

# How to start digitalization as a company?

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Final Conference - Project CVETNET Intergenerational digital learning  
21.10.2021

# Know-Center



**2001**  
founded



**130+**  
employees from  
20+ nations



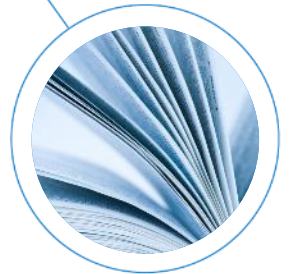
**100+**  
successfully  
completed  
industry  
projects per  
year



**90+**  
company  
partners



**100+**  
science  
partners

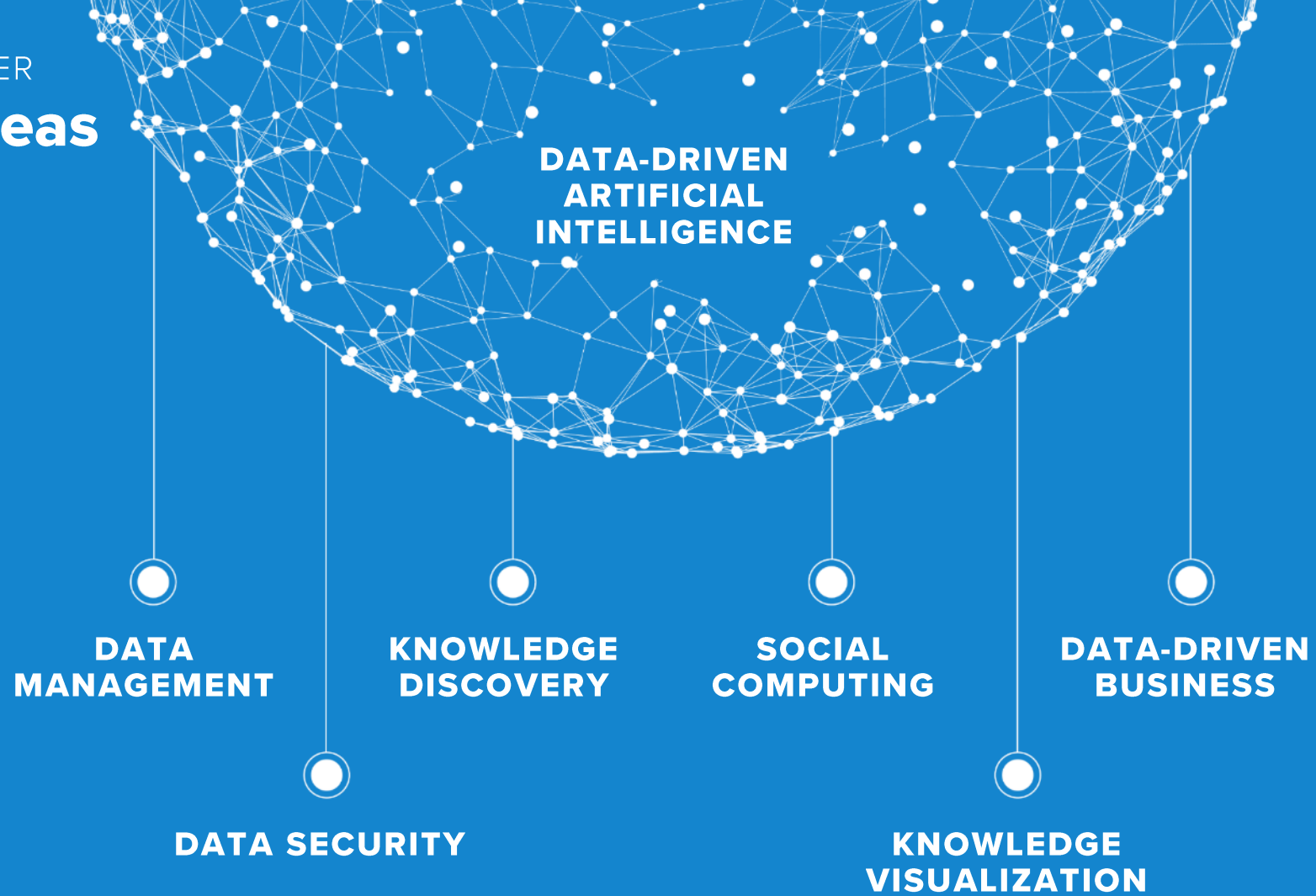


**50+**  
publications in  
outstanding  
international  
venues

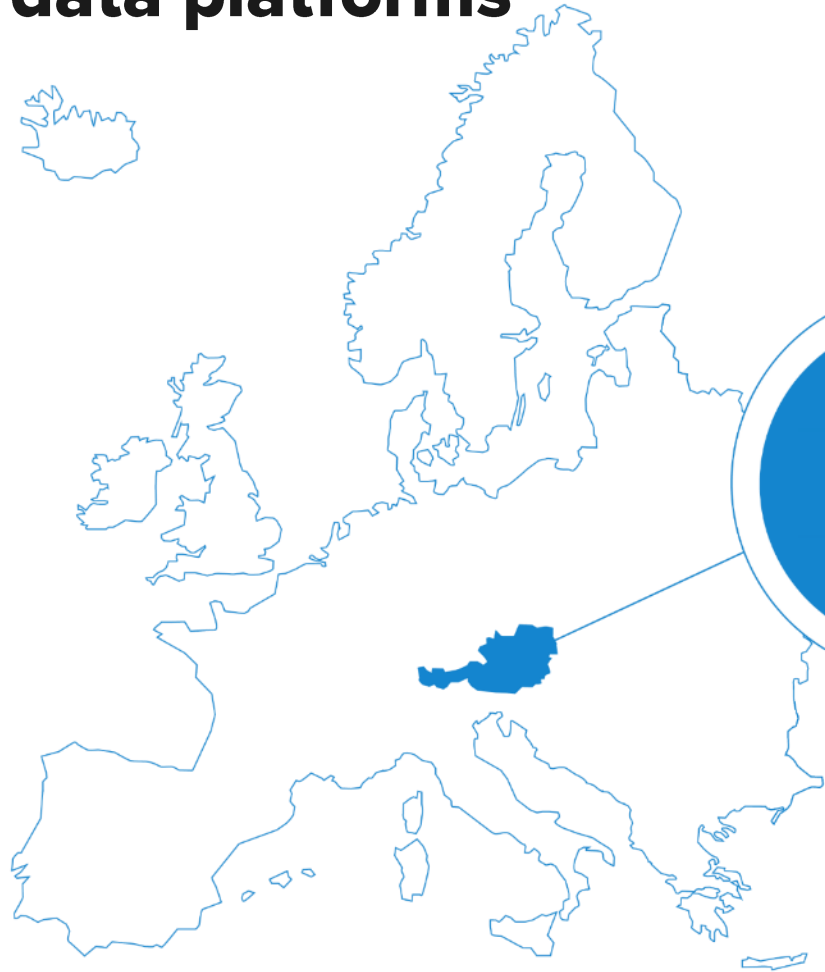


**9M€**  
budget

# Research Areas



# Our digital innovation hubs and data platforms



## European DIGI HUBS



## European Data Platforms



Safe-DEED



## Austrian DIGI HUBS



innov:ATE  
Holz- & Energiewirtschaft

WEST AGILE LABS

SERVICES | WORK | STARTUPS | ENTERPRISE | WEB | MOBILE

ABOUT WAL, AWS, BUSINESS, GAMING, LANGUAGES & FRAMEWORKS, STARTUPS & VCS, TECH, TECHNOLOGY & TRENDS

## Why Companies Should Invest in AI & ML Resources

Twitter icon | Facebook icon | Google+ icon

27/11/2020 - By MJV Team 4 min read

### Waiting can be expensive: why to invest in artificial intelligence.

Organizations from all sectors are investing in Artificial Intelligence (AI) tools and techniques among other actions, automate processes and serve their customers better.

triple | Hello t

Home Diversity

## Why You Should Invest in Artificial Intelligence Now

DATA INNOVATION

ABOUT US | PUBLICATIONS | BLOG | ISSUE | REGIONS | EVENTS | PRESS

Home > Issue > Artificial Intelligence > Who Is Winning the AI Race: China, the EU or the United States?

### Who Is Winning the AI Race: China, the EU or the United States?

by Daniel Castro, Michael McLaughlin and Feline...

McKinsey & Company

Deutschland | Home | Branchen | Funktionen | Publikationen | Karriere | News | Über uns | Kontakt | Unse...

