Leiðandi
vettvangur í tíu ár

Unknown knowns

Can technical advances become an important part of fisheries science?

Páll Snorrason

Managing Director Eskja hf.

SJÁVARÚTVEGS
RÁÐSTEFNAN

ISI ICELAND SEAFOOD · TM · iTUB · BRIM · HAMPIÐJAN · Hvítá Ohásid

ESKJA

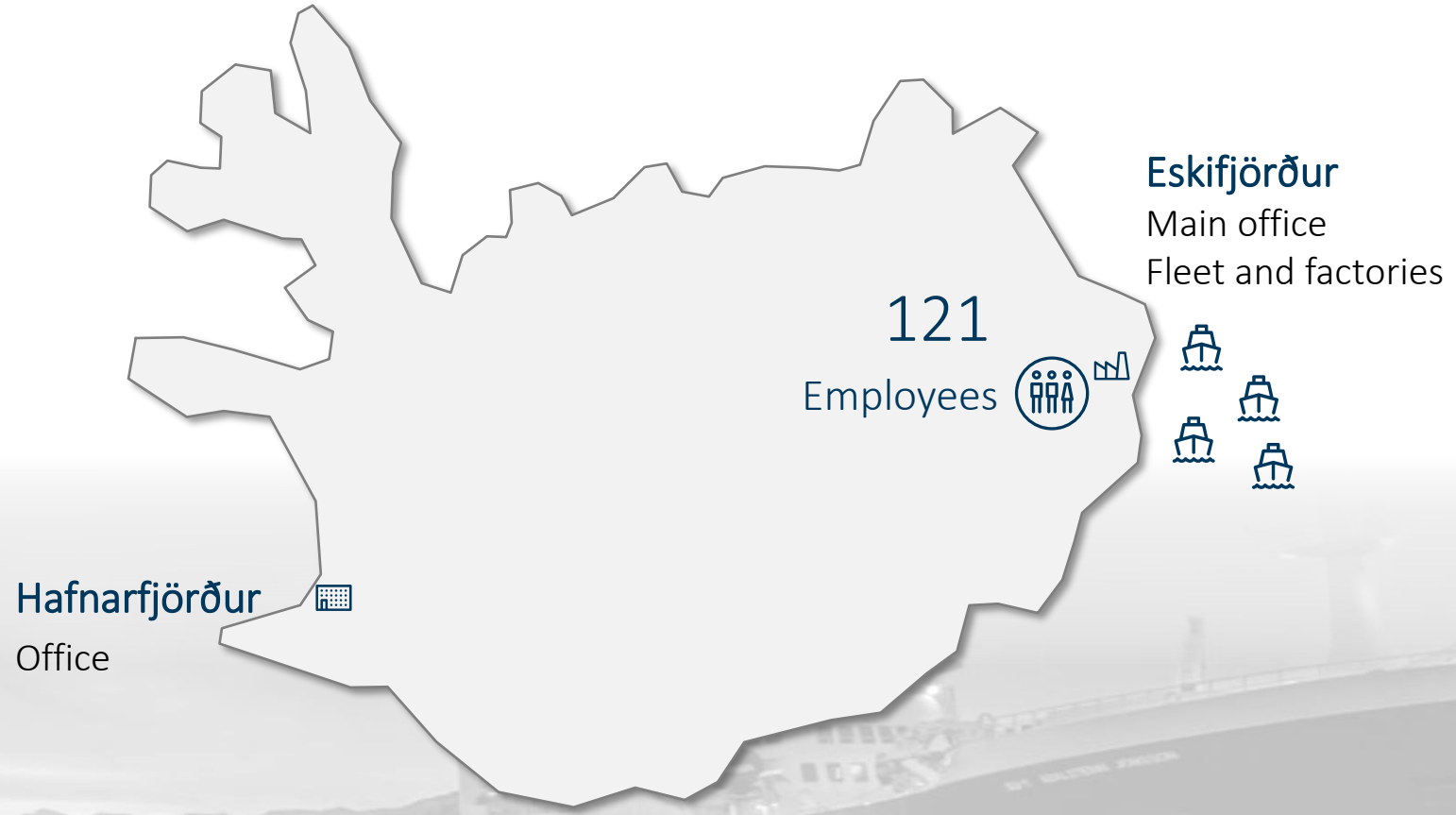
Unknown knowns

Páll Snorrason
Managing director
8. november 2019

Introduction

Eskja „at a glance”

