# Digital Labor transforming Customer Experience in the Era of A.I.

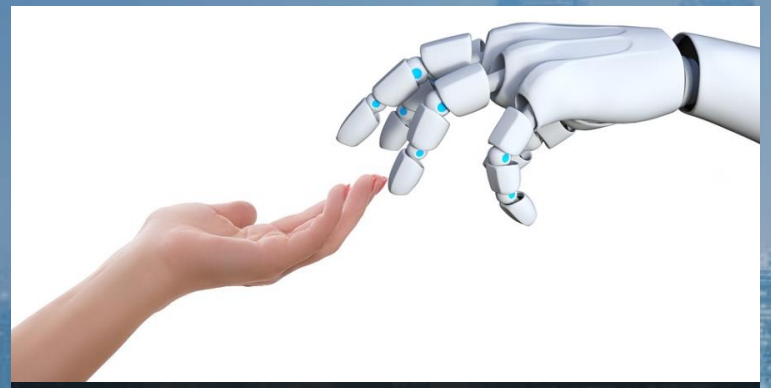
## Conversational Commerce Conference

London, May 2018



Mercedes-Benz Consulting

# Topics in Digital Labor



## DEFINITION OF DIGITAL LABOR

Definition | Evolution

## CUSTOMER ACCEPTANCE OF DIGITAL LABOR

Trust | Motivation | Performance

## ENTERPRISE DIGITAL LABOR PLATFORM

Application | Components

# Content

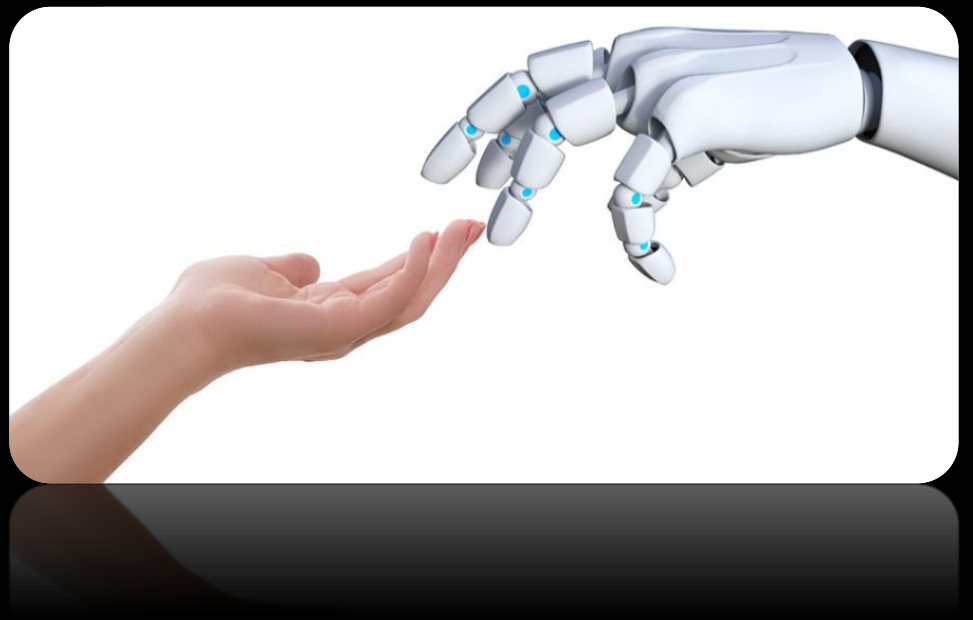
# What is Digital Labor?

## Digital Labor Definition

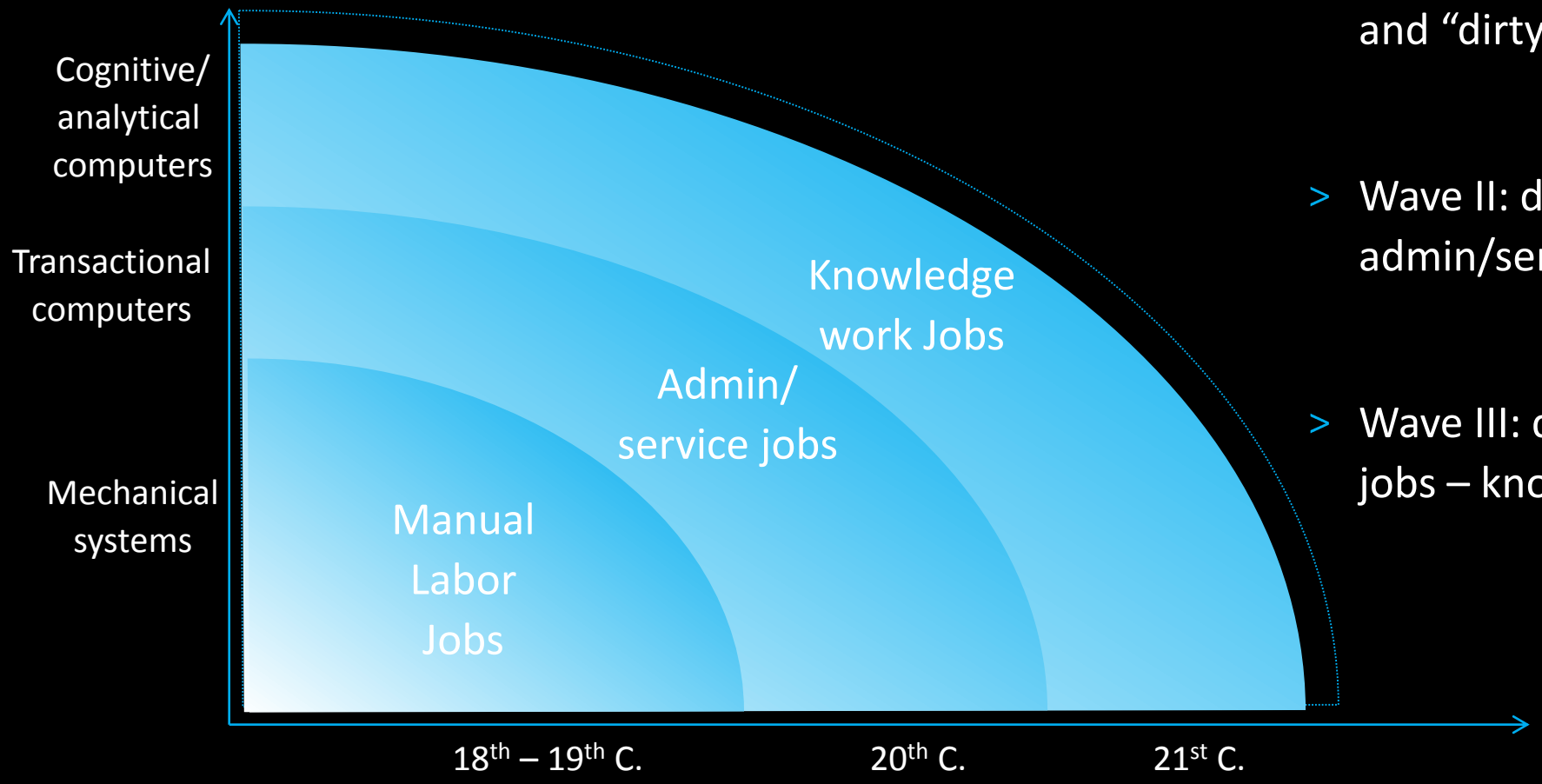
- Digital Labor = work done by Digital Laborers
  *"Machines that do work that involves manipulating information which has traditionally required human workers" (HBR)*

