
ZAC
Telecom

Data-Related Trends in Telecom

Expansion of 5G

Telcos are targeting industry sectors with 5G apps and IoT devices to amplify the position of network systems and streamline business processes.

Artificial Intelligence

Artificial intelligence opens up new avenues for network maintenance, predictive maintenance, and customer service cost reduction with real time decision making. AI can help improve root cause investigation, allowing for more efficient resolution of visible and potential hardware defects.

Internet of Things (IoT)

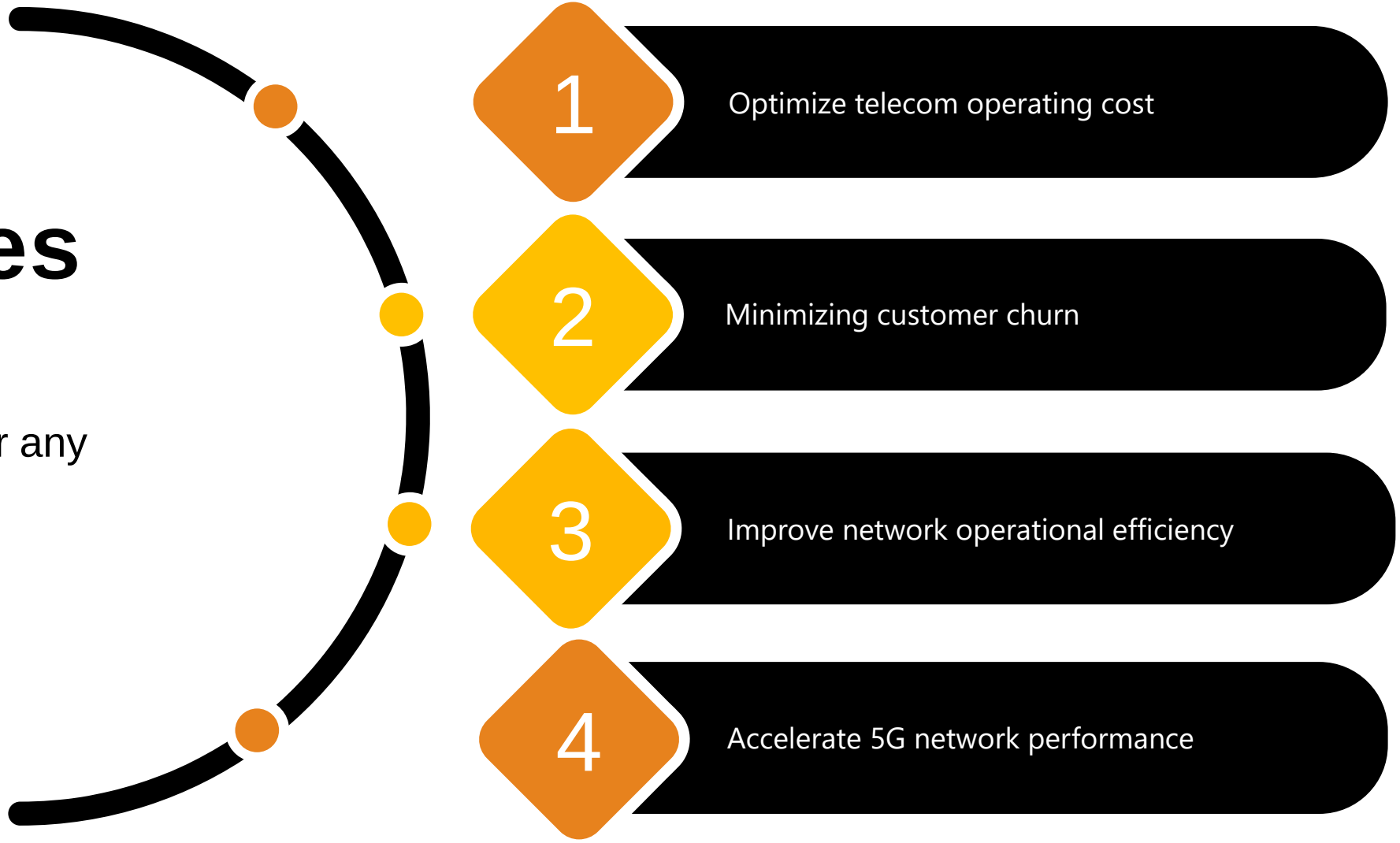
IoT in Home Automation is one of the most promising domains since it provides superior mobile and network services to intelligent home mobile apps and real-time surveillance systems.

Edge Computing

With the pay-per-use service model, telecoms can launch new services, lower service costs, and work more efficiently while responding to evolving market demands.

