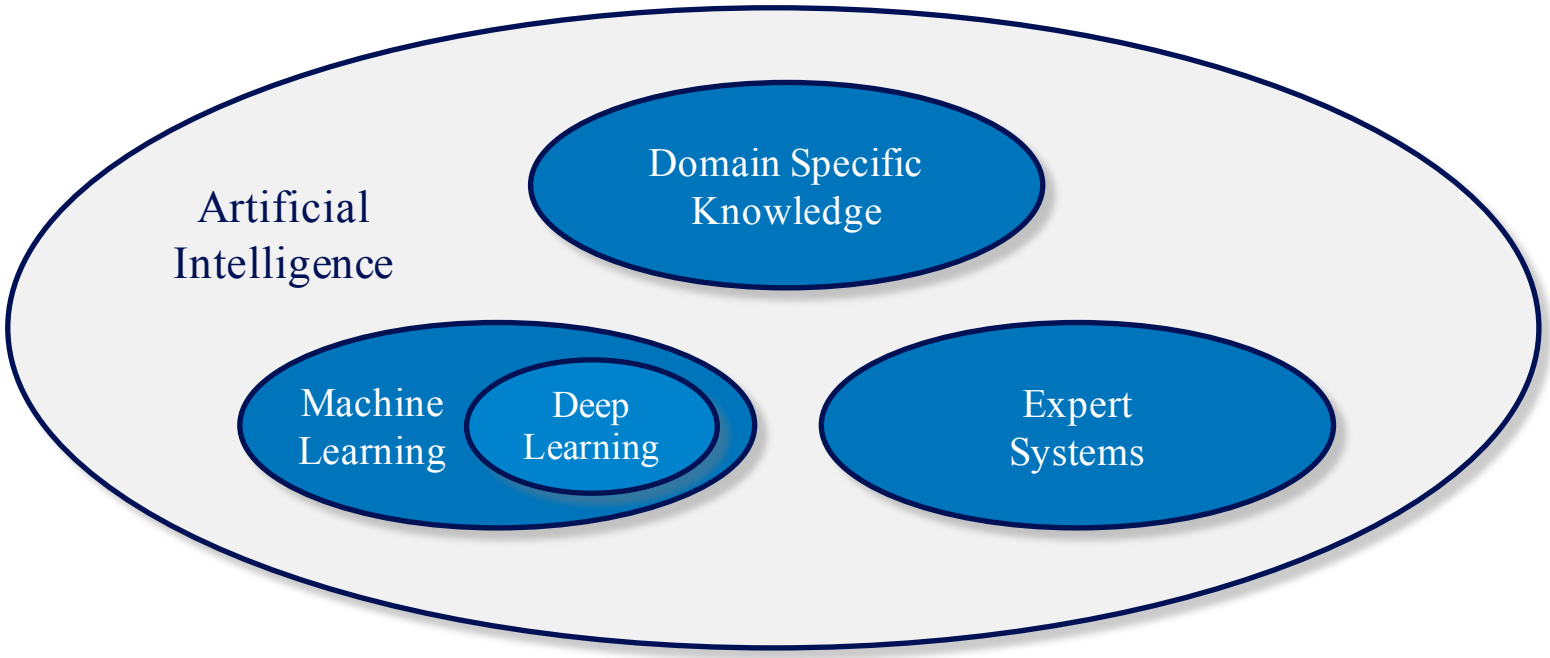
Wie künstliche Intelligenz und menschliche Fähigkeiten zusammen spielen

Dr. Felix von Reischach

Wissensatelier – 19. Januar 2017

Artificial Intelligence is an umbrella term that simply means making computers act intelligently



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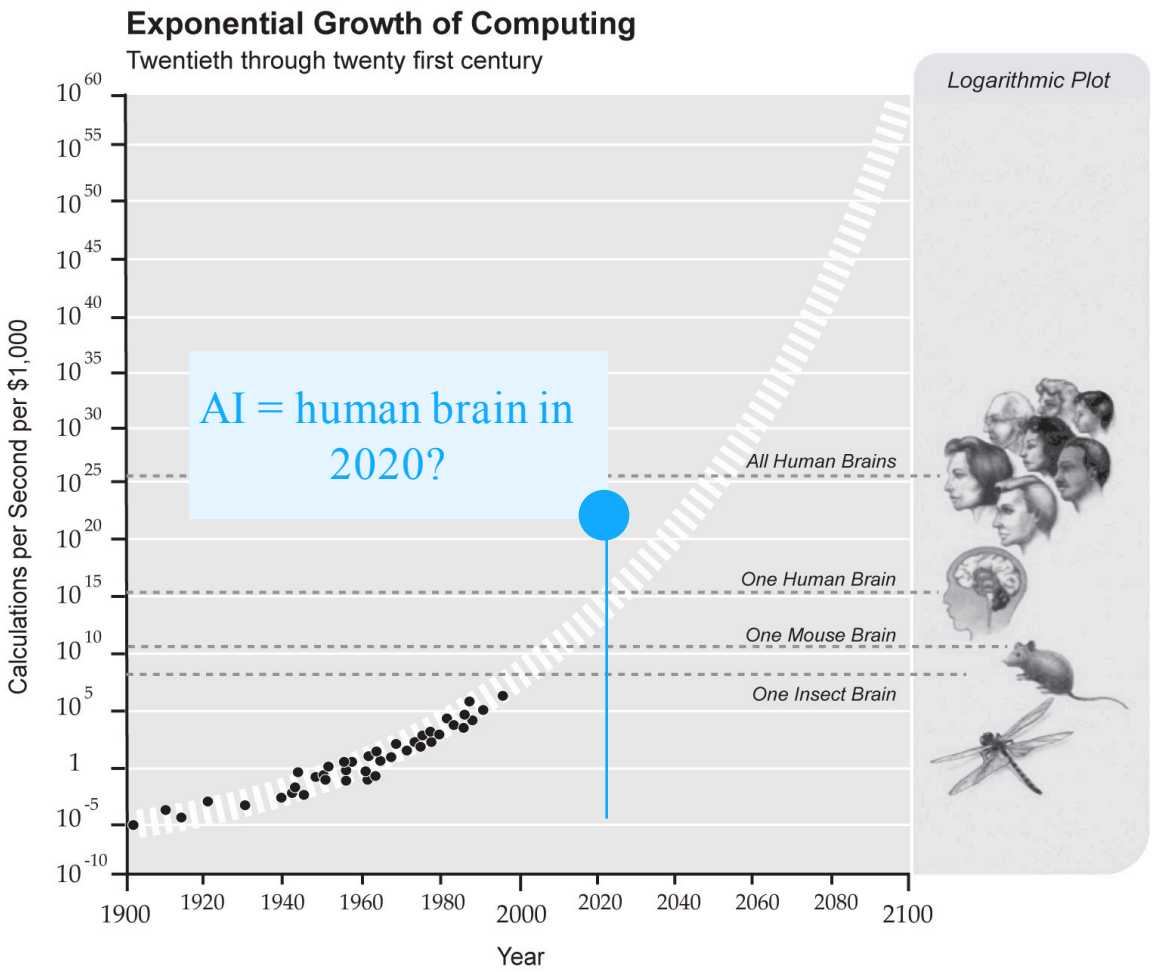
AT&T
2:51 PM
What can I help you with?
Machine Learning
Machine Learning
ВЫХОД В ГОРОД
ACCESS TO CITY
Machine Learning

Neural Networks

Deep Learning

When will AI overtake us?



Quelle: singularity.com

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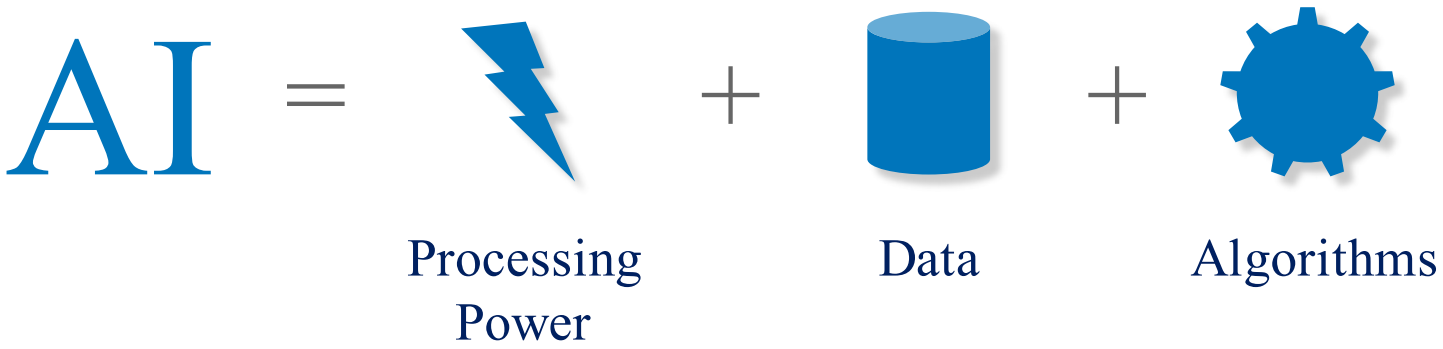
Artificial Intelligence consists of processing power, data and algorithms



