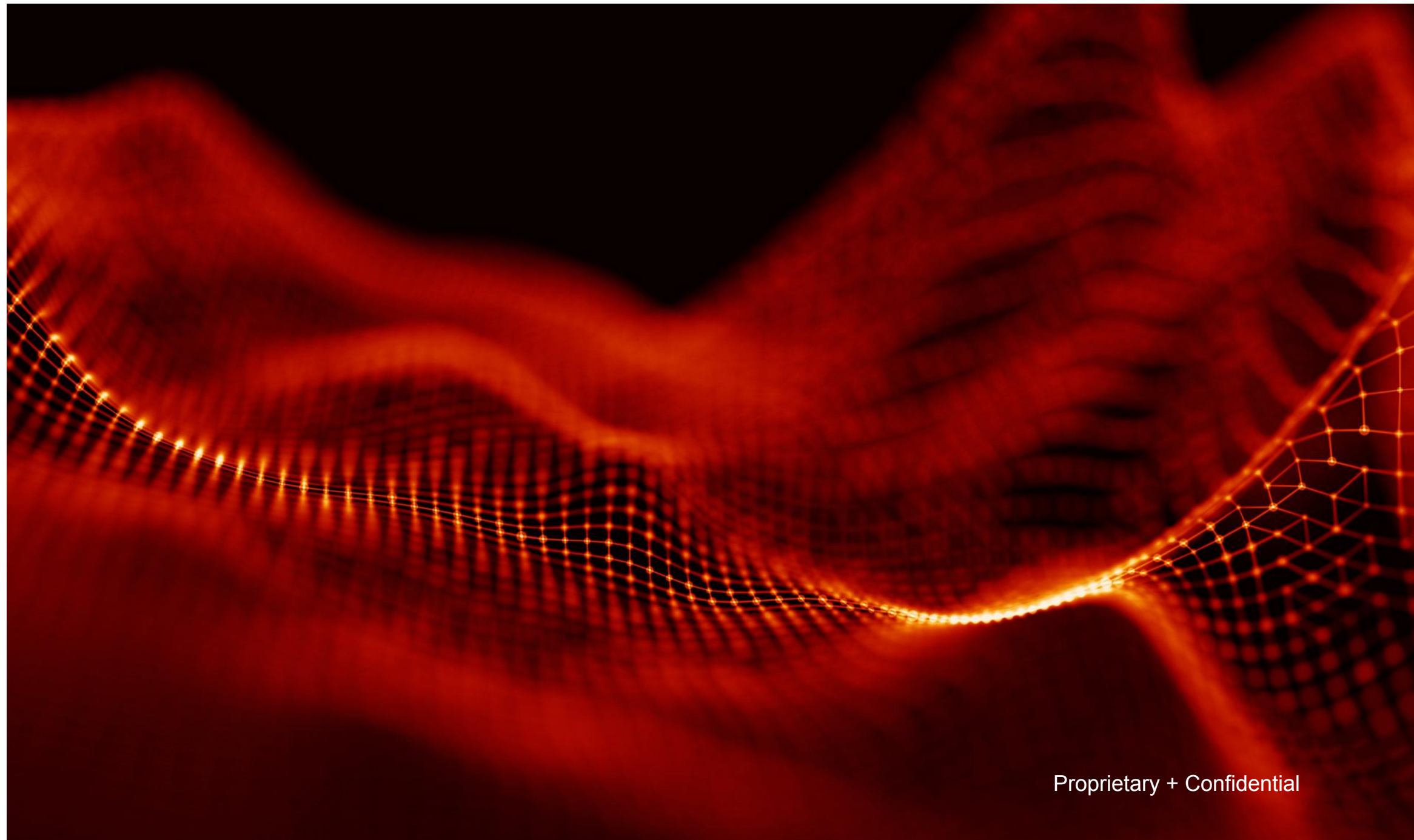


# RANGPT, a GenAI tool for test and automation

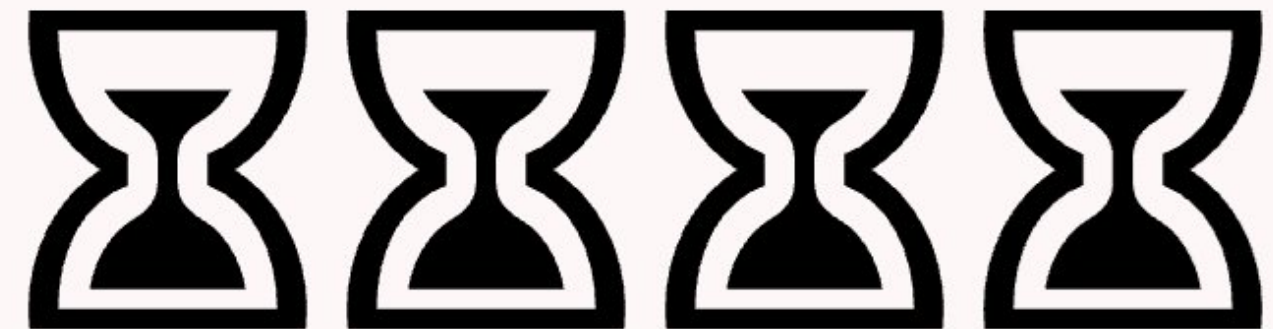
Babak Jafarian, PhD  
Aira Technologies Inc.

 **i4y LAB Lab Summit 2024**



# RANGPT Suite

**Time to Automate from Scratch: Aira**



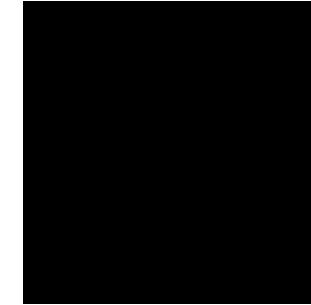
**Time to Automate from Scratch: Legacy**

# What is RANGPT?



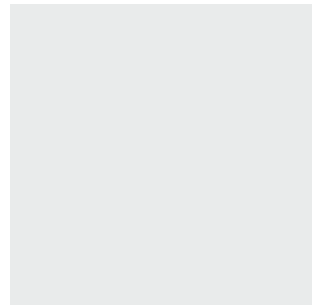
