Meet the new IBM – Cognitive & Open by Design

Codemotion Berlin, 25th of October 2016

Michael A. Maier
Vice President, Head of Branch Office IBM Berlin

What do you think of when you hear IBM?

IBM Branch Office Berlin

Key figures

Location	IBM Deutschland Nahmitzer Damm 12 12277 Berlin
Branch head	Michael A. Maier
Number of Employees	ca. 1300
Locations	Französische Str. 24, Berlin Chausseestr. 5, Berlin

IBM Corporation

Key figures

Headquarters	Armonk, New York, USA
CEO	Virginia M. Rometty
Revenue 2015	81,7 billion U.S. dollar
Employees 2015	ca. 380.000
Homepage	IBM - United States

A Snapshot of IBM Milestones

This June, IBM will reach a significant milestone—its 100th anniversary. Join us in taking a look back at just a few of the historical breakthroughs that have helped IBM shape the century and the company.

1900

1911

IBM was formed as the Computing Tabulating and Recording Company, or C-T-R, specializing in punch cards, commercial scales and clocks.

1923

IBM's punched card technology helped tackle large-scale projects like the U.S. Census.

1924

With global ambitions, the company renamed itself International Business Machines – today, it operates in 170 countries.

1930

1935

IBM pioneered training courses for women so they could work in technical positions traditionally filled by men.

1936

IBM worked with the U.S. government to start Social Security – the largest accounting project of its time.

1944

IBM's five-ton Automatic Sequence Controlled Calculator was the first machine to handle long calculations automatically.

1956

RAMAC (Random Access Method of Accounting and Control), the first magnetic hard disk drive, created the data storage industry.

1960

1961

The Selectric Typewriter was an instant design sensation, delighting typists for 25 years.

1962

IBM and American Airlines launched the world's first computer-driven airline reservation system, SABRE – which paved the way for online banking technology.

1964

The company made a big bet with the System/360 – this early mainframe ushered in the era of computer compatibility.

1969

IBM technology guided the Apollo mission to the moon – the company has played a part in the U.S. space program since the 1950s.

1969

IBM labs developed the magnetic strips on credit cards – still ubiquitous on ID cards, drivers' licenses and ATM bank cards.

1971

IBM created the floppy disk, which made storage powerful and affordable – and the PC revolution possible.

1973

Supermarkets started scanning UPC bar codes, invented by IBM. Today, they track everything from clothing to dairy cows.

1980

1980

IBM was granted the first patent for LASIK surgery technology – and continues to hold more U.S. patents than any company.

1981

The IBM Personal Computer launched the PC revolution, helping computers go mainstream beyond hobbyists and geeks.

1984

By the mid-'80s, IBM computers understood 5,000 spoken words at 95% accuracy; today, speech recognition is pervasive at home and on the road.

1986

IBM scientists won the Nobel Prize for the scanning tunnel microscope – which would eventually manipulate atoms to spell I-B-M.

1997

IBM's Deep Blue supercomputer defeated the best chess player in the world.

1997

IBM launched "eBusiness," turning the Internet into a tool for business and ushering in the future of electronic commerce.

2001

IBM invested $1 billion in Linux, spurring open source innovation that still reverberates around the world.

2011

Watson supercomputer can detect nuances in words, irony and riddles – and inspire new realms of search queries and artificial intelligence.

