

delaware

Machine
Learning
in
Logistieke
Processen

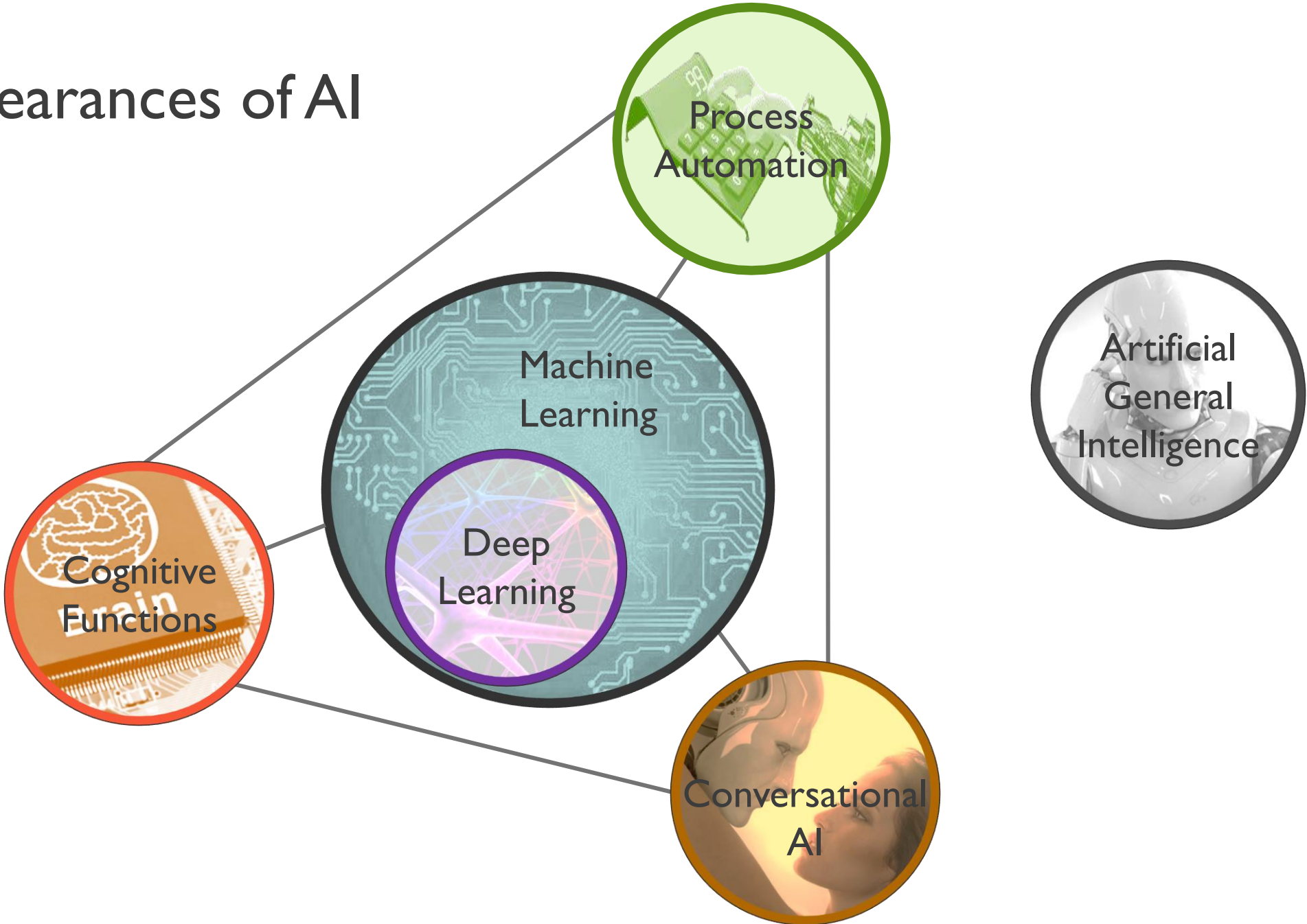


Agenda