Press Release 11. Februar 2019

## Studie belegt: In der KI hat Europa riesigen Nachholbedarf

Microsoft | Home | Microsoft Österreich | Presse | Stories

### Bereits 80 Prozent beschäftigen sich mit künstlicher Intelligenz – allerdings nur 5 Prozent auf „fortgeschrittenem“ Level

October 24, 2018 | fdemi

IESE Business School University of Navarra

HOME | YOUNG PROFESSIONALS | FUNCTIONAL DIRECTORS | SENIOR EXECUTIVES | C-SUITE

## Artificial Intelligence: Why now's the time to invest

# AI ≠ AI!?

## strong AI, full AI, artificial general intelligence

- machine is on the same intellectual level of skill as humans

20xx

2020

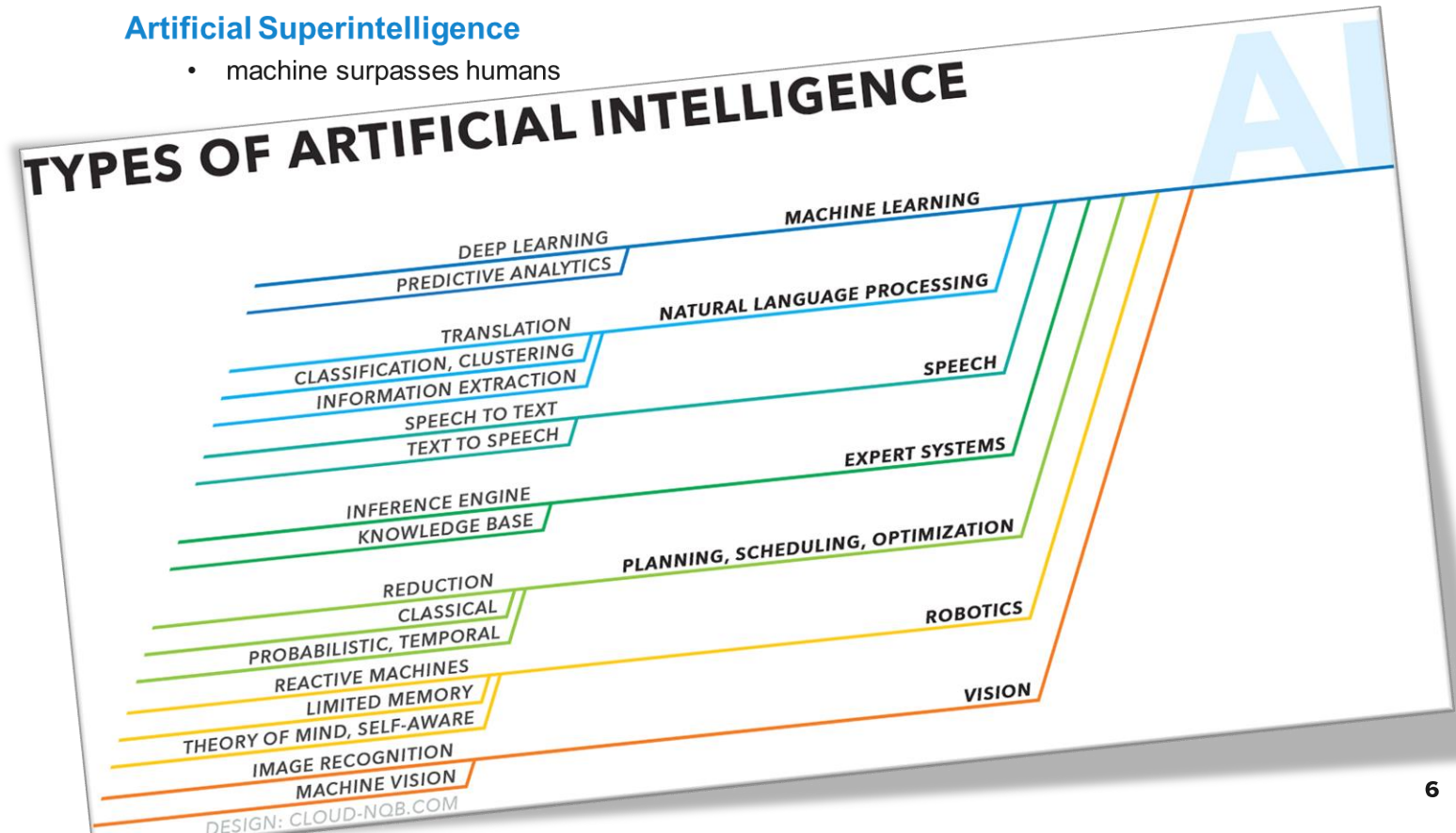
## weak AI, narrow AI, applied AI

- logic-based AI vs. pattern-based/data-driven AI
- imitate human behavior
- help humans with relatively simple tasks

