

Seizing EBITDA growth with AI

Dávid Havas

CDAO Europe

AMSTERDAM

12.11.2024

Building blocks to have an EBITDA seizing AI at scale



Components of enterprise grade AI

- ▶ Passionate cross domains team
 - ▶ AI Architecture and tool landscape
- ▶ Processes for embedding AI results
 - ▶ Business relevant ML, AI use cases
- ▶ AI strategy desired
 - ▶ Responsible AI



Dedicated time and clear milestones

- ▶ Assigned team members has sufficient time
 - ▶ Goals are known for all
- ▶ Success criteria are defined
 - ▶ Expectation / deterministic vs reality / stochastic



Budget

- ▶ Initial investments of AI landscape and knowledge
 - ▶ Use case based or top-down budgeting



AI solutions that worked for others

- ▶ Define your position if it is front runner or follower or hybrid
 - ▶ Start inhouse AI development with internal or outsourced team or buy ready-made solutions from the market

AI provides opportunity to increase EBITDA

I. Soft sensors in
laboratory,
production

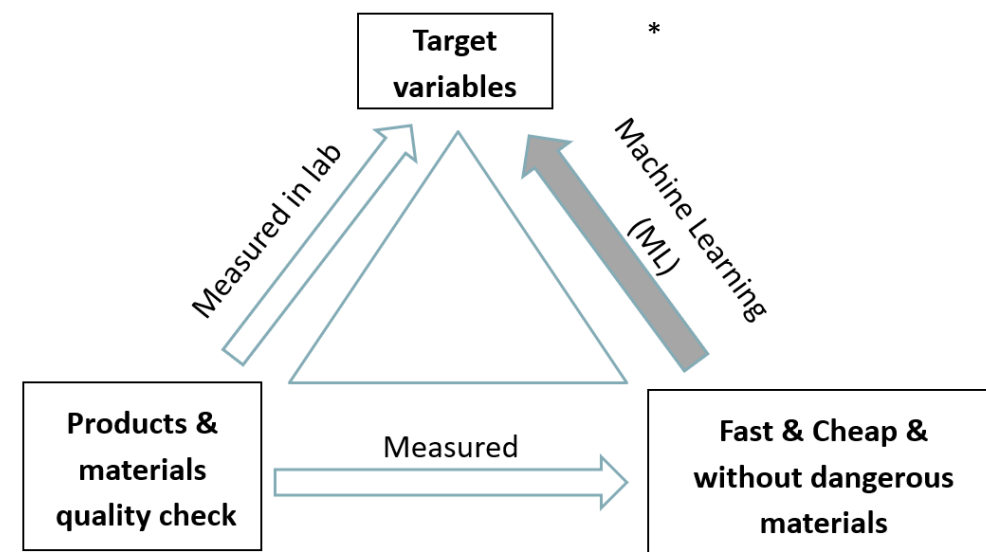
II. Optimise
energy usage



GenAI
Chatbots

I. Soft sensors in laboratory, production

- ▶ Soft sensors, also known as virtual sensors, overcome the constraints of costly and manual measurements in production lines, in laboratories.
- ▶ Traditional vs Machine Learning (ML) / AI measuring of quality in the production lines
- ▶ Advantages of adopting ML solutions, as soft sensors
 - ▶ Fast, cheap
 - ▶ Limit HSE risk, reduce dangerous material usage
 - ▶ Increase digital insight into production
- ▶ Traditional laboratory methods generally measure one parameter
- ▶ AI / ML methods combined with data fusion technic can predict many parameters



Received: 1 October 2018 | Revised: 1 October 2019 | Accepted: 6 November 2019
DOI: 10.1002/cem.3198

RESEARCH ARTICLE

WILEY CHEMOMETRICS

Machine learning methods to predict solubilities of rock samples

Pál Péter Hanzelik¹ | Szilveszter Gergely² | Csaba Gáspár^{3,4} | László Győry¹

I. Soft sensors in Laboratory and in production lines

- ▶ Data fusion technique-based ML soft sensors can outperform single source-based predictions on e.g. MIR or Raman laboratory data.
- ▶ AI powered batch or real-time estimations for variables /soft sensors/ using data-driven models and advanced algorithm can contribute to **improve yield, and could result EBITDA growth**



II. Optimise energy utilisation with AI

- ▶ Prepare load curve analysis of plants, apply advanced analytics solutions
- ▶ Pay attention to data gathering and data cleaning
- ▶ Significant correlation between asset maturity and data gathering effort



II. Optimise energy utilisation with AI – major steps

- ▶ Define machine or plant, collect and analyse available data
- ▶ Check different operating states with machine learning technologies
- ▶ Exploring possible causes and explanations with technologists by using anomaly detection
- ▶ Machine learning analysis & development of dashboards to present results, **reduced energy cost could result EBITDA growth**