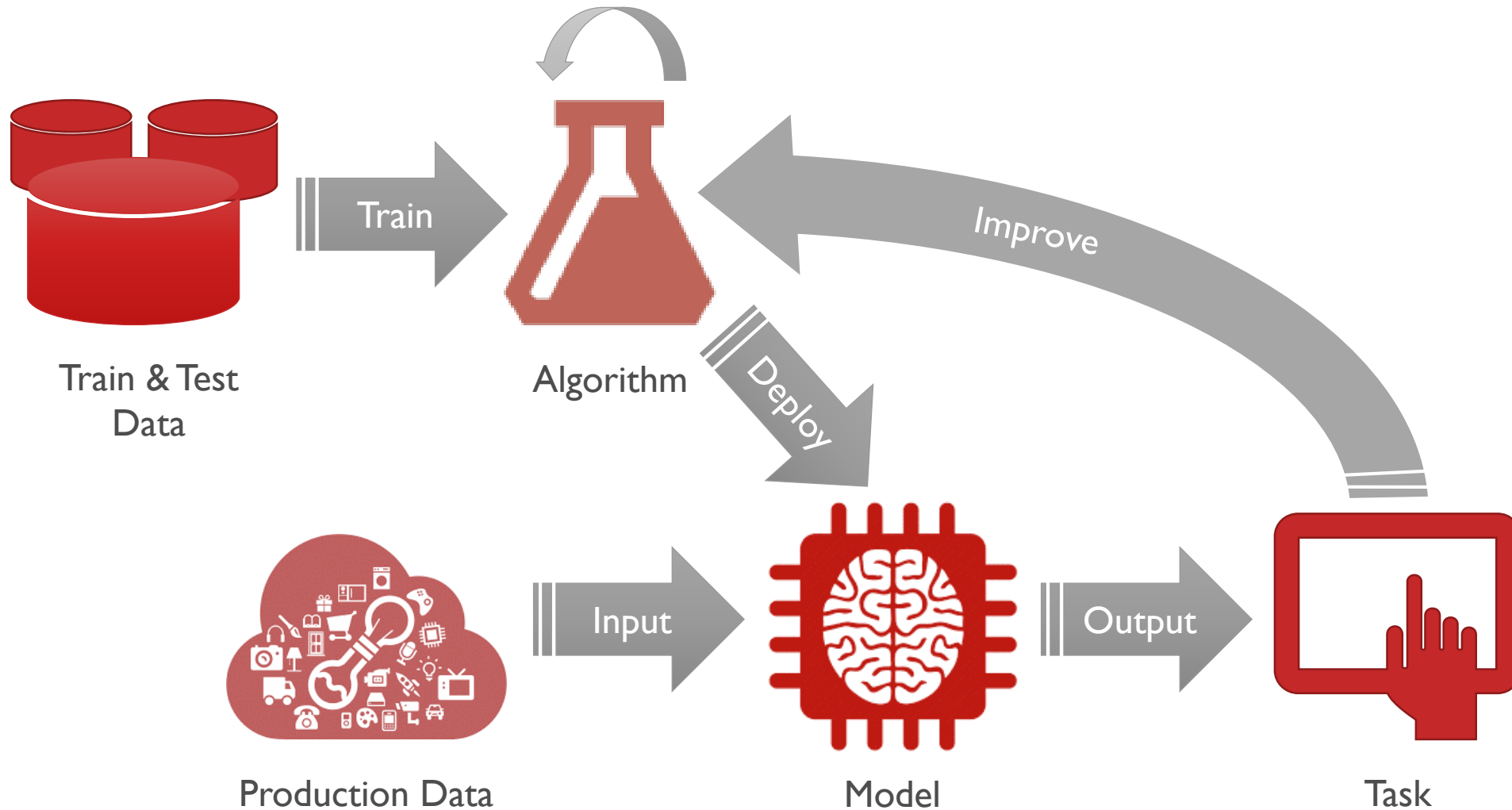
- Basic Machine Learning (ML) Concepts
- Use Cases in Logistic Processes
- From Ideas to Value



