

Hoe de publieke sector AI inzet, nu en in de toekomst

Webinar 13.30 – 15.00u
Dinsdag 19 mei 2020



Introductie sprekers



Martijn van de Ridder
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Public Sector Lead



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Insights & Data
Artificial Intelligence Lead



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Specialist Data & AI



Agenda

- | | | | |
|---|-------|---|------------------------------|
| ☐ | 13.30 | Welkom en introductie sprekers | |
| ☐ | 13.35 | Visie Microsoft en AI | Henriette |
| ☐ | 13.50 | Toepassing van AI in de publieke sector | Martijn en Jasper |
| ☐ | 14.20 | Korte pauze | |
| ☐ | 14.30 | ID validatie: oplossing en demo | Jasper |
| ☐ | 14.50 | Vervolg en afsluiting | Henriette, Martijn en Jasper |
| ☐ | 15.00 | Einde webinar | |



Microsoft AI for Government

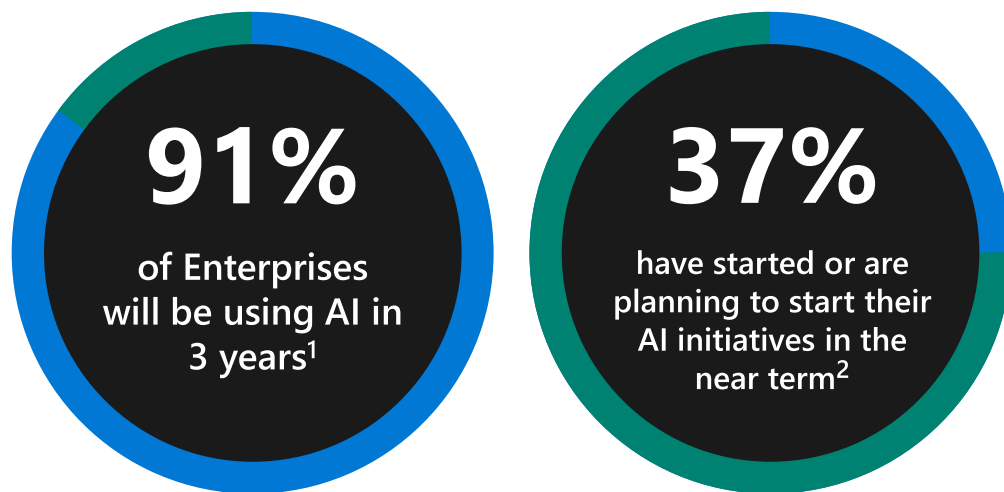
Microsoft AI Principles

Fair | Accountable | Transparent | Ethical

- 1 AI must maximize efficiencies without destroying the dignity of people
- 2 AI must guard against bias
- 3 AI needs accountability so humans can undo unintended harm
- 4 AI must be transparent
- 5 AI must be designed for intelligent privacy
- 6 AI must be designed to assist humanity



Challenges to adopting AI



1 Source: Gartner, 2019.

2 Source: Gartner, 2019.

3 Source: Gartner, 2018.

What's holding organizations back when it comes to AI?

79% Fear of the unknown

63% Finding their starting point

48% Vendor strategy

40% Enterprise maturity

Base: Answered Artificial Intelligence (AI) section; n = 890

Q43. What are the top three challenges to the adoption of AI within your organization?

ID: 355907 3

AI Business School for Government

The Microsoft AI Business School is an engaging master class series that empowers business leaders to be successful and get results from AI:



Define an AI strategy to create business value



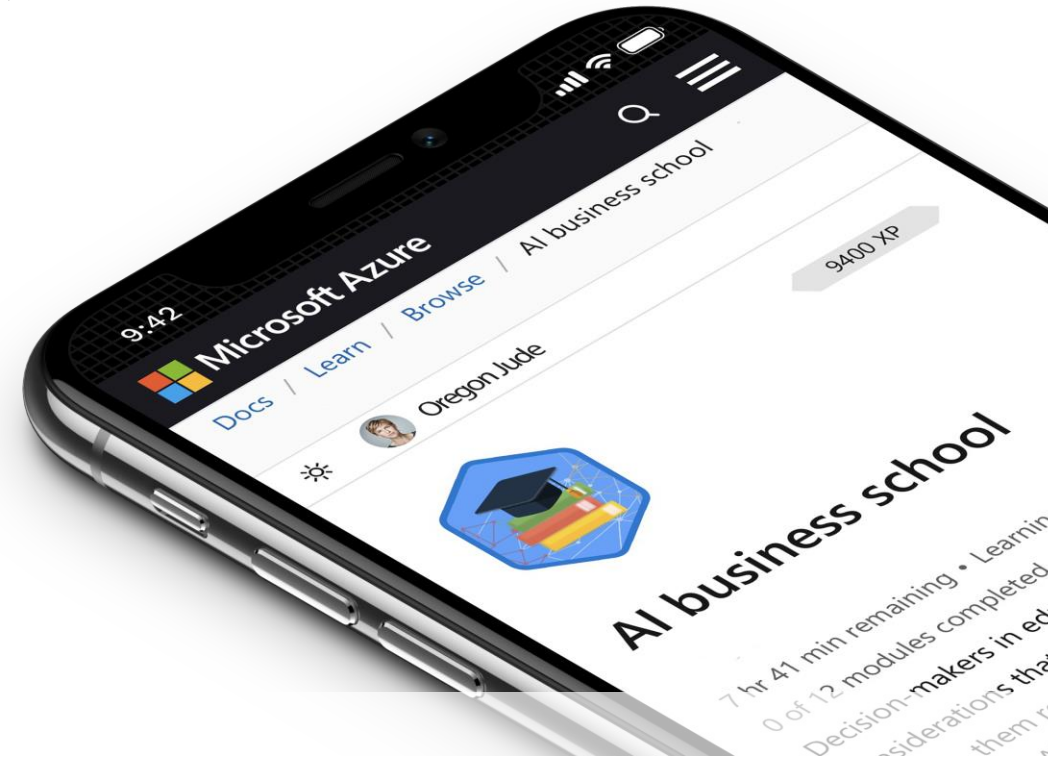
Discover ways to foster an AI-ready culture in your business



Identify guiding principles for responsible AI in your business



Introduction to AI technology for business leaders



Free, Online Leadership Series Designed for Non-Technical Audiences
<https://www.microsoft.com/en-us/ai/ai-business-school>

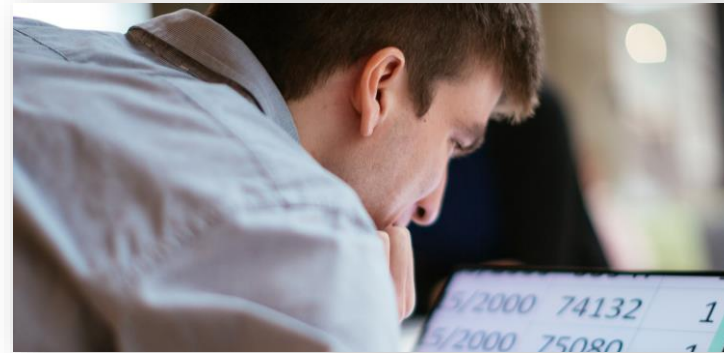
In partnership with



The Business School
for the World®

We believe in what people make possible

Our mission is to empower every person and every organization on the planet to achieve more.



