

European **AI** Week

The European Artificial
Intelligence Week

March 14-18 2022



Microsoft

AI EXPERTS EXCLUSIVE BREAKFAST EVENT



17/03/2022 08:00 - 10:00

AI4Belgium



Agence
du Numérique

.AGORIA



RÉSEAU IA
LE COLLECTIF IA POUR LA WALLONIE





Mission

Accélérer l'adoption de l'intelligence artificielle (IA) en Wallonie et renforcer son écosystème.

1

Société & IA

- Sensibilisation
- Modernisation du secteur public

2

Entreprises & IA

- Soutien aux entreprises

3

Compétences & IA

- Formations

4

Recherche, innovation, partenariats & IA

- Projet de recherche avec universités et les Centres de recherche de la fédération Wallonie Bruxelles.
- Partenaires



Agence
du Numérique



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Avec le
soutien de :

AI4Belgium



Programme

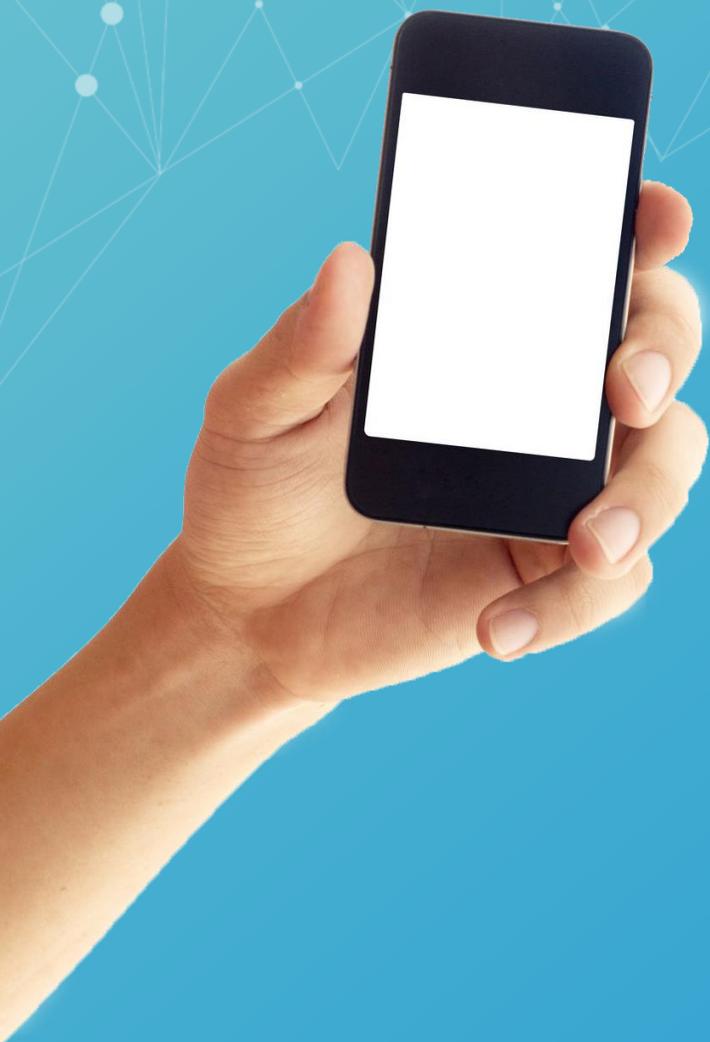
“Future Perspectives & Building Bridges”

- 8:40: Welcome
- 8:45: Yves de Beauregard, Fujitsu
- 9:00: Myriam Broeders, David Dab, Thomas Brenard, Microsoft
- 9:15: Créer des ponts avec la Sowalfin, TRAIL, Awex, Bencode, Lewagon, WSL,
- 9:30: Mot de clôture

Petit-déjeuner et networking



Comment participer?



Scannez:



Ou allez sur:

www.wooclap.com/DW4AI

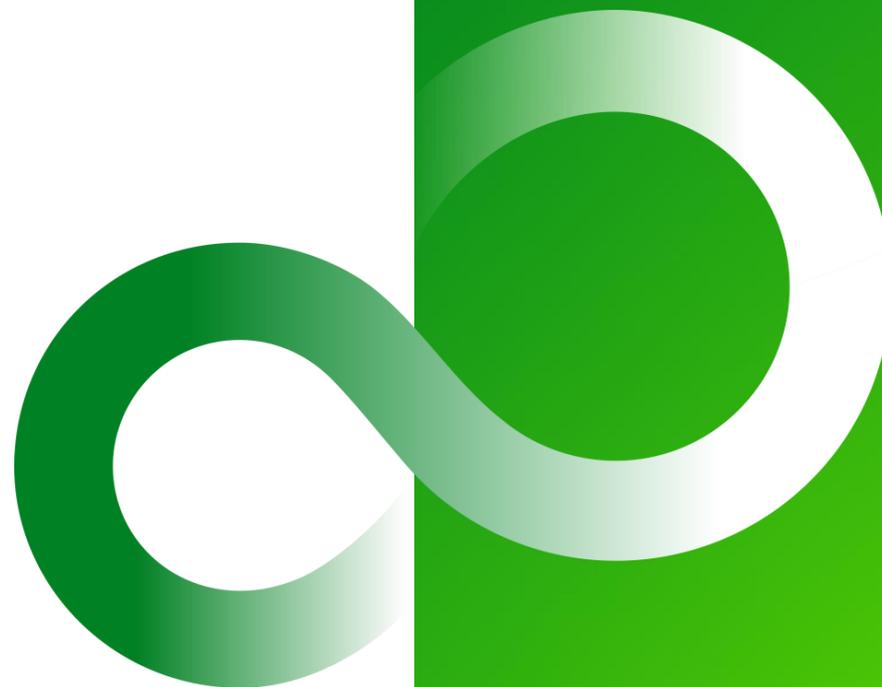
Yves de Beauregard

Head of Global Solutions at Fujitsu Global



Beyond AI

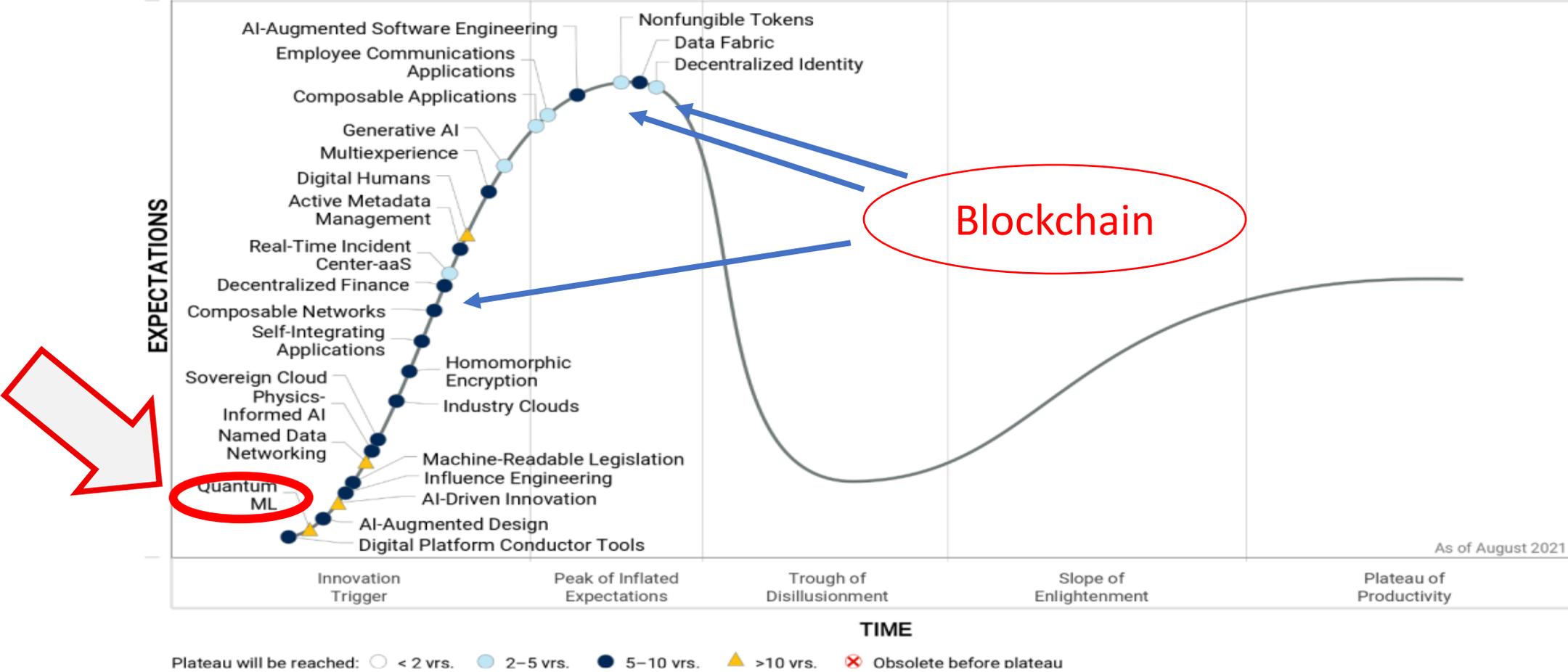
Powering optimization & Automating Trust