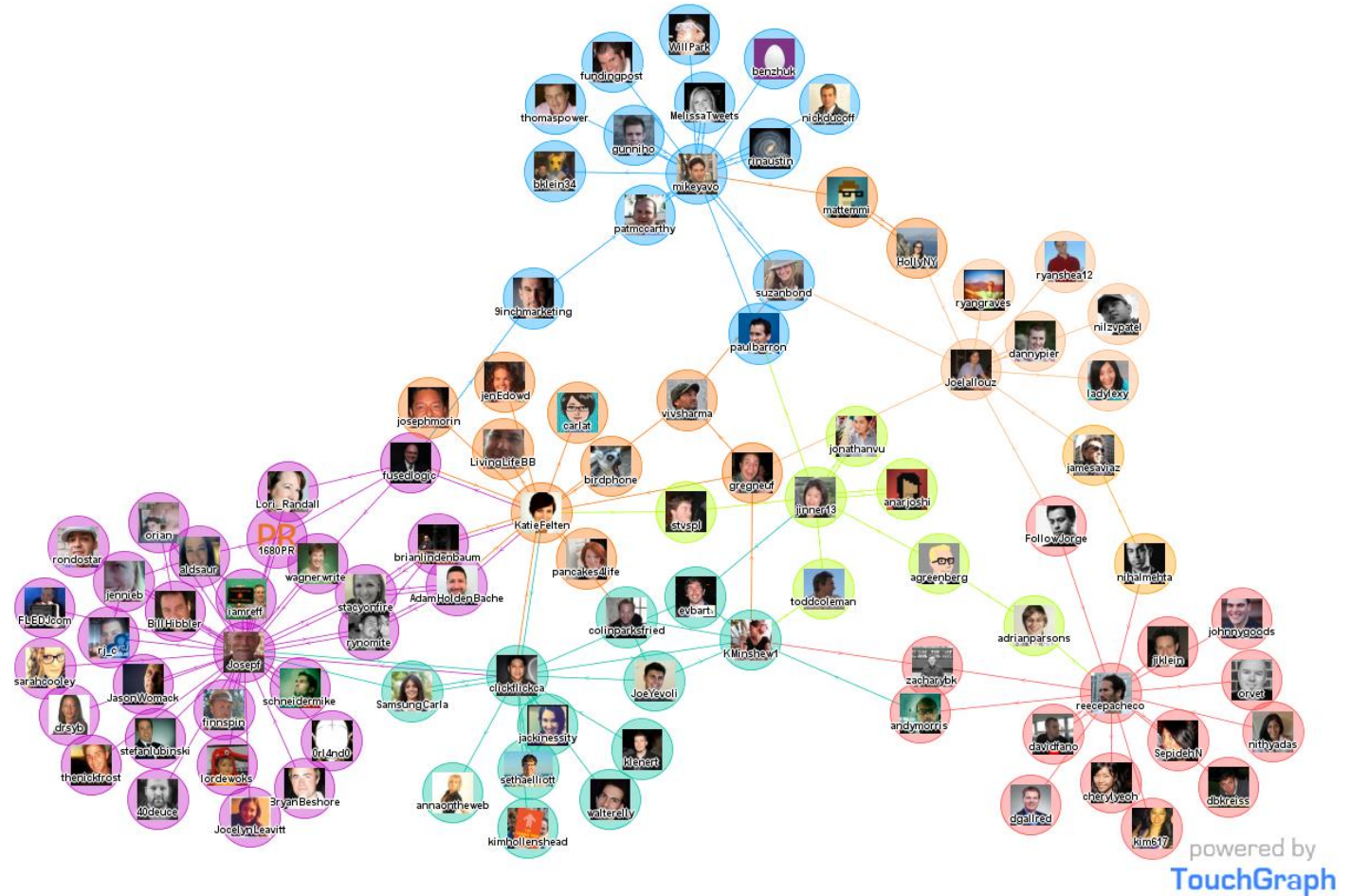
Appearances of AI



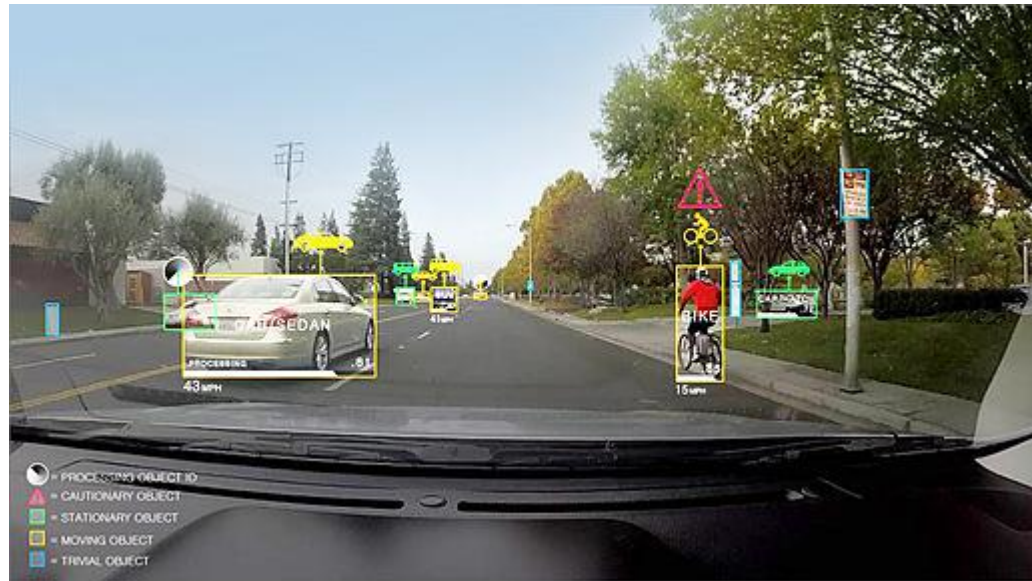
What is Machine Learning?