Microsoft for Government



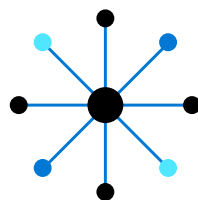
40+ years

working with governments,
deep industry knowledge
and expertise



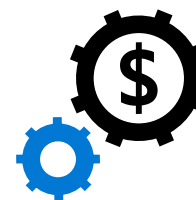
>16k

communities around
the world



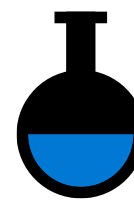
**Mature partner
program**

>top cloud competitors
combined



\$1B

invested annually
in security



\$16.9B

invested annually in
research & development

Most comprehensive set of compliance offerings of any cloud service provider, more certifications than anyone in the market

Industry-leading scale – with >\$15 billion invested in cloud infrastructure, and >1 million physical servers across 54 global regions

EMPOWERED GOVERNMENTS

Empowered Governments

Empowered citizens. Empowered societies. Empowered governments.



ENGAGE AND CONNECT WITH CITIZENS

Provide secure, inclusive and deep
citizen engagement



MODERNIZE THE GOVERNMENT WORKPLACE

Empower secure, inter-departmental
and cross-agency collaboration to
deliver more effective and efficient
services



ENHANCE GOVERNMENT SERVICES

Apply data analytics to provide
actionable, predictive, and
efficient citizen-focused services



ENGAGE AND CONNECT WITH CITIZENS

Improve

efficiency, delivery and
quality of in-person citizen
services

Enhance

citizen engagement
with digital interaction
and social forums

Enable

rapid response and
transparency to citizen
service requests

Increase

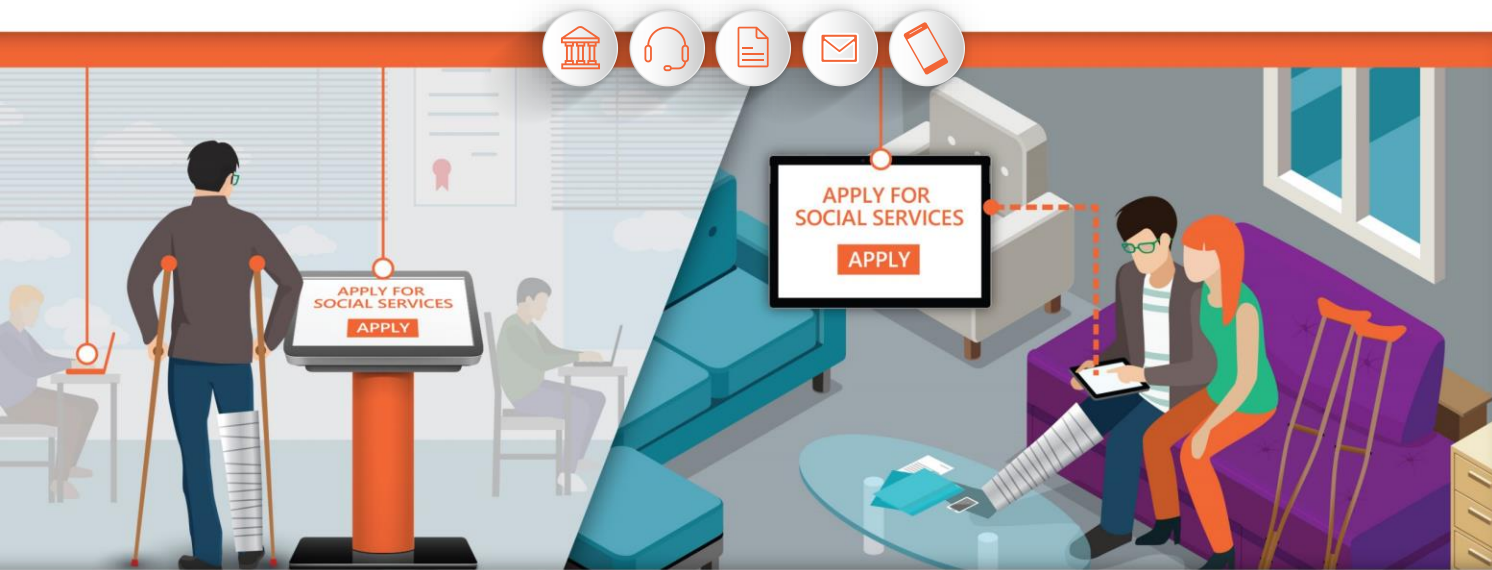
online and mobile
citizen services
experiences