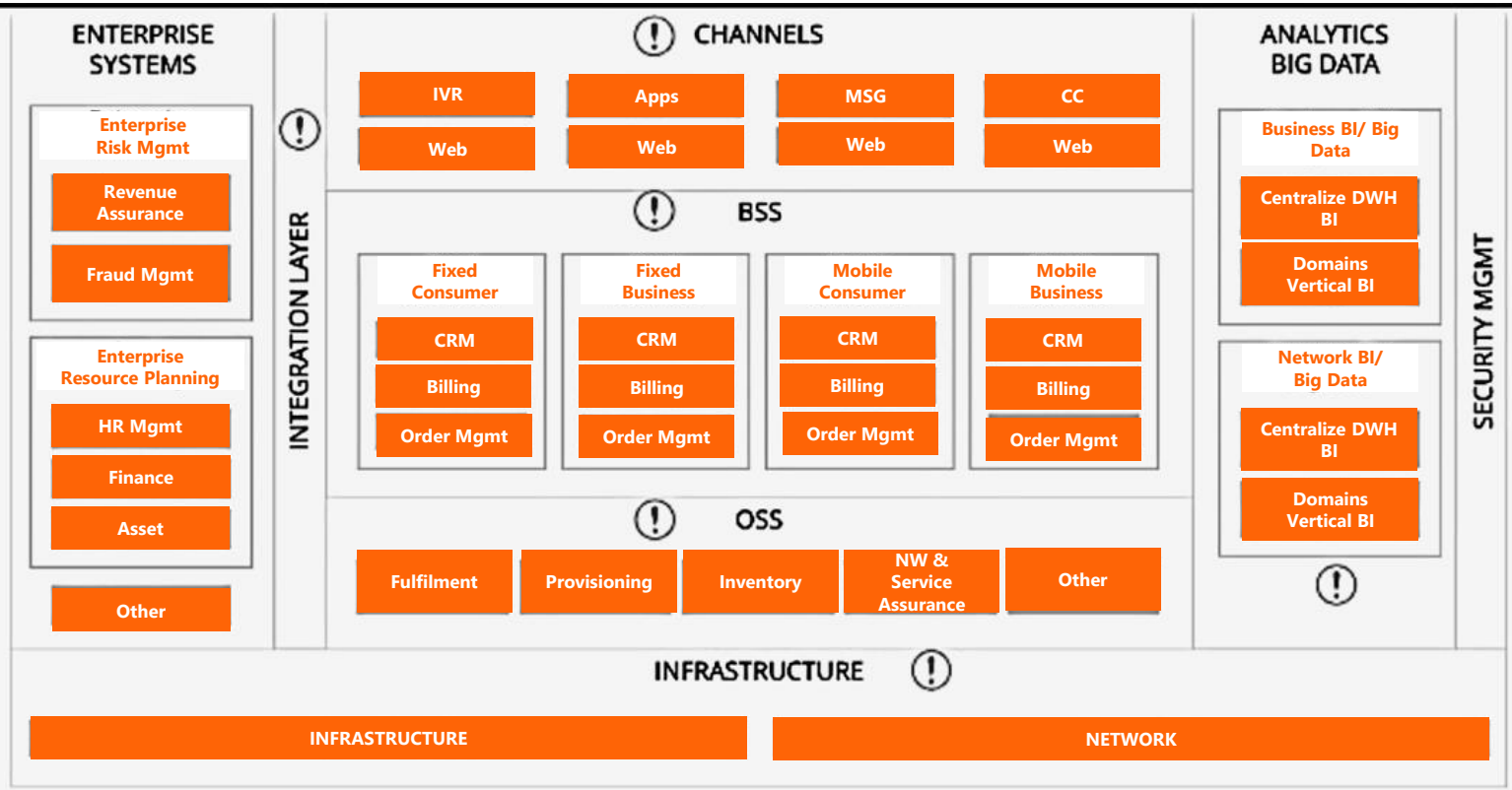
Objectives

Few Key Priorities for any Telecom Industry



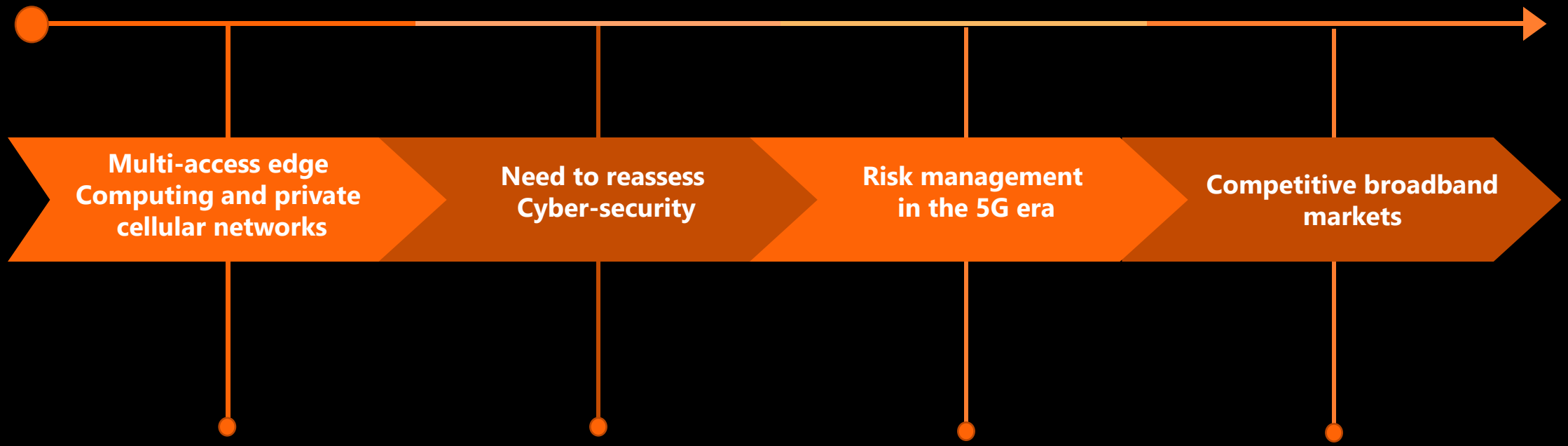
Data Sources

Telco’s IT Architecture



Telcos’ current IT architectures are not able to satisfy business needs because of their high complexity, lack of flexibility and low level of automation.

Current State



The market is still nascent but promises to be competitive, with many different players vying for their share. Network operators will have to compete against other players, who may prove key partners in delivering their solutions.

While the widespread adoption of 5G offers many benefits, it also creates new security concerns and challenges.

As operators have taken steps to minimize threats arising from 5G in their own organizations, they are in a unique position to offer security services to enterprises seeking to deploy their own advanced wireless networks.

Faster mobile and fixed wireless connections create more viable alternatives to wired connections and new opportunities for bundled service offerings and business models for service providers.

Challenges

Complex Modelling

Customer 360, with ever growing schemas

Real-time Monitoring

Time sensitive
Post-event detection is ineffective

Large-scale event/ Transaction handling

Billions or trillions scale

Leverage OTT players

Implementing the industry's best practices as fast as possible to continue delivering the best customer service.

Complex operational process

Subtle and effective signal buried in network

Network security

Necessary to implement measures like reliable, secure authentication features.

IZAC Architecture for Banking

DATA SOURCES

Call Detail Records
Billing Data
Mobile phone usage
Server Logs
Network Equipment
Social Networks
Web clickstream
Call Center Records
Application logs

Real-time Events

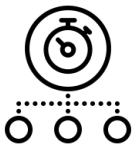
DATA MANAGEMENT & PROCESSING


Fraud Detection


Customer 360


Operational Analytics


Real-time CDR Analytics


Real-time Event Processing


Fleet Management

IZAC Data Exchange Platform

Actionable Insights

OUTCOMES

Customer Behaviour
Customer Retention
Network management and optimisation
Data Management
Customer Segmentation
Chatbots
Social Integration
Personalized messages