Established 1944



Eskifjörður
Main office
Fleet and factories

Hafnarfjörður
Office

Overview of Eskja´s fleet

Four pelagic vessels

Aðalsteinn Jónsson SU 11
Pelagic RSW vessel built 2004 and bought 2016

Guðrún Þorkelsdóttir SU 211
Pelagic RSW vessel built 1999 and bought 2017

Jón Kjartansson SU 111
Pelagic RSW vessel built 2003 and bought 2017

Jón Kjartansson SU 311
Pelagic RSW vessel built 1978 and available for sale

Overview of Eskja

Our infrastructure

Pelagic species

Pelagic species

Main species in the north Atlantic and our sourcing season

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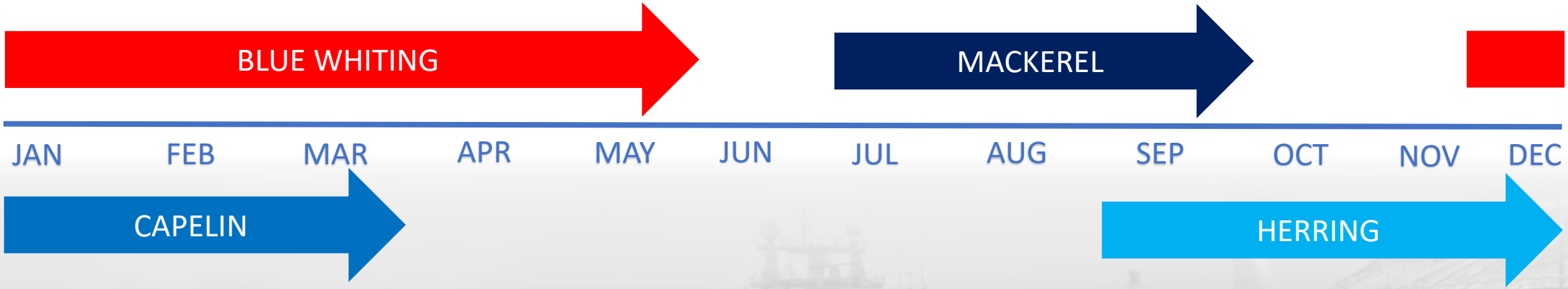
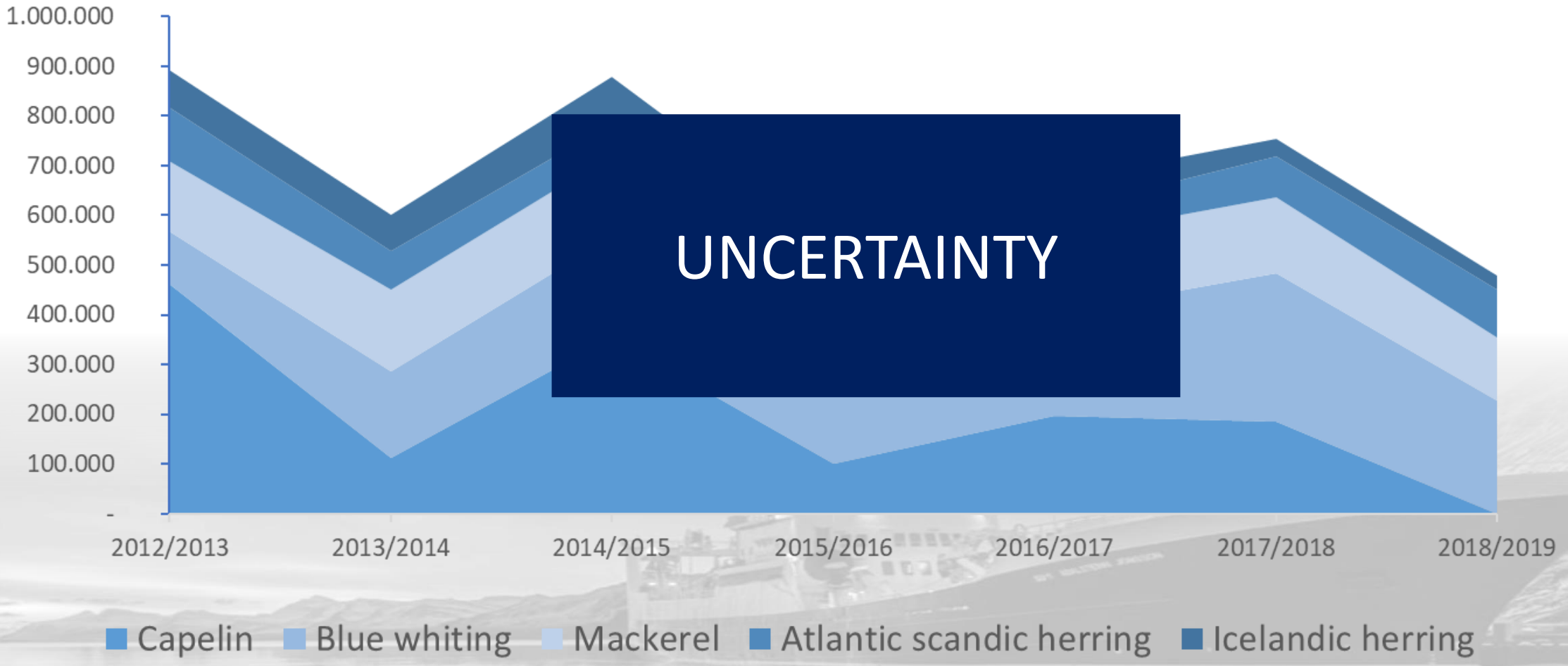