EXPECTATIONS OF GOVERNMENTS ARE CHANGING

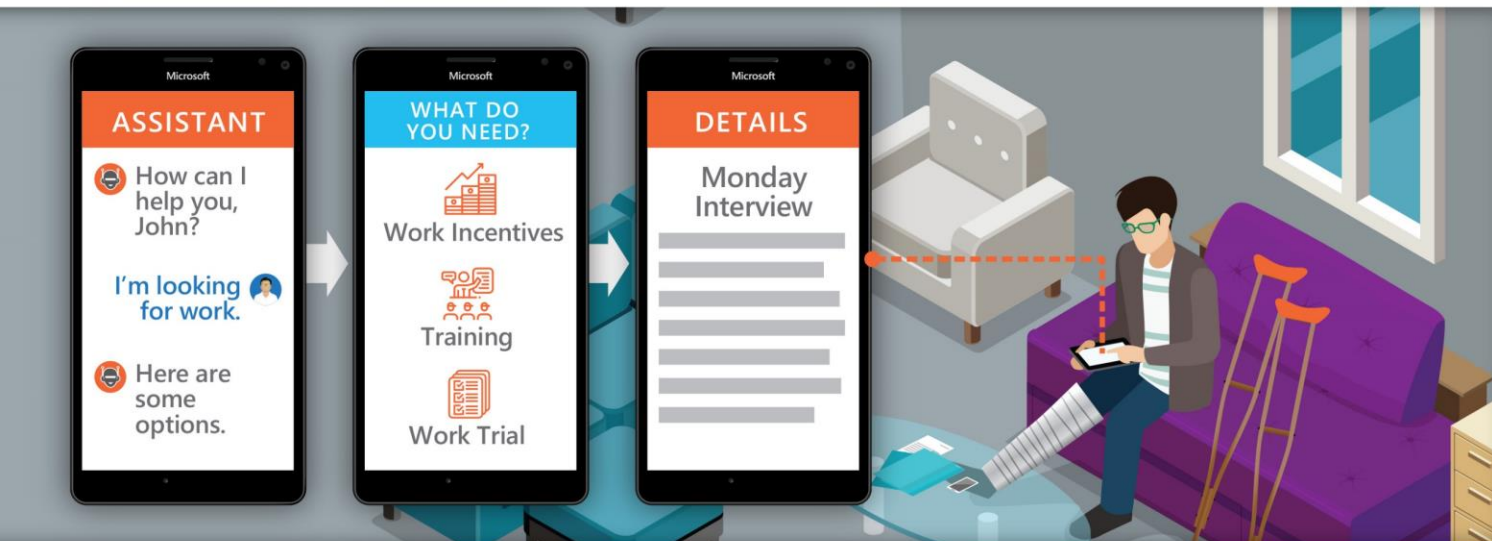


ENGAGE AND CONNECT WITH CITIZENS

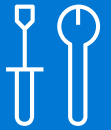


Engage and connect with citizens how they want, where they want, when they want

Enable faster response times and quicker issue resolution



Provide real time alerts and updates to keep citizens informed



MODERNIZE THE GOVERNMENT WORKPLACE

Advance

government employee
productivity with complete
collaboration solutions

Collaborate

with integrated tools
to produce better
decisions and
outcomes

Improve

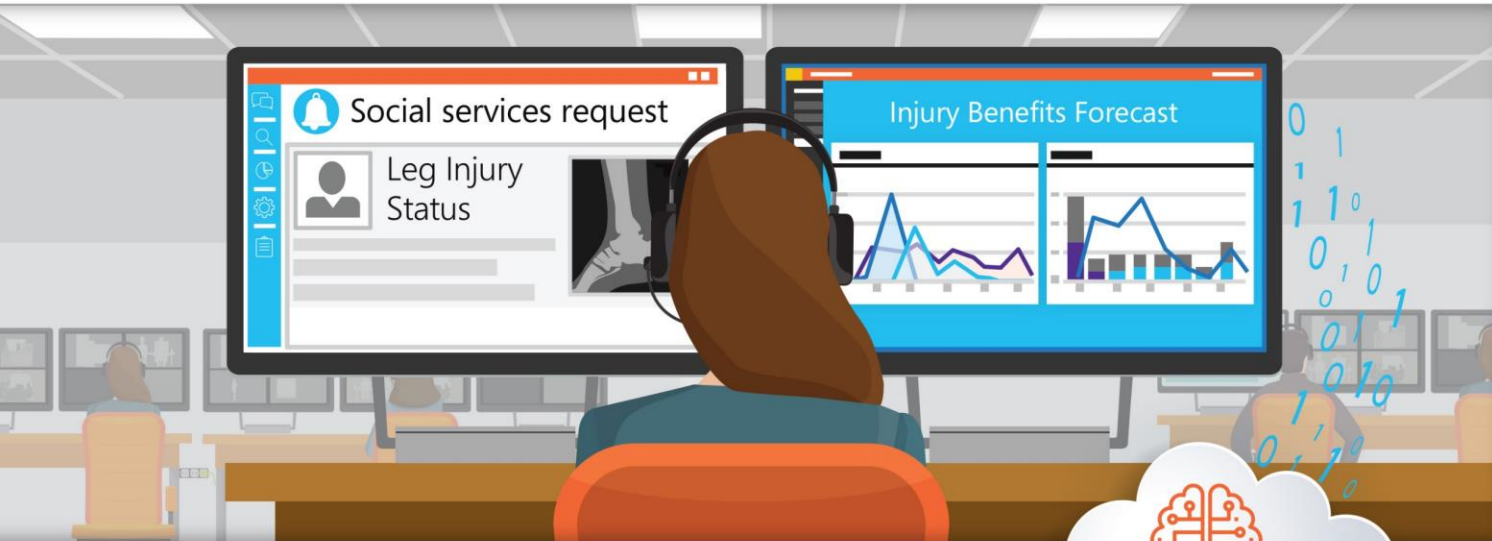
services response rates
with access to
information and people

