ATLAS
INTELLIGENCE DATABASE

Annual Report 2025

PLIANT Institute | Palo Alto, CA | projectpliant.com

Document ID: PLIANT-ATLAS-2025-AR

Published: December 2025

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DIRECTOR'S FOREWORD

Dr. James Patterson, Director

The Atlas Intelligence Database is the foundational research infrastructure of the PLIANT Institute and, by any reasonable measure, the institute's most significant contribution to the field of critical infrastructure security to date. This annual report reflects on Atlas's development across its first three years, addresses the institutional and ethical considerations the program's continued growth raises, and sets out our forward trajectory for 2026.

Three years into the program, Atlas contains profiles on 214 commercial logistics entities, 84 major node assessments across all primary trade corridors, and a seven-year incident record covering disruption events at the corridor level. The database supports five active PLIANT research workstreams and provides analytical infrastructure for credentialed government and industry partners across six allied jurisdictions. By any quantitative measure, the program has substantially exceeded its founding objectives.

> ***Atlas is not, and has never been intended to be, a substitute for government intelligence collection. It is a research infrastructure that aggregates, normalizes, and contextualizes information that is in principle available through open and partner-shared channels but that no individual organization has the capacity or incentive to maintain at this level of detail.***

The program's growth has also raised institutional and ethical considerations that warrant explicit discussion. The commercial entities profiled in Atlas were not consulted during the data collection process and in many cases are unaware that detailed vulnerability assessments of their operations exist in PLIANT's database. This is consistent with standard practice in OSINT research, but it raises ethical questions that PLIANT takes seriously. Our response has been to develop a formal OSINT ethics framework and to commit to the establishment of an independent OSINT Ethics Review Board. This commitment remains a priority for the institute's governance development through 2026.

I want to particularly acknowledge Dr. Sarah L. Chen, whose foundational work on the Atlas architecture and Asia-Pacific node assessment methodology has been central to the program's success. Dr. Jennifer Wu has led the technical development of Atlas's data infrastructure and analytical tooling. Dr. Michael Torres has been the principal architect of Atlas's OSINT methodology, and Dr. Maria Gonzalez has shaped the data governance framework that makes Atlas's partner sharing model possible.

The work ahead is substantial. The coming year will focus on geographic expansion, governance maturation, and deepening the federated analytical capabilities that will allow Atlas to serve its partner community more effectively. I am confident the program is well-positioned to deliver on each of these priorities.

Dr. James Patterson
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Atlas at Three Years

The Atlas Intelligence Database was conceived during PLIANT's founding planning period in late 2022 and entered active development in early 2023. The program's foundational premise was that the critical infrastructure security research community lacked a shared analytical infrastructure capable of supporting rigorous, longitudinal, cross-corridor analysis of logistics network vulnerabilities. Existing data resources were fragmented across government agencies, commercial providers, and academic research projects, with limited interoperability and substantial gaps in coverage.

214
COMMERCIAL ENTITIES PROFILED

84
MAJOR NODE ASSESSMENTS

7
YEAR INCIDENT RECORD

6
ALLIED PARTNER JURISDICTIONS

Program Structure

Atlas supports five active PLIANT research workstreams: port and terminal vulnerability mapping, nation-state targeting of logistics networks, supply chain disclosure and transparency, OSINT methodology and ethics, and predictive models for disruption forecasting. Each workstream draws on Atlas data as its primary empirical foundation, and each contributes new records and assessments back into the Atlas inventory through the research process.

The database is updated continuously, with quarterly comprehensive reviews to ensure consistency and quality across the full data inventory. Partner access is governed by a three-tier credentialing framework described in detail in Section 4 of this report. All access is logged and reviewed quarterly as part of PLIANT's data governance framework.

Research Milestones

The 2025 reporting period saw Atlas reach several significant milestones. The database exceeded 200 commercial entity profiles for the first time in Q2 2025, reflecting the sustained expansion of PLIANT's OSINT collection program. The Asia-Pacific node assessment program, led by Dr. Sarah L. Chen, completed its second full survey cycle, substantially deepening the granularity and currency of APAC corridor coverage. And the partner network expanded to include two additional allied government agencies, bringing the total to six credentialed government partners across the allied intelligence community.

The Three Data Domains

Atlas is organized into three primary data domains, each with distinct governance requirements, update cadences, and access controls. The domains are designed to be analytically complementary: entity profiles provide the structural context within which node assessments and incident records are interpreted, while the incident database provides longitudinal validation for the vulnerability assessments in the node database.

01 / Entity Database

The Entity Database contains profiles on 214 commercial logistics operators, including ownership structure, sub-tier supplier relationships, terminal operating system architecture, and historical incident records. Profiles are maintained on a continuous update cycle with quarterly comprehensive reviews. Entity selection is governed by a proportionality standard requiring that collection depth be calibrated to the analytical value of the entity's inclusion in the database.