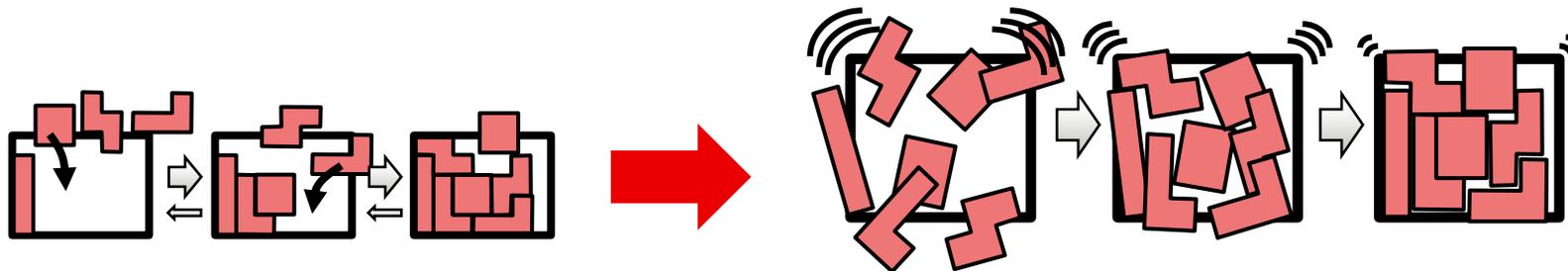
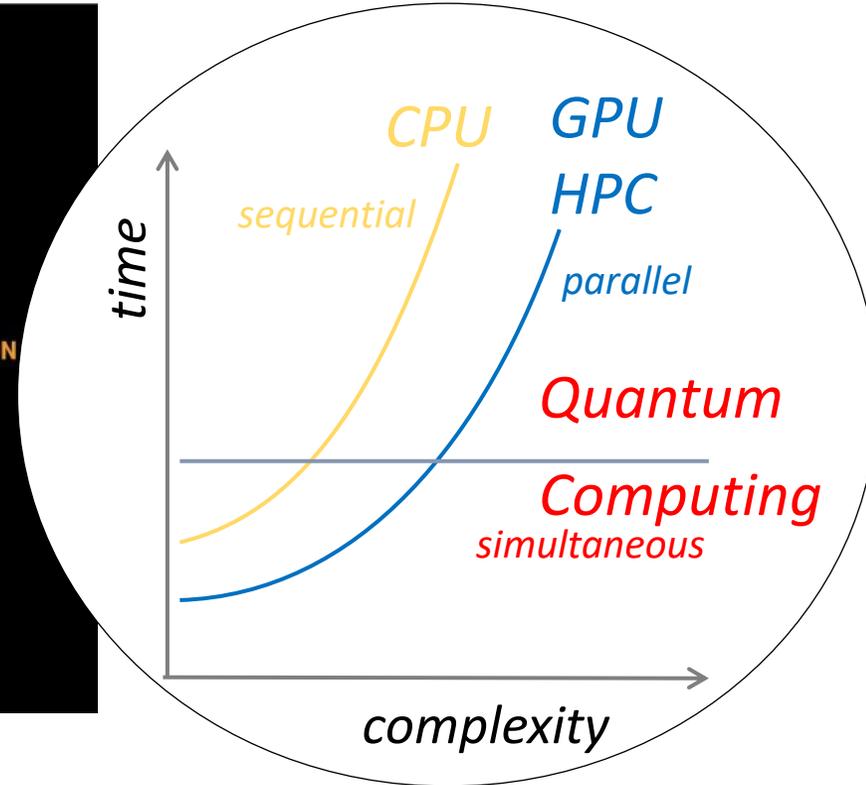
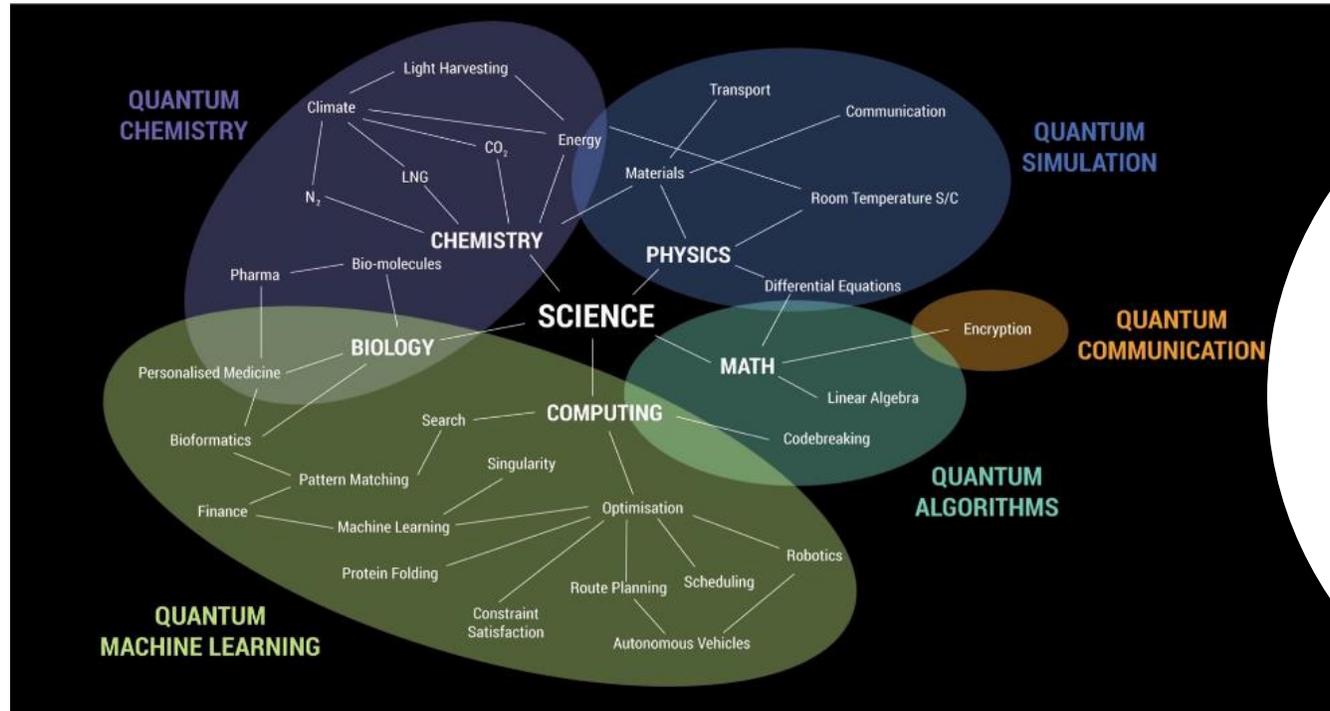
Talent wins games, teamwork and intelligence win championships
Michael Jordan

Powering optimization, automating trust

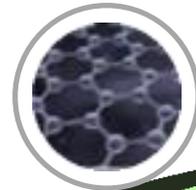
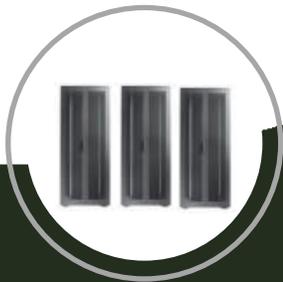
Hype Cycle for Emerging Technologies, 2021



Why Quantum Computing ?