- Differentiation between pure A.I. and pragmatic A.I. important according to Forrester Research

- Jobs should be manual, repetitive, rule-based



# Ascent of cognitive and analytical computing will automate knowledge work jobs in large scale by 2025




- Wave I: automation of dangerous and "dirty" jobs – manual labor jobs
- Wave II: dull and simple jobs – admin/service jobs
- Wave III: decision making, complex jobs – knowledge work jobs

Source: HBR (2017)

# Digital Labor levels of evolution

**Evolutionary levels**

## Level 1

### Basic Automation

- Single application macro
- Predefined connectors into other applications

## Level 2

### Deterministic Rules

- Sophisticated app macro
- Workflow automation
- Rules based
- Structured data
- No decision making

Current Stage

## Level 3

### Pattern based Decisions

- Pattern recognition
- Unstructured data
- Self-learning with human aid
- Limited decision making based on info provided

## Level 4

### Cognitive Computing

- Multiple sources of data
- Deep learning
- Personality/ avatar
- Context awareness



Sources: Mercedes-Benz Consulting, Tractica (2016)

# Content

1. Definition of Digital Labor
2. **Customer Acceptance of Digital Labor**
3. Application of Digital Labor
4. Enterprise Digital Labor Platform

# Why should we care about Customer Acceptance?

# The most important theoretical models of acceptance research are the basis for a valid model for the acceptance of chatbots

## Theory of Reasoned Action

- A model to understand the human's attitude and its influence on his behavior by Ajzen and Fishbein
- A certain behavior of a person is influenced by his behavioral intention to conduct the behavior, while the person's attitude toward performing the behavior and subjective norm determines the intention

## Theory of Planed Behavior

- An extension of the TRA by adding the influence of the perceived behavioral control, which describes the individual belief of a person and how easy or difficult the observed behavior can actually be performed

## Technology Acceptance Model

- The most known theoretical model for the research of software acceptance
- The usage of technologies (Actual Use) is determined by the Attitude Toward Using (A) a technology
- The subjective perception of a technology is influenced by the Perceived Usefulness (PU) and the Perceived Ease of Use (PEOU)

## UTAUT

- Venkatesh, Morris and Davis developed a unified theory of Acceptance and Use of Technology
- Four relevant factors (expected effort, supporting measures, expected performance, social impact) and four moderating factors (age, gender, experience, voluntary) were identified

## UTAUT 2

Unified theory of acceptance and use of technology

- New constructs and relationships that extend the applicability of UTAUT to the consumer context
- Relatively young (2012)
- Unifying approach
- Often cited (2036 citations)
- Very high ranking: A+

**Basis for the Conceptual Model**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# Trust is the key

# Messaging isn't the reason


Chatbot
customer
service
must
be fun, too

# Based on individual criteria

# The added value in the usage context – utility matters

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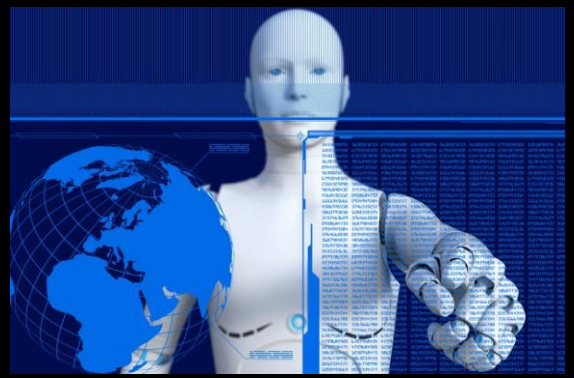
# Today‘s Popular Applications of AI and Machine Learning