## What problem does RANGPT solve for mobile operators?

- Expected 8-fold improvement in trouble shooting productivity by accelerating troubleshooting
- Approximately 2x improvement in time to deployment of new network applications
- Expecting 15-20% OPEX efficiency by enhancing performance across design, O&M and field operations



## What is available in the RANGPT Suite?

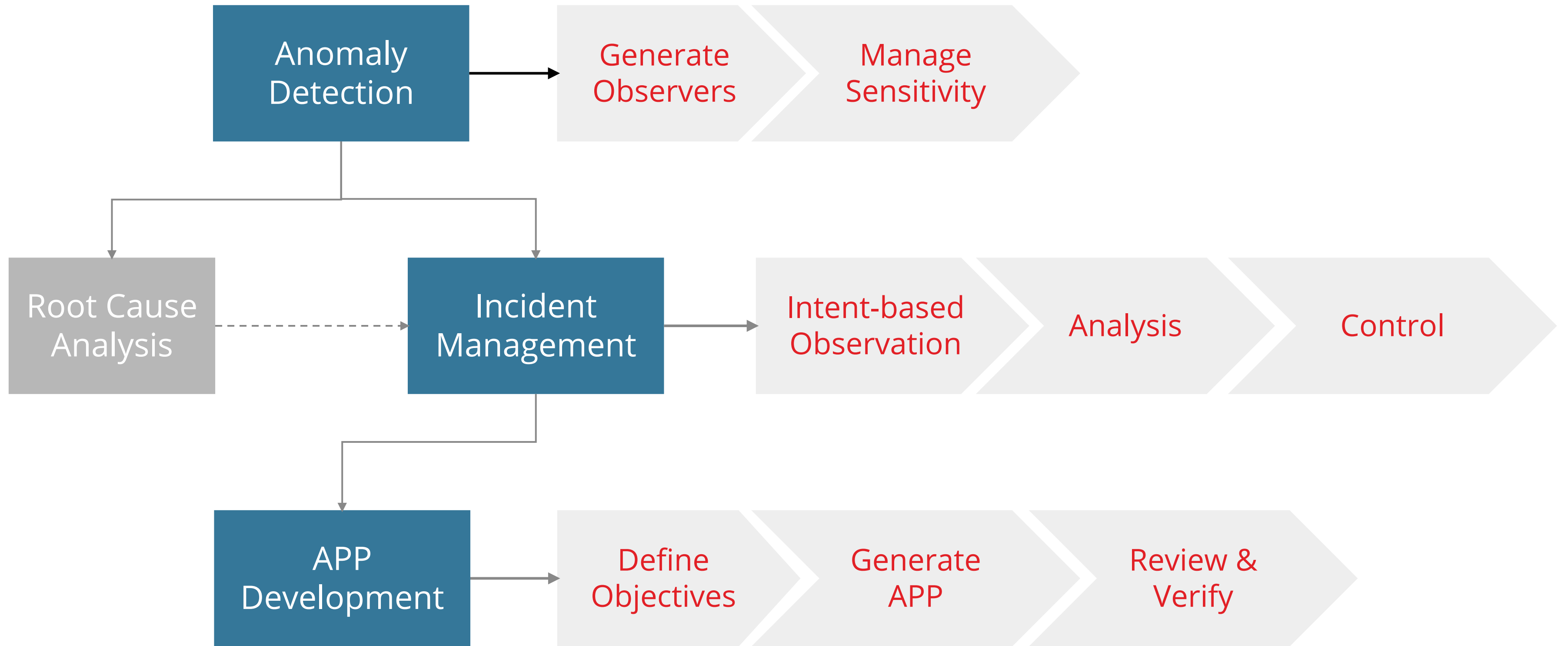
- Observability and Analysis
  - Provides an intent based interface for users to perform analytical and troubleshooting tasks
  - Enables CSP network engineers to intelligently access multiple pools of data for insight
- Automation
  - Enables operators to generate simple applications and scripts based on intent
  - Automatically generates code, tests code, links to relevant libraries, registers & deploys
  - Speeds up the task of generating network applications



