



ZHAW – 1st European Workshop for ML-based Solutions for Finance

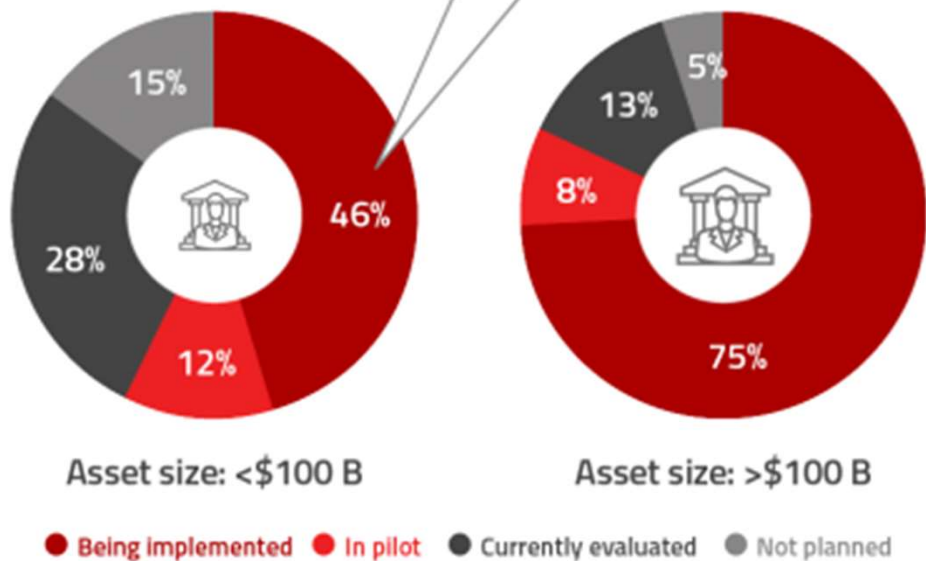
Artificial Intelligence in Finance – A Journey of some Real Business Applications and why it is beneficiary

Sandro Schmid

A.I. in Finance

A.I. in Banking broadly covered - Really ?


AI maturity in banking
depends on size of organization



- Which corporate level?
 - Group / BU / OE / etc.
- Which services reflected?
 - Payment, loans, etc.
- Level within process?
 - In silos or front to end etc.
- But based on which Definition?
- Etc.

A.I. in Finance

A.I. Barely Implemented in Finance – A Hype?



November 2018: The recent hype about emerging technologies such as A.I. sharply contrasts with today's business reality.

June 2019: "... We found a lot of boards didn't really understand A.I., and they were asked to make decisions about implementing A.I. ..."

Kay Firth-Butterfield, the WEF's machine learning chief.

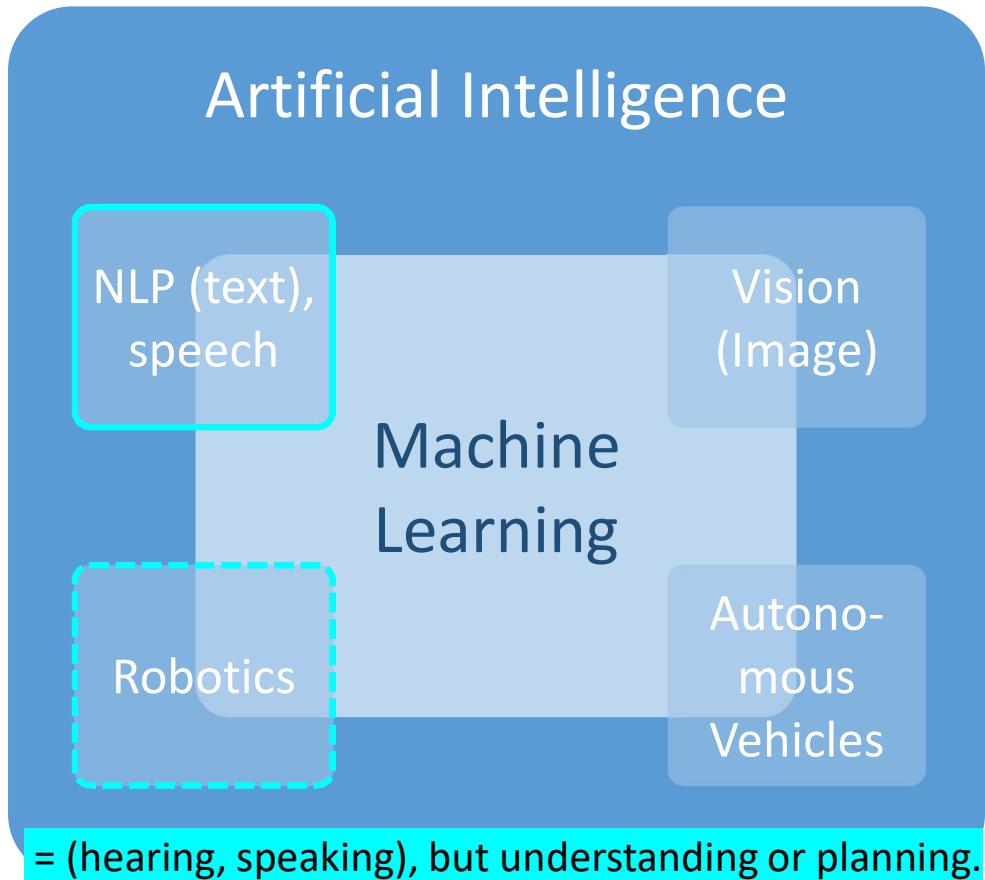
A.I. in Finance – A Myth?