## Complex Strategic Games

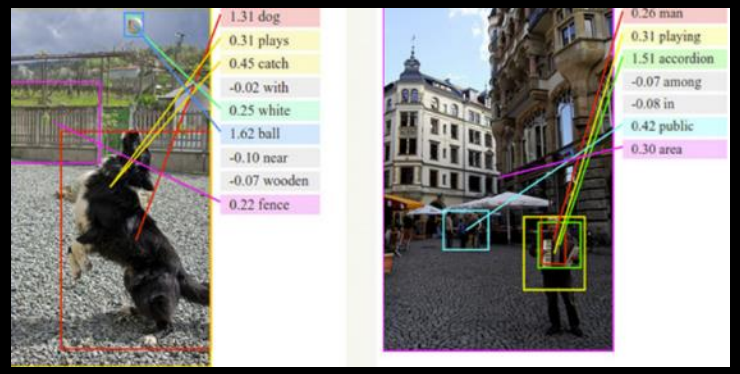
## Natural Language Processing

## Simulations

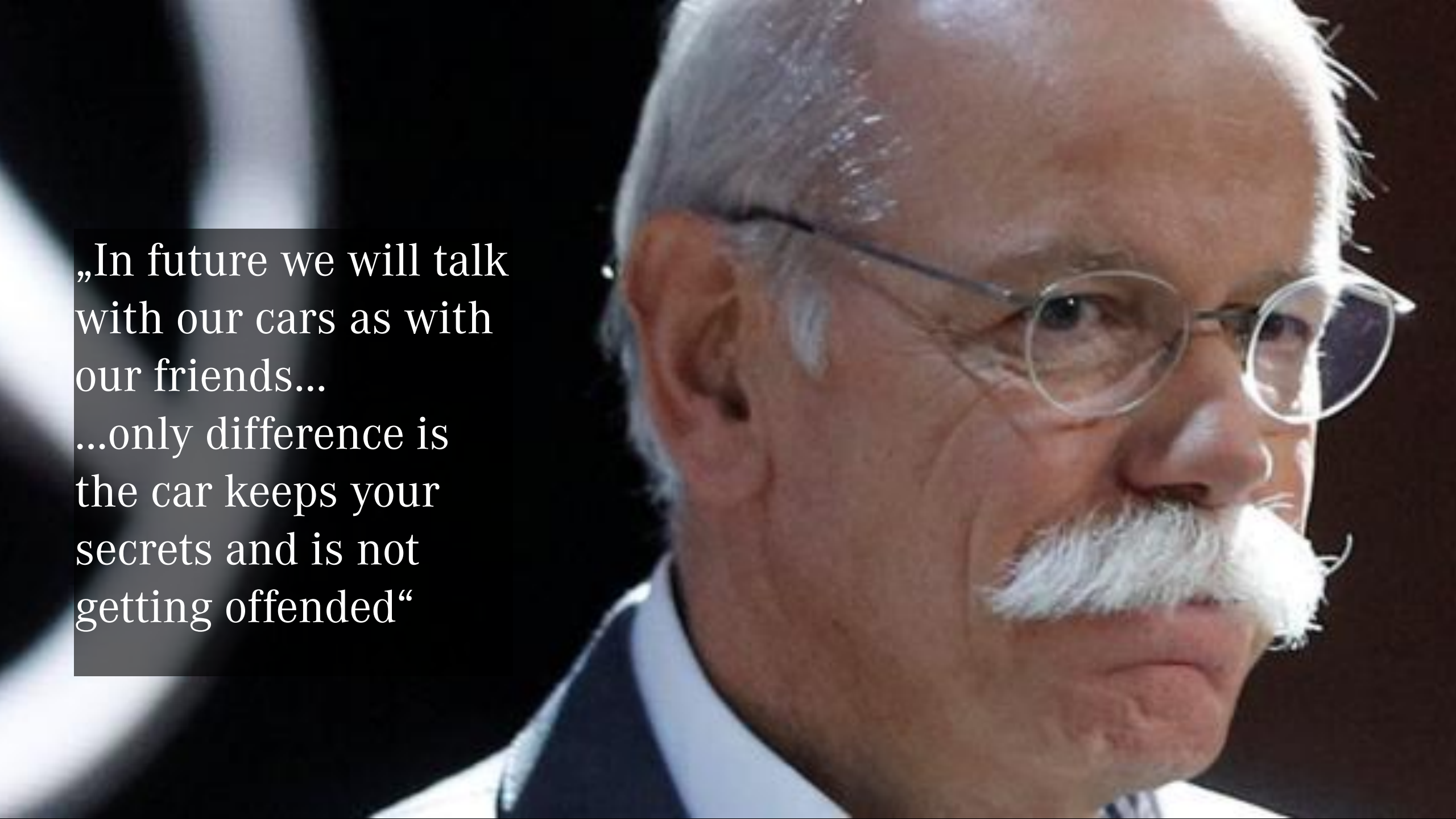
## Personal Assistants



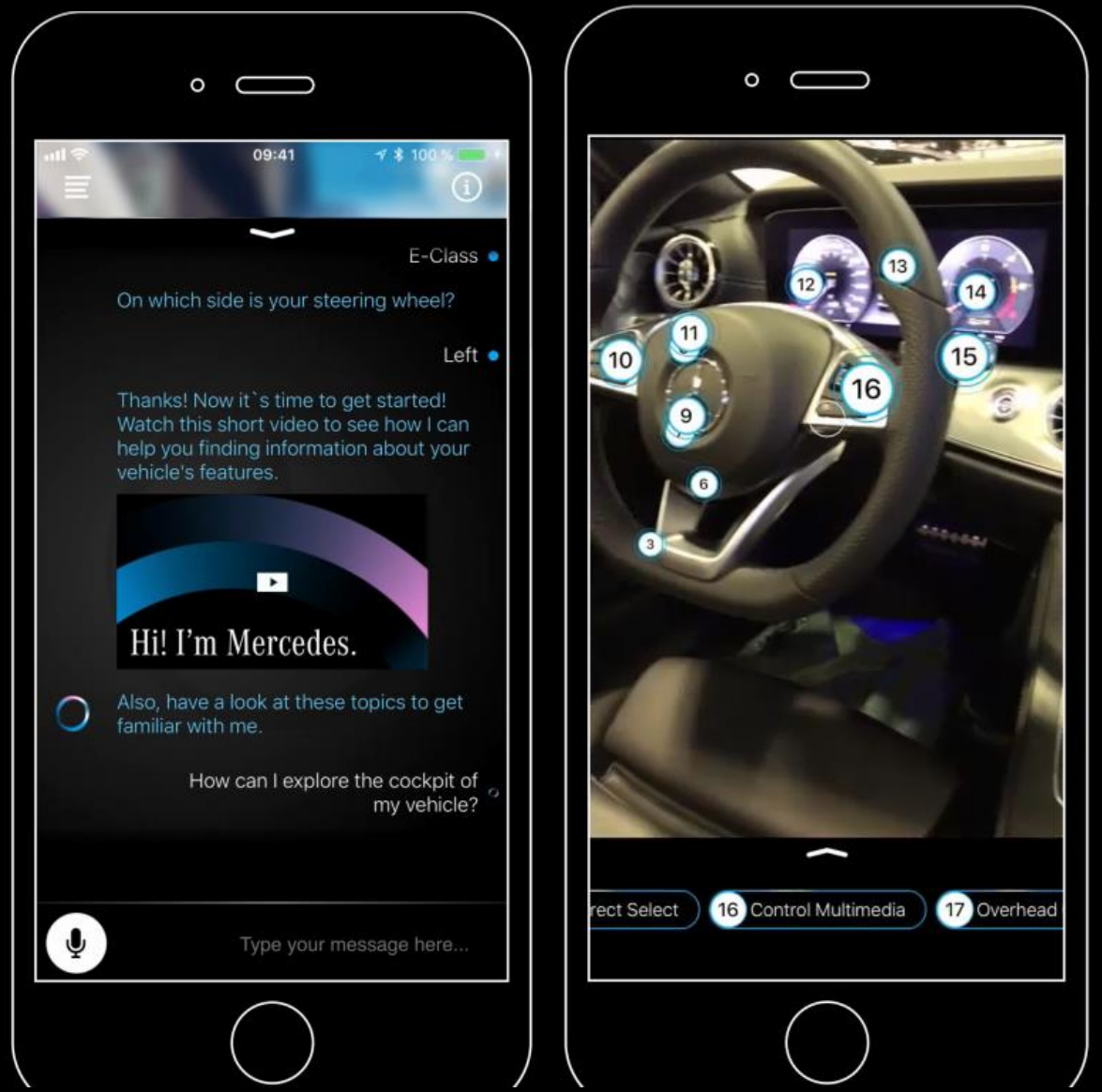
## Image Recognition




## Robotics

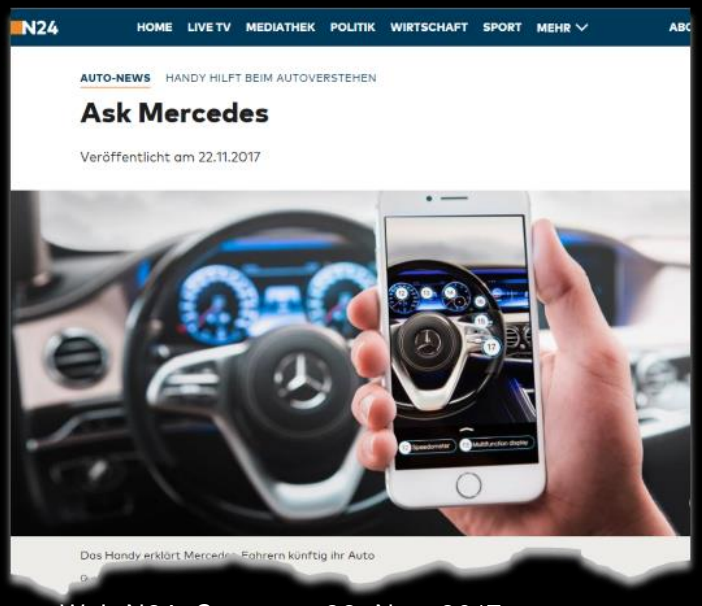

„In future we will talk with our cars as with our friends...
...only difference is the car keeps your secrets and is not getting offended“