Unsupervised Learning - Examples



Reinforcement Learning - Examples



Machine Learning Problem Types Overview

- › Unsupervised Learning
 - › Clustering (e.g.: customer segmentation, social network analysis)
 - › Detection (e.g.: anomalies, errors)
 - › Association (e.g.: shopping basket recommendation)
- › Supervised Learning
 - › Classification (e.g.: tagging, quality checking, success, failure)
 - › Prediction (e.g.: revenue, production, demand, quality, churn)
 - › Optimization (e.g.: planning, routing, resource consumption)
 - › Recognition (e.g.: objects, patterns, people, sounds)
- › Reinforcement Learning
 - › Automation (e.g.: robots, domotics, cars)

Simplification & reduction of coding
Modeling beyond human capabilities

Dependency on data quality
Over-expectations
Fear and rejection



Process re-inforcement & optimization
Re-insourcing & job creation
Improvement of life and work comfort
Engage all the help we can get

Job destruction
Unexpected or undesired
behavior
Ethical and privacy aspects

Challenges

Business perspective

- Overcome fear, resistance, gain trust
- Provide transparency in predictions, advice
- Manage expectations
- Legal and privacy aspects

Project perspective

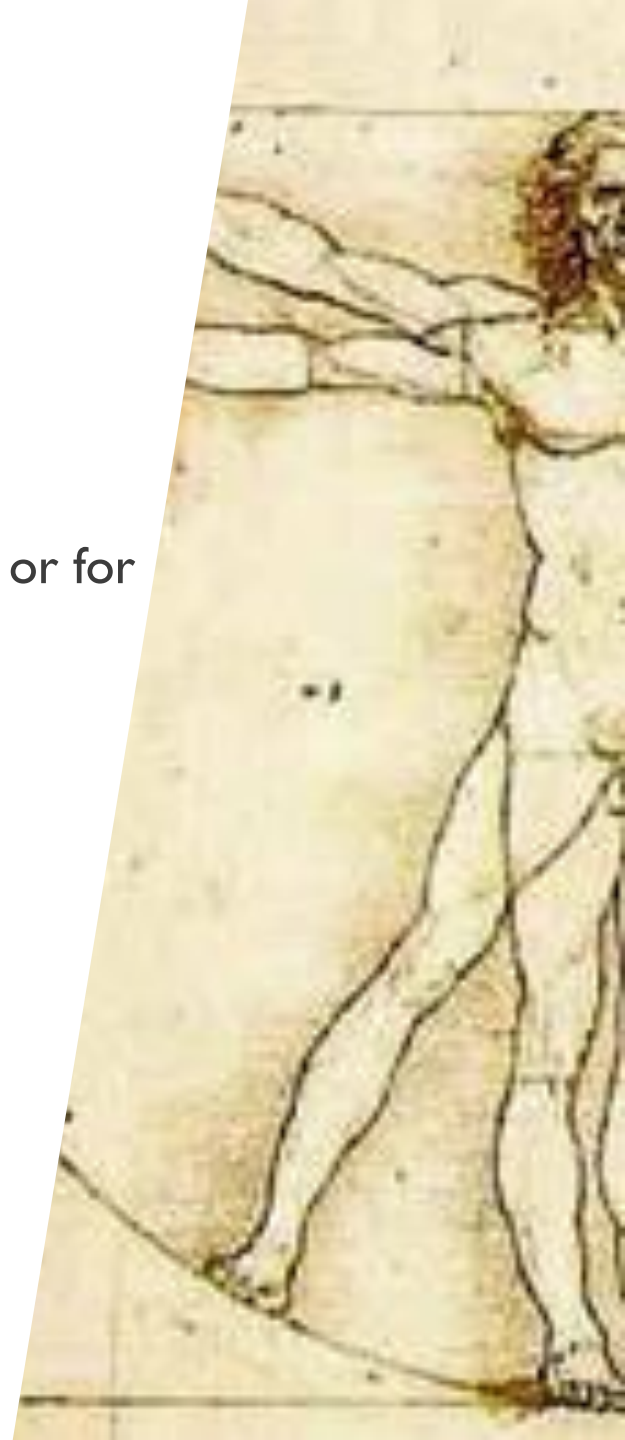
- Deal with data availability and quality dependencies
- Deal with project outcome uncertainties
- Avoid trial-and-error approach



