

# AWS Supply Chain for CAD/PAD JPO

**Mitigate risks and lower costs with an AI/ML powered supply chain application**

*August 13<sup>th</sup>- 15<sup>th</sup>, 2024*

***Eric Topp***

**Worldwide BD & GTM Leader – AWS Supply Chain**

[etopp@amazon.com](mailto:etopp@amazon.com)

***Andre Chambers***

**Chief Operating Officer – Evans & Chambers Technology, AWS Integration Partner**

[andre.chambers@evanschambers.com](mailto:andre.chambers@evanschambers.com)



Accelerate digital  
capability building



**aws**

supply chain



**EVANS & CHAMBERS  
TECHNOLOGY**



# Integration Partner: Evans & Chambers Technology

At Evans & Chambers, **excellence is our commitment**. We use high-quality, systems-based processes. But more importantly, we develop a **partnership** with our clients.

- Cyber Defense
- Cloud Engineering
- Data Science & Engineering
- Human-Centered Development



Trusted by:



# Evans & Chambers Technology Corporate Snapshot

DUNS	188303767
CAGE Code	4LH55
Designation	8(a) Graduate, HUBZone, Minority-Owned
Security Clearances	Active Top Secret Facility Clearance (FCL)
Industry/Business	IT and Management Consulting
Commercial Clients	Air Force, DHS, DIA, FBI, NCTC, VA Intelligence Community, Veterans Administration, Mack Defense, Cisco, Guidehouse
GWACS and IDIQs	GSA Multiple Award Schedule

## NAICS Codes

- **541511** Custom Computer Programming Services
- **541512** Computer Systems Design Services
- **541513** Computer Facilities Management Services
- **541519** Other Computer Related Services
- **541330** Engineering Services
- **541430** Graphic Design Services
- **561110** Office Administrative Services
- **541611** Admin Mgmt and General Mgmt Consulting Services
- **541618** Other Management Consulting Services

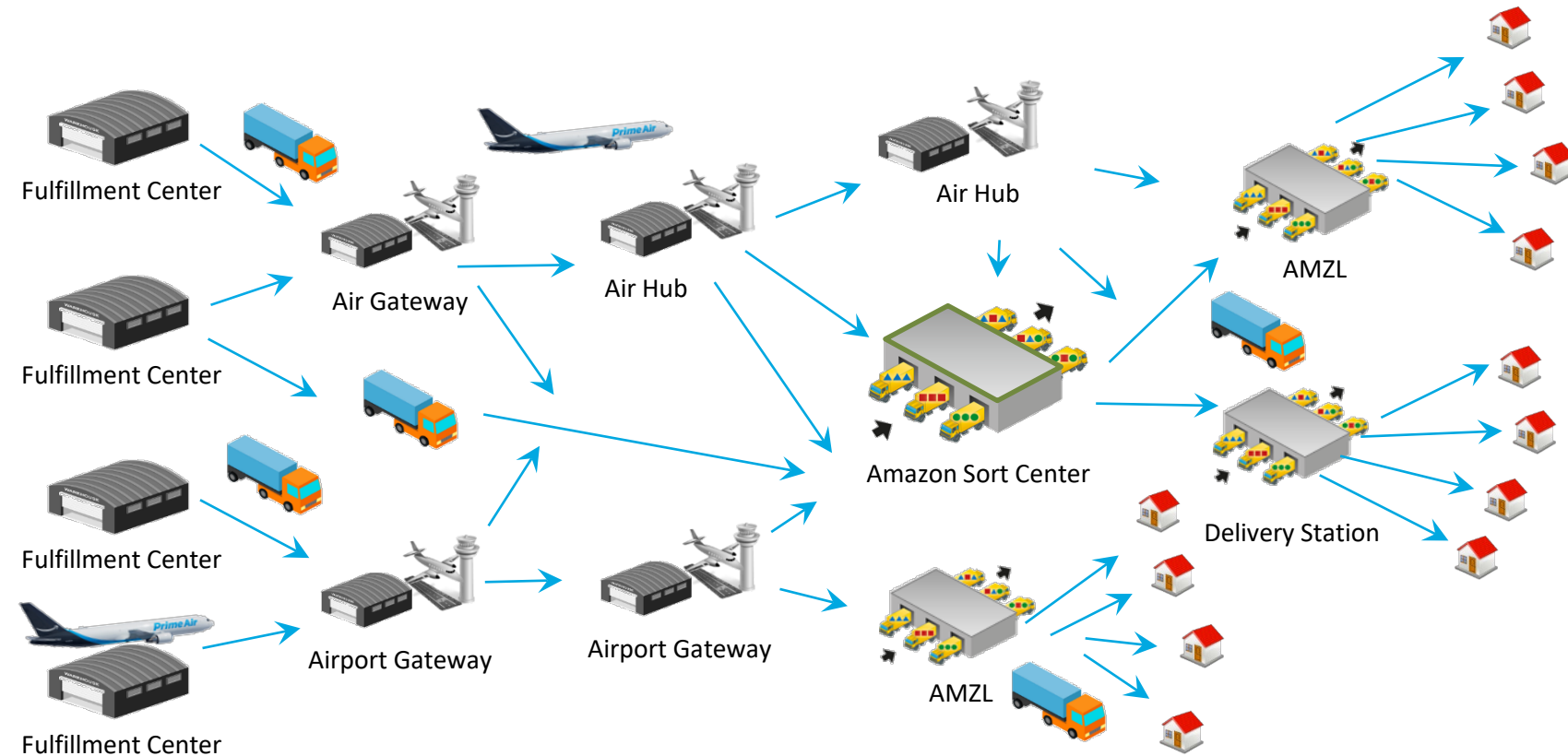


# Evans & Chambers Technology Domain Expertise

Domain Expertise	Agencies	Navy	IC	FBI	DIA	DHS	SOCOM	B2B
Smart Manufacturing		•						
Legacy System Modernization		•	•			•		•
Workflow Management			•				•	
Counterterrorism			•	•	•	•		
Counterintelligence					•			
Personnel Security			•					•
Space Intelligence					•			
Immigration						•		
Intelligence Analysis			•		•			
Cross-Domain Communication			•	•				
Secure Information Sharing			•	•				
Open-Source Intelligence			•		•			