CPU / GPU

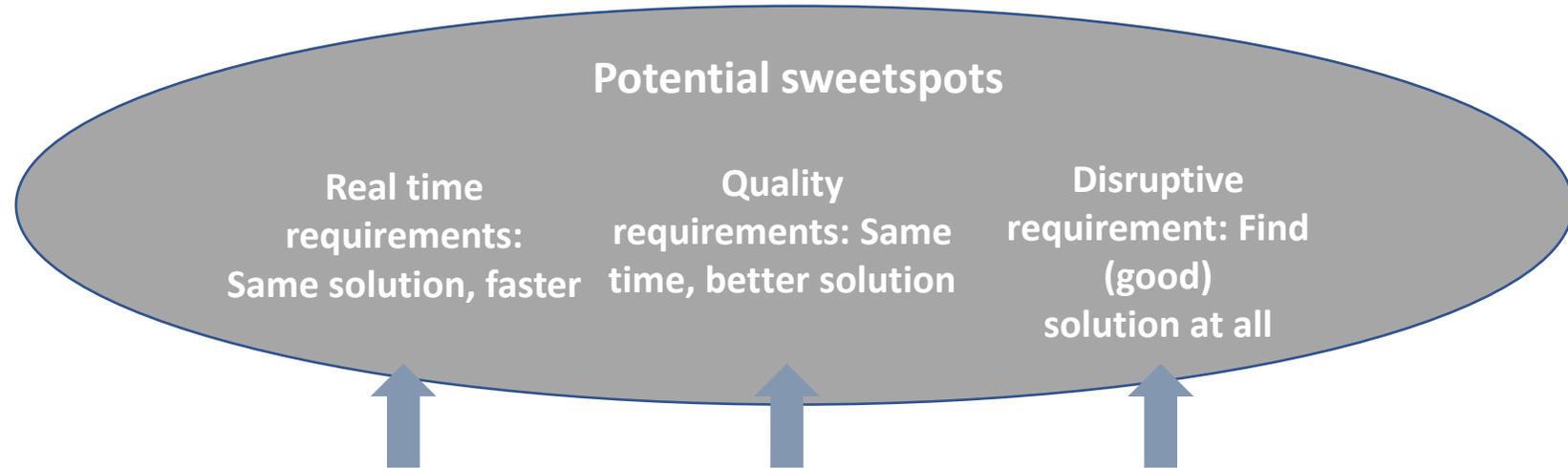
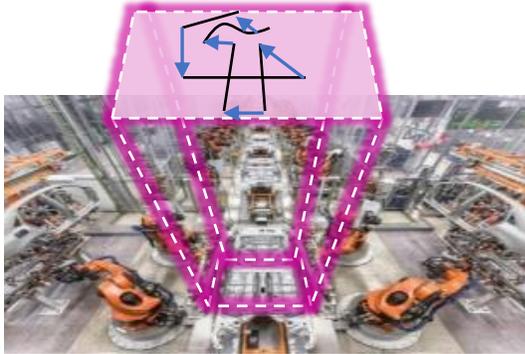


*Quantum
Computers*

An **available** future-proof on-ramp to Quantum Computing for solving **real-world** combinatorial optimization **problems** today by **emulating** quantum effects (superposition, entanglement, tunneling) in state-of-the-art, special-purpose, digital technology

Solving Real-World Problems

PVC sealing robot optimization



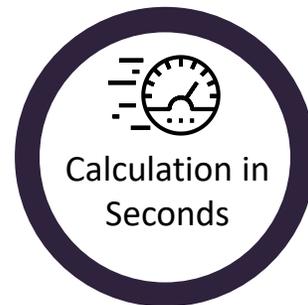
n (number of seams)	2	7	10	23	65
$2^{n-1}(n-1)!$ combinations	2	46,080	1.86×10^8	4.71×10^{27}	$2,34 \times 10^{108}$
$2(n-1)^2$ bits on Q-Systems	2	72	162	968	8192
Optimization Technology	Quantum Computer			small problem space	
	Real time			Large space	
	CPU/GPU			too slow, limited	

Solving Real-World Problems

Traffic flow Optimization

Hamburg Port Authorities

- Handling of 136.5 million tons per year (78.4 import; 58.0 export), ~12,000 trucks per day
- High utilization of infrastructure with negative impact on quality of life and emission values
- Application of the optimization to the overall system as a holistic solution
- Complex calculations of a high number of possible scenarios in a few seconds

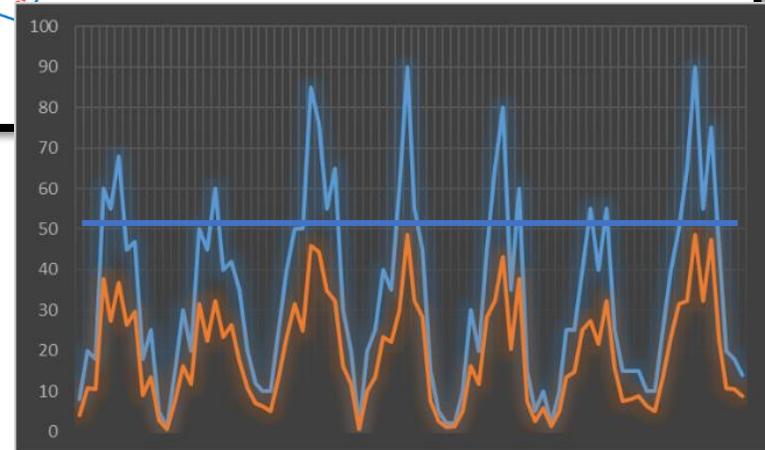
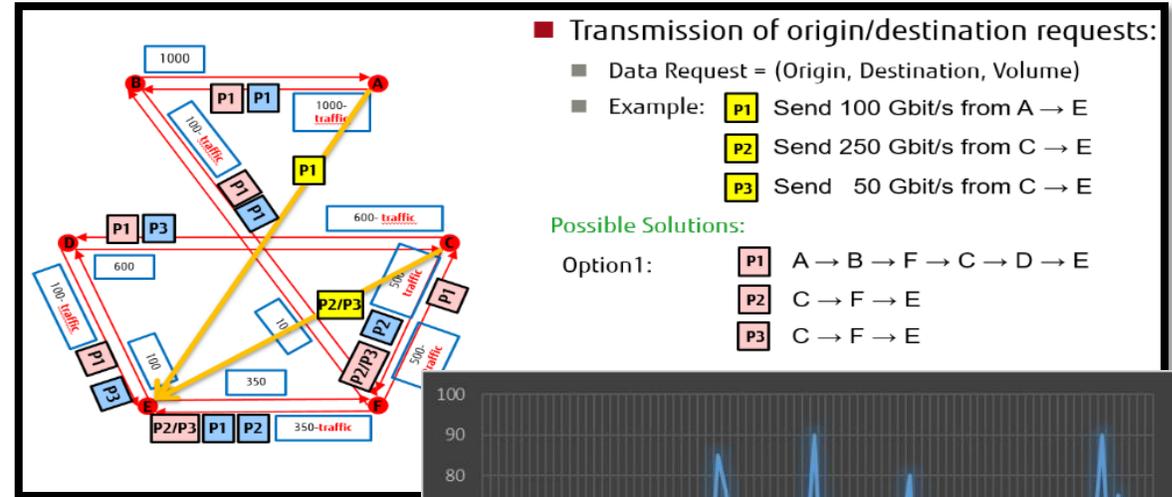


Solving Real-World Problems

Data Packet Routing

Deutsche Telekom

- Avoidance of capacity peaks with the target of lower latency
- Fast response to high network load
- Digital Annealer finds optimal solutions for all given scenarios in order to reach the goal of a 50% capacity utilization
- Digital Annealer opens up new opportunities to achieve performance targets



Router N	2	10	30	42	50
$K^{p(N)}$ [K=10] combinations	20890	10^{28}	10^{132}	10^{208}	10^{300}
Quantum Technology	Quantum				
	Digital Annealer				

Why Distributed Ledger Technology for Rice Exchange?

Finality and transparency of trades

It is not just about using technology, but using it to bring security, transparency, traceability and finality to a complex trade and commercialization of an eco-system with multiple stakeholders

Verifiable data

Using Blockchain ensures all involved stakeholders are looking at the same verifiable data, in real-time whilst accelerating the removal of friction and delays in the supply chain

Trust in an untrusted world

The primary question driving Blockchain is 'do I trust the data I am using and can I rely on it to assess my risk?', uncertainty is replaced by transparency and stakeholders can better manage their risk

Shippers



One of largest container shipping lines



Largest rice parcel service provider

Inspectors



FTSE listed
inspection company



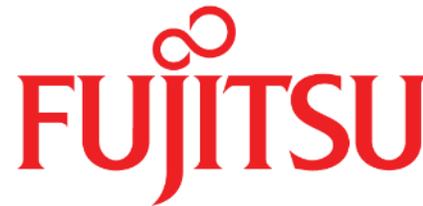
Top 5 inspection company



Fast growing
inspection company



Top 5 inspection company



Insurers



Largest marine insurance broker for rice



Leading Swiss specialty insurer

Payments

© 2021 FUJITSU



Largest interbank payment platform

Thank you

If you have any questions relating to the content of this document, please get in touch:

yves.debeauregard@fujitsu.com

Myriam Broeders

Chief Technology Officer Microsoft Belgium



Thomas Brenard

Technology Strategist



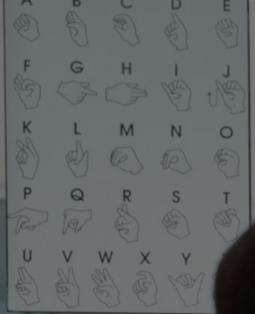
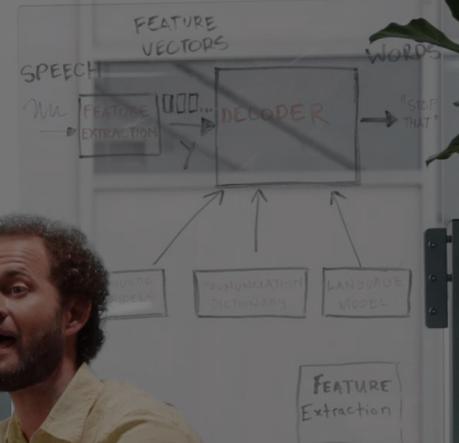