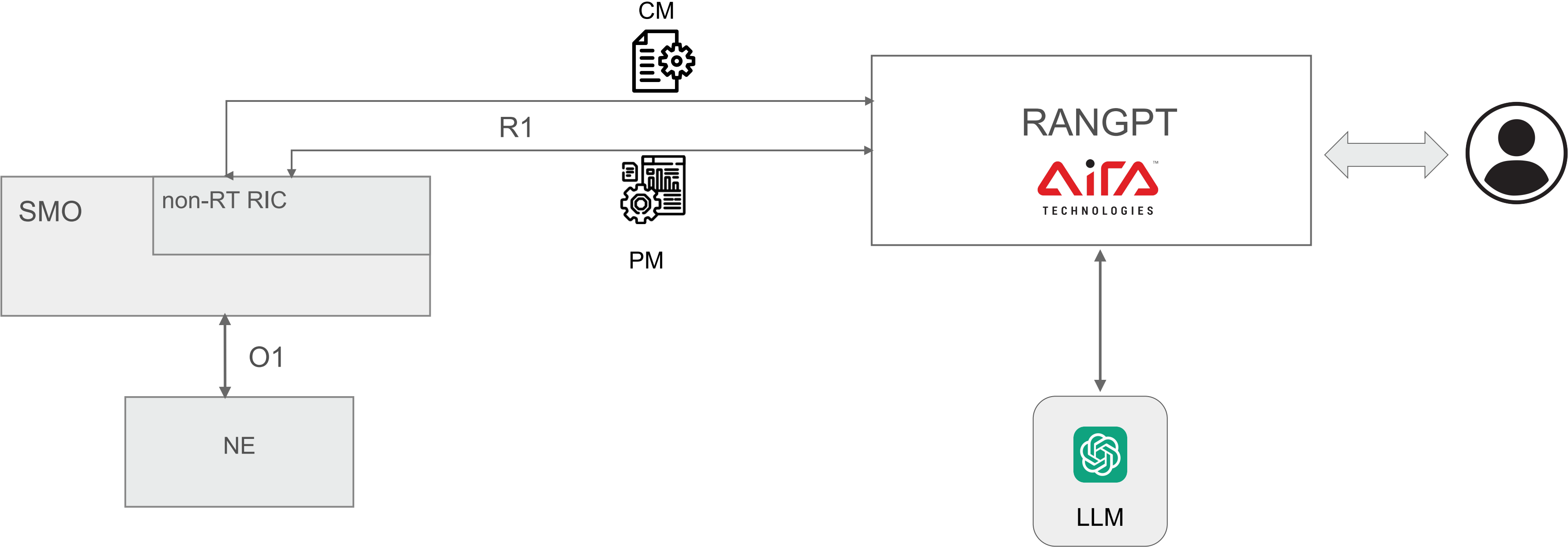
## How does RANGPT solve the problem?