Real Time Analytics Platform

Cloud Hosting

Always On, Always-Fast

Operations

Always Optimized

Customer 360

Always Intelligent

Fraud Detection

Always Protected

Decisions

Always Proactive

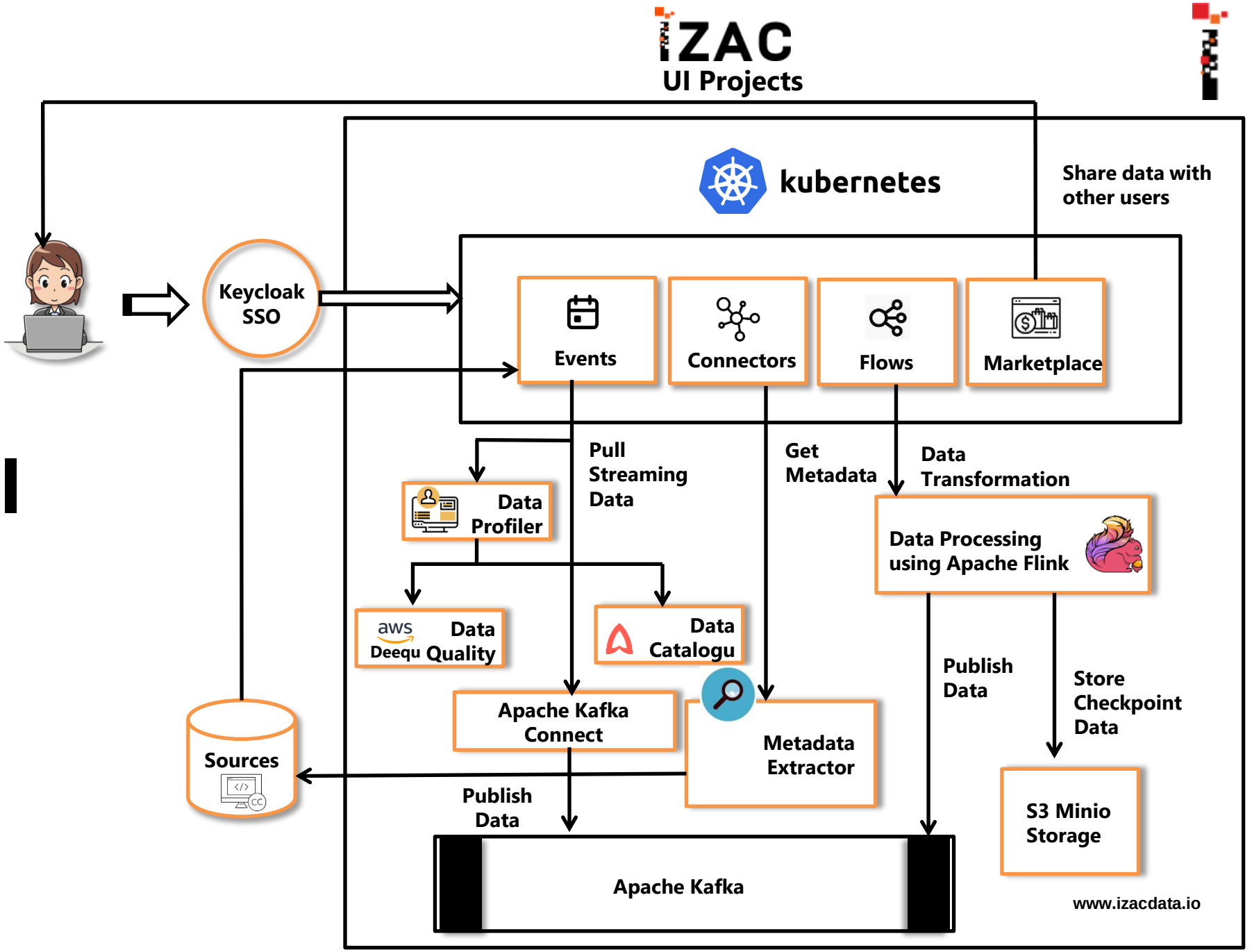
People

Always Empowered

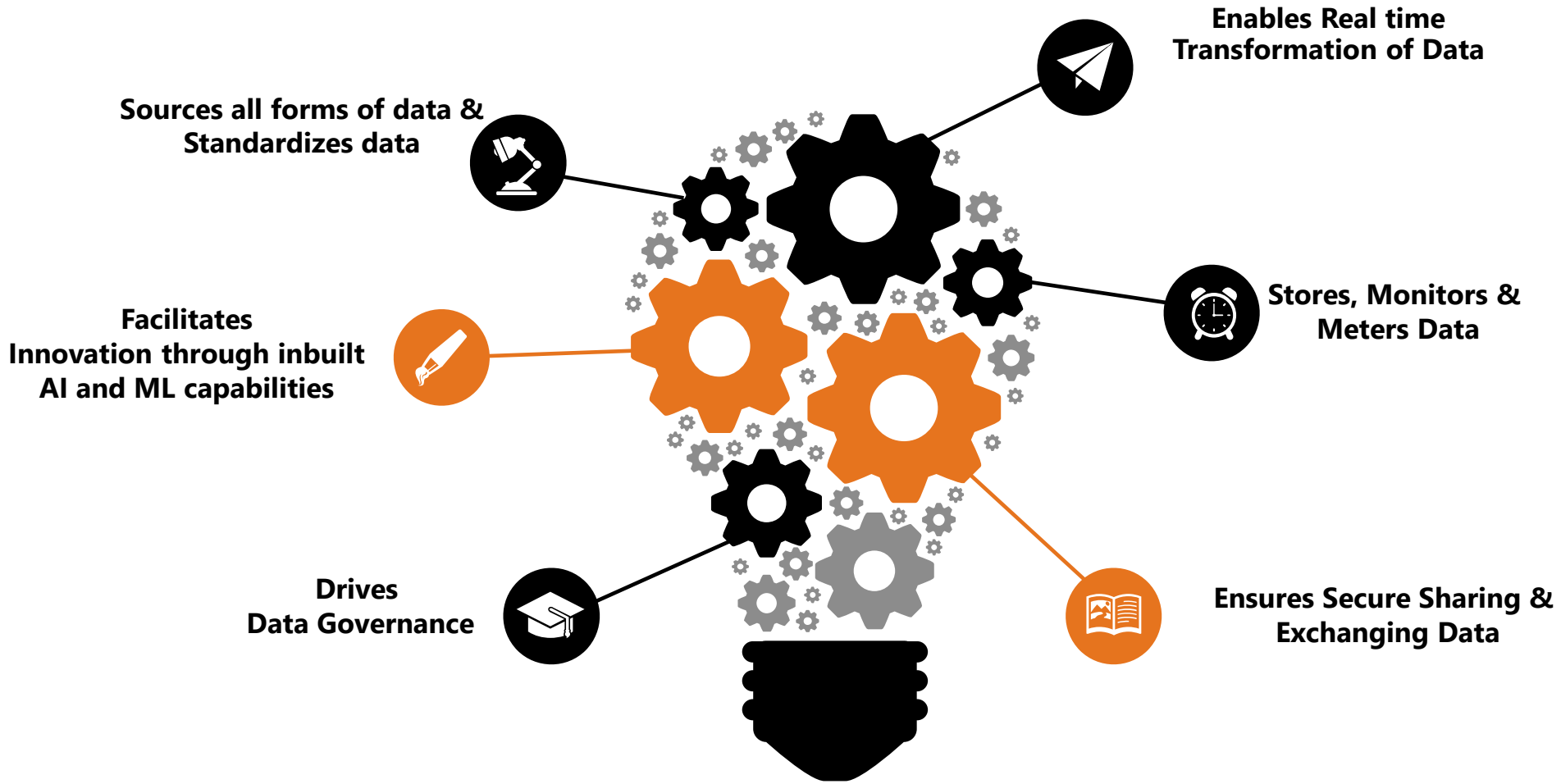
IZAC Data Exchange Platform

Telecom

IZAC Internal Architecture

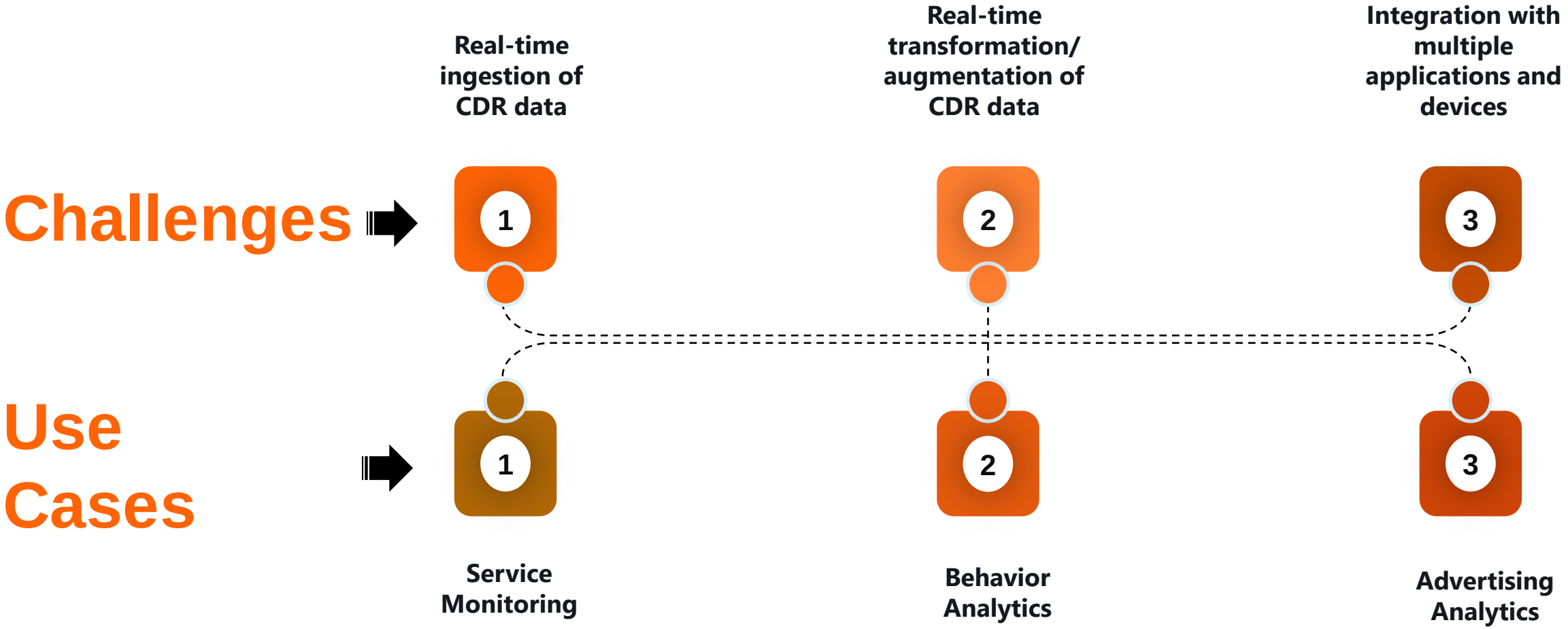


IZAC – Digital Transformation Enabler