# Ask Mercedes – Personal Assistant

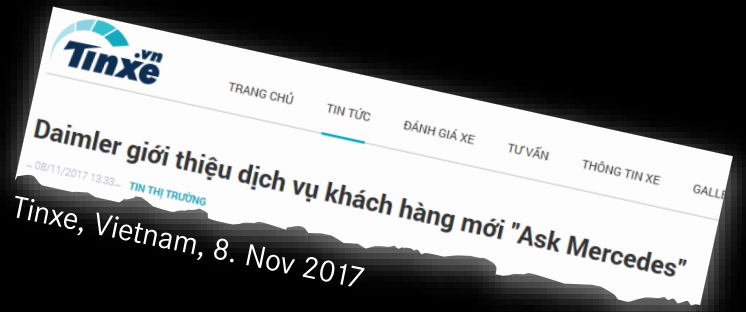


# Ask Mercedes received strong press coverage around the world


The New York Times, USA, 7. Nov. 2017

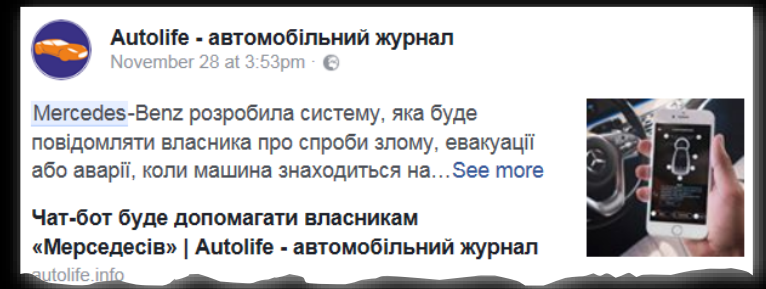



Welt N24, Germany, 22. Nov. 2017




Tinxe, Vietnam, 8. Nov 2017


Automobilwoche, Germany, 22. Nov. 2017




Autolife, Russia, 28. Nov. 2017


Al Sabbaq, Libanon, 7. Nov 2017


Response, Japan, 25. Nov. 2017


Terra, Brazil, 7. Nov 2017


La Repubblica, Italy, 25. Nov 2017


Daily Mail (Online), UK, 7. Nov 2017

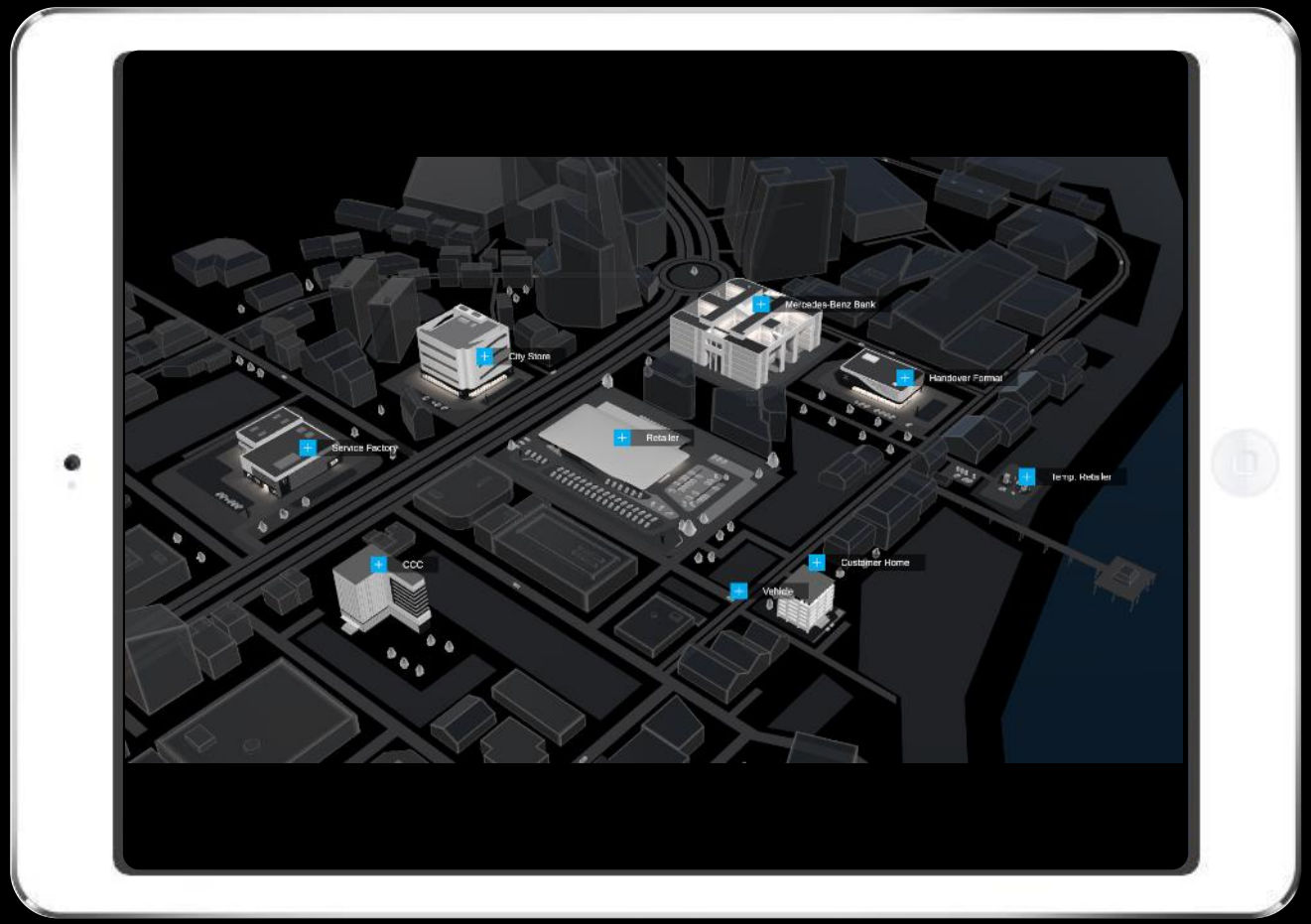
