

Up Next: The Technology Keynote

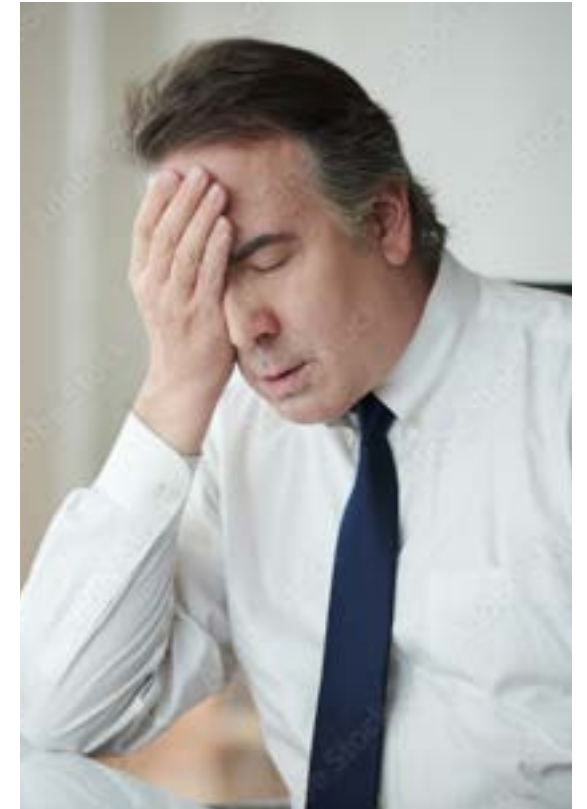


Hey ChatGPT! Can you help me select a great joke for a keynote about Decision Intelligence technology in Barcelona for a mixed audience of business professionals and technical users?



Of course! Here's a joke that combines humor with a tech-savvy theme, suitable for a mixed audience of business professionals and technical users at a Decision Intelligence technology keynote in Barcelona:

"Why was the Decision Intelligence algorithm always invited to Barcelona's tapas bars? Because it could perfectly balance between 'data bytes' and 'tapas bites,' creating the ultimate recipe for success!"



Keynote

Decision Intelligence Technology

“What it is and
why it’s useful”



Kostja
Siefen



Ronald van der
Velden



Nice meeting you!



