



# Meet the new IBM – Cognitive & Open by Design

Codemotion Berlin, 25<sup>th</sup> 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



Head of  
Office  
Michael  
A. Maier



Location  
Berlin



# IBM Corporation

## Key figures

<b>Headquarters</b>	Armonk, New York, USA
<b>CEO</b>	Virginia M. Rometty
<b>Revenue 2015</b>	81,7 billion U.S. dollar
<b>Employees 2015</b>	ca. 380.000
<b>Homepage</b>	<a href="http://www.ibm.com">IBM - United States</a>



**CEO  
Virginia M.  
Rometty**



**Head-  
quarters  
Armonk,  
New York**



## 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.

1923



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

1935



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

1956



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

1961



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

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.

1980



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

2001



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

1997



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

2011



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

1900

1930

1960

1980

2011

1924



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

1944



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

1964



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

1973



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

1986



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

1997



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

2008



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

1911



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

1936



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

1962



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

1969



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

1981



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









NO CELL PHONES



CELLPHONES  
WALK IN THIS LANE  
AT YOUR OWN RISK.

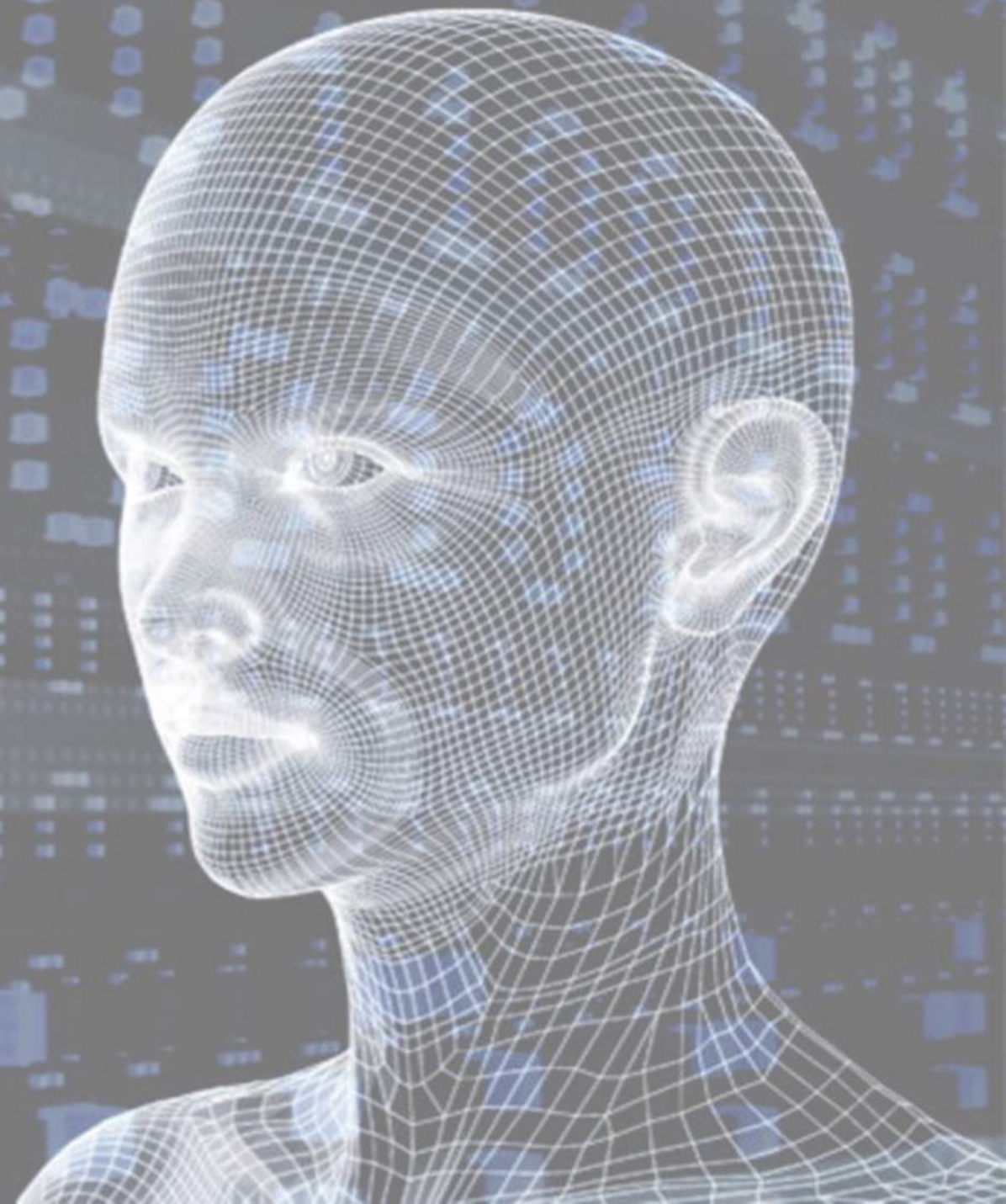
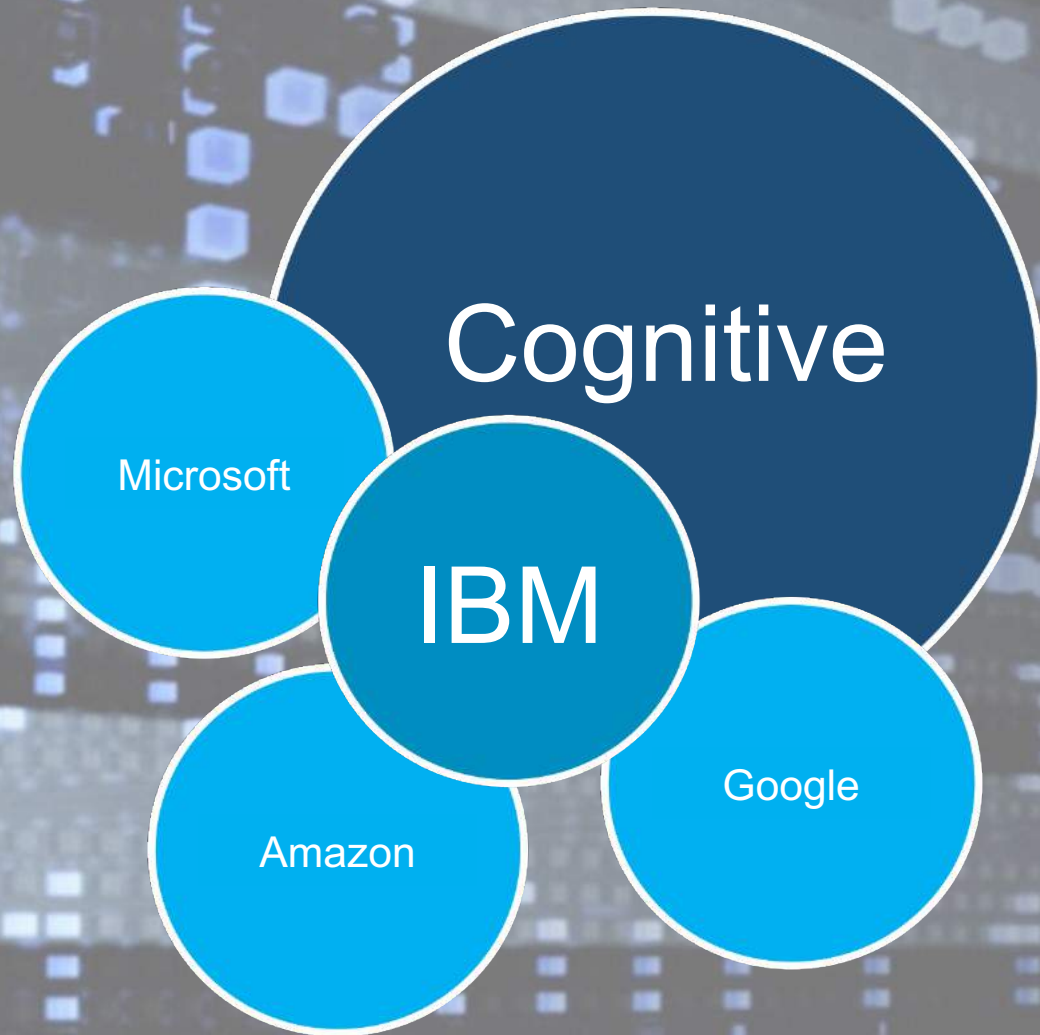