# Amazon Knows Supply Chain and Transportation & Logistics

- **Trailer GPS Data** > *Make more accurate predictions for transit times between sites to protect driver safety, improve customer promises, and speed up the network*
- **Package Flow Data** > *Process timescan data to predict and optimize future package journey*
- **Continuous Scheduling** > *Update the truck schedules and routes every 15 mins based on latest data and status of the network*
- **Transportation and Labor Costs vs. Speed** > *Build optimization models that make financial tradeoffs between speed and cost.*
- **Short and Long Term Forecasts, Forecast Scenarios** > *Optimize weekly and seasonal network plans based on probabilistic forecast scenarios to optimize scheduling and network configurations.*



**12M organic items, 350M partner items, 700 fulfillment centers, 750,000 robots, 16,000 intermodal containers, 50,000 trailers, and 200,000 delivery vehicles**





## What is AWS Supply Chain (ASC)?

- The next iteration in our business application business
- Designed for companies who have **physical supply chains**
- Our first **SaaS SCM application** built from the ground up
- Designed and managed per the Voice of the Customer
- **Pay-as-you-go pricing** and **no “builder” required**
- Sits on top of existing ERP foundations and makes them better
- **ERP/System Agnostic** - not asking customers to rip and replace
- Only prerequisite is having an AWS account and access to the console

# AWS Supply Chain: Reimagining the Future

Mitigate risks and lower costs with an ML-powered supply chain application



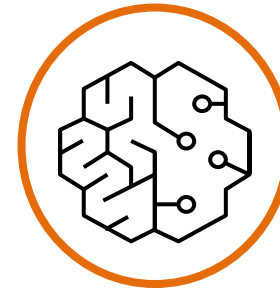
Easily connect data  
across systems



Quickly harmonize  
into a unified view



View ML-powered  
insights and risk  
alerts



Accelerate mitigation  
with  
recommendations



Scale with pay-as-  
you-go pricing

All without replatforming, upfront licensing costs, or long-term contracts

# Why AWS Supply Chain?

*“Existing solutions have continually fallen short. If a business is to thrive, its supply chain must be resilient, elastic, and dynamic, so it can continuously evolve and respond to whatever the market throws at it”*



Large, fixed upfront investment commitments



Inability to respond to business-time events, only a point-in-time snapshot of performance



Slow time to value, lack of expertise and competing priorities with multiple solutions



Lack of end-to-end Integration, data trapped in silos, scattered & incomplete



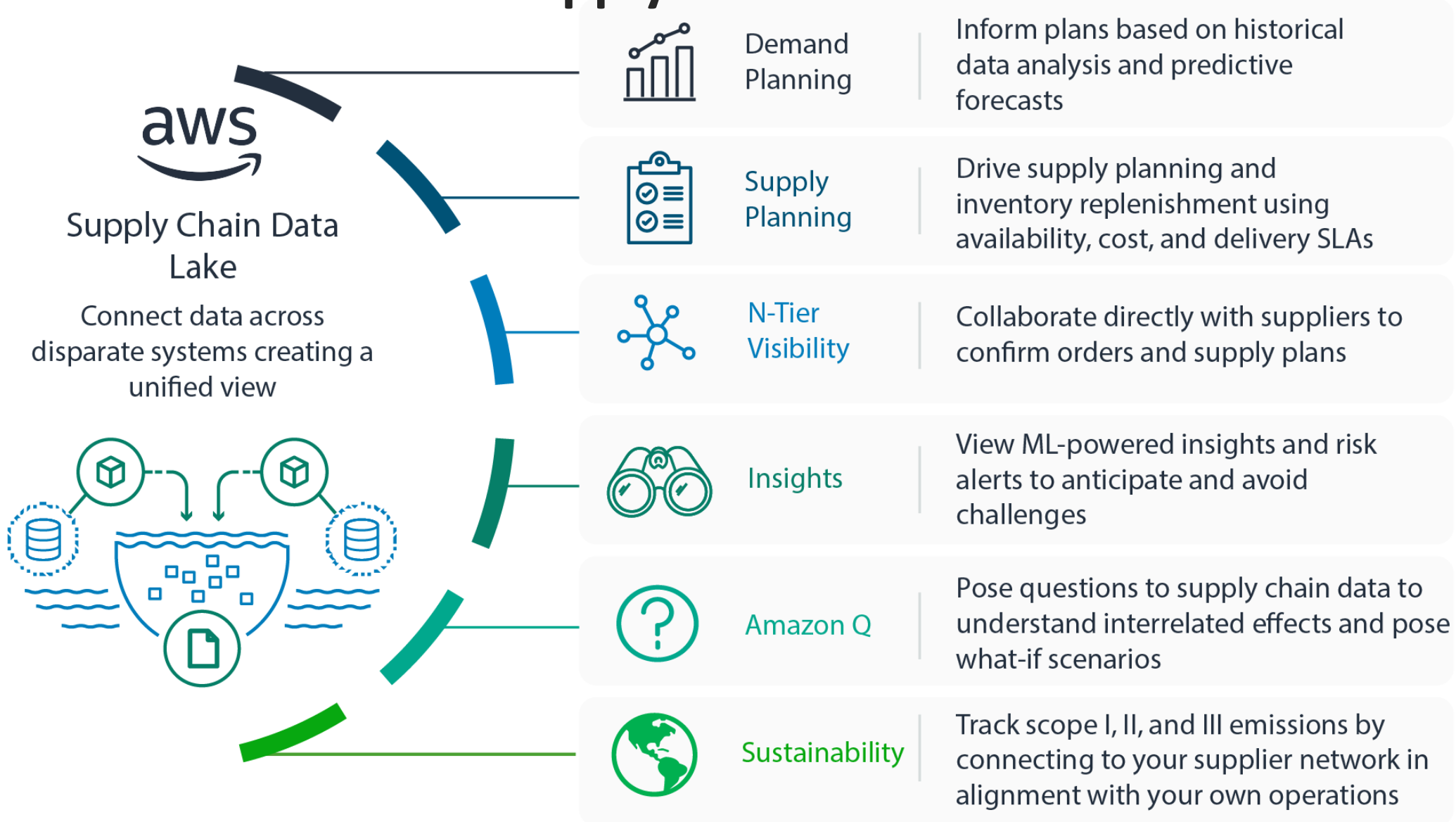
Systems that force you into a process up front



