

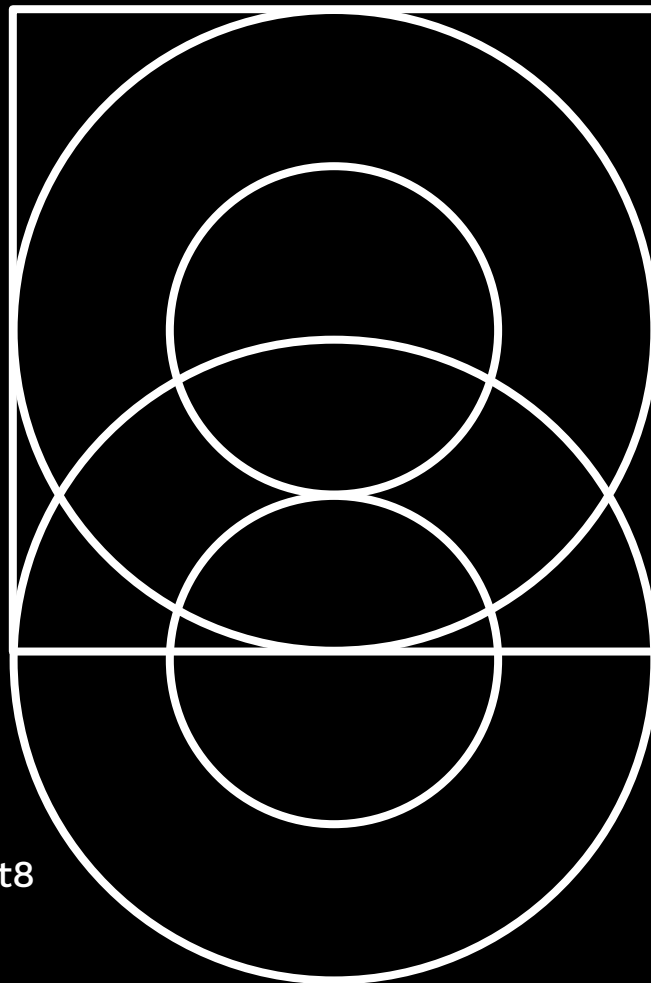


# AI in Industry - from dating to marriage

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digital natives

[unit8.com](https://unit8.com)



# We're a **Data & AI** Services Provider



banking  
& insurance



pharma  
& healthcare



automotive &  
aviation



industry 4.0

# AI Projects from dating to marriage

## ● Nearly 85%

Of AI projects don't make it into production



## AI Projects from dating to marriage

- **Nearly 85%**

Of AI projects don't make it into production

- **Between 70-75%**

Of IT projects are not successful



## AI Projects from dating to marriage

- **Nearly 85%**

Of AI projects **don't make it into production**

- **Between 70-75%**

Of IT projects **are not successful**

- **Around 10-60%**

Of marriages are not successful



What do **AI projects** and **relationships** have in common?

- **Data is ever changing**
- **Communication is hard**
- **It takes a lot of work**