2011

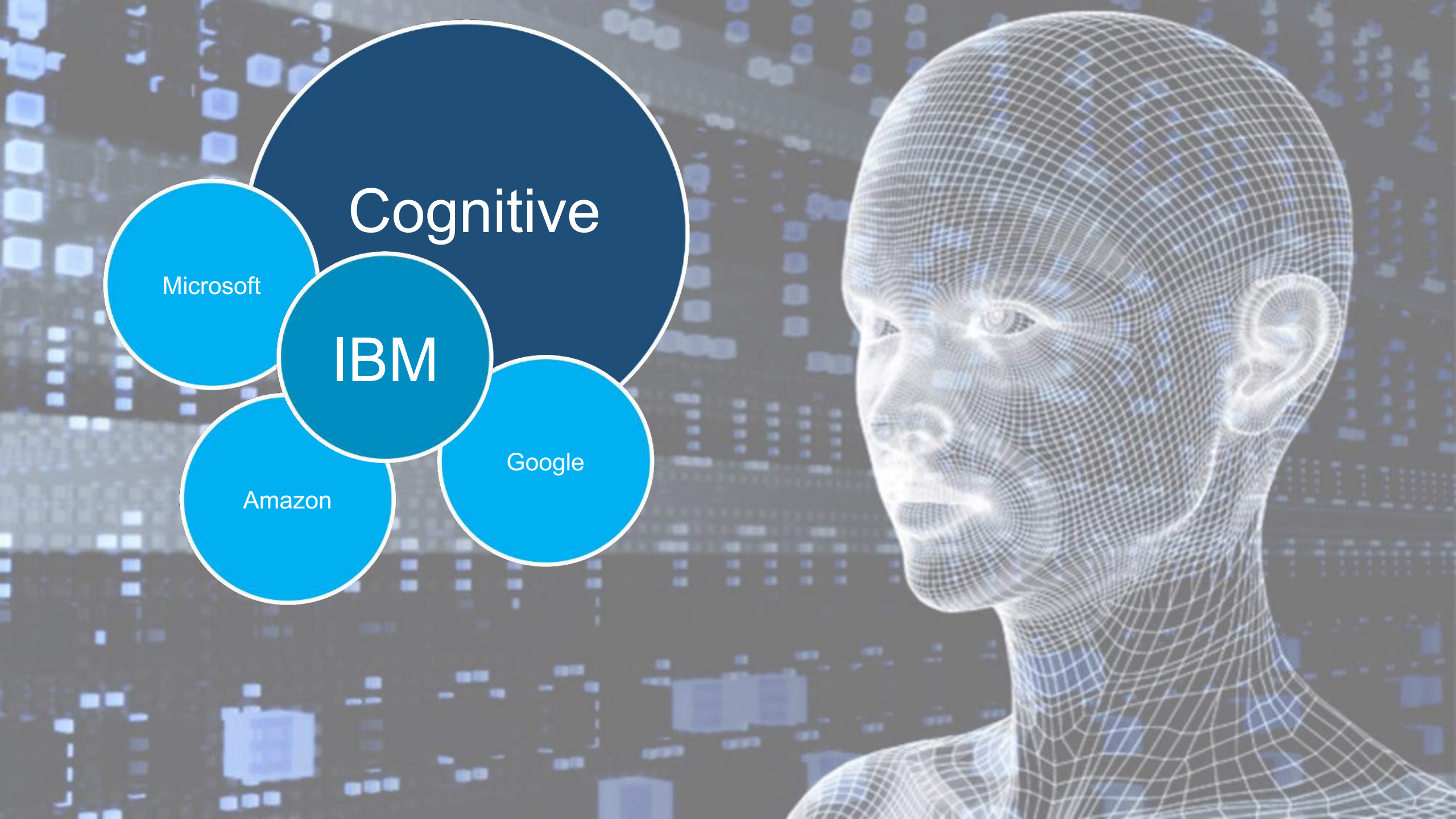
2008

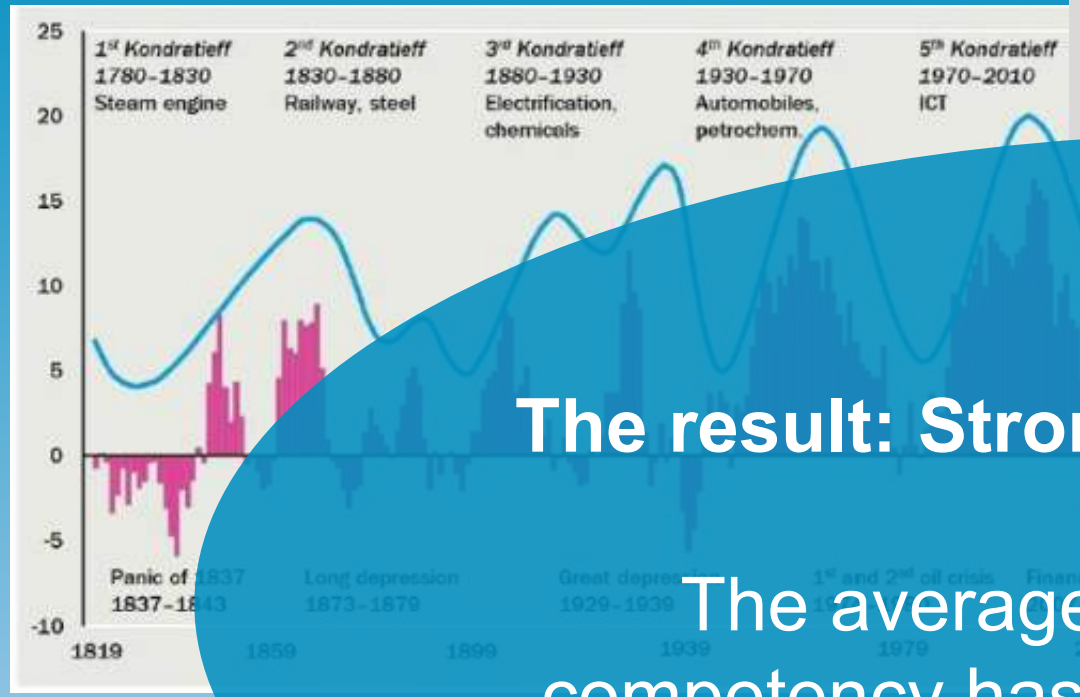
Smarter Planet launched to improve how the world works – now smart buoys in Ireland's Galway Bay detect pollution, protect fish stock.

NO CELLPHONES
CELLPHONES
WALK IN THIS LANE
AT YOUR OWN RISK

Technological Singularity

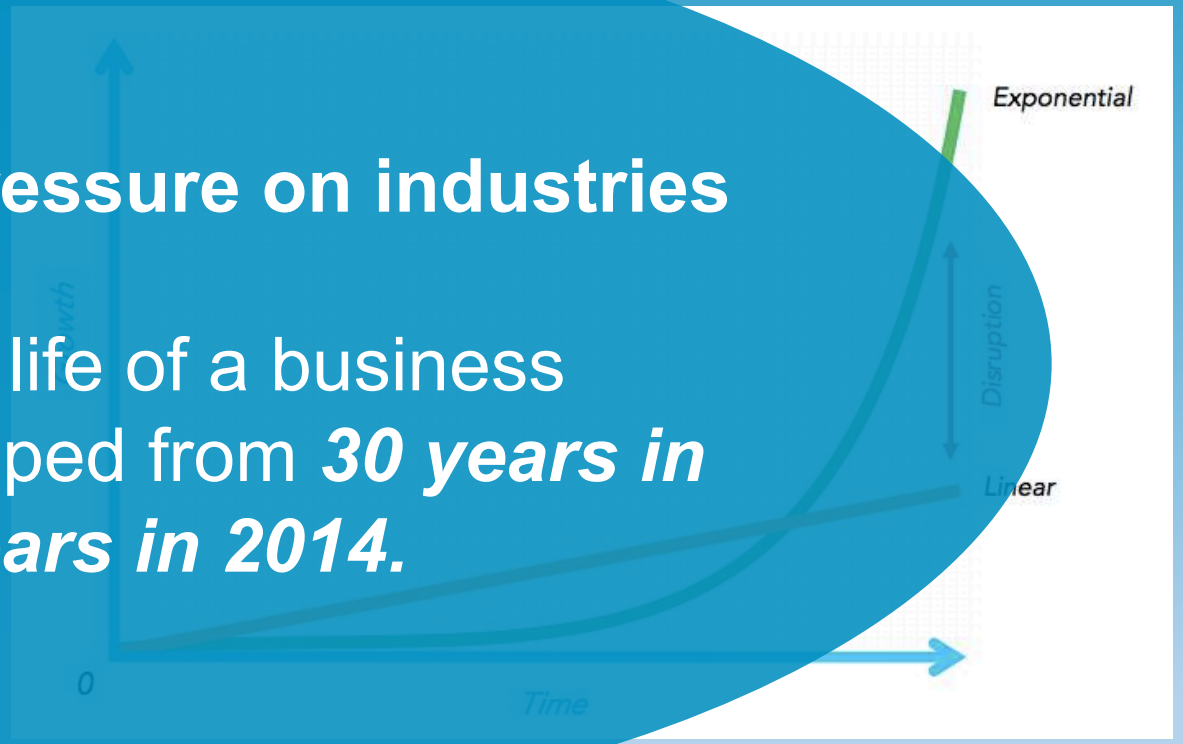
The hypothesis that the invention of artificial superintelligence will abruptly trigger runaway technological growth, resulting in unfathomable changes to human civilization.


Cognitive
Microsoft
IBM
Amazon
Google



6th Kondratieff
2010-2050
Intelligent technologies

Intelligent technologies are the new drivers of economies.



Todays market is changing rapidly.