A.I. Definitions: What can be Implemented in FS Industry?

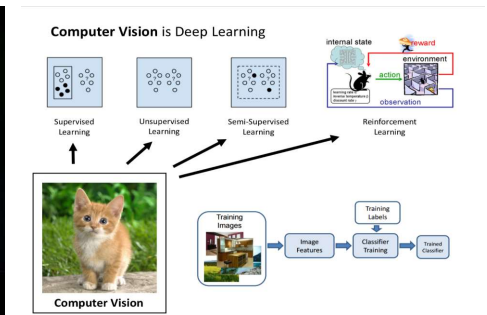
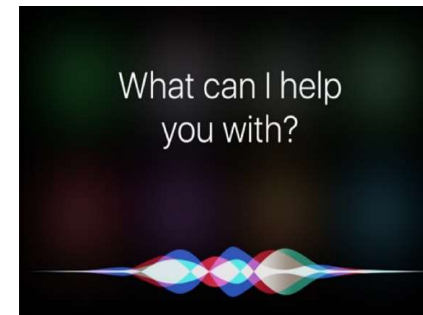
- Artificial Intelligence is defined as the theory and development of computer systems that perform tasks that normally require human intelligence such as hearing, speaking, understanding or planning. In A.I., algorithms enrich machines with cognitive functions in order to enable them to perceive their environment and turn inputs into actions. (PWC/UBS)
- The English Oxford Living Dictionary: “The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.”

A.I. in Finance – A Myth?

With A.I. in Finance, it is mainly Machine Learning



9/2/2019



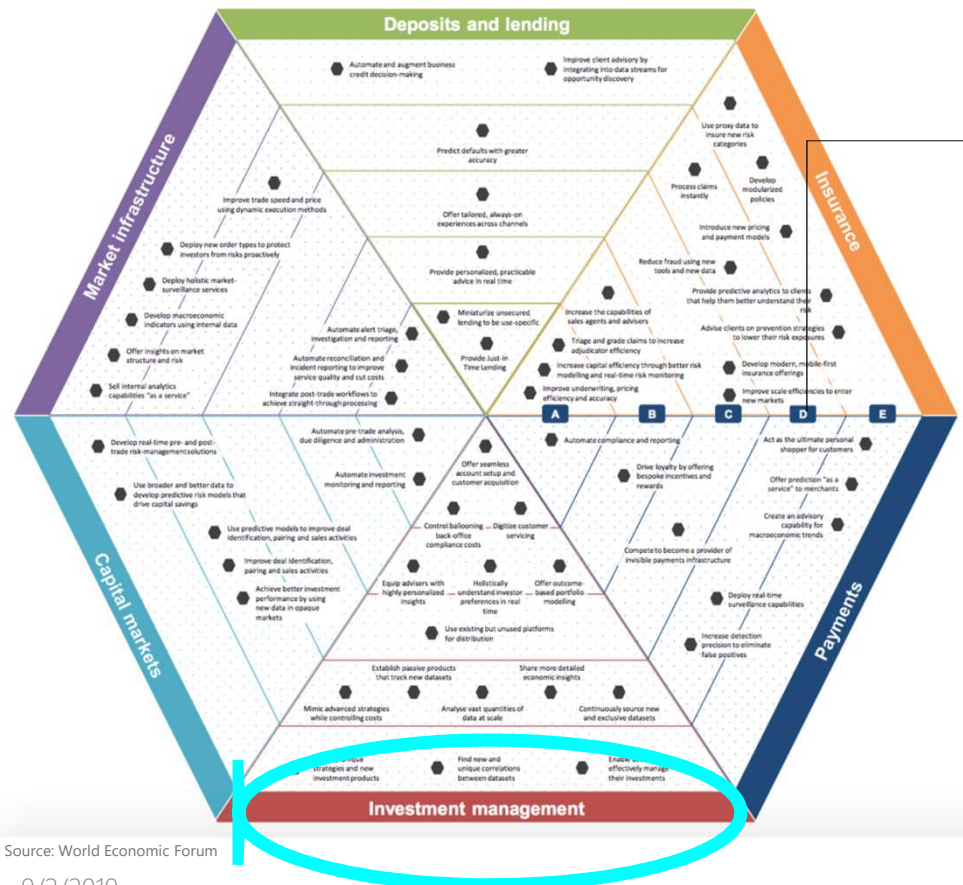
So, what's in for Finance ?