# Technological Singularity

The background of the entire image is a deep blue. It features a grid of faint, glowing blue lines. Overlaid on this grid are horizontal bands of binary code (0s and 1s) in a lighter blue color. Additionally, there are several wavy, translucent blue lines that sweep across the frame, creating a sense of motion and digital energy.

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



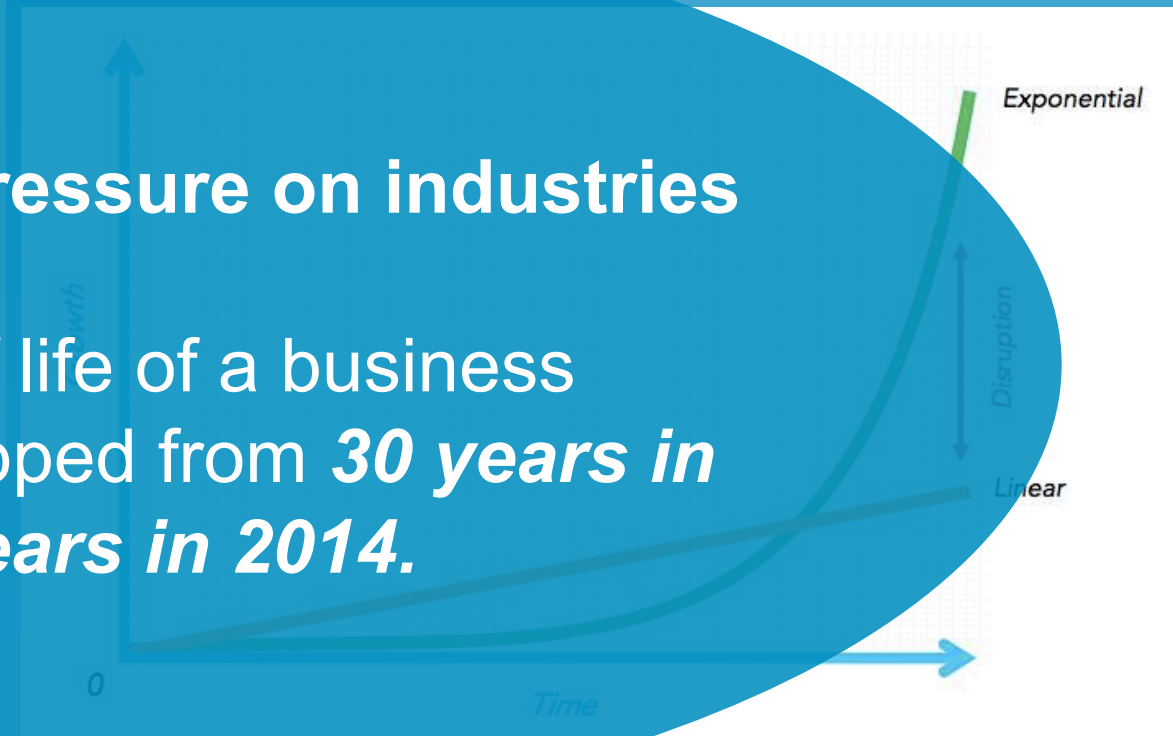




**The result: Strong pressure on industries**

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

Intelligent technologies are the new drivers of economies.



Today's market is changing rapidly.



**SPIEGEL ONLINE**



## Deutsche Fluggesellschaften in der Krise **Die Luft ist raus**



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

Von David Böcking und Martin U. Müller



**NETFLIX**

NETFLIX

**amazon**

Prime instant video

## 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.

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.



**DriveNow**

### Advertorial: Lösungen von VMware Gesundheitswesen im Umbruch

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



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

Jul.12.16 | About: Deutsche Bank (DB)

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**APAC Investment News**

Research analyst, currencies, macro

Send Message

Follow (89 followers)







**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**



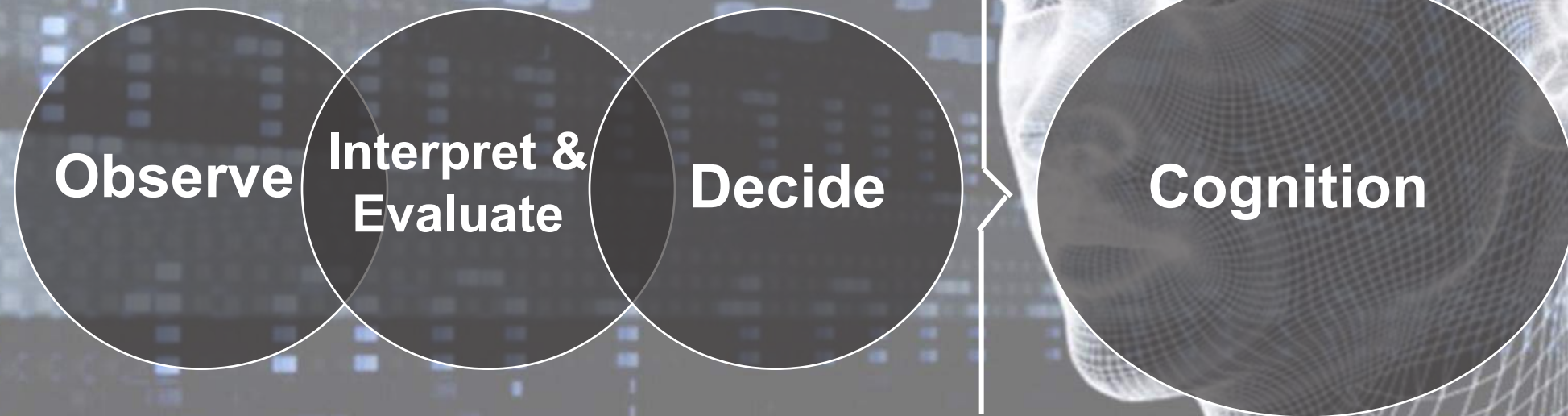
**Master  
Chef**



**Etc.**



# Experts build expertise through cognition






**There are barriers and opportunities associated with building expertise.**





A background image of a surgical team in an operating room. Two surgeons wearing blue scrubs, masks, and hairnets are visible. On the left, a medical monitor displays vital signs, including a heart rate of 58 and a blood pressure of 100. The scene is dimly lit, focusing on the surgical team.

