

DATA & AI LANDSCAPE @MOL

IMRE SZÜCS

CHIEF ANALYTICS OFFICER

MOL GROUP

MOLGROUP

June 5-8, 2023 · Data platforms · Data engineering · Data management

BUDAPEST DATA FORUM







ChatGPT

MOL Group poem by ChatGPT

MOL Group, a company of balance
Their **upstream** activities, a true challenge
With exploration and production in their sight
Their resources, a true might

Their commitment to **sustainability**
A true reflection of their ability
To balance growth and environment
Their impact, a true testament

From refineries to petrochemicals
Their **downstream** activities, a true spectacle
With quality and efficiency in their core
Their impact, a true galore

Their **retail** business, a true delight
With customer satisfaction in their sight
From filling stations to food services
Their offerings, a true completeness

MOL Group, a company of pride
Their success, a global ride
With a commitment to excellence
Their journey, a true magnificence.

INTEGRATED OIL & GAS COMPANY

UPSTREAM



Exploration



Production

GAS MIDSTREAM



DOWNSTREAM



Refining



Petrochemicals

CONSUMER SERVICES



Retail



Mobility

INTEGRATED OIL & GAS COMPANY

UPSTREAM

GAS MIDSTREAM



Exploration

DOWNSTREAM



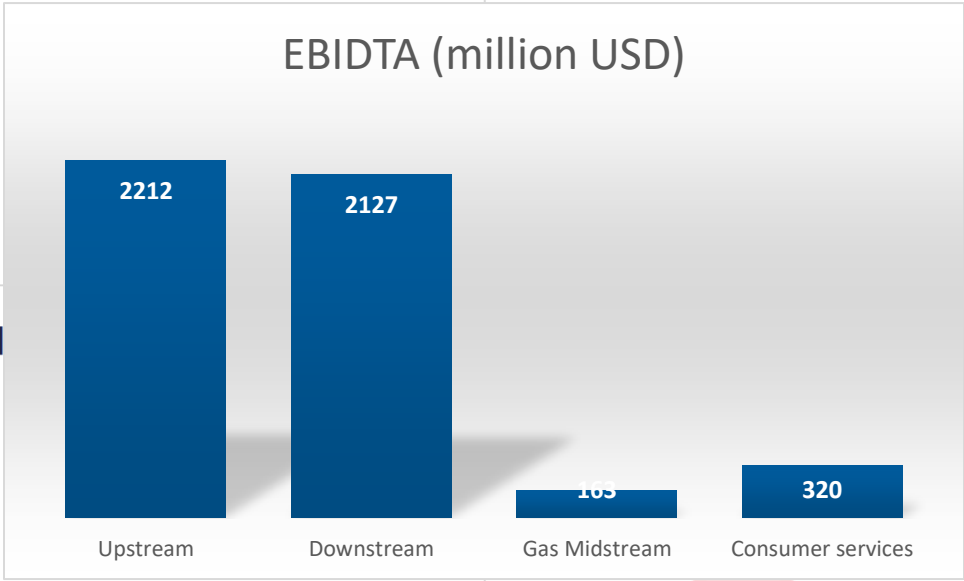
Refining



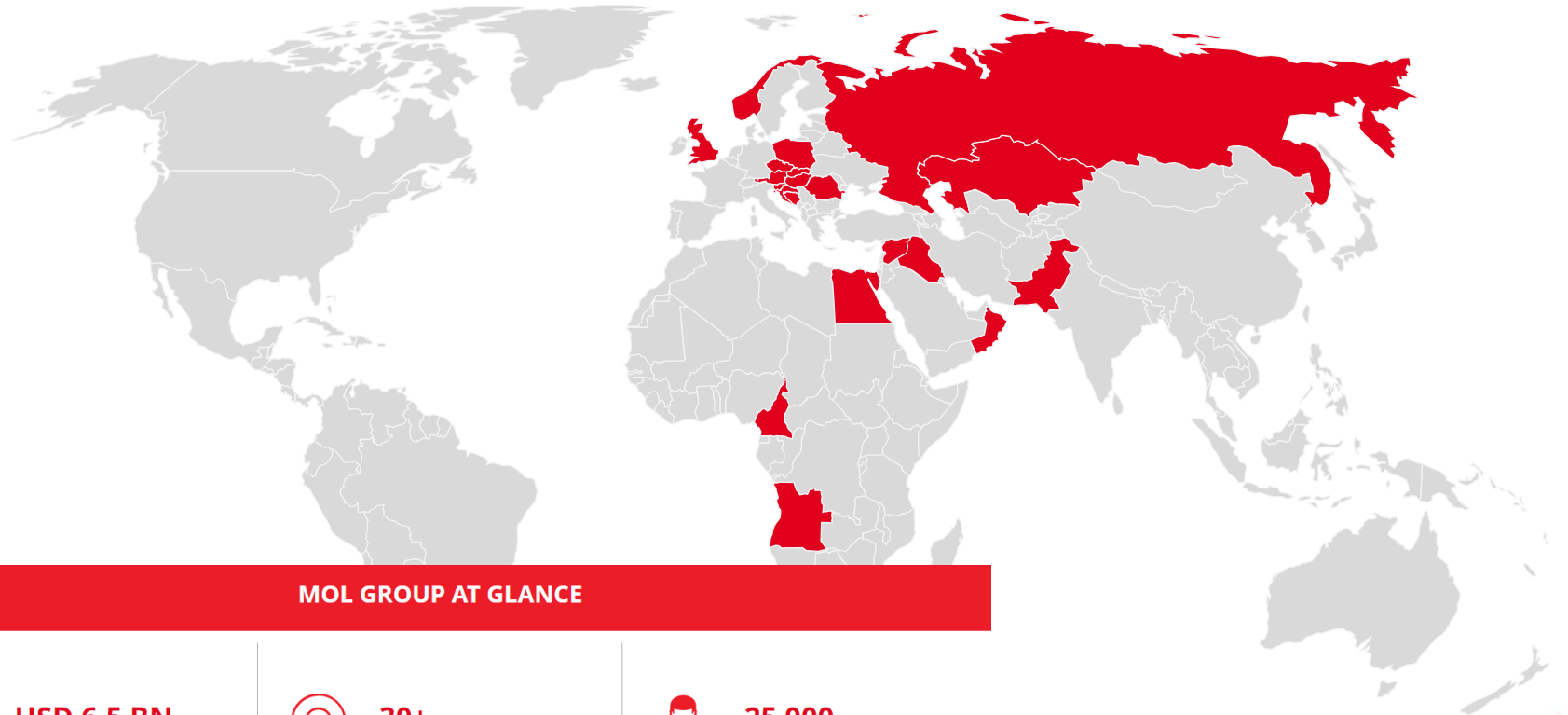
SERVICES



Mobility



MOL IS OPERATING WORLDWIDE



MOL GROUP AT GLANCE



USD 6.5 BN
Market capitalization



30+
Countries of operation



25 000
Number of employees

KEY RESPONSIBILITIES

SUPPORT ALL MOL BUSINESSES WITH DATA AND ANALYTICS

GROUP LEADERSHIP

- ▶ STRATEGY
- ▶ GOVERNANCE
- ▶ TECHNOLOGY SELECTION

DELIVERY

- ▶ DATA ENGINEERING
- ▶ DATA VISUALIZATION
- ▶ MACHINE LEARNING

SUPPORT

- ▶ CITIZEN ANALYTICS
- ▶ BAU
- ▶ PROJECTS



Efficient
Operation

Data Driven
decision making

Digital
Transformation

ROI

CHALLENGES

SUPPORTING A COMPLEX ORGANIZATION

Organizational
structure

Business
processes

Operation

Roles and
Responsibilities

Legal
environment

Data privacy

Technology
stack

Maturity level

Corporate
politics



TOP DATA SCIENCE AND ANALYTICS TRENDS IN 2023



Data Democratization

Empowerment of entire workforces to put analytics to work

Artificial Intelligence

Cloud and Data-as-a-Service

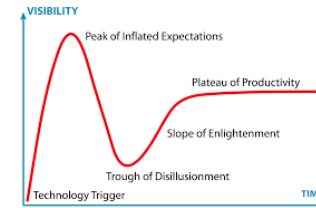
Real-Time Data

Data Governance and Regulation

European GDPR, Canadian PIPEDA, and Chinese PIPL
By 2023, 65% of the world's population will be covered by regulations