Bridging the gap between all of us and AI

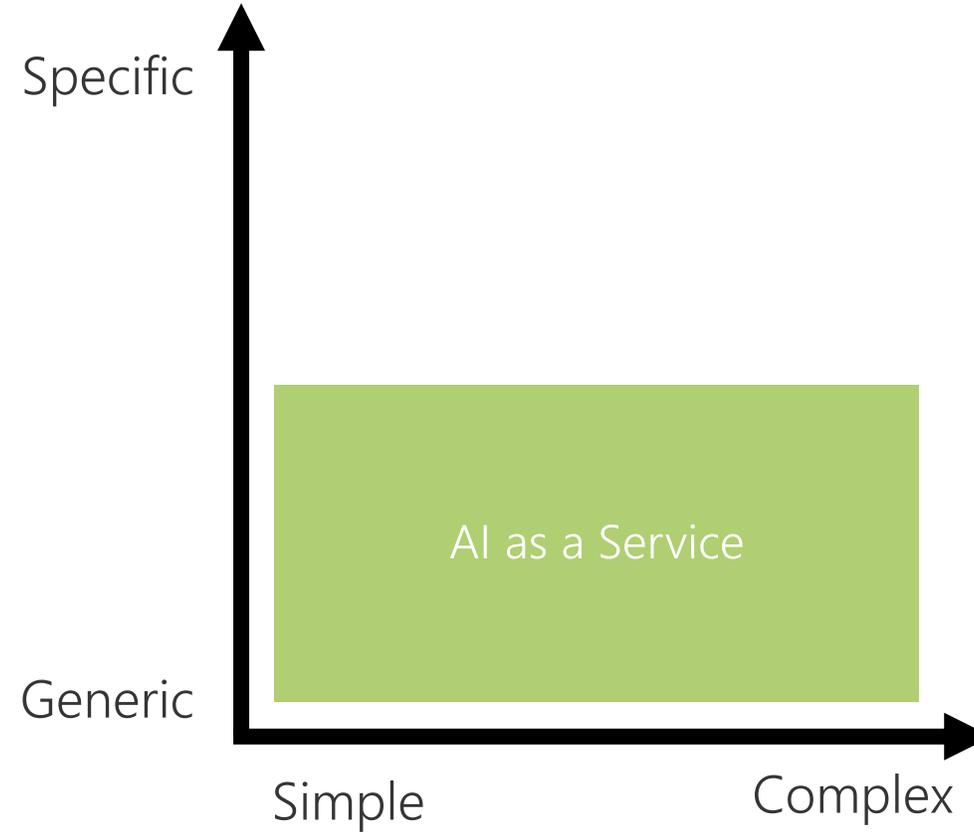
Thomas Brenard
Technology Strategist



Democratizing AI



Who does what?



Sophisticated pretrained models

Infuse apps with powerful, pre-trained AI models

Customize easily and tailor to your needs



Vision



Computer Vision | Video Indexer | Face | Content Moderator



Language



Text Analytics | Spell Check | Language Understanding | Text Translation | QnA Maker



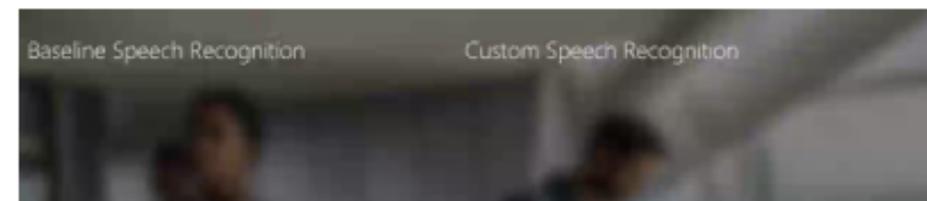
Decision



Anomaly Detector | Content Moderator | Personalizer

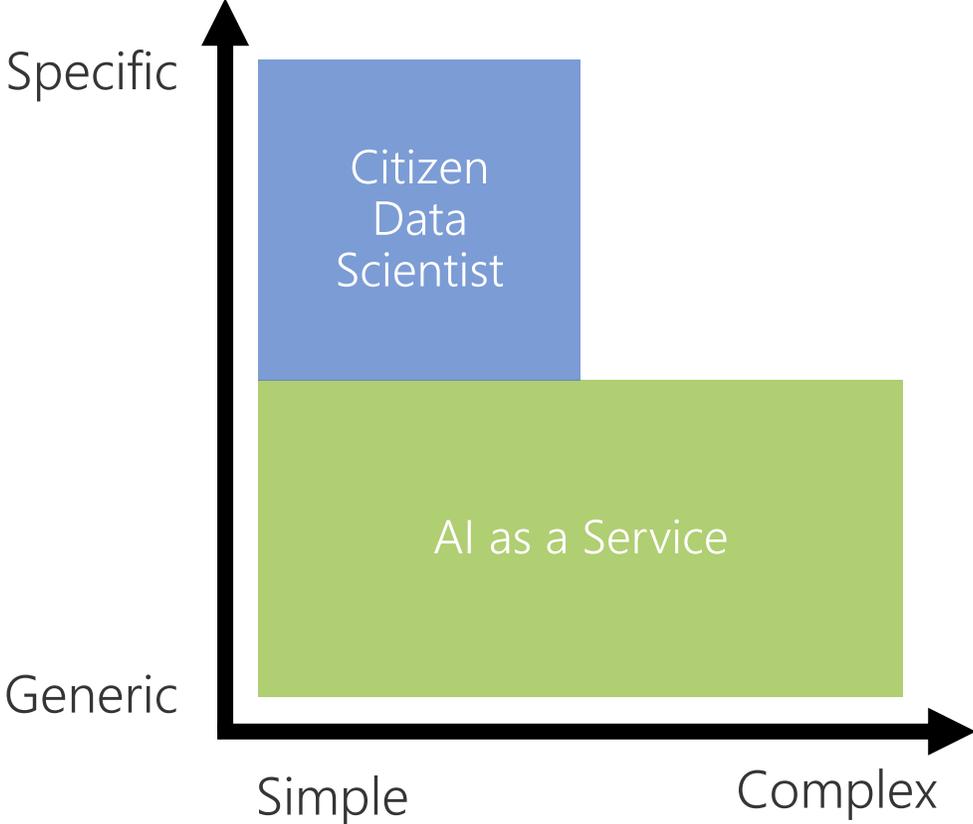


Speech



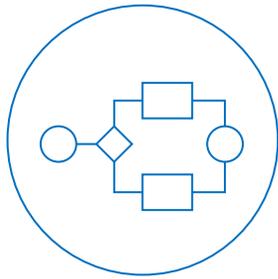
Speech to Text | Text to Speech | Speech Translation | Speaker Recognition

Who does what?



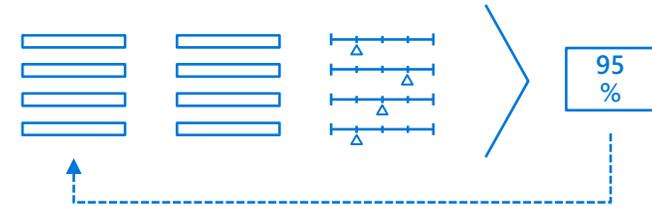
Citizen Data Scientist

Custom Vision/speech/... modeller



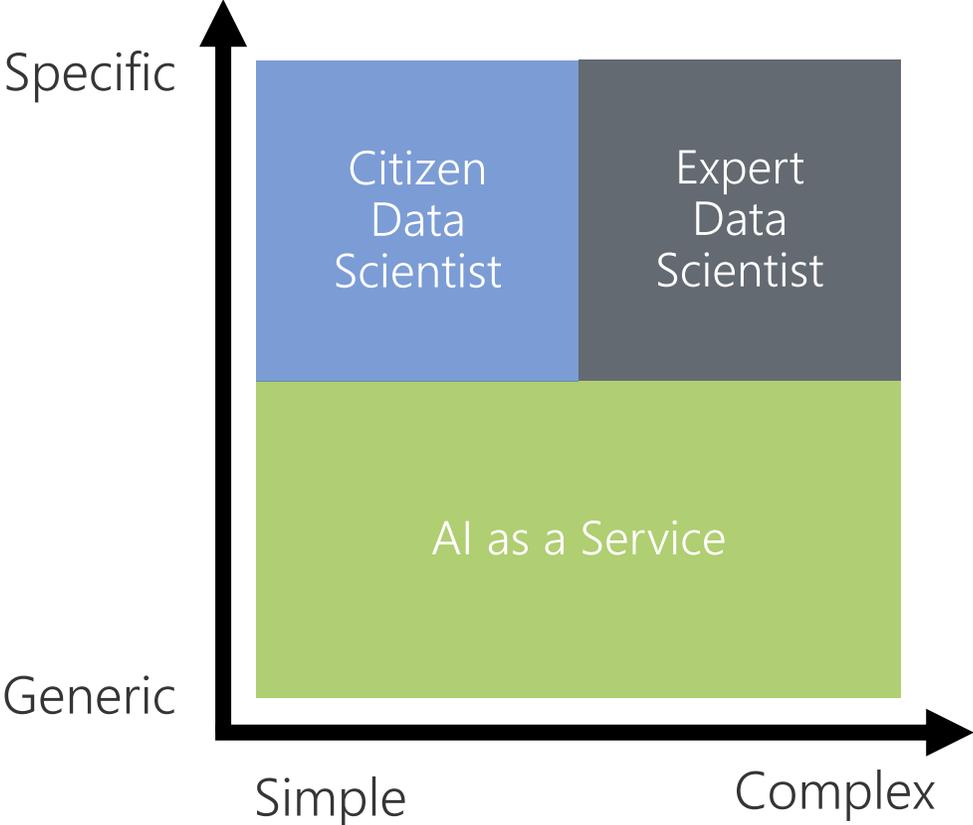
Customize existing models without writing code