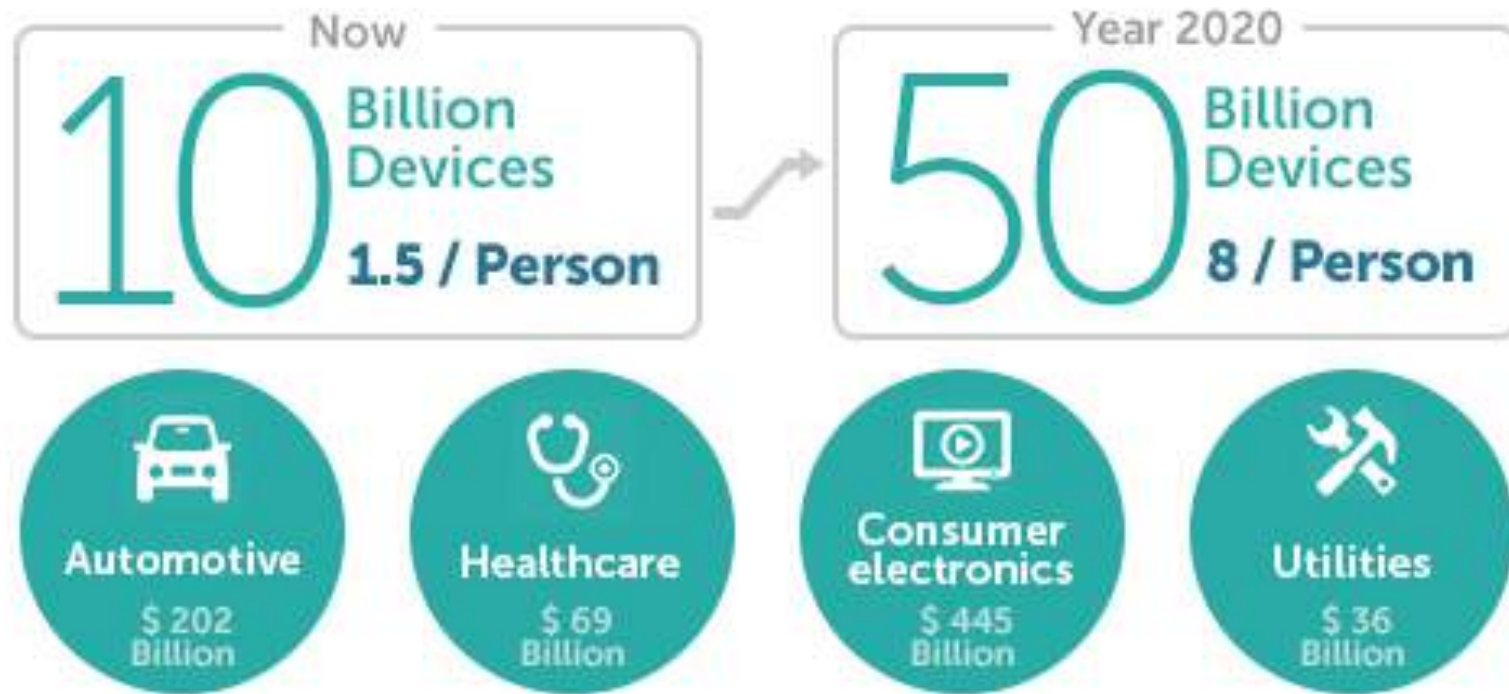
Watson is creating a new partnership between people and computers that **enhances**, **scales** and **accelerates** human expertise.