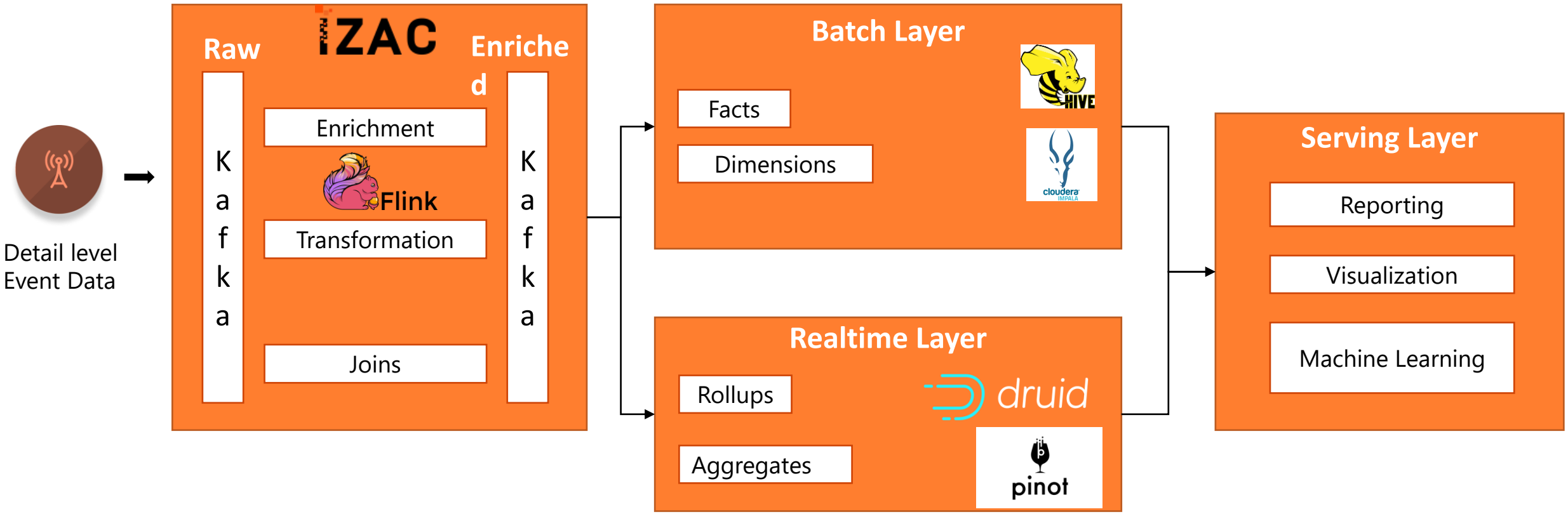


Real-time CDR Analytics

Challenges and the use cases



Real-Time Architecture



Solution Approach

Real-time ingestion using IZAC and Kafka

Real-time transformation using IZAC and Flink

IZAC helps in integrating with multiple applications

Ingesting data into Druid for faster roll ups and analytics

Value Proposition-

Improved Quality of Service