Automated Machine Learning



Accelerated model building

Who does what?



Expert Data Scientist

Familiar Data Science tools

To simplify model development



Visual Studio Code



Azure Notebooks



Jupyter



Command line

Popular frameworks

To build advanced deep learning solutions



PyTorch



TensorFlow



Scikit-Learn



ONNX

Productive services

To empower data science and development teams



Azure Databricks



Azure Machine Learning



Machine Learning VMs

Powerful infrastructure

To accelerate deep learning



CPU



GPU



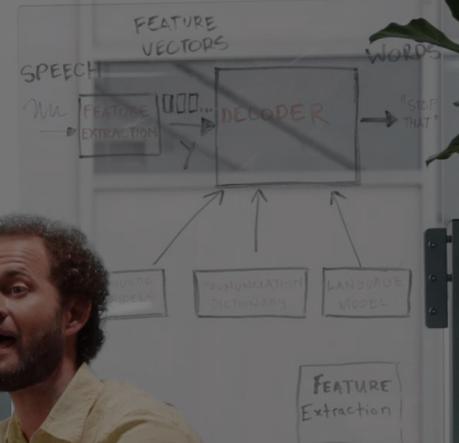
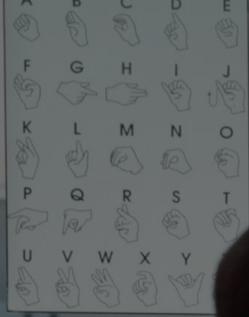
FPGA



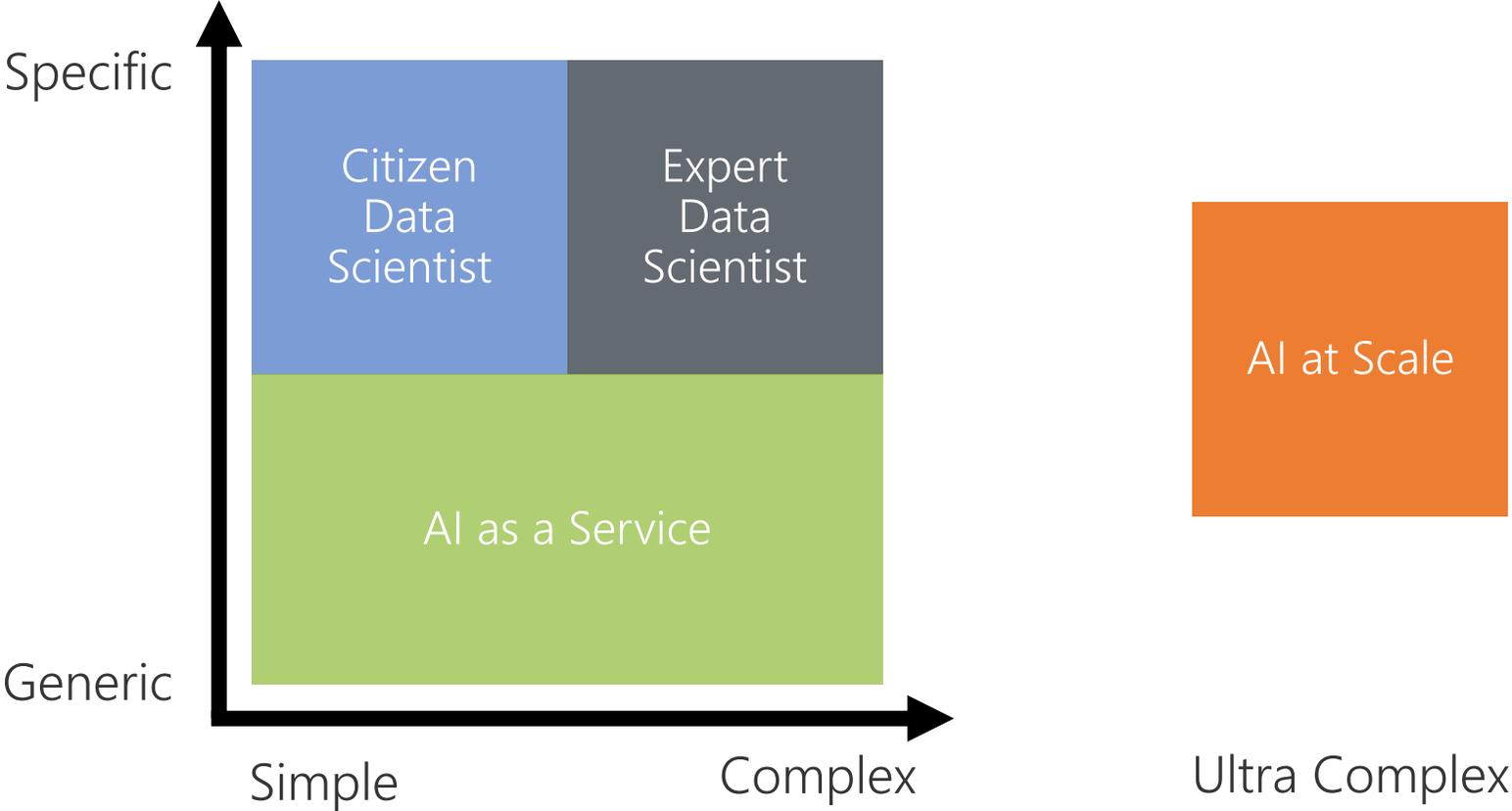
From the Intelligent Cloud to the Intelligent Edge



What's next?



Who does what?



The pace of AI advancements is increasing

Vision



2016

Object recognition
human parity

Speech
Recognition



2017

Speech recognition
human parity

Reading



2018

Reading comprehension
human parity

Translation



2018

Machine translation
human parity

Speech
Synthesis



2018

Speech synthesis
near-human parity

Language
Understanding



2019

General Language
Understanding human parity

Massive AI models

Microsoft Turing

Family of massive AI natural language models
(17B parameters)