**„We are just  
in front of a  
New Golden Era“**



## IoT Predictions 2020

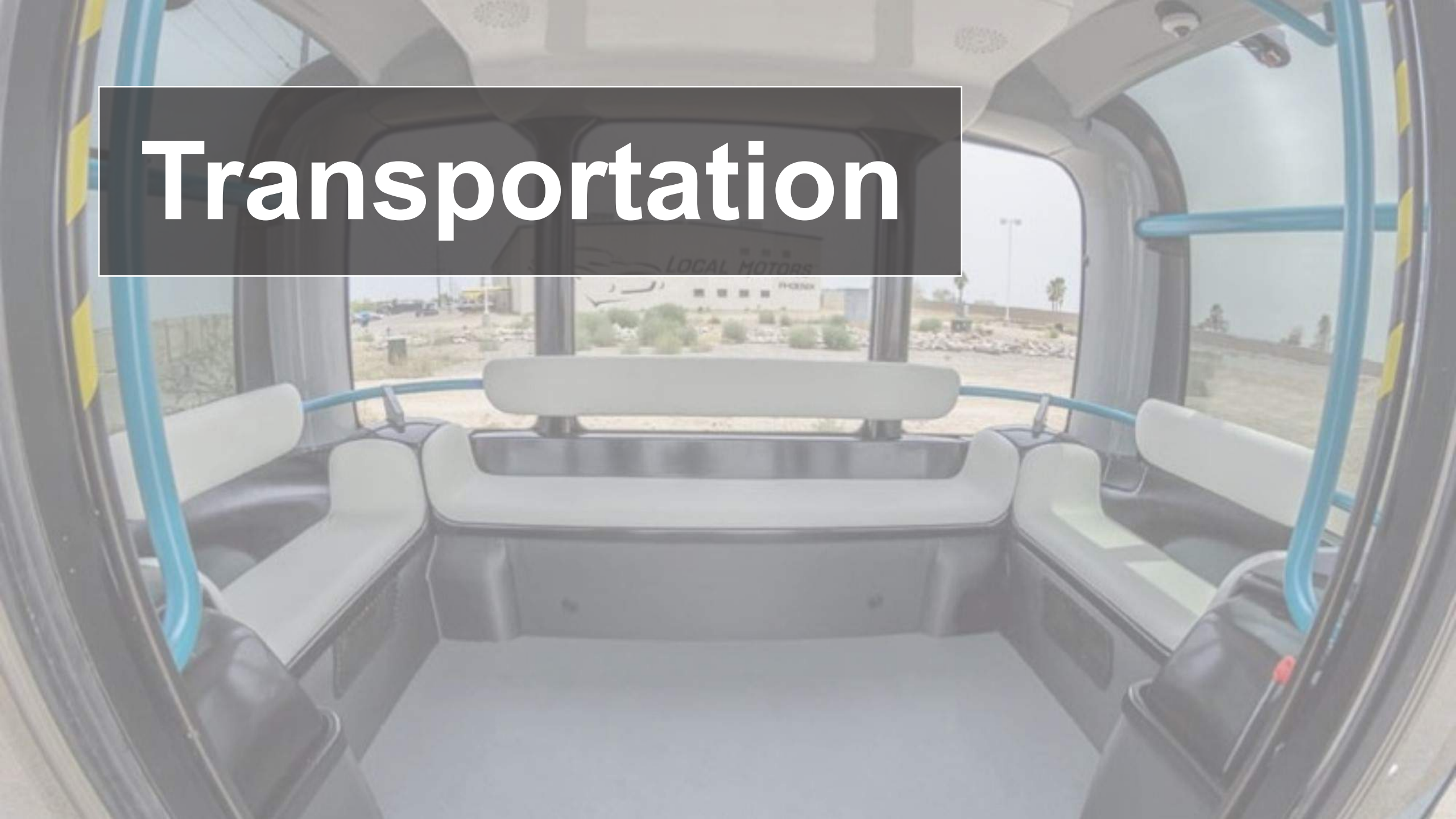






IBM Watson IoT München

# Transportation







- 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



A photograph of a modern building at night, featuring a large glass facade and a prominent white pillar with the text 'Watson Health' written vertically. The building is illuminated from within, and the sky is dark. A semi-transparent dark box with the word 'Healthcare' in white text is overlaid on the right side of the image.

Watson Health

Healthcare

# Enabling ecosystems: insights, data, solutions



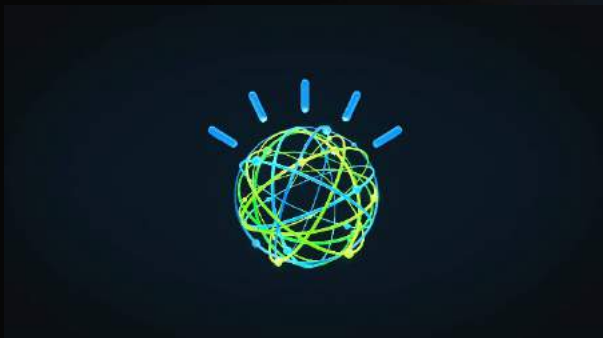
**Insights**  
Cognitive & Advanced  
Analytics

**Individuals  
Researchers**



**Data**

**Structured & Unstructured**



**Solutions**  
IBM & Ecosystem Solutions

**Health Insurance  
Hospitals  
Pharmacist  
Human Services**





# 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

 IBM Bluemix

269

Catalog

Support

Account

All Categories

Boilerplates

Cloud Foundry Runtimes

Containers

Virtual Servers

OpenWhisk

Mobile

Data & Analytics

Watson

Internet of Things

APIs

DevOps


Application Services >


Integrate


Network


Storage


Security


**Blockchain**  
Utilize IBM's Blockchain Technology within Bluemix  
IBM Beta


**Business Rules**  
Enables developers to spend less time recoding and testing when the business policy changes.  
IBM


**Compose for Elasticsearch**  
Elasticsearch combines the power of a full text search engine with the indexing strengths of a  
IBM


**Compose for etcd**  
etcd is a key/value store developers can use to hold the always-correct data you need to coordinate.  
IBM Beta


**Compose for MongoDB**  
MongoDB with its powerful indexing and querying, aggregation and wide driver support, has been  
IBM


**Compose for PostgreSQL**  
Postgres is a powerful, open source object-relational database that is highly customizable.  
IBM


**Compose for RabbitMQ**  
RabbitMQ asynchronously handles the messages between your applications and databases, allowing  
IBM


**Compose for Redis**  
Redis is an open-source, blazingly fast, key/value low maintenance store. Compose's platform gives  
IBM


**Compose for RethinkDB**  
RethinkDB is a JSON document based, distributed database with an integrated administration and  
IBM


**Data Cache**  
Improve the performance and user experience of web applications by retrieving information from  
IBM

**Message Hub**  
IBM Message Hub is a scalable, distributed, high throughput message bus to unite your on-premise  
IBM

**Session Cache**  
Improve application resiliency by storing session state information across many HTTP requests.  
IBM

**WebSphere Application Server**  
Allows you to quickly get up and running on a pre-configured WebSphere Application Server  
IBM

**Workload Scheduler**  
Automate your tasks to run one time or on recurring schedules. Far beyond Cron, exploit job schedulers  
IBM