# Production Line Optimization

- **Problem**

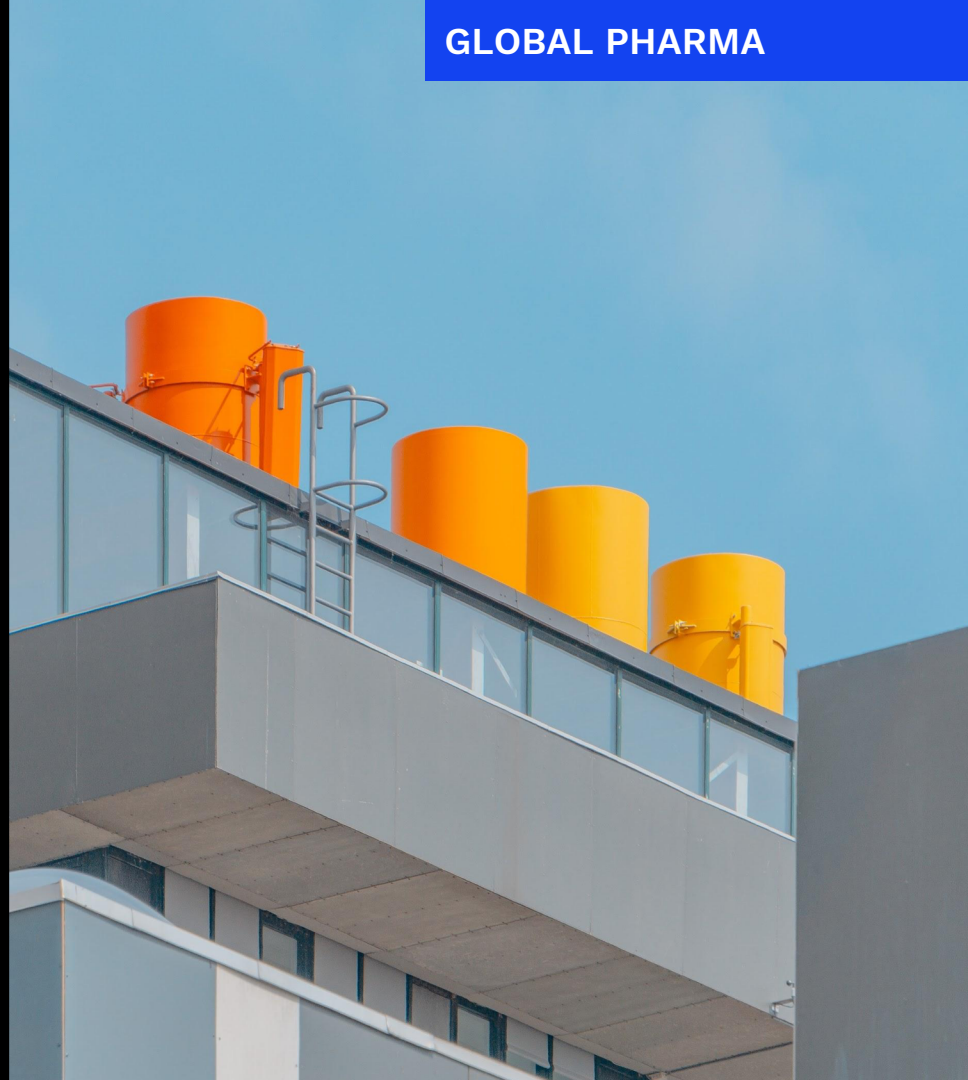
- Running out of production capacity
- Goal: +5% production capacity via advanced analytics