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ML has wide-ranging possible Applications (Source WEF & Deloitte)

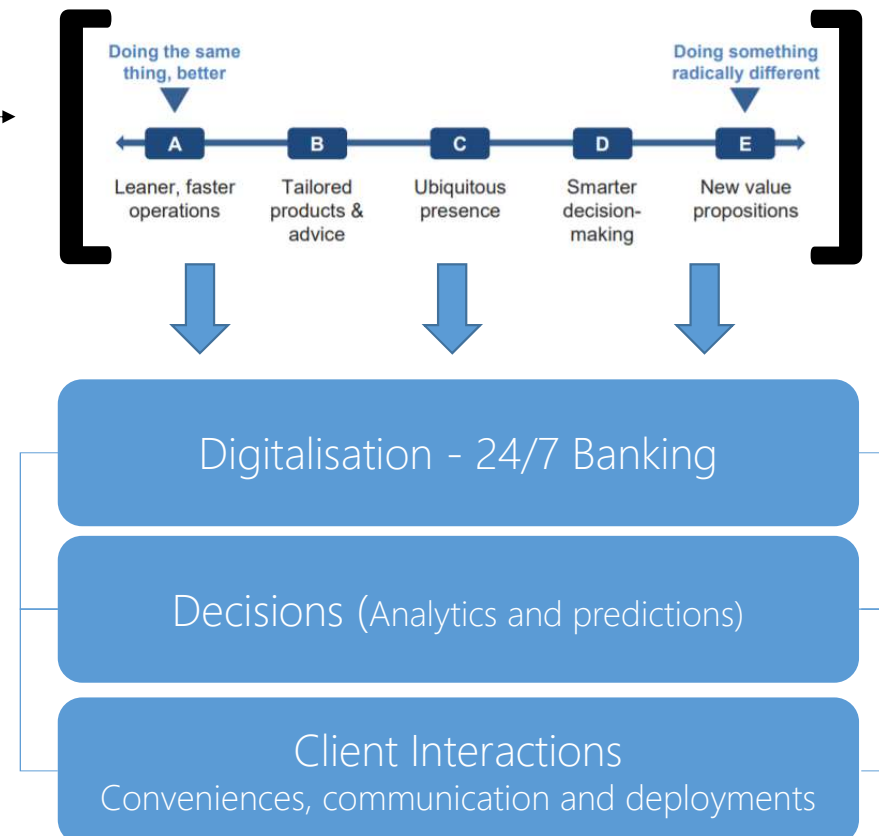
Finance Activities



Source: World Economic Forum

9/2/2019

Possible Use Cases



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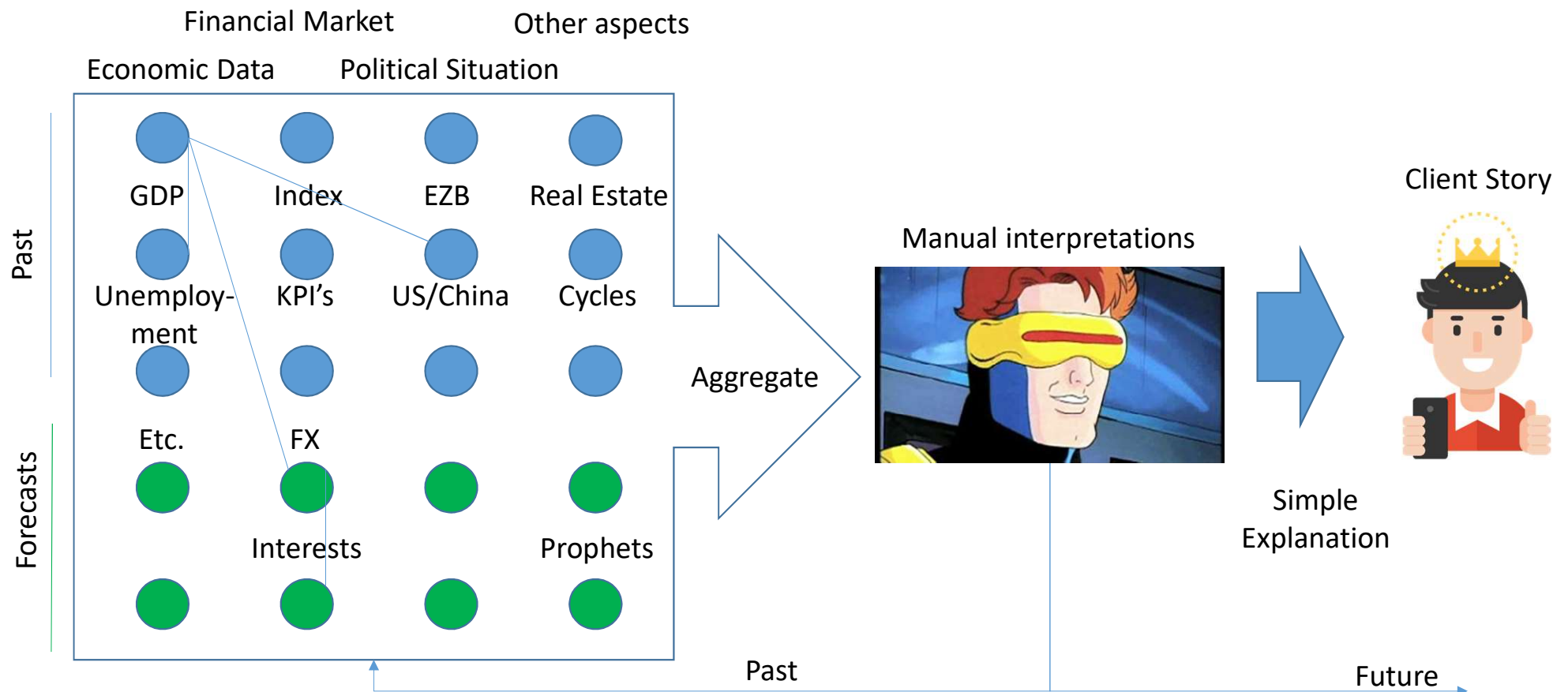
A.I. Claims in 2018 by JPM