Changing how AI is developed

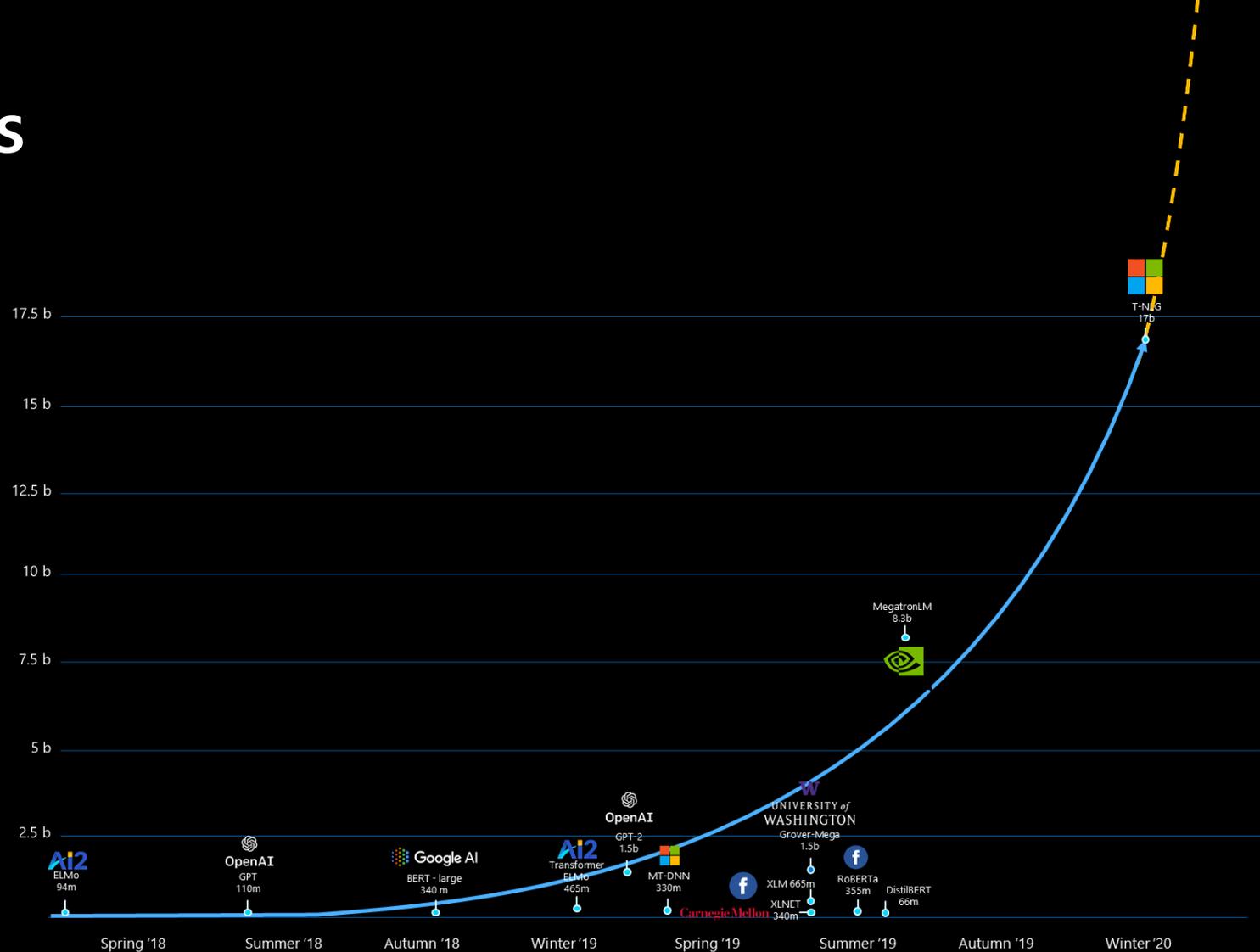
from narrow, custom models
to multi-purpose, customized,
massive models

Turing language

most powerful model for multi-task
natural language processing

The road of generalization

Multi-modality text/images/video



Using AI at scale

The screenshot shows the Microsoft OneDrive interface for user Megan Bowen. The left sidebar contains navigation options like 'My files', 'Recent', 'Shared', and 'Shared libraries'. The main area displays a list of files with columns for name, date, author, size, and sharing status. A preview window for the file 'International Marketing Strategy' is open, showing an 'Inside look' section with a 'Time to read: 5 min' and a bulleted list of key points.

File Name	Date	Author	Size	Sharing Status
European Expansion.pptx	January 18	Megan Bowen	3.41 MB	Private
Expense Insights.xlsx	January 18	Megan Bowen	398 KB	Private
Fabrikam.one	January 18	Megan Bowen	54.5 KB	Shared
Finance.pbix	January 18	Megan Bowen	3.18 MB	Private
HR.pbix	January 18	Megan Bowen	1.42 MB	Private
International Marketing Strategy.docx	January 18	Megan Bowen	22 KB	Shared
IT.pbix	January 18	Megan Bowen	35 MB	Private
Marketing.pbix	January 18	Megan Bowen	79 MB	Private
New Data Type Sample Data.xlsx	January 18	Megan Bowen	23 MB	Private
Operations Analytics.pbix	January 18	Megan Bowen	73 KB	Private
Operations.pbix	January 18	Megan Bowen	86 MB	Private
Proposed_agenda_topics.docx	January 18	Megan Bowen	91 KB	Private
RD And Engineering Costs Q1.xlsx	January 18	Megan Bowen	5.7 KB	Private
RD Expense Report.pptx	January 18	Megan Bowen	353 KB	Shared
RD Expenses Q1 to Q3.xlsx	January 18	Megan Bowen	13.1 KB	Private
Sales Invoice Template.docx	January 18	Megan Bowen	33.0 KB	Private
Sales.pbix	January 18	Megan Bowen	1.53 MB	Private
2012 Launch Team.xlsx	January 18	Megan Bowen	1.70 MB	Private

International Marketing Strategy

Inside look

Time to read: 5 min

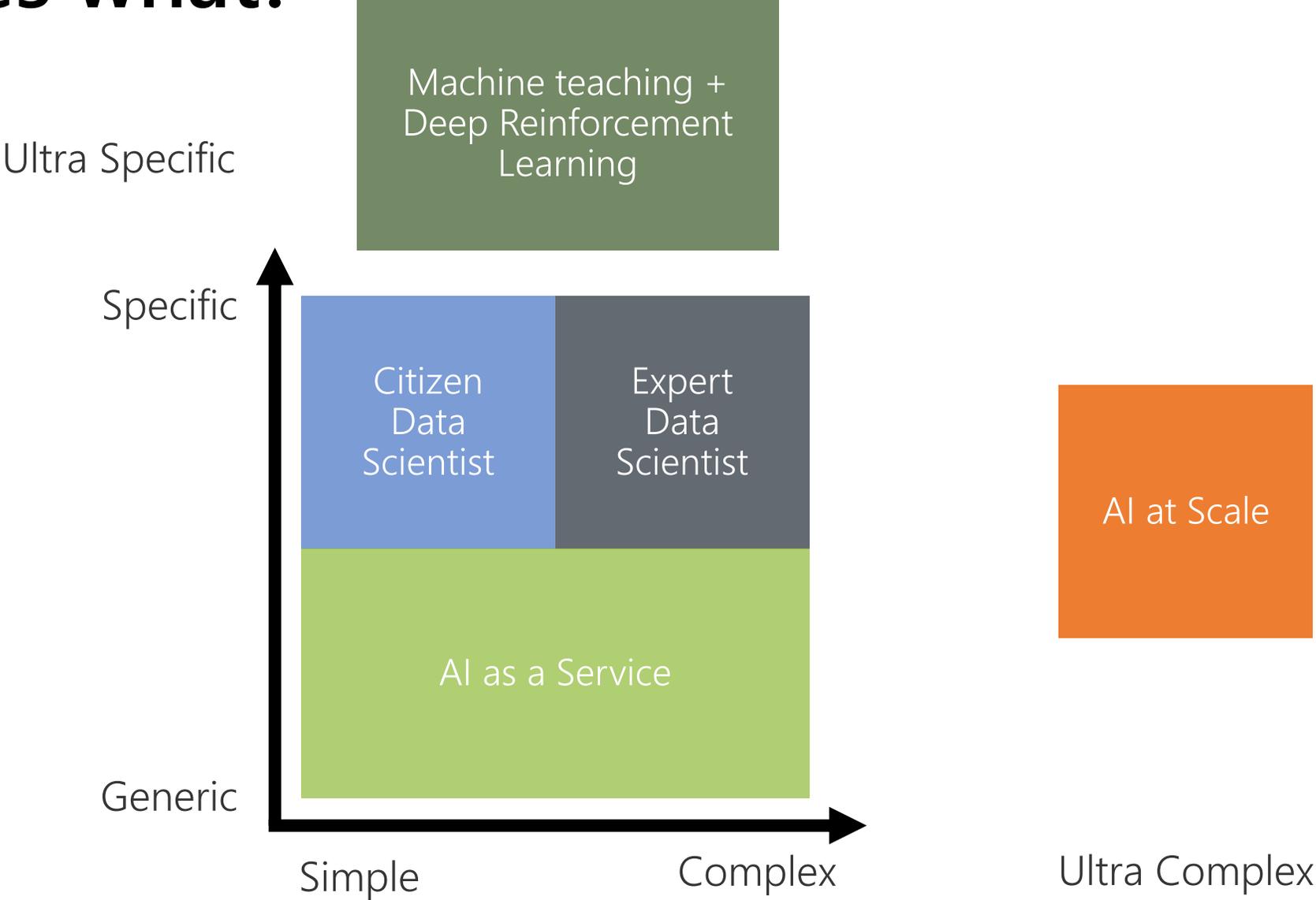
At a glance

- As part of the overall sales effort, develop packaging design and content for our 2012 product launch that...
- This is a working reference document for use by the Marketing project team.
- Scope will include one core package design with minor modifications only for the three product...

```
1 #!/usr/bin/env ts-node
2
3 import { fetch } from "fetch-h2";
4
5 // Determine whether the sentiment of text is positive
6 // Use a web service
7 async function isPositive(text: string): Promise<boolean> {
8   const response = await fetch(`http://text-processing.com/api/sentiment/`, {
9     method: "POST",
10    body: `text=${text}`,
11    headers: {
12      "Content-Type": "application/x-www-form-urlencoded",
13    },
14  });
15  const json = await response.json();
16  return json.label === "pos";
17 }
```

Copilot

Who does what?



