



# Data Lake

## Road to Data-Driven Decision Making

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# Agenda

- **Our Role as a Tech Company**
- **Introduction to Data Lakes**
- **Data-Driven Decision Making**
- **Key Challenges in Government Sector**
- **Benefits for Government**
  - **Real-Life Examples**
  - **Q&A**

# About Ibis Solutions

Ibis Solutions is part of Ibis Group founded back in 1996 that has grown to be one of the largest IT solutions and Test and Measurement equipment providers in the SEE.

Thanks to long-standing partnerships with companies such as IBM, Oracle, Red Hat, Ui Path, etc., through System Integration projects as well as Software Development, Ibis Solutions has so far provided significant support to over 300 clients from Southeast Europe and beyond.



## What are we doing?

- Multivendor technology solutions
- Software development solutions

## Regional presence



**25+**  
years

**100+**  
employees

**200+**  
certificates

**80+**  
engineers



# Our Role as a Tech Company



**How** to Solve Customer Challenges?



# Our mission

- Ibis solutions empower businesses with the tools and strategies necessary for success
- We already helped a lot of partners to overcome their business challenges
- Some of the most common challenges we see at the market at this moment are:
  - Lack of technology understanding which is leading to misuse of technology
  - Focus on short term solutions – without clear vision of long term business benefits
  - Creating data swamps instead of data lakes – inability to create information from data

# Introduction to Data Lake



**Data** what to do with it?

# Data VS Information

- What is data?
- What is information?



## DATA

Data is raw, unorganized facts that need to be processed. Data can be something simple and seemingly random and useless until it is organized.

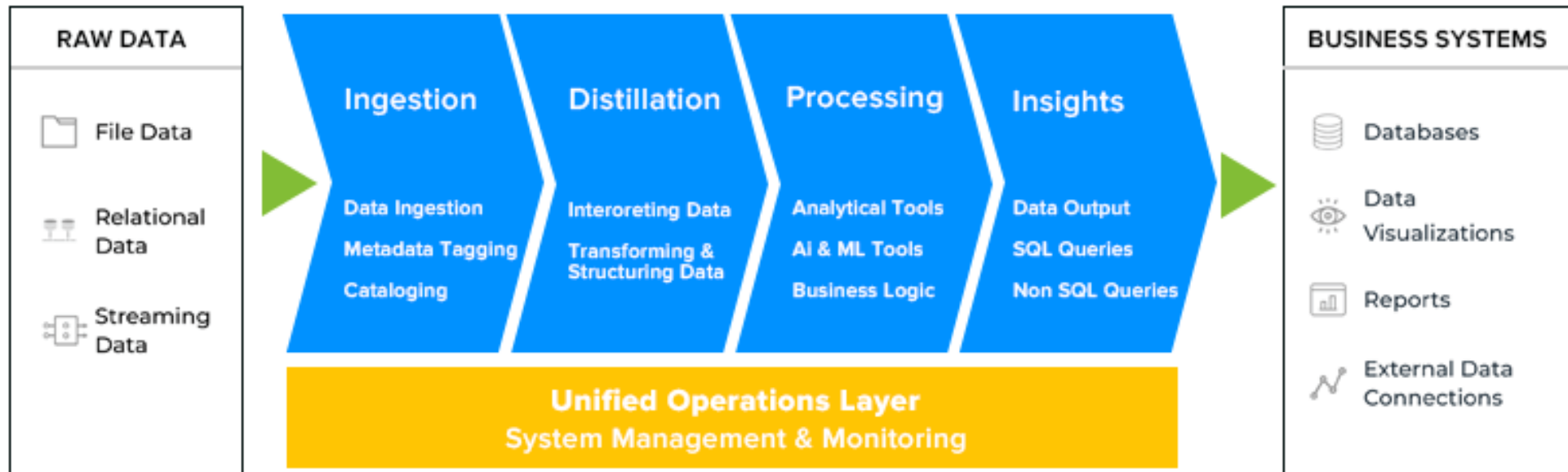


## INFORMATION

When data is processed, organized, structured or presented in a given context so as to make it useful, it is called information.