Pelagic catch in Iceland

No capelin last season



Source: Directories of fisheries

The pelagic sector

Coping with uncertainty

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Advice based on stock biomass

Environmental issues

Political unrest

Market forces

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DATA

Unknown knowns

Marine research has and collects abundant of data

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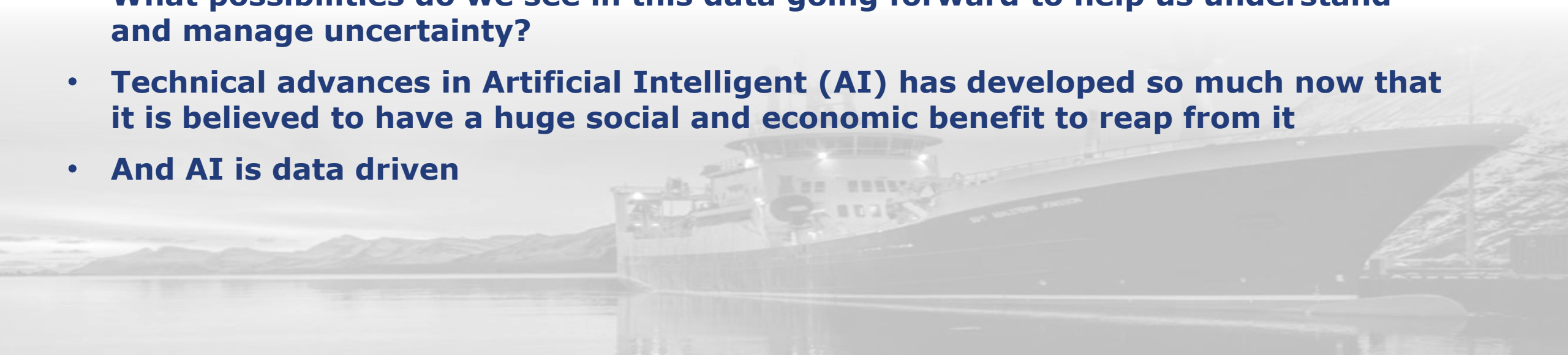
- Marine research has a huge database
- The industry also has information or data which is collected or could be collected
- Part of this information is unkown by the scientific communty or believed to be unrelevant or unknown knowns
- **What possibilities do we see in this data going forward to help us understand and manage uncertainty?**
- **Technical advances in Artificial Intelligent (AI) has developed so much now that it is believed to have a huge social and economic benefit to reap from it**
- **And AI is data driven**



Unknown knowns

Technical advances in AI

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„Even if we stop basic research in AI and deep learning tomorrow, the science has advanced enough that there´s already a huge amount of social and economic benefit to reap from it simply by engineering new services and new products from these ideas“