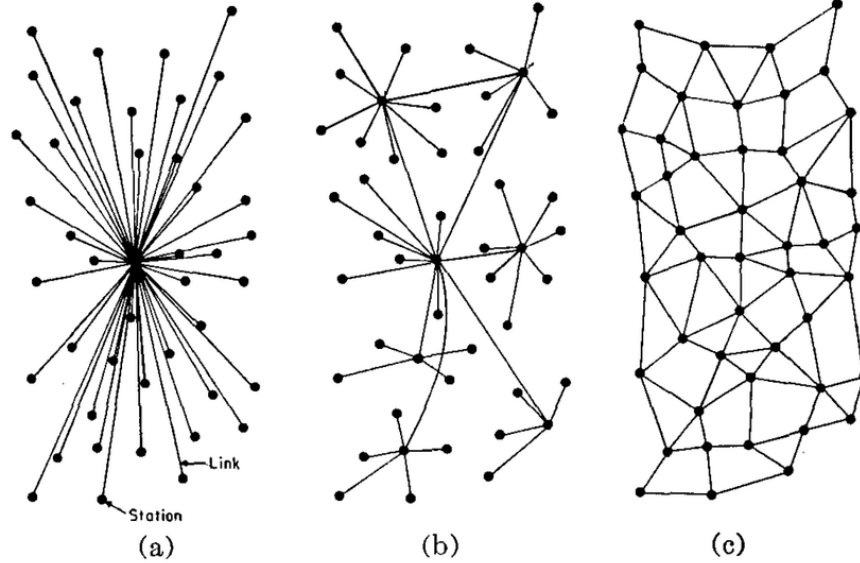


Return on investment will be the most important metric

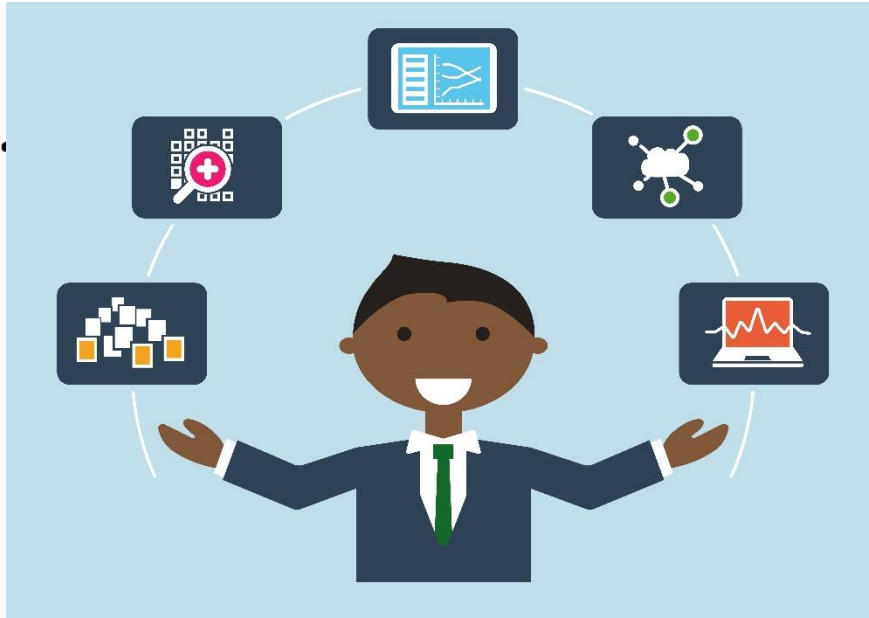


Key performance indicators will be back in vogue

Dashboards die

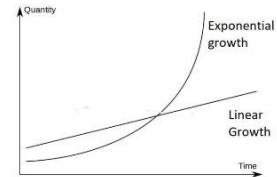


(a) Centralized. (b) Decentralized. (c) Distributed networks.



CITIZEN ANALYTICS

Data is growing exponential VS Insights are growing linear



Who is the Citizen Data Scientist (CDS)?

„Citizen data scientists are people who create or generate models that use advanced diagnostic analytics or predictive and prescriptive capabilities, but whose primary job function is outside the field of statistics and analytics. “

Why?

- Shortage of data scientists
- The advent of DSMLP and AutoML
- Lack of business translators in data science teams

HOW TO USE CITIZEN DATA SCIENTISTS TO MAXIMIZE YOUR D&A VALUE CREATION

Citizen Data Science ecosystem

- People
- Tools
- Data
- Processes



Analytical capabilities

- Data management
- Analysis
 - Visualization
 - Process mining
- Advanced analytics
 - Machine learning
 - Generative AI



Collaboration

- Citizen data scientists continuously bring business value
- Core data scientists can focus on
 - more complex DS tasks
 - DSML Platform development
 - coaching Citizen DSs
 - validating Citizen DS products

RISK

- Citizen DSs can work in silos

CITIZEN AND EXPERT USE CASES

Citizen Reporting

- 2500+ users
- 600+ power users
- 200+ monthly power users

Citizen Analytics

- 10+ analytics product developed by citizens covering core business processes

Citizen ML

- Predictive maintenance on 100+ sensors
 - New role: ML alerting expert
- Digital twin + Machine Learning

Core Data & Analytics Team

- Governance models for Citizen activities
- Analytics ecosystem for Citizen analysts
- IoT analytics
- Edge analytics
- Business projects
 - Production / Sales forecasts
 - Quality management support with ML
 - Model shift
 - ...