# What is data lake

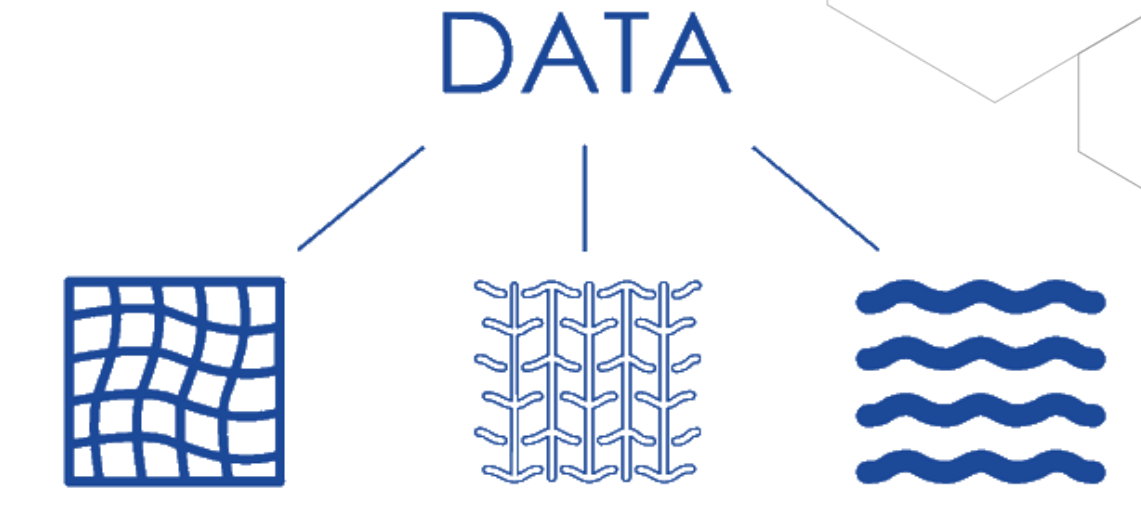
## Data Lake Layers





# Defining Terms

- Data Lake
- Data Fabric
- Data Mesh



# The goal of becoming self-service organization

Self-service means enabling individuals and teams to access, analyze, and derive insights from data without heavy dependence on IT or data specialists. This transformational goal empowers employees to be more agile and responsive, and it fosters a culture of data-driven decision-making.



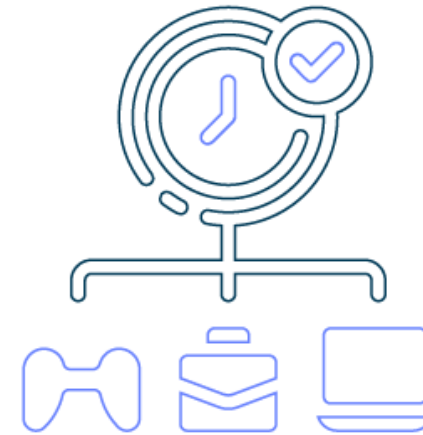
# Data-Driven Decision Making



**Empowering Choices:** How can Data drive your Decision-Making process?

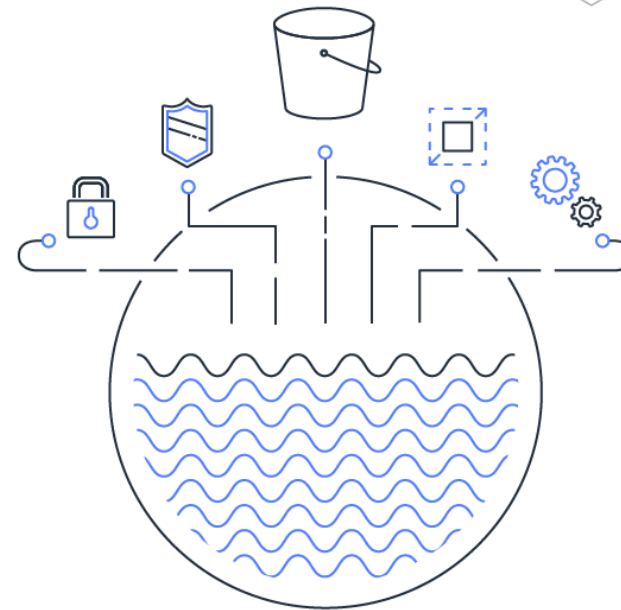
# Why?