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STRONGER TOGETHER
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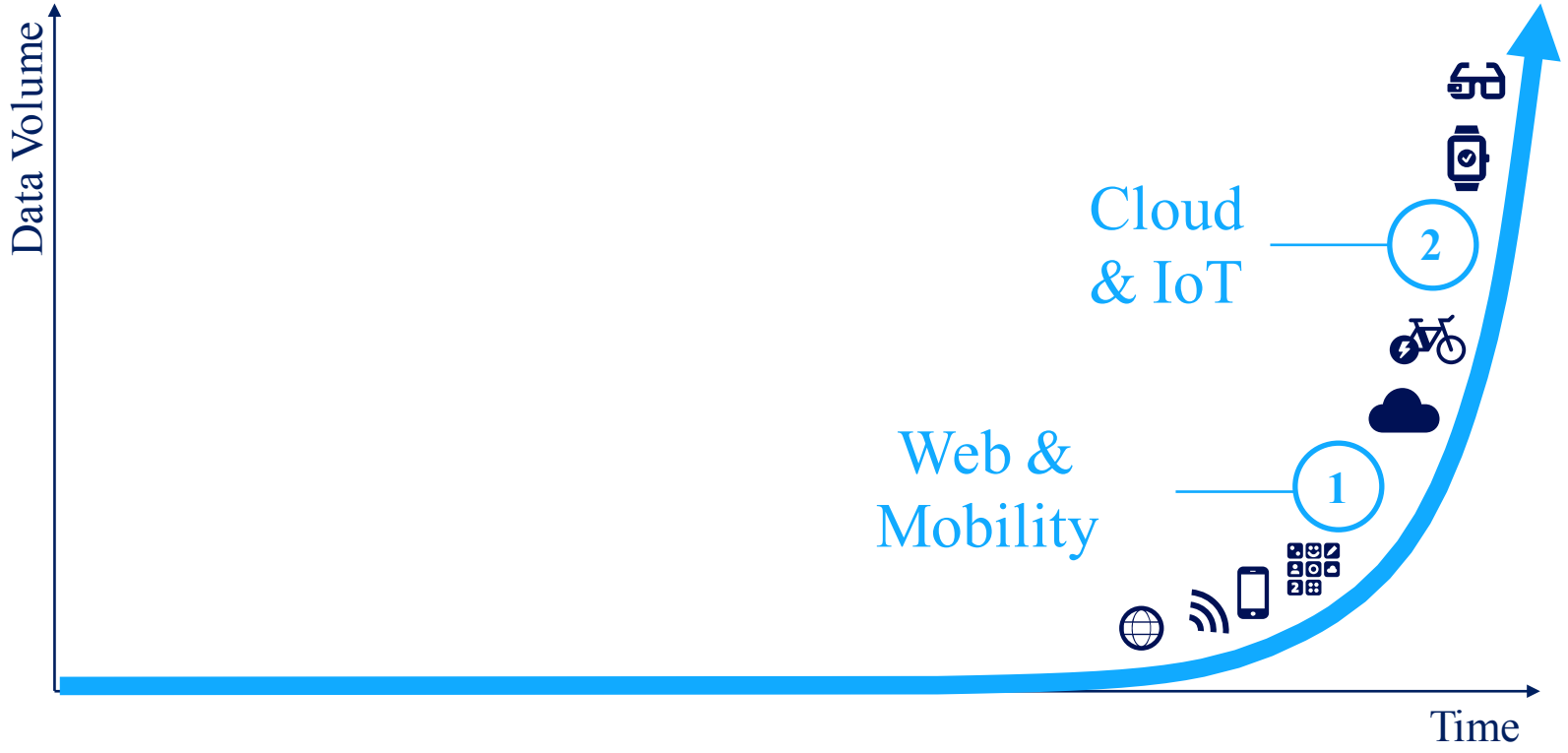
Digitalization leads to data explosion



New open source AI becomes available constantly

CADE METZ BUSINESS 11.09.15 9:00 AM

GOOGLE JUST OPEN SOURCED TENSORFLOW, ITS ARTIFICIAL INTELLIGENCE ENGINE

GOOGLE

KLINT FINLEY BUSINESS 01.26.16 7:00 AM

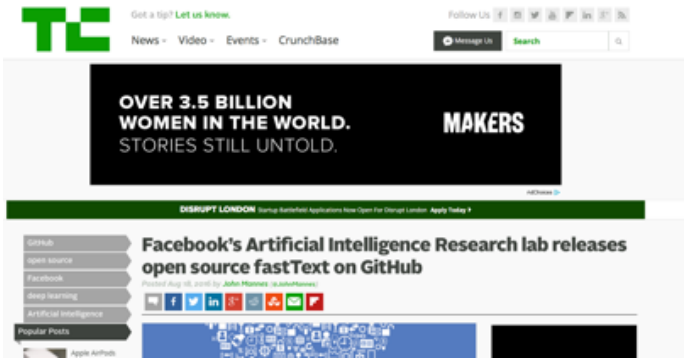
MICROSOFT OPEN SOURCES ITS ARTIFICIAL BRAIN TO ONE-UP GOOGLE

GETTY IMAGES

MICROSOFT'S BRAIN IS now available for anyone to use in their apps.

The company has open sourced the artificial intelligence framework it uses to power speech recognition in its Cortana digital assistant and Skype Translate applications. This means that anyone in the world is now free to view, modify, and use Microsoft's code in their own software.

The framework, called, CNTK, is based on a branch of



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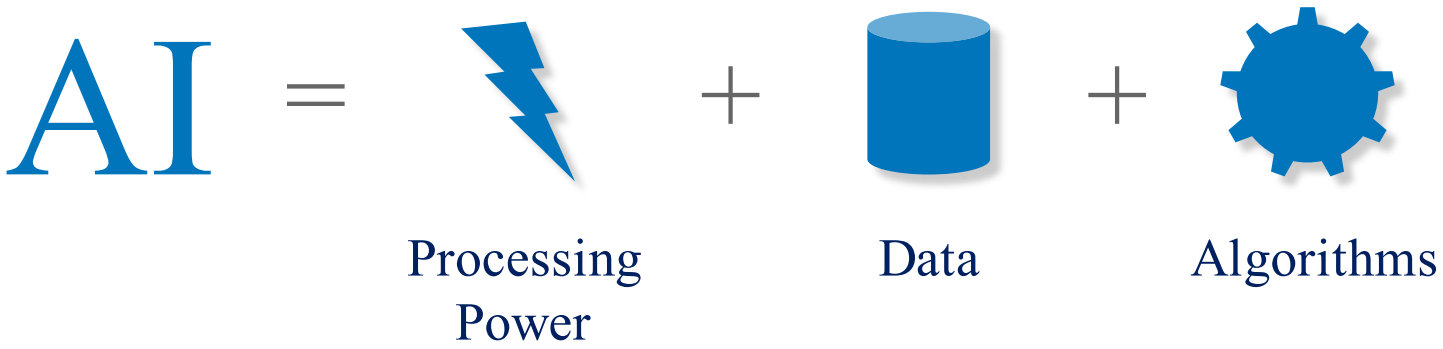
Artificial Intelligence consists of processing power, data and algorithms



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At Swisscom, our AI efforts focus on understanding written and spoken text

