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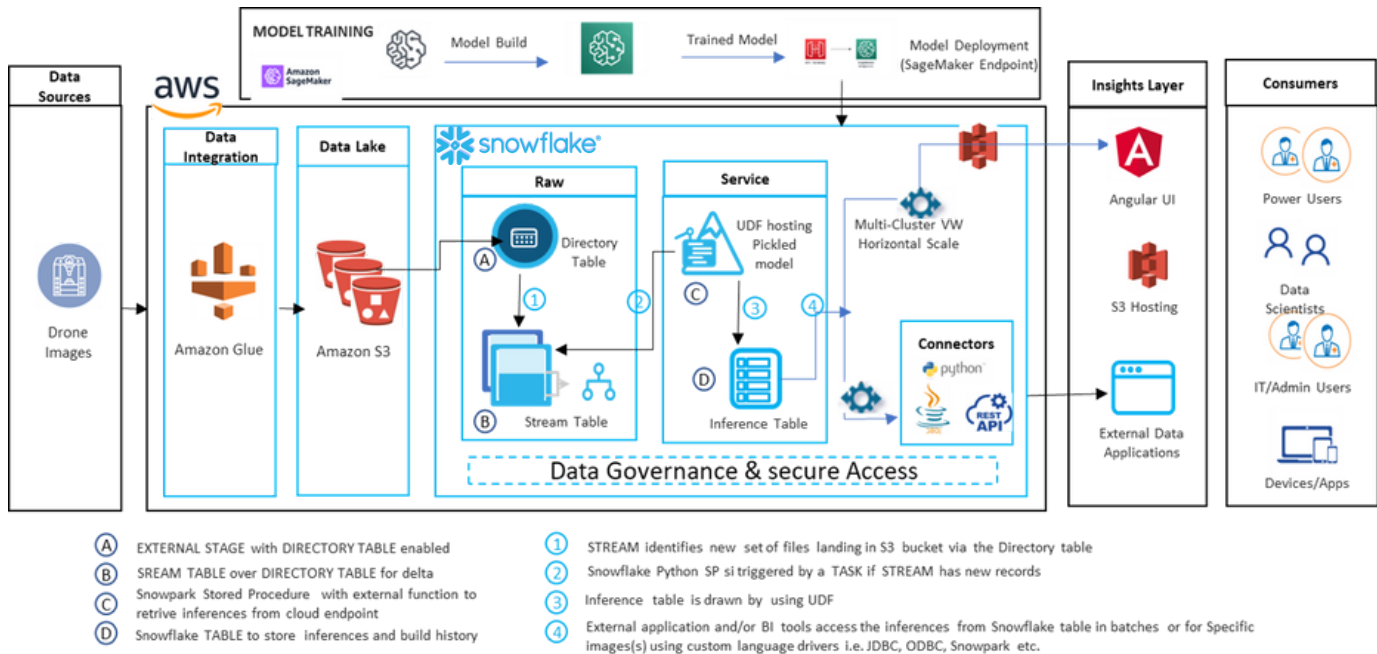
BUILD SCALABLE & OPTIMIZED PIPELINES
InspectAI has the ability to collect data from a variety of inspection sources, including UAVs, magnetic crawlers, and various imaging assets (such as spectral, LiDAR, and other advanced cameras) and AIOps tool sets.

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