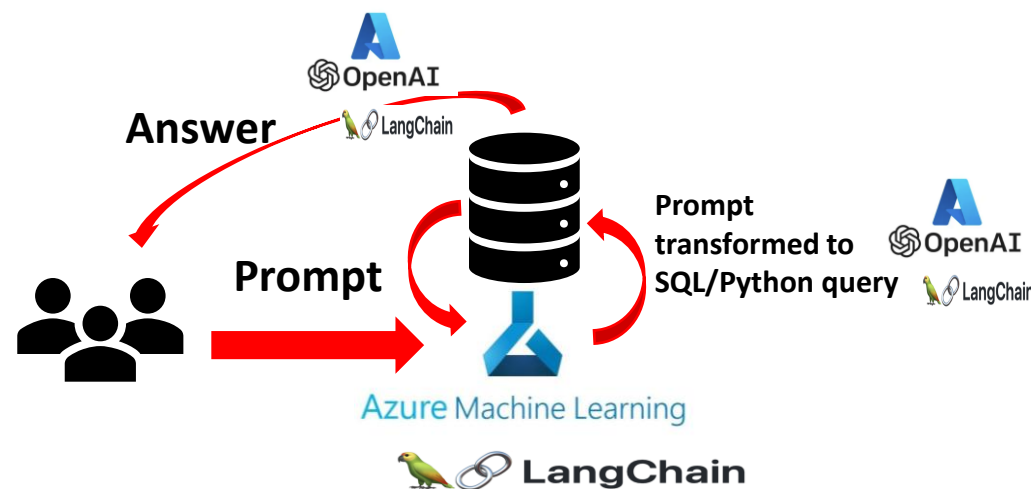
III. GenAI Chatbots

- ▶ Could be first touch point for employees with AI
- ▶ Opportunity to increase trust towards AI, although could be a potential threatening point
- ▶ Moderate technical entry point for most of the companies, easiest to start with



III. GenAI Chatbots – Tabular data querying with NLP

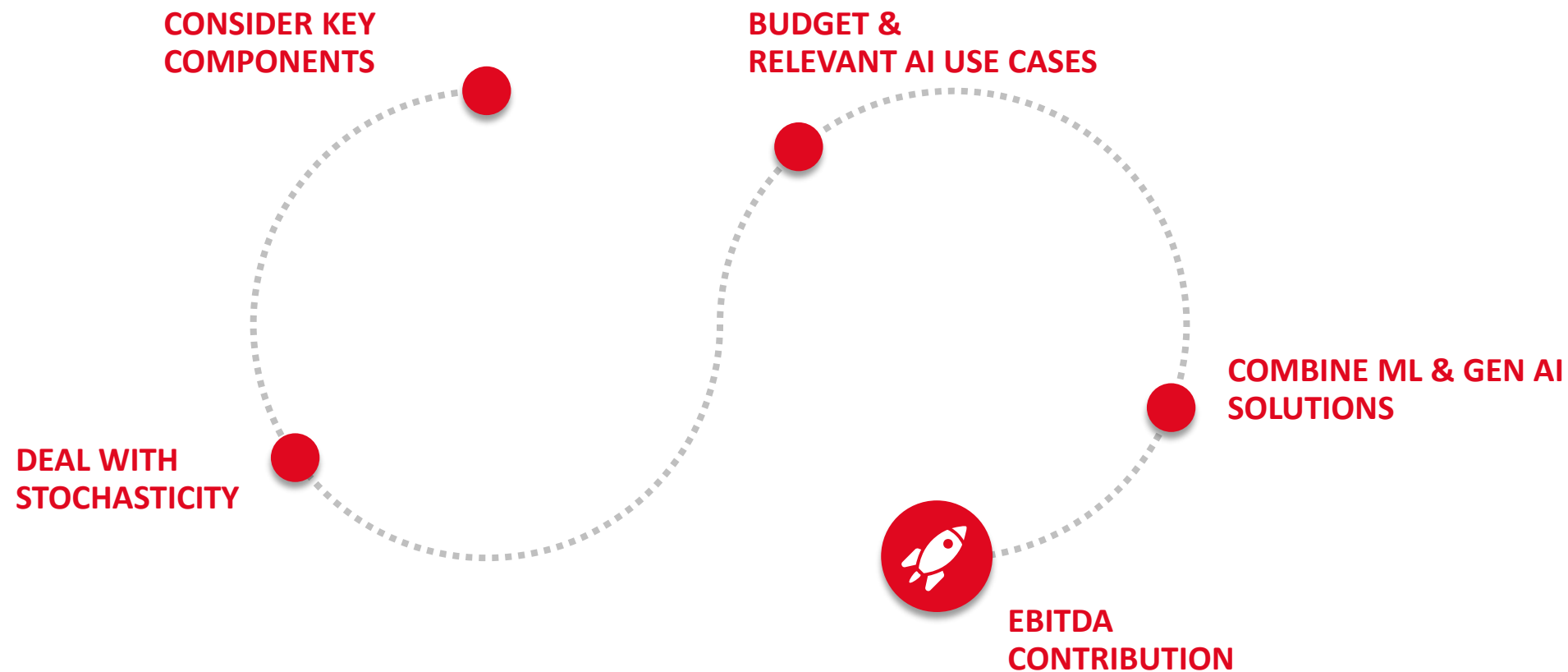
- ▶ Pose natural language questions for a database
- ▶ Get natural language answer for your business question
- ▶ Significantly increase time to data, faster decision **could result EBITDA growth**



Important aspects to be considered:

- Consider IT security aspects
- Consider potential harm to your data, database
- Consider a sandbox
- Carefully consider the access right settings
- Consider huge compute usage in case of complex, mal prompt
- Table header naming vs prompt content

AI JOURNEY FOR EBITDA GROWTH



Thank you for your attention