Data-Related Trends in Insurance

Predictive Insurance Analytics

Identifying outlier claims

Pricing and Risk Selection

Anticipating Trends

Triaging claims

Identifying customers at risk of cancellation

Identifying risk of fraud

IoT and Telematics

Driving Behavior Analytics

Customizing Insurance Plans

Timely Maintenance Reminders

Customers' Driving Habits

Insurance Chatbots

Provides quotes or addresses other FAQs

Offers 24/7 assistance

Collects visitors' contact information

Automate the claims process

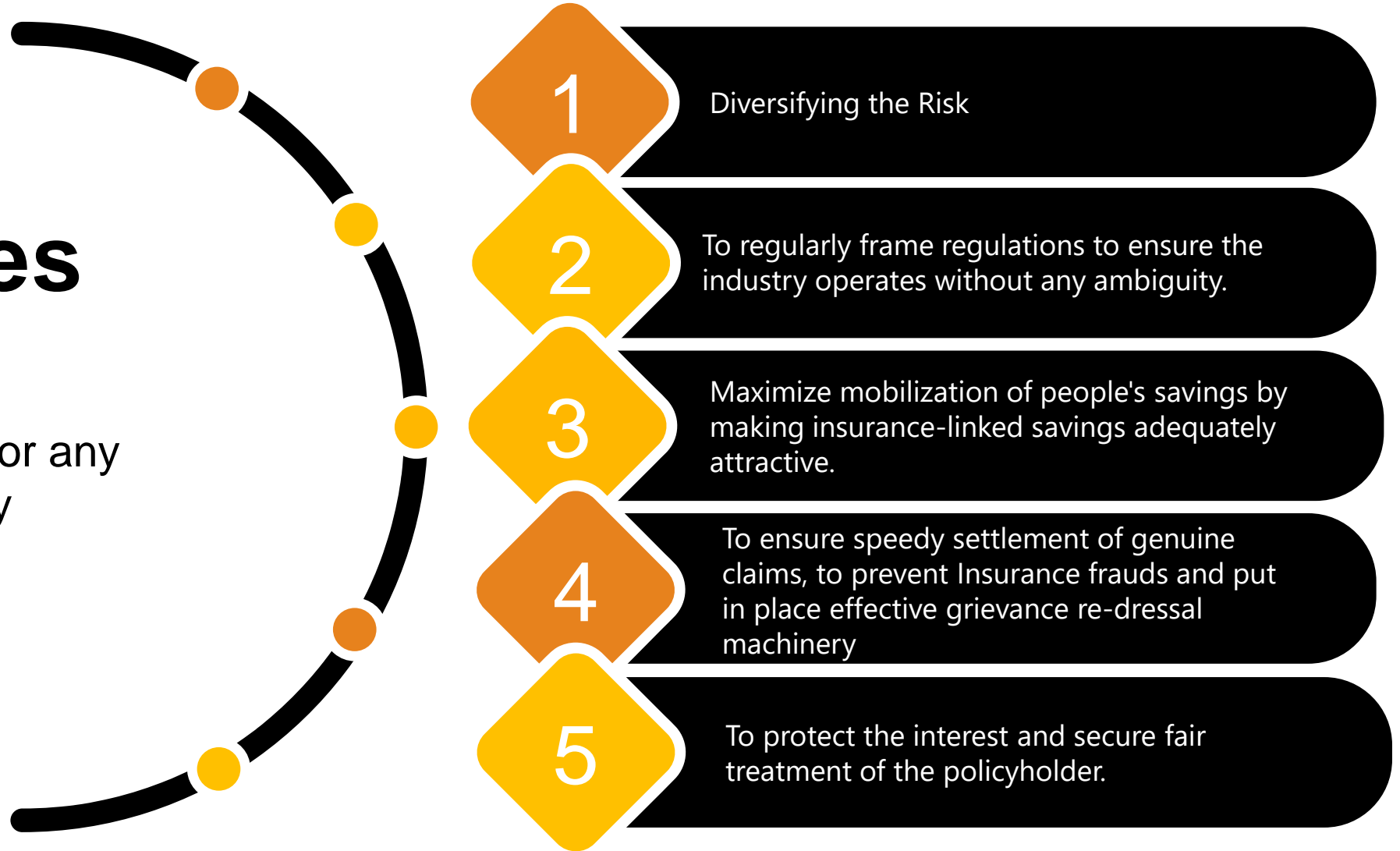### Applied AI and NLP

Fraud detection software