The result: Strong pressure on industries

The average half life of a business competency has dropped from ***30 years in 1984*** to ***5 years in 2014.***

Sources: Finland Futures Research Centre / University of Singularity

SPIEGEL ONLINE

airberlin

TUIfly

Deutsche Fluggesellschaften in der Krise

Die Luft ist raus

Die Krise von TUIfly ist nur ein Symptom: Deutschlands Luftfahrt steht v
erklärt sich der Abstieg einer Branche, die so lange für Luxus und Serv

Von David Böcking und Martin U. Müller

Der Trend zum Teilen

Zahl der Carsharing-Nutzer wächst

Autos zu teilen, statt sie zu besitzen - das liegt im Trend. In fünf Jahren soll sich laut einer Studie die Zahl der Carsharing-Nutzer in Deutschland mehr als verdoppeln.

Advertorial: Lösungen von VMware

Gesundheitswesen im Umbruch

30.03.16 | Autor / Redakteur: Horst Robertz * / Susanne Ehneß

CHARITÉ
UNIVERSITÄTSMEDIZIN BERLIN

...wirtschaftliche Rahmenbedingungen verändern das Gesundheitswesen.
...Sie stehen vor der Herausforderung, sich den
...gung weiterhin hoch
...nterstützen.

NETFLIX

amazon Prime instant video

NETFLIX

Bis 2020 überholt Streaming das klassische Fernsehen

Der Provider-Verband Eco sieht Netflix und andere Streaming-Angebote in einigen Jahren vor dem linearen Fernsehen. Besonders bei dem jungen Publikum setzt ein radikaler Wandel ein.

Deutsche Bank Is In Trouble - And Could Take The Industry With It

Jul.12.16 | About: Deutsche Bank (DB)

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Send Message

owns NO vehicles

creates NO content

owns NO real estate

carries No inventory

The world's progress is driven by expertise

Oncologist

Wealth Manager

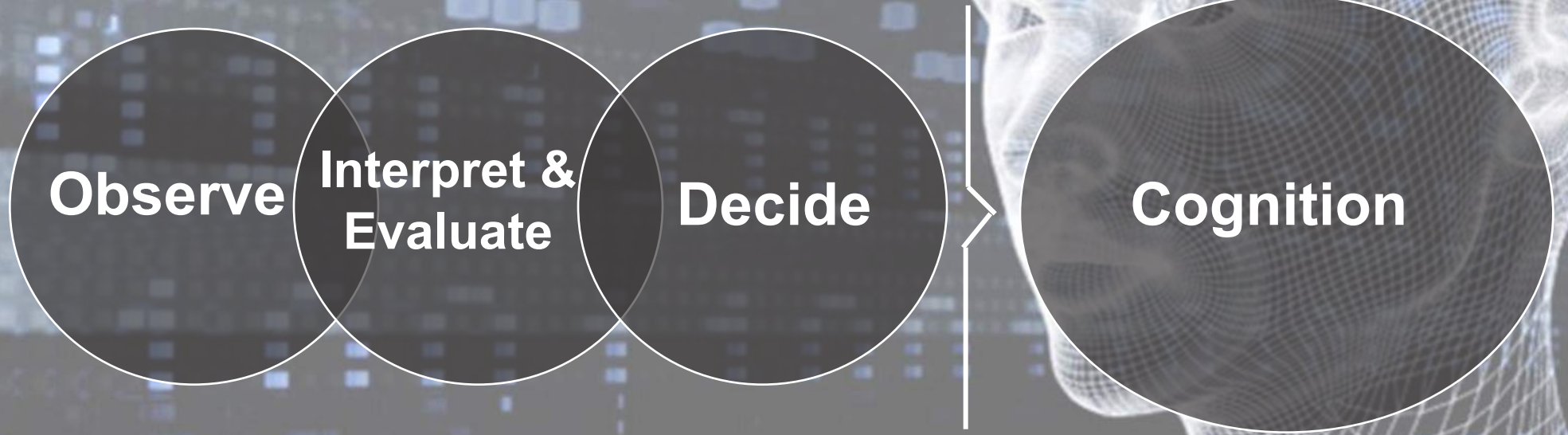
Digital Marketing Expert

Contact Center Manager

Master Chef

Etc.

Experts build expertise through cognition



There are barriers and opportunities associated with building expertise.

Watson is creating a new partnership between people and computers that **enhances**, **scales** and **accelerates** human expertise.