**APIs from Pitney Bowes**  
Add enterprise-class geodata and commerce technology your application  
Third Party

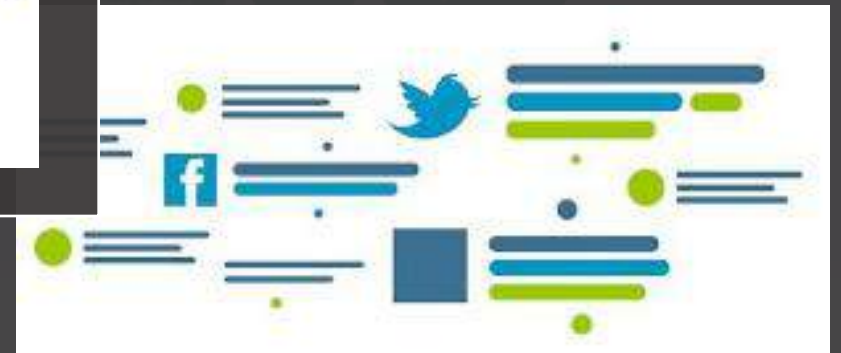


# Watson-as-a-Service



**Retrieve  
and Rank**

**Tone  
Analyzer**



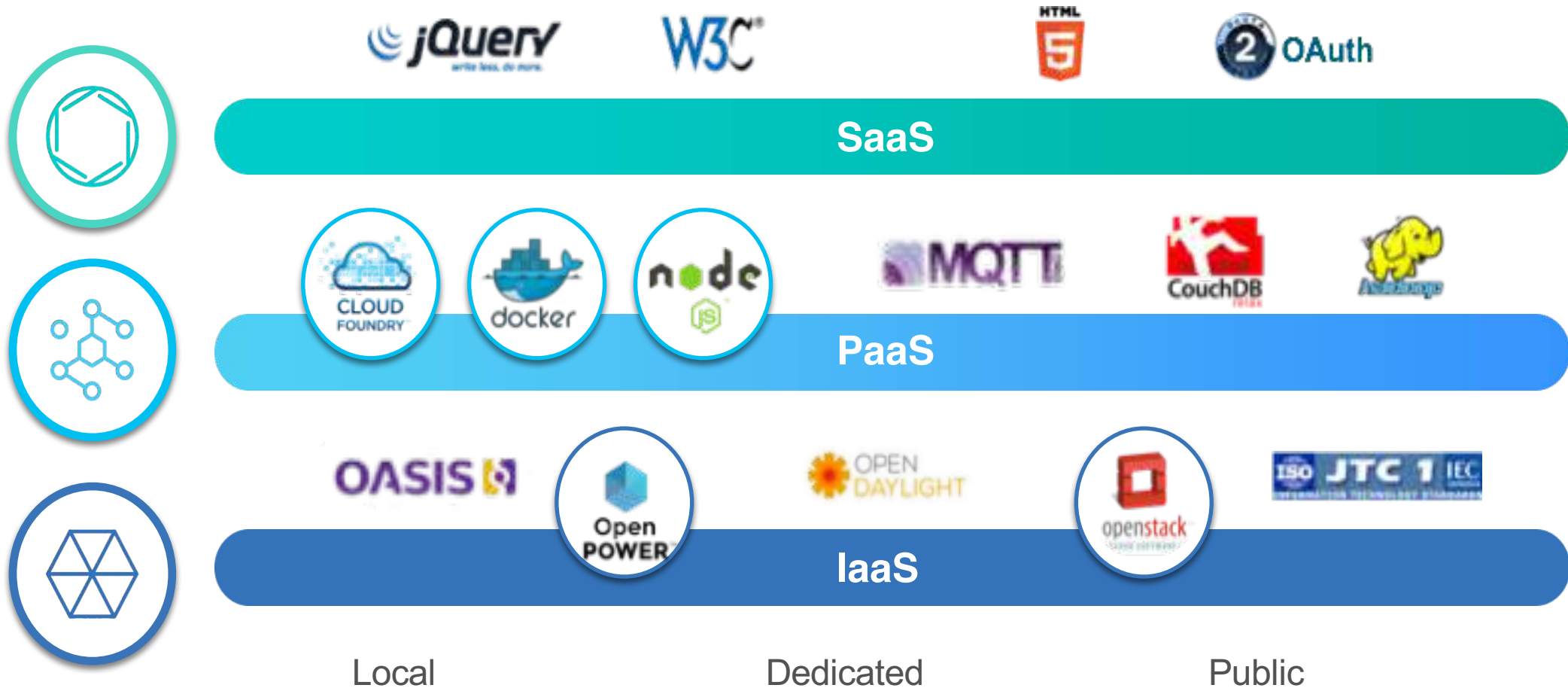
A photograph of Robert LeBlanc, a man with white hair and a mustache, wearing a dark suit jacket over a light blue shirt. He is gesturing with his right hand, palm facing forward, as if speaking. The background is dark with blue geometric shapes and lines. A large blue speech bubble contains the quote.