- **Solutions:**

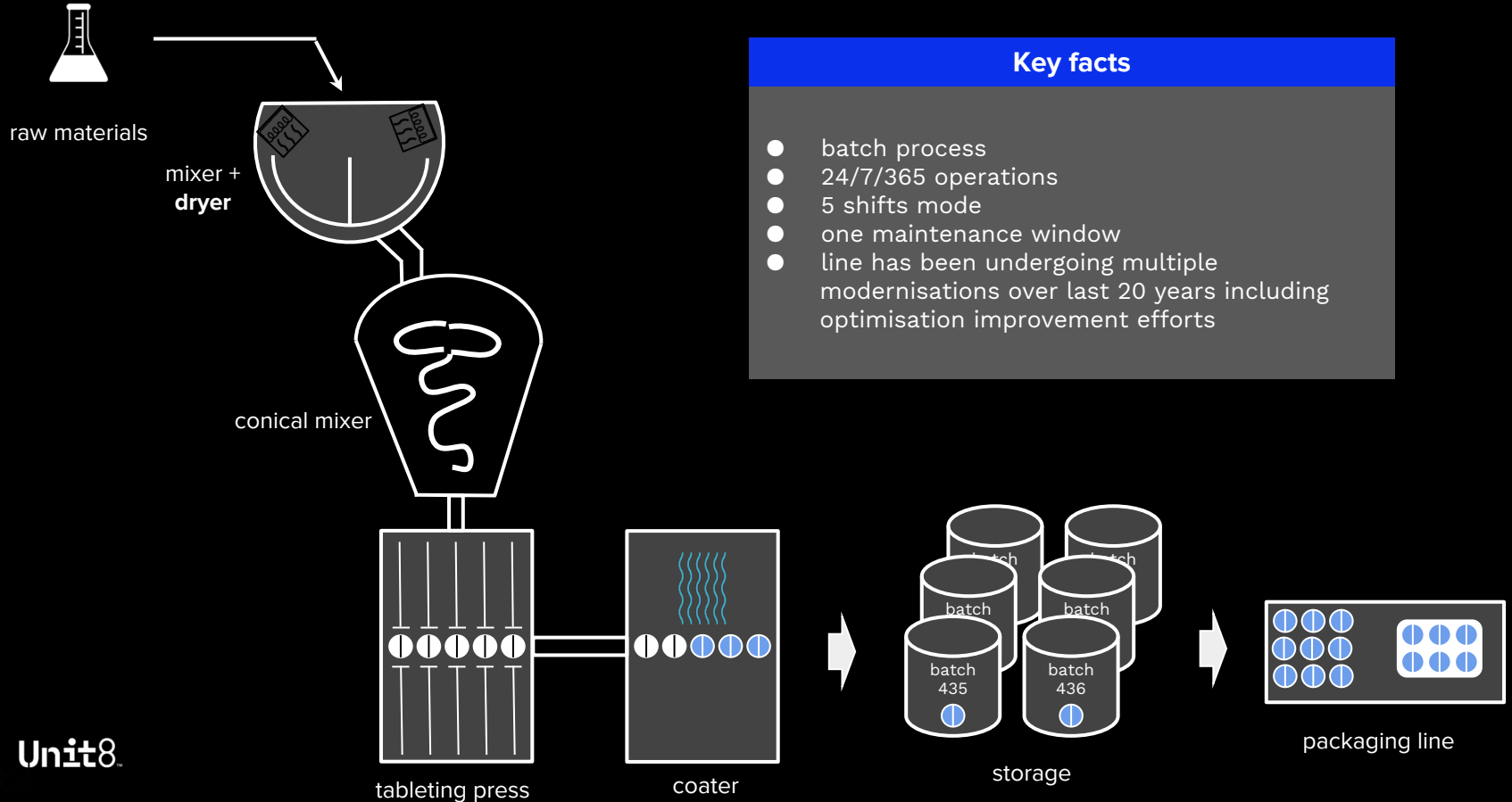
- Overall Process optimisation (Analytical)
- Drying time optimization (Simulation)
- Settings prediction for tablet press (ML)

- **Business benefits**

- 10%+ of productivity increase (throughput and yield optimization)
- 15x ROI




# Pharmaceutical Tablet Production line (~500M € sales per year)





# Turns out the pipeline had baggage



python™  
PYTORCH  
Azure Machine Learning  
aws

- Deep Learning for Anomaly detection
- Reinforcement Learning for Production Line Optimization
- Digital Twin