Dr. Kostja Siefen
Director Technical Account Management



Ronald van der Velden
Technical Account Manager

Agenda



Fundamentals



Structure



Inspiration

Decision

Intelligence

Technology

Decision-making starts early

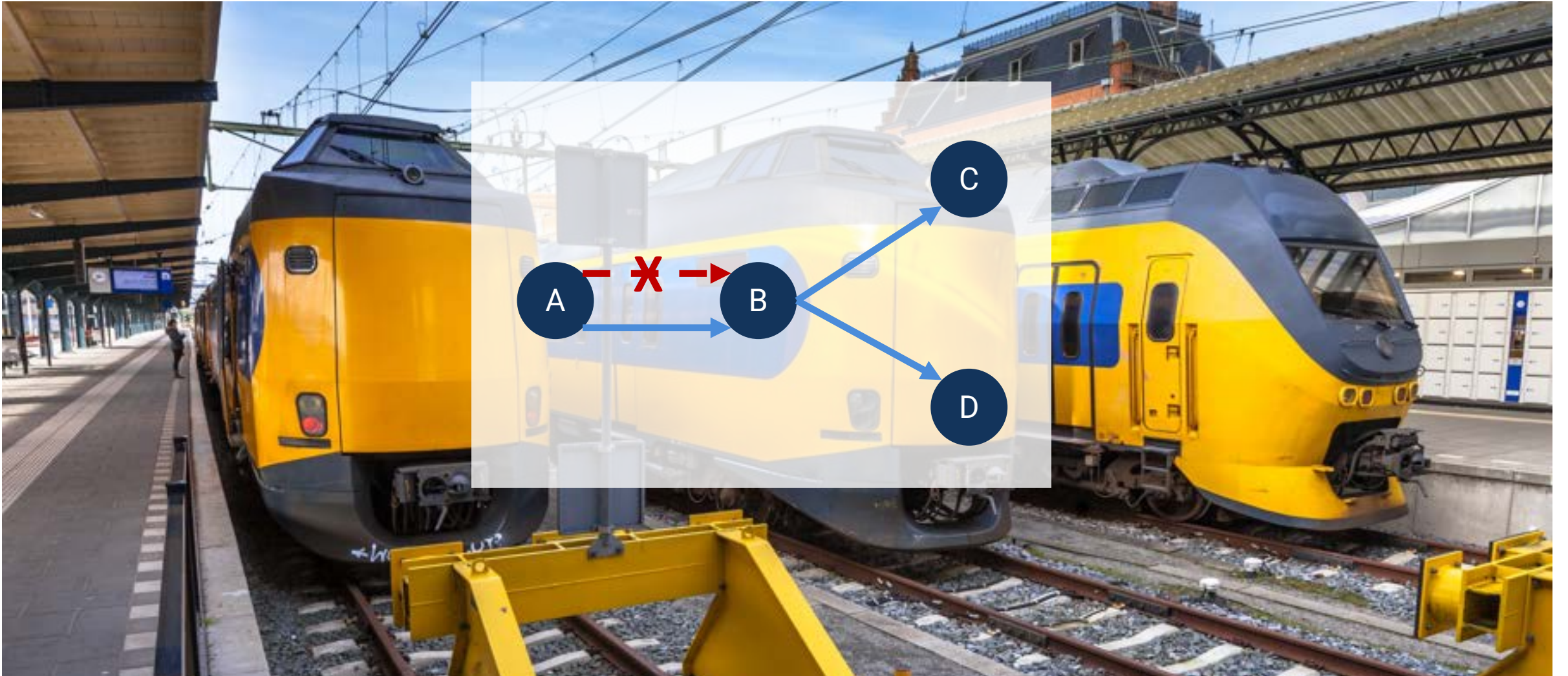


119cm x 38cm



120cm x 80cm

Inherent Intricacies



Organization & Time Dimensions



Source: Gartner – Decision Intelligence and Algorithmic Decision Making

The car won't stop



What makes a good decision?

The Process

- Best available information at the time
 - Supported by data
 - Supported by technology
- Efficiency



The Outcome

- Target Achievement
 - Attribution
 - Based on tracked KPIs
- Effectiveness

Decision

Intelligence

Technology

It is called *Decision Intelligence* for a reason

Automation Intelligence

Data Intelligence

Decision Intelligence

Artificial Intelligence

Business Intelligence



- Mental **capability**
- Knowledge **process**
- **Adapt** to change
- Acting **purposefully**



Rational Decision-Making - Idealized

Business processes

- Inputs and outputs
- Sequences of activities
- Roles and responsibilities
- Performance measures

Advantages

- Understand operational needs
- Consistency through repeatable steps
- Avoid personal workarounds
- Allow continuous improvement
- Identify supporting tools



Common “Intelligence” Challenges



Extinction by instinct



Analysis paralysis



Information overload



Decision fatigue



Process mirrors organization



Choice overload

Decision

Intelligence

Technology

Technology adoption pushes the limits



World Record
2.45m (men), 2.09m (women)



World Record
6.23m (men), 5.06m (women)

What if...

... you are running out of capacity?

Copenhagen Airport



... your market changes rapidly?

Alpiq



... your supply chain is huge?