Overly reliant on manual processing

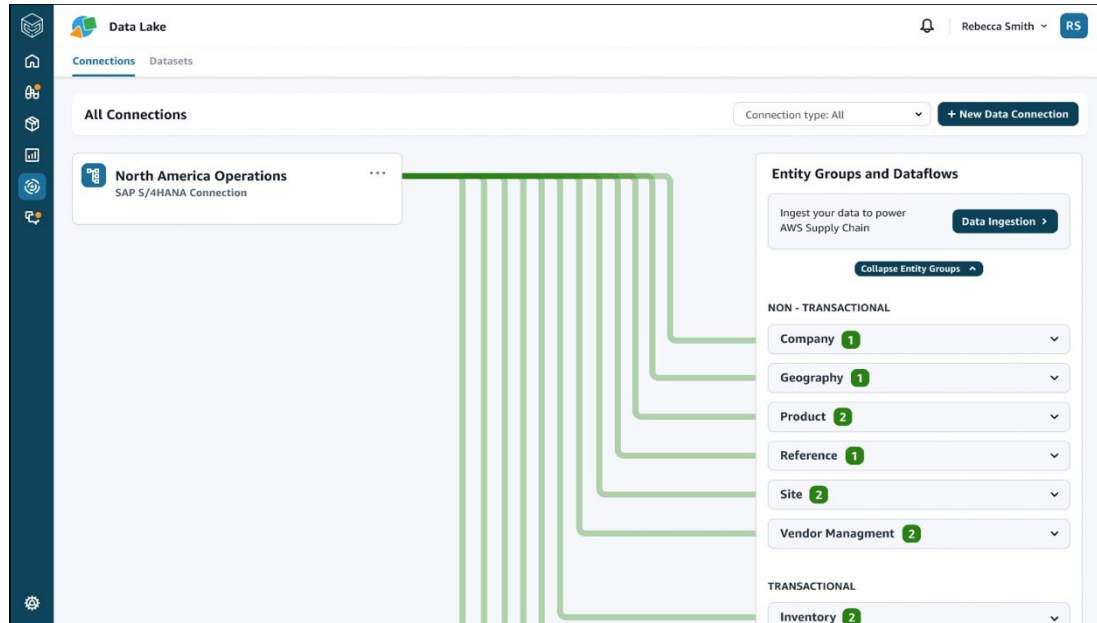


# The AWS Supply Chain Modules



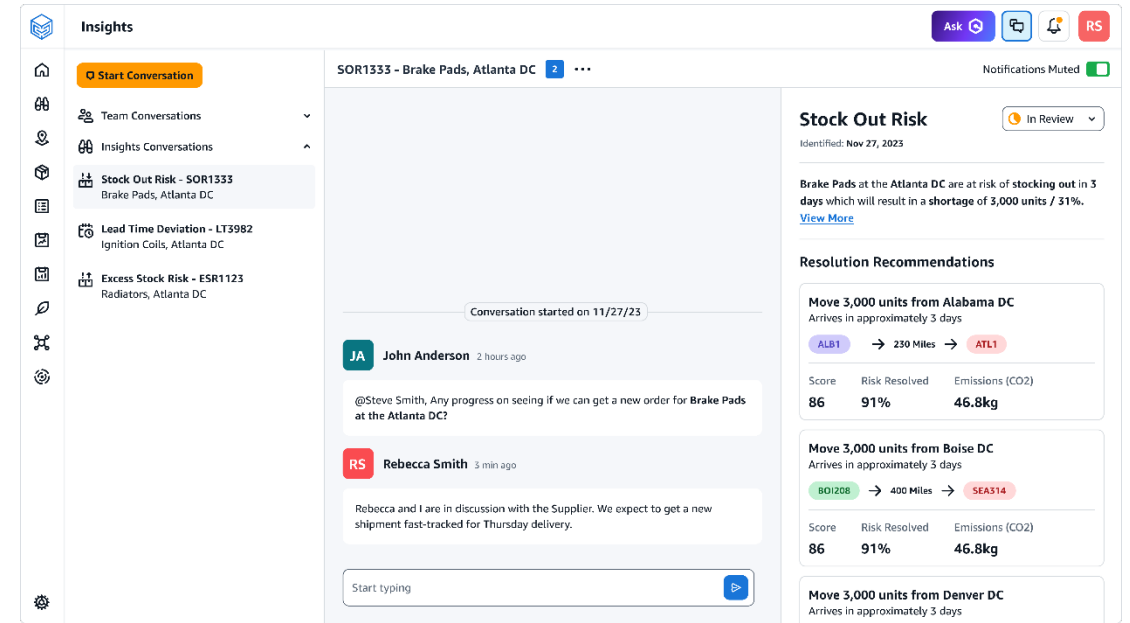
# AWS Supply Chain: Foundational Features

## Supply Chain Data Lake & Data Mapping



A Canonical Data Model that allows you to quickly and easily bring all of your supply chain data from disparate sources/systems to a single cleansed/harmonized location.

