for West Palm Beach



- Fully integrated complaint creation auto-populates flight information – Users can perform a historic replay, click on the flight they believe disturbed them, and file a complaint about that specific operation with the flight information auto-populating in their complaint form.
- Ability to post announcement messages to the community – PBI can post messages to the community with relevant information (i.e., events affecting flight operations such as runway closures, changes in typical flight patterns due to weather, etc.).
- Customizable home/landing page – PBI can choose a custom image, message and logo to be included on a home/landing page
- Customizable “Contact Us” tab – PBI may include contact information for public inquiry such as an address, phone number, email address, and noise abatement URL.
- Customizable “Complaint” tab – PBI may include instructions on how to submit a noise complaint. If PBI has Symphony EnvironmentalVue, the Complaint Tab provides the ability for users to submit community complaints via our online PublicVue Complaint Web Form, which are integrated into the Symphony EnvironmentalVue database.
- Ability to display near real-time noise data & replay noise events – Should PBI desire to purchase and deploy new noise monitoring terminals in the future, the noise data can be displayed in near real-time, and users can replay historic noise events.

All Fields Are Required Except: Please Give Details, Home Phone, and Mobile Phone

Disturbance Details

Tell us about the disturbance

Disturbance date and time:

Flight Information: Flight Number:
Aircraft Number:

Please give details:

Would you like us to contact you? [click here to select](#)

Your Contact Details

Tell us your contact details so we can respond to your complaint.

First name: [click to enter your first name](#)

Last name: [click to enter your last name](#)

Address

Street Address: [click to enter your street address](#)

City: [click to enter your city](#)

State: [click to enter your state](#)


Zipcode: [click to enter your zipcode](#)

Contacts (so we can contact you if required)

Home Phone: [click to enter your home phone number](#)

Mobile Phone: [click to enter your mobile phone number](#)

Email: [click to enter your email address](#)

Enter Text Shown in the Image: 

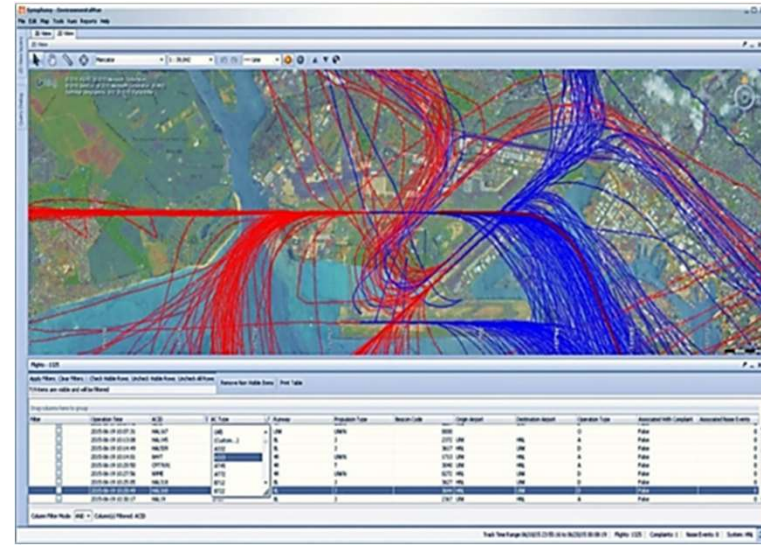
Your complaint data will become a public record. Once you make a noise complaint, that information becomes public information. All data contained in a noise complaint record, made either via phone call and/or email, are archived and are subject to disclosure under the Federal Freedom of Information Act (FOIA) and the Colorado Open Records Act (CORA).

Screenshot: Denver PublicVue Complaint Entry Form

Symphony EnvironmentalVue & EnvironmentalVue Portal (EVP2)



Symphony EnvironmentalVue is one of the most widely used environmental monitoring systems at airports throughout the United States. EnvironmentalVue utilizes L3Harris' NextGen Surveillance Data Feed to provide robust 2D and 3D views of historic flight activity and allows airports to research the source of noise complaints and improve community relations by presenting information to the public through published reports.