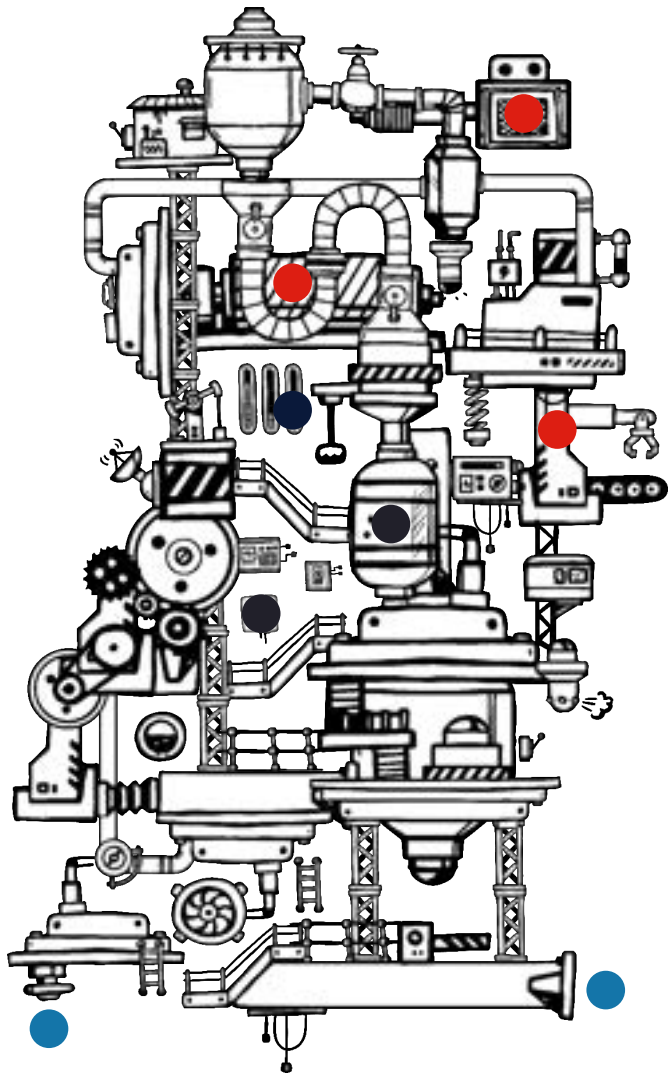
ABInBev



Process (Re-)Engineering - The Core of Decision Intelligence



Technology is at the Transition Points



From Data To Insight



Predictive Modeling

Machine Learning
Statistical Analysis

- Correlations & Relationships
- Patterns & Trends
- Clusters & Anomalies
- Reduction

