# Composite AI for Regulatory Compliance – Real World Evidence (RWE)

Prepared for

## World AI Summit, Doha

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# Composite AI

# Composite AI Landscape

## Decisioning Rules, Statistics, Machine Learning QML, Network Analytics

Business Rules , Statistical Analysis, Automated Machine Learning, Synthetic Data Generation, Quantum Machine Learning, Network Analytics

## Large Scale Forecasting, Mathematical Optimization (Hybrid Quantum)

Large Scale Hybrid Time-series Forecasting and Mathematical Optimization, Quantum Optimization - QAOA

## Natural Language Processing and Deep Learning

Speech to Text, Text Categorization, Information Extraction, RAG (LLM), Agentic AI

## Computer Vision (Streaming Analytics)

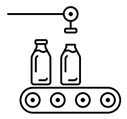
Image and Video Analytics, Streaming Analytics, Edge Analytics

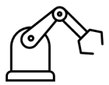
COMPOSITE AI

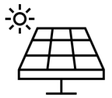
# Composite AI Use Case : Predictive Asset Maintenance

Composite AI | Machine Learning | Streaming Analytics I Generative AI

FACTORY







## MACHINE DATA

### SENSOR DATA

VIBRATION | PRESSURE | ENERGY

### KNOWLEDGE BASE

EQUIPMENT MANUALS | MAINTENANCE RECORDS | WORK INSTRUCTIONS

## EVENT STREAM PROCESSING

### STREAMING AI

DATA ACQUISITION | ENRICHMENT /QUALITY | ANOMALY DETECTION

RAW ALERT + DATA

### INDUSTRY AGENT

MACHINE STATE | ADVANCED ANALYTICS | AUTOPROMPT GENERATION

## Retrieval Agent Manager

### LLM/RAG

NO/LOW CODE INTERFACE | MODEL AGNOSTIC | TRUSTWORTHY RESPONSES

API

## DECISION SUPPORT

### CONTEXTUAL ALERT

ROOT CAUSE | CORRECTIVE ACTION | WORKFORCE EFFICIENCY

# Composite AI + Case Management

- **Smart Monitoring Center (Transport)**
  - Optimizing Road Safety with Smart Fine & Violation Analytics
- **Continuous Monitoring for Waste and Abuse (Industry Agnostic)**

# Smart Monitoring Center

### Real Time Data Ingestion

Interface with TIBCO, Kafka for Real Time Data Exchange

### Rule creation & execution & AI/ML

Deploy business rules and analytics for context segregation and processing

### Investigation Engine

Provide workflow platform for investigation of evidences and take informed decision

### Visualization Engine

Performance Dashboard and Risk Score Assessment

## Four Critical Components

# Optimizing Road Safety with Smart Fine & Violation Analytics

**Real Time Data Ingestion**

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**Rule creation & execution**

Deploy business rules for context segregation and processing

**Investigation Engine**

Provide workflow platform for investigation of evidences and take informed decision

**Visualization Engine**

Performance Dashboard and Risk Score Assessment

**Real Time Streaming Engine**

- Industry Standard Data Exchange
- Flexible User Interface for configuration
- High Availability Architecture

**Dynamic Rule Creation**

- Dynamic Alert Rules
  Moving Window
  Geo-Fencing
  Anomaly Detection
  ML Deployment

**Workflow based investigation process**

- Configure workflow for investigation process
- Visualize evidence and gather reports and documentation
- Provide network analytics

**Dashboards, KPI's and Alerts Visualization**

- Configure performance dashboards
- Monitor Events, Alarms, Investigation status
- Anomalous process conditions alerts


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# Continuous Monitoring for Waste and Abuse

# Continuous Monitoring for Waste and Abuse


| CoPilot | Syntactic Data | AI Assist |
|---|---|---|
| **GenAI** | | |
| Impact Analysis | | |
| Policy Simulation | | |
| Forecasting and Planning | | |
| NLP, Text Analytics | | |
| Supplier Performance Analysis | | |
| Case Management | | |
| Scenario-Based Risk Management | | |
| Continuous Monitoring & Alerting | | |
| Dashboards and Realtime Reporting | | |
| Network Analysis | | |
| Fraud Detection: | | |
| Anomaly Detection | | |
| **Multi-Dimensional AI-Driven Outcome** | | |

# SAS is a Leader in Government

**134**

**Countries with SAS government customers**

**1,600+**

**Different departments, ministries and agencies**

**1976**

**Five decades of innovation, the first funded project was for government.**

Gartner

SAS cited as Leaders in Gartner Magic Quadrant for Data Science & Machine Learning Platforms , Data Quality Solutions, and Voice of the Customer for Analytics and Business Intelligence Platforms

FORRESTER®

SAS named a leader in AI Decisioning Platforms,

## CUSTOMERS INCLUDE

هيئة أبوظبي للطفولة المبكرة
Abu Dhabi Early Childhood Authority

MANATŪ HAUORA
MINISTRY OF HEALTH

NC DEPARTMENT of INSURANCE
MIKE CAUSEY, COMMISSIONER

CROSSBORDER

Healthy NV Project™

MEF

NCRIC

Federal Public Service FINANCE

IDC

SAS named leader in Machine Learning Operations Platforms

Chartis

SAS named a leader in Model Risk Governance, Enterprise Fraud Management and Payment Risk, Fraud and Anti-Money Laundering (FRAML) solutions

# Question for Audience ?

- Can you think of use cases in your respective industry where combining multiple analytical techniques and disciplines is needed for smart or continuous monitoring?

# Thank you

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