Enhance

services experience
when employees have
the best tools for the job

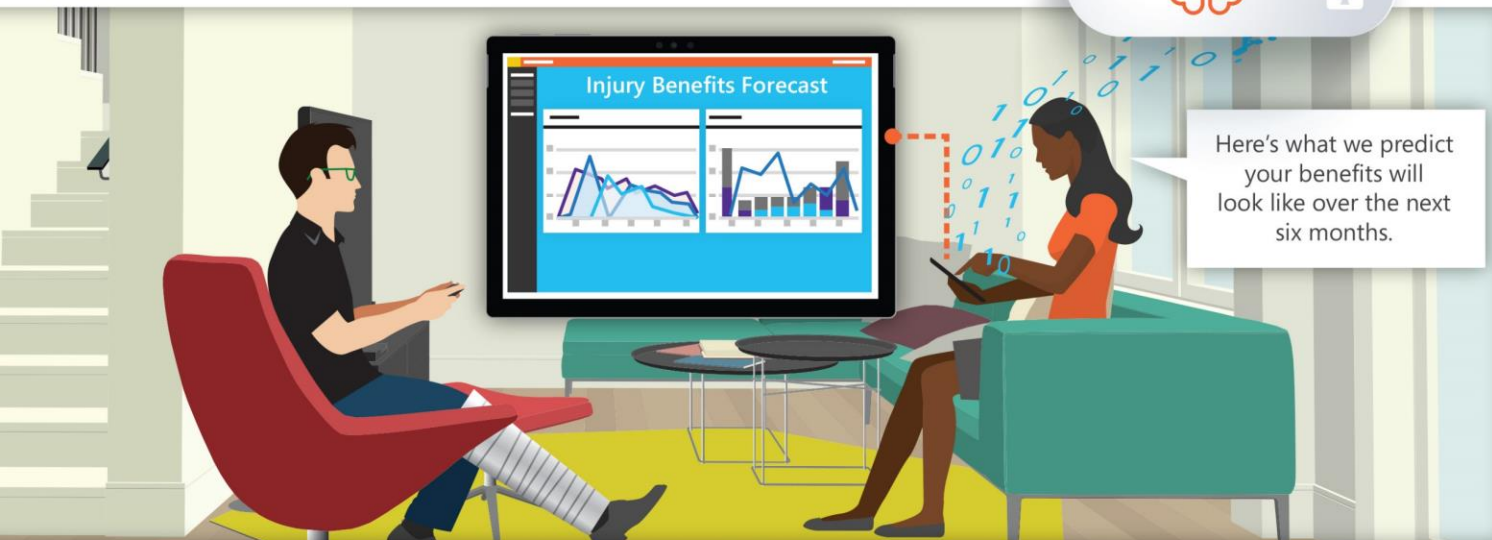


MODERNIZE THE GOVERNMENT WORKPLACE



Automate time-intensive processes by adopting intelligent tools

Increase agility and mobility so employees can stay connected anywhere



Enable cross-organization collaboration and improved productivity



ENHANCE GOVERNMENT SERVICES

Reduce

costly maintenance and
free up government
resources

Enhance

capabilities for
performing work
through mobile tools

Improve

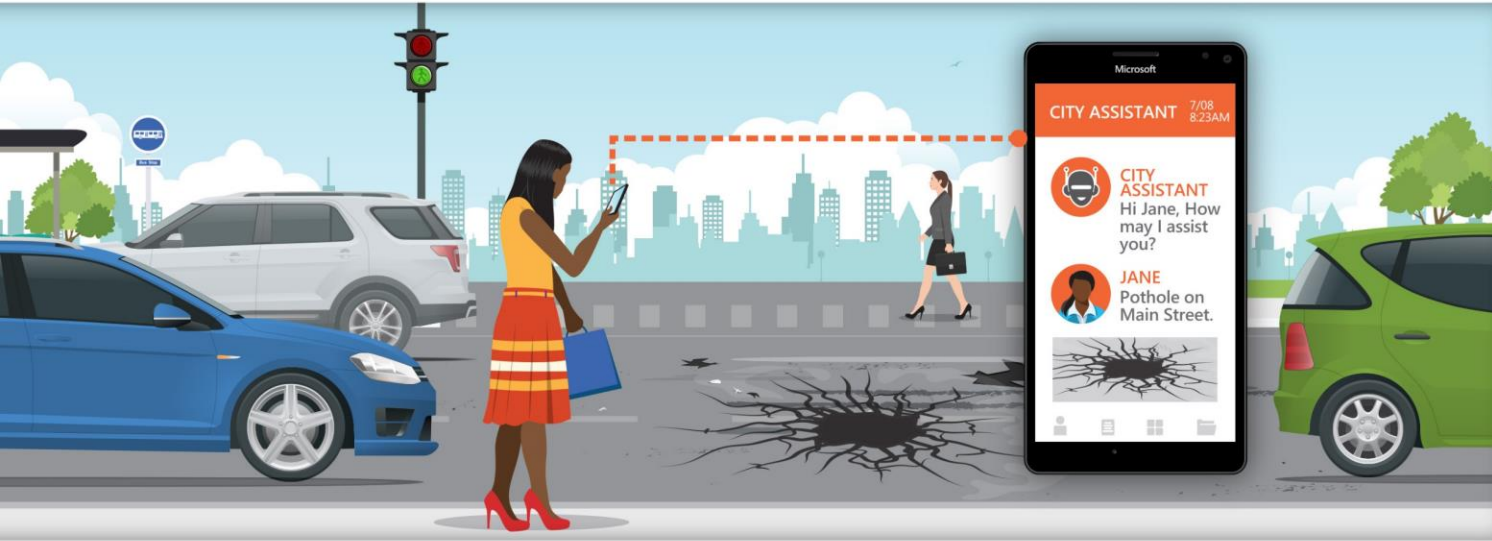
agency agility through
self-provisioning
services

Increase

resiliency with scalable,
on-demand, secure
government
infrastructure

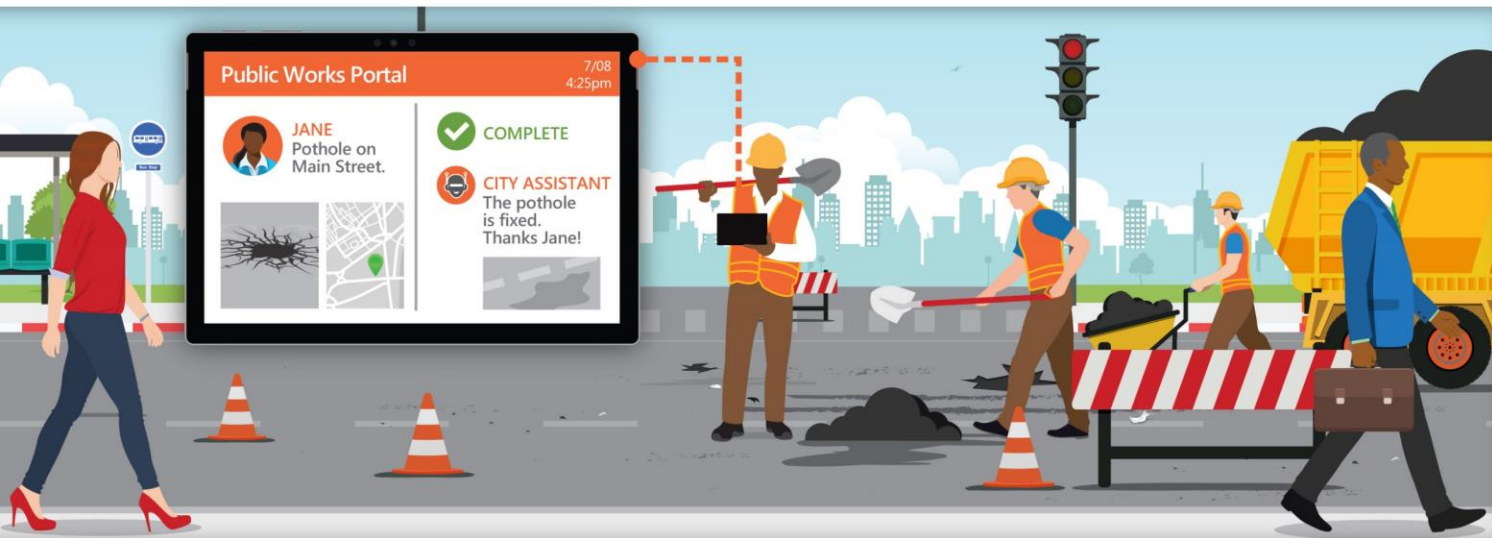


ENHANCE GOVERNMENT SERVICES



Engage and connect with citizens how they want, where they want, when they want

Enable faster response times and quicker issue resolution



Provide real time alerts and updates to keep citizens informed

CITIZEN EXPERIENCE JOURNEY MAP



DIGITAL HOTSPOTS

City Services

- Obtaining information
- Taxes and payments
- Citizen and business services
- Connecting with leaders

City Insights

- Operations management
- Energy and resource management
- Safety management
- Population Health Management

Mobility

- Traffic management
- Public transportation services
- Transportation Optimization
- Fleet management

AI in Practice



Transit for people with disabilities

The world's most popular transit-planning and navigation app develops inclusive technology to help people with disabilities use public transit.



Waste collection route optimization

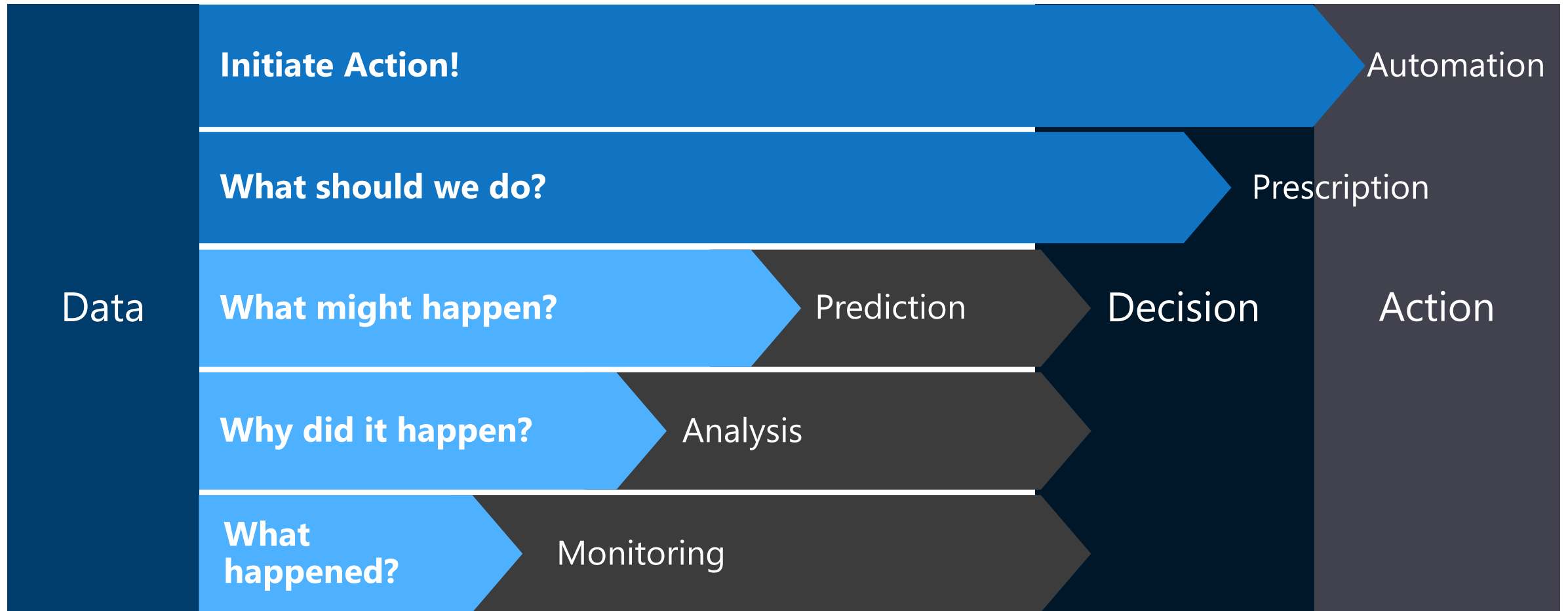
City of Seville municipal cleaning company optimizes waste collection routes and planning, resulting in an improved collection service and 66% reduction in costs.