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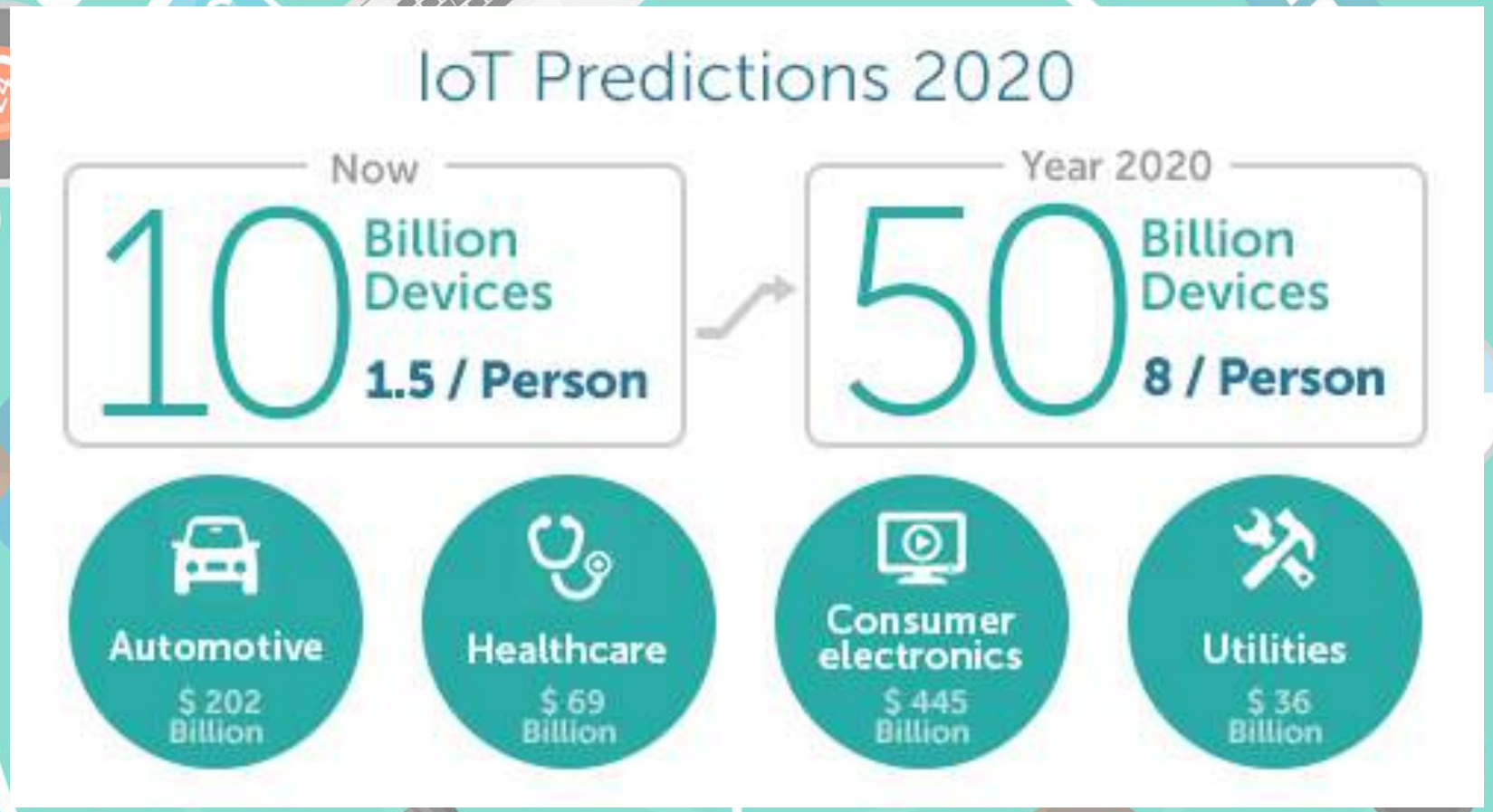
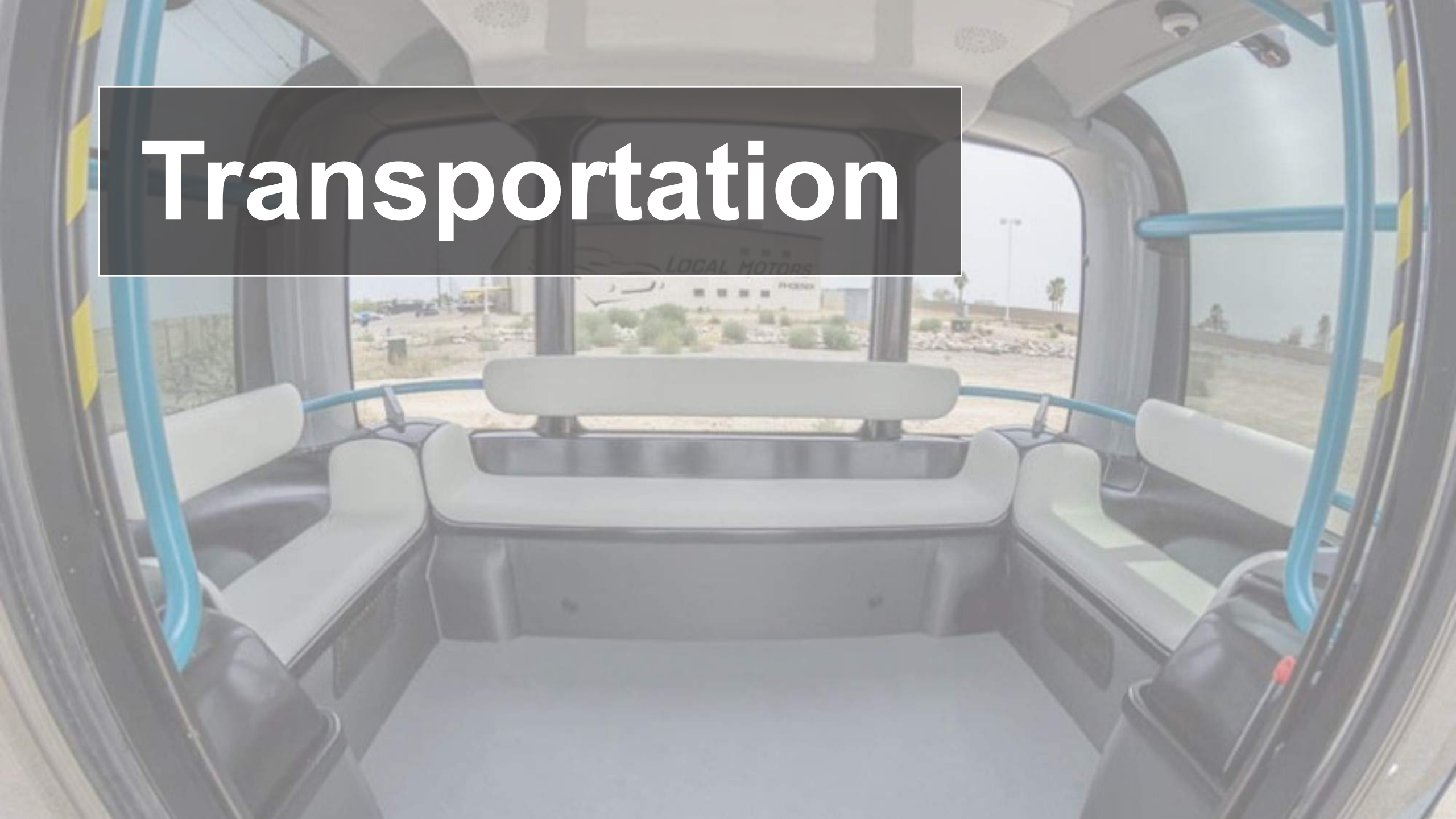
„We are just in front of a New Golden Era"


IoT Predictions 2020
Now
10 Billion Devices
1.5 / Person
Year 2020
50 Billion Devices
8 / Person
Automotive
$ 202 Billion
Healthcare
$ 69 Billion
Consumer electronics
$ 445 Billion
Utilities
$ 36 Billion