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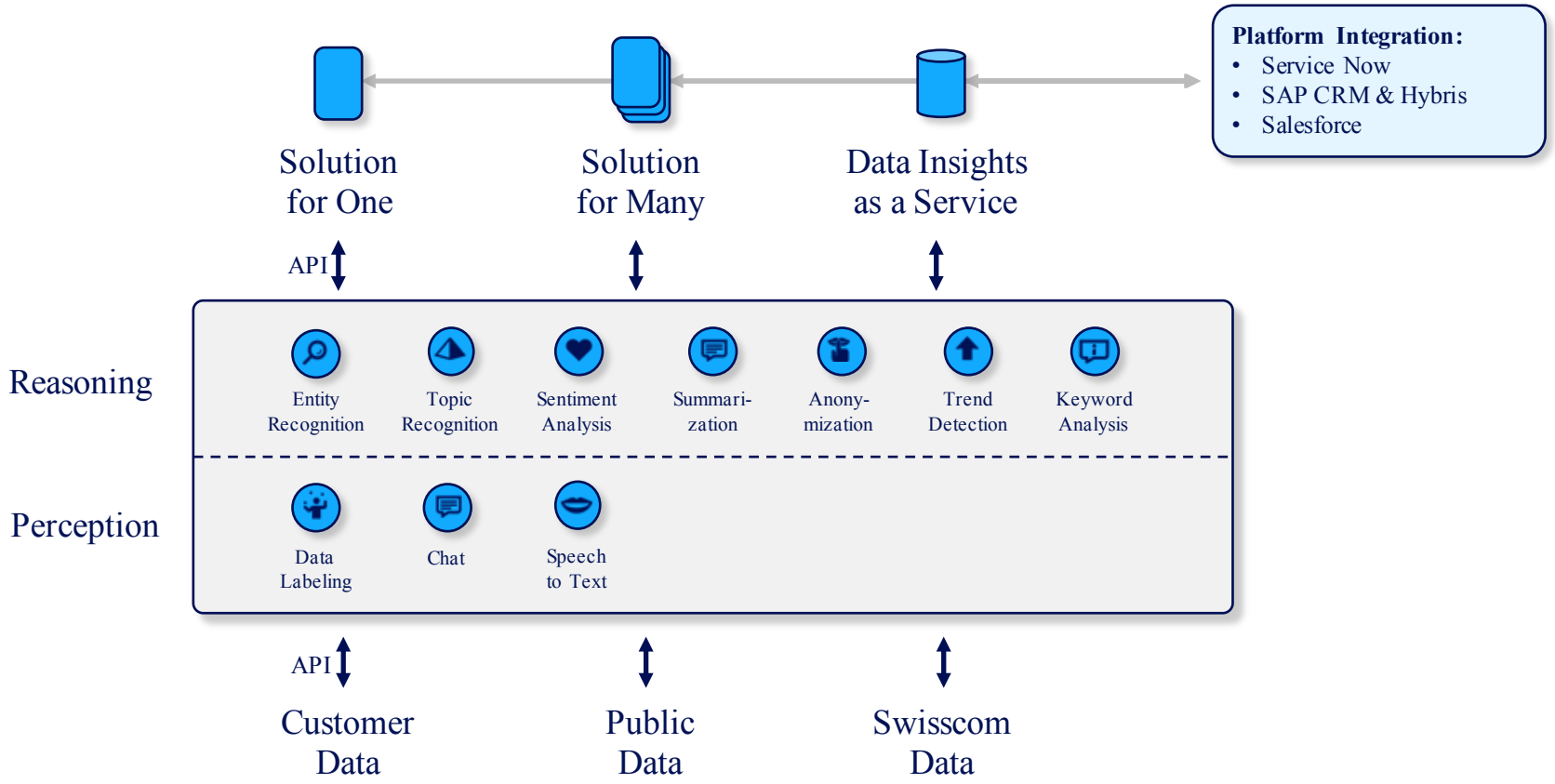
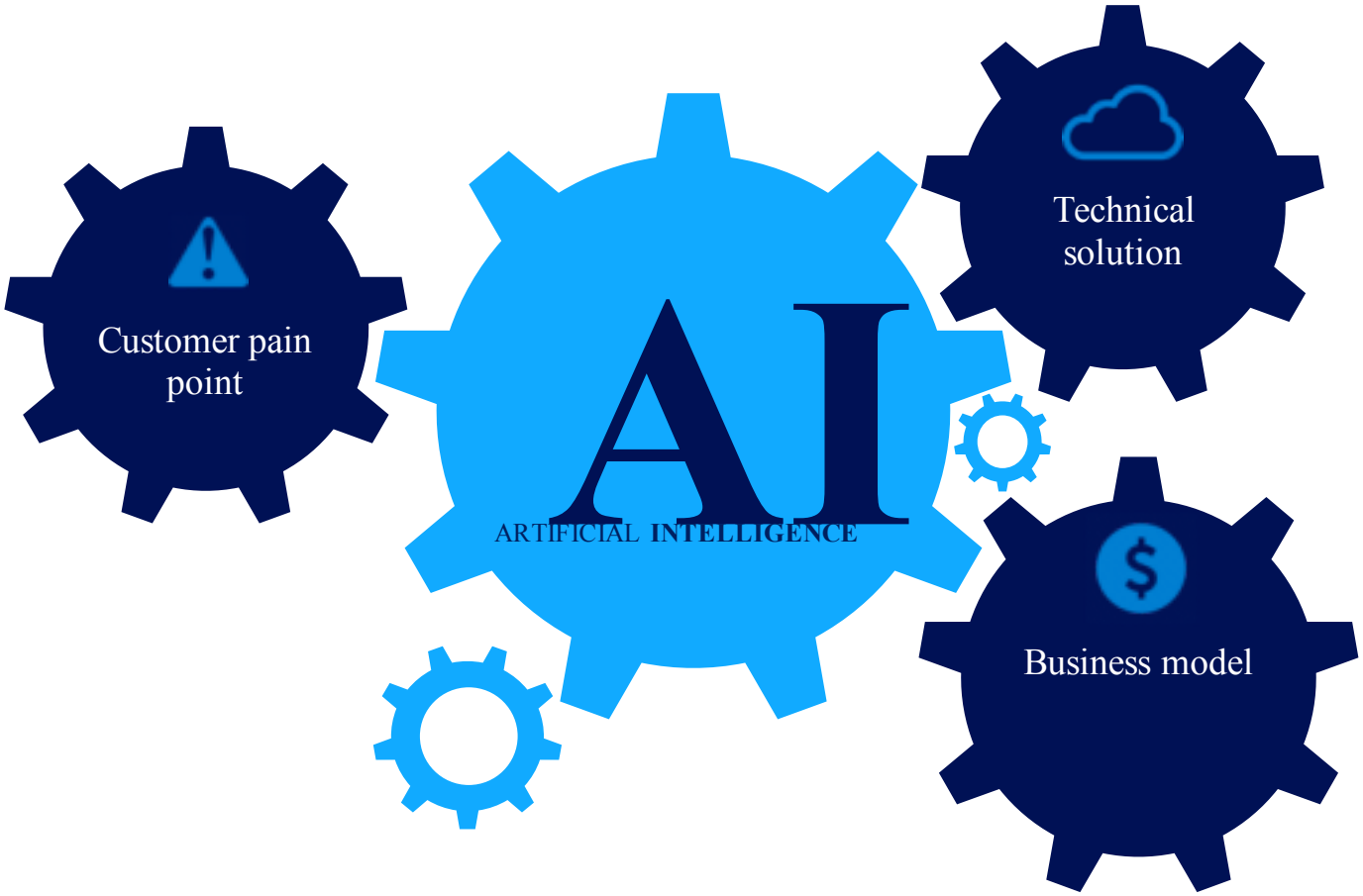
We provide microservices and applications for enterprise customers to apply Artificial Intelligence