The J.P. Morgan logo, featuring the text "J.P.Morgan" in a black serif font, centered within a solid blue rectangular background.

***Machines are best equipped to make trading
decisions in the short and medium term!***

A.I. in Finance

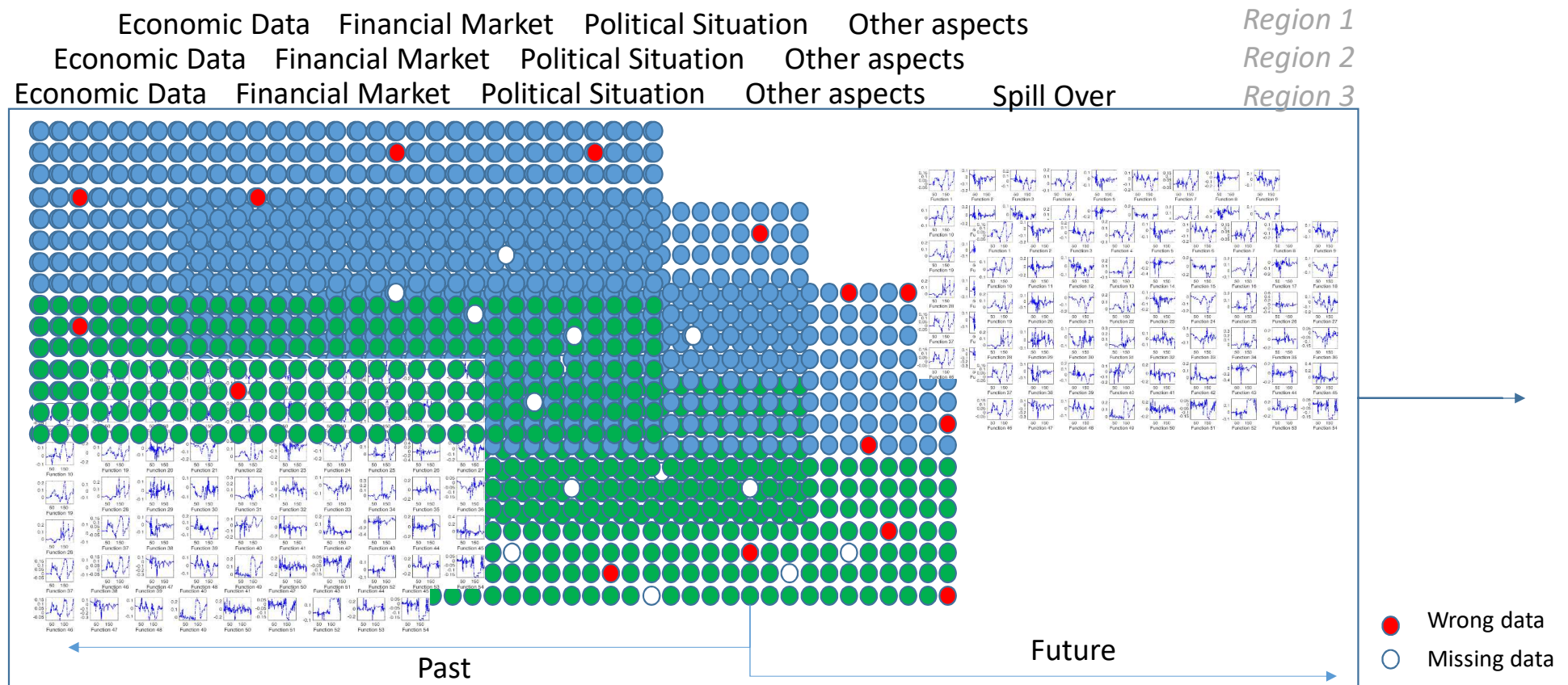
New Field for ML, Example 1: Macro Market Analytics for Investment Decision