- Utilizing GenAI, RANGPT acts as a co-pilot & enhances performance across operators internal groups
- The platform will be integrated with SMO thorough R1and utilizes PM, CM & other management data.

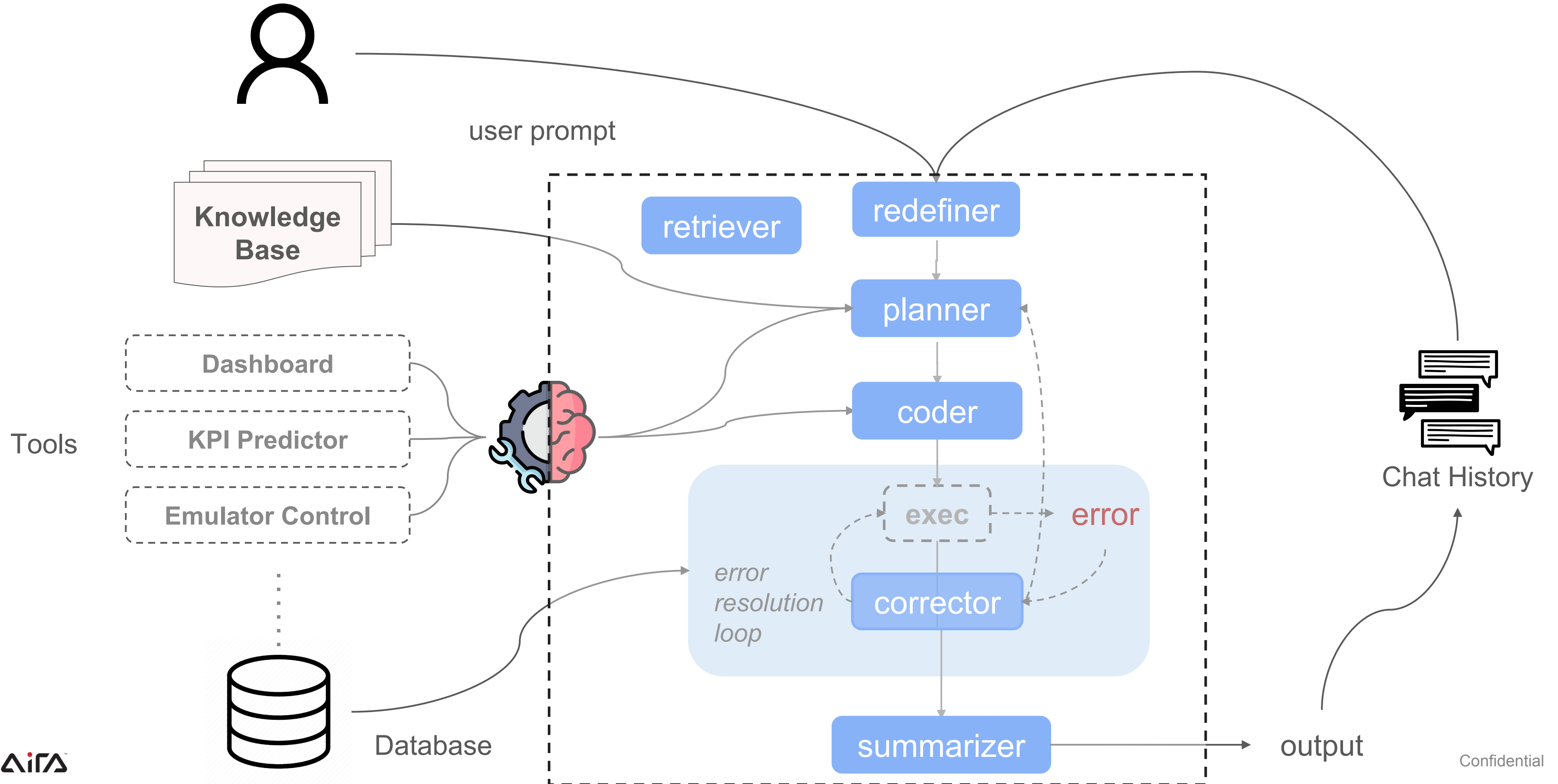
# Aira RANGPT Suite: Gen-AI platform for Telcos