21xx

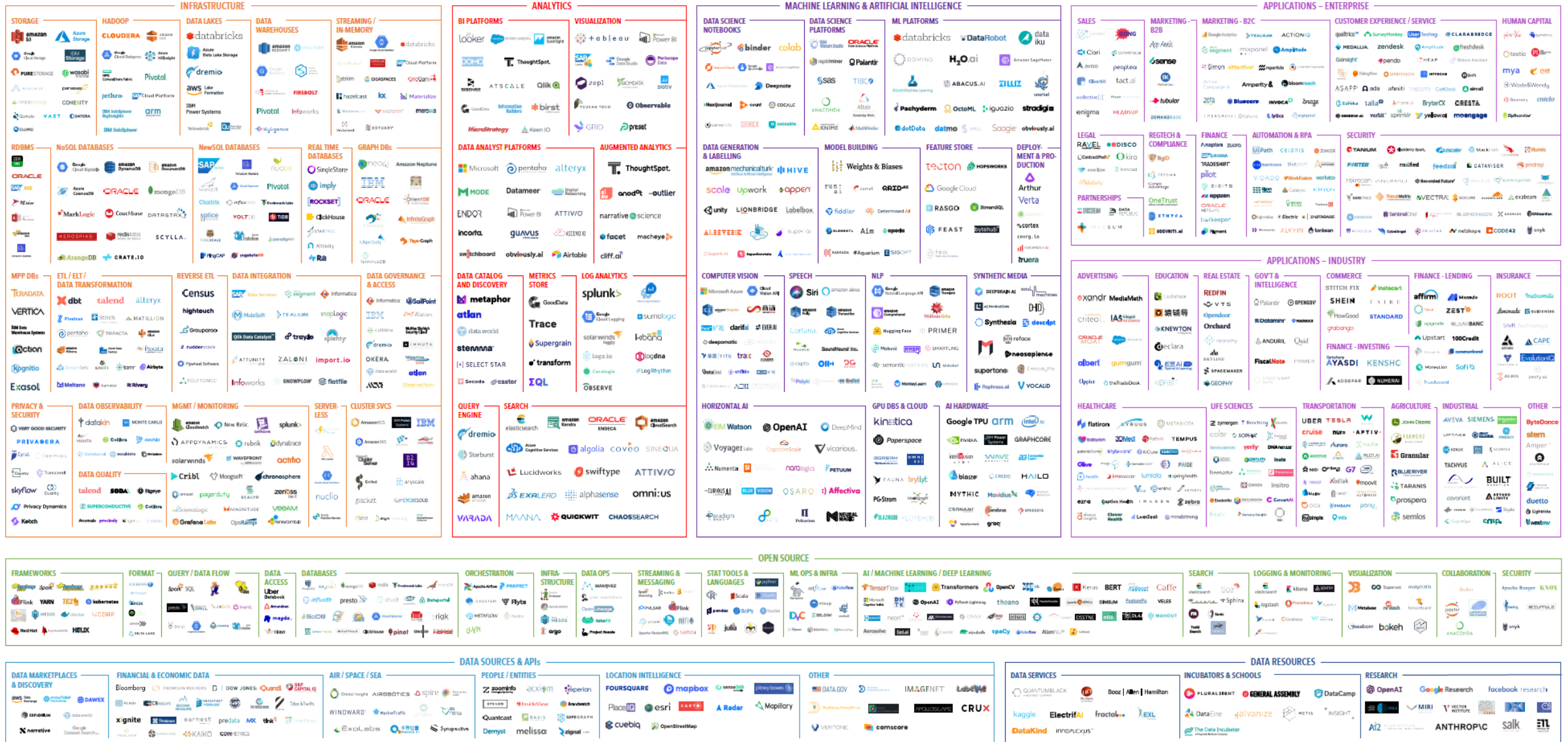
## Artificial Superintelligence

- machine surpasses humans



# Which AI? Where to use?

## MACHINE LEARNING, ARTIFICIAL INTELLIGENCE, AND DATA (MAD) LANDSCAPE 2021



## Where to start?

- AI or HI?
- build / invest in / train
  - employees?
  - infrastructure?
  - processes?
- finding the right problem / use case!?