RALUCA2-C42FB0F04C3D

SEARCHING

SEARCHING

SEARCHING

CAPTURE OBJECTIVES

6 A B C 0

/ 500 / 500

00:11

SEARCHING

SEARCHING

SEARCHING

SEARCHING



gamevm-nv6-05F6CB444

gamevm-nv6-413676024

gamevm-nv6-247187CB4

gamevm-nv6-3AE4CC9B4

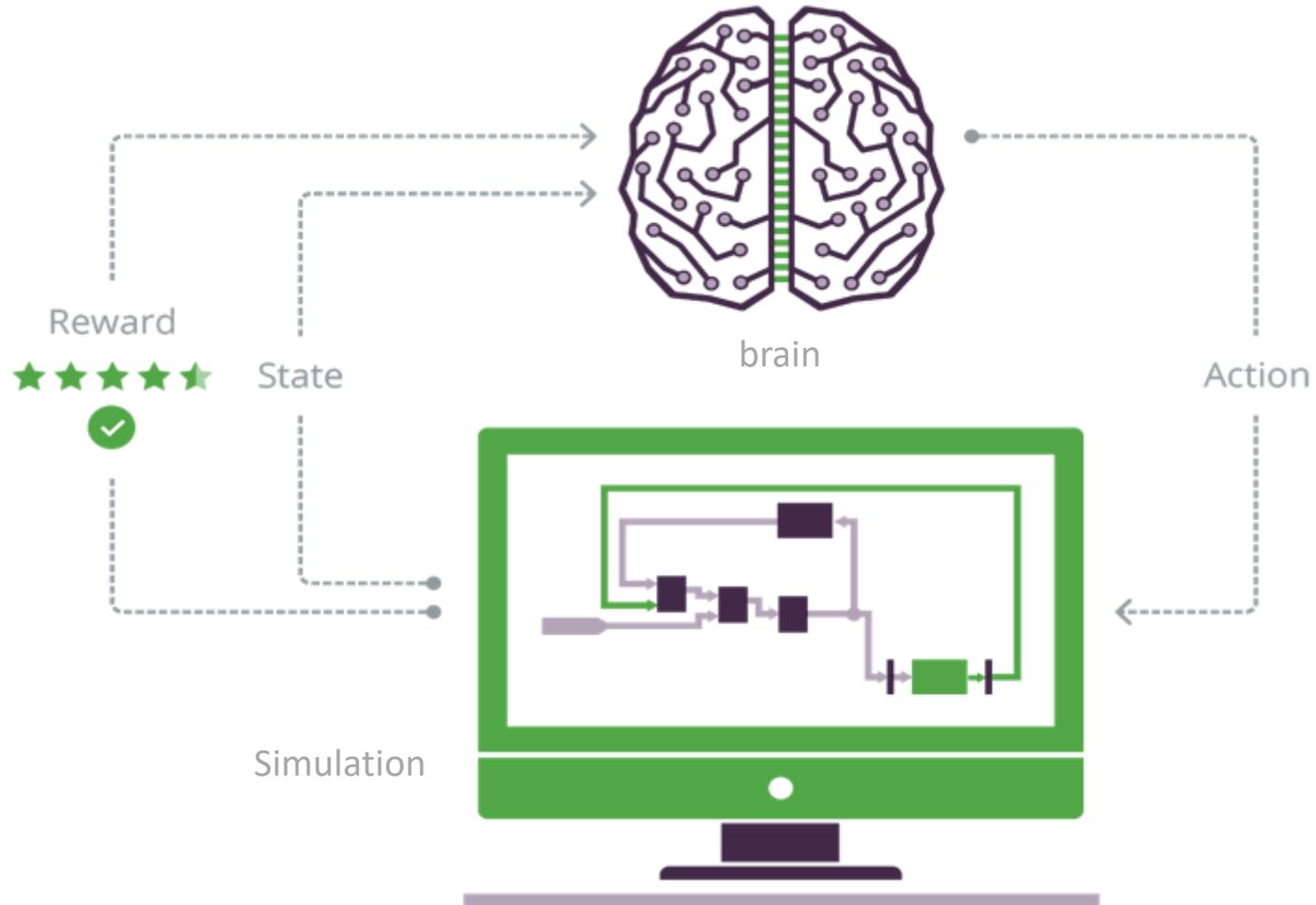
gamevm-nv6-C1D90AD64

950 / 950



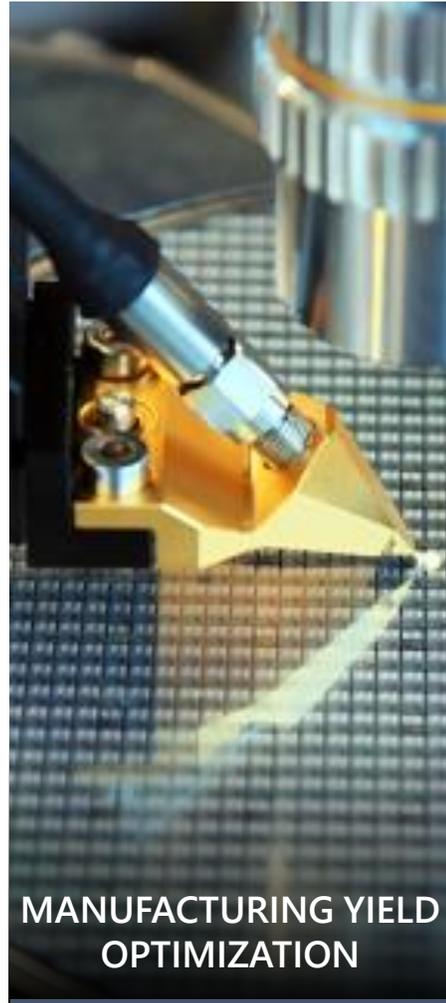
Building brains for automated systems

Combining state-of-the-art techniques in DRL, simulations, and machine teaching



Driving system optimization across key areas

<https://aka.ms/bonsai-accelerators>



AI is accessible

For every person and every
organization on the planet

Thomas Brenard
Technology Strategist





PARTENAIRES

Avec le soutien de

Building bridges

digital
wallonia

4.ai

1. Sowalfin
2. TRAIL
3. Awex
4. Le Wagon
5. Bencode
6. WSL





Aide à la transformation numérique des PME en soutenant, via des financements attractifs, la création et le développement de technologies numériques (ex : startups innovantes) et l'implémentation d'outils numériques (ex : au sein de PME non technologiques).

www.sowalfin.be



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TRAIL

TRUSTED AI LABS

BY DIGITALWALLONIA4.AI / SPW-RECHERCHE

*Les « Tool Champions » de la TRAIL Factory,
nouvelle carte aux mains des entreprises
pour une meilleure adoption de l'IA !*

www.trail.ac/trail-factory/



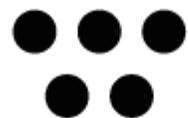
François Narbonne

Coordinateur Trail Factory

*Responsable Innovation & partenariat
Multitel*

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Wallonia.be

EXPORT
INVESTMENT

Wallonia Export & Investment Agency

*A votre service pour
internationaliser votre entreprise*

www.awex-export.be



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le wagon

*Accédez à notre communauté de talents,
devenez Hiring Partner du Wagon*



Lewagon.com



Pascaline Dierckx

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be </code>

Après 7 mois de formation en AI, nos juniors sont disponibles pour 3 mois de stages en entreprise.