- More effective, responsive, and citizen-centric approach to public administration
- Make informed choices backed by evidence and real-time insights
- Achieve regulatory compliance in more efficient way



# How Data Lakes Facilitate DDDM

- **Centralized Data Storage**
- **Scalability and Flexibility**
- **Advanced Analytics and Machine Learning**



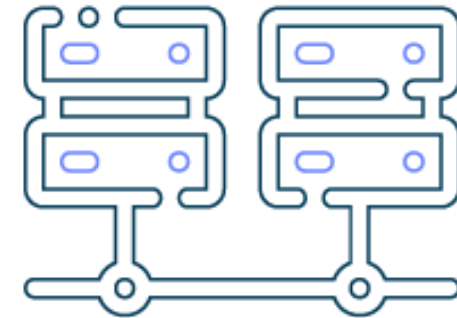
# Key Challenges in Government Sector



**Navigating Complexities** what shall we address?

# What are the Most Common Challenges

- **Data Silos and Fragmentation**
- **Data Quality and Governance**
- **Real-time Analytics**
- **Costly and Inefficient Infrastructure**
- **Citizen Engagement and Transparency, hot topic in EU**



# Real-Life Examples



**How** can Data-Driven Approaches Transform Real-Life?



# Real Life Examples

- Improved public health services
- One shared platform for all departments
- Road infrastructure, traffic patterns and safety
- Smart city initiatives
- Analyzing crime patterns – security