EXPERTS IN DIGITALISATION IN SALES AND AFTER-SALES

# VIRTUAL RETAIL LAB

Goals

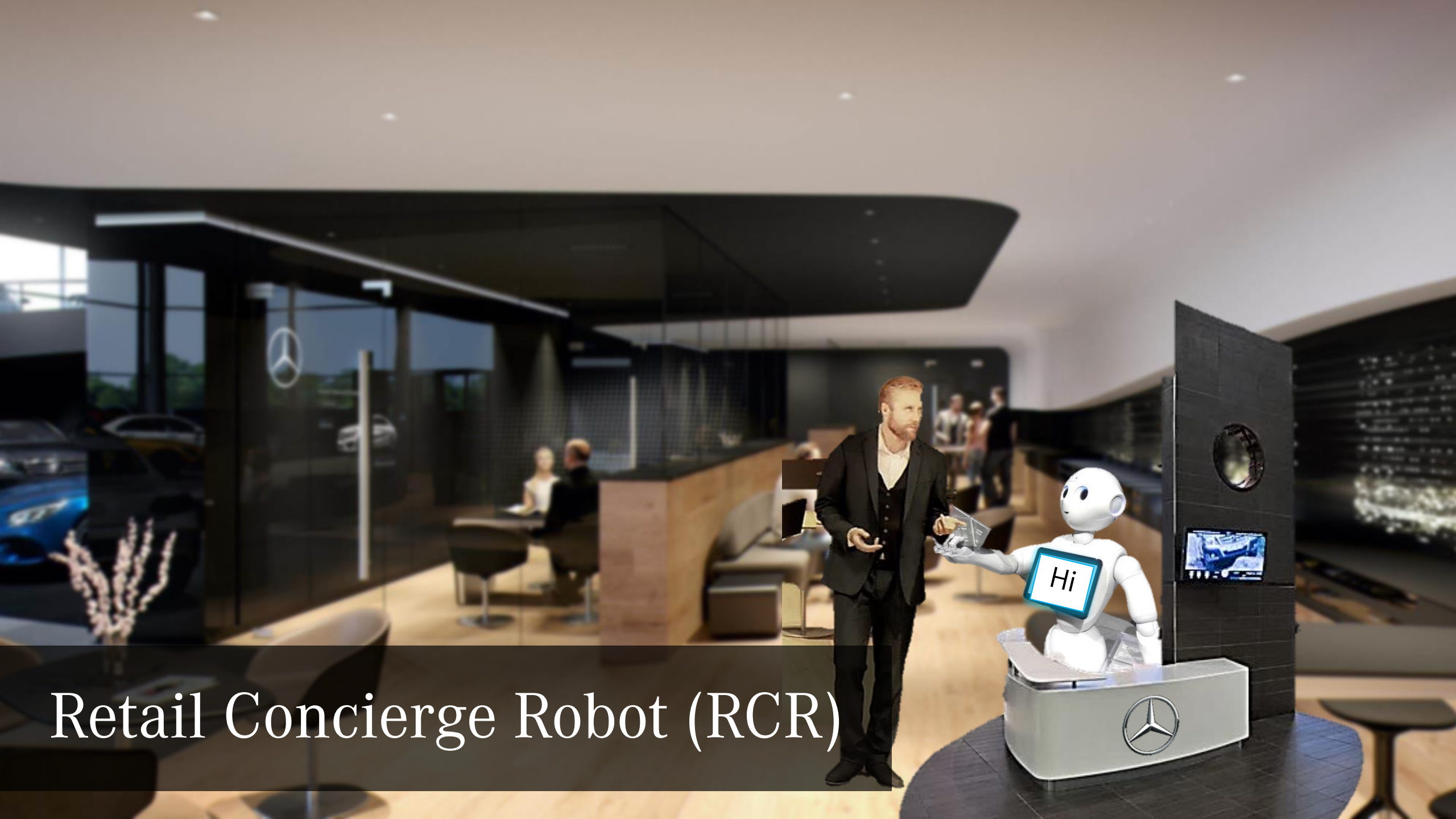
1. Process design of the future
2. Process simulation using artificial intelligence
3. Development and verification of use cases/business models
4. Increase the efficiency of our consulting services

# VIRTUAL RETAIL LAB (VRL) by Mercedes-Benz Consulting




**Virtual Retail Lab**

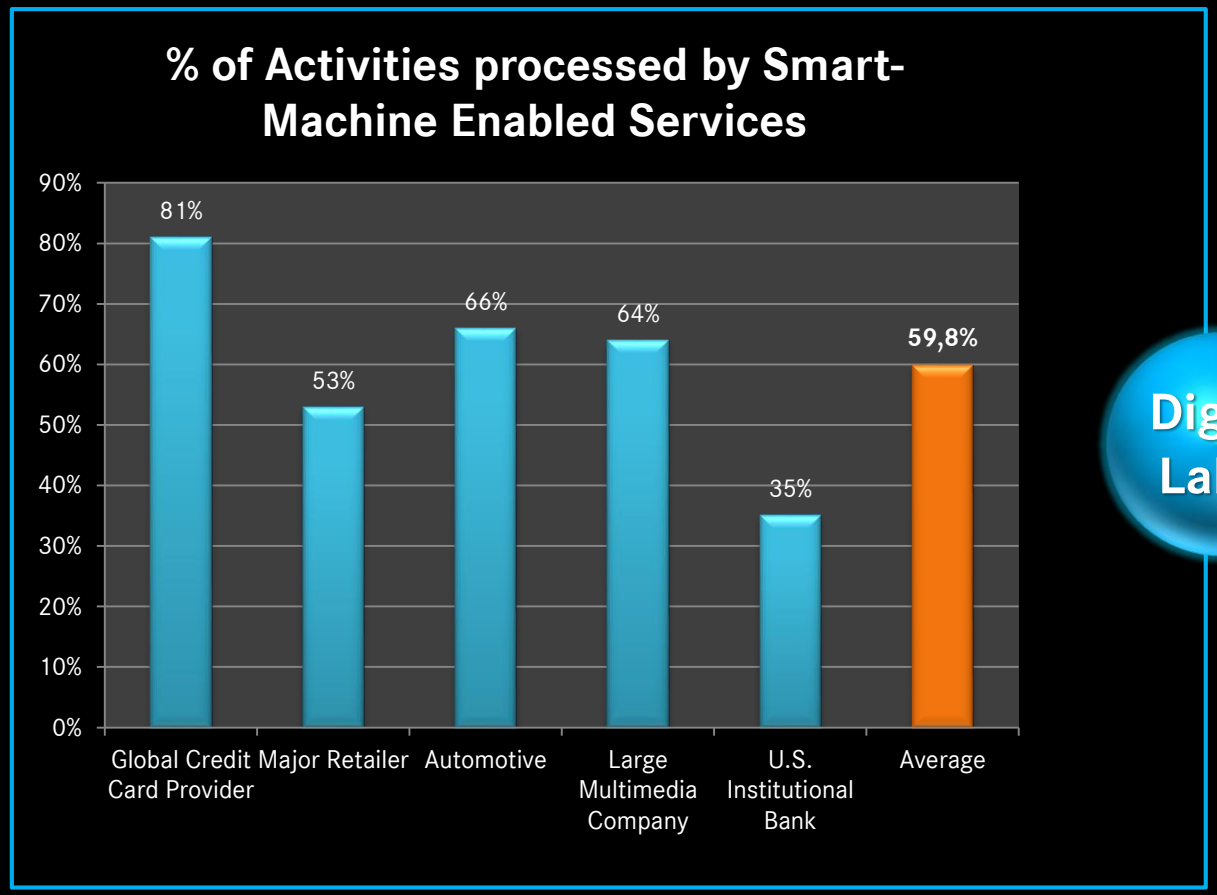
*The virtualized retail eco system to learn, develop or analyze processes, future scenarios and much more...*