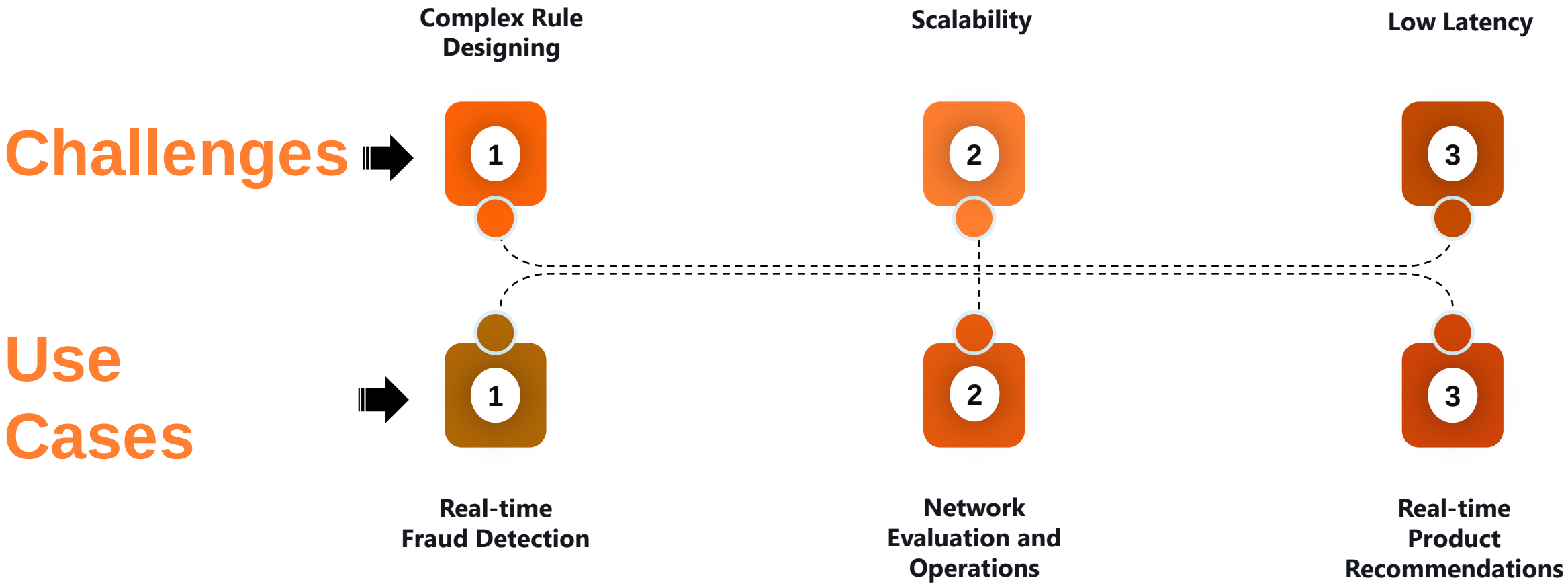
Data is received and calculated in real-time. IZAC helps in calculating metrics such as daily average users, average bit rates, log in duration, API response time to improve customer experience.

Understanding user behavior and taking corrective actions to decrease the resolution time.

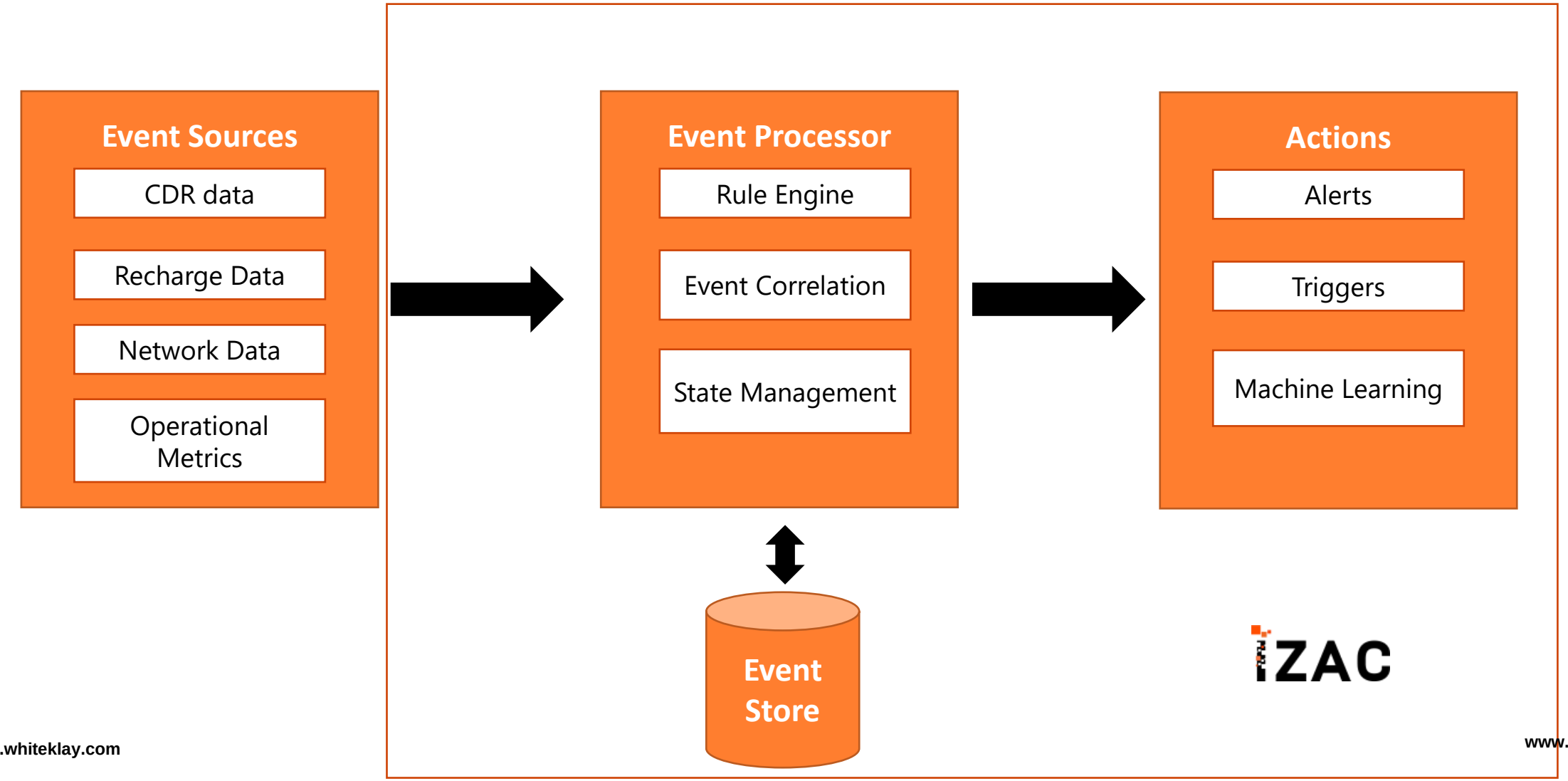
Ability to understand and design newer data products for cross sell and upsell