8/29/2019

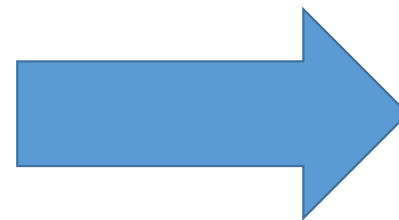
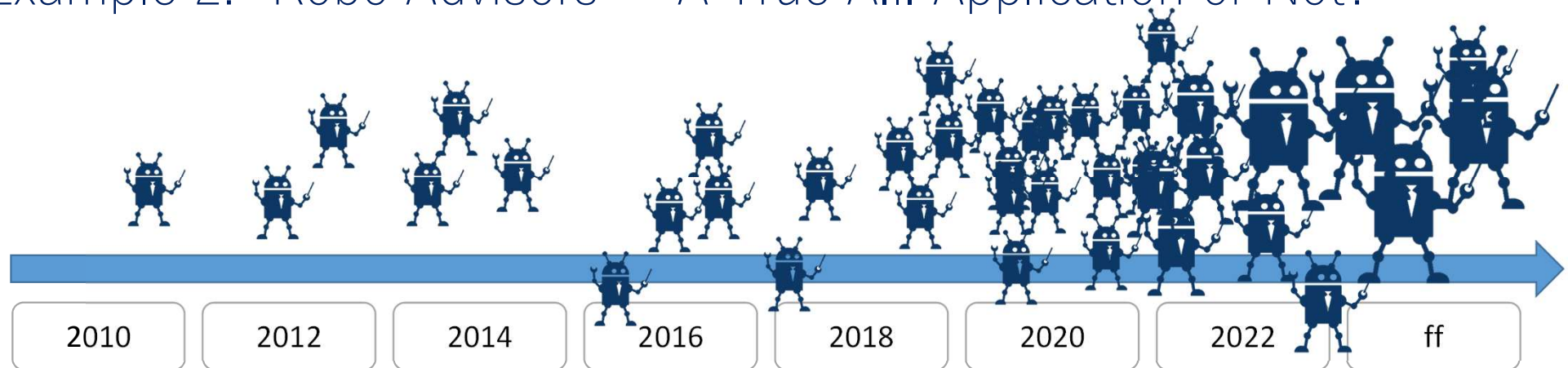
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Reality to Capture Markets for Decisions is Much More Complicated

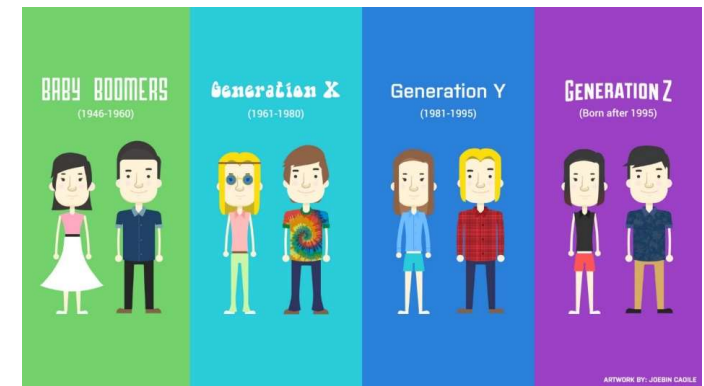


A.I. in Finance

Example 2: “Robo Advisors” – A True A.I. Application or Not?