# RANGPT Deployment

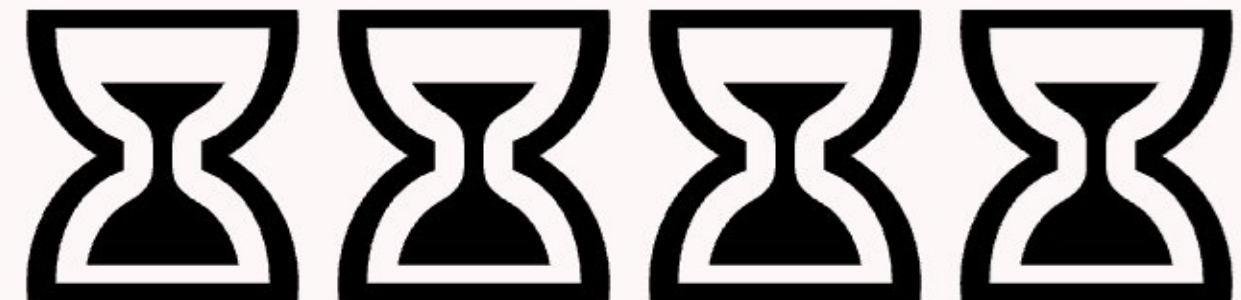


# RANGPT Multi-Agent Framework



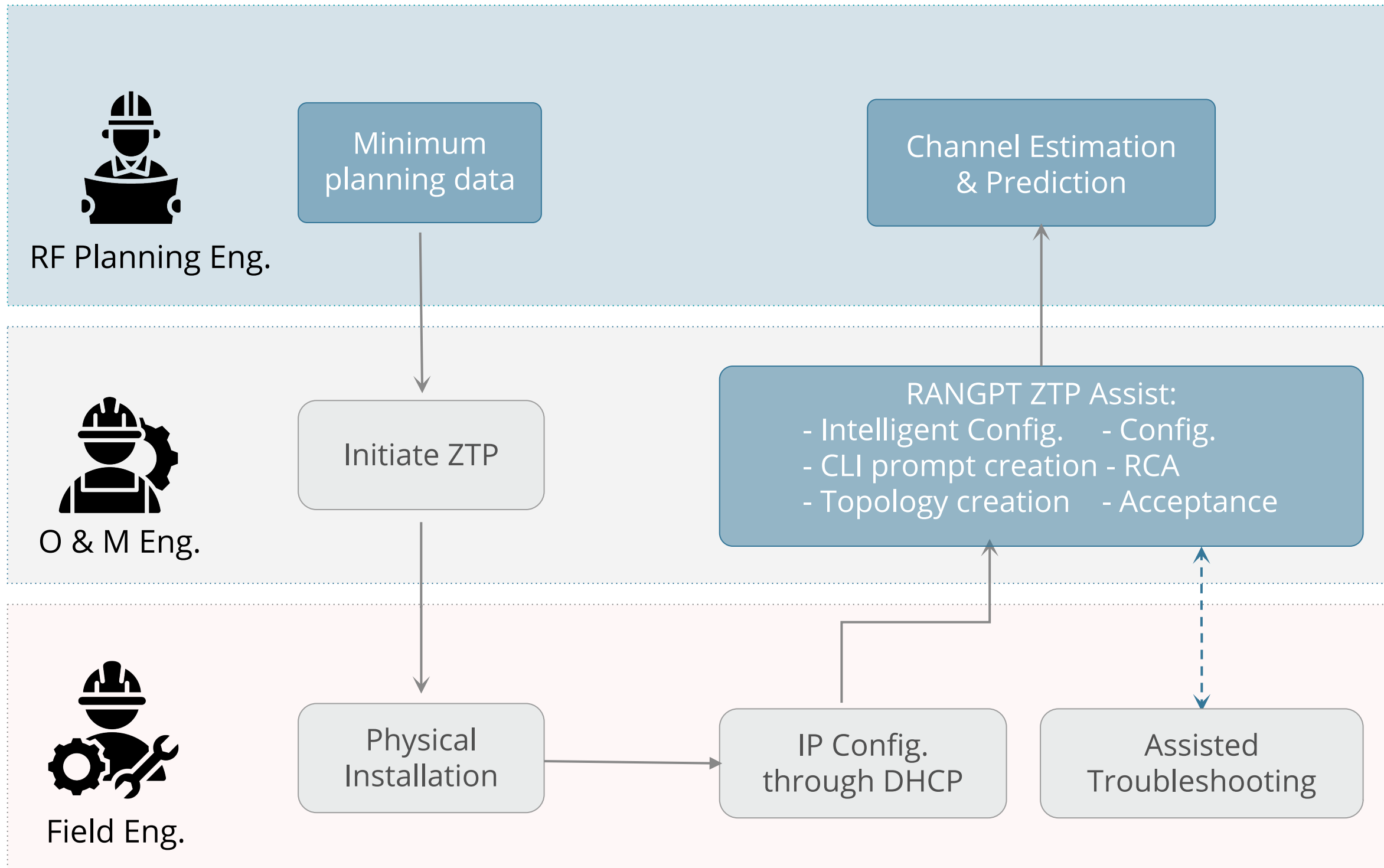
# RANGPT Use Cases

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**Time to Automate from Scratch: Legacy**

# RANGPT: ZTP Improvements



RANGPT improves ZTP for new site and upgrade provisioning



# Use Case 1: RANGPT ZTP Assist

## **Intelligent Configuration**

RANGPT will provide intelligent and automated configuration based on provided existing configuration files.

## **CLI Prompt Creation**

Automatic generation of CLI prompt for generated configuration.

## **Topology Creation**

Automated interface configuration.

## **Configuration**

PNF automated configuration.

## **Root Cause Analysis**

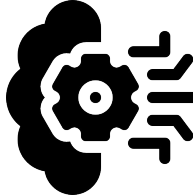
Automated RCA generation in case of configuration issues.

## **Acceptance**

Acceptance and automated generation of verification report.