Real-time traffic management

City of Antwerp provides travelers with a relevant multimodal or intermodal urban route planner and a real-time traffic information.

Moving from data to informed action





**Meaningful
Innovation**



**Empowering
People**



Happiness

Responsible AI

AI for Public Sector

Towards augmented public services for the citizen

Public Goes AI – The AI offering of Capgemini for the Public Sector

Perform AI

Artificial Intelligence.
Real World Solutions.

What is the Public Sector?

Large and Diverse Business with Distinct Sub-Sectors

Public Administration:

Central Government, Local Government

Defence:

Ministry of Defence; Military Police

Security:

Police and Emergency Services, Intelligence Agencies

Healthcare:

Ministry of Health, Hospitals, Health Insurances, University, Clinics

Tax & Customs:

Ministry of Finance, Financial Intelligence Units, Custom Agencies.

Welfare:

Job Employment Agencies, Social Benefit Agencies, Insurances, ...

But Common High Level Challenges

Delivering better services
(to increasingly demanding citizens)

Driving out costs
(to pay for those services)

Safeguarding and protecting citizens
against external & internal threats

And a common frame

European Privacy Law

A European Data Strategy
aiming at Pan-European open /
sharing data initiatives

The Public Sector is facing big common challenges globally

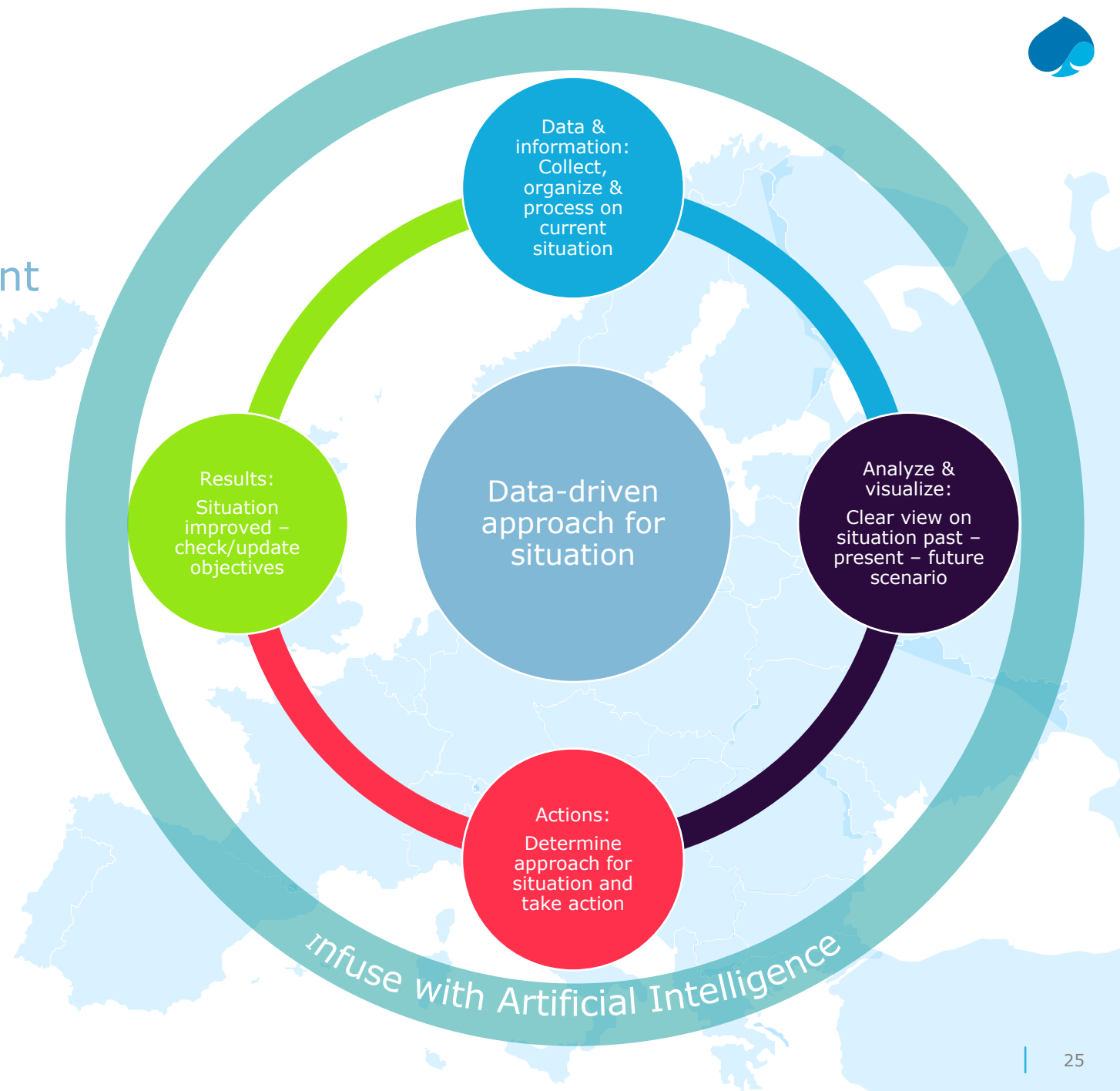
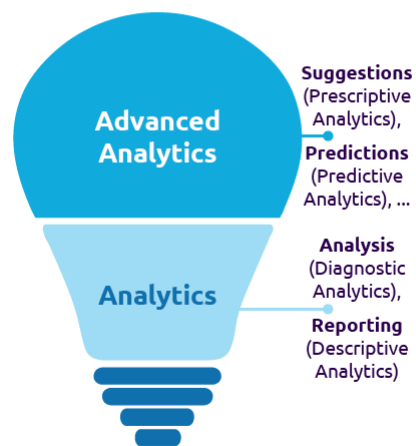