Swisscom makes the benefits of AI accessible



Swisscom is THE player in AI in Switzerland

- Customer relation
- Talent and know how
- Infrastructure
- Data

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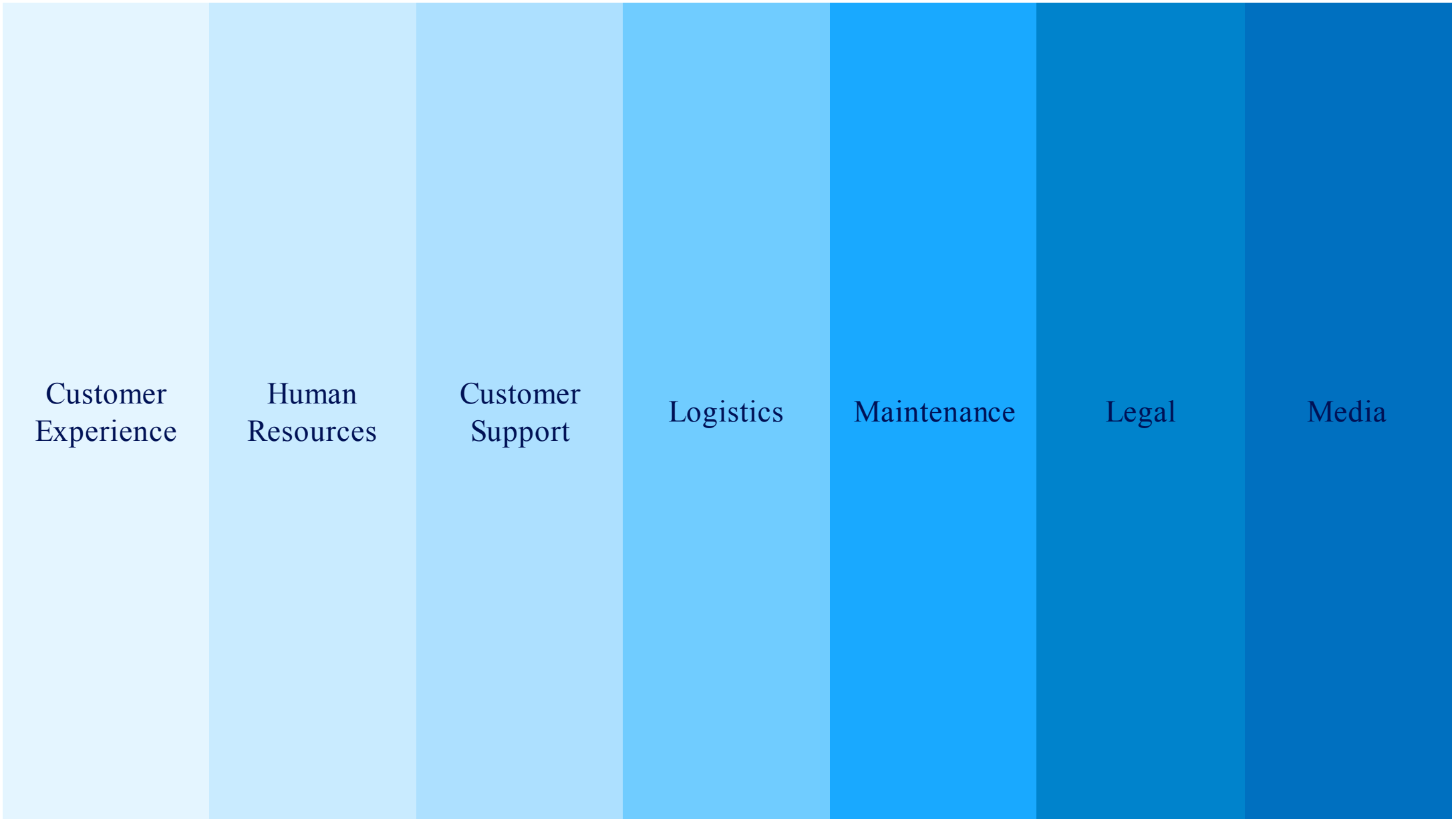
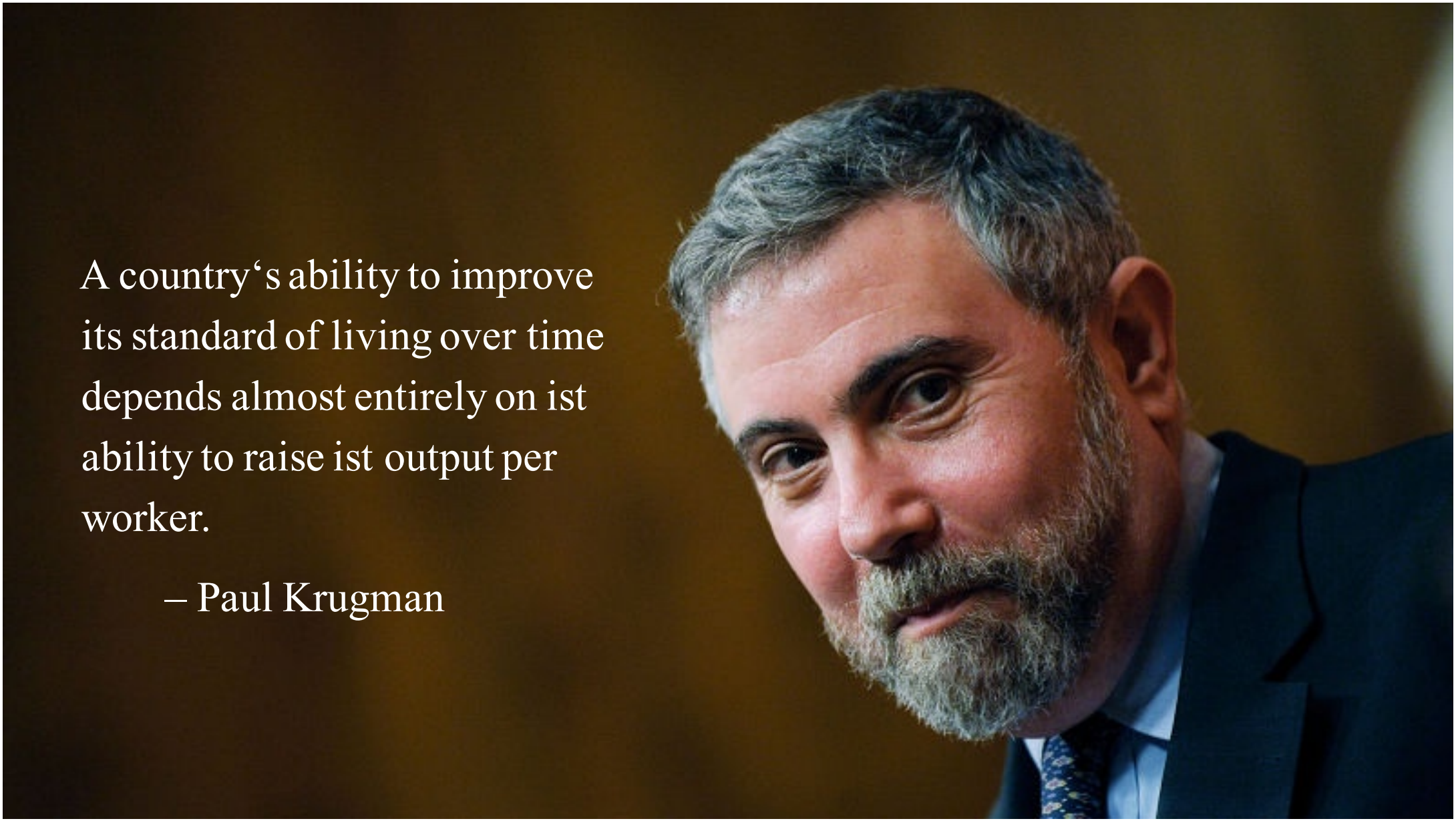
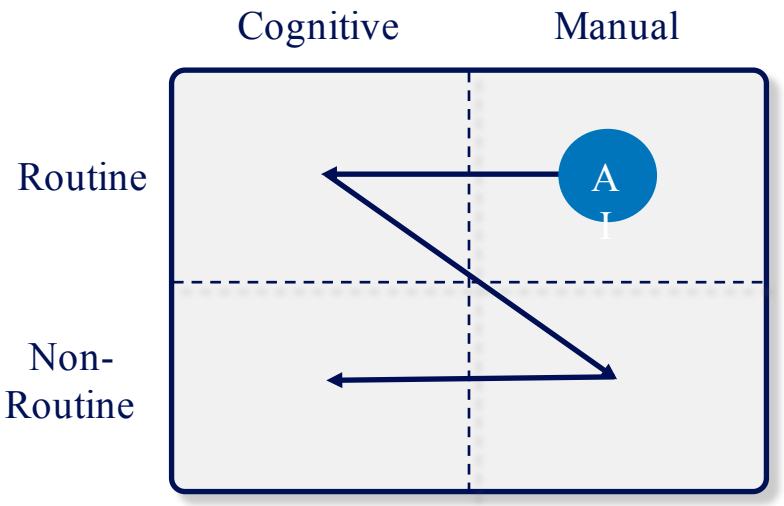

Customer Experience
Human Resources
Customer Support
Logistics
Maintenance
Legal
Media


A country‘s ability to improve its standard of living over time depends almost entirely on ist ability to raise ist output per worker.
– Paul Krugman

Artificial Intelligence will influence labor in all domains



Source: Autor et al.