## Built-In Collaboration



AWS Supply Chain provides built-in, contextual collaboration capabilities. When teams chat and message each other, all the information about the risk and recommended options is shared, reducing errors and delays caused by poor communication so you can resolve issues faster.

# AWS Supply Chain Demand Planning



ML-powered demand forecasts



Driver Based Demand Planning – External Data



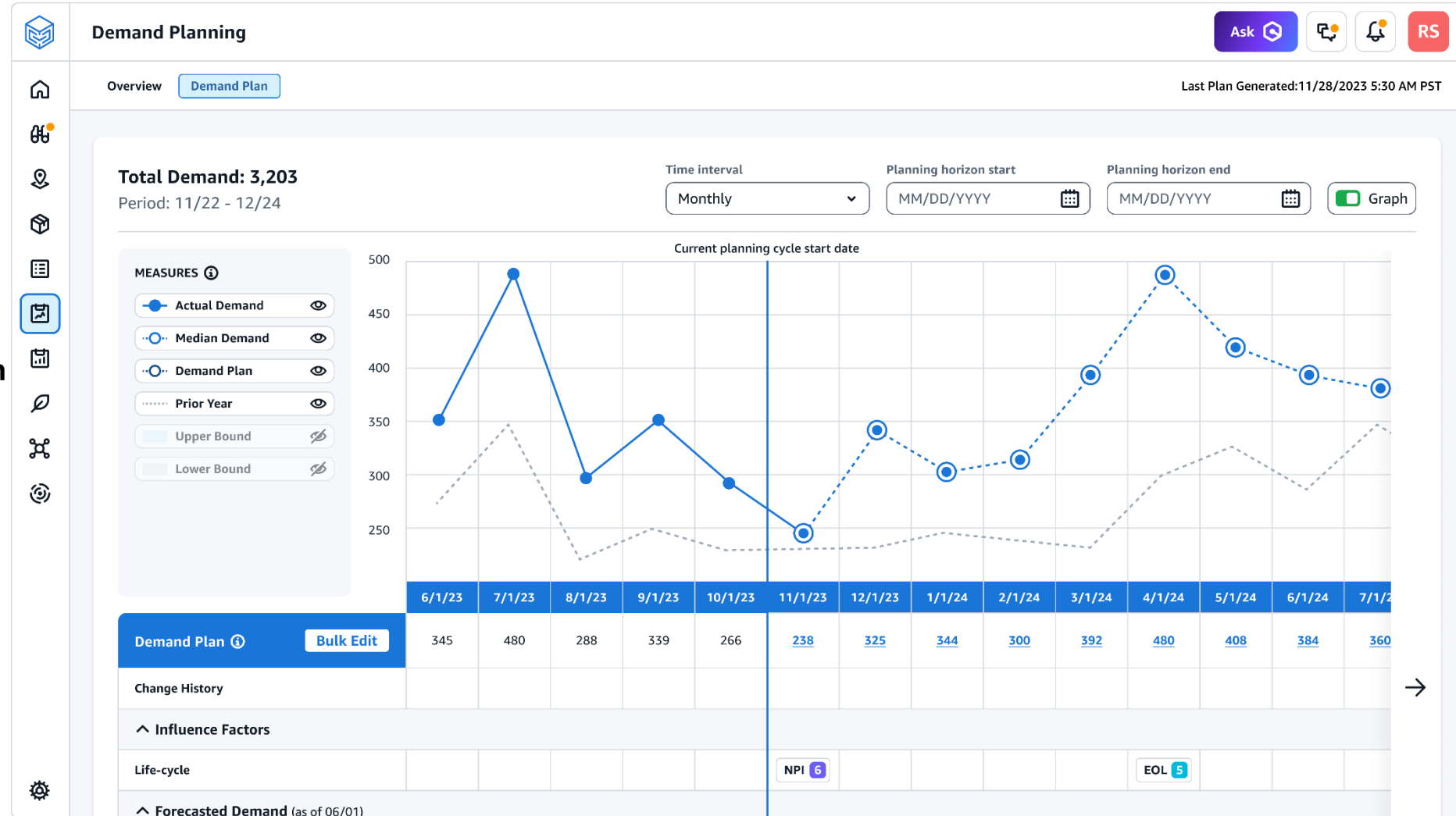
View, override, and publish forecasts



Forecast explainability

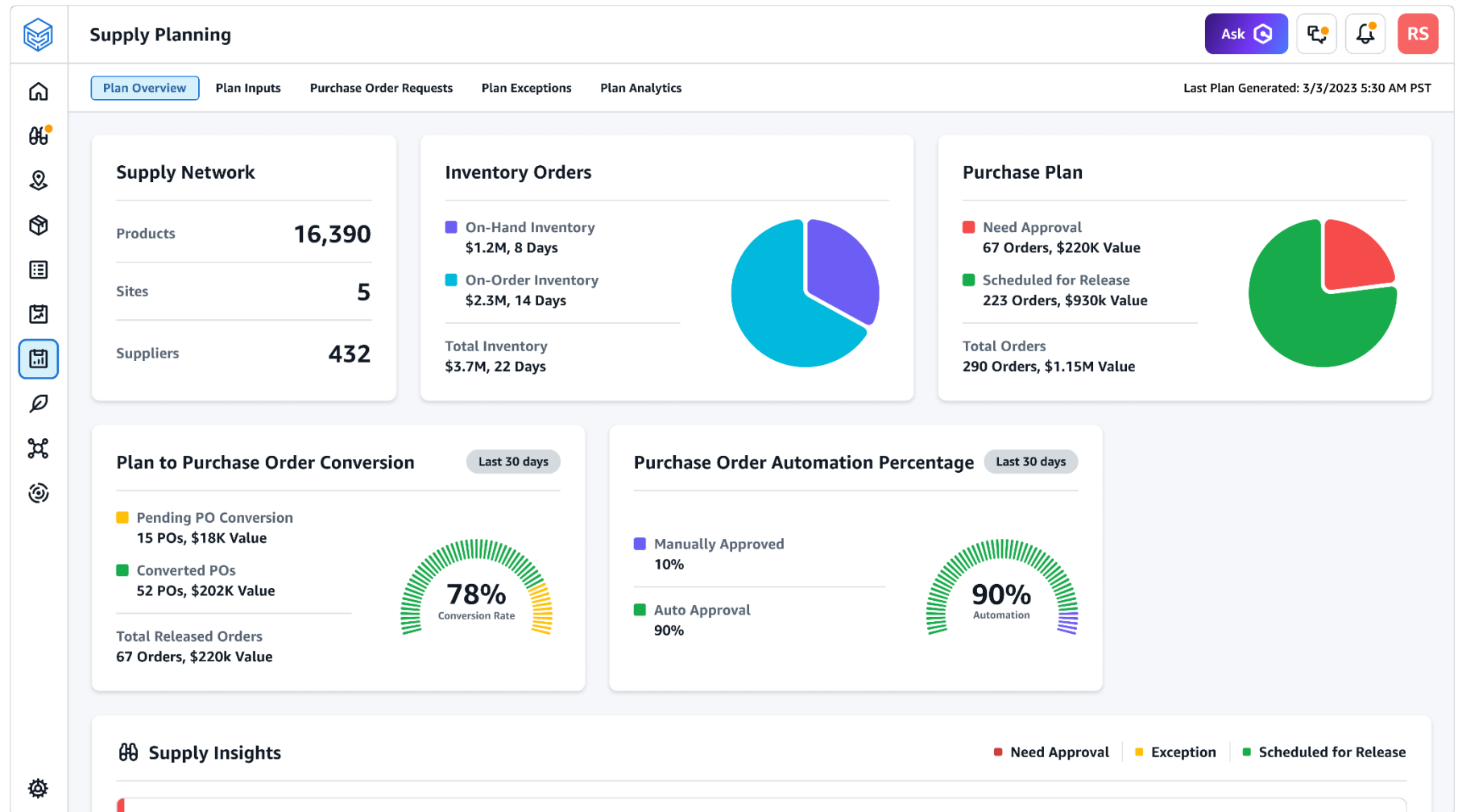


Automatic accuracy metrics



# AWS Supply Chain Supply Planning

- Predicts the right levels of inventory needed across facilities
- Supply plans derived from demand forecasts
- Recommends new purchase order or work order to keep desired stocking inventory levels
- Forecast based or consumption based planning



# N-Tier Visibility (Trading Partner Collaboration)

## *Included with Supply Planning*

- Extends visibility of Supply Plans and Demand Plans to your external trading partners
- New trading partners can be onboard in just a few steps to improve collaboration and information sharing
- Enhances sourcing risks and component shortages detection and enables quicker disruption mitigation