**“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

**Traditional computers**  
focus on  
language and  
analytical thinking  
(Left brain)

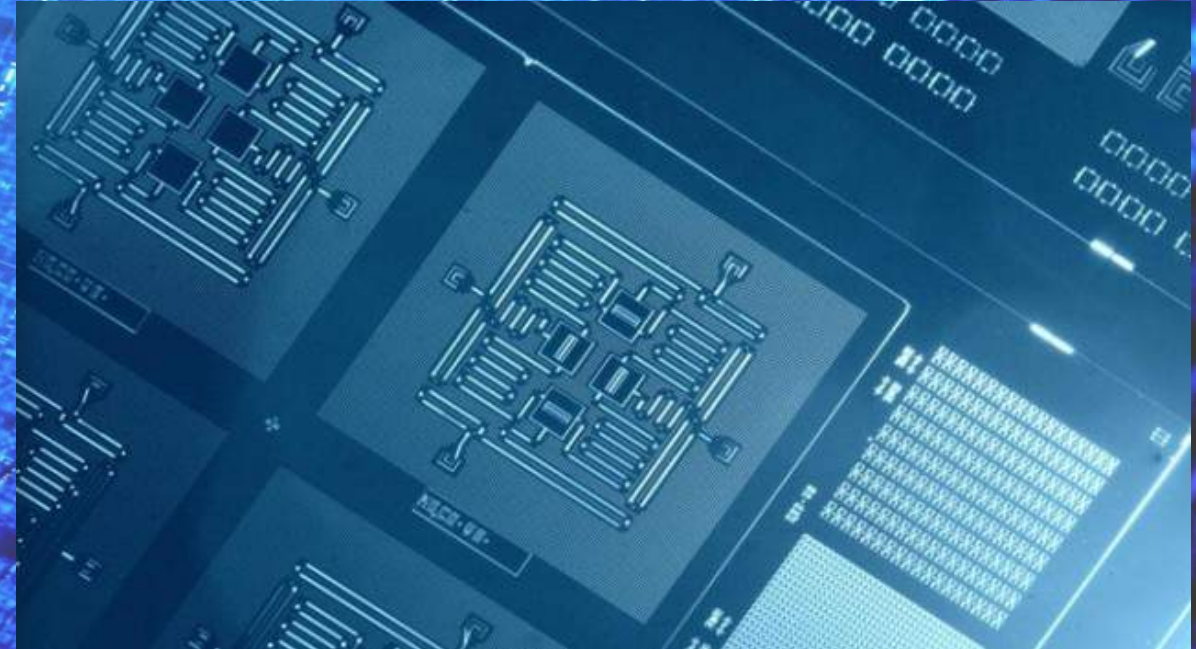


**Neurosynaptic chips** address  
the senses  
and pattern  
recognition  
(Right brain)



Over the coming  
years, IBM scientists  
hope to meld the two  
capabilities together  
to create a **holistic  
computing  
intelligence**

