oliver.wang@aposystech.com

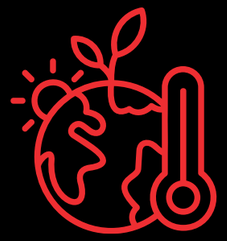
+1 (647)-688-1398

Agenda

1. ApoSys Background Intro
2. Apollo Framework
3. Sensor & Data
4. Technologies
5. Vision
6. Applications
7. Q&A

Current Challenges In The Railway Industry

Aging Infrastructure



Worsening Climate

Declining Workforce

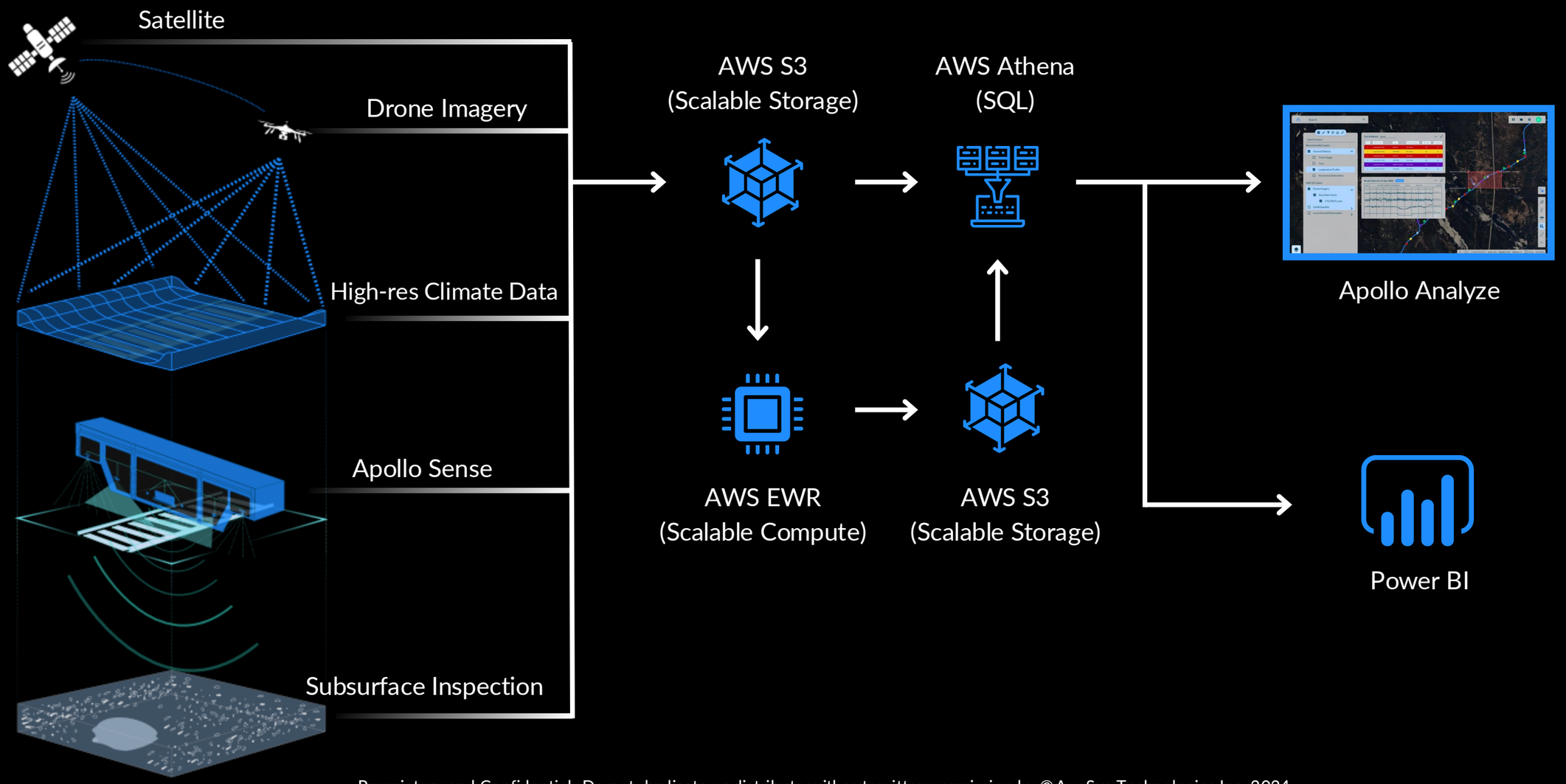
Core Issue: Data

Collecting data is time-consuming and inefficient