# Our approach – a company’s journey to AI!

## Training & Awareness

- AI Deep Dive
- AI Essentials
- Big Data Essentials
- Data Service Cards Workshop

## Strategy

- AI Maturity Assessment
- AI Opportunity Mapping
- AI & Data-driven Business Strategie

## Generating Ideas & Conceptual Design

- Data Map
- Data Value Check
- AI Process Automation
- Data-driven Business Modelling

## Implementation

- AI Sprechstunde
- Project Support

# Data Service Cards

- WHY
- 1/2 day
- for everyone



## Safe-DEED DATA-DRIVEN BUSINESS CANVAS

Designed by  Date

We create the data analytics solution ...	... for the following customers and users ...
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
What is the name of our data product?	For whom do we create our data analytics solution? Who is our customer?

Data Sources	Analytics	Data Product	Customer Benefit	Financial Implications
<p>What data sources do we need to create customer value?</p> <p>Examples: existing internal data, data from our customers, partners or suppliers, from data providers or data marketplaces, from public available sources, ...</p> <div style="text-align: center;"></div>	<p>What data analytics methods do we need to apply to gain insights and benefits from the data?</p> <p>Examples: classification, regression, descriptive statistics, privacy-preserving technologies like anonymization, multi-party computation, ...</p> <div style="text-align: center;"></div>	<p>In what form do we make the service available to our customers and users?</p> <p>Examples: report, dashboard, API, raw data, KPI, software function, web element, ...</p> <div style="text-align: center;"></div>	<p>What added value and what advantages does the data service generate for our users and customers?</p> <p>Examples: increase in quality and customer satisfaction, acquisition of new customers and new revenue sources, cost reduction, ...</p> <div style="text-align: center;"></div>	<p>What types of revenue streams do we expect?</p> <p>Examples: subscription, license, pay per use, gain sharing, indirect monetization, ...</p> <div style="text-align: center;"></div> <p>What are the most important cost factors for our data solution?</p> <p>Examples: development, hosting, maintenance, user support, ...</p> <div style="text-align: center;"></div>