Document capture technologies

Risk management software

Claims processing software
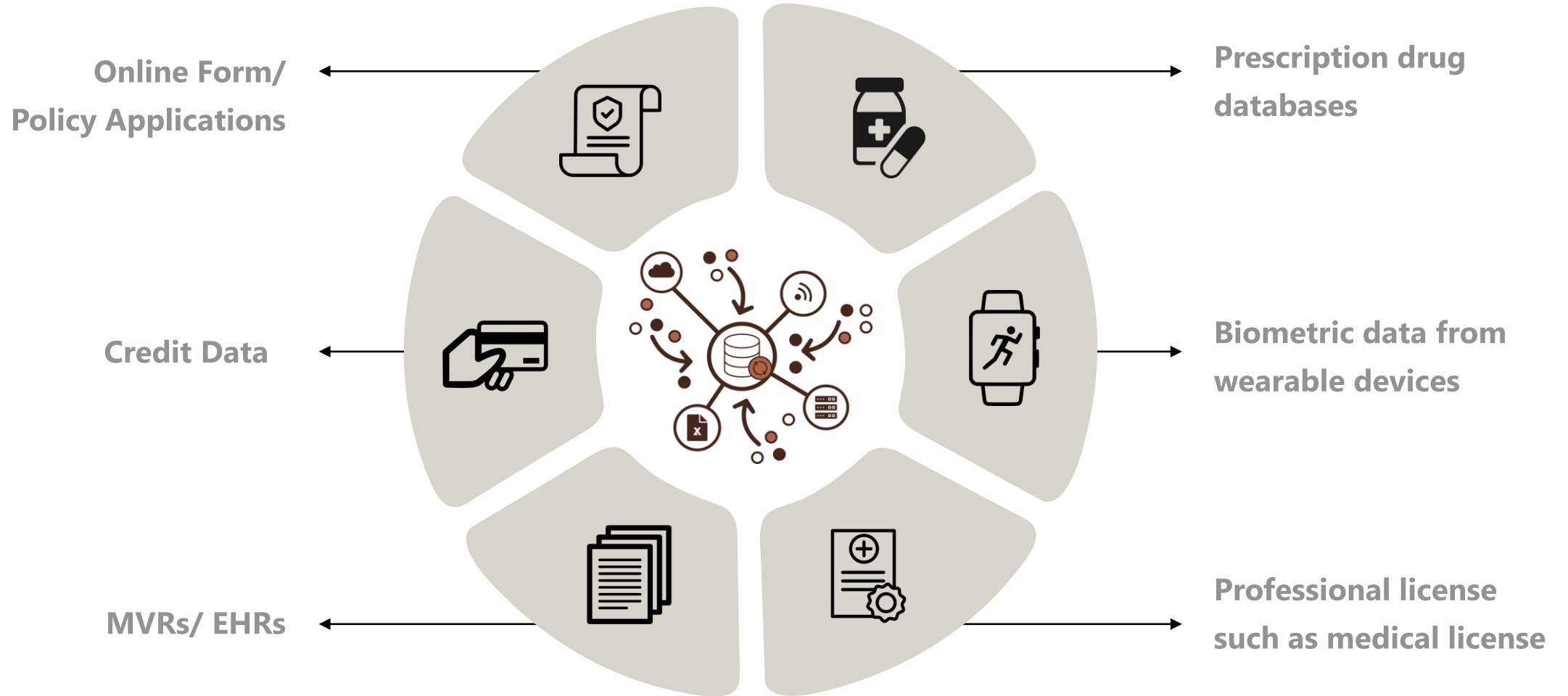
AI-enabled insurance chatbots

Predictive analytics tools

Objectives

Few Key Priorities for any Insurance Company

1 Diversifying the Risk

2 To regularly frame regulations to ensure the industry operates without any ambiguity.

3 Maximize mobilization of people's savings by making insurance-linked savings adequately attractive.

4 To ensure speedy settlement of genuine claims, to prevent Insurance frauds and put in place effective grievance re-dressal machinery