# Retail Concierge Robot (RCR)

# AI technology enables huge automation and savings potential

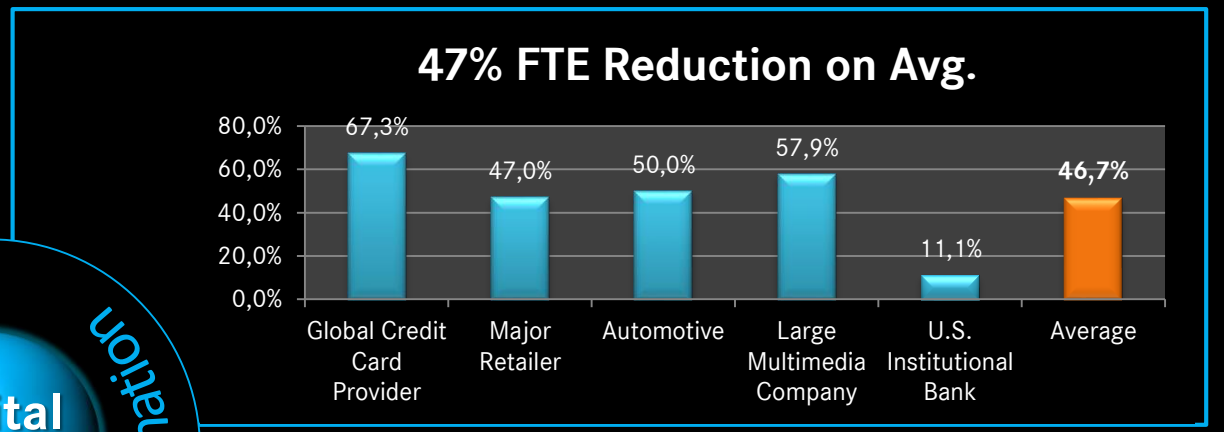
## A. Automation Possibilities

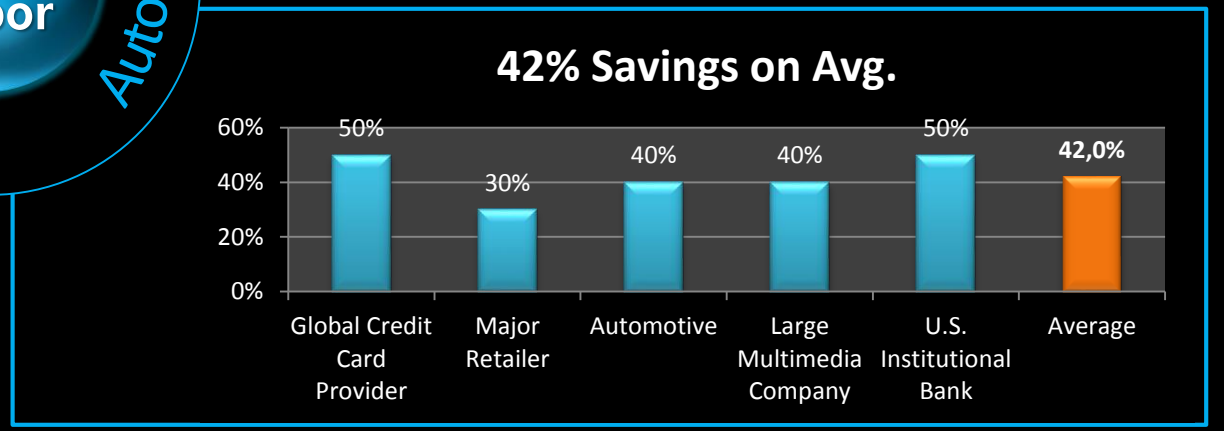



Digital Labor

Automation

## B. Digital Labor Automation Results






Sources: Gartner (2016), IPSoft (2016), MBD/VPK (2016), Mercedes-Benz Consulting

# Content

1. Definition of Digital Labor
2. Customer Acceptance of Digital Labor
3. Application of Digital Labor
4. **Enterprise Digital Labor Platform**

# A.I., Analytics & RPA Are Adding Intelligence to Customer Related Processes Ensuring Best Customer Experience & Efficiency Gains