python™  
Azure Machine Learning



R



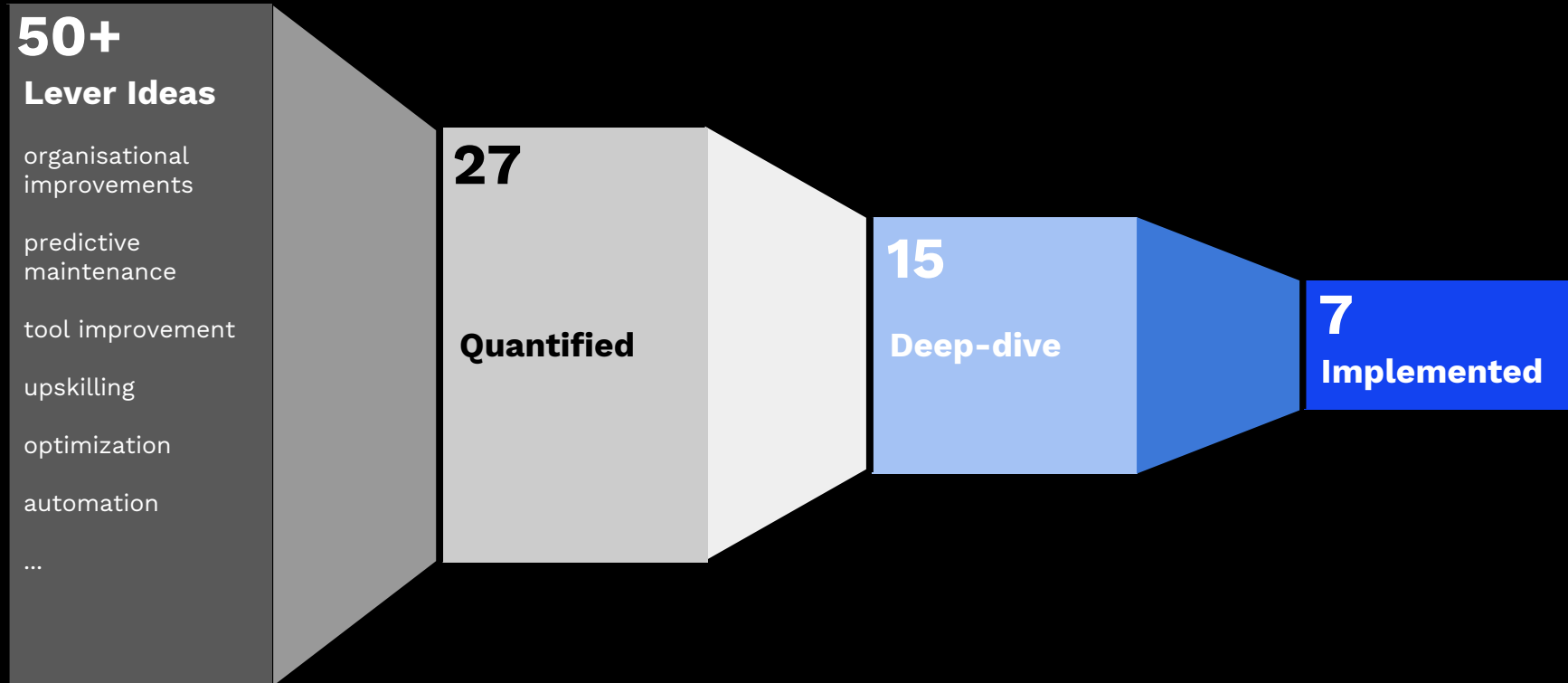
PYTORCH  
Google Cloud



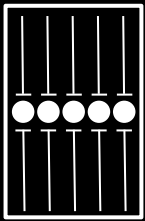
Excel



# Building common understanding and focusing on the essentials



# Optimizing setup of tableting press



tableting  
press

Goal of setup process: adjust parameters of the tableting press so that **weight** of the tablet **matches the specification**

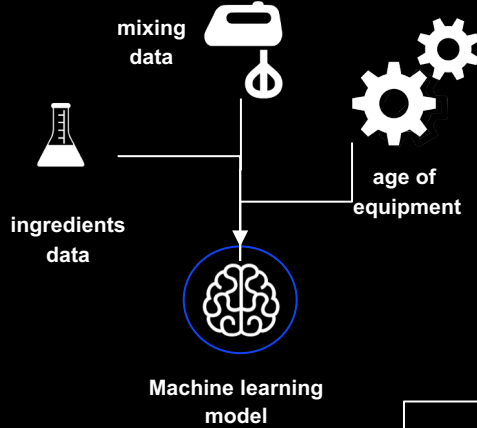
## Before the optimization



Operator

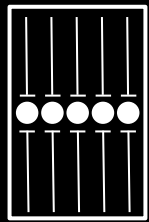
Result: On average there are multiple adjustment cycles which leads to **loss of tablets and time**

# Optimizing setup of tableting press



## After the optimization

By modeling ingredient properties, age of die and stamps and mixing data, we build a recommender model predicting optimal parameters for each new batch



tableting press



Result: in majority of the cases correct parameters are entered at at first attempt leading to **savings of millions of tablets**

# Data Teams are **great catalyst** for good relationships

- As a Lead of a DS team prioritising communication ...
  - To **focus** business **attention** to unlock **investment**
  - To **establish** IT **collaboration** to secure **support**
  - To **maintain** frequent and direct **contact** with users

# Data Teams are **great catalyst** for good relationships

- As an Individual **Contributor** we need to **work hard** on ...
  - **Educating** people across the **organization**
  - **Providing** easy access to our **insights**
  - **Looking beyond** our technical **realm**

And most of all make sure you have fun and build great relationships!

Unit8™

Booth #8

thank you

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