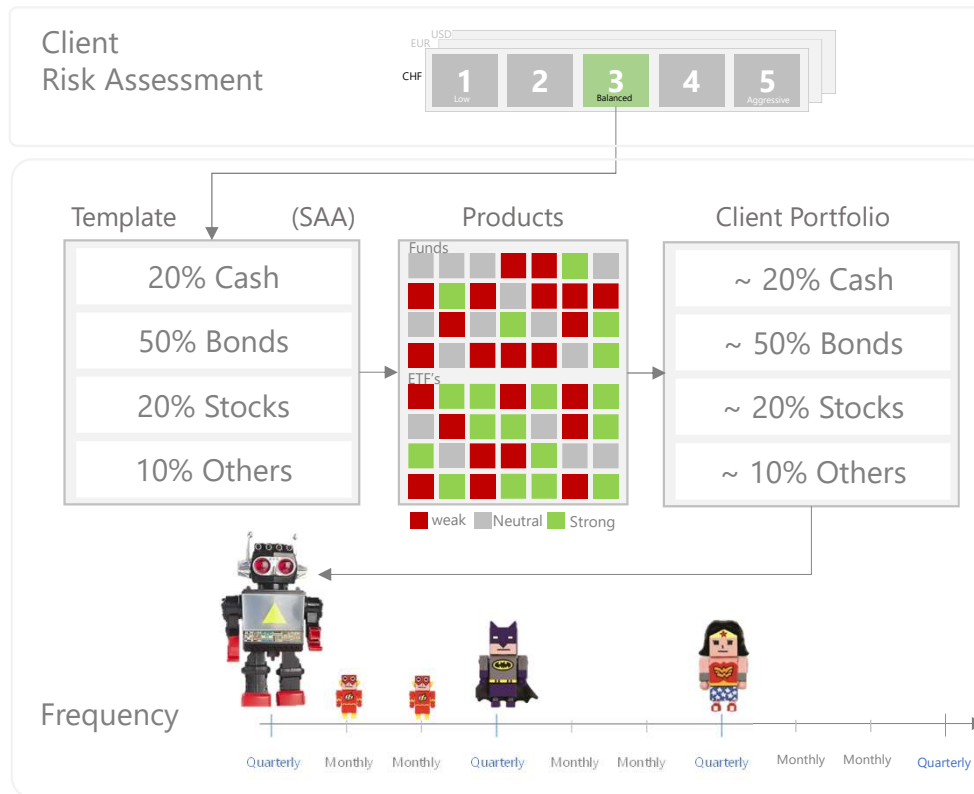


66% fire
traditional advisor



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Current Robo Advisors Are Mainly Static Matrices



Current “Robo’s” VS A.I./ML

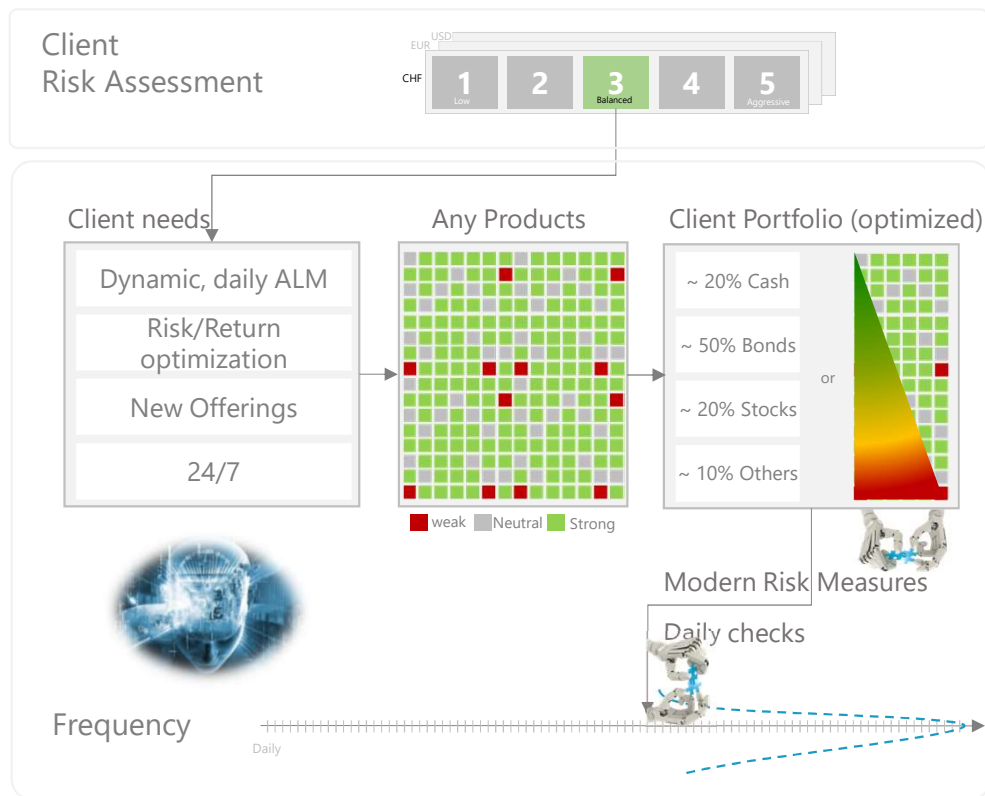
A.I.

- Apply standard SAA – Connectors not clear NO
- Offer mainly small investment universe, often funds and ETF’s, no QR filter NO
- Results often underperform NO
- Portfolio risks are derived based on SAA NO
- Re-balancing is static based on SAA NO
- Advice is static NO
- Push-Messages often poor (simple) NO
- No/low quantifications included NO

So, WHY a complex method for a Simple Problem?