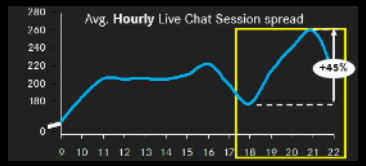
## 1. Intelligent Customer Journey

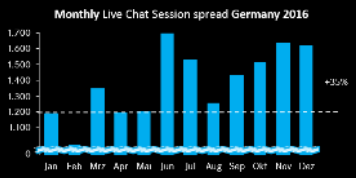
Digitized Customer Journey

Virtual Retail Lab and Mobility offerings usage patterns

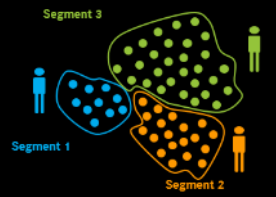
## 2. Intelligent Channel Management

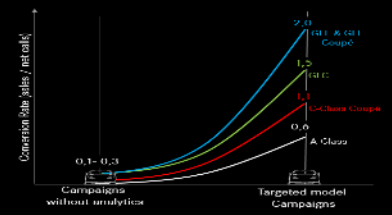
Voice In-Car Text + Multimedia




## 3. Intelligent Customer Insights




Insights based on analytics and machine learning

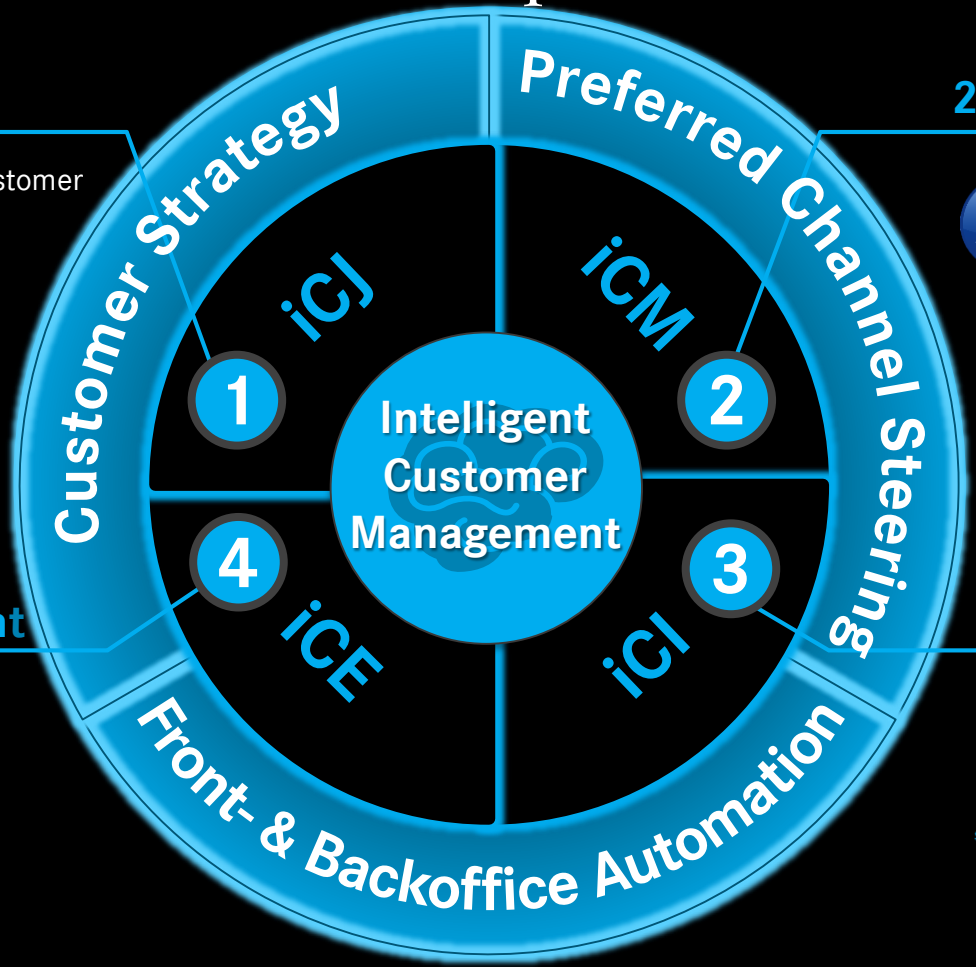
## 4. Intelligent Customer Engagement

iBDC

Humanoid

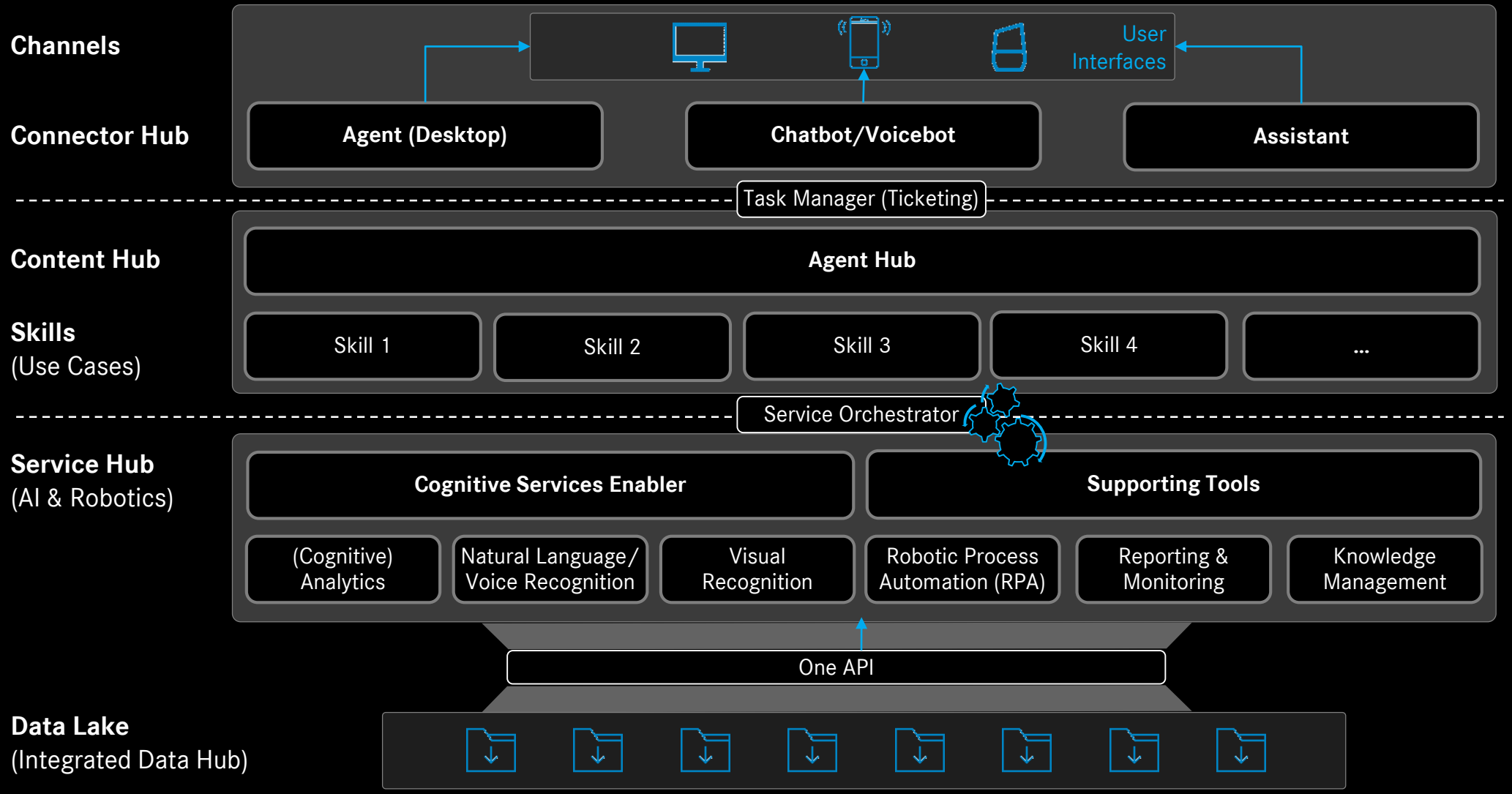
Avatar

Voice and Chatbot




Enabler Technologies: Artificial intelligence, Advanced Analytics, Robotic-Process Automation, ...

# Digital Labor Platform




**Joint usage of Hubs by:**

- HQ
- Shared Services
- Markets
- Service Departments (z.B. HR)

# Based on a simplification of business tasks in four categories, data availability is determined and AI value levers applied

## AI Opportunity Assessment Framework

**I Analyze Process Map**

**II Simplify!!!**

**III Cluster Tasks**

- Assess
- Predict
- Advise
- Communicate

Business Tasks

**IV Determine Data**

- Assess — Structured Data
- Predict — High Volume Data
- Advise — Unstructured Data
- Communicate — Language Data

Task/Data Map

**V Apply Value Levers**

Optimization

- Augmentation
- Forecasting
- Personalization
- ...