Design Principles

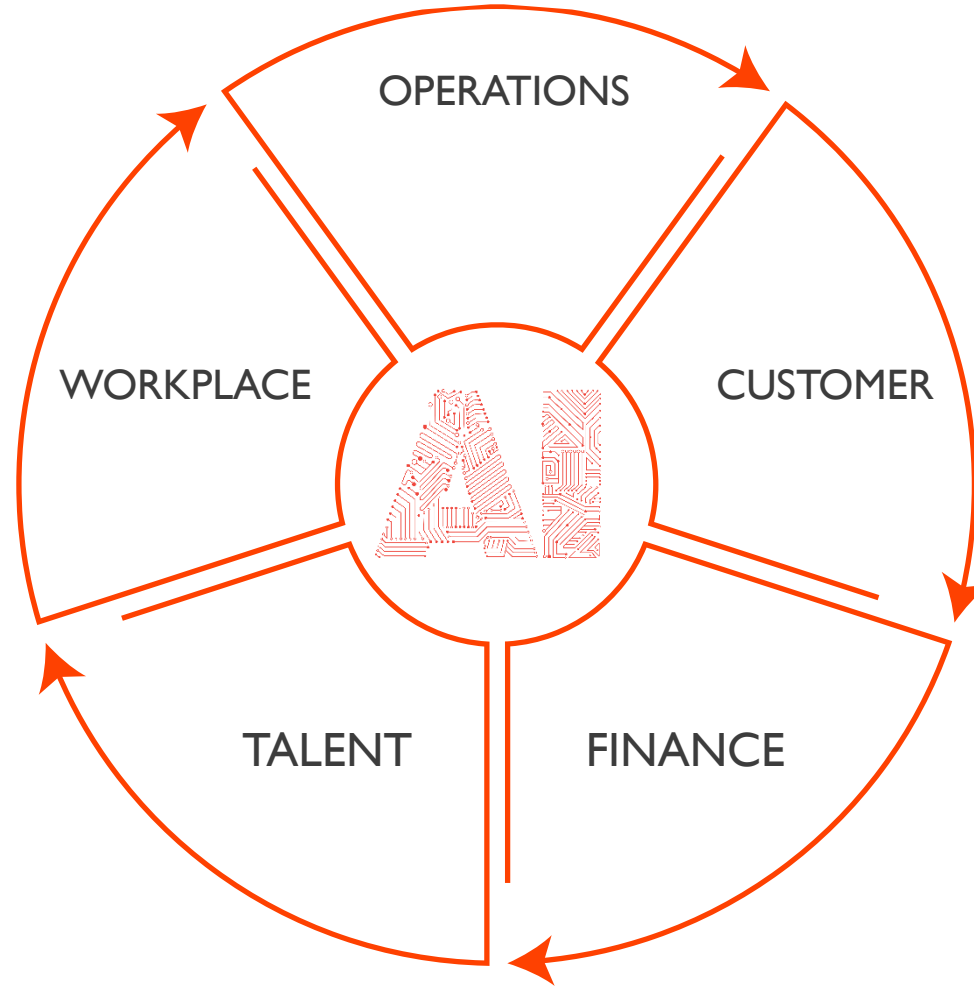
- › AI systems should be designed to amplify and augment human capabilities
- › Allowing the AI system to be a coworker in decision making, creative processes or for other (e.g. repetitive, boring) tasks
- › Providing optimal experience, with minimal frustration and maximum efficiency
- › Providing transparency (why, basis, accuracy ...) and allowing control
- › Gaining trust by starting with small tasks and growing onwards

Think BIG, start small, grow *SMART!*



OUR

AI Value Proposition





Chicory Yield Prediction

Ms
Current Name
Street Name. 1
70000 City Name

Street Name. 1
70000 City Name
Tel. 0000 5555555
E-Mail: emailname@server.com

Invoice

Invoice-Nr. 2011042401
Date 24.04.2011
Clerk name/sic: Your Name

Dear Ms Current Name,
I authorize myself to make following invoice:

Num.	Qty	Units	Article Nr.	Goods, Service	Unit Price	Price
1	1	pcs		Food photography for summer menu. Menu design and printing on glossy cardboard DIN A5 double sided 50 pieces	273,11 €	273,11 €
1	33	pcs		Single product photo on white background	2,52 €	83,56 €
1	1	pcs		Photo Licenses for Certificates	16,80 €	20,00 €
Total						273,11 €
VAT 19%						51,89 €
Total Amount Payable						325,00 €

Invoice Interpretation for Cost Center Allocation



Advice on Raw Material Buying Moment

From Vision to Experiments to Embedded Value