Yoshua Bengio

Technical advances

Artificial intelligent

Cost of prediction will become very cheap

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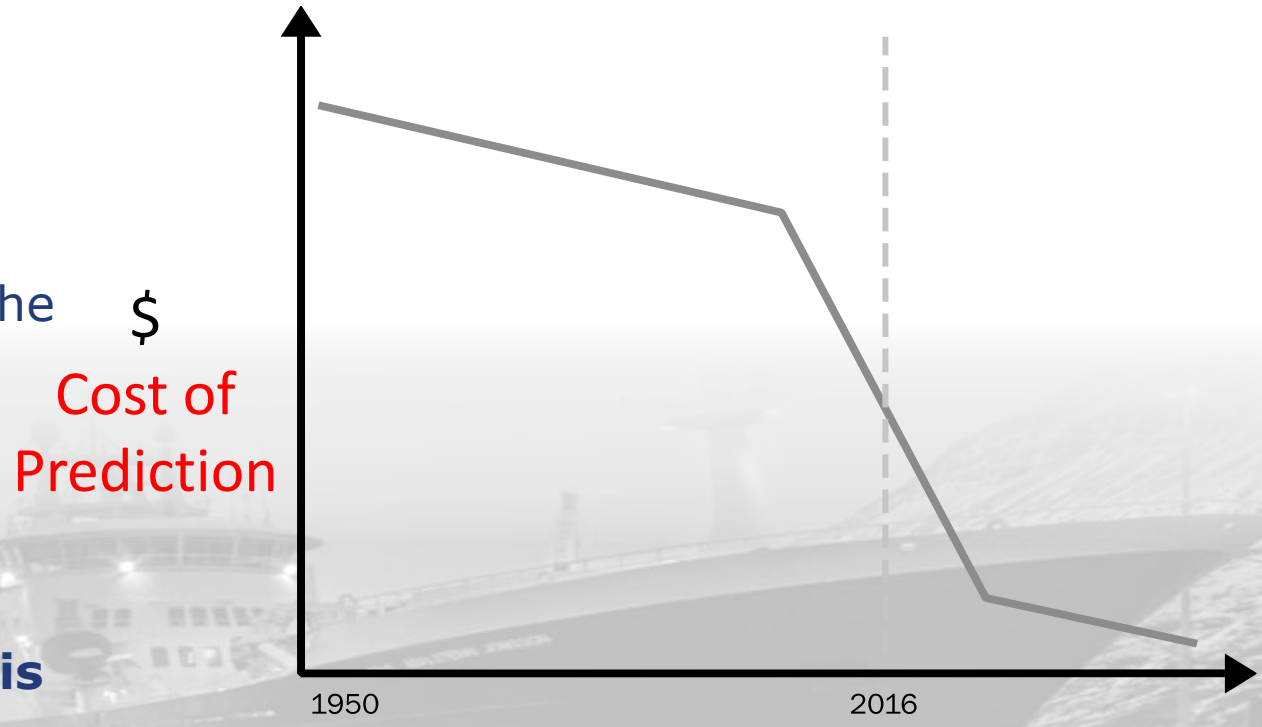
- Machine learning / Deep learning
  - **Supervised learning**
  - **Unsupervised learning**
  - **Reinforcement learning – trial and error**
- Recent advances will dramatically reduce the cost of machine-learning based prediction
- Take information you have to generate information you don´t have
- Data will be the most important factor
- **Algorithm will be the engine and data is the oil that fuels it**



AI strategy

Organisation need to built a clear AI strategy

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- Machince learning has enabled new value propositions with four types of interaction:
  - **Automation**
  - **Anticipation**
  - **Coordination**
  - **Customization**
- Data collection and data management in companies and institutions will be more important
- 5 years from now companies or institutions will look back and wish to have implemented an AI strategy much sooner