IBM Watson IoT München



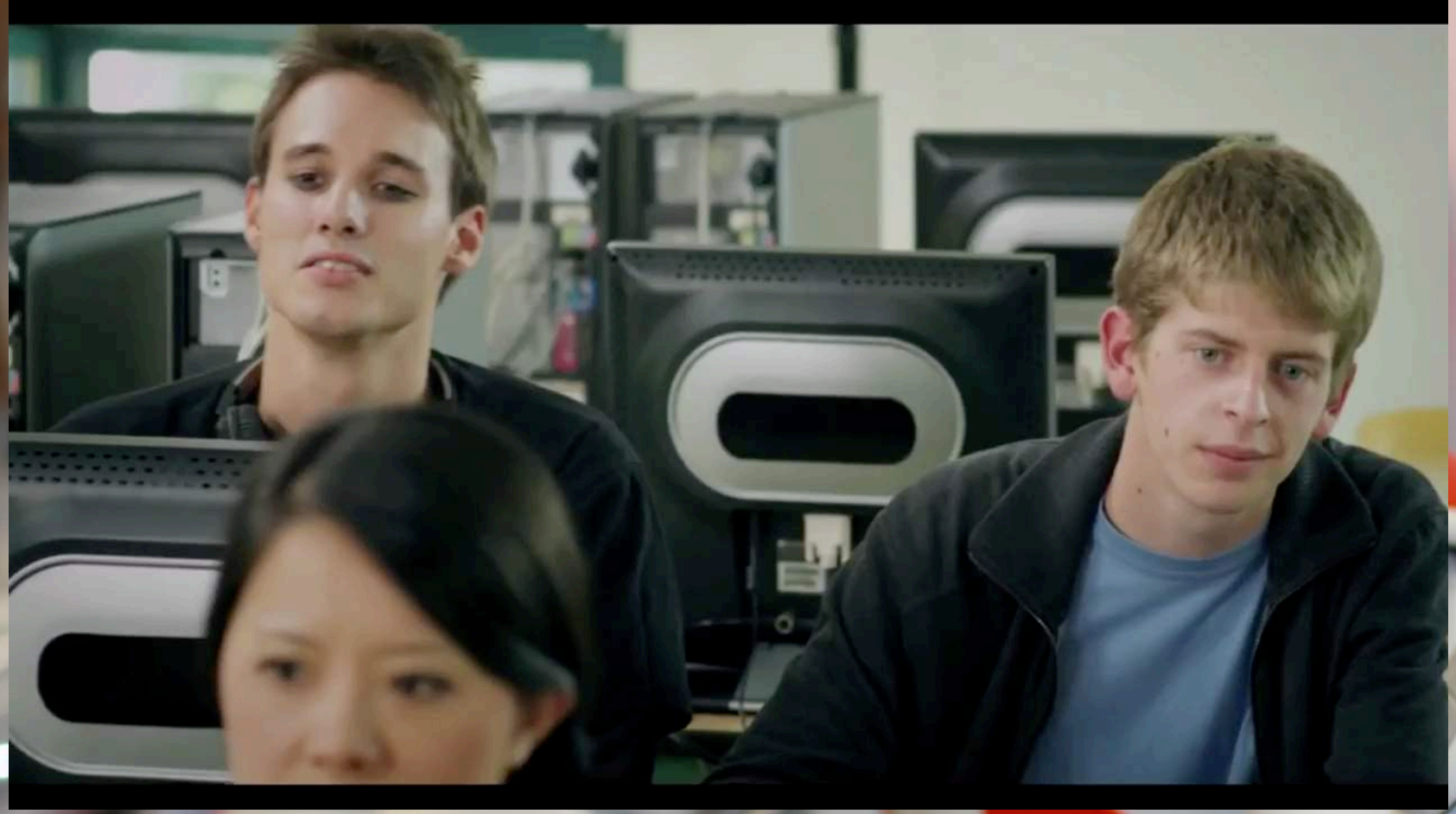
Transportation

LOCAL MOTORS

IBM Watson IoT

- Cognitive skills of Watson
- Talks to the passenger
  - “Where can I get some food nearby?”
  - “Why are we driving slower?”
- Europe Headquarter in Berlin

Education



Cognitoy – the IBM Watson Dino

- Based on the IBM Watson Technology
- Dino to learn content via question-response game with the child

Healthcare

Enabling ecosystems: insights, data, solutions

Insights
Cognitive & Advanced Analytics

Individuals
Researchers

Data

Structured & Unstructured

Solutions
IBM & Ecosystem Solutions

Health Insurance
Hospitals
Pharmacist
Human Services

60
MINUTES

WE

work together

for and with our clients.

Focus areas for technology evolution

Focus on industry solutions

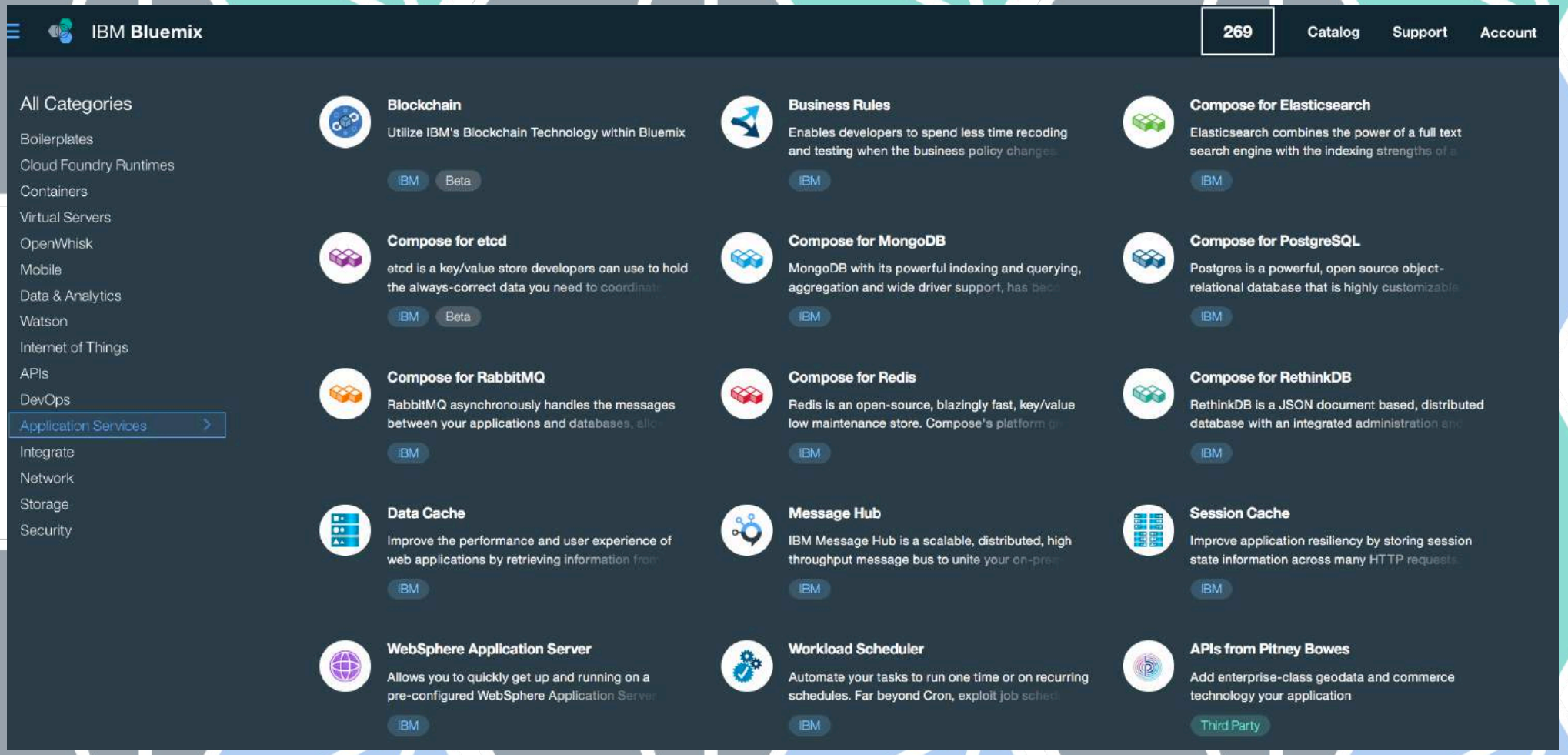
- Natural language processing
- Image & video understanding
- Reasoning algorithms
- Machine learning