The screenshot displays the 'N-Tier Visibility' dashboard. At the top, there are tabs for 'Partner Network', 'Purchase Orders', and 'Forecast Commitments'. The 'Partner Network' tab is active, showing a map of 14 partners. A sidebar on the left contains navigation icons. The map shows various countries including Mongolia, North Korea, South Korea, China, Thailand, and the Philippines. A detailed view of 'Acme Inc' is shown on the right, including its Partner ID (9497420), DUNS number, Contact name (John Doe), Contact email (jdoe@acme.com), Invite Date (02/24/2023), and Onboarding Status (Active). A legend at the bottom indicates the status of partners: Active (green dot), Pending sign up (grey dot), and Not Invited (red dot).

N-Tier Visibility

Ask [icon] [icon] [icon] RS

Partner Network Purchase Orders Forecast Commitments

14 partners

My organization Tier 1 Tier 2 List Tree Map

Filters

Acme Inc  
Partner ID: 9497420

DUNS	Open Supplier ID
-	-
Contact name	Contact email
John Doe	jdoe@acme.com
Invite Date	Onboarding Status
02/24/2023	Active

+ - Active Pending sign up Not Invited

# AWS Supply Chain: Inventory Insights



Automatic insights to potential supply chain risks (e.g. overstock or stock outs)