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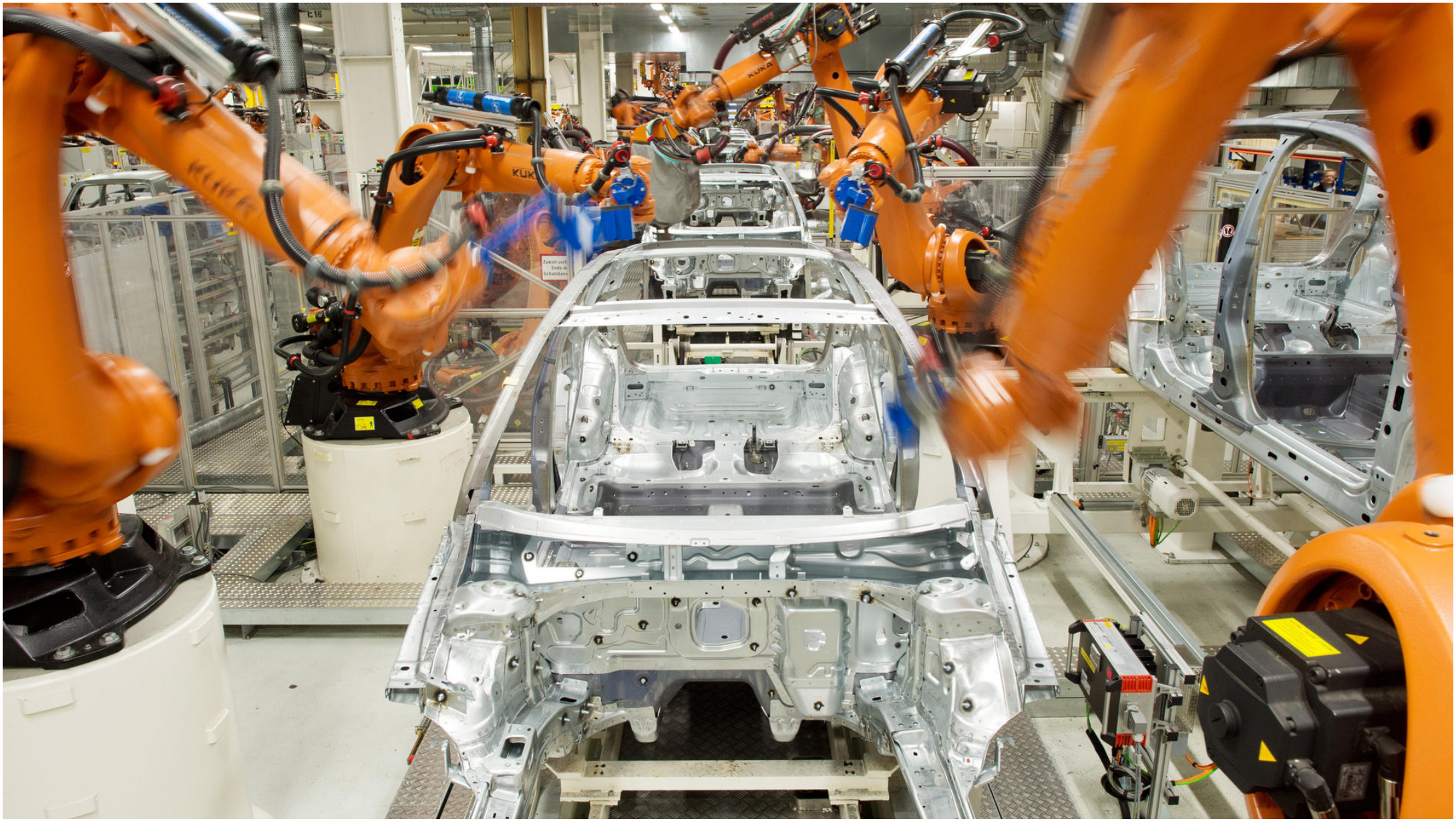
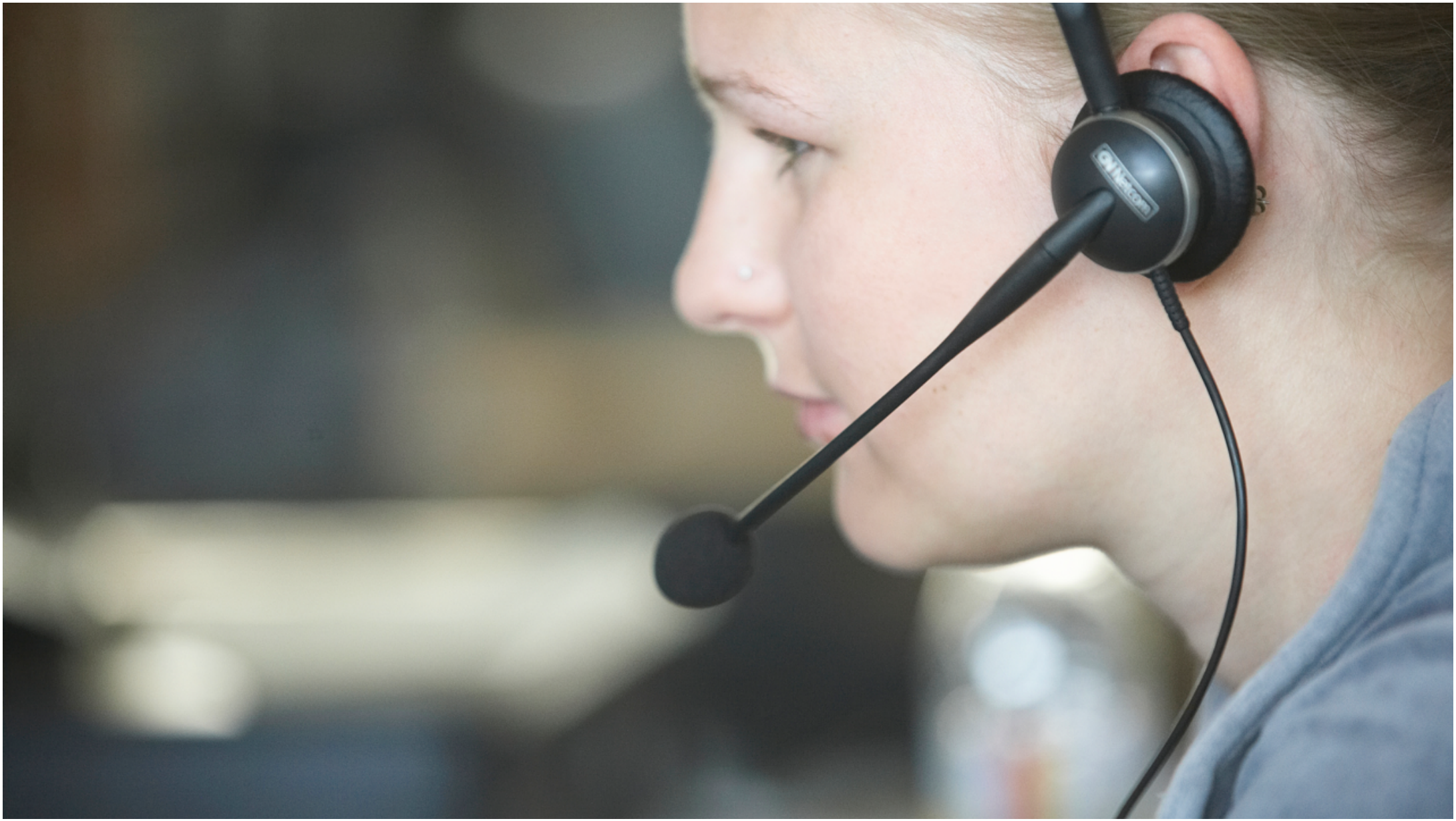
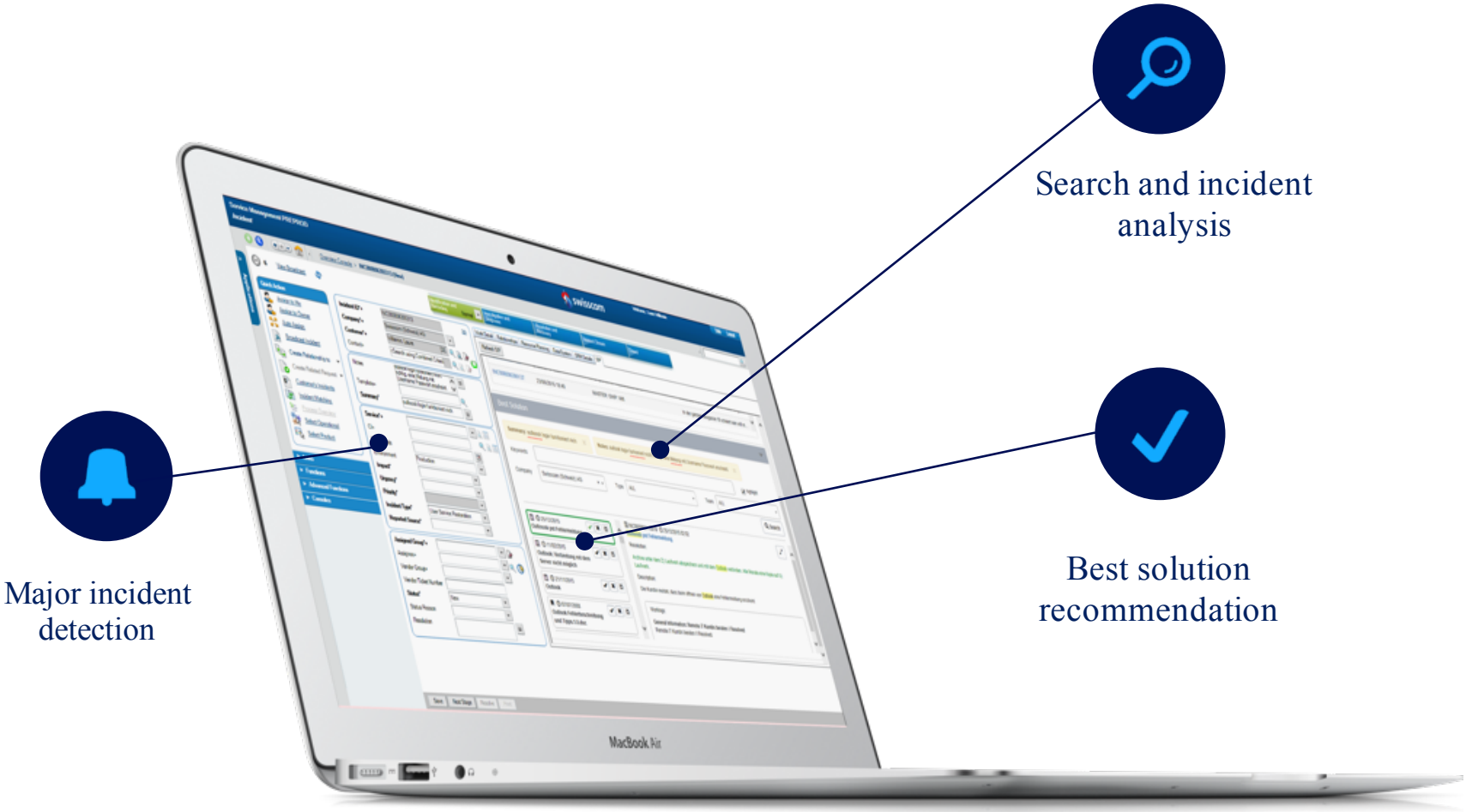

KUKA



Marmo: **AI use case**



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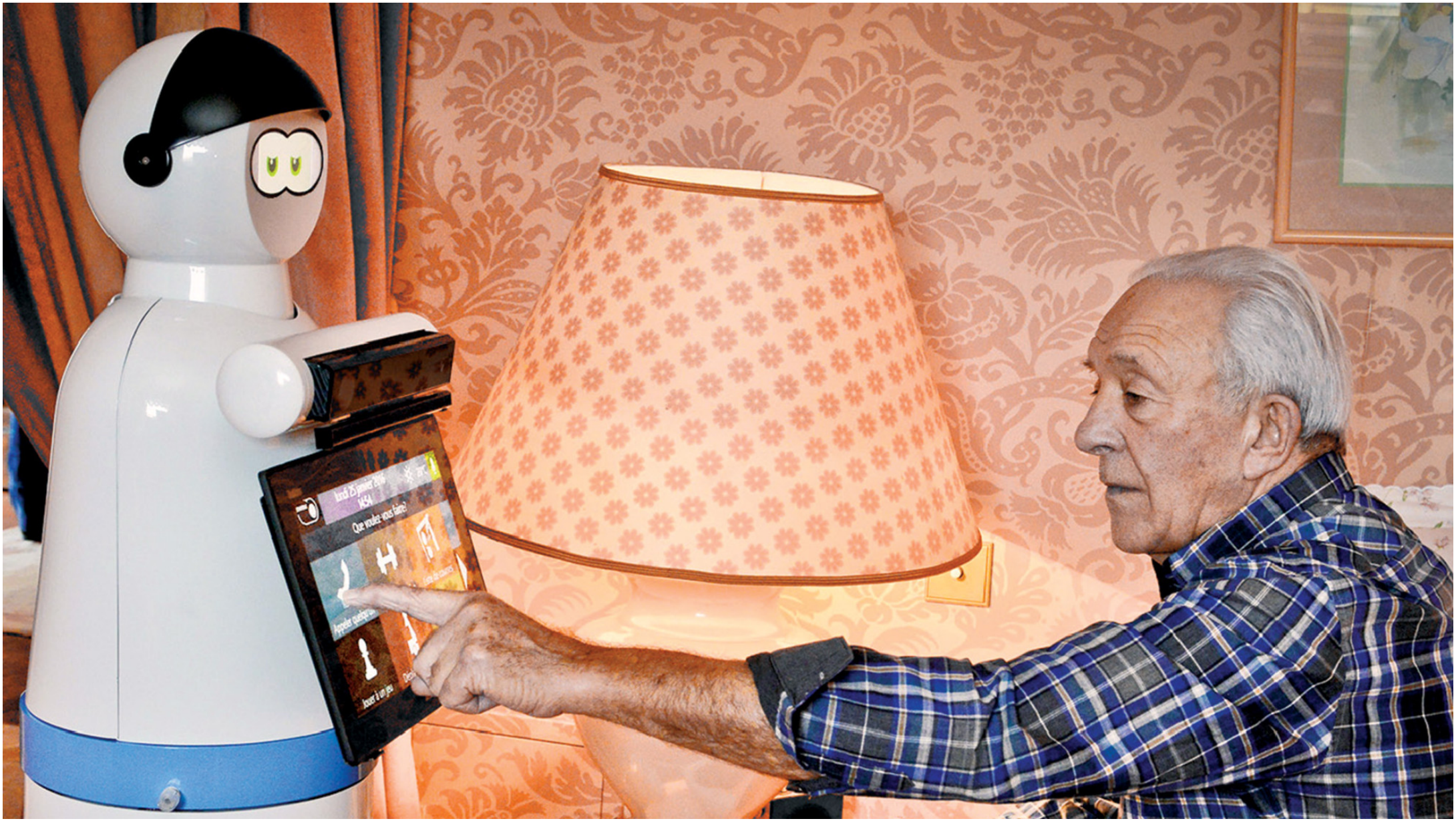
Que voulez-vous faire?