Business
Intelligence

Visual
Analysis



Data Integration & Reporting





From Insight To Plan



Prescriptive Analytics

Mathematical Optimization



Custom Algorithms

Heuristics

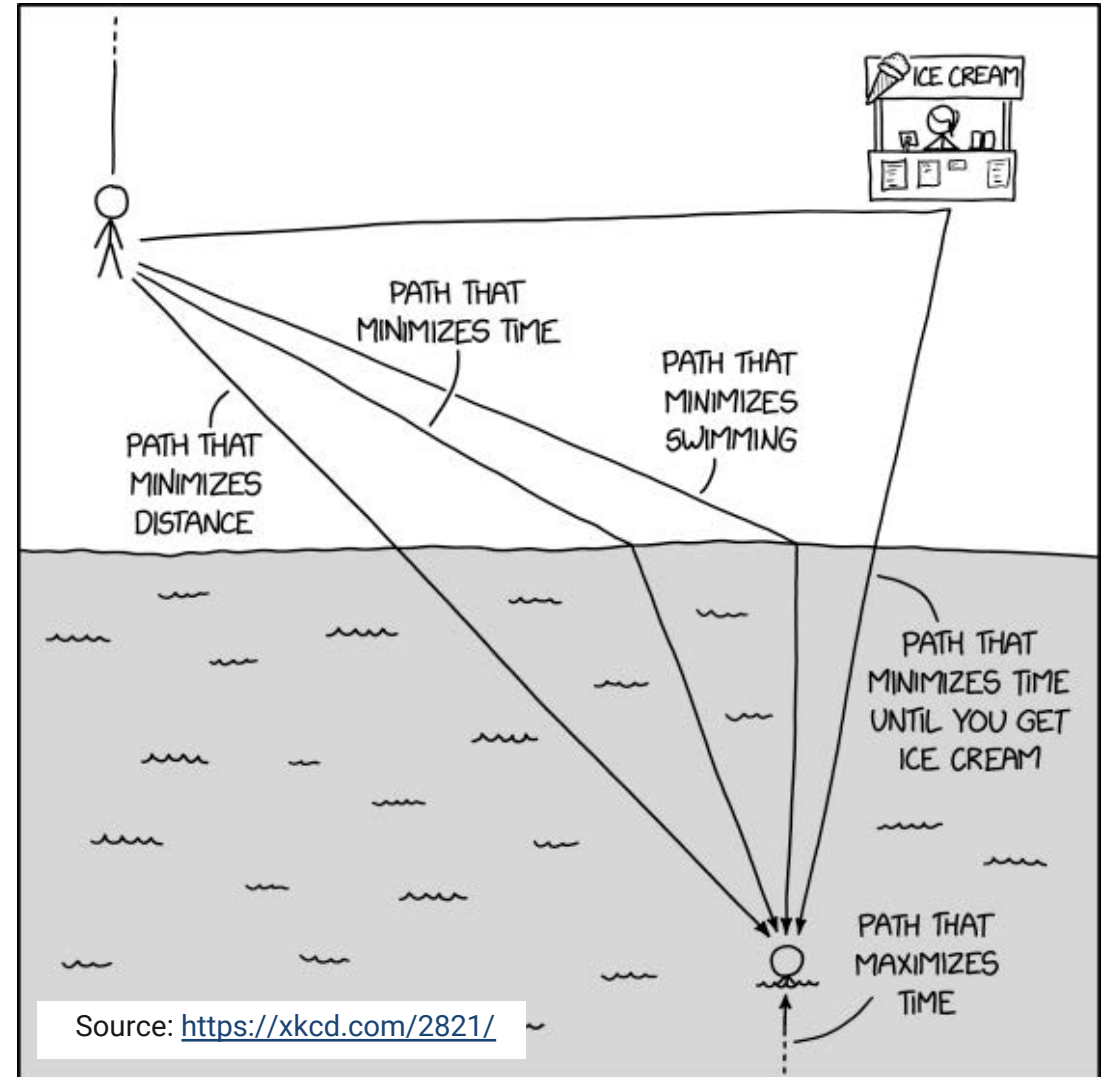


Simulation

“Digital Twins”