5 To protect the interest and secure fair treatment of the policyholder.

Data Sources

Online Form/
Policy Applications

Credit Data

MVRs/ EHRs

Prescription drug
databases

Biometric data from
wearable devices

Professional license
such as medical license

IZAC Architecture for Insurance

DATA SOURCES

Online Form

Policy Applications

Credit Data

Claims

MVRs

EHRs

Prescription of drug

databases

Biometric data

Medical license

DATA MANAGEMENT & PROCESSING

Fraud Detection

Customer 360

Master Data
Management

Risk Management/
Regulatory Compliance

IZAC Converged Data Platform

Real-time
Events

Actionable
Insights

OUTCOMES

Customer Retention

Improved Sales/

Revenue

Customer Behaviour

Future Prospects

Data Management

Data Syndication

Lower Risk Exposure

Operationalize Data

Governance

Real Time Analytics Platform

Cloud Hosting
Always On, Always-Fast

Operations
Always Optimized

Customer 360
Always Intelligent

Fraud Detection
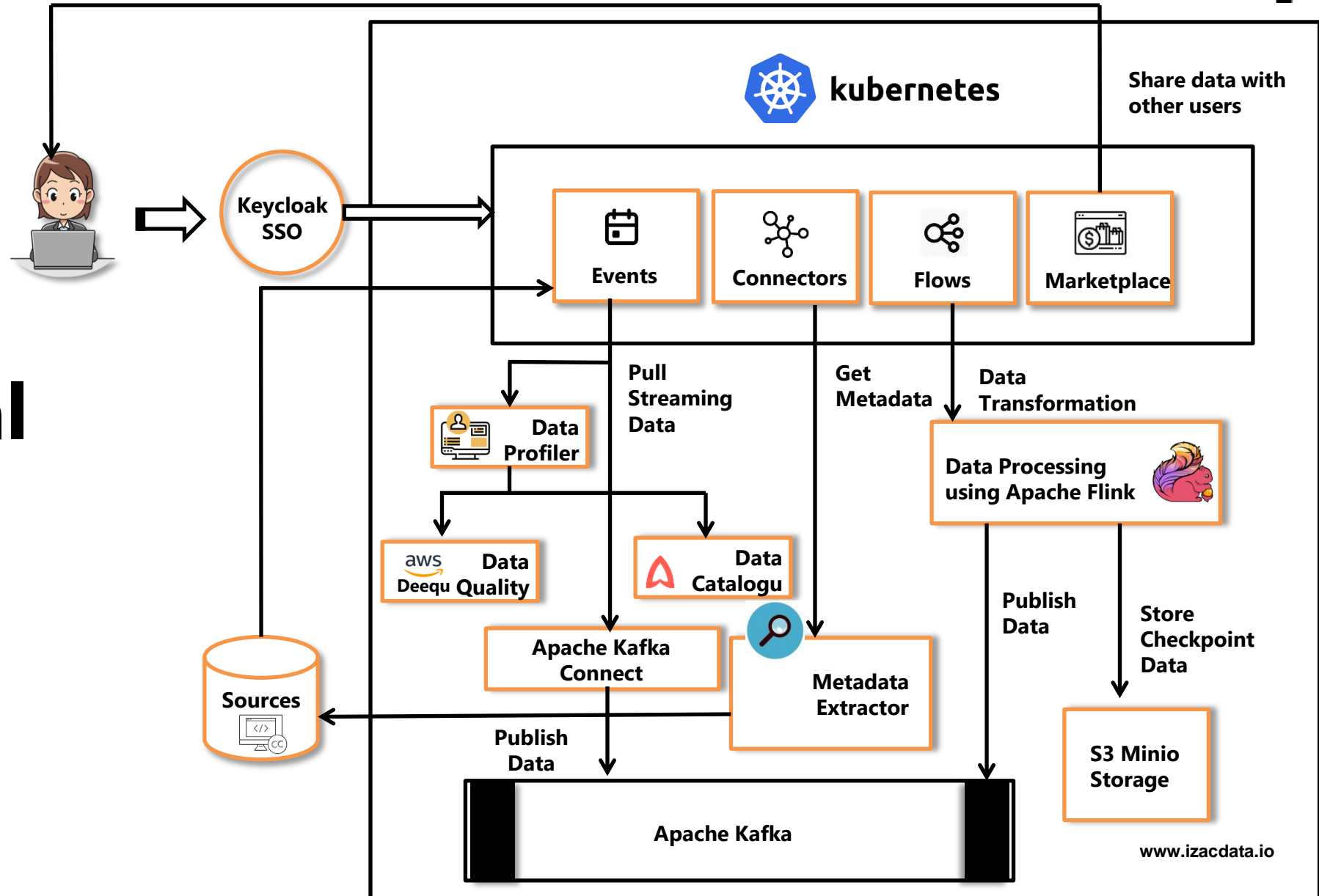Always Protected

Decisions
Always Proactive

People
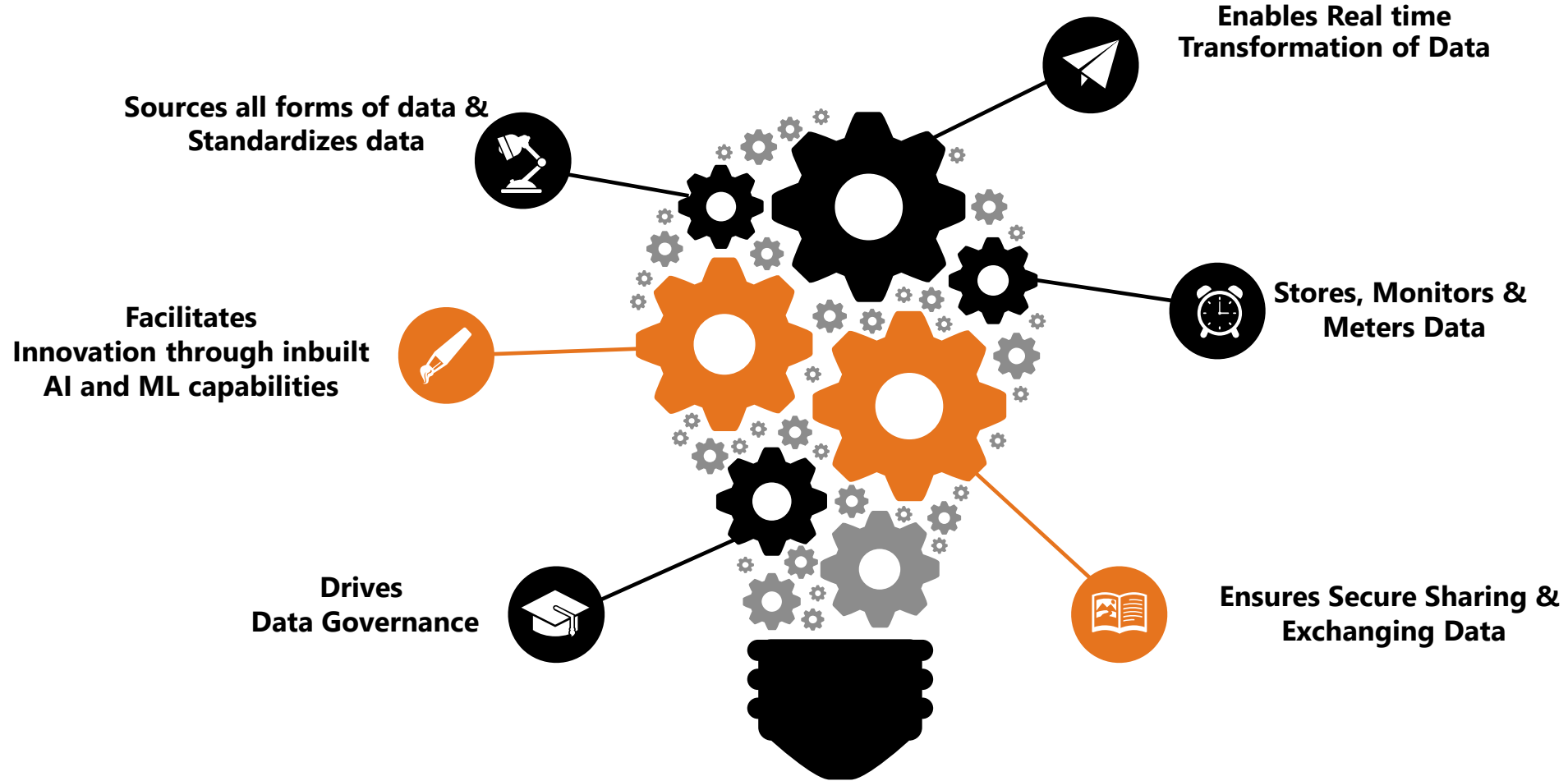Always Empowered

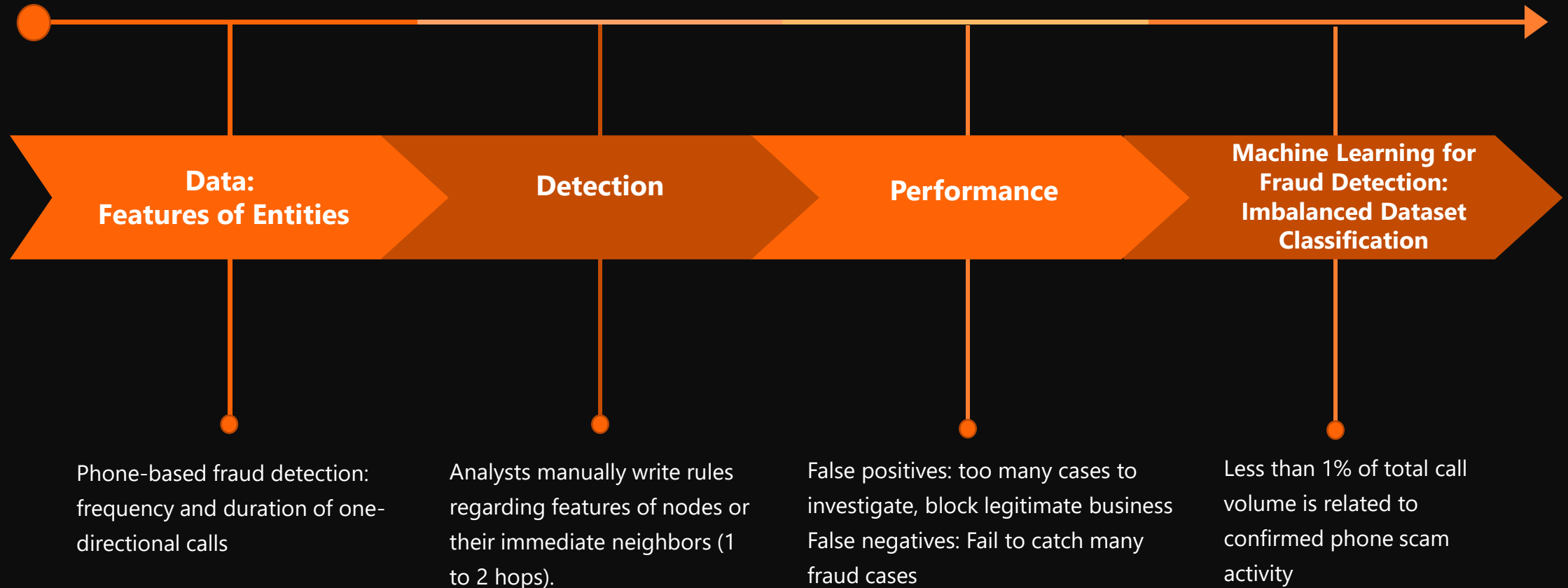**IZAC Data Exchange Platform**

Insurance

IZAC
UI Projects

kubernetes

Share data with other users

IZAC Internal Architecture

Keycloak SSO

Events

Connectors

Flows

Marketplace

Pull Streaming Data

Get Metadata

Data Transformation

Data Profiler

Data Processing using Apache Flink

aws Deequ Data Quality

Data Catalogu

Publish Data

Store Checkpoint Data

Apache Kafka Connect

Metadata Extractor

Sources

Publish Data

S3 Minio Storage

Apache Kafka

www.whiteklay.com
www.whiteklay.com

www.izacdata.io

IZAC – Digital Transformation Enabler

Enables Real time Transformation of Data

Sources all forms of data & Standardizes data

Stores, Monitors & Meters Data

Facilitates Innovation through inbuilt AI and ML capabilities

Drives Data Governance

Ensures Secure Sharing & Exchanging Data

Current Approach

| Data: Features of Entities | Detection | Performance | Machine Learning for Fraud Detection: Imbalanced Dataset Classification |

Phone-based fraud detection: frequency and duration of one-directional calls

Analysts manually write rules regarding features of nodes or their immediate neighbors (1 to 2 hops).

False positives: too many cases to investigate, block legitimate business
False negatives: Fail to catch many fraud cases