KEY TAKEAWAYS

Trust more in the business experts

DS/ML tools are matured enough

Data governance and Citizen process governance are crucial

Don't set up new way of silos



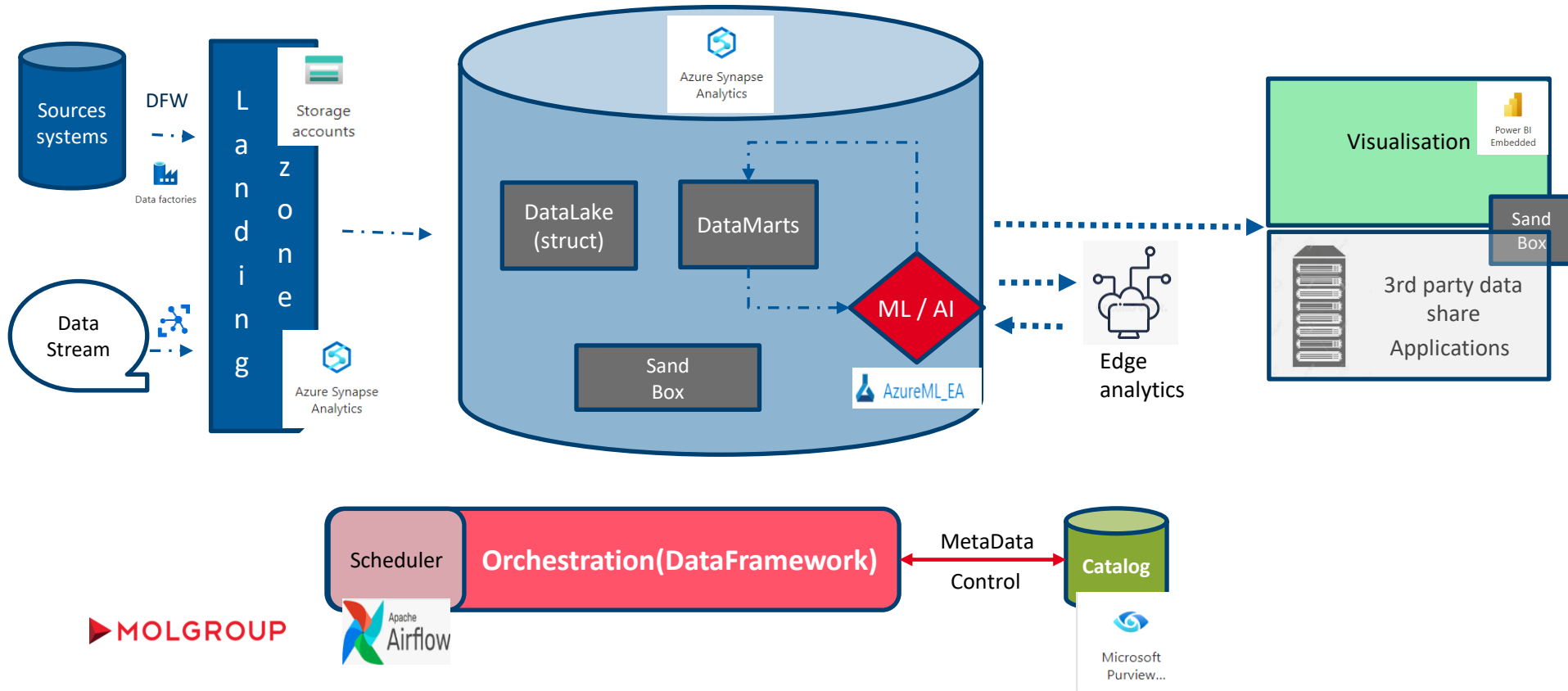
**THANKS FOR
YOUR ATTENTION!**

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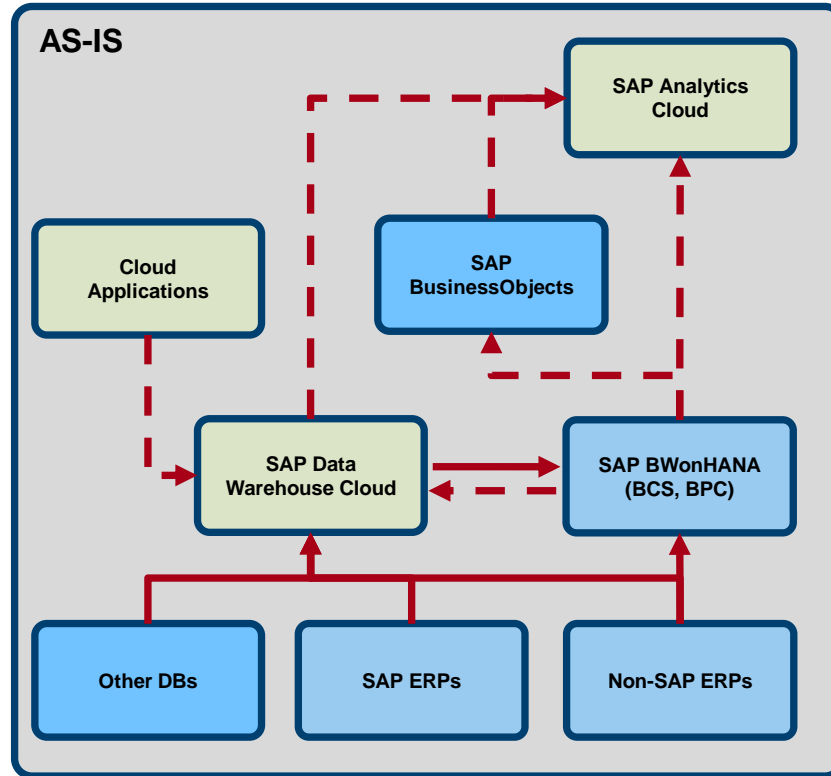