Manual Planning



From Plan To Execution



Deployment Communication

Goal Alignment



Monitoring

Adherence vs
Results

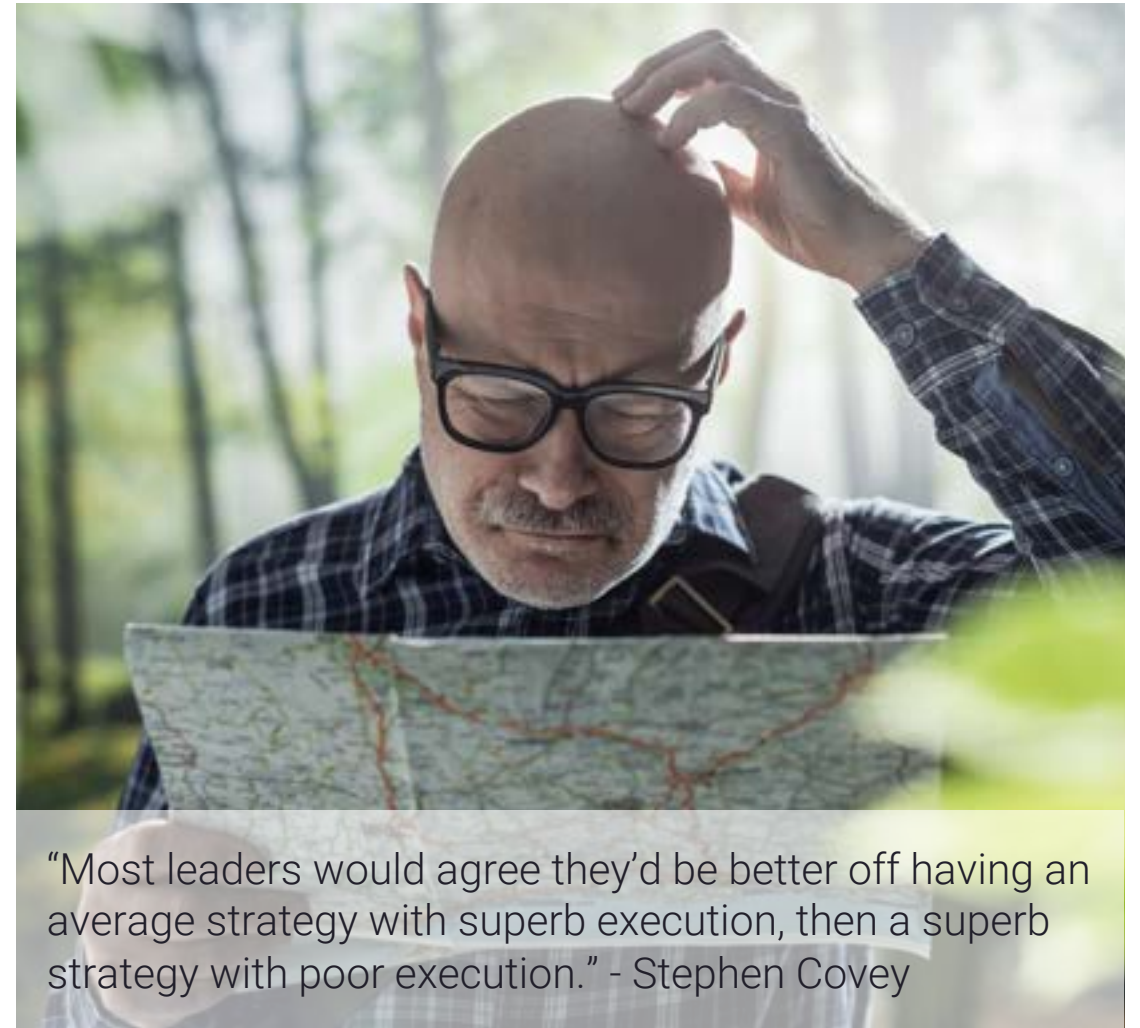
Continuous
Adjustment



Re-Planning



Validation Analysis



“Most leaders would agree they’d be better off having an average strategy with superb execution, then a superb strategy with poor execution.” - Stephen Covey

Two Halves of the Intelligent Brain

Data Intelligence

- Describe and predict reality
 - Focused on *what happened*
- From data to model
 - Optimize fit *between* data and model
- Inductive
 - Learn *new* things from observations
- Machine Learning

Decision Intelligence

- Prescribe how to act
 - Focus on *what we can control*
- From model to data
 - Optimize solution for *given* decision model
- Deductive:
 - Model represents assumed *facts*
- Mathematical Optimization