Less than 1% of total call volume is related to confirmed phone scam activity

Combat Fraud: 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

Deep link analysis

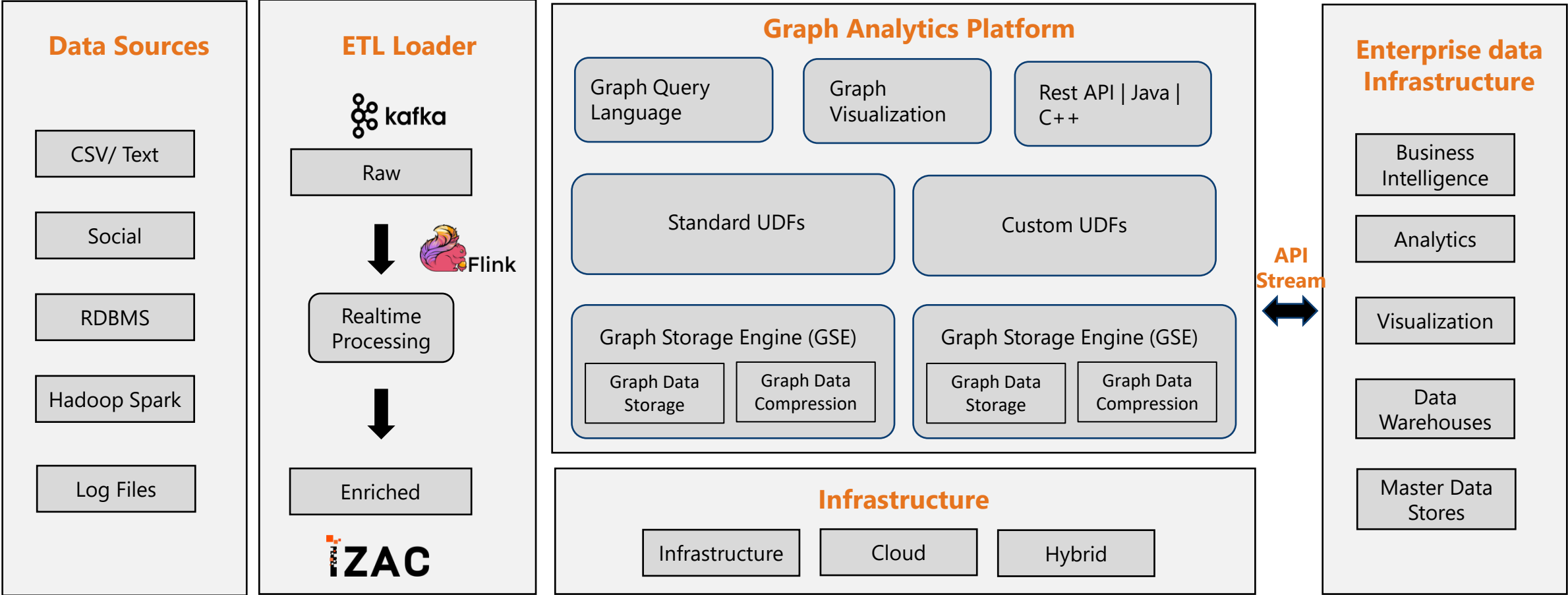Go beyond immediate neighbors to discover non-obvious relationships

Complex contextual analysis

Subtle and effective signal buried in network

Complex logic

Complicated, expensive coding

Real-Time Graph Analytics Platform

Data Sources

- CSV/ Text
- Social
- RDBMS
- Hadoop Spark
- Log Files

ETL Loader

kafka

- Raw
- Flink
- Realtime Processing
- Enriched

iZAC

Graph Analytics Platform

- Graph Query Language
- Graph Visualization
- Rest API | Java | C++

- Standard UDFs
- Custom UDFs

Graph Storage Engine (GSE)
- Graph Data Storage
- Graph Data Compression

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- Graph Data Storage
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Infrastructure

- Infrastructure
- Cloud
- Hybrid

API Stream

Enterprise data Infrastructure

- Business Intelligence
- Analytics
- Visualization
- Data Warehouses
- Master Data Stores