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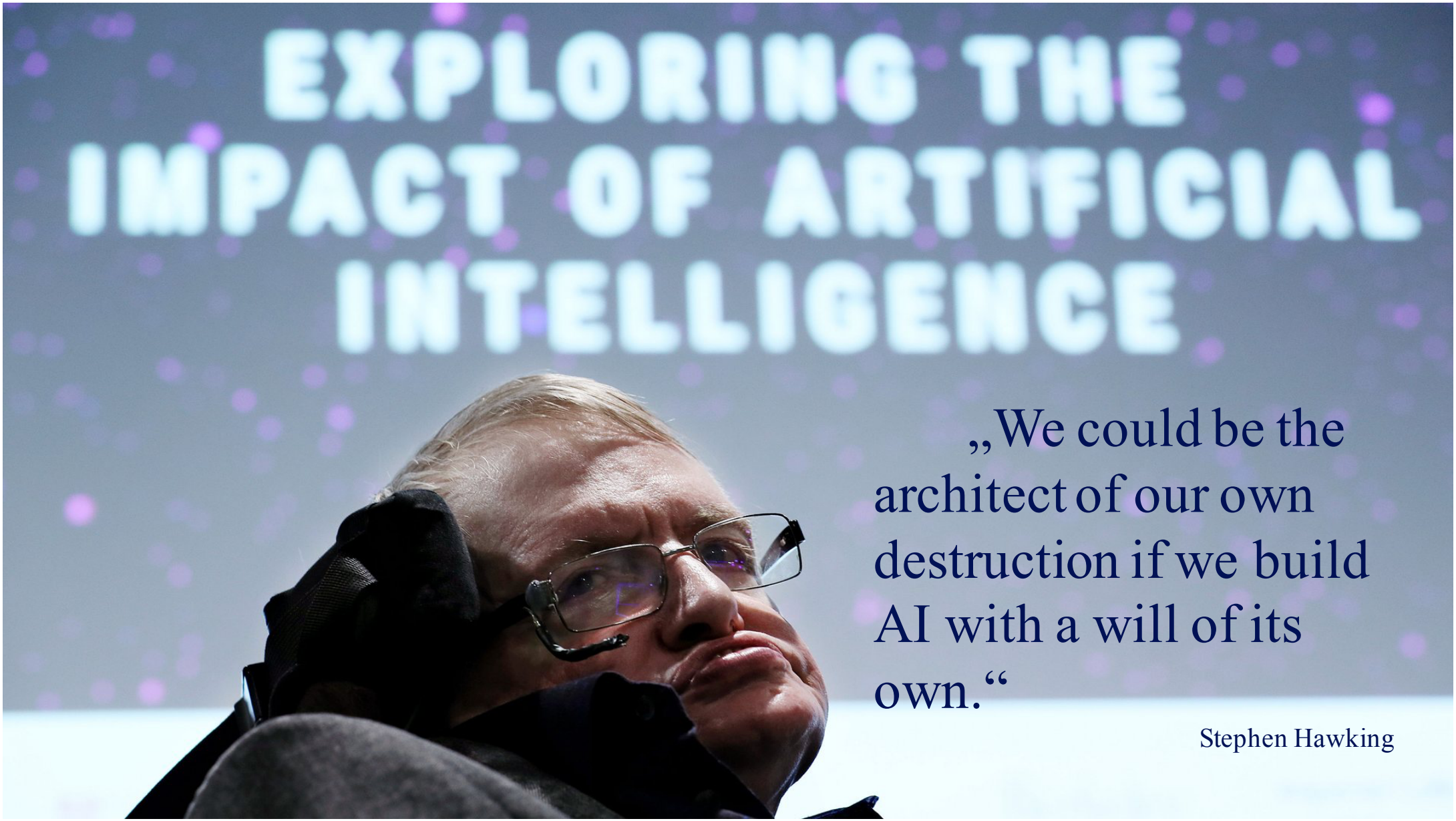
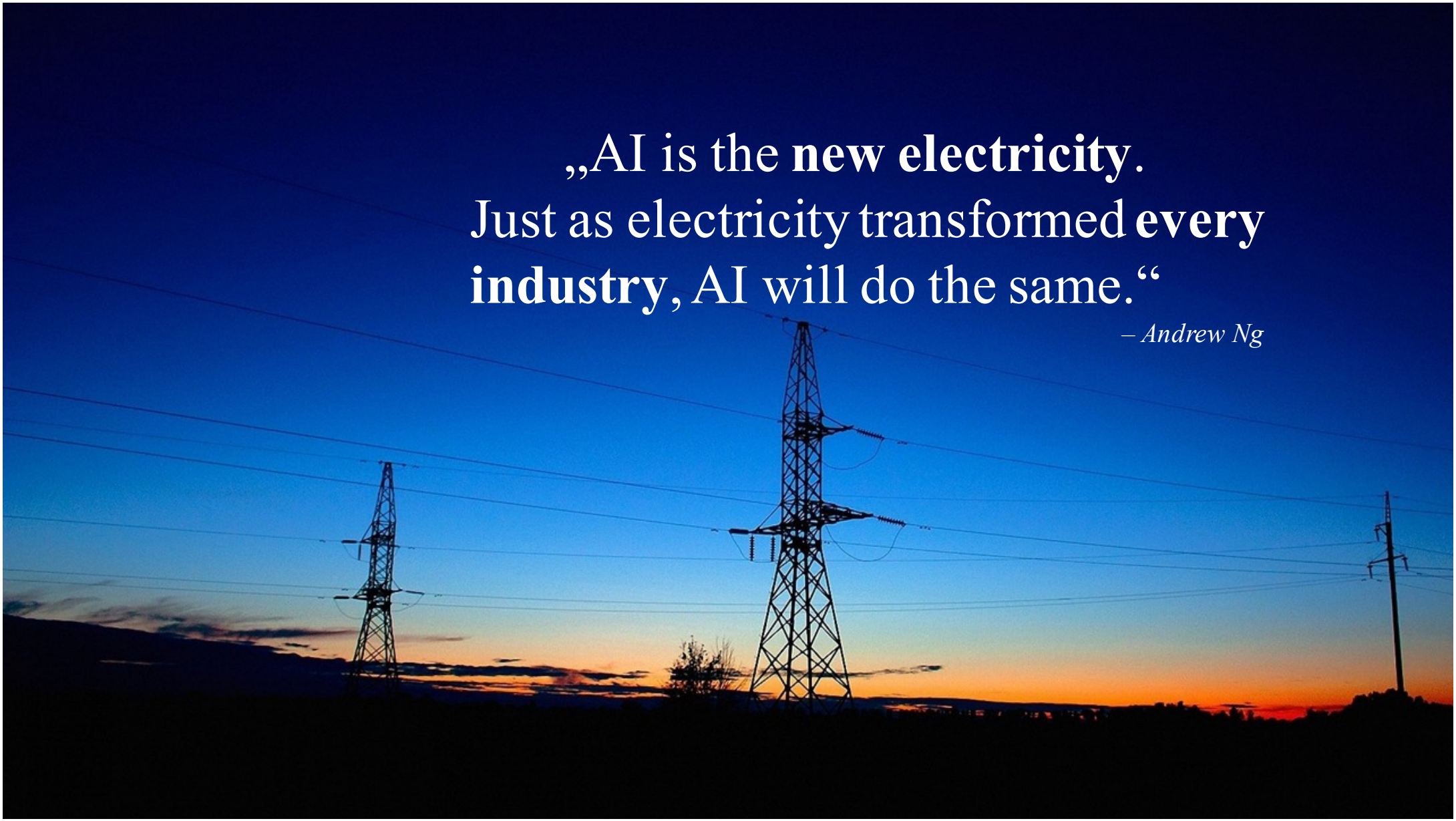


„We could be the architect of our own destruction if we build AI with a will of its own.“

Stephen Hawking


„AI is the **new electricity**.
Just as electricity transformed **every industry**, AI will do the same.“
– Andrew Ng

Thank you.
Dr. Felix von Reischach
Head of Product Management
Artificial Intelligence & Machine Learning Group, Swisscom
felix.vonreischach@swisscom.com
+41 79 96 202 86

Marmo:

AI for customer support

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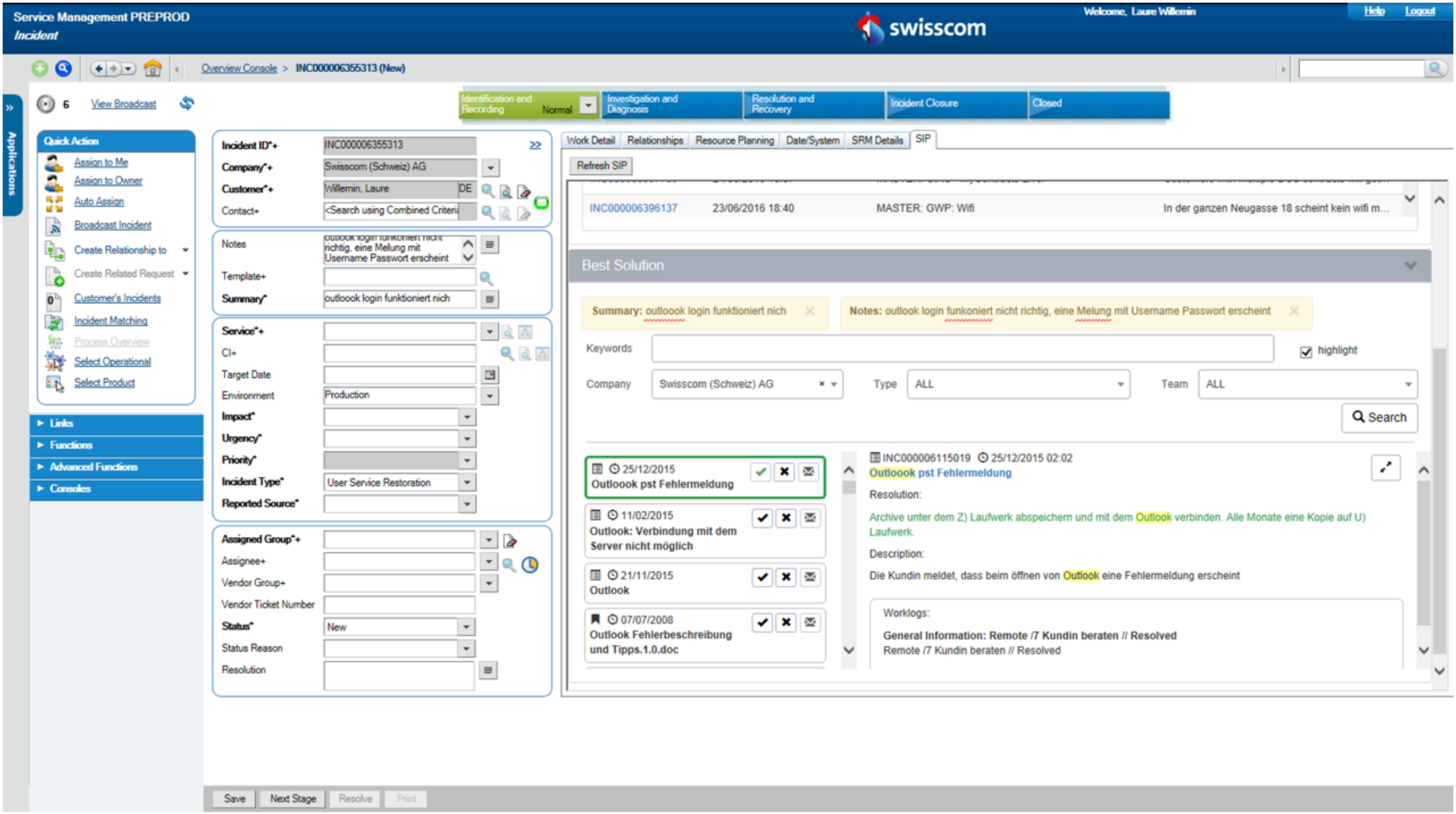
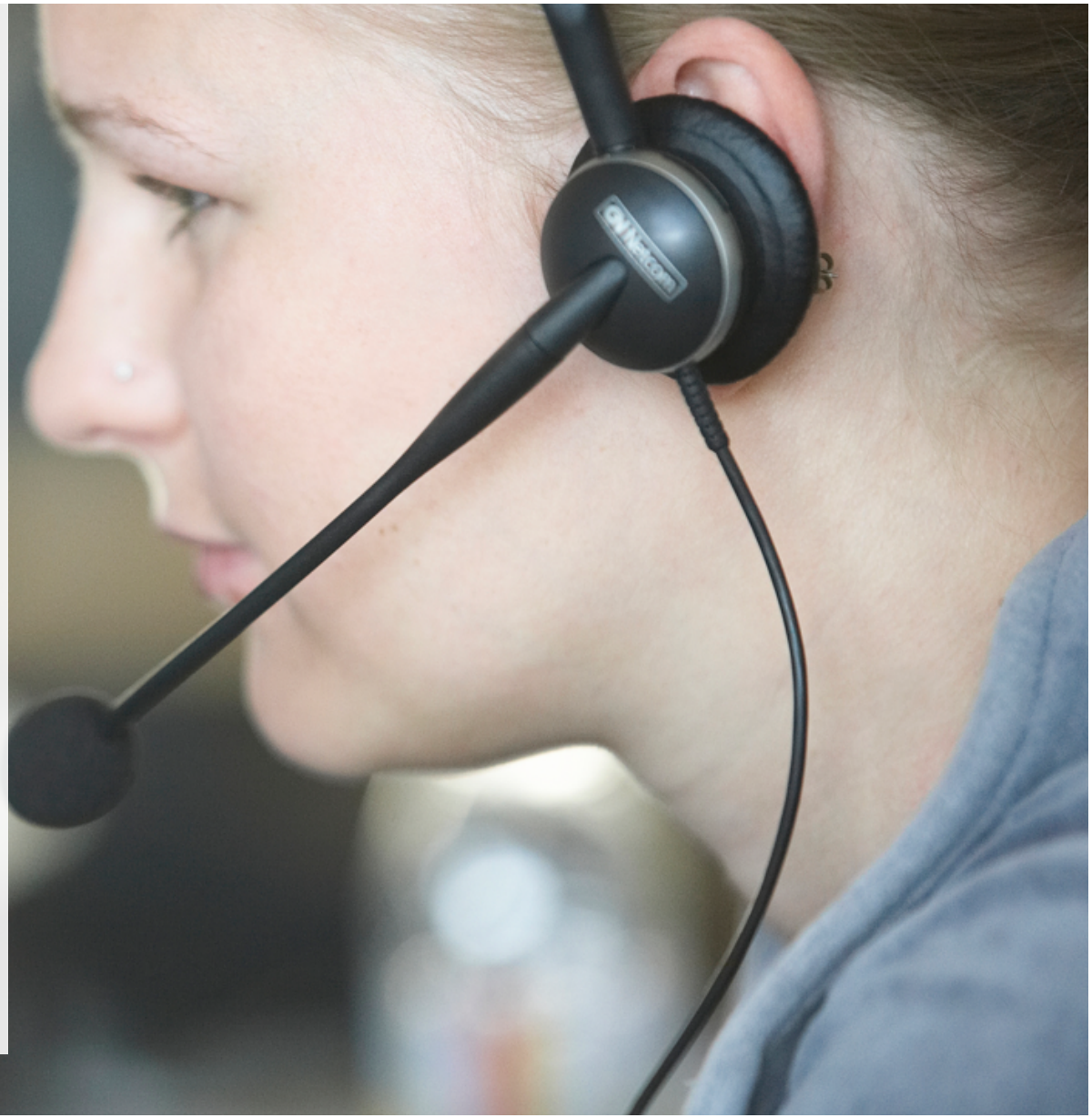
How do real-time **recommendations** help our service agents solve **customer problems**?


Service Management PREPROD
Incident
swisscom
Welcome, Laure Willemin
Help
Logout
Overview Console > INC000006355313 (New)
6
View Broadcast
Identification and Recording
Normal
Investigation and Diagnosis
Resolution and Recovery
Incident Closure
Closed
Quick Action
Assign to Me
Assign to Owner
Auto Assign
Broadcast Incident
Create Relationship to
Create Related Request
Customer's Incidents
Incident Matching
Process Overview
Select Operational
Select Product
Links
Functions
Advanced Functions
Consoles
Incident ID*+
INC000006355313
Company*+
Swisscom (Schweiz) AG
Customer*+
Willemin, Laure
DE
Contact+
<Search using Combined Criteri
Notes
outlook login funktioniert nicht richtig, eine Melung mit Username Passwort erscheint
Template+
Summary*
outloook login funktioniert nich
Service*+
CI+
Target Date
Environment
Production
Impact*
Urgency*
Priority*
Incident Type*
User Service Restoration
Reported Source*
Assigned Group*+
Assignee+
Vendor Group+
Vendor Ticket Number
Status*
New
Status Reason
Resolution
Work Detail
Relationships
Resource Planning
Date/System
SRM Details
SIP
Refresh SIP
INC000006396137
23/06/2016 18:40
MASTER: GWP: Wifi
In der ganzen Neugasse 18 scheint kein wifi m...
Best Solution
Summary: outloook login funktioniert nich
Notes: outlook login funkoniert nicht richtig, eine Melung mit Username Passwort erscheint
Keywords
highlight
Company
Swisscom (Schweiz) AG
Type
ALL
Team
ALL
Search
25/12/2015
Outloook pst Fehlermeldung
11/02/2015
Outlook: Verbindung mit dem Server nicht möglich
21/11/2015
Outlook
07/07/2008
Outlook Fehlerbeschreibung und Tipps.1.0.doc
INC000006115019
25/12/2015 02:02
Outloook pst Fehlermeldung
Resolution:
Archive unter dem Z) Laufwerk abspeichern und mit dem Outlook verbinden. Alle Monate eine Kopie auf U) Laufwerk.
Description:
Die Kundin meldet, dass beim öffnen von Outlook eine Fehlermeldung erscheint
Worklogs:
General Information: Remote /7 Kundin beraten // Resolved
Remote /7 Kundin beraten // Resolved
Save
Next Stage
Resolve
Print

Using artificial intelligence, Marmo helps service agents give a **faster** and **better** service.