Real-time Event Processing

Challenges and the use cases



Solution Approach



Value Proposition-

Improved Quality of Service

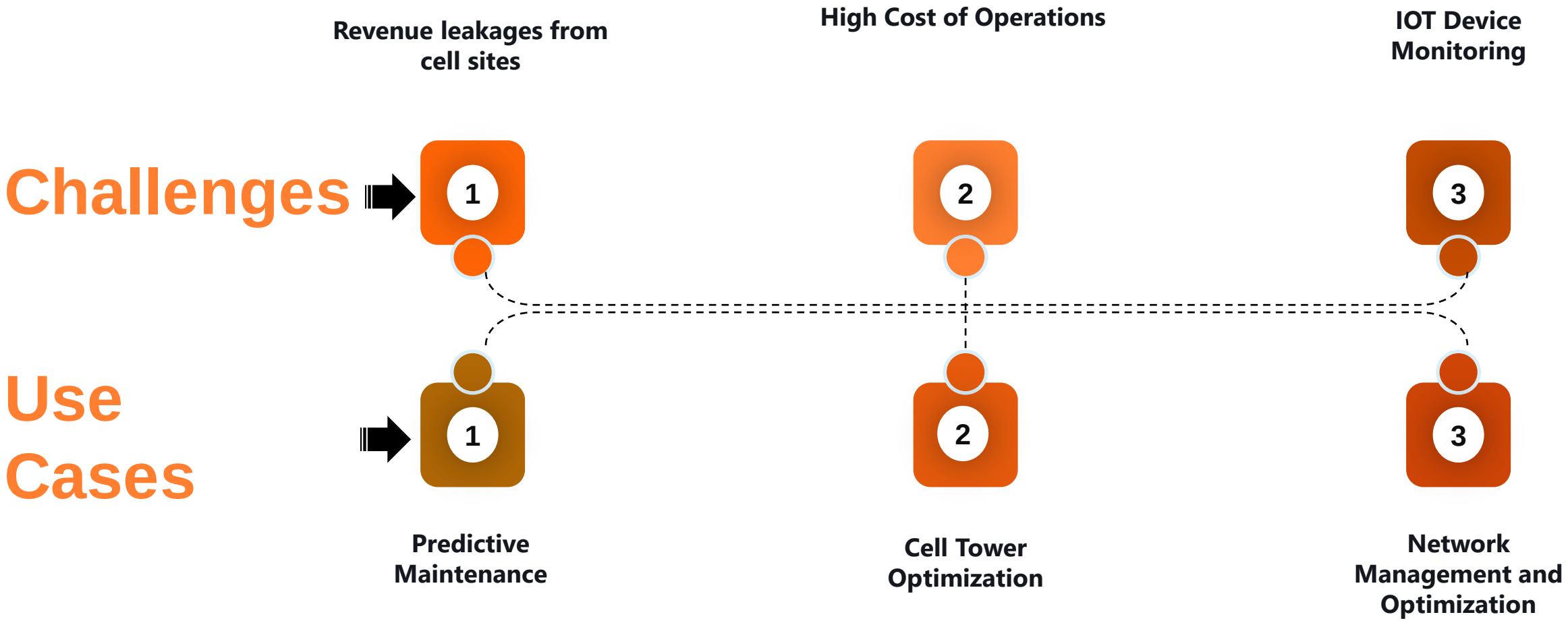
IZAC helps telecom analyze customers' usage patterns on the network and respond to them quickly and accurately

Compute Fraud detection rules in real-time to detect and stop frauds

IZAC helps business analysts easily write rules using a drag and drop framework thereby giving ability to design Realtime offers and campaigns