These challenges require action
Action requires insight
Insight requires data

Becoming the Data-Driven Government

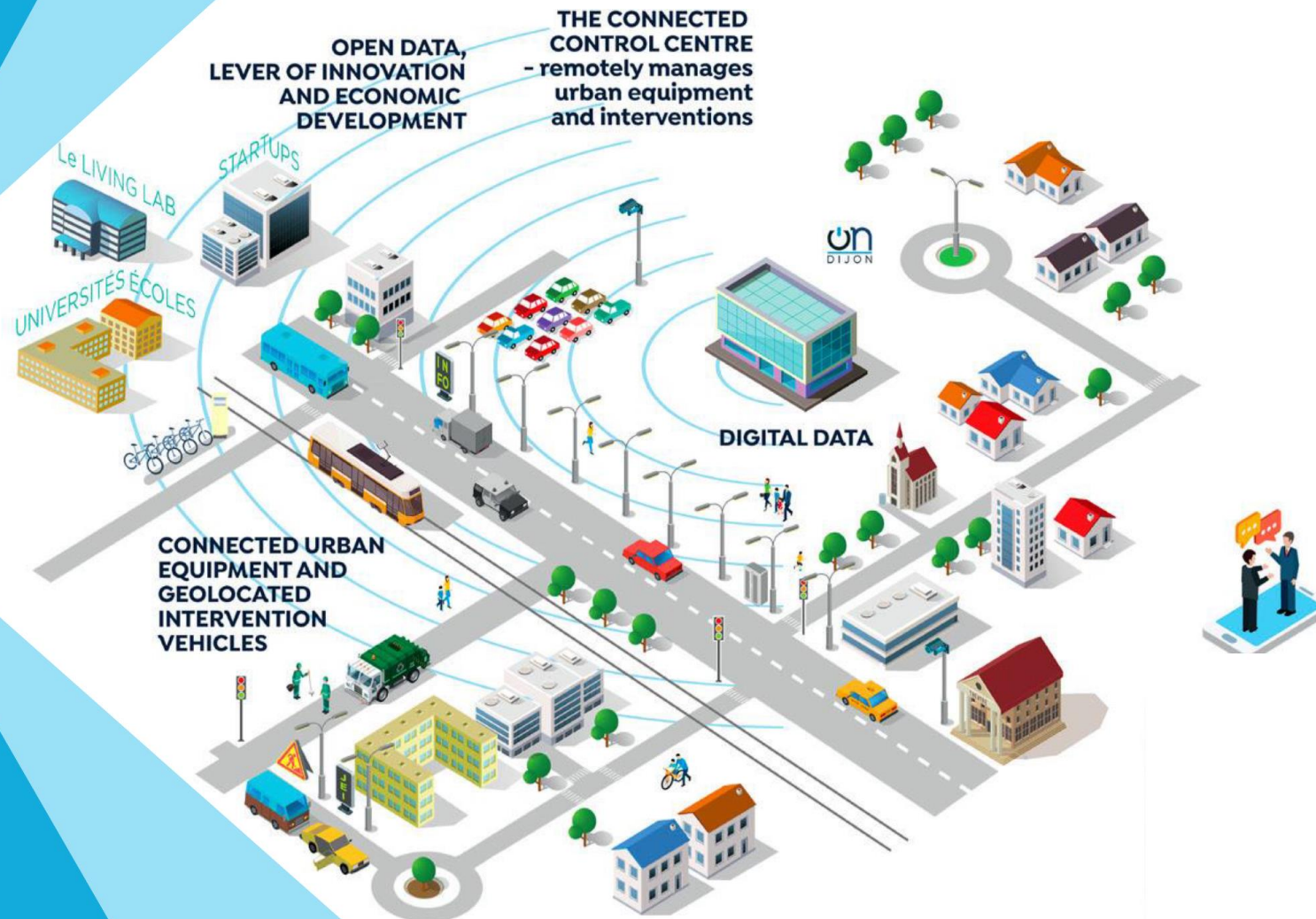


Graph 4: From Analytics to Advanced Analytics

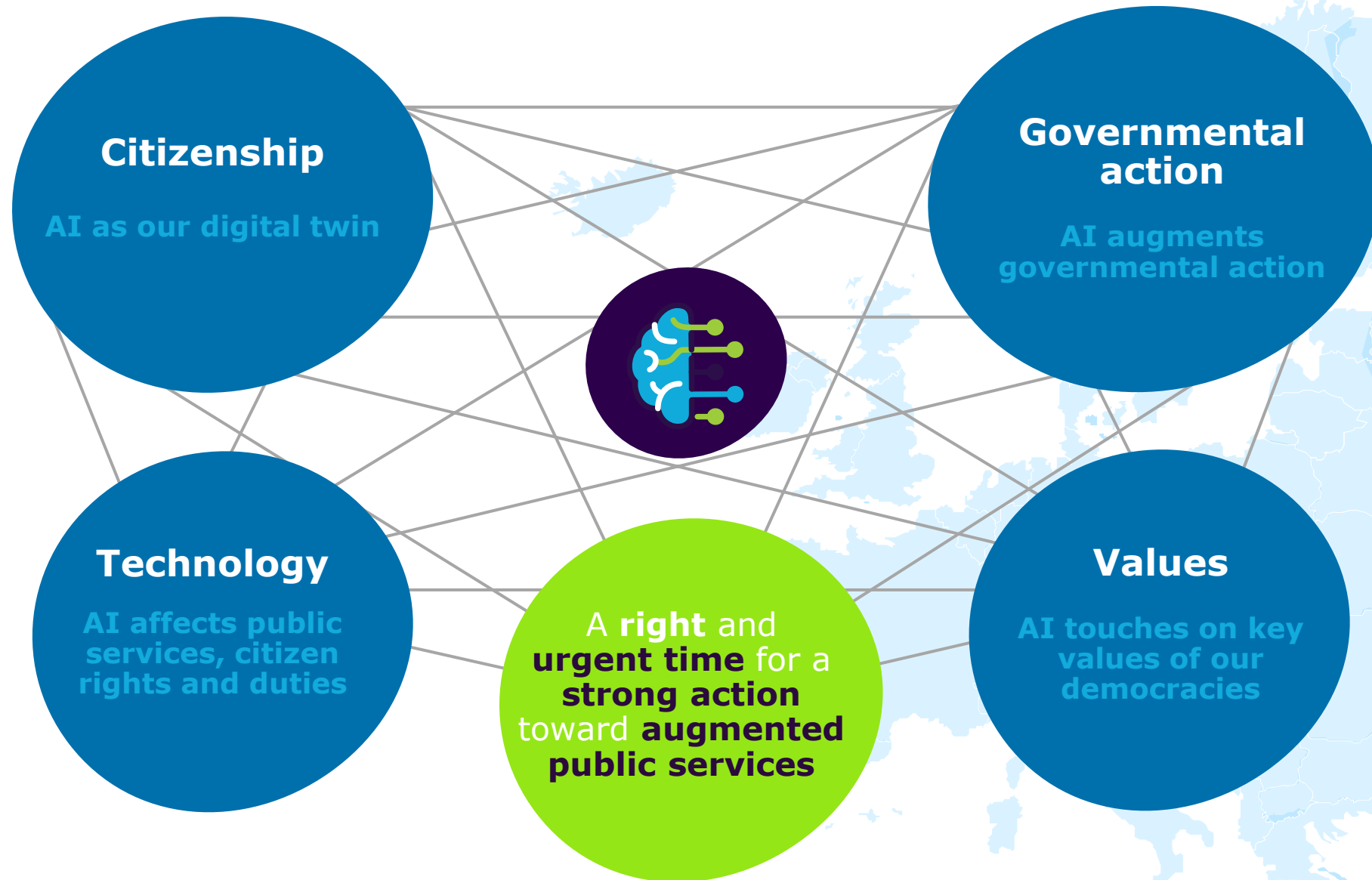


To master AI means to have data.

