Business Processes "AI Driven"

how technology is changing the way companies design business processes

A CASE OF APPLICATION IN PHARMACEUTICAL INDUSTRY

November, 16 2020 - Marco Menichelli

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Present

Past

1. Artificial Intelligence

➔ **Definition**
Artificial intelligence (or AI) is an area of **Computer Science** that aims to create intelligent machines that think and learn like humans.

➔ **My Definition**
Artificial intelligence (or AI) is a **Multidisciplinary science** that aims to create a new intelligent life form able to learn, think and react better than humans.

—

Why is AI a multidisciplinary science?

To develop a true Artificial Intelligence, we must first know how the human mind works

What We Need To Know

- Psychology (Cognitive, transcultural, evolutionary, etc.)
- Linguistics
- Communication Sciences
- Philosophy
- Neurobiology
- Maths
- Computer Sciences.

If it were easy, everyone could have done it

AI Branches and macro-application fields

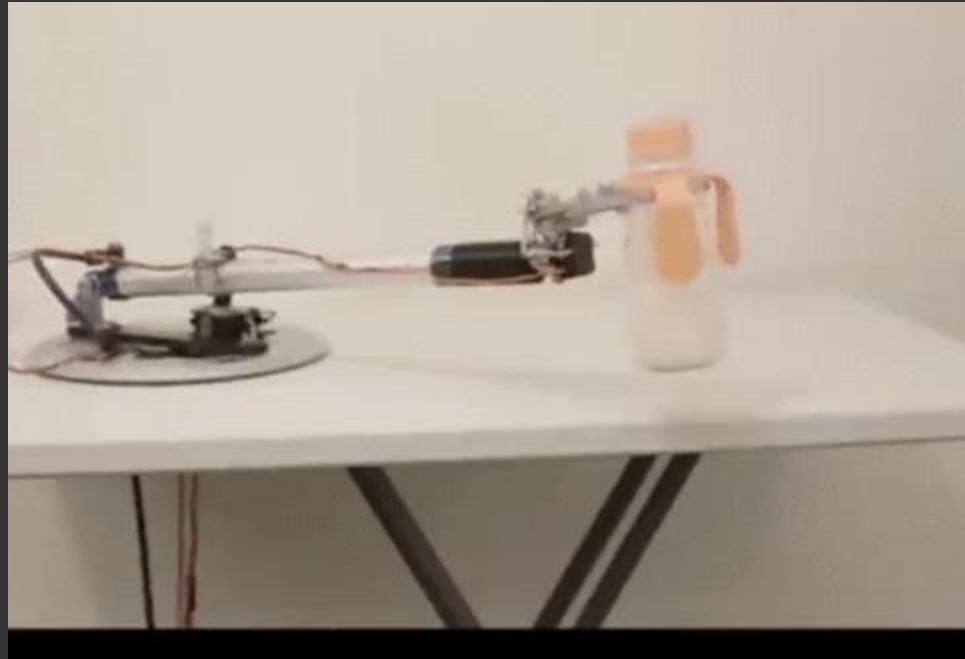There are branches of AI for every task that a man is able to perform

Branches of-AI by application

www.gogeometry.com

Question:

So, does it really work?
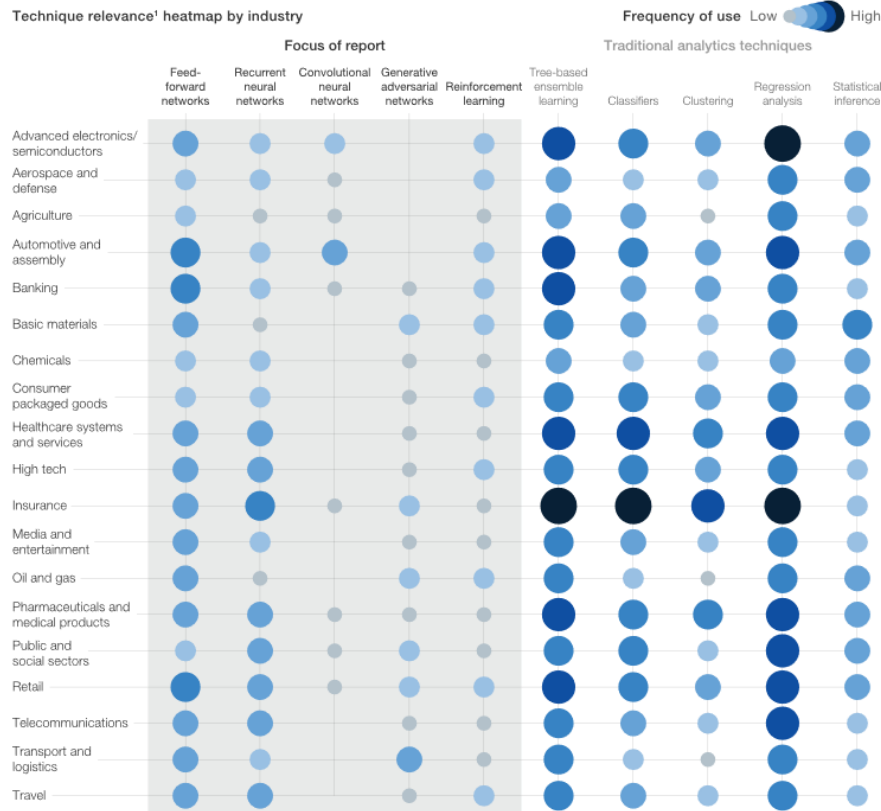
2. AI and Industry

→ **How**
How AI is used in the market today

→ **Why**
Why is AI used

How AI is used in the market today?

Advanced deep learning artificial intelligence techniques can be applied across industries, alongside more traditional analytics.
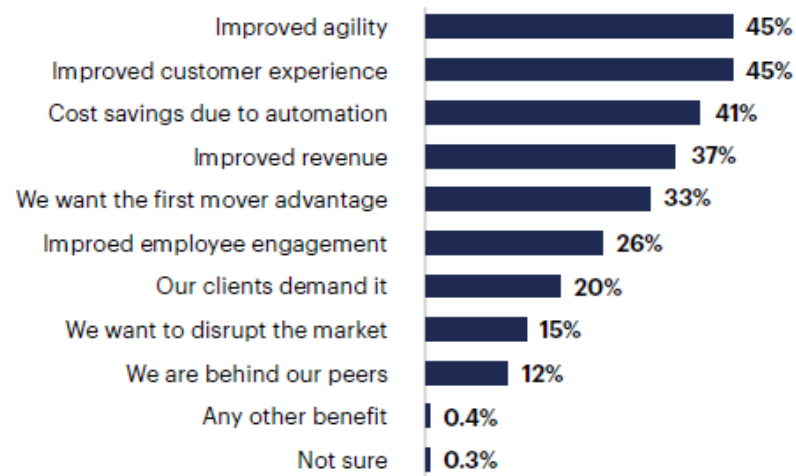
Technique relevance[1] heatmap by industry

Frequency of use: Low ▬ High

	Focus of report					Traditional analytics techniques				
	Feed-forward networks	Recurrent neural networks	Convolutional neural networks	Generative adversarial networks	Reinforcement learning	Tree-based ensemble learning	Classifiers	Clustering	Regression analysis	Statistical inference
Advanced electronics/semiconductors										
Aerospace and defense										
Agriculture										
Automotive and assembly										
Banking										
Basic materials										
Chemicals										
Consumer packaged goods										
Healthcare systems and services										
High tech										
Insurance										
Media and entertainment										
Oil and gas										
Pharmaceuticals and medical products										
Public and social sectors										
Retail										
Telecommunications										
Transport and logistics										
Travel										

[1]Relevance refers to frequency of use in our use case library, with the most frequently found cases marked as high relevance and the least frequently found as low relevance. Absence of circles indicates no or statistically insignificant number of use cases.
Note: List of techniques is not exhaustive.

McKinsey&Company | **Source:** McKinsey Global Institute analysis

Why AI is critical?