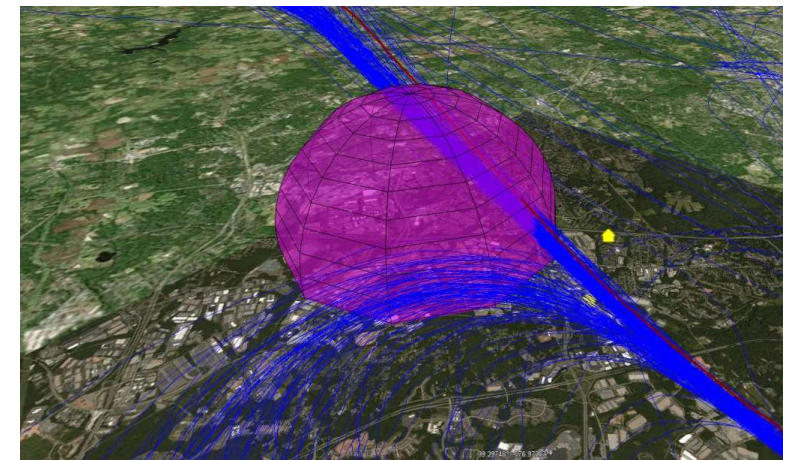
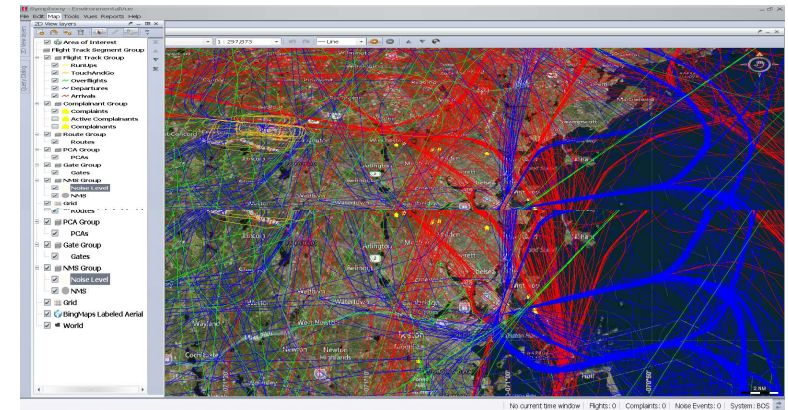
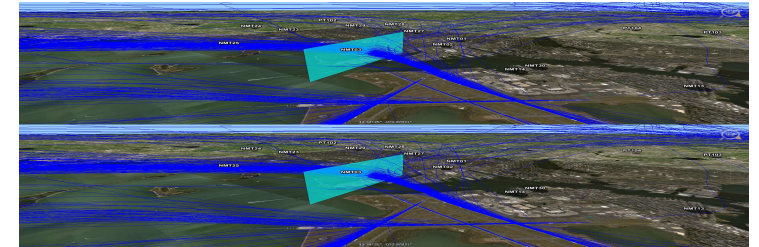
EnvironmentalVue includes an online portal that allows for easy consumption of all available operations and complaint data by the airport. **EnvironmentalVue Portal (EVP2)** comes standard with reporting tools that give users the flexibility to create standard or ad hoc custom reports that can be shared with other airport stakeholders and the public through published reports or web-based community information portals, improving public relations. Reports can be easily exported to Excel for further analysis and business graphics display.



Key EnvironmentalVue Features & Benefits



- ✓ Flight tracking powered by L3Harris NextGen Surveillance Data
- ✓ Professionally hosted data center (within the United States)
- ✓ Intuitive graphical user interface with robust reporting capabilities
- ✓ Powerful underlying GIS engine enables users to create robust maps and exhibits
- ✓ 3D display is the noise and operations management industry's most dynamic and realistic, including highly accurate depictions and aircraft liveries (if available with flight plan data)
- ✓ 3D view of gates, corridors and points-of-closest approach (PCAs) result in powerful graphical exhibits for either industry experts or laypersons
- ✓ Users can set-up multiple Vues (windows) consisting of both tabular or graphical data
- ✓ SmartTables are directly connected to map displays and may be configured to report via tabular output or map display (filtering)
- ✓ The ReportVue module comes with a variety of standard reports with the ability to create custom airport reports for export to PDF, Word, Excel and CSV.



Symphony Customer Support



- The Symphony team provides airport customers with 24/7/365 support via toll-free phone number as well as a widely-monitored email address for quick resolution to customer problems and concerns.
- Unlimited product training is included at no charge with all Symphony software applications.
- The Symphony Support team is based entirely in the United States.

Thank You For Your Time



Please contact your Symphony Account Manager, Sally Feldmann, with any questions or concerns. We look forward to hearing from you!

Sally Feldmann
Commercial Account Manager
L3Harris Symphony Division
Email: Sally.Feldmann@L3Harris.com
Cell: 859-391-2494

For more information on L3Harris Symphony products, please visit:

<https://www.l3harris.com/all-capabilities/symphony-airports>