# Awareness

## DATA SOURCES

**DATA SOURCES**

Usage Behaviour

Geographic Data

User-generated Data

## DATA ANALYTICS

**DATA ANALYTICS**

Recommender System

**DATA ANALYTICS**

Natural Language Processing

## DATA SERVICE

**DATA SERVICE**

Decision Support

Notifications

Web-Element and Software Function

## BENEFIT

**BENEFIT**

Information and Knowledge Gain

Time Optimisation

## REVENUE MODELS

**REVENUE MODELS**

Advertisement

Commission

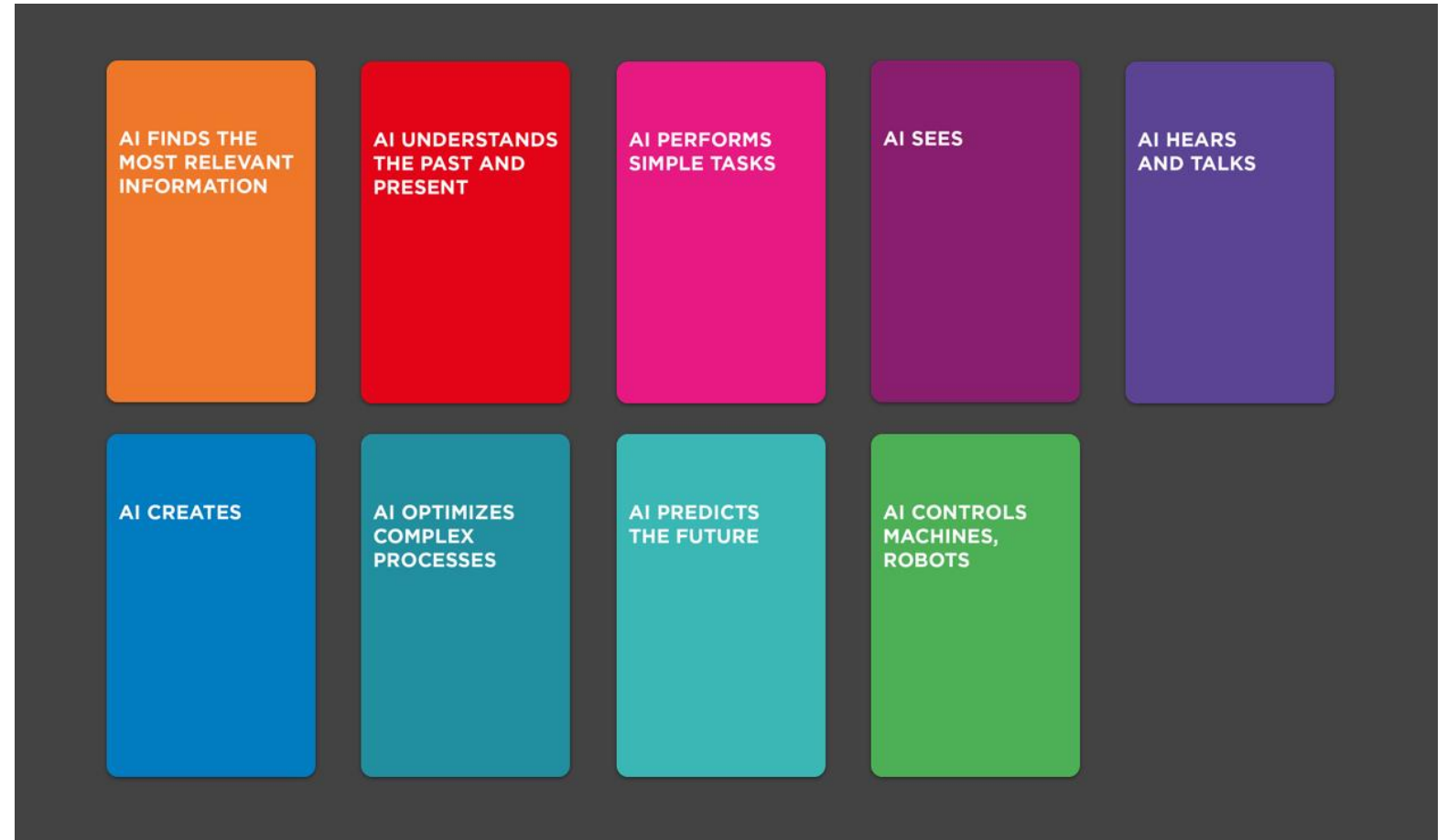
# AI Opportunity Mapping

- **WHERE**

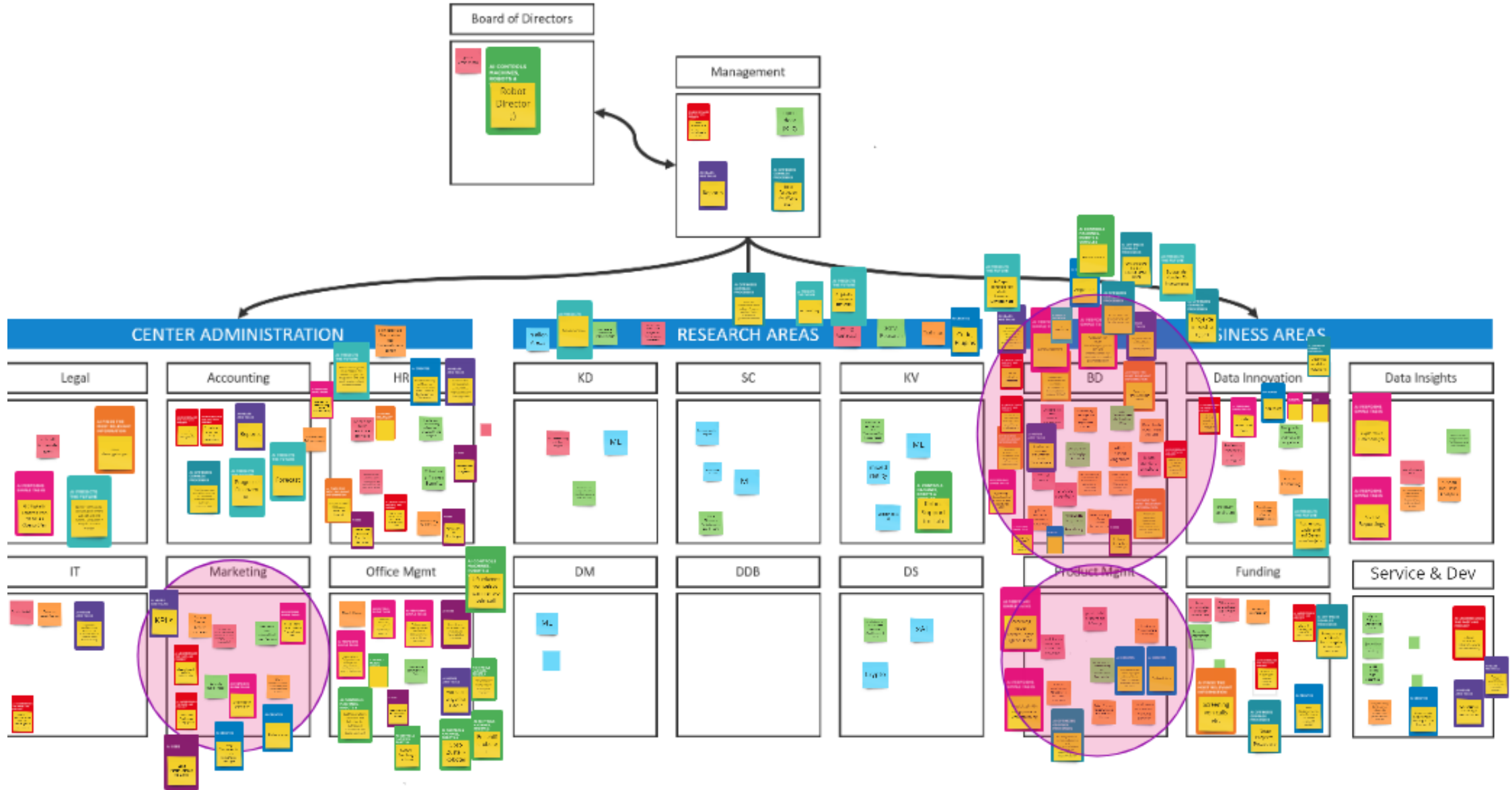
- 1/2 day

- C-level

- under license of [33a.ai](https://33a.ai)