# Why IBIS?



**Reason** to choose us?

# Ibis Data Lake

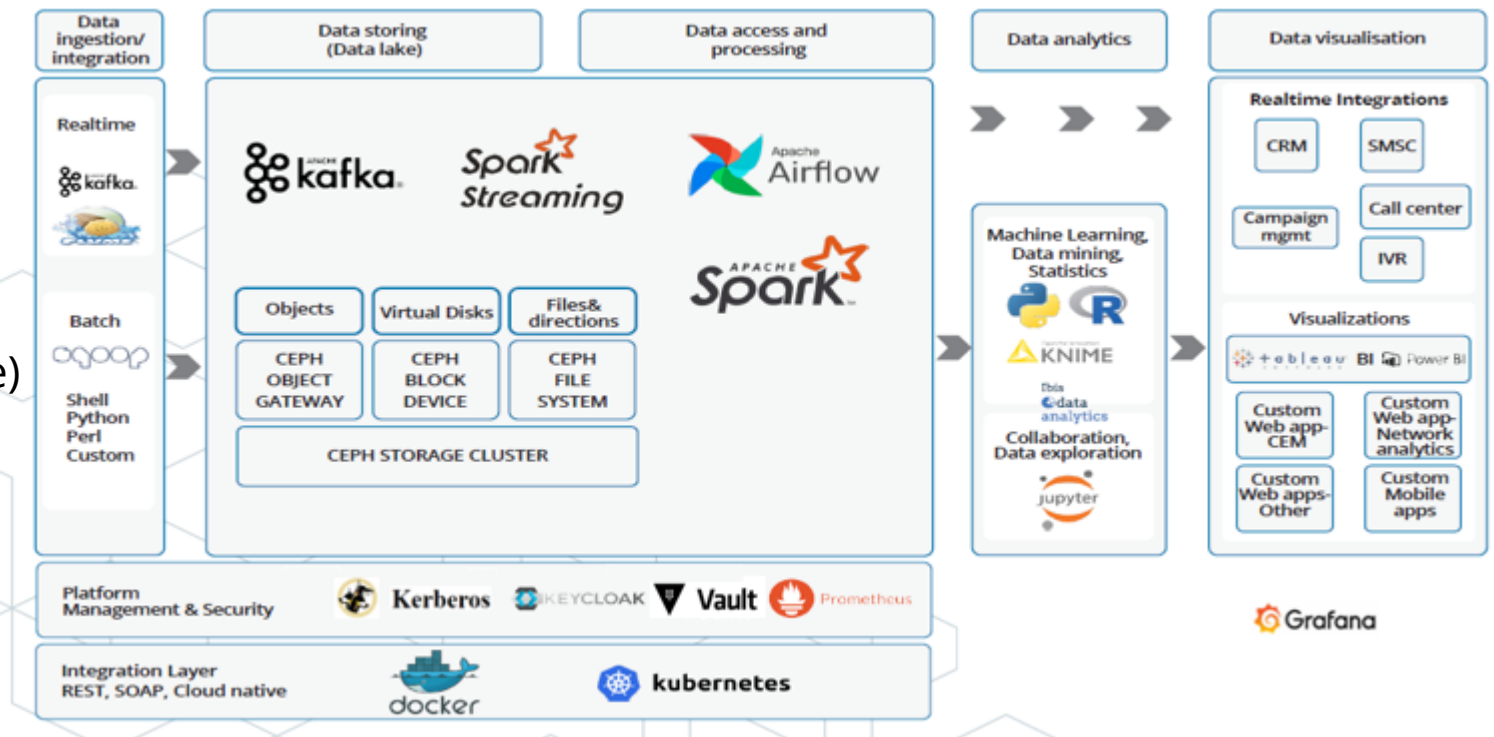


## IBIS DATA LAKE COMPONENTS

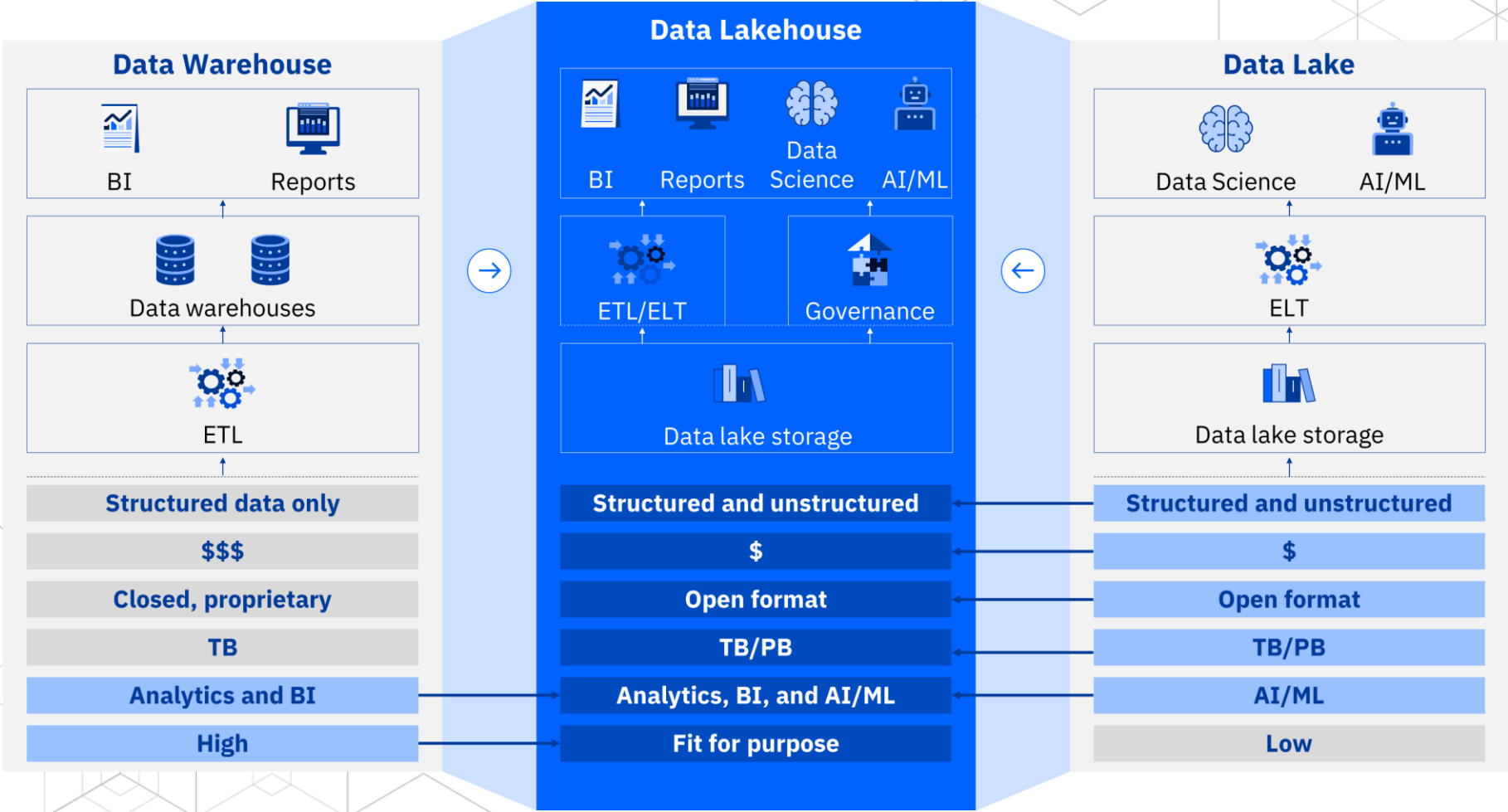
Modern data lake architecture represents required foundation for development of tailored software solutions to address different use cases.