In the digital world we live in, AI is a **disruptive potential for the Public Sector**, shedding light on the **power of data**.



AI as key toward a digital social contract





Our 4 playfields for AI in the Public Sector

1. Intelligent Automation of Administration

End-to-end automation of administrative processes

2. Interaction with the citizen / public servant

24/7 interaction between administration, citizen and processes

3. Identifying anomalies

Real-time identification of danger, incidents & other anomalies

4. Helping in the decision making process

New and influent insights that can be leveraged for better decisions

AI helps, doesn't replace !

Augmented Public Service



AI as Tool

The human decides

AI helps

AI augments



AI with ethics

Fair

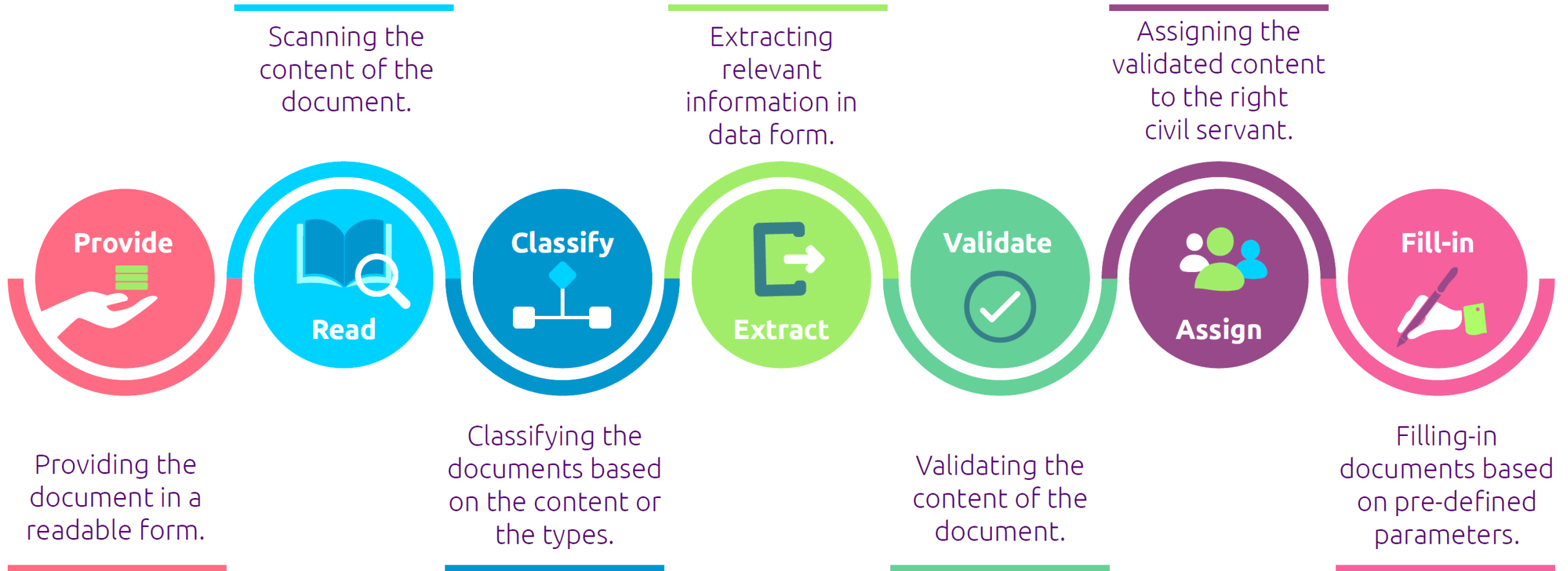
Explainable

Lawful

AI is a way of the Public Sector to master data, in order to accomplish its missions with more pace, efficiency and security