Why AI Technology is Critical
Percentage of Respondents

Reason	Percentage
Improved agility	45%
Improved customer experience	45%
Cost savings due to automation	41%
Improved revenue	37%
We want the first mover advantage	33%
Improed employee engagement	26%
Our clients demand it	20%
We want to disrupt the market	15%
We are behind our peers	12%
Any other benefit	0.4%
Not sure	0.3%

Base: Answered Artificial Intelligence (AI) Section and at least 1 technology is critical for the organization to develop, n = 705
Question: What are the top 3 reasons why AI technologies are critical to your organization? Multiple responses allowed.
ID: 378559

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3. Some Use Cases

→ **Italian Big Telco**
   Gradual use of AI systems

→ **DeepHound L.t.d**
   The Augmented Intelligence

→ **SyntLife Corp**
   Automated business processes
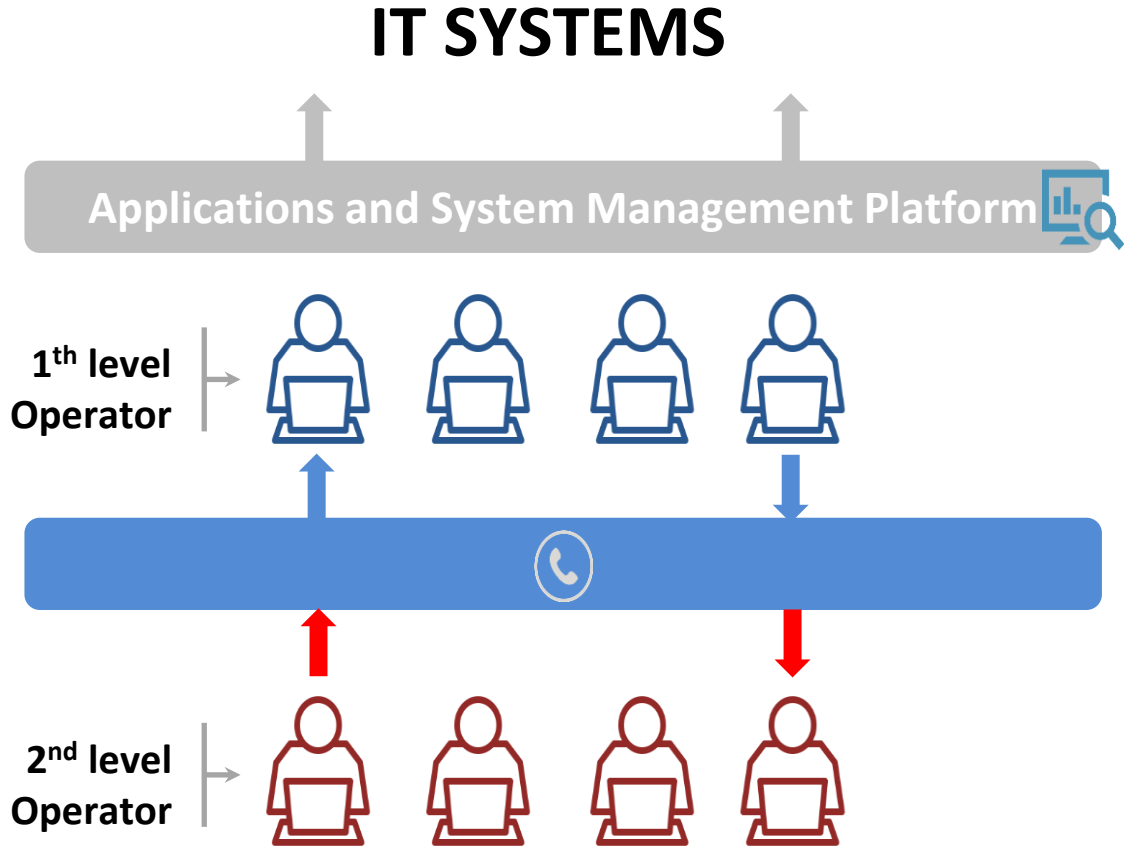
Customer:

An italian Big Telco

Business Process:

IT Customer Service

personnel involved:

300 1th level Operators

150 2nd level Operators
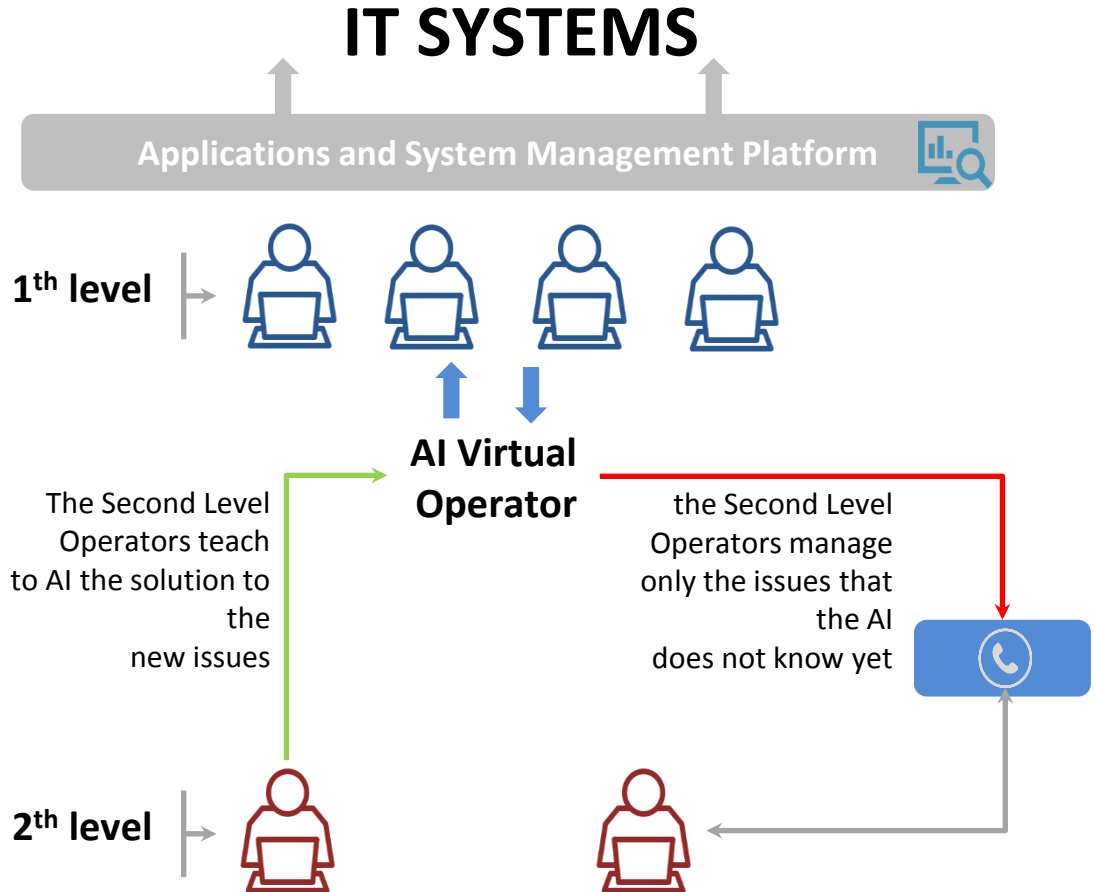
Average time to solve a technical problem : 8 hours

IT SYSTEMS

Applications and System Management Platform

1th level Operator

2nd level Operator

Business Process:

IT Customer Service

personnel involved:
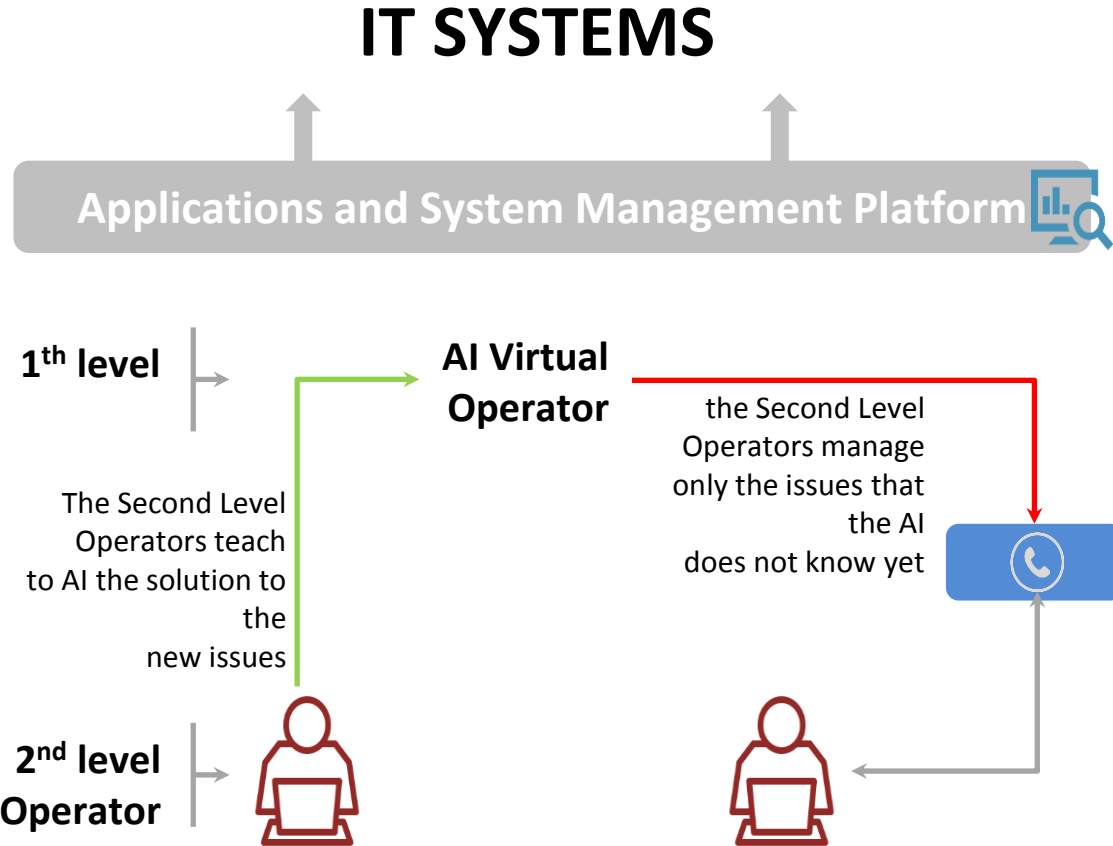
300 1th level Operators

60 2nd level Operators

Average time to solve a

technical problem : 4 hours

IT SYSTEMS

Applications and System Management Platform

1th level

AI Virtual Operator

The Second Level Operators teach to AI the solution to the new issues

the Second Level Operators manage only the issues that the AI does not know yet

2th level

Business Process:

IT Customer Service

personnel involved:

0 1th level Operators

60 2nd level Operators

Average time to solve a

technical problem : 2 minutes

IT SYSTEMS

Applications and System Management Platform

1th level

AI Virtual Operator

the Second Level Operators manage only the issues that the AI does not know yet

The Second Level Operators teach to AI the solution to the new issues

2nd level Operator

Business processes of new companies, can be designed already automated, and therefore, optimized.

New rule

Existing business processes can be renewed, but new business processes must be born already optimized

Customer:

DeepHound

Augmented Intelligence

Customer:

Summing Up

- Business processes can be optimized with technology
- Technology, if well chosen and integrated, saves time, money and satisfies the end customer
- When designing new business processes, technology must be integrated, otherwise you risk designing something that is already old
- Technology must be integrated gradually

BONUS TRACK:

Launch of a new pharmaceutical product and of an entire company

A number of Research Institutes and Universities worldwide have been working with SIRT500 sagl