Disruption

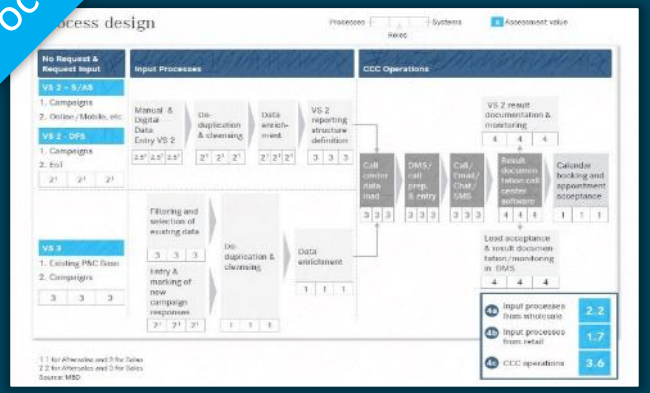
- Automation
- Creativity & Innovation
- Security & Cybersecurity
- ...

Augment - AI Potential - Automate

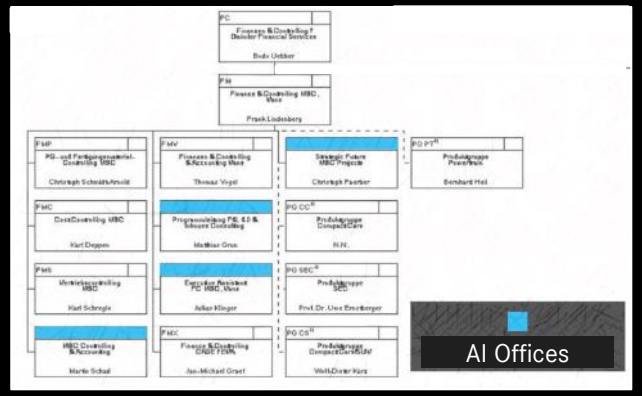
# AI opportunity assessment focuses on processes and serves as a basis for a quantitative and qualitative Impact Evaluation

Focus

## Processes




## Organization

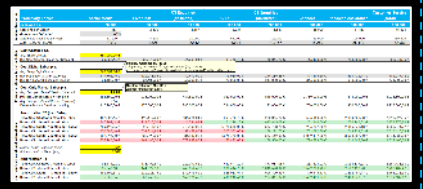



## Impact Evaluation

**Quantitative**

KPIs

- Quality score
- Occupancy rate
- Automation level
- ...



**Qualitative**

- Accurate forecasting
- Shorter onboarding
- Personalization
- ...

## AI Value Contribution

**Use Cases**
Things that AI makes **better**

**Potentials**
Things that AI makes **possible**

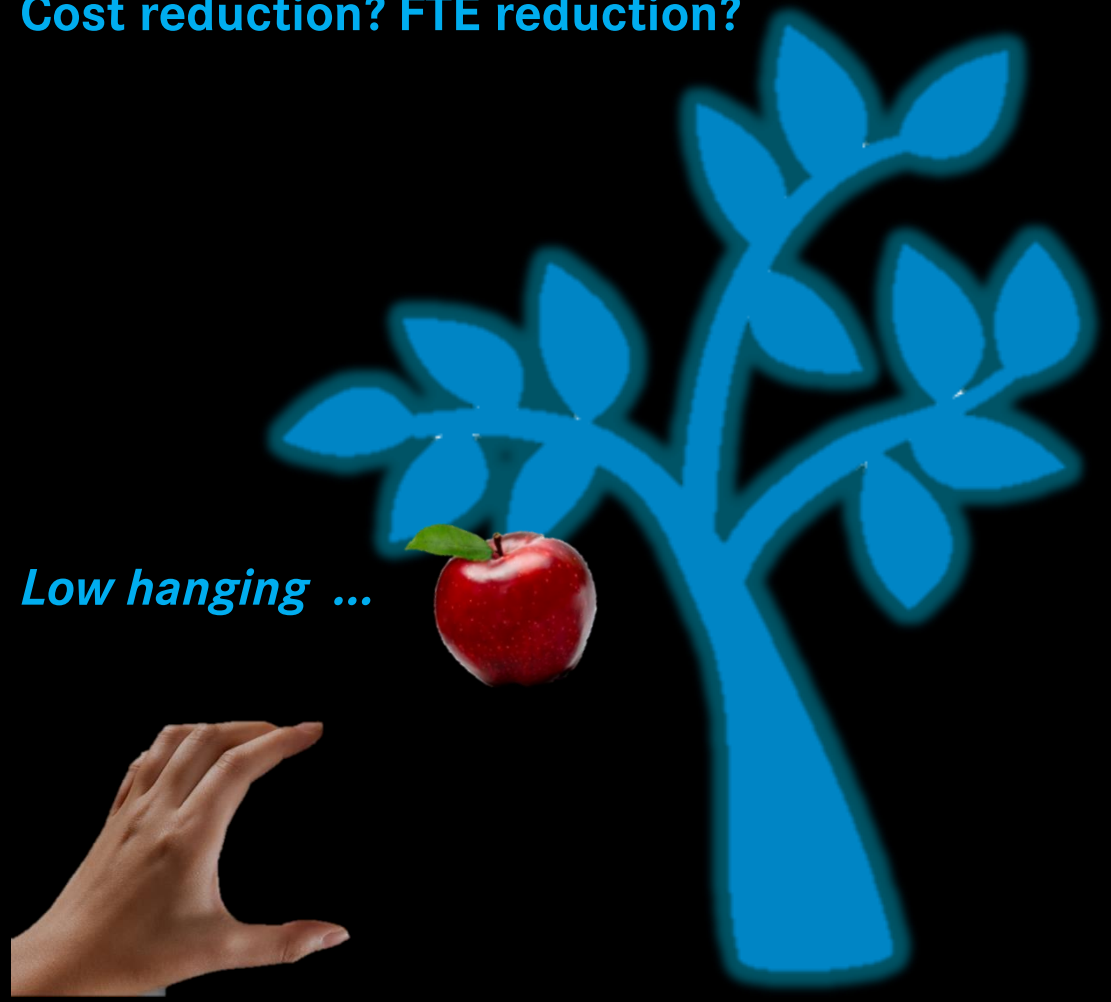
**Business Cases**
Things that AI makes **money with**

- Are Siri and Other Digital Assistants Actually a **Security Risk**?
- Amazon Echo, A **Criminal Witness**?
- **Unwanted Shopping Sprees** – do you control what you buy?
- Could could you be **discriminated** based on your health data?
- **Remote access** via IoT integration …

- Clear Security Guidelines
- Thorough Cloud Risk Assessment
- Data Control and Transparency by Customer
- No Sharing of Dialogue Data with 3rd Parties
- No unfair Filtering of Content
- …

# Grabbing of low hanging fruits is not sustainable!

**Cost reduction? FTE reduction?**



***Low hanging ...***

**The "ATM Effect" will be rampant**

- First ATM installed by Barclays in 1967
- Today 3.5 million ATMs in the world
- Competitive advantage lasted only a short period of time

- **We recommend – Empowering Employees!**

**Alex Dogariu**
Manager
Customer Management
Strategy & AI
alex.dogariu@daimler.com
+49 176 30904768

**Admir Miricanac**
Manager
Customer Management
Analytics, CRM Processes & Systems
admir.miricanac@daimler.com
+49 176 30948796



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Geschäftsführung/Management: Walter Konzmann (CEO), Bettina Friz (CFO)

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