Sonar: AI for customer experience monitoring.

Sonar collects customer feedback from various channels and using artificial intelligence classifies it as positive, negative or neutral.

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Sonar: **AI for customer feedback**

Alerts on topics of interest

AI-generated insights

Sentiment analysis and feedback visualization

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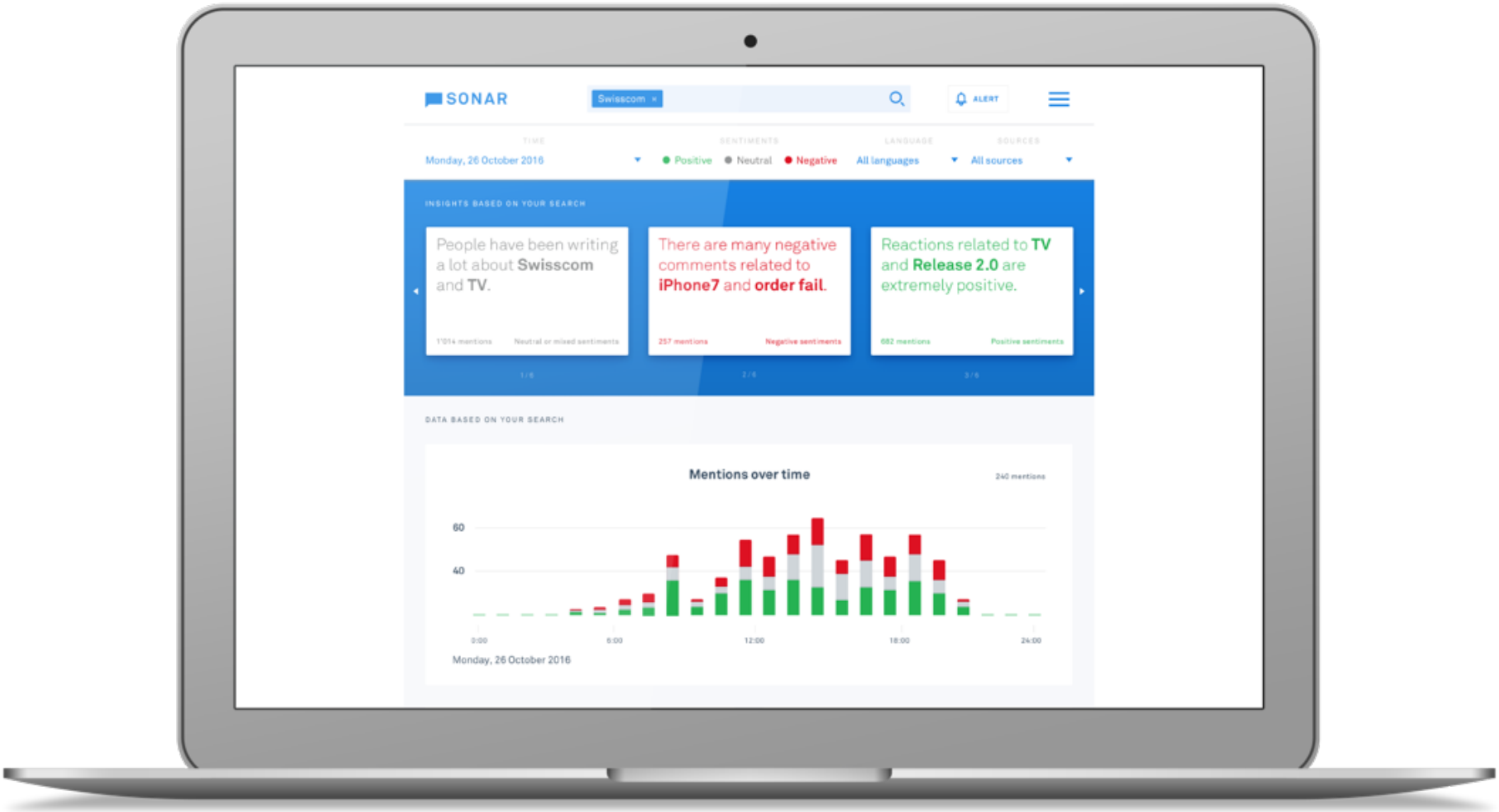
SONAR
Swisscom
ALERT
TIME
SENTIMENTS
LANGUAGE
SOURCES
Monday, 26 October 2016
Positive
Neutral
Negative
All languages
All sources
INSIGHTS BASED ON YOUR SEARCH
People have been writing a lot about Swisscom and TV.
1'014 mentions
Neutral or mixed sentiments
There are many negative comments related to iPhone7 and order fail.
257 mentions
Negative sentiments
Reactions related to TV and Release 2.0 are extremely positive.
682 mentions
Positive sentiments
1 / 6
2 / 6
3 / 6
DATA BASED ON YOUR SEARCH
Mentions over time
240 mentions
60
40
0:00
6:00
12:00
18:00
24:00
Monday, 26 October 2016

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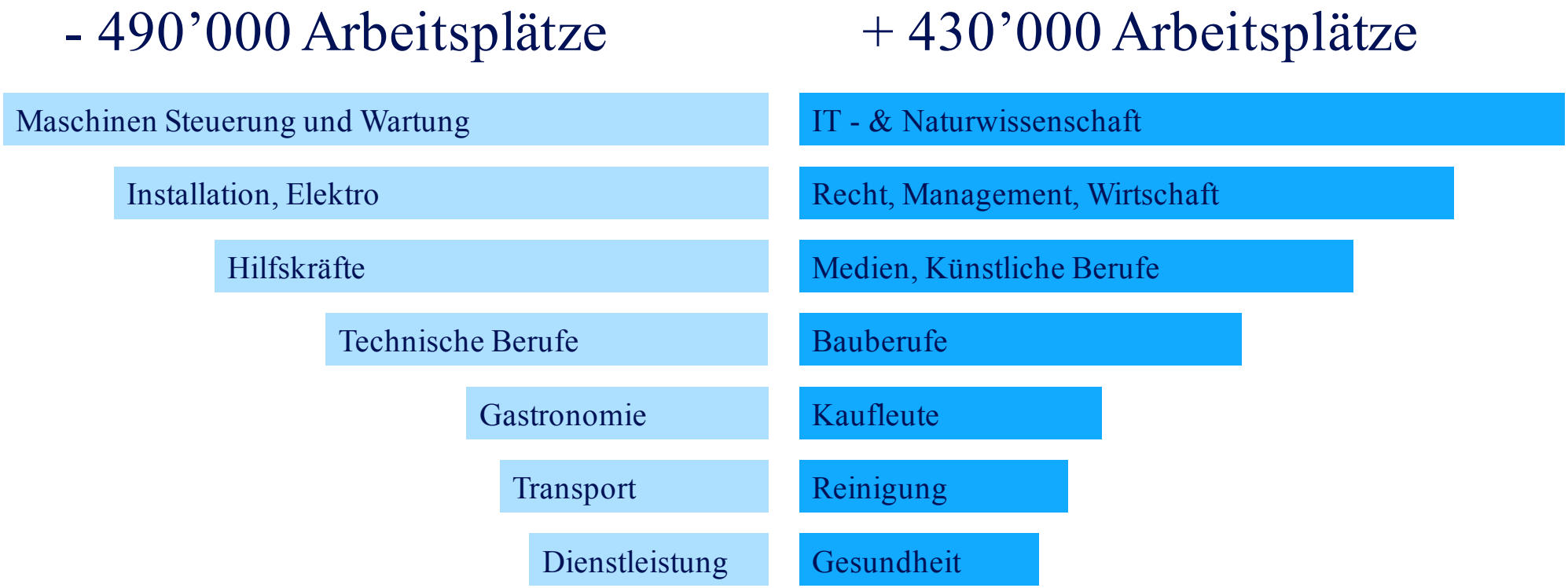
Welchen Beruf empfehlen wir unseren Kindern?



Quelle: IAB Forschungsbericht 8, 2015

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Entity Recognition	Identification of people, addresses, cities, objects, enterprises or products
Topic Recognition	Identification of a topic within specific content, followed by consolidation and clustering
Sentiment Analysis	Analysis and identification if content (e.g. opinions) is positive, negative, or neutral
Keyword Analysis	Analysis of the frequency of words based on their meaning
Anony-mization	Full compliance with data security due to anonymized analysis of personal data
Summari-zation	Auto-generation of summarized reports
Trend Detection	Auto-generated notifications/alarms in case statistical trends are detected
Speech to Text	Speech-to-text translation (e.g. records from call center calls) for further processing using our AI enablers. This feature is currently in development.
Data Training	Machine learning for training of the AI-models. Training based on your specific context is a key success factor to ensure that the analysis delivers the best results

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TEXT INPUT
«WOW, my friend Paul just tried your new camera at Interdiscount in Zürich and it really works – well done guys, will buy the product soon.»

Sentiment Analysis
"Label": "positive",
"Probability": 1

Topic Recognition
"Label": "Products",
"Probability": 0.89,
"Label": "Electronics",
"Probability": 0.613

Keyword Analysis
"Keyword": "New Camera",
"Keyword": "really works",
"Keyword": "buy soon"

Entity Recognition
"Entity": "Interdiscount",
"Tag": "organization",
"Entity": "Zurich",
"Tag": "location"

Anonymi-zation
Replace: "Paul"
by "[Name]"

Trend Detection
+70 % positive reviews regarding new camera

Summari-zation
Discussion regarding new camera and functionalities

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