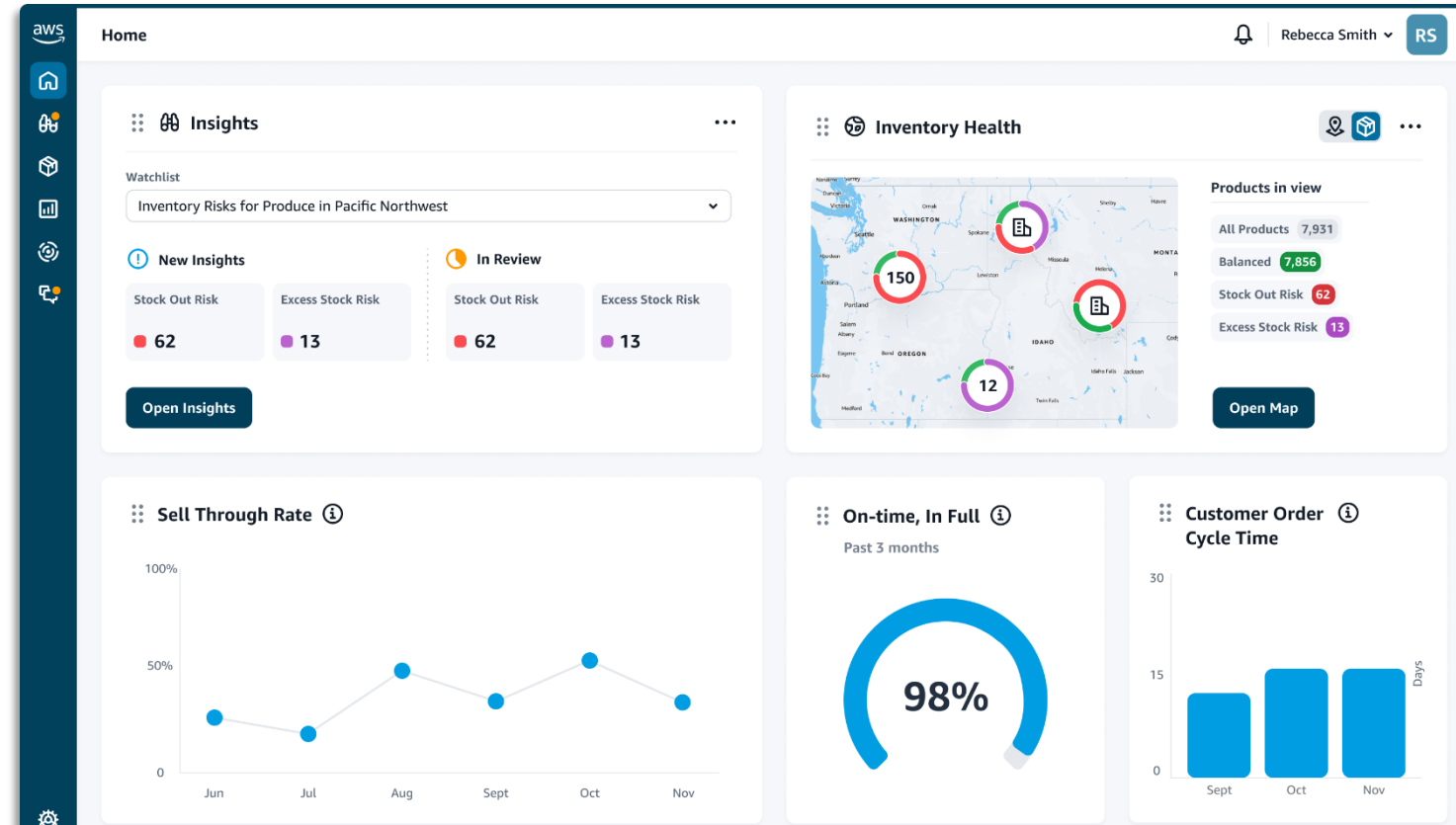
Create own insight watchlists by SKUs, location, type of risk



Generate more accurate vendor lead time predictions leveraging ML



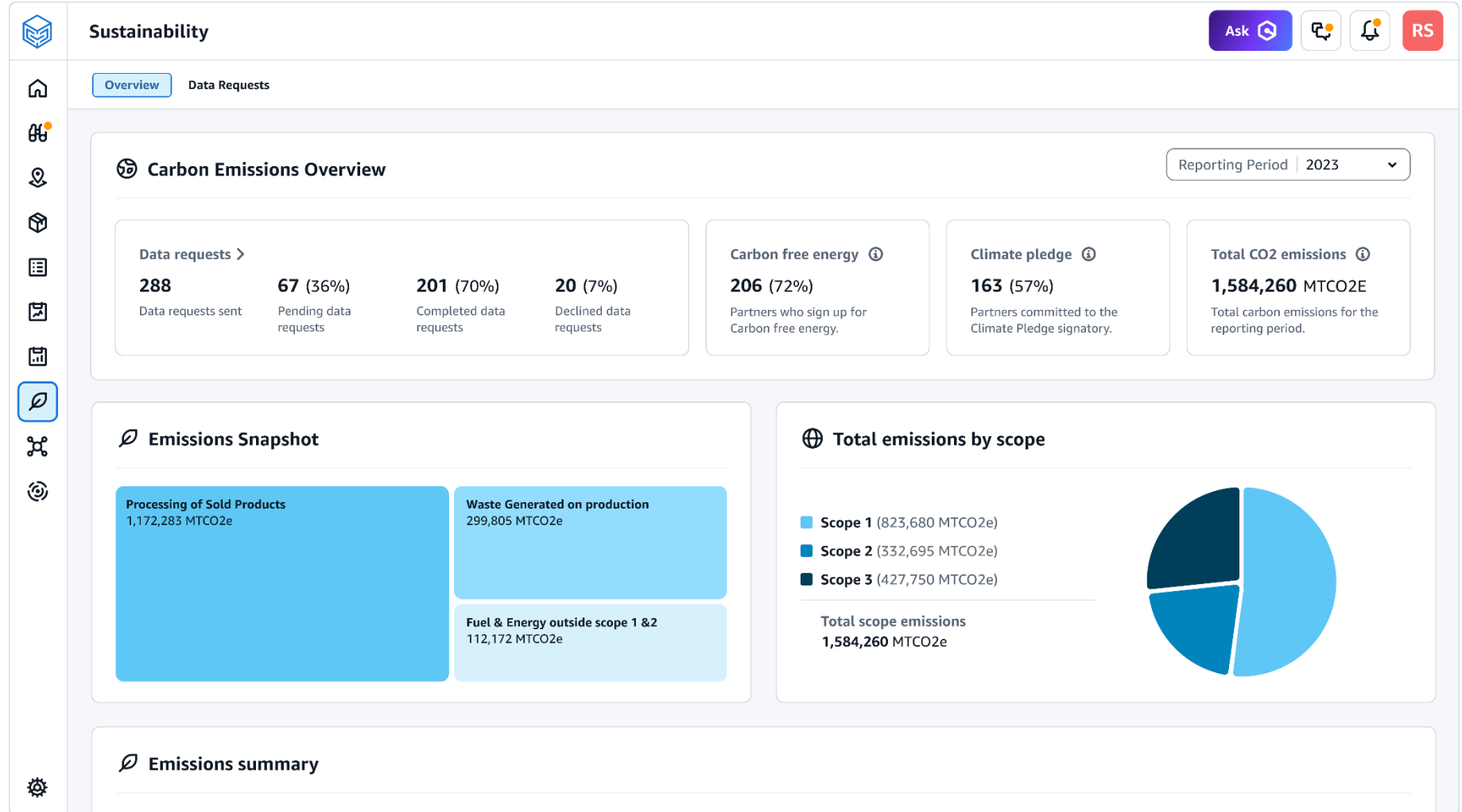
Directly collaborate with planners, inventory managers,...