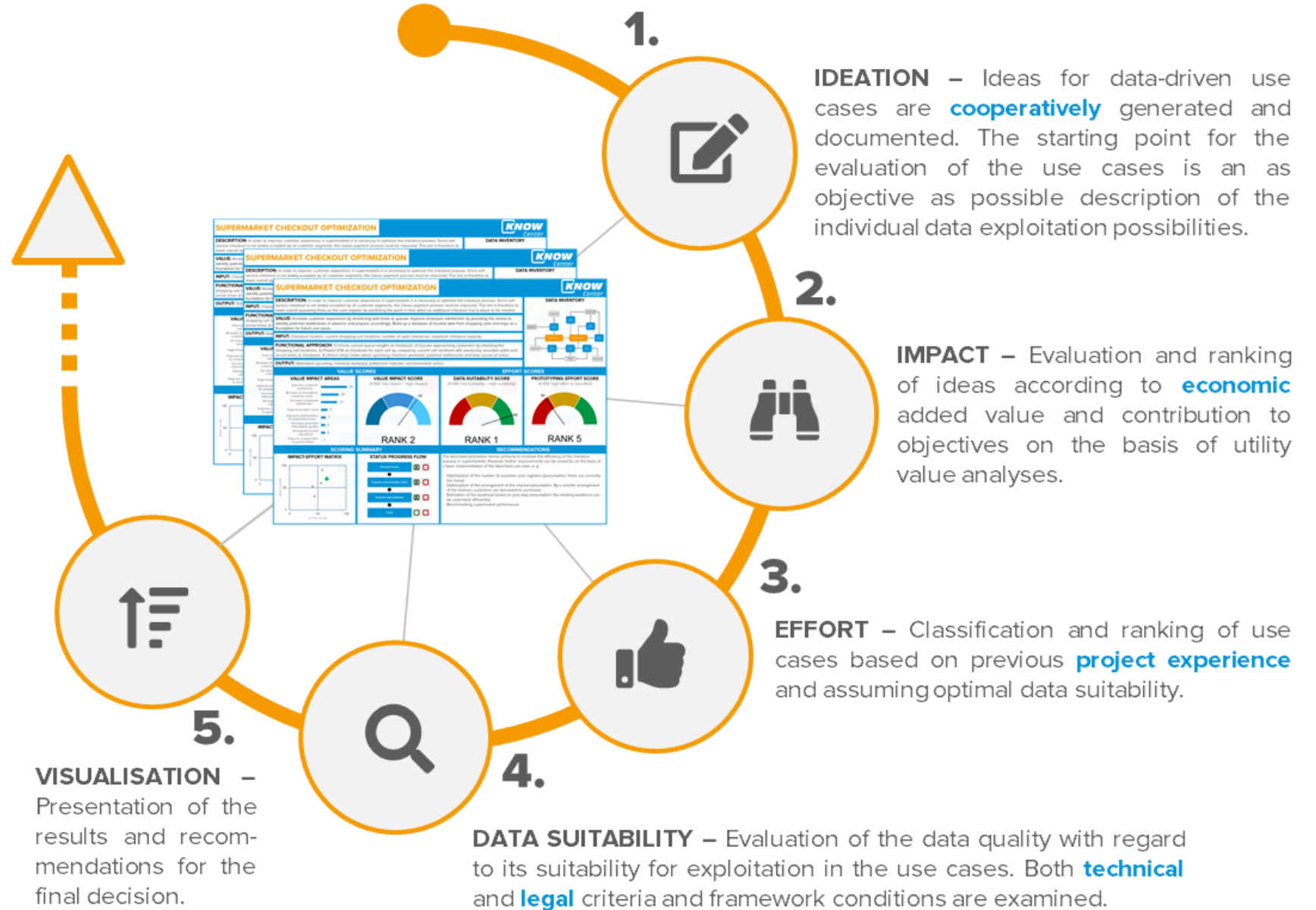
# AI Opportunity Mapping



# Data Value Check

## • WHAT

- 2 x ½ days
- managers, domain experts



# Data Value Check

## SUPERMARKET CHECKOUT OPTIMIZATION



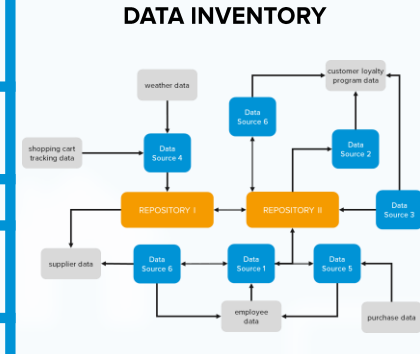
**DESCRIPTION:** In order to improve customer experience in supermarkets, the checkout process needs to be optimized. Since self-checkout is not accepted by all customer segments, the classic payment process should be improved. To that end, the aim is to shorten overall queueing times during checkout by predicting when additional cash registers should be opened to efficiently handle the workload.

**VALUE:** Increase customer experience by shortening wait times in queues. Improve employee satisfaction by identifying potential bottlenecks in advance and act accordingly. Develop a database of data tracked via shopping carts and baskets as a basis for future use cases.

**INPUT:** Checkout location, current locations of shopping carts and baskets, number of open checkouts, maximum checkout capacity.

**FUNCTIONAL APPROACH:** 1.) Check current queue lengths at checkouts. 2.) Locate approaching shopping carts and baskets  
3.) Predict ETA at checkouts by comparing current locations with previously recorded paths and arrival times at checkouts. 4.) Inform shop employees about the upcoming checkout workload, potential bottlenecks and best course of action.

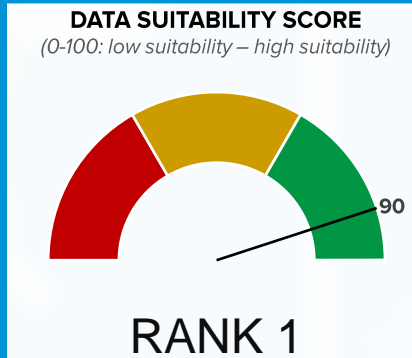
**OUTPUT:** Estimated upcoming checkout workload, bottleneck indicator, recommended action.



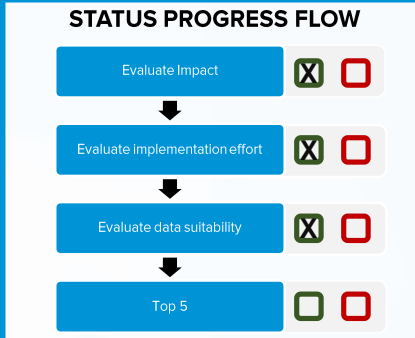
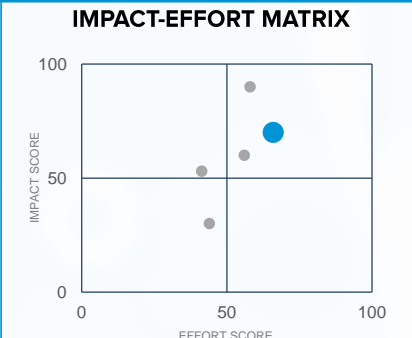
### VALUE SCORES



### EFFORT SCORES



### SCORING SUMMARY



### RECOMMENDATIONS

Although this procedure is primarily designed to increase the efficiency of checkout processes in supermarkets, further improvements could be achieved based on the implementation of the described use case, such as:

- optimization of the number of available cash registers (i.e., there may be too many)
- optimization of shelf arrangement (i.e., smart shelf arrangement may encourage customers to purchase more items)
- workload estimate based on prior days (i.e., the existing workforce can be used more efficiently)
- benchmarking supermarket performance



# LET'S START THE JOURNEY!



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