becode.org



Frederic DE COOMAN

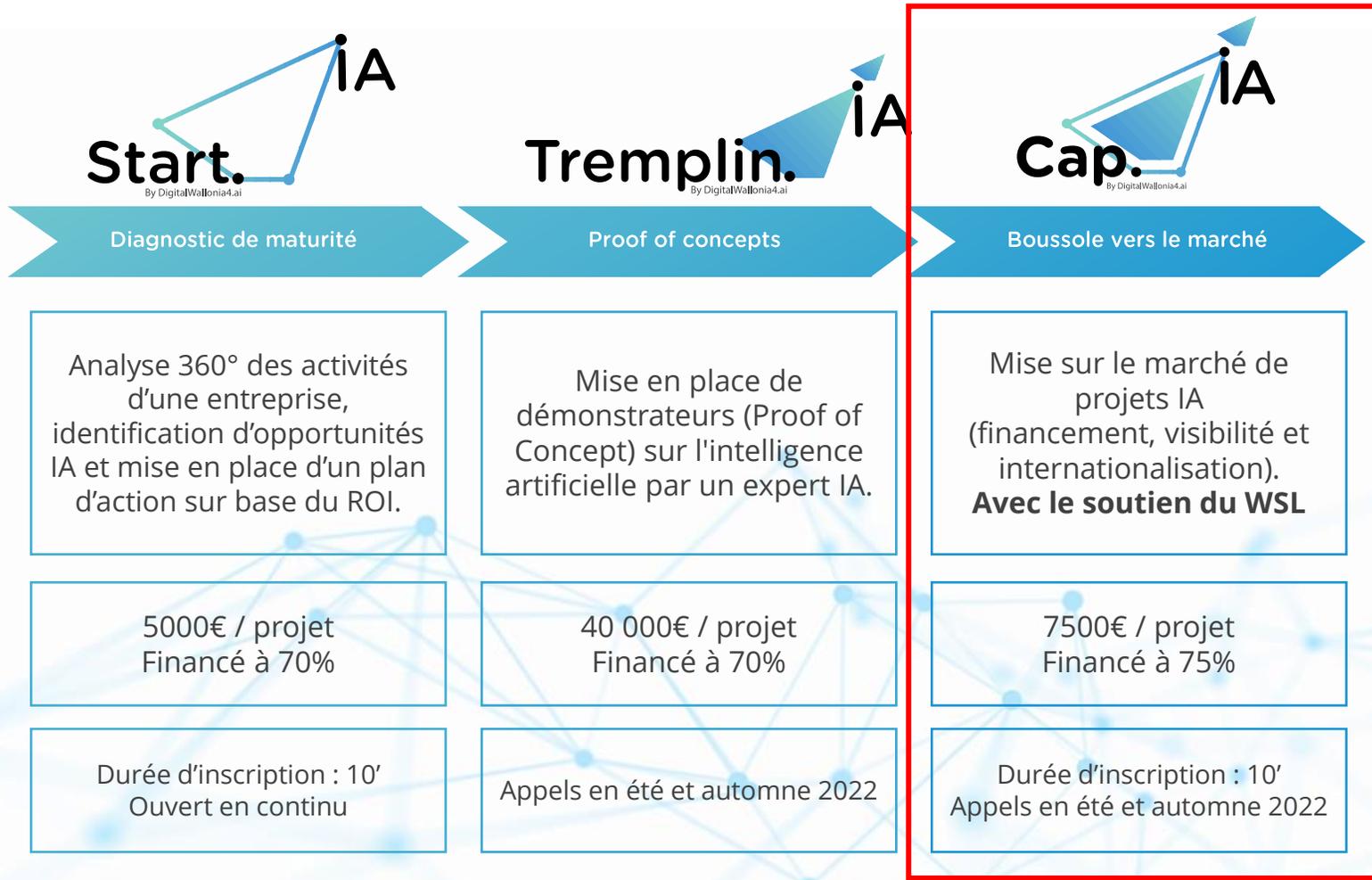
Chief Operating Officer

f.decooman@becode.org

+(32)498820190



Au service des techno-entrepreneurs en leur offrant des accompagnements et infrastructure



Robert Bury

Business coach WSL

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Membres du Comité de Pilotage



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.AGORIA



Pascal Poty

Antoine Hublet

Philippe Compère

Ferdinand Casier

Julie de Bergeyck

Jean-Philippe
Parmentier

Christophe
Montoisy

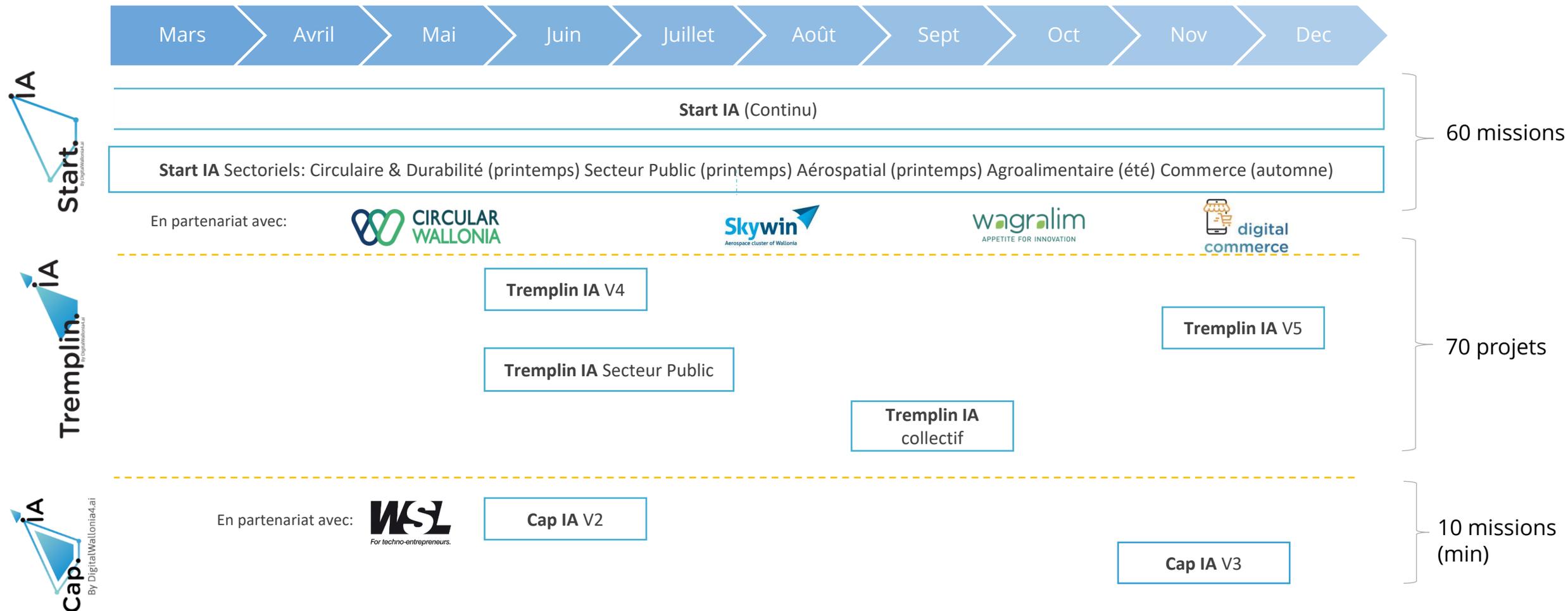
Frédéric Peters



Fabian Lapierre Nathanaël Ackerman

AI4Belgium

*Sur condition d'approbation du Gouvernement Wallon et signature arrêté ministériel

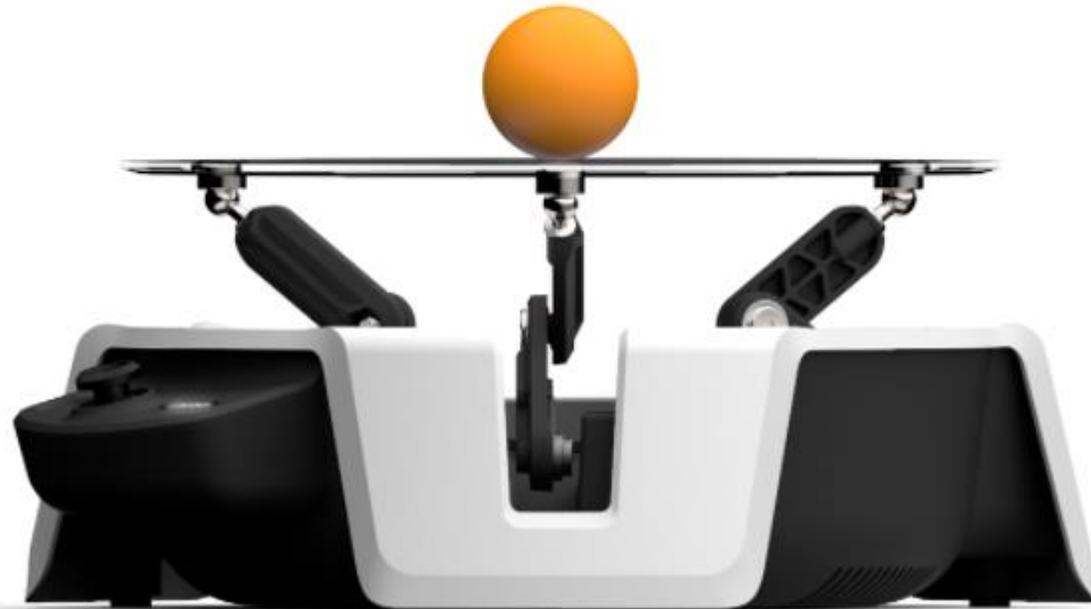


Objectif 2022: 140 lauréats (+/-3 Millions €)

Demo

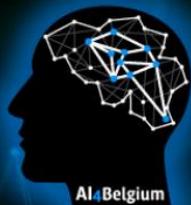
PROJECT MOAB

A Machine Teaching Hardware Kit for Autonomous Systems from Microsoft



Thank you!

digital
wallonia
4.ai



European AI Week

The European Artificial
Intelligence Week

March 14-18 2022

📍 DIGITALCITY.BRUSSELS; R. JULES COCKX 6, 1160 AUDERGHEN, BELGIQUE

PROGRAMME GENERATION IA 2030

LE 17 MARS 2022, A BRUXELLES

En ligne & présentiel
Langues: français & anglais