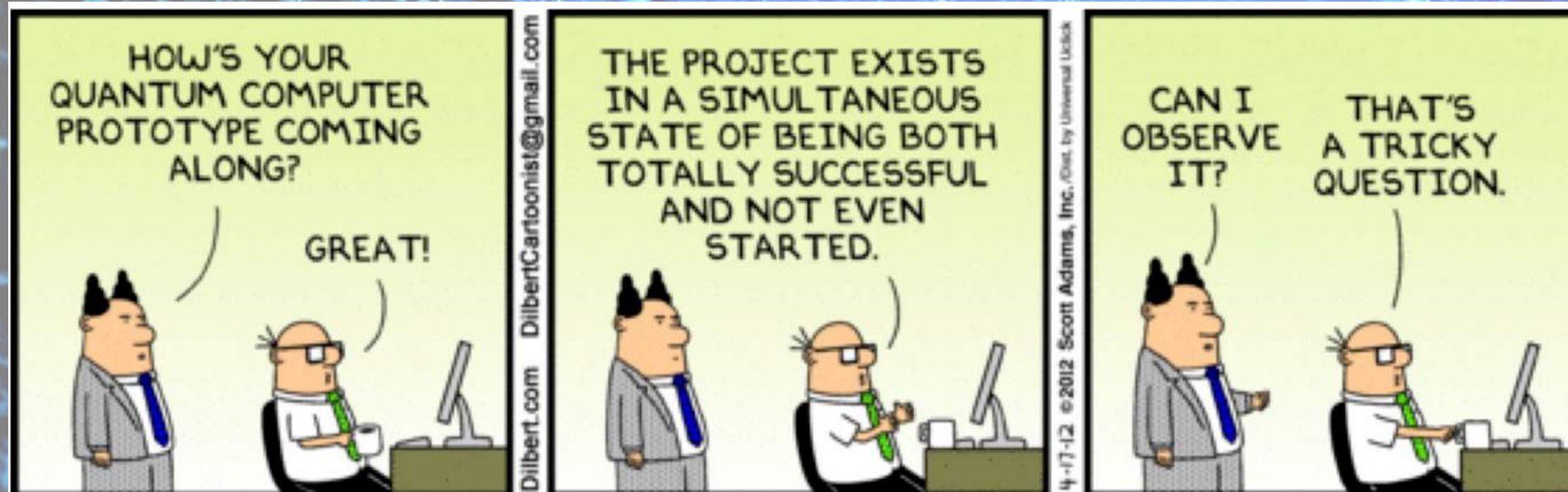
## Quantum computers



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



# Your own experience: Quantum computers

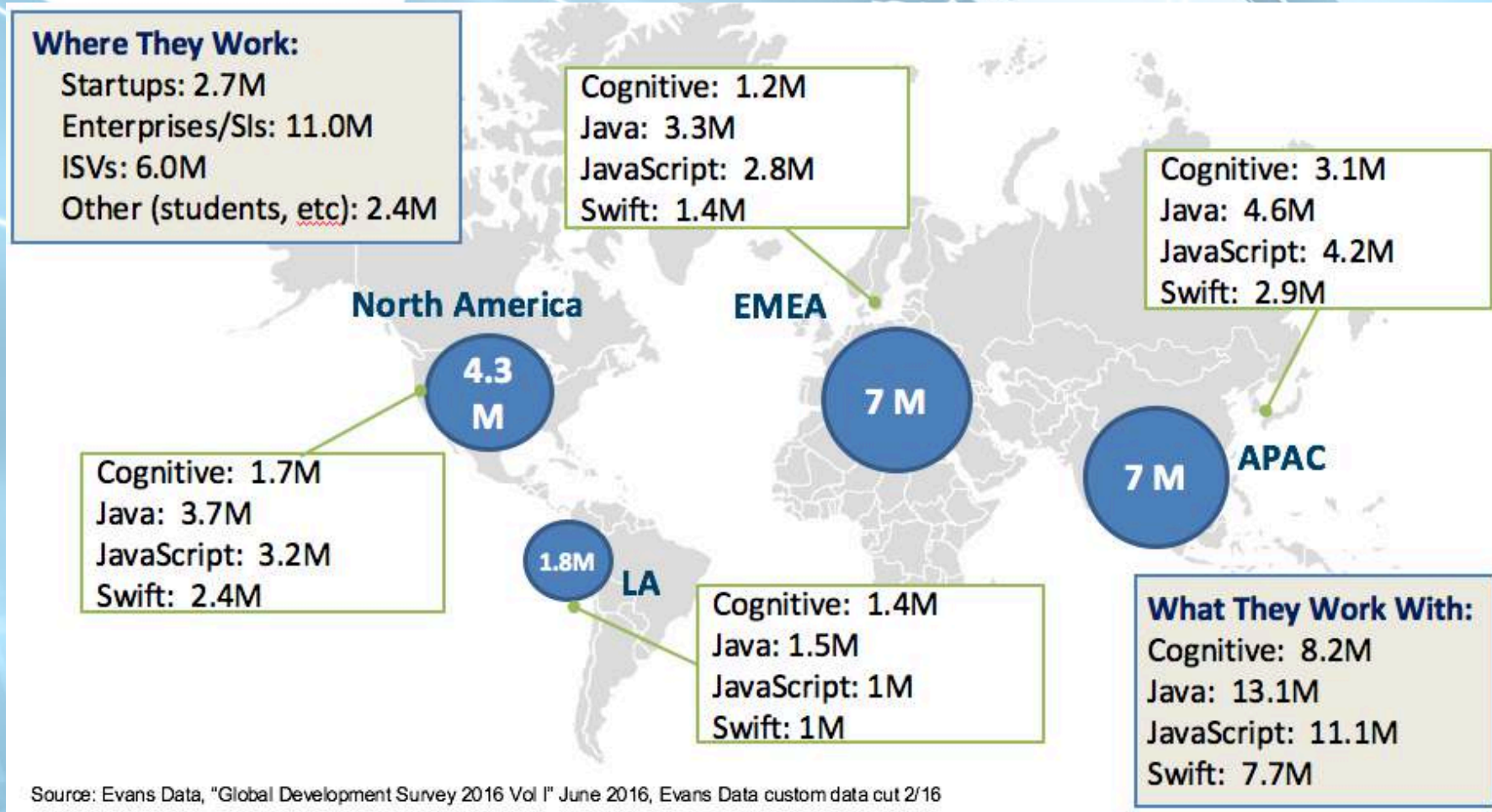








# The power of developers – YOU!



# 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

The background is a collage of various images. At the top, there's a group of people in a room. Below that, on the left, are two small white robots with red accents. In the bottom left, a group of people are gathered around a table. On the right side, there's a close-up of a white robot's head with a circular sensor. The central text is overlaid on two large, semi-transparent ovals, one red and one blue.

1. WALIS - Watson Alzheimer Assistant

2. Naomi

3. PsyCare

1. Team Alexa

2. Puppy Master

3. VR conversation trainer



# Learn more - join us

## Read more

- [ibm.com/cognitive/](https://ibm.com/cognitive/)
- [ibm.com/blockchain/](https://ibm.com/blockchain/)
- [developer.ibm.com/open](https://developer.ibm.com/open)
- **Quantum experience:** [research.ibm.com/quantum/#start](https://research.ibm.com/quantum/#start)
- **Developer certification:** [ibm.com/watson/developer-conference/certification.html](https://ibm.com/watson/developer-conference/certification.html)
- **Cookbooks:** [developer.ibm.com/recipes/](https://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](http://www.ibmchefwatson.com)

COGNITIVE



COOKING





Michael A. Maier

Vice President

Head of Branch Office IBM Berlin

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Thank you!