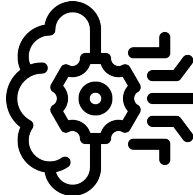
# Use Case 2: RANGPT Anomaly Detection

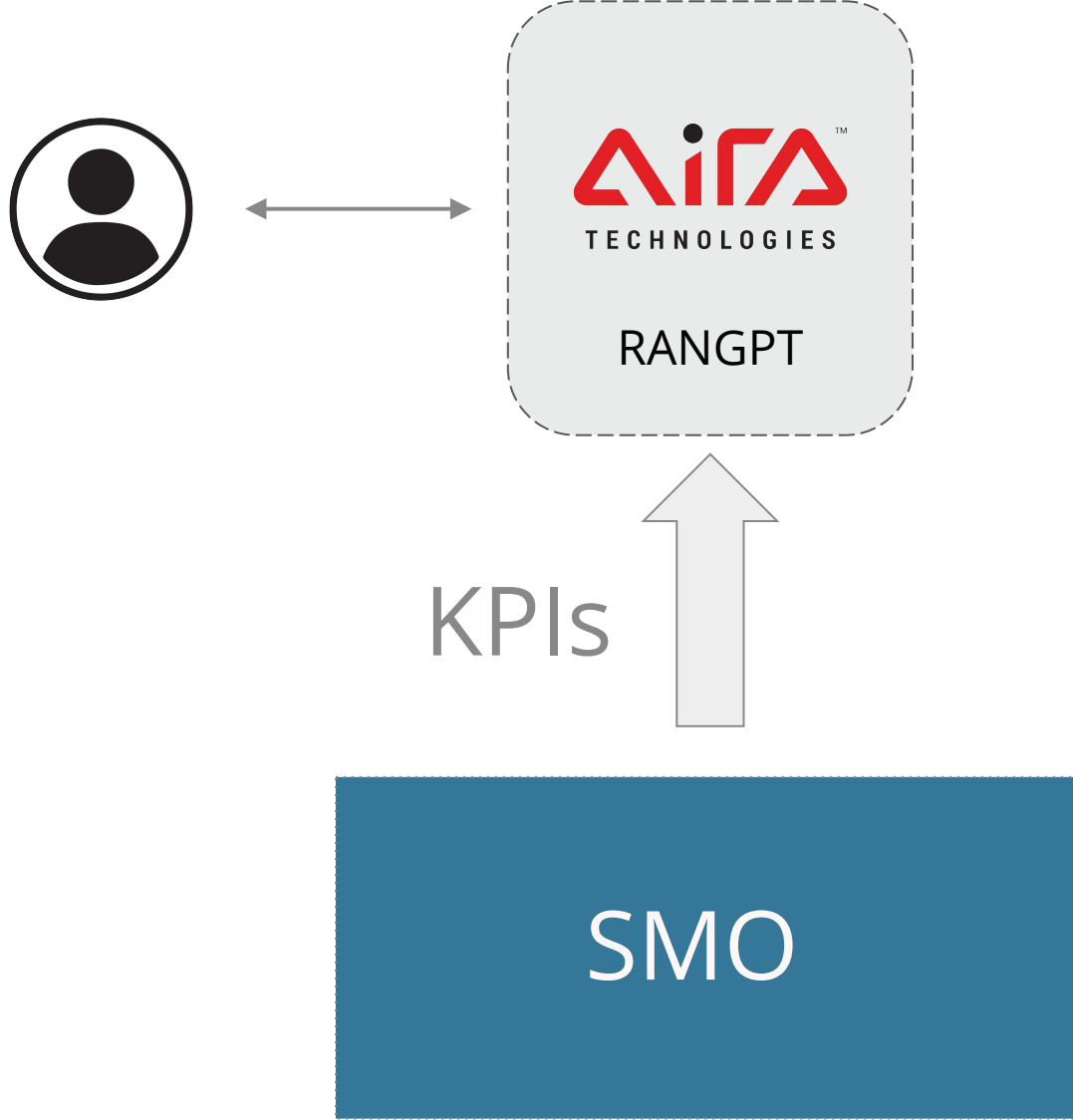
## ANOMALY REPORTING

 Traffic Anomaly Model

 Energy Anomaly Model

 Mobility Anomaly Model

 User-defined Anomaly Model



# Use Case 2: RANGPT Anomaly Detection

## Existing Model Capacity

RANGPT supports traffic, mobility and energy anomaly detection based on existing models.

## User Capacity

Users will be able to define a new category of anomaly to RANGPT for automated model generation.

## Integration Capacity

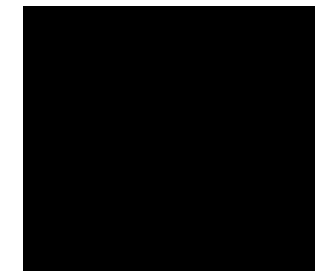
RANGPT provides anomaly reporting and can be integrated to RCA module for further analysis.