Artificial intelligent

Research among AI developers

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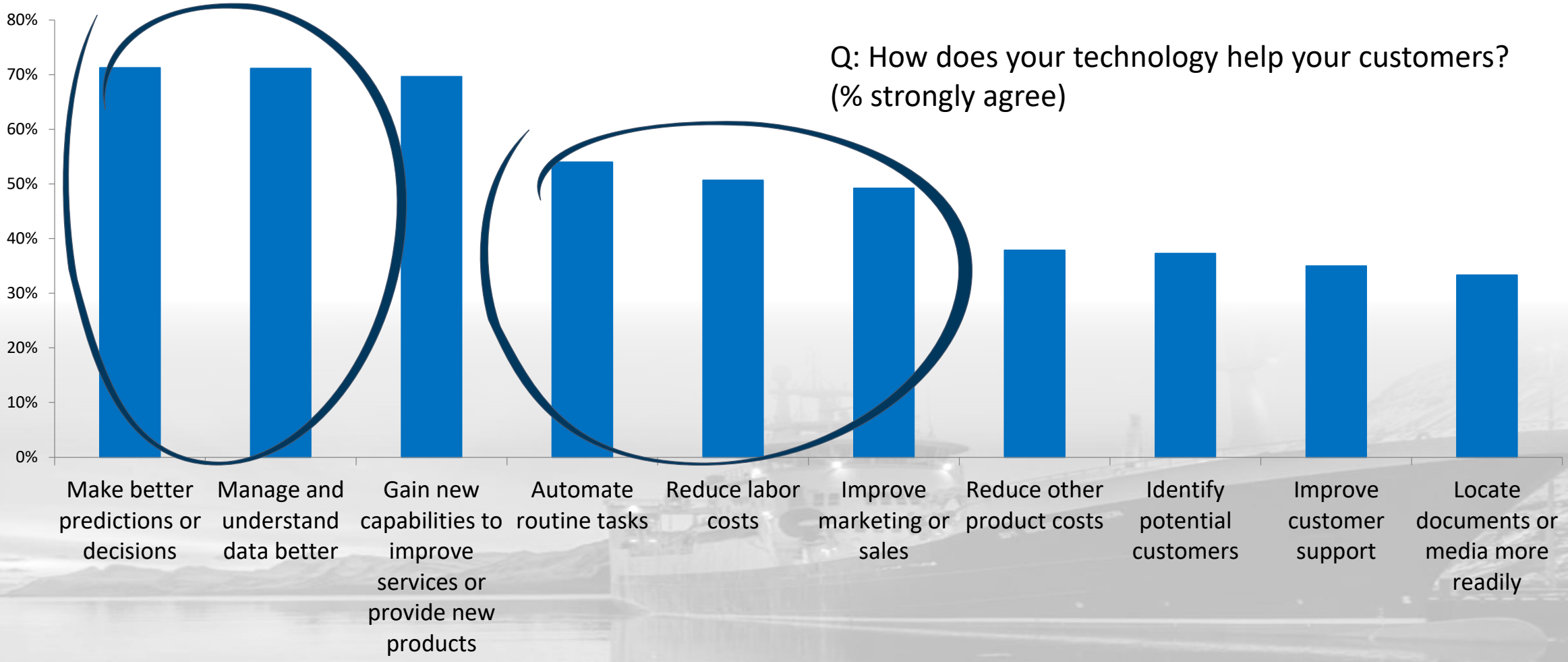
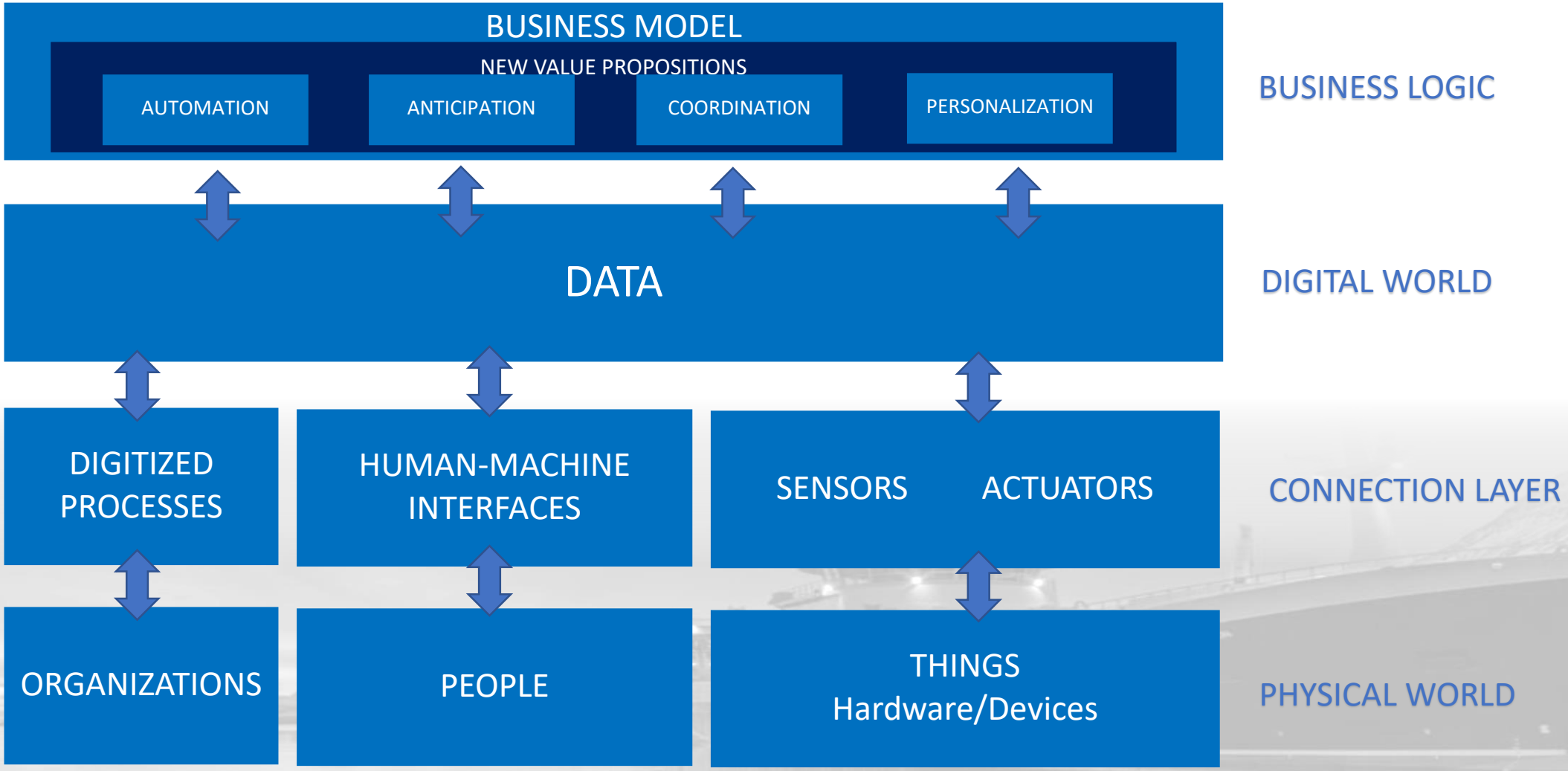