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A.I. Potential in Robo Advisory is Huge, but not yet Offered



Real Robo's:

- Handle individualized client portfolios, non standardized SAA
- Offer different frequencies, starting with daily
- Offer broad range of assets, reflecting of client investment desire
- Portfolio risks are measured on single product with modern risk measures
- Quantitative optimization runs daily and propose daily/weekly/monthly/quarterly smart investment decisions

A.I.

YES

YES

YES

YES

YES

MORE EXAMPLES



== PLEASE ==

A.I. in Finance

First A.I.-based Real Estate Fund by E. Rothschild & AAAccell

ICLG.com > IBR Articles > Edmond de Rothschild embraces AI platform for property investment



Edmond de Rothschild, which boasts €150 billion in assets under management, has inked its first deal for a property fund that uses artificial intelligence (AI) to identify investment targets across key European cities.

The investment firm's Smart Estate Fund made its first acquisition with an office building in Levallois-Perret, a suburb in the northwest of Paris.

Edmond de Rothschild is working with French company Valream to buy and redevelop the vacant building.

In a statement, Edmond de Rothschild said: "This building is set to become a company headquarters and will therefore fulfil the strategic requirements for a first class tenant."

Senior members of the Rothschild dynasty and directors of the Franco-Swiss private bank Edmond de Rothschild backed the launch of an AI-driven wealth management platform through its private equity division in April.

The firm said its AI system uses traditional research coupled with an algorithm developed by FinTech company AAAccell - the latter being a spin off from the University of Zurich.

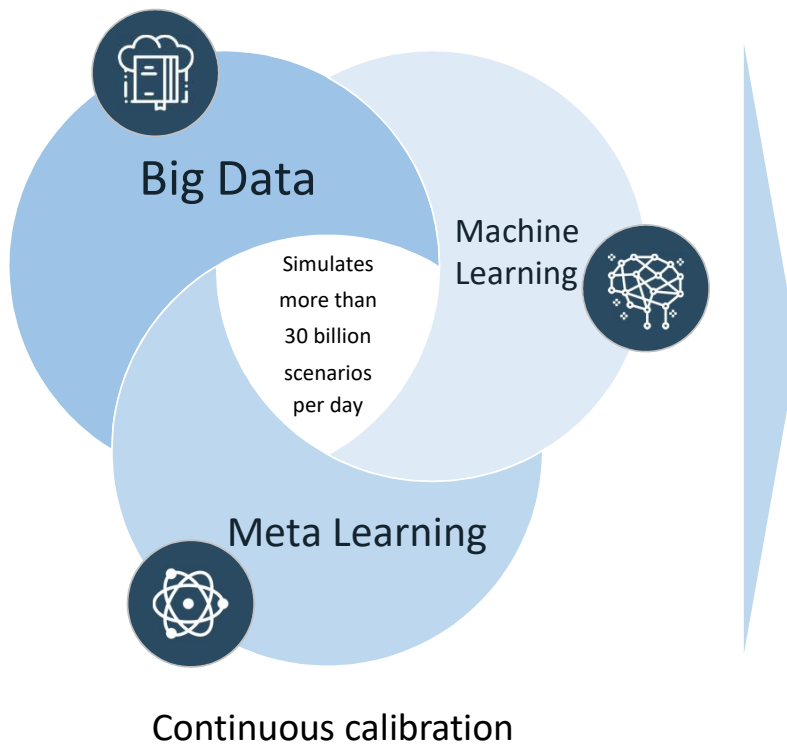
Methodology

The methodology is based on an analysis of thousands economic and demographic indicators using machine learning. The methodology diversifies by mixing artificial intelligence models and aims at supporting decisions by:

- using large amounts of data and complexity which are too large to handle for humans
- exhibiting no bias or prejudice – the machine is programmed and tested
- Challenging the results using alternative estimation methods
- by challenging the results by a summary of classic recommendations of varying providers

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First A.I.-based FX Hedging Platform by LPA & AAAccell