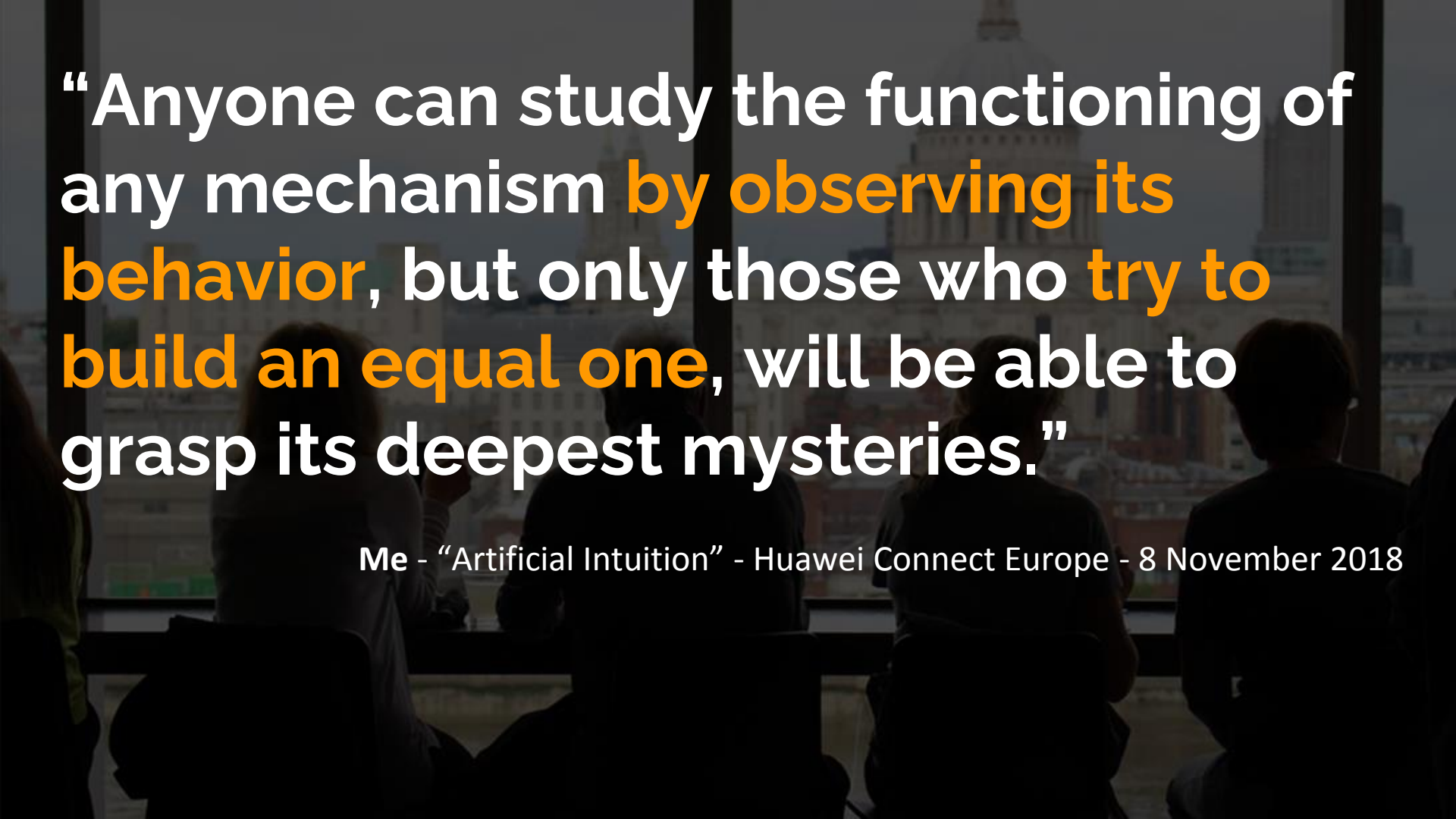| Switzerland	Australia	United States	Italy	United States	Italy	Italy
Lousanne Federal Polytechnic School	NSW Research University	Chicago University	Rome University La Sapienza	Miller School of Medicine University of Miami	San Raffaele Institute of Rome	Istituto Superiore di Sanità (ISS) Rome

"Anyone can study the functioning of any mechanism **by observing its behavior**, but only those who **try to build an equal one**, will be able to grasp its deepest mysteries."

Me - "Artificial Intuition" - Huawei Connect Europe - 8 November 2018

Thank you!