

AI BASED VISUAL INSPECTION USING AI TO ASSESS & PROTECT TELECOM ASSETS

Wipro provides an image processing-based asset monitoring solution to detect telecommunication service disruptions and degradation

USING AI TO PROTECT AND ASSESS ASSETS

With thousands of physical assets—towers, switches, antennae, and retail stores—inspection and regular maintenance checks are imperative tasks for the telecom industry.

With a digital twin, it is possible to build a virtual version of an asset over which data and predictive insights can be overlaid to provide meaningful and rich insight to maintenance staff. Unmanned aerial vehicles (UAVs) such as drones and advancements in camera technologies, combined with a slate of new AIOps toolsets, have made it easy to inspect equipment and identify anomalies more frequently at a lower cost. Wipro's InspectAI algorithm provides an effective means of inspecting captured data from field assets.

The solution helps in creating a digital data twin, enabling proactive asset management while ensuring a seamless customer experience.

- **Application layer dashboard gives asset owners a 360-degree view at important anomaly hotspots with highest grading, which can be combined with AIOps data for end-to-end asset health monitoring**
- **90% accuracy in detecting telecom line safety zone invasions**



SEAMLESS DATA ACCESS

Access and cleanse data inside Snowflake, eliminating the delays of traditional ETL products. Process using AI to identify anomalies related to surface conditions such as corruptions, missing parts, and foreign objects. Augment with AIOps to create a true digital twin of the asset.



STREAMLINE ARCHITECTURE & ALLOW MULTIPLE USE CASES

Collaborate on the same data in a single platform by natively supporting different user's programming language of choice. Allows multiple use case builds (for example, digital twin of assets, visual and telemetry data analysis). Solution provides one place to store, govern, process, analyze, and share all types of data: structured, semi structured, and unstructured.



PARTNERSHIP WITH DRONE PROVIDERS

Photogrammetry-based telecommunications carrier line monitoring using drones obtains a wide variety of images and videos.



BUILD SCALABLE & OPTIMIZED PIPELINES

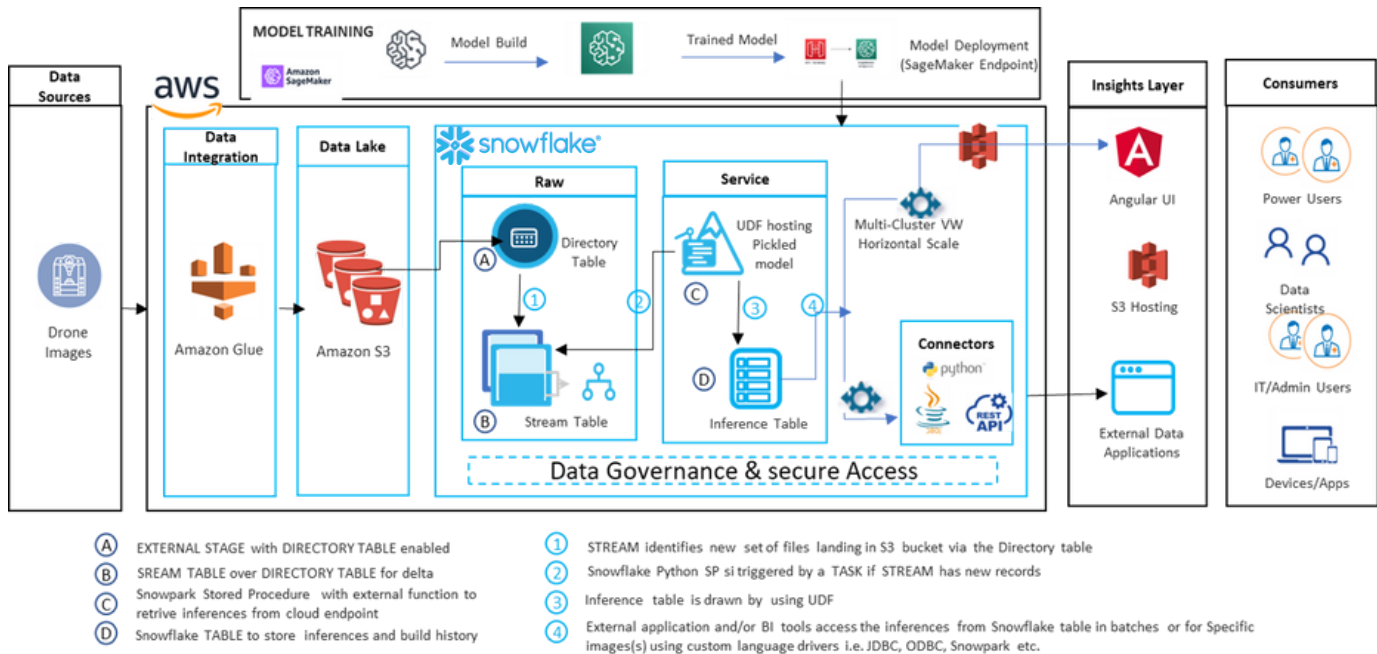
InspectAI has the ability to collect data from a variety of inspection sources, including UAVs, magnetic crawlers, and various imaging assets (such as spectral, LiDAR, and other advanced cameras) and AIOps tool sets.



MINIMIZE DISRUPTION

Photogrammetry and image-processing algorithms leveraging Snowpark services.

PHOTOGRAMMETRY & IMAGE PROCESSING ALGORITHMS LEVERAGING CLOUD AI SERVICES



Source: WIPRO Limited

PHOTOGRAMMETRY-BASED TELECOM LINE MONITORING WITH DRONES

- Reduce dependency on manual and LiDAR-based inspections
- Develop an image post-processing pipeline using photogrammetry and image processing algorithms to detect power line safety zone invasions
- Partition images based on geo-location and reduce time spent accurate data over large distances
- 75% detection accuracy using photogrammetry and 3D telecom line reconstruction

ABOUT SNOWFLAKE

Snowflake enables every organization to mobilize their data with Snowflake’s Data Cloud. Customers use the Data Cloud to unite siloed data, discover and securely share data, and execute diverse analytic workloads. Wherever data or users live, Snowflake delivers a single data experience that spans multiple clouds and geographies. Thousands of customers across many industries, including 543 of the 2022 Forbes Global 2000 (G2K) as of October 31, 2022, use Snowflake Data Cloud to power their businesses. Learn more at: [Snowflake.com](https://www.snowflake.com).

ABOUT WIPRO LIMITED

Wipro Limited (NYSE: WIT, BSE: 507685, NSE: WIPRO) is a leading technology services and consulting company focused on building innovative solutions that address clients’ most complex digital transformation needs. Leveraging our holistic portfolio of capabilities in consulting, design, engineering, and operations, we help clients realize their boldest ambitions and build future-ready, sustainable businesses. With over 250,000 employees and business partners across 66 countries, we deliver on the promise of helping our customers, colleagues, and communities thrive in an ever-changing world. For more information, please visit us at [wipro.com](https://www.wipro.com).