High-throughput nodes and strategically significant entities warrant deeper, more frequently updated profiles. Secondary entities with limited analytical significance are maintained at a lower update frequency. This proportionality standard is assessed at each quarterly review through a structured audit of collection activity against entity significance scores.

02 / Node Assessment Database

The Node Assessment Database contains structured vulnerability assessments for 84 major logistics nodes using PLIANT's composite fragility index methodology. The index scores each node across four dimensions: physical infrastructure resilience, digital systems exposure, throughput concentration, and geopolitical risk exposure. Dimension scores are aggregated into a composite fragility rating on a five-point scale.

Node assessments are the most resource-intensive element of the Atlas data collection program, requiring primary field survey work in addition to open-source analysis. The Asia-Pacific node coverage, built through PLIANT's sustained field survey program, represents the deepest and most granular regional coverage in the Atlas inventory.

03 / Incident Database

The Incident Database contains a longitudinal record of disruption events across the global logistics network, classified by attribution confidence and severity. The database currently holds seven years of corridor-level incident data, drawing on open-source records, declassified government materials, and partner-shared intelligence. Source attribution and confidence scoring are maintained for all records.

Partner-shared materials are handled under access controls that reflect the terms of the relevant sharing agreements. Where partner-shared materials carry usage restrictions beyond PLIANT's default governance framework, those restrictions are enforced at the record level within the Atlas access control system.

Credentialing and Data Governance

Atlas access is governed by a three-tier credentialing framework that has evolved through iterative refinement over the program's three-year history. The current framework reflects lessons learned from early access control designs that were inadequately calibrated to the sensitivity differential between Atlas data categories. All access events are logged at the query level and reviewed quarterly by PLIANT's Data Governance Officer.

TIER 1	TIER 2	TIER 3
Open Access	**Credentialed**	**Restricted**
All PLIANT research staff and registered partner organizations. Read access to aggregated corridor-level data and published node assessments only. No access to raw entity profiles or individual incident records.	Senior research fellows and approved government partners with enhanced credentialing. Read access to raw node scoring data, entity profiles, and PLIANT-generated incident records. No access to partner-shared classified materials.	PLIANT leadership only. Covers classified partner materials under existing government classification frameworks. Stored in a physically and logically separated environment with mandatory dual-authorization for any data export.

Access Logging and Quarterly Review

All Atlas access events are logged at the query level, recording the credential tier, data category accessed, query parameters, and timestamp. Logs are reviewed quarterly by the Data Governance Officer in coordination with PLIANT's IT security function. Anomalous query patterns, including bulk exports outside established research workflows, off-hours access, and queries spanning unusual combinations of data categories, are flagged for manual review.

Partner Data Use Agreements

All partner sharing arrangements are governed by PLIANT's standard data use agreement template. The current version (v3.2, effective January 2026) incorporates provisions including explicit restrictions on use of Atlas data in automated decision-making systems without human oversight, requirements for incident notification within 72 hours of any suspected unauthorized access, and sunset provisions requiring agreement renewal every 24 months.

OSINT Ethics Review Board

PLIANT committed in the November 2025 ethics publication to establishing an independent OSINT Ethics Review Board with authority to assess and constrain Atlas collection and sharing practices. Board membership is currently being finalized, with an inaugural meeting scheduled for Q2 2026. The Board will conduct an annual review of Atlas collection practices and will have authority to recommend collection restrictions, entity profile deletions, and modifications to the governance framework.

Coverage Assessment and Performance

Atlas coverage is not uniform across regional corridor systems, and meaningful performance variation across regions is a consistent feature of PLIANT's analytical outputs. Understanding where Atlas coverage is deep and where it remains thin is essential context for interpreting any Atlas-derived analysis.

Asia-Pacific — Strongest Coverage

Asia-Pacific corridors represent the deepest and most granular regional coverage in the Atlas inventory. The APAC node assessment program, built through a sustained multi-year field survey effort led by Dr. Sarah L. Chen, has completed two full survey cycles and produced node-level fragility assessments of unusually high confidence across the region's 31 assessed nodes. APAC corridor data consistently produces the strongest predictive performance in PLIANT's disruption forecasting models, with 30-day forecast accuracy (AUC: 0.87) substantially above the global model average.

The depth of APAC coverage reflects both the strategic priority PLIANT has assigned to the region and the specific expertise Dr. Chen has brought to the field survey methodology. The cross-strait terminal interdependence work, the Belt and Road node assessments, and the Malacca corridor vulnerability mapping all draw directly on primary field data that would not be available through purely open-source analytical methods.

Middle East and North Africa — Most Challenging

MENA corridors present the most challenging forecasting environment in the Atlas inventory, reflecting rapid geopolitical volatility that limits the predictive signal available in lagged indicators. MENA node assessments carry wider confidence intervals than APAC or North Atlantic assessments, and the incident database coverage for this region is thinner due to the limited open-source reporting on logistics disruption events in several high-priority corridors.