BACKUP



ANALYTICAL ECOSYSTEM I.

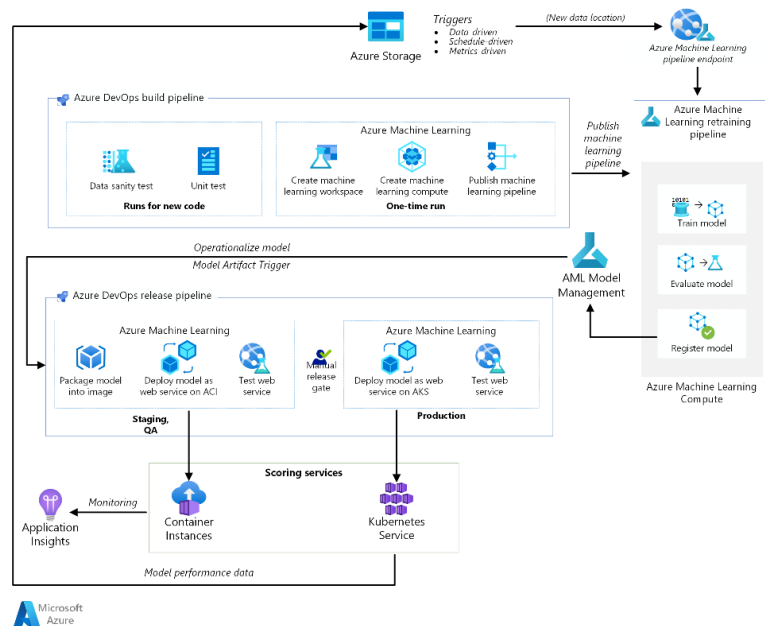
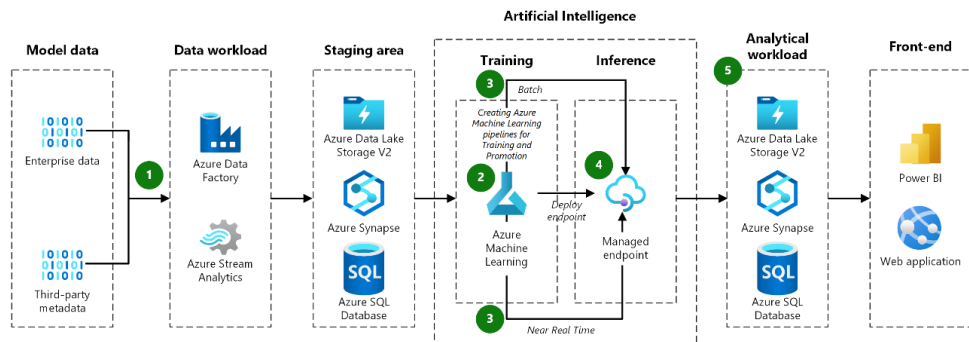


ANALYTICAL ECOSYSTEM II.



MLOPS

FROM MANUALLY DEPLOYED ML OPS TO CI/CD ENABLED ML OPS



THANKS FOR YOUR ATTENTION!

Imre Szücs

Chief Analytics Officer

Budapest Data Forum – 07.06.2023

 **MOLGROUP**