# AWS Supply Chain Sustainability

- A more secure and efficient way to obtain documents and datasets from suppliers.
- Request, collect, and export artifacts, such as product life cycle assessments, certificates on product safety, or reports on hazardous substances used.
- A single, auditable record of the data to simplify compliance information process for ESG regulations.



# Amazon Q for Supply Chain

- Generative AI assistant powered by Amazon Bedrock
- Natural language interface enables users to dive deep into their supply chain data
- AI generated summaries of forecasts, inventory insights, and more
- Contextually sensitive prompts accelerate data driven decision making

The screenshot displays the Amazon Q for Supply Chain dashboard. The top navigation bar includes a home icon, a search icon, a notification bell, and a user profile icon labeled 'RS'. The main content area is divided into three sections: 'Insights', 'Inventory Health', and 'Connection Health'.

**Insights Section:** Features a 'Watchlist' dropdown menu set to 'Inventory Risk for Electronics in Southeast'. Below this, there are two columns: 'New Insights' and 'In Review'. Each column contains two cards for 'Stock Out Risk' and 'Excess Stock Risk'. The 'New Insights' column shows 12 Stock Out Risk and 11 Excess Stock Risk. The 'In Review' column shows 34 Stock Out Risk and 33 Excess Stock Risk. An 'Open Insights' button is located at the bottom of the 'New Insights' column.

**Inventory Health Section:** Features a map of the Southeastern United States with three circular gauges indicating risk levels for different locations: Washington (150), Georgetown (150), and another location (12). To the right of the map, there is a 'Products in view' section with four filters: 'All Products' (7,856), 'Balanced' (7,781), 'Stock Out Risk' (62), and 'Excess Stock Risk' (13). An 'Open Map' button is located at the bottom right of the map.

**Connection Health Section:** Features a 'Select Connection' dropdown menu set to 'All'. Below this, there is a list of connections for 'ABC Company' across various regions: PNW, Southwest, Northeast, California, Texas, Atlanta, New York, Southeast, and another Southeast entry. Each entry is labeled 'External Data Source Connection'. At the bottom, it says 'Last synced: 01/14/2024 12:00'.

**Amazon Q Chat Interface:** A purple chat window is open on the right side of the dashboard. It has a title bar 'Amazon Q' and a search icon. The chat content shows a user question: 'What products have the most excess stock?'. The AI response explains that 'Excess stock' is determined by finding all products that currently have inventory levels above their pre-determined safety-stock level, minus any committed sales or transfer orders. It then states: 'According to my research, the three products with the most excess stock are:'. Below this, there is a table with the following data:

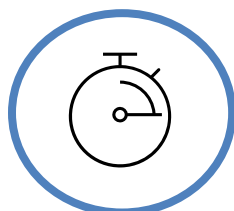
Product	Current Inventory	Safety Stock Max	Excess Stock Value
E2 Air Filter	1,221 units	700 units	\$164,430
Oil Filter	938 units	600 units	\$42,250
Control Arm (L)	715 units	550 units	\$18,975

Below the table, the chat interface says: 'Supply Planning can help optimize stocking levels and re-order points.' and includes a 'Learn More >' link. At the bottom of the chat window, there is a text input field labeled 'Enter your question...' and a send button.

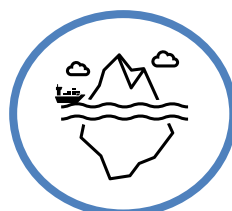
# AWS Supply Chain – Driving Value and Feature Rich



**Eliminate upfront costs  
and commitments**



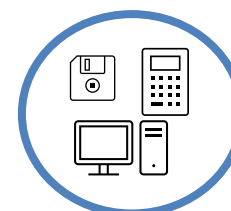
**Accelerate time to  
value with modular  
solutions**