- Cognitive industry solutions
- Approximate Computing
- Neuroscience
- Neurosynaptic HW architectures

Embodied cognition
Contextual user interfaces

COGNITIVE SYSTEMS

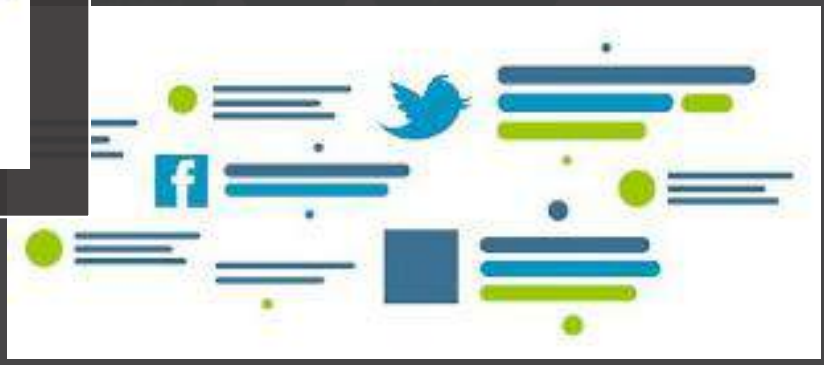
IBM Bluemix – Your development platform



Watson-as-a-Service

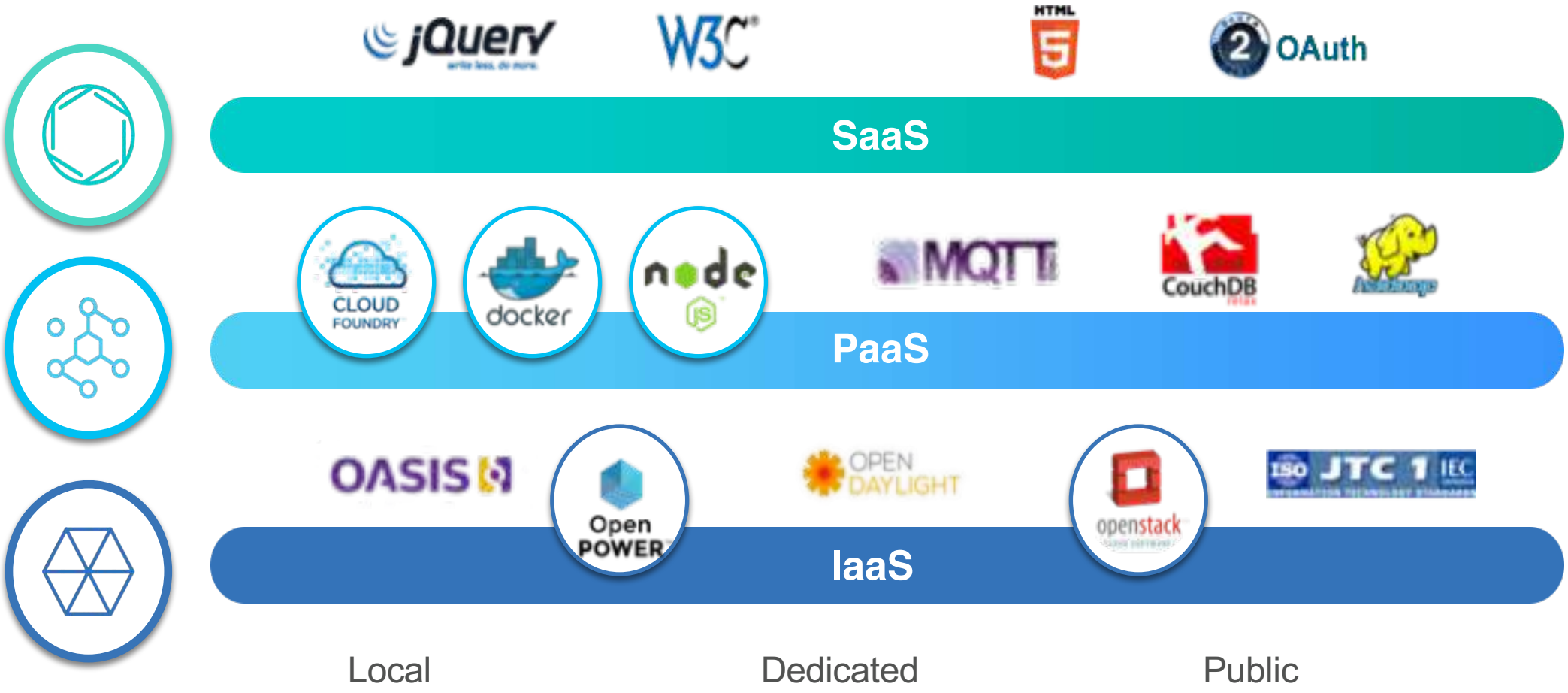
Retrieve and Rank

Tone Analyzer



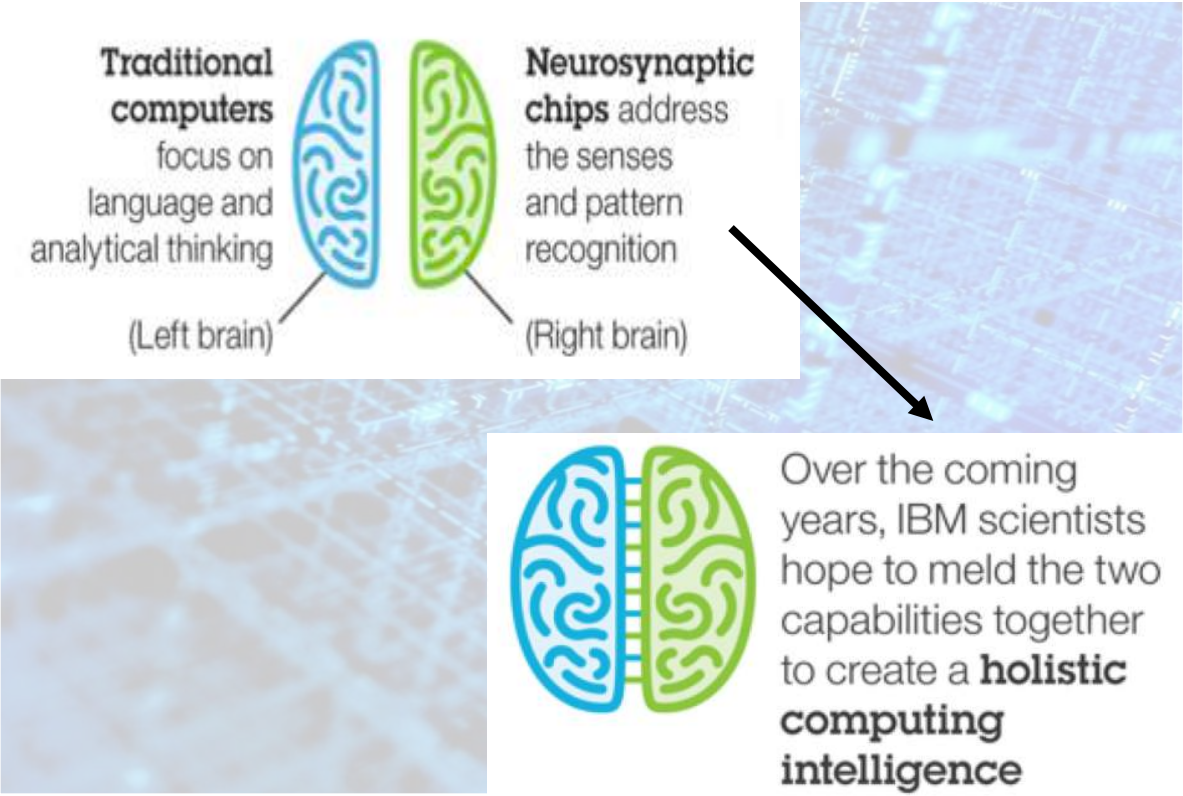
“The new hybrid cloud will be open by design.”
Robert LeBlanc,
Senior Vice President, IBM Cloud

IBM Cloud is Open by Design!