The *Right* Level of Automation

Example

Aquaculture
Farming



Decision
Support

Football
League
Planning

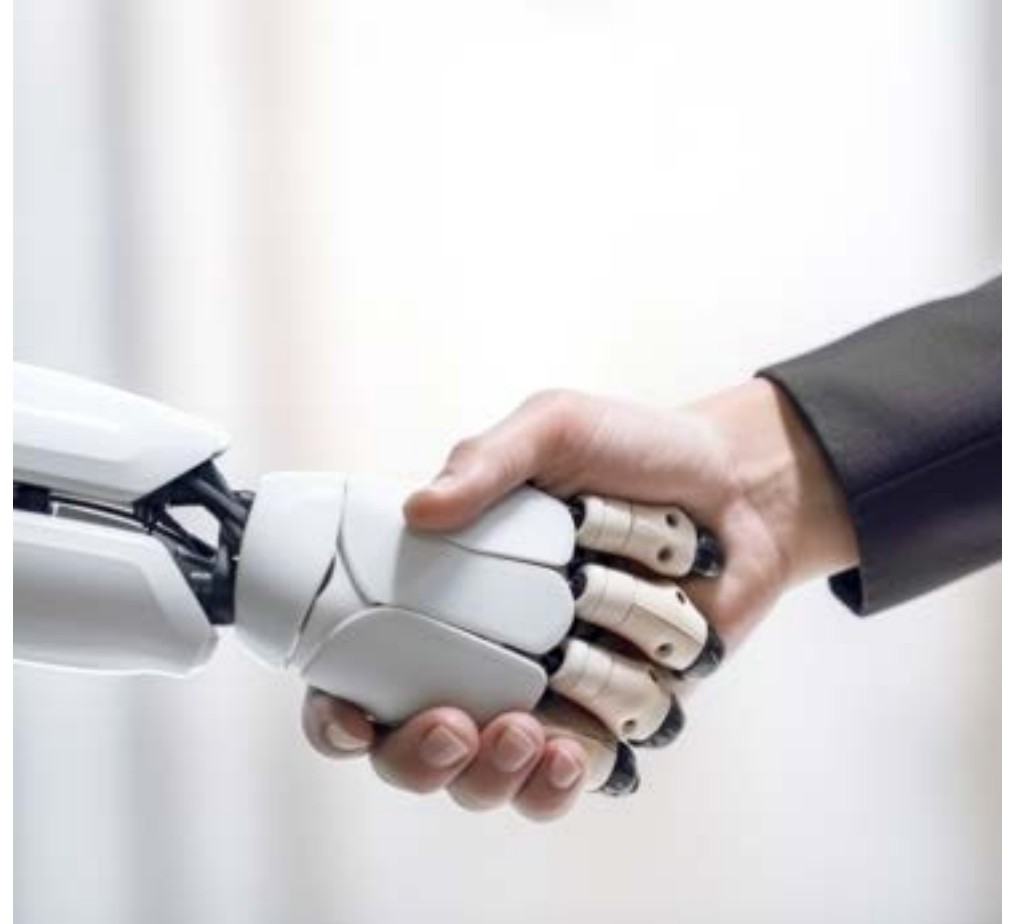


Decision
Augmentation

Food Delivery
Scheduling



Decision
Automation



See It In Action




Arute Solutions

Challenges

To keep up with demand, banks keep their ATMs stocked with massive amounts of cash. But the key is to stock the right amount of cash to meet demand, without letting cash sit idle—where it can rack up interest costs.

Optimized Outcomes

Arute Solution's Cash+, powered by Gurobi, enables customers to minimize total operational costs, while conforming to the constraints of each ATM or CMC—with 22% less cash and the same number of CITs.



“Using Gurobi, we can construct advanced, high-quality, and high-performance solutions for our customers.”

Mehmet Arıkkın, CEO, Arute Solutions




EasyPark

Challenges

To reduce the number of the cars circling a city by helping drivers find parking efficiently.

Optimized Outcomes

With Gurobi, EasyPark was able to develop a mixed integer programming model that resulted in a 30-50% reduction in time to find a parking spot.

A woman with long brown hair, wearing sunglasses and a yellow shirt, is smiling while looking at her smartphone. She is standing in a parking lot with several cars, including a red one, visible in the background.

EasyPark's smartphone application makes it quicker and easier to find, pay, administer, operate, and plan parking through the use of Decision Intelligence

easypark

Air France

Challenges

To build the most efficient schedule for its entire fleet, in order to save on fuel and operational costs, while reducing delay propagation.

Optimized Outcomes

Air France estimates that they are now saving around 1% on fuel costs, on top of what they thought was an optimal fuel bill. Additionally, they've reduced delay propagation and operational costs.



“Using Gurobi to solve tail assignment problems brings large savings on a yearly basis.”