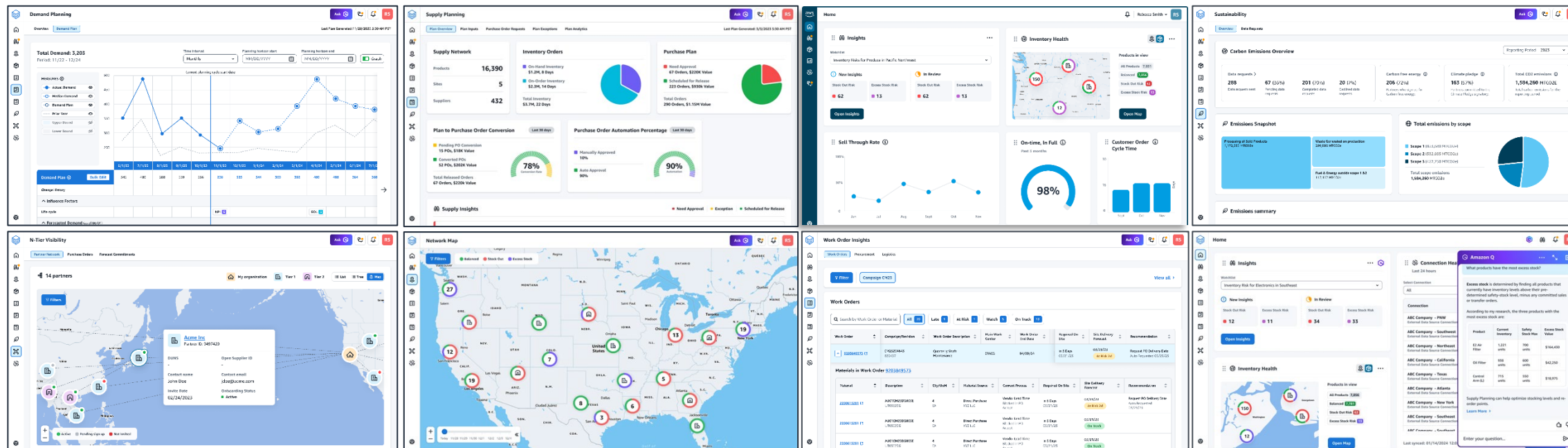
**Proactively  
mitigate risks and  
issues**



**Consolidate  
disparate data into a  
unified source**

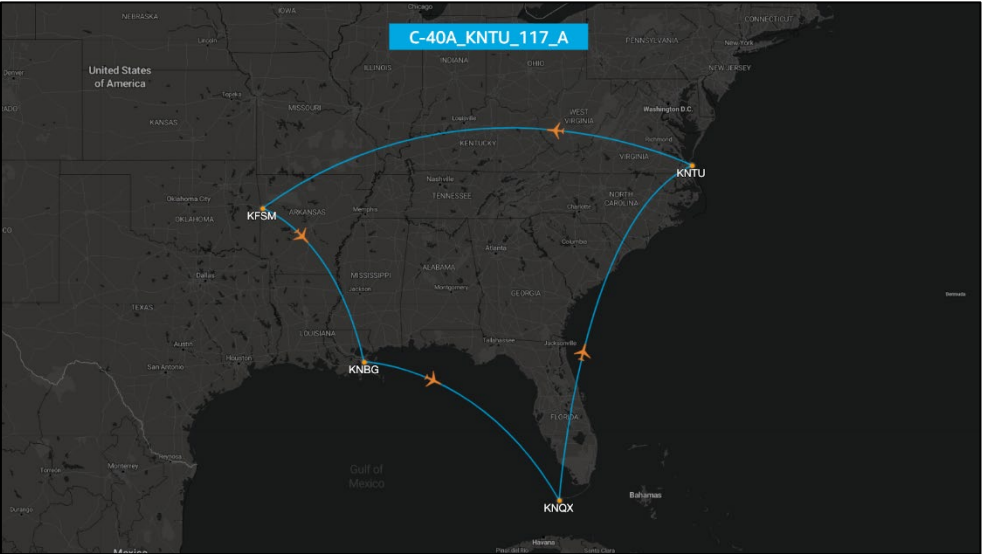


**Automate manual  
processes for  
greater efficiency**



# Sample: Pan-Amazon Solution with AWS Supply Chain

Leveraging Amazon’s Middle Mile Science Team’s algorithm for optimizing Amazon’s aircraft and exporting this to AWS Supply Chain for optimizing routing and loads for the U.S. DoD



4 flights over 1 day, covering 3 transport request missions

Solver creates route that carries passengers and / or pallets on all legs

**NO Empty Flights**

Orig	Dest	Dep	Arr	Flight Hours	Miles	Action	Shipment Id	Units Added	Stop Hour at Orig	Crew Rest Hour at Orig
KNTU	KNTU					PICK_UP	A032_PLT	1		
KNTU	KNTU					PICK_UP	A032_PAX	68		
KNTU	KFSM	10/2/21 11:30	10/2/21 13:29	1.98	1028	Transport			0	0
KFSM	KFSM					PICK_UP	A030_PLT	1		
KFSM	KFSM					PICK_UP	A030_PAX	1		
KFSM	KNBG	10/2/21 14:59	10/2/21 15:51	0.88	457	Transport			1.5	0
KNBG	KNBG					PICK_UP	A022_PLT	1		
KNBG	KNQX	10/2/21 17:21	10/2/21 18:34	1.21	628	Transport			1.5	0
KNQX	KNQX					DROP_OFF	A032_PAX	-68		
KNQX	KNQX					DROP_OFF	A032_PLT	-1		
KNQX	KNTU	10/2/21 20:04	10/2/21 21:50	1.76	910	Transport			1.5	0
KNTU	KNTU					DROP_OFF	A030_PAX	-1		
KNTU	KNTU					DROP_OFF	A022_PLT	-1		
KNTU	KNTU					DROP_OFF	A030_PLT	-1		

Minimized  
5.84 hours

PLT & PAX  
Loads  
Maximized



“Amazon is a global logistics company capable of moving 100 million packages each week, via more than 250 daily flights, throughout the world. To optimize the movement of its packages and flights, Amazon employs numerous proprietary internal systems and solutions (our “Air Logistics Optimization solution” or “ALO”). Under this Agreement, and as described in greater detail below, AWS will demonstrate the ALO’s efficacy to the Government. (or “Customer,” as defined in the AWS Customer Agreement) by, for example, deploying the ALO in AWS GovCloud (“GovCloud”) for Government testing. In particular, AWS will demonstrate the ALO’s ability to automate and optimize the Government’s air mobility scheduling.”





# Thank you

etopp@amazon.com

andre.chambers@evanschambers.com