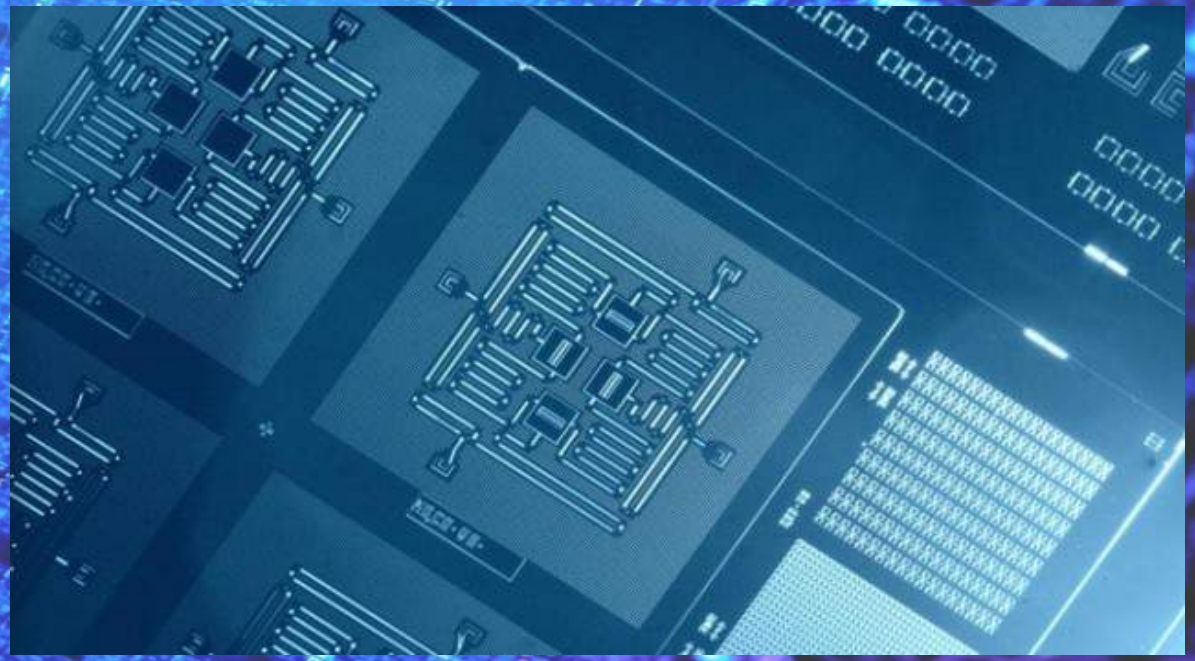


New Scientific and architectural Foundations for Cognitive Business

Brain-inspired hardware architectures



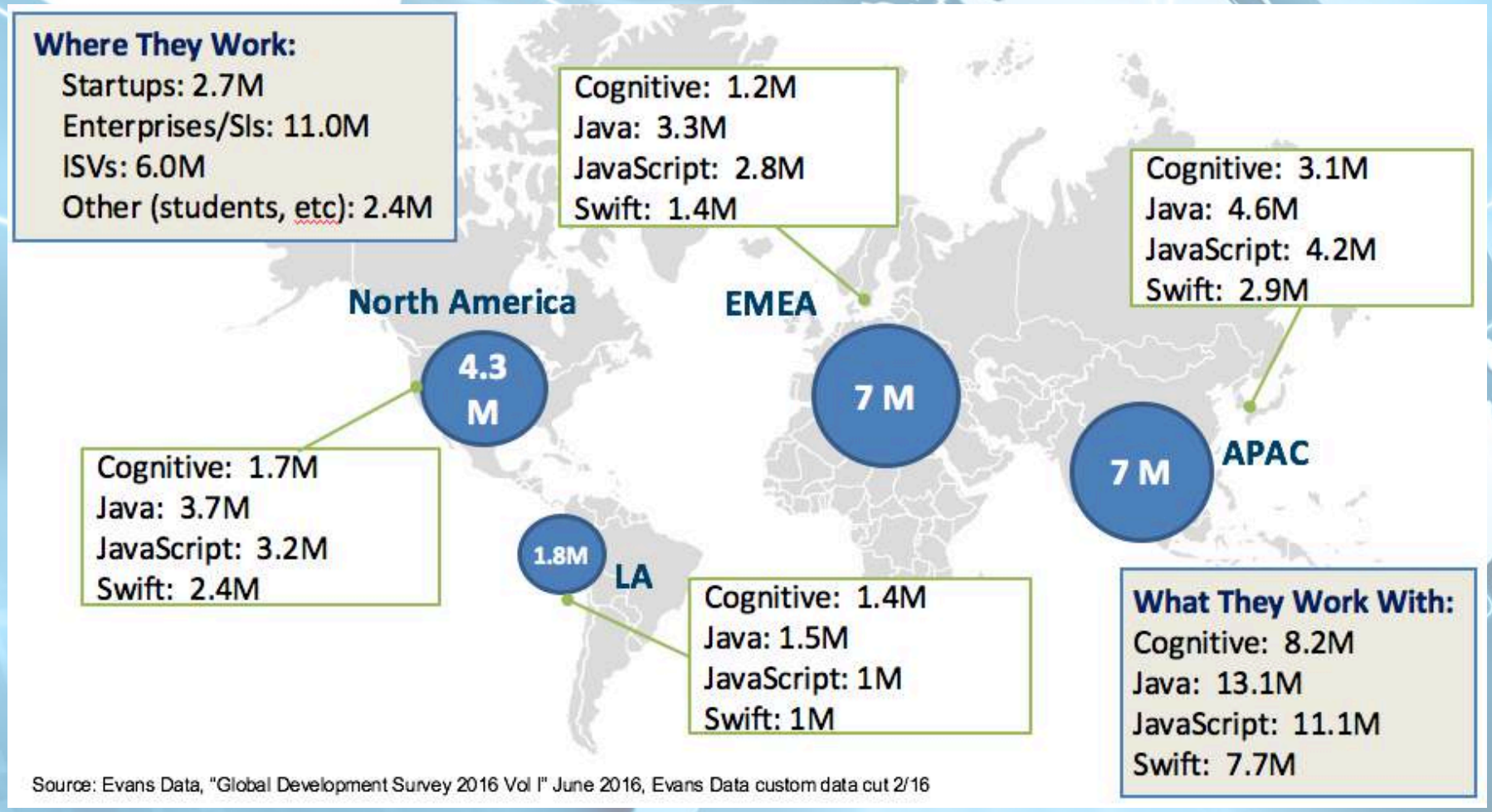
Quantum computers



http://www.research.ibm.com/quantum/#start

Your own experience: Quantum computers

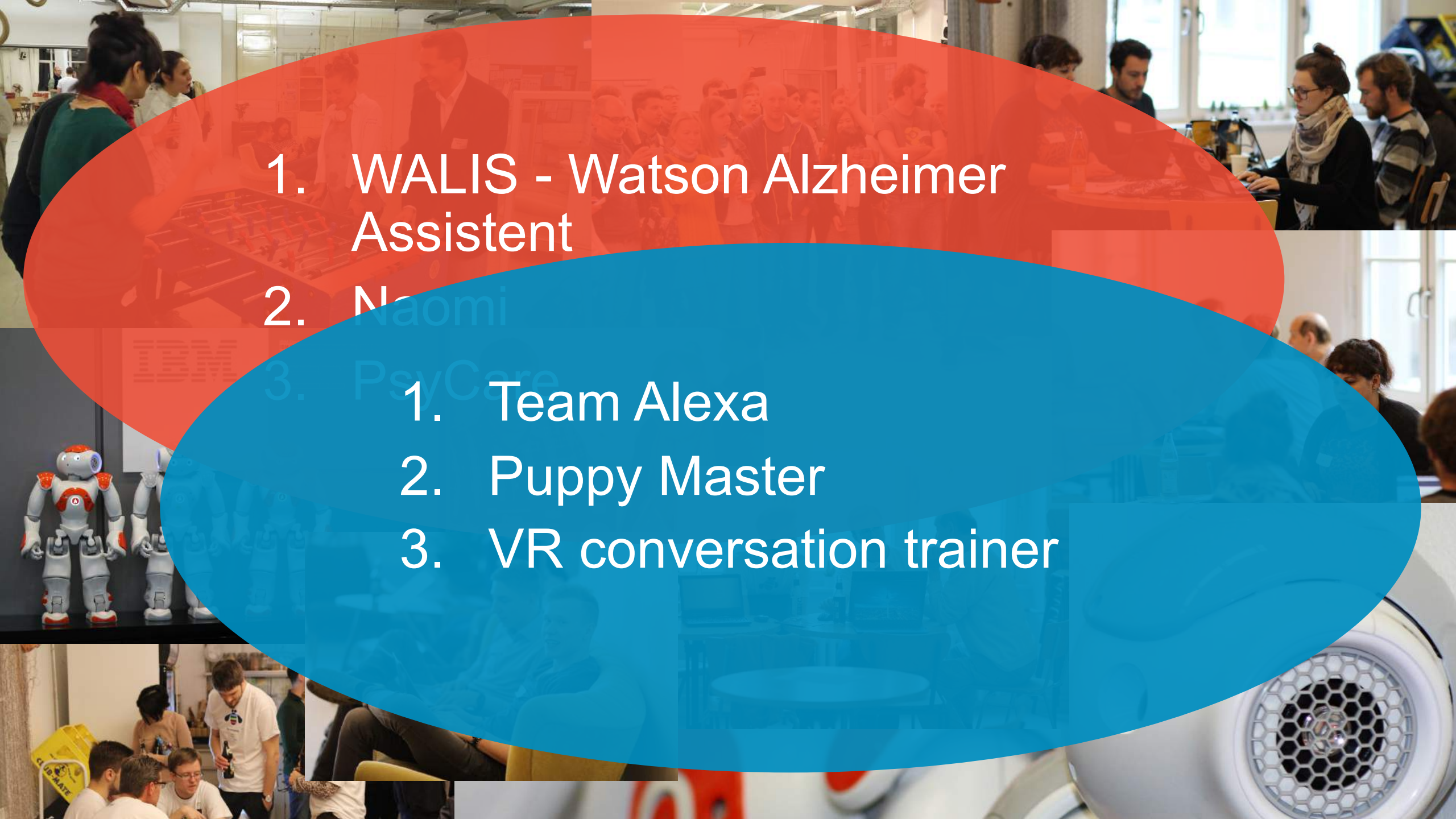
The power of developers – YOU!



The power of developers – YOU!

- Developers are already using Cognitive Computing:
  - 8.2 million are using Cognitive Computing
- Developers are investigating advanced technologies:
  - Augmented and Virtual Reality (75%)
  - Data Science and Machine Learning (62%)
- Developers are driving innovation

Hackathon Berlin und Hamburg



1. WALIS - Watson Alzheimer Assistent
2. Naomi
3. PsyCare

1. Team Alexa
2. Puppy Master
3. VR conversation trainer

Learn more - join us

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- ibm.com/cognitive/
- ibm.com/blockchain/
- developer.ibm.com/open

- **Quantum experience:** research.ibm.com/quantum/#start
- **Developer certification:** ibm.com/watson/developer-conference/certification.html
- **Cookbooks:** developer.ibm.com/recipes/
- **GitHub:** https://github.com/IBM-Bluemix

Meet the new IBM

Sign-up today at: https://ibm.biz/joinbluemix

Cognitive Cooking
with Chef Watson

www.ibmchefwatson.com

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Thank you!