Characteristics of Ibis Data Lake:

- ✓ Fast data processing
- ✓ Low hardware requirements  
(up to 40% less with CEPH vs. HDFS storage)
- ✓ Improved scalability
- ✓ Higher reliability
- ✓ Heterogenous storage and compute
- ✓ **Easy maintenance as we keep using the fully open-source architecture without 3<sup>rd</sup> party software license costs**



# IBM Data Lakehouse



# Ibis Built App Smart Capex Planning

Ibis Smart Capex Planning (ISCP) is a solution that enables optimal investments into 4G and 5G mobile networks based on the existing infrastructure (mobile and fixed network) and operator strategy. It successfully connects business with technology – strategy, sales targets and marketing forecasts with required technology investments. ISCP aims to optimize investment planning by recommending a network expansion plan based on a predefined CAPEX budget Ibis has developed it based on advanced algorithms from proven deployments in several European mobile operators.

## How does ISCP work?

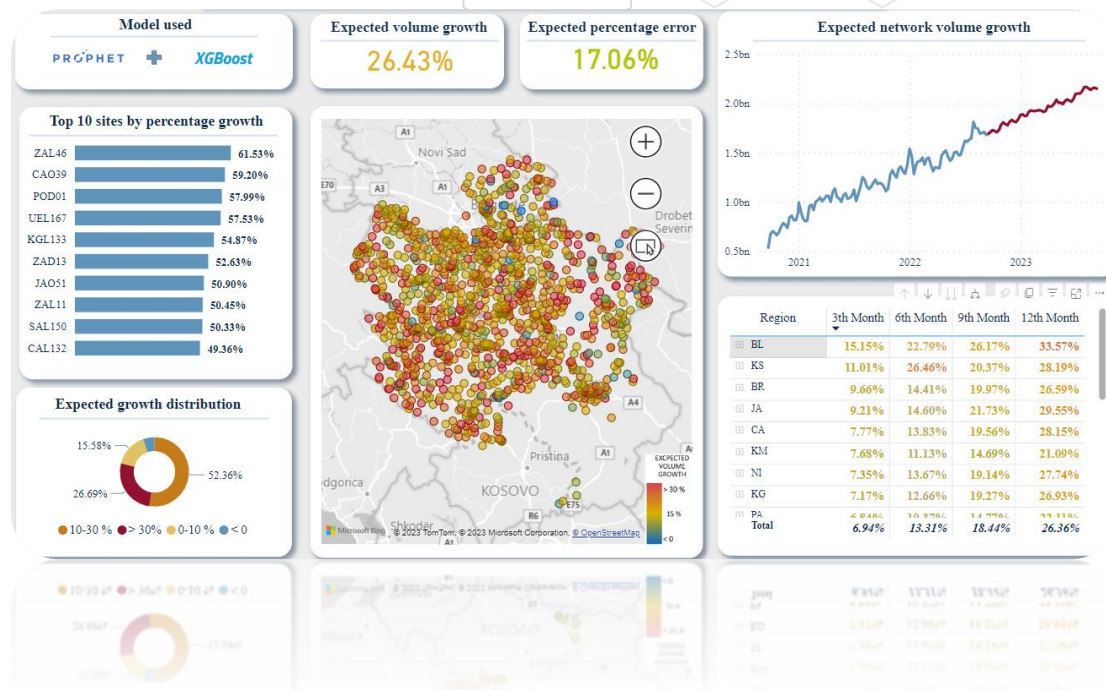
- ✓ It is based on cell congestion and user-generated revenue, with an emphasis on those with a high Customer Value Index (CVI) or similar criteria from CRM
- ✓ CVI mapping is performed in the appropriate percentage per cell or base station from the real generated user traffic
- ✓ ISCP proposes locations for capacitive expansions and financially optimal targeted base station configurations, with an improvement assessment quantified in the projected maximum user throughput

## LTE module - key benefits

- ✓ Defining a plan for optimal investments in capacitive station expansions (not necessarily always the best technical solution but the most cost-effective one)
- ✓ Quantification of the required volume of investments in the technical sector to meet the strategic plans of the operator, ie. targeted increase in the number of users and market share, new service packages, etc.
- ✓ Preventing the churn of the most valuable users (with the highest CVI) by timely investments in zones where they predominantly use the service of mobile operators
- ✓ Identification of territorial zones for the construction of new stations (Search Ring Proposal) in case the expansion of the existing ones cannot bring a solution that is good enough