Combat Fraud: Solution Highlights

Complex Modelling

Graph Model

Real-time Monitoring

Real-time post new data
Real-time query response

Large-scale event/ Transaction handling

Scale out and up
High Compression

Deep link analysis

Analyze 3-10+ hops across the graph

Complex contextual analysis

GSQL, customer delighted comparing with Cypher & Gremlin

Complex logic

Existing SQL or graph languages

Detecting Fraud with IZAC

Real-time Deep Link Analytics at Massive Scale

Real time updates and Integrate multiple data sources into one graph

GSQL helps easily collect complex, deep-link, aggregate graph features

Feed Machine Learning algorithm with new training data

Graph Features to the rescue

1

2

3

Deep Link Analytics to the rescue

1

2

3
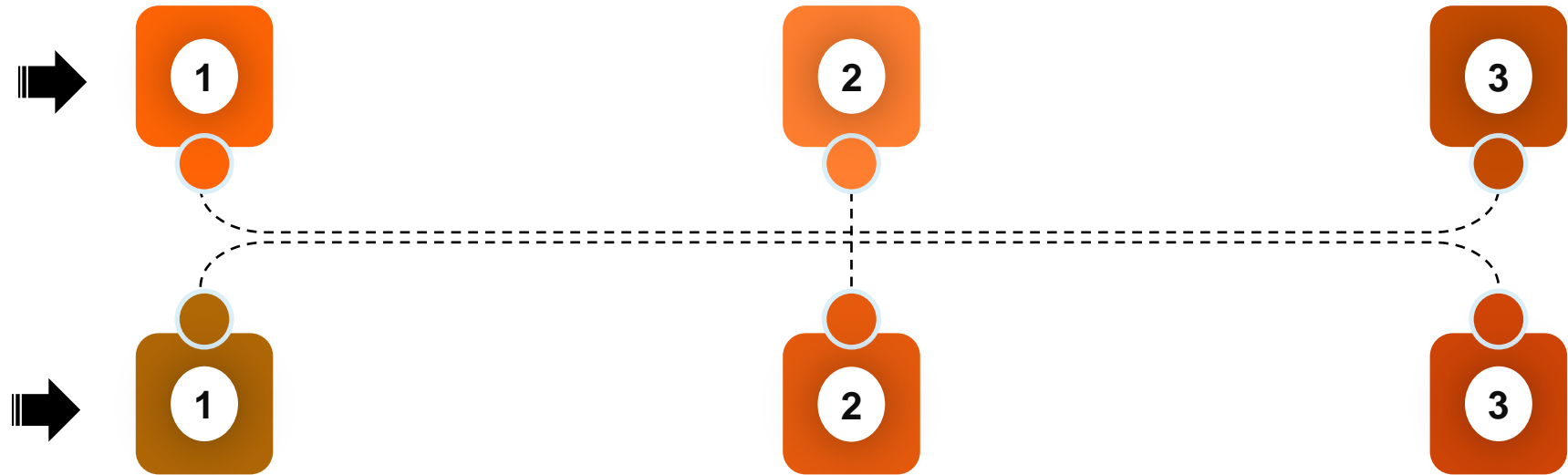
GSQL easily describes graph traversal and compute patterns

Massive parallel processing for speed and efficiency

Visualization shows evidence right on the spot

Needs & Challenges

Needs	Challenges
To get better visibility on customer needs to serve them better, increase customer loyalty and generate new revenue streams	Data complexity
To improve operation effectiveness	Link and analyze different data sources
To assist decisions regarding risk and fraud mitigation	Security and risk challenges, how to empower decision making based on facts

Solution approach

WHY	WHAT	WHO
To personalize financial services for their clients with a better visibility on their needs while still optimizing their operation	Unified Platform for all types of information exchange to provide a full customer 360 view	The solution is applicable to all institutions looking for intelligent insights about their clients and take informed decisions