North Atlantic and Trans-Pacific

North Atlantic and trans-Pacific corridors achieve strong predictive performance (AUC: 0.84 and 0.86 respectively) and benefit from the deepest open-source data availability of any region in the Atlas inventory. Node assessments in these corridors are the most frequently updated and carry the tightest confidence ranges. Digital exposure scores for North Atlantic nodes have risen significantly since the 2022 baseline, reflecting accelerating terminal digitization without commensurate cybersecurity investment.

Coverage Gaps

Material coverage gaps remain in sub-Saharan Africa, Central Asian overland corridors, and South American Pacific routes. These gaps reflect both data availability constraints and resource allocation decisions, and they represent the priority areas for Atlas expansion in 2026 and beyond. The model's performance in these corridors will improve substantially as Atlas coverage is extended.

Partner Network and Institutional Ethics

Government Partners

Atlas currently serves credentialed government partners across six allied jurisdictions. U.S. government partners include the Cybersecurity and Infrastructure Security Agency (CISA), the FBI Counterintelligence Division, the Department of Homeland Security Science and Technology Directorate (DHS S&T;), and the Department of Defense. Allied partners include counterpart organizations in two additional Five Eyes member nations; these partnerships are not publicly disclosed at the partners' request.

Government partner relationships are governed by inter-agency data sharing agreements that incorporate the requirements of applicable classification frameworks. Partner-shared classified materials are handled exclusively within the Tier 3 access environment and are not accessible through the standard Atlas interface or API.

Commercial and Research Partners

Commercial partner relationships provide Atlas with proprietary terminal throughput data, operational incident reporting, and logistical intelligence that substantially improves model performance and assessment quality relative to open-source-only analysis. Commercial partners are not publicly identified. Several academic and research institution partnerships supplement Atlas's primary research capacity in specific regional corridors.

Ethical Framework

PLIANT's OSINT ethics framework rests on four principles: proportionality, minimization, accountability, and transparency. Proportionality requires that collection depth be calibrated to analytical value. Minimization requires that collected data be limited to what is necessary for the stated analytical purpose. Accountability requires genuine institutional oversight with authority to constrain research practices. Transparency requires public disclosure of the categories of entities subject to OSINT analysis.

> ***We recognize that the ethical frameworks governing institutions like PLIANT remain underdeveloped across the field, and that the standards we are now setting for ourselves have not always been met in practice. The Atlas program's continued credibility depends on closing this gap.***

Specific measures underway include the establishment of an independent OSINT Ethics Review Board with genuine authority to constrain Atlas research practices, the development of Atlas data governance standards specifying retention periods and access controls, and the publication of an annual transparency report disclosing aggregate statistics on Atlas data collection and partner sharing activity. This document represents the first such report.

2026 Priorities and Acknowledgments

Geographic Expansion

The first priority for 2026 is extending Atlas coverage to under-assessed regional corridors, particularly sub-Saharan Africa, Central Asian overland corridors, and South American Pacific routes. Each represents a significant gap in current Atlas coverage and a corresponding gap in PLIANT's predictive modeling capability for those regions. Expansion will require a combination of new primary field survey work and deepened engagement with regional academic and research partners who can contribute local expertise.

Federated Analytical Capabilities

The second priority is developing federated analytical capabilities that allow partner organizations to contribute to Atlas model development without exposing their raw operational data. The federated learning work currently underway, led by Dr. Jennifer Wu, represents the most technically ambitious development in the Atlas program's history. A Q2 2027 target for initial federated capability deployment is currently on track.

Ethics Review Board

Formalizing the OSINT Ethics Review Board and implementing the access governance reforms described in Section 5 of this report remain the third priority for 2026. The Board's inaugural meeting is scheduled for Q2 2026. PLIANT is committed to publishing the Board's first annual assessment findings and to implementing all recommendations within the subsequent reporting cycle.

Acknowledgments

Atlas is the product of contributions from the entire PLIANT research team, and this report would not be complete without explicit acknowledgment of the individuals whose work has made the program what it is.

Dr. Sarah L. Chen designed and built the Atlas Intelligence Database from the ground up. Her foundational work on the entity profiling methodology, the composite fragility index, and in particular the Asia-Pacific node assessment program, represents the empirical infrastructure on which every other element of Atlas depends. The depth of APAC coverage that distinguishes Atlas from every comparable effort in the research community is her work. PLIANT's research program would not exist in its current form without her contribution.

Dr. Jennifer Wu led the technical development of Atlas's data infrastructure, analytical tooling, and the computational methods underlying PLIANT's disruption forecasting capability. Dr. Michael Torres designed Atlas's OSINT methodology and attribution framework, and provided the empirical foundation for the incident database through his prior government service. Dr. Maria Gonzalez shaped the data governance framework that makes the Atlas partner sharing model credible and sustainable.

PLIANT also thanks its government and commercial partners across six allied jurisdictions for the trust they have extended to this program. The partner sharing model that distinguishes Atlas from conventional research databases depends entirely on that trust, and we take seriously the responsibility it entails.