Digital density Architecture

Framework



Source: Managing Aritficial Intelligence within a Digital Density Framwork by Javier Zamora

Artificial intelligent

Cost of prediction will become very cheap

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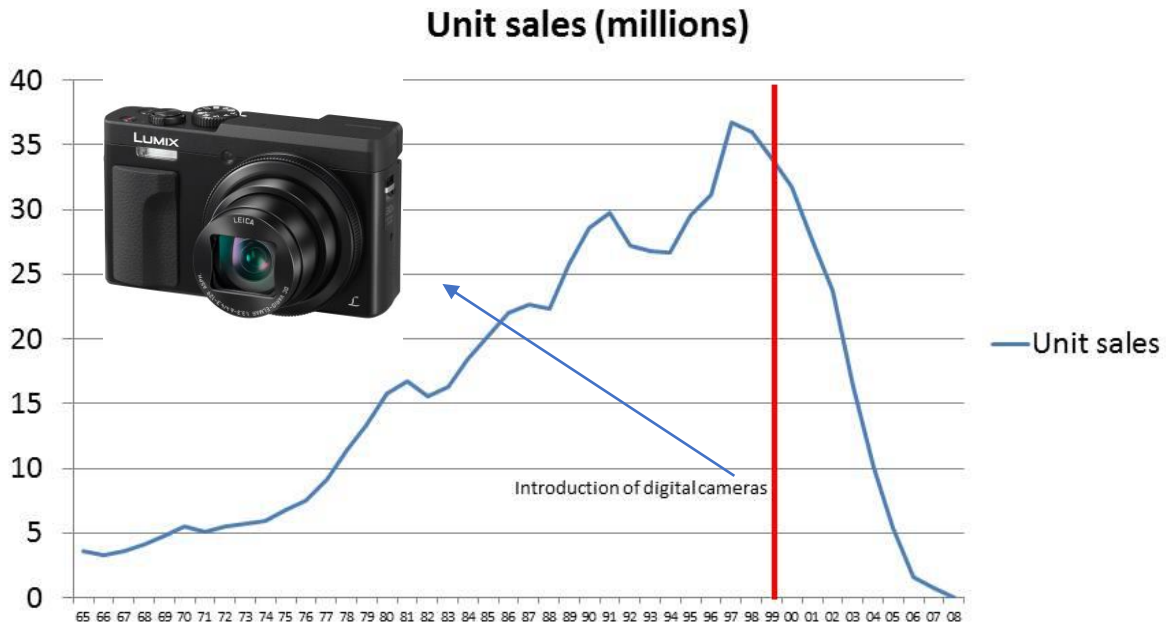
Film camera sales 1965-2008