## 5G module - key benefits

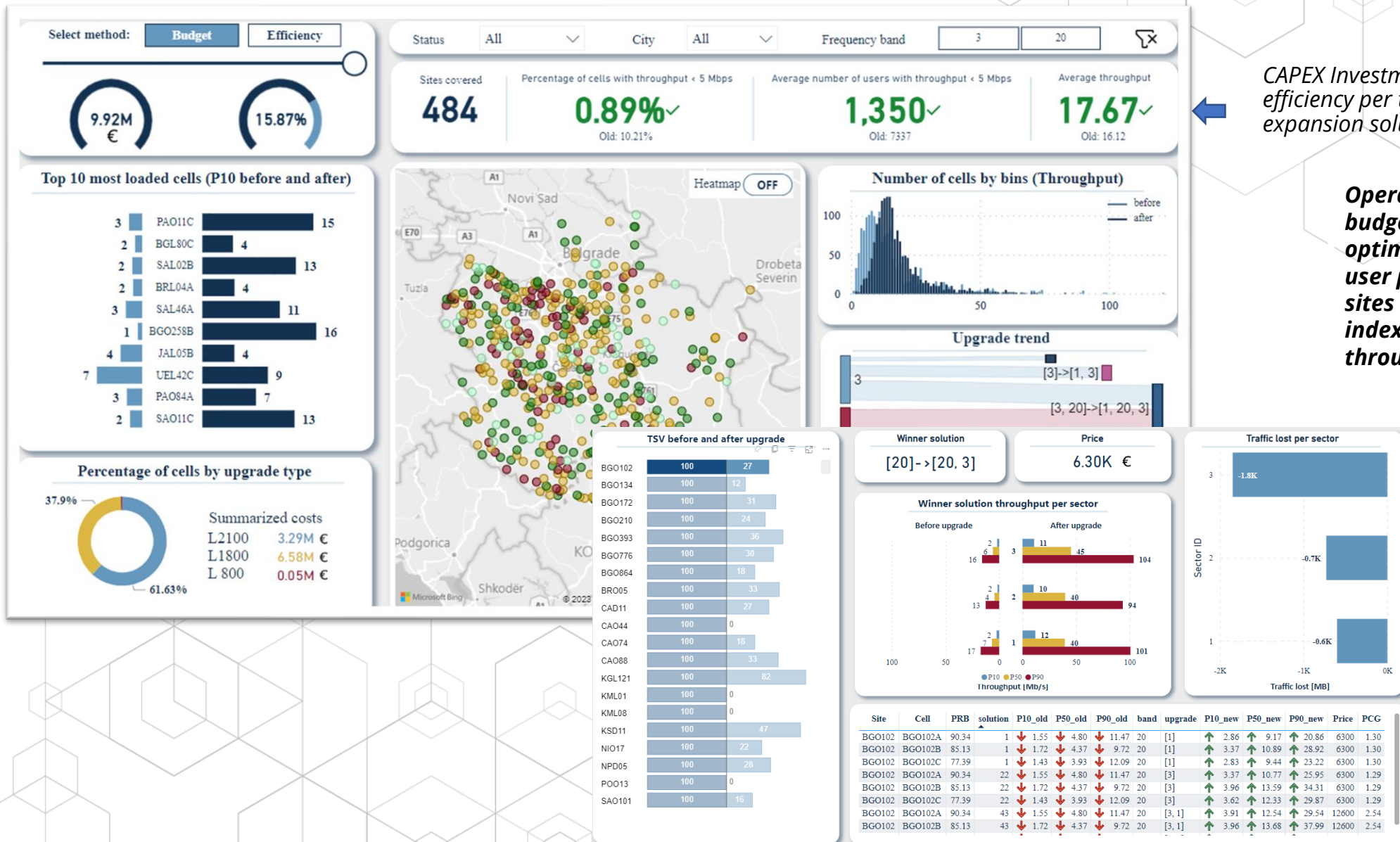
- ✓ Initial 5G rollout planning based on user consumption mapped to geographic locations or zones via CVI values
- ✓ Possibility to avoid cannibalization of fixed infrastructure at the expense of 5G rollout
- ✓ FWA upsell plan from LTE to 5G





# Ibis SCP solution at glance

ISCP



Operator can select investment budget and tool will compute optimal site list to maximize end user performances (selecting TOP N sites highest ranked on site priority index that will bring maximum throughput gain after expansion)

## Investment priority –

- Which exact locations/sites should be upgraded first?
- What are the optimal products and configurations necessary to achieve the target – maximum revenue with minimum satisfactory RF solution



Thank you!