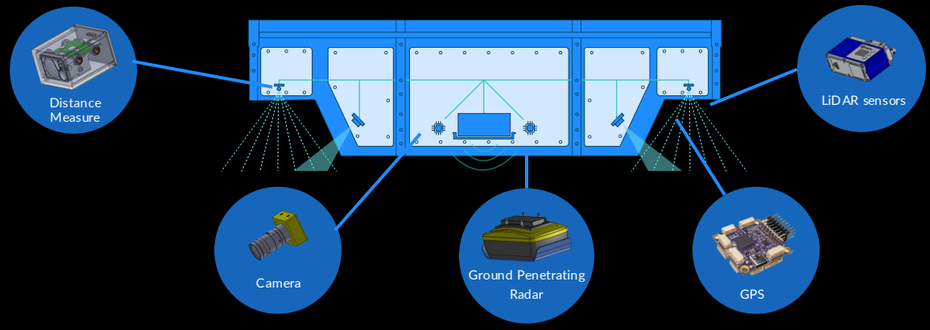
Unorganized data processing

Isolated data storage systems

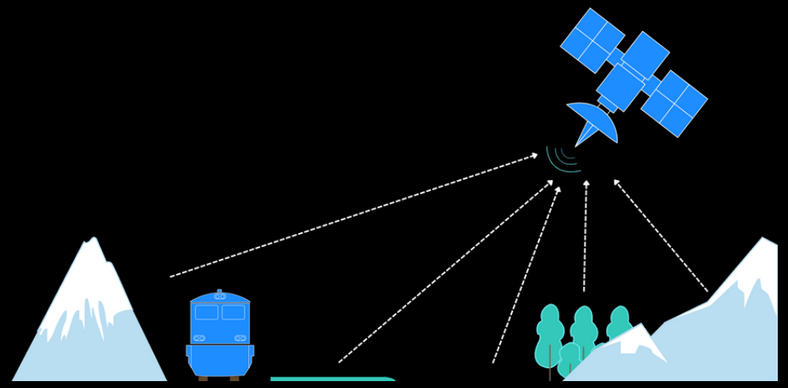
The Apollo Framework



Integrated Solution - Sensors & Data



Hardware Unit Sensors



Satellite Data

Mean Temperature, Precipitation

Cloud Cover, Wind Speeds/Directions

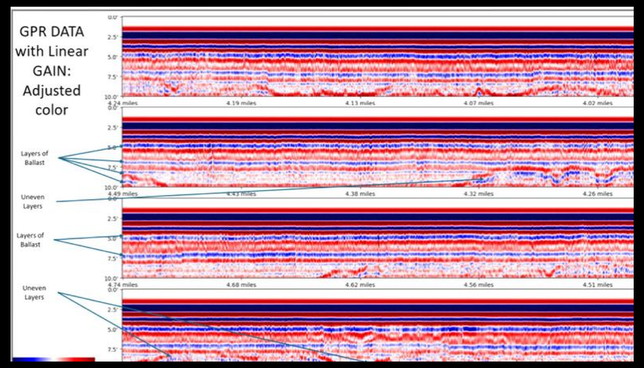
Humidity, Sunshine Duration, Global Radiation