**Solene Richard, Data Science and Operational Research Team Leader,
Air France KLM**



Technology adoption is a journey



Optimal outcomes require the combination of data- and model-driven decision making

Reassess and redesign the decision-making process first

Decision Intelligence is all about selecting and integrating technology at the transition points

Benchmark new technologies by their contribution to process quality and outcome

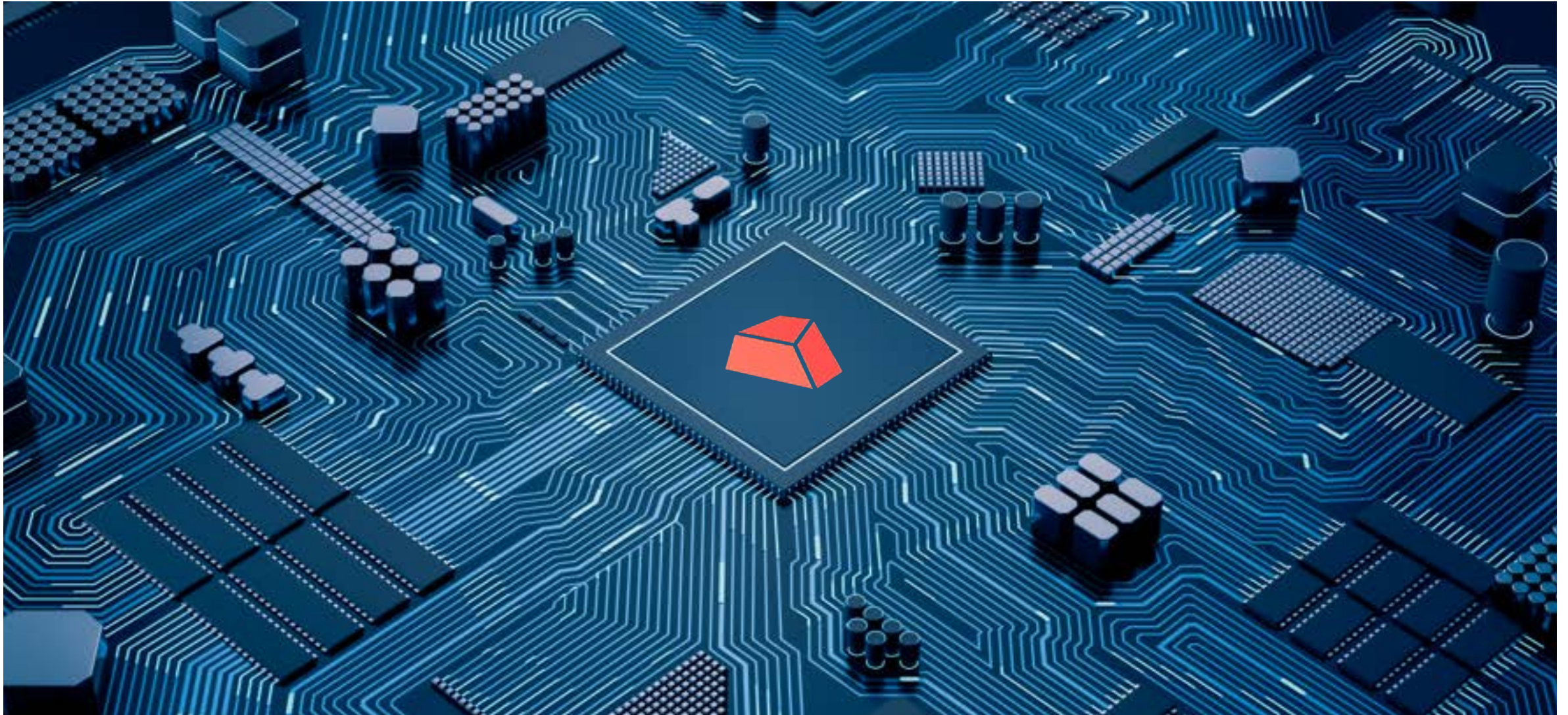
Linking Inductive & Deductive



Process Engineering around the transition points



Technical Integration vs. Business Integration



Continuous Engineering & Research





**Now Accelerate Your
Journey!**



**GUROBI
LIVE!**

Thank You!

Questions?