Operational Analytics

Challenges and the use cases



Solution Approach

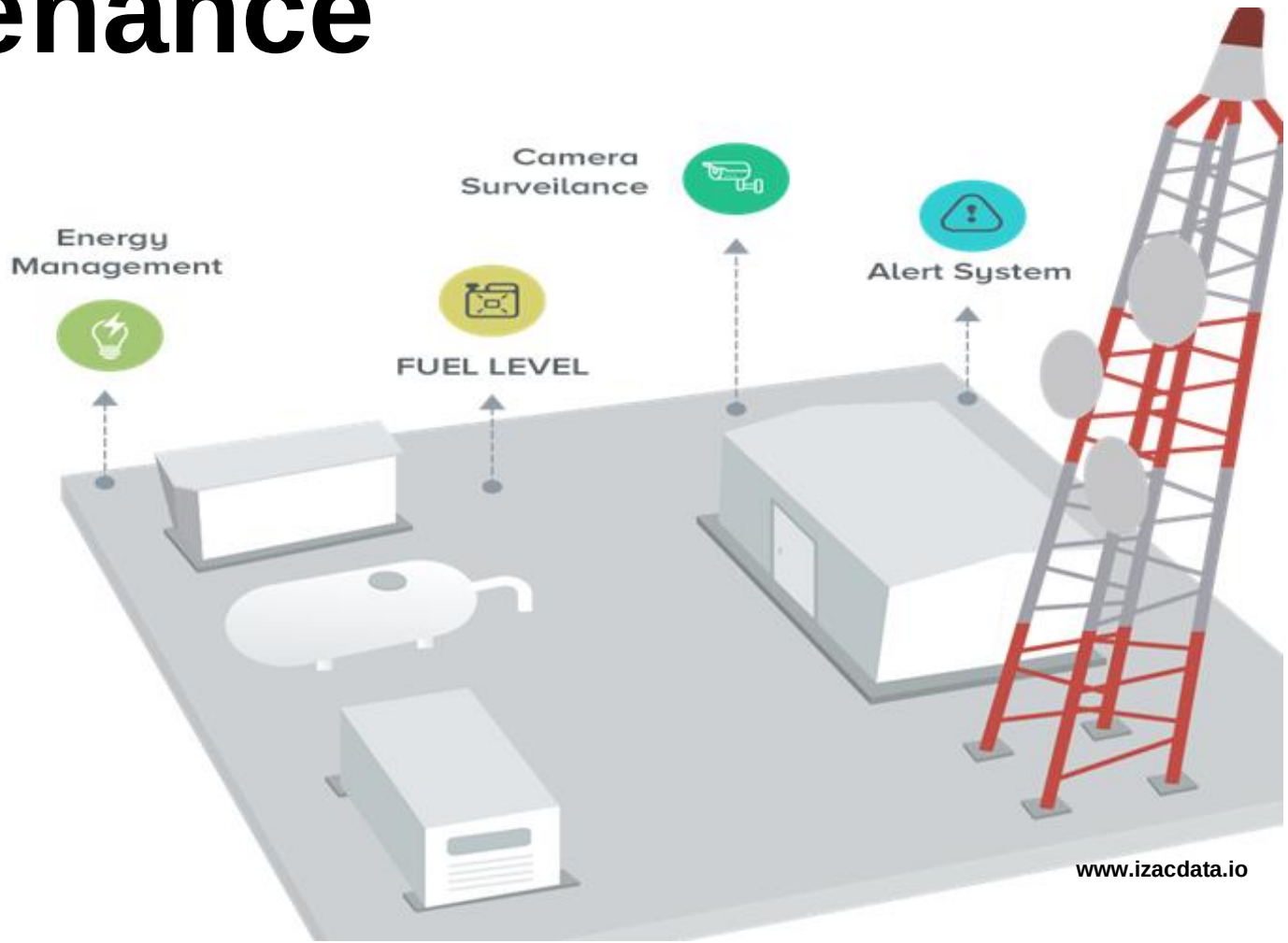
Sensor based analytics for predictive maintenance of cell sites

Gather , structure , augment data from sensors

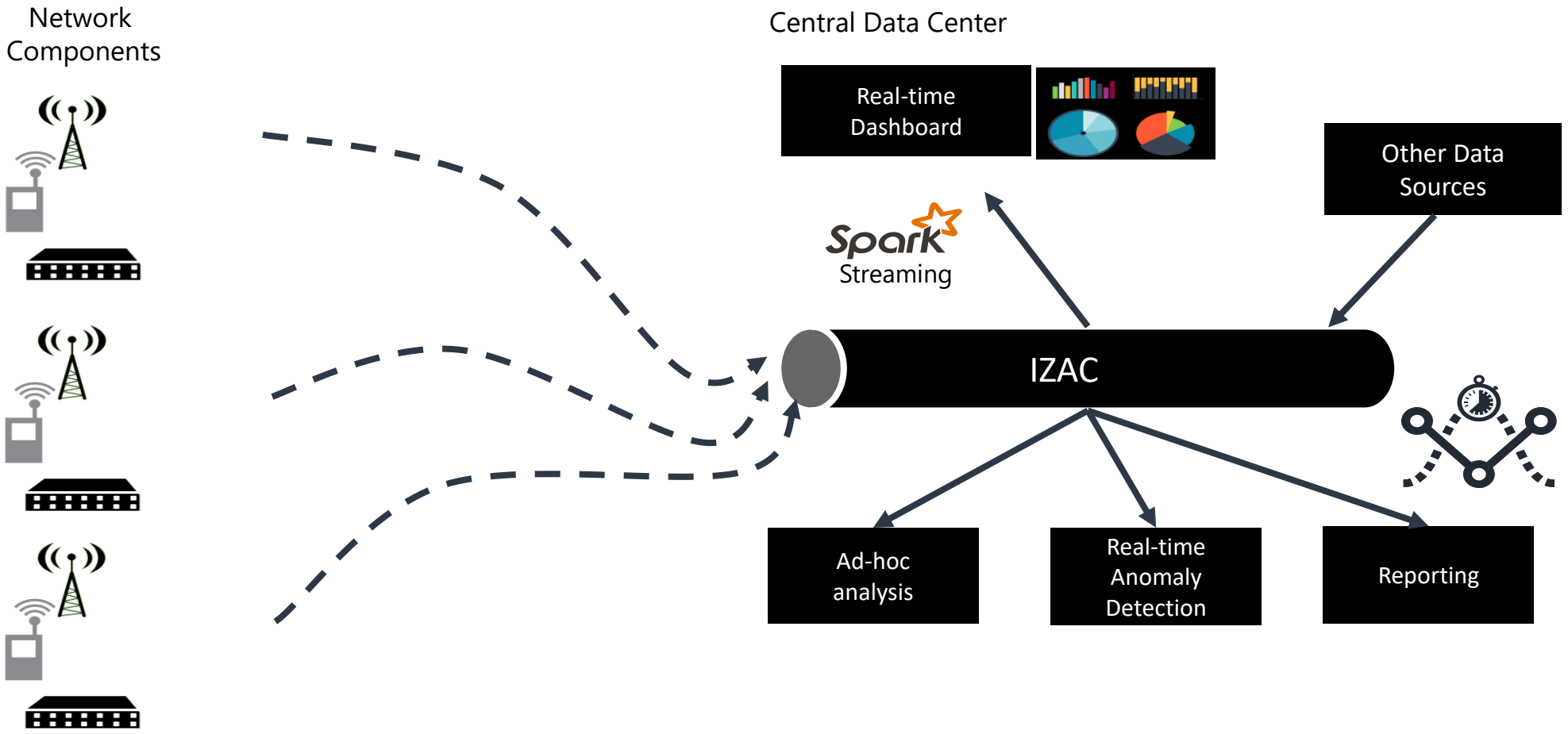
Predict device failures , maintenance schedules ,refueling of generators etc.

