SAMIRA

SEEING AIR IN MOTION INSTRUMENTATION FOR REMOTE-SENSING APPLICATIONS

Pyrotech

SAMIRA
Remote Wind Profiling

- **Cutting-edge LASER Backscatter Technology for Wind Profiling.**
- **360° Monitoring of Wind and Environmental Parameters.**
- **Collects wind data vertically and horizontally at every interval of 100m to 5km.**

FEATURES

- **Wind Profiling for Ballistic Calculations:** Essential for precise artillery and long-range projectile calculations. High accuracy and real-time data ensure precision in trajectory adjustments for hitting targets accurately.
- **Temperature, Particulate Matter, Humidity Monitoring:** SAMIRA's temperature, PM 2.5 and PM 10 and humidity data optimization informs weapon and ammo choices, ensuring operational effectiveness for military personnel.
- **Weather Pattern Recognition:** SAMIRA's enhances military operations, optimizing projectile trajectories and situational awareness. Critical for long-range precision in dynamic scenarios.
- **Artillery Targeting:** SAMIRA improves artillery targeting precision with real-time wind and weather data, enhancing effectiveness and reducing the risk of collateral damage.

- **Rapid Deployment:** SAMIRA's portability enables swift battlefield deployment, enhancing situational awareness and decision-making in dynamic military operations.
- **Data Transmission:** SAMIRA's Real-time data transmission is crucial in the military, enabling effective information sharing among command centers, artillery units, and personnel for coordinated operations.
- **Cost-Effective Solution:** SAMIRA's cost-effectiveness makes it a practical choice for military applications, providing high-precision data at a fraction of the cost of conventional sensor systems.
- **Rugged Build:** SAMIRA is designed to withstand harsh battlefield conditions, ensuring reliability in challenging environments.
- **User-Friendly Interface:** SAMIRA's user interface is designed for ease of use, allowing military personnel to access and interpret data quickly.

Integrating Big Data, ML, and AI elevates SAMIRA's military applications, enabling real-time analysis, predictions, and recommendations, enhancing precision and operational effectiveness.

**SAMIRA
CATSMART BIG-DATA**

- **Optimized Artillery Targeting:** SAMIRA's real-time wind profiling and weather pattern recognition, integrated with historical firing data and terrain information, drive machine learning models to optimize artillery targeting.
  Outcome: Improved artillery targeting, with adjustments made based on the current weather conditions and historical performance data.

- **Prescriptive Analytics for Precision Strikes:** SAMIRA data is integrated with geographic information system (GIS) data and target information. Prescriptive analytics models recommend optimal firing parameters for precision strikes.
  Outcome: Enhanced accuracy in precision strikes by considering real-time environmental factors and target characteristics.

- **Historical Performance Analysis:** SAMIRA data is collected and stored over time. SAMIRA data is combined with historical military operations data. AI algorithms can optimize artillery trajectories and targeting parameters based on SAMIRA data and historical performance data.
  Outcome: Insights into how environmental conditions have affected past missions, informing future strategy and planning.

- **Real-Time Decision Support for Mobile Units:** SAMIRA is mounted on a mobile platform for rapid deployment. SAMIRA data is transmitted in real-time to command centres. AI systems process data and provide real-time recommendations for mobile unit actions.
  Outcome: Enhanced situational awareness for mobile units, allowing for agile responses to changing environmental conditions.

- **Integrated Command and Control:** SAMIRA data is integrated into a centralized command and control system. SAMIRA data is combined with data from various sensors and surveillance systems. AI-driven decision support systems provide actionable insights.
  Outcome: Improved coordination of military operations by considering SAMIRA data alongside other relevant information sources.

SAMIRA's advanced photonic technology and real-time data collection capabilities have applications beyond military gun firing scenarios.

- **Air Defense Systems:** SAMIRA can monitor wind parameters and weather conditions to aid in the operation of air defence systems, such as anti-aircraft artillery and missile systems. Accurate wind data is crucial for targeting and intercepting aerial threats effectively.
- **Naval Operations:** SAMIRA can be integrated into naval vessels to provide real-time wind, temperature, and humidity data for shipboard operations, including naval gunnery, missile launches, and flight deck operations on aircraft carriers.
- **Aircraft Operations:** SAMIRA's data can be valuable for aviation operations, including takeoff and landing decisions, flight path adjustments, and optimizing fuel consumption. It ensures safe and efficient air operations.
- **Unmanned Aerial Vehicles (UAVs):** UAVs rely on environmental data for flight control. SAMIRA can enhance the performance and safety of UAVs by providing real-time wind and weather data for autonomous flight or remote piloting.
- **Chemical, Biological, Radiological, and Nuclear (CBRN) Defense:** SAMIRA's augmented simulation identifies geospatial and precise location Impact on the release of CBRN. Incidence and Risk Management can be quickly planned.
- **Disaster Response:** SAMIRA can be deployed in disaster-stricken areas to assess environmental conditions, including wind patterns. It aids in planning and executing effective disaster response efforts.
- **Border and Perimeter Security:** SAMIRA's capabilities in detecting weather patterns and anomalous environmental conditions can be useful for border security and surveillance systems to identify potential threats.
- **Geospatial Intelligence (GEOINT):** SAMIRA's data can contribute to GEOINT by providing real-time and historical information on environmental parameters that can be used for intelligence analysis and decision-making.