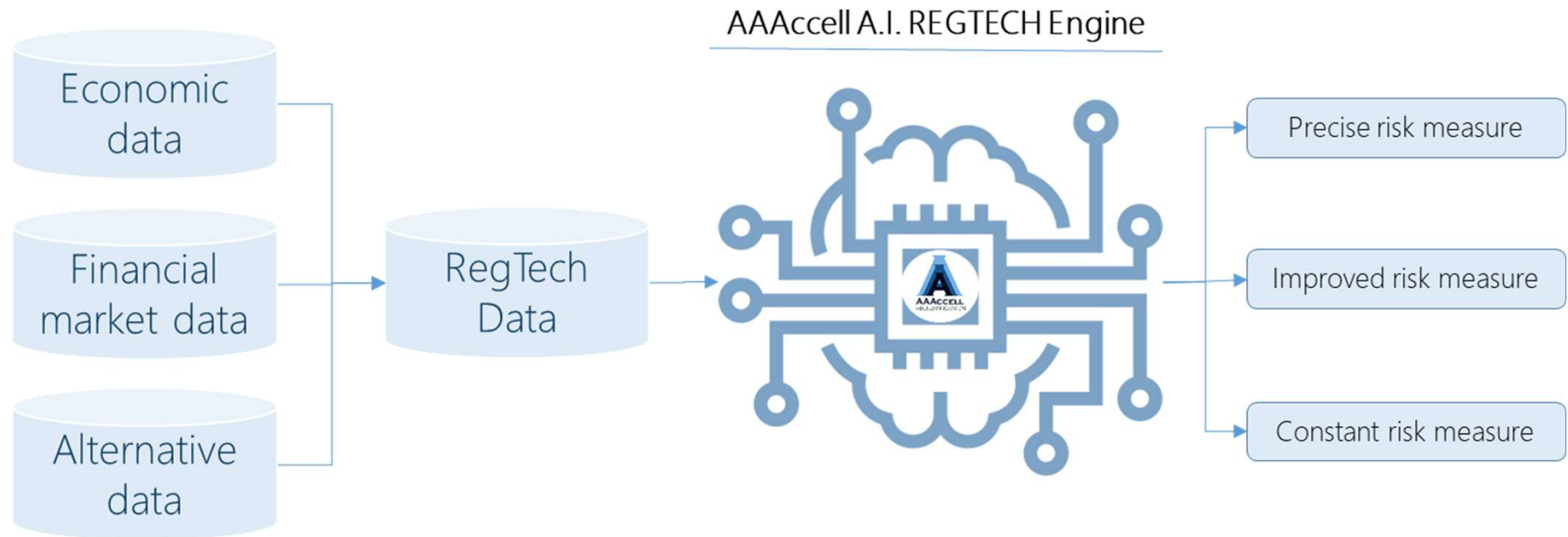
In partnership with **lpa**

AAAccell: Trusted Innovation

A.I. in Finance

First A.I.-based RegTech PRIIPS tool by AAACcell (Global Top 100 RegTech Solution)

Pooling worldwide data on asset classes, market instruments and a wide variety of economic data. The engine was built on derivatives and combinations of tree-based machine learning as well as differential evolution optimization, using thousands of risk factors.



A.I. in Finance

Yes – Everywhere Possible, but still a long way to go

UBS and PWC:

- In the financial services industry, **all domains and processes may be affected by A.I.** – from customer service and engagement to investment and trading, cyber risk and security, regulatory affairs and compliance, to operations such as recruiting, contract analysis or IT support and infrastructure management.
- However, the maturity curve has not yet reached its peak, and there are still many years to enterprise readiness in most areas of A.I..

A.I. in Finance Summary Remarks

Not engaging with A.I. is a **High Risk Approach**! With A.I., companies:

- Better analysing large data for Analytics and Predictions
- Ability to offer active reactive and client centric tools rather than passive processes
- Move from Passive to Generative to Intuitive Advice
- Ability for digitalisation, 24/7, full automation (100% STP)
- Enter into the "Augmented Age"

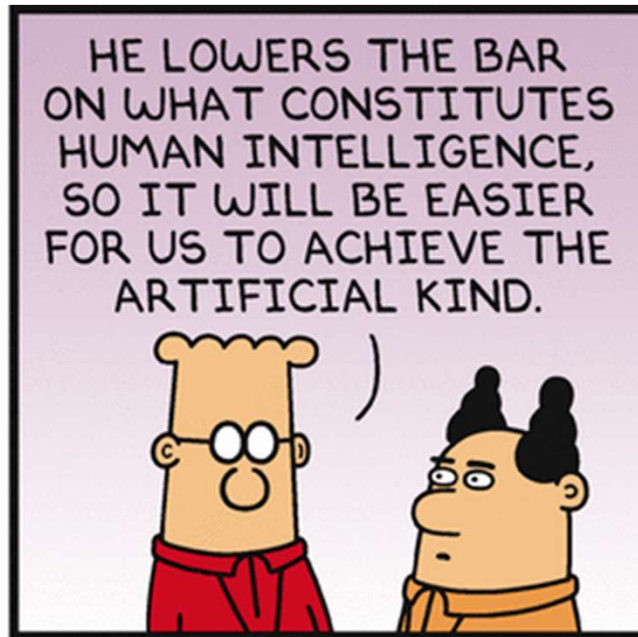
But we are at the beginning and it is tough (overestimating, bias development, data, etc.)

The Use of A.I. in Banking is Set to Explode

A.I. in Finance
Good Old Dilbert.com



DILBERT.COM @SCOTTADAMSSAYS



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