Data mining to detect anomalies

Predictive maintenance of Cell Sites



Realtime Detection using IZAC



Use Case: Real-time Antenna Tuning

Business Results

Improved customer satisfaction, reduced churn by responding to hot spots in real time.
Effective, granular capacity planning.

Why Streaming

Real-time collection and processing of subscriber location data.

How we helped

Global topics for aggregation of data across all regional antennas.

Unified Data Lake providing whole solution -

1. Real-time processing pipeline
2. NoSQL DB for data enrichment
3. SQL engine for historical queries

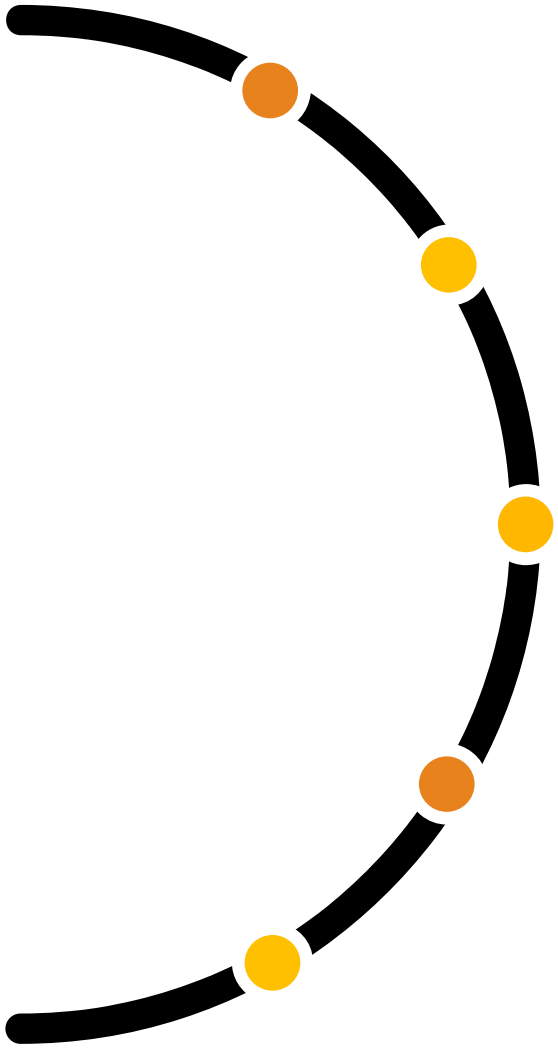
Value Proposition-
Improved Quality of Service

IZAC with its variety of connectors helps in integrating data from variety of sources

Realtime aggregation and processing provides insights to Operational Analytics

Ability to deploy machine learning models to perform predictive analytics

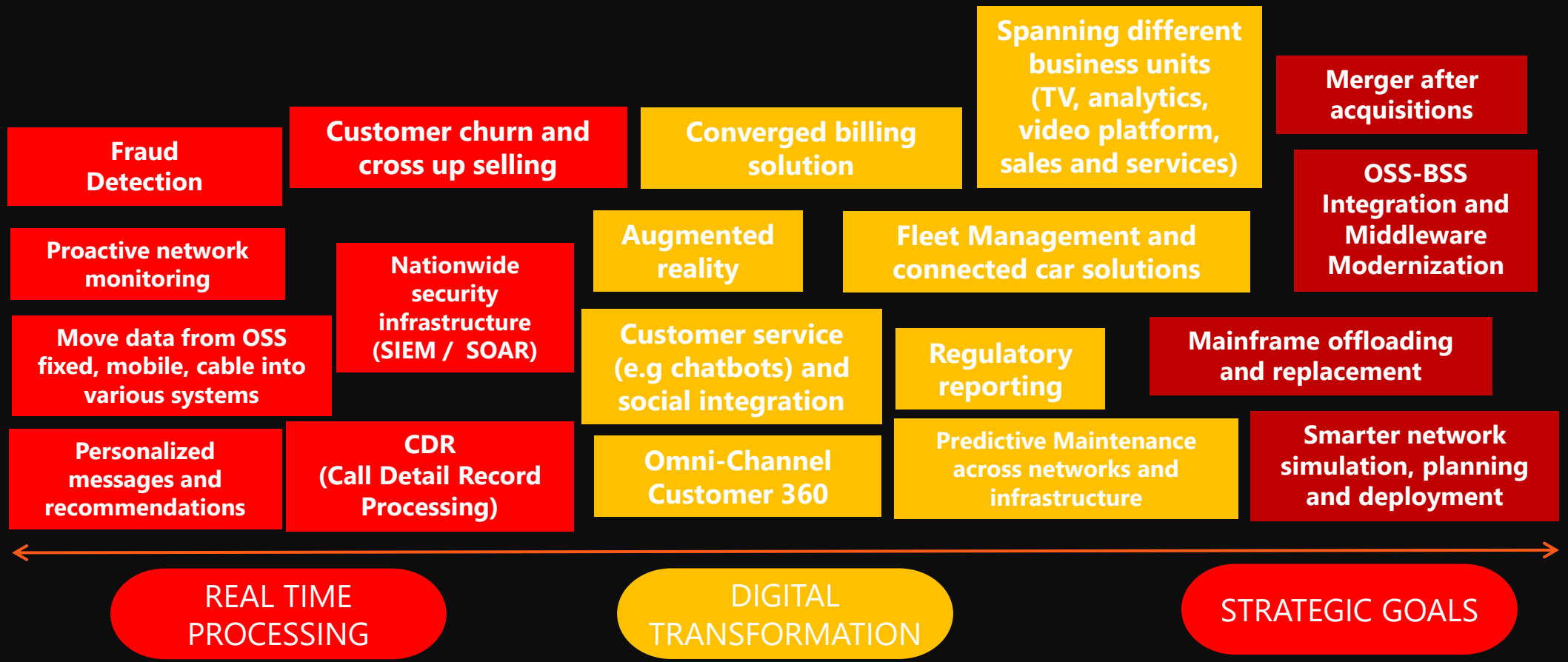
Benefits



1. Minimizing customer churn
2. Improves network quality based on traffic information by region and time-zone.
3. Ensures data protection and privacy to help reduce risk
4. Enables telecom operators to detect and predict network anomalies.
5. Ensures and reports on regulatory compliance.

Kafka Use Cases in the Telco Industry

Event Streaming for Traditional and new innovative use cases



Implemented
In Progress

Thank You