# Use Case 3: Root Cause Analysis (RCA)



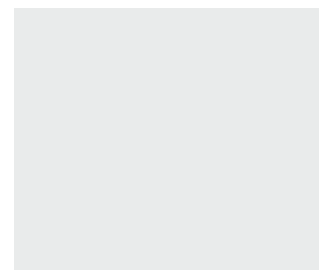
## Data Collection & Analysis

RANGPT collect all relevant data in the data lake



## Find the Root Cause

RANGPT will identify the root cause and provide the report



## Define the Problem

Based on the collected data, the problem will be identified



## Share the Results

# Use Case 4: RANGPT Intent-Based Automation Development

### User-Defined Intents

Generate network applications based on user defined intents

### Script Generation

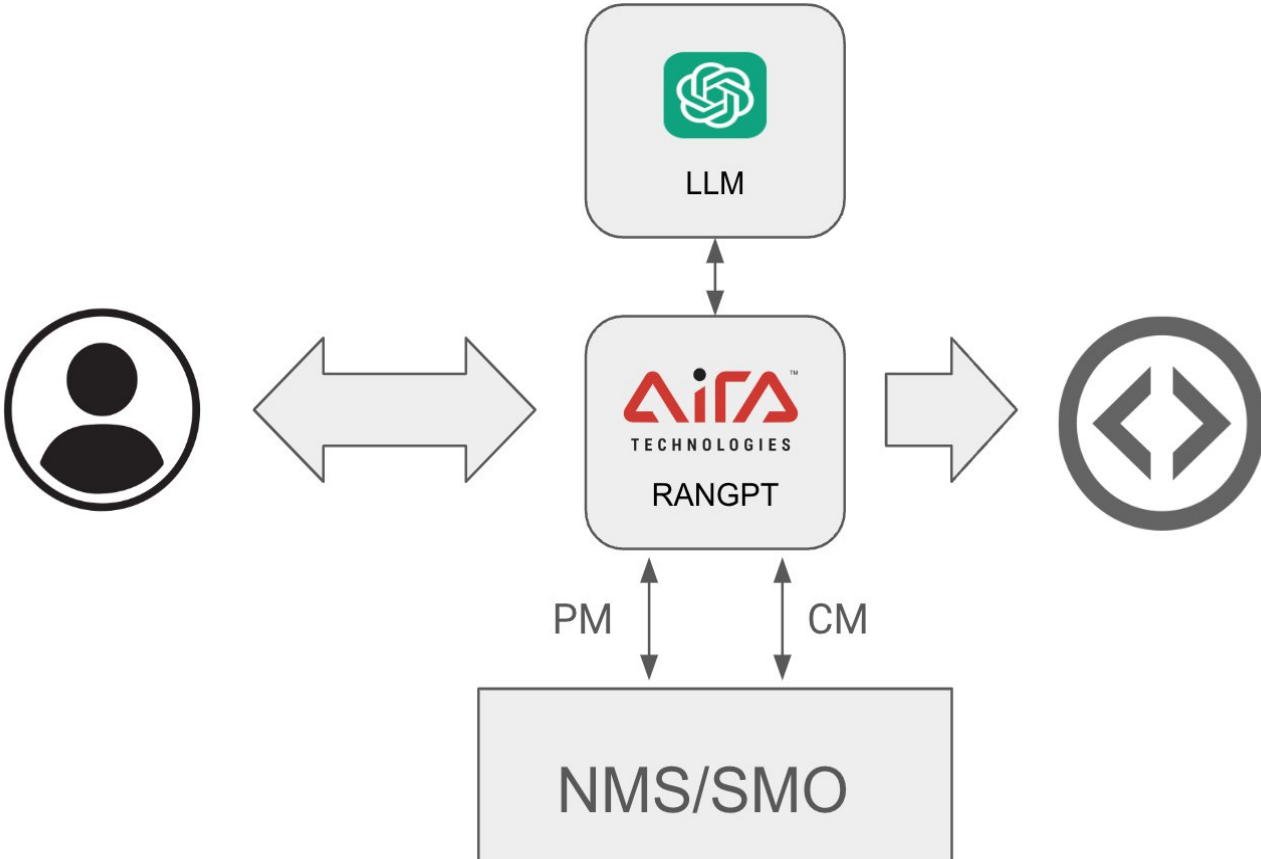
Simplify network automation by generating on-the-fly scripts for different tasks

### Testing

Integrated QA tests and validation

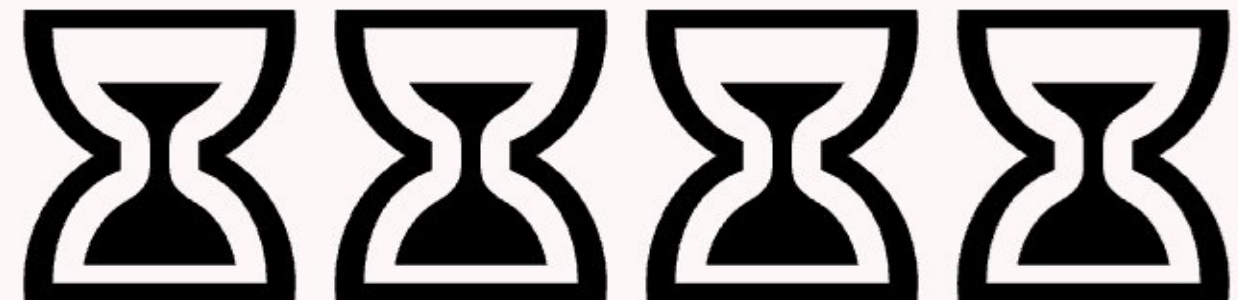
### Deployment

Automated onboarding into NMS or SMO



# RANGPT Video

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**Time to Automate from Scratch: Legacy**



**T E C H N O L O G I E S**