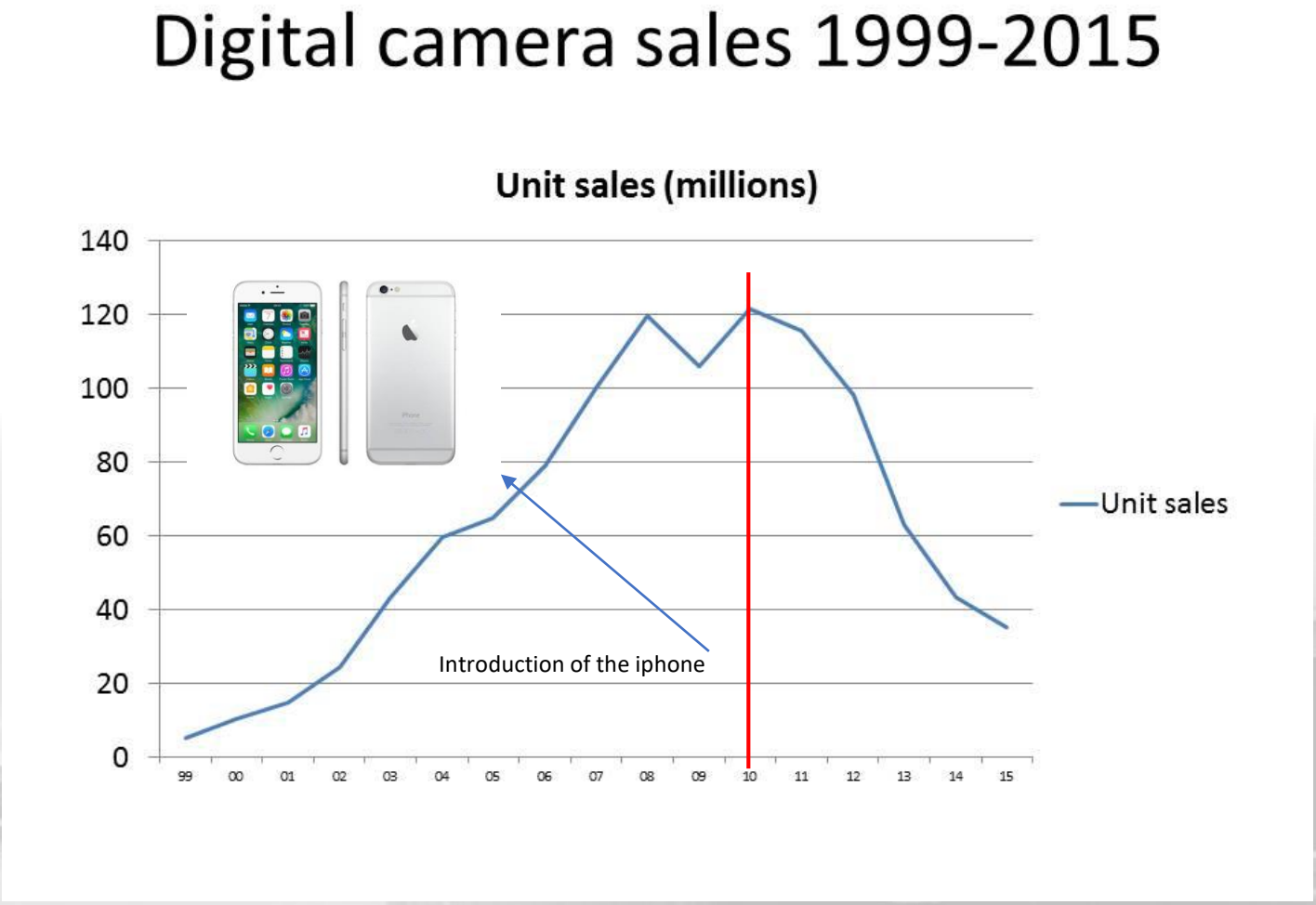


As cost of prediction will fall:

- More of it will be done
- New uses will be found
- The value of substitutes will fall
- The value of compliments will rise

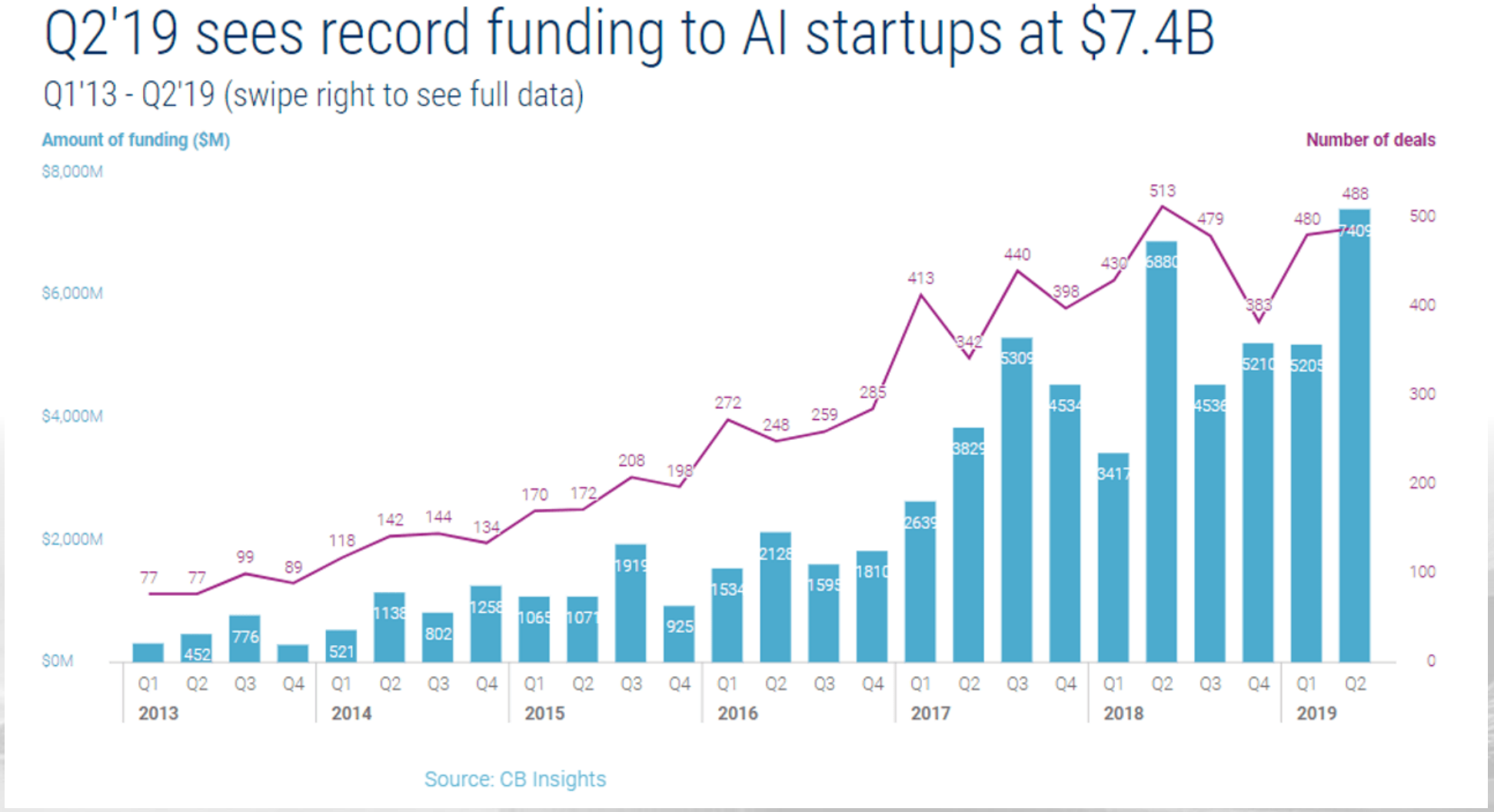
Artificial intelligent

Value of substitutes will fall



Investment in AI

Record funding supports development & success in AI



The Rumsfeld Matrix

What can AI do and not do for your organisation

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Thank you

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Disclamer
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