IZAC platform for Customer 360 Overview

Customer 360 Benefits

INCREASE Customer Retention

REDUCE Overall Costs

IMPROVE Sales/Revenue

BETTER Customer Experience

Manage Customer Behavior

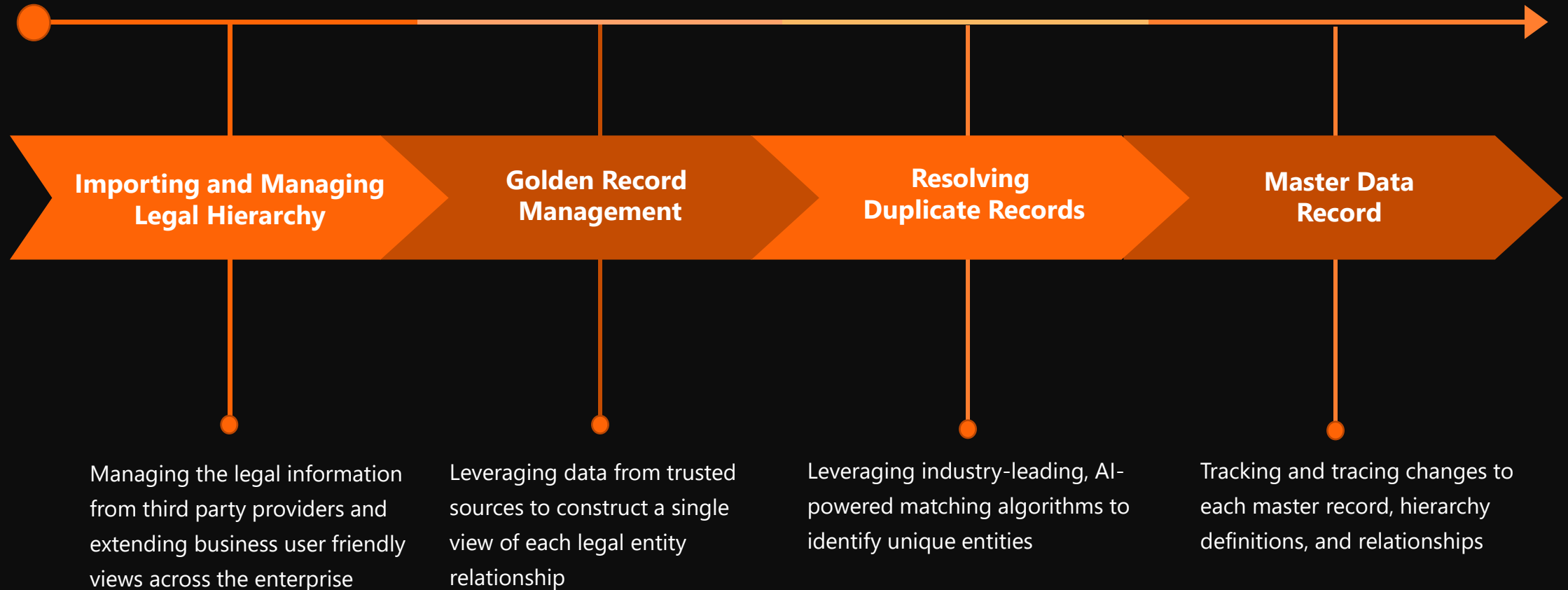IDENTIFY Future Prospects

Inform Strategic Decision-making

Needs & Challenges

Needs	Challenges
Client Onboarding	Duplicate records across systems
Credit Risk Management	Lack of cross-referencing between legal entities
Regulatory Compliance	Difficultly sharing legal entity data between systems
Personalized Customer Service	Invalid counterparty names and legal entity information

Solution Approach

Importing and Managing Legal Hierarchy

Golden Record Management

Resolving Duplicate Records

Master Data Record

Managing the legal information from third party providers and extending business user friendly views across the enterprise

Leveraging data from trusted sources to construct a single view of each legal entity relationship

Leveraging industry-leading, AI-powered matching algorithms to identify unique entities

Tracking and tracing changes to each master record, hierarchy definitions, and relationships

MDM Benefits

Data Acquisition

- External Data Onboarding- Leverages prebuilt adapters to onboard data from third-party data providers.
- Business-driven, proprietary, and custom feed management
- Universal data connectivity allows access to existing counterparty related data in different sources.

Data Management

- Pre-built data models include comprehensive counterparty/ legal entities and hierarchies.
- Data model management-
- Golden record management
- Hierarchy management
- Cross-entity relationship management

Data Syndication

- Universal connectivity to any target system, databases ensures seamless delivery of counterparty data to downstream risk and compliance systems.
- Right-time syndication enables real-time or batch integration to the downstream risk and compliance systems.
- Scalable and proven architecture supports enterprise-level delivery

Why IZAC for Master Data
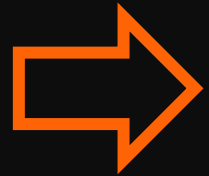
01 Integrated data access, management, governance, and syndication

02 Support for other reference Data types including securities/ instruments and clients

03 Flexible and customizable data models and rules

Data Challenges and Financial Impacts

Challenges	Impacts
Ineffective data quality processes that result in improper data for use	Unwanted audits and fines due to: • Miscalculated risk scores • Underfunded capital reserves
Limited visibility into existing data lineage processes for data used	Higher costs for: • Compliance • Data management
Lack of accurate data due to the lack of a single, reliable source of the information	• Higher risk management costsIncreased risk of financial exposure • Underfunded capital reserves
Slow to execute and extremely labor intensive processes for data governance oversight	Policies are not fully enforced: • Processes are inconsistent • Data governance costs are higher than expected

How does it work?

01 Create and implement data quality rules to correct errors, monitor anomalies, and send data quality reports.

02 Identify, categorize, and organize data assets with an AI-powered data catalog. Get a unified view of enterprise metadata to add context to your data.

03 Manage and connect legal, non-legal entities in a single, reliable source for credit risk management and know your customer (KYC)

04 Enable data stewards to automate policy oversight and help business users get access to their data questions quickly and accurately.

Benefits

01 Improve business trust in your data

02 Gain transparency into your data lineage

03 Identify and lower your risk exposure

04 Operationalize and Democratize Data Governance

Thank You