Climate Modeling

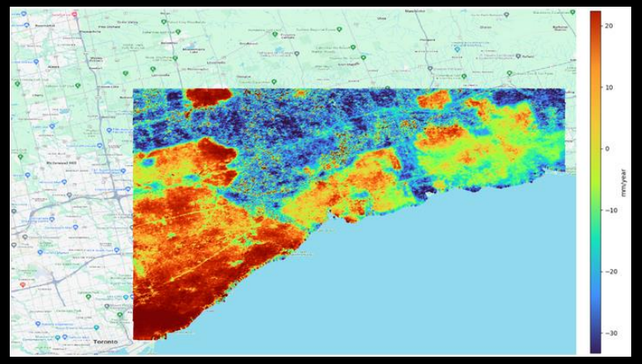
Integrated Solution - Technology

Multiple Baseline Technology

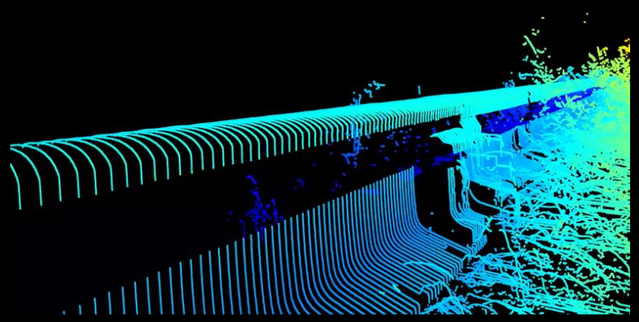
Machine Vision



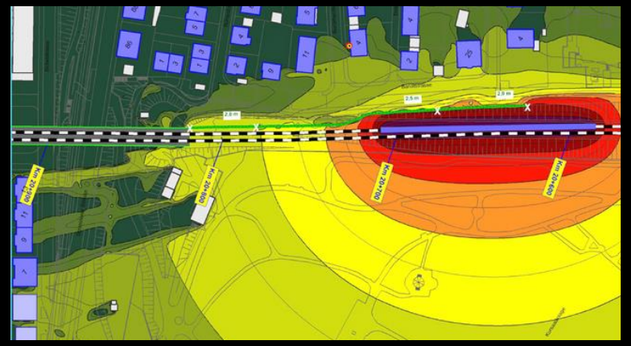
Climate Impact



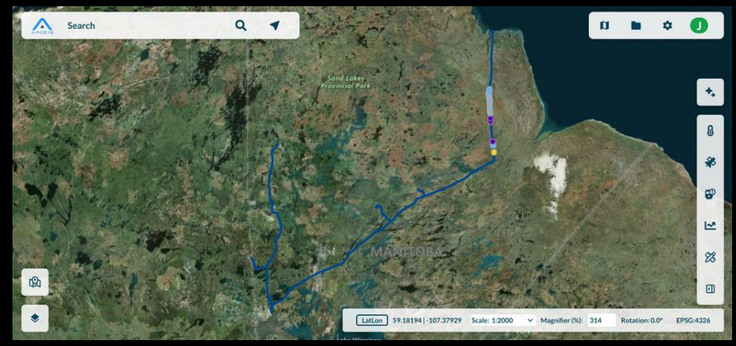
Ground Deformation (Satellite Data)



LiDAR Geometry



Predictive Maintenance



Open Platform for Any Data

Applications

Infrastructure

- Railway, road, transit, metro
- Sewage inspection system
- Culvert Monitoring and Management System
- Ice road
- Airport

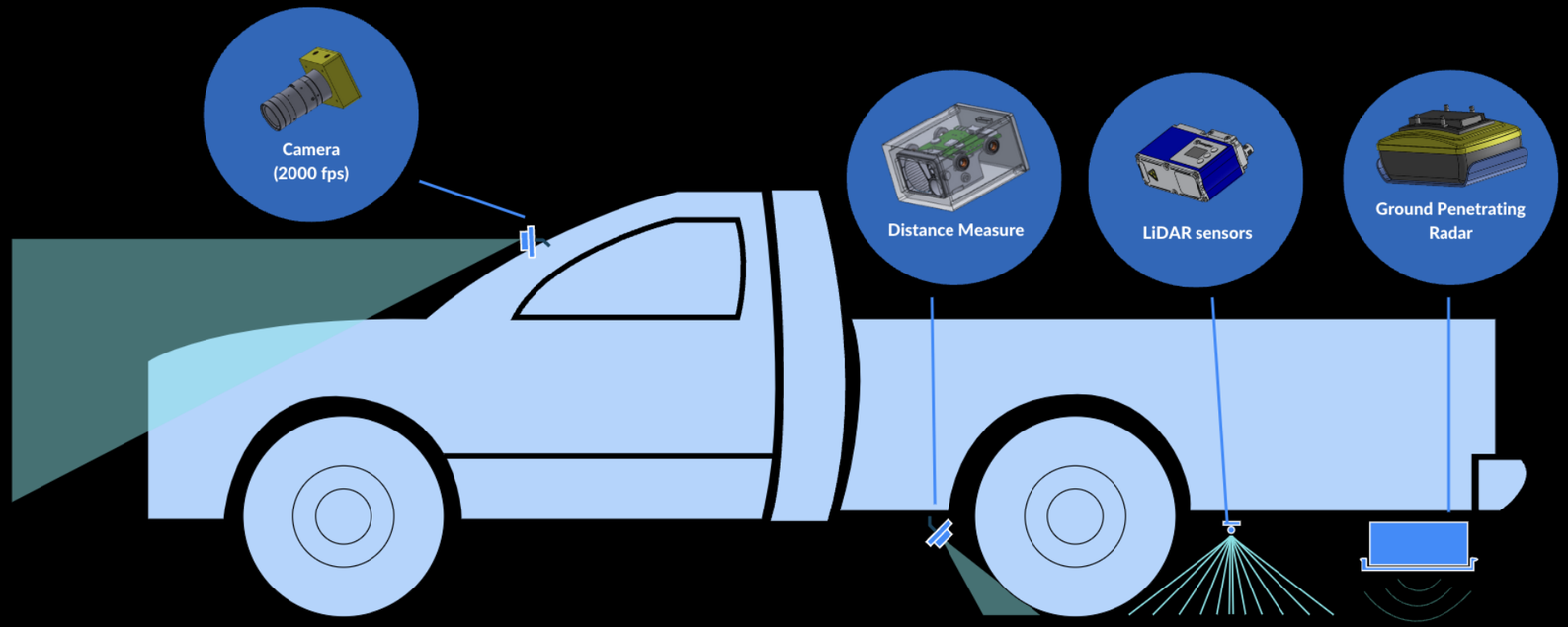
Satellite

- Tunnel
- Construction
- Pipelines
- Dams
- Open Pit Mining
- Tailings Storage Facilities
- Underground Mining

Climate Model

- Flood analysis
- Solar Energy analysis
- Wind Energy Analysis
- Agriculture by climate change impact

Application Example 2 – Non Destructive Road



Application Example 2 - Flood Monitoring

- Predictive Model that uses:
  - Precipitation and soil parameters
  - River flow movement through Digital Elevation Models (DEMs)

To predict where flood water accumulates and where to relocate people