1. Intelligently automating administration processes

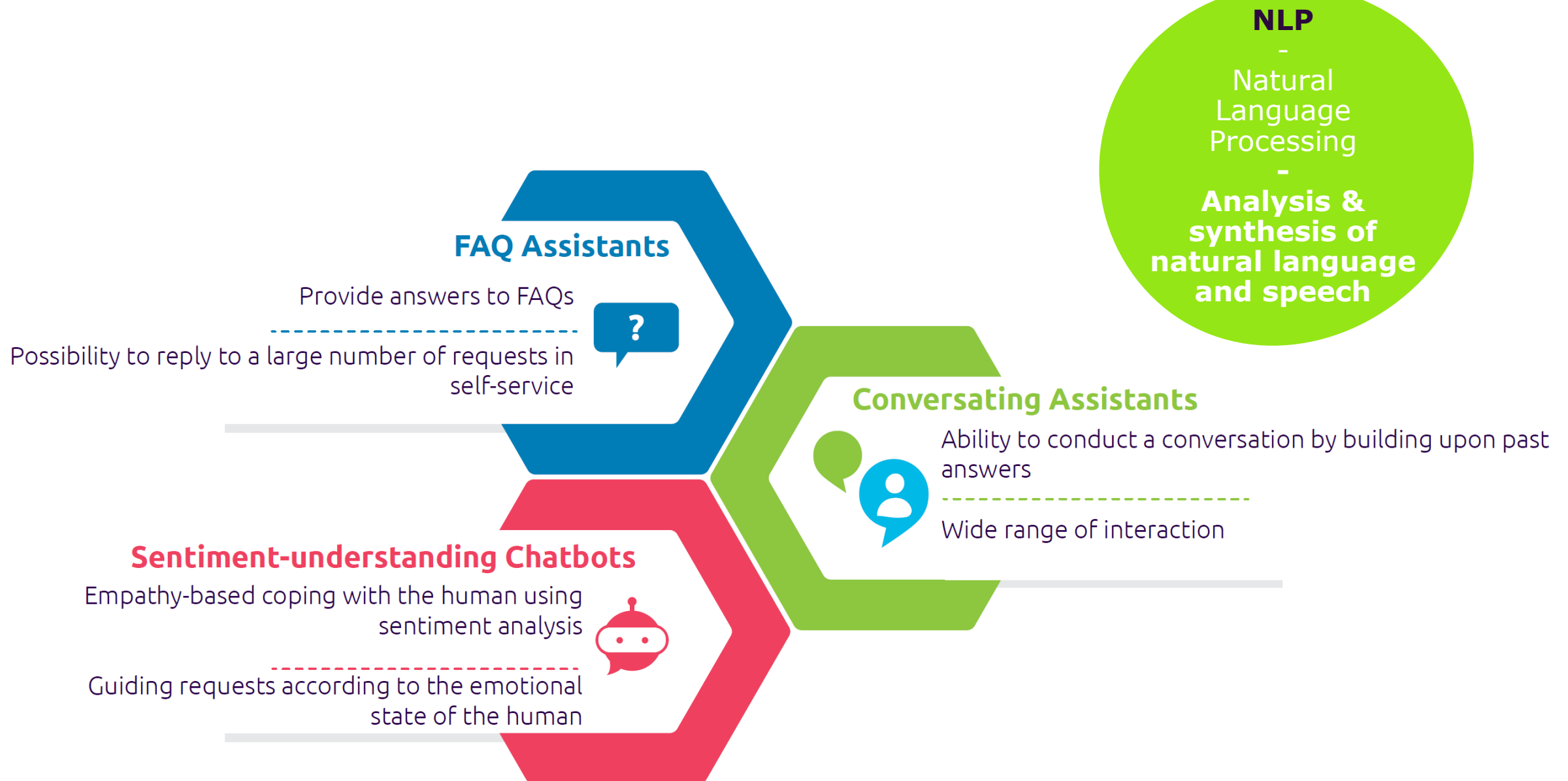


1. Intelligently automating administration processes





2. Interacting with the citizen / state employee





2. Interacting with the citizen / state employee





3. Detecting anomalies

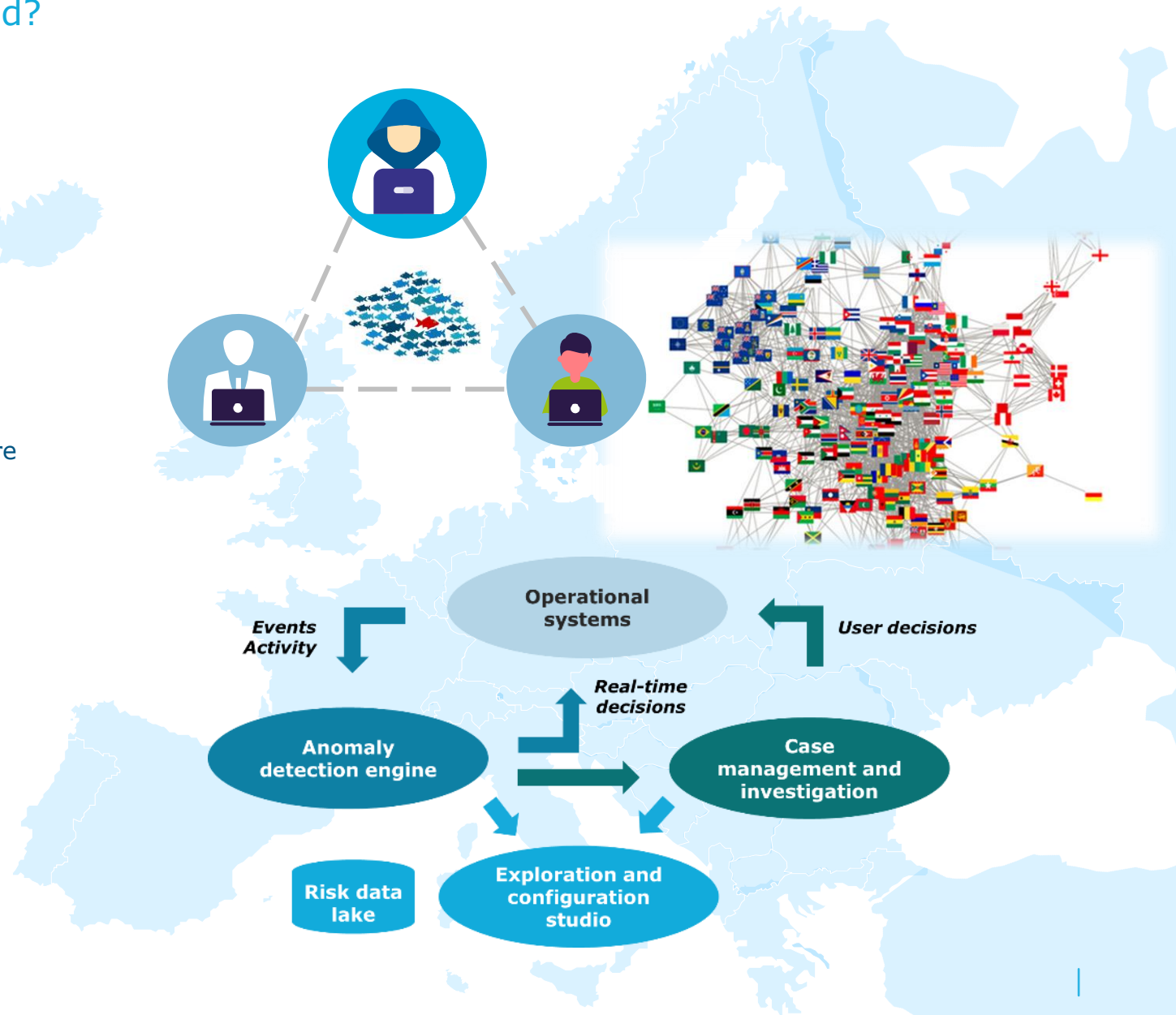
COVID19 – Anomaly detection: mistake or fraud?

New situation, new opportunities for fraudsters

- Huge volumes of requests to be paid in short time
- Companies requesting subsidies with dubious credentials, getting paid, and then going broke with no possibility of recovery
- Furloughed employees doing voluntary work which benefit to employer, while getting subsidies from government
- New employees being declared as part of a company, only to get furloughed and generate subsidies to the company
- Sick employees converted to furlough, because compensations are more generous

Automated processing to enable fast payment with low risk

- Processing of subsidy requests
- Analysis and verification of documents
- Check with company databases
- Risk scoring based on expected fraud signals
- Analysis and discovery of fraud patterns
- Social graph analysis against organized crime



3. Detecting anomalies



Public Administration

Identification of fake news during election periods

Identifying address fraud

Identifying errors within statistical data

Identifying mistreatment of animals

Tax & Customs

Identifying tax fraud (VAT fraud, money laundering)

Detecting criminality at borders

Social Welfare

Insurance fraud (document plagiarism, social benefit fraud)

Security

Dangerous situations in road traffic

Identifying people at borders

Identifying political and religious radicalization or online hate speech on social media

Defence

Identity assertion at borders

Analysis of seized material in relation to organized crime

Healthcare

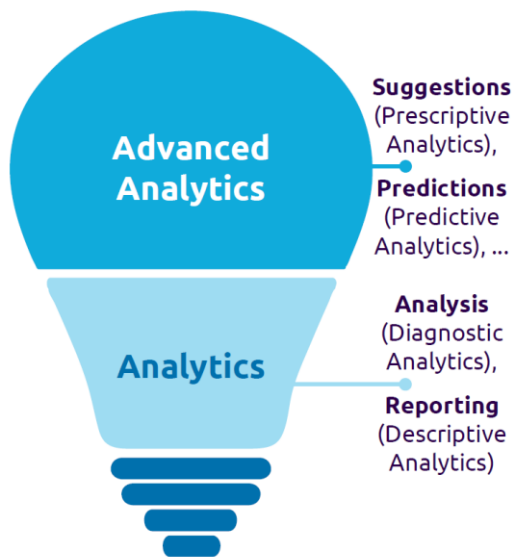
Cancer and disease detection

Using AI to prevent fraud in drug management / prescriptions or by detecting anomalies in the invoicing of doctors and insurance companies

4. Helping in the decision-making process

Reduce uncertainties, complexities and deliver predictability

Help public organizations to move from identifying issues to resolve these before they occur.



Renovation of 34,000 streetlights	142 km of optical fiber	65% energy savings	1 unique referential
100% LED and Citybox® remote management	Maintenance costs divided by 2	220 CCTV	148 traffic lights
220 public buildings	1600 parking spaces	205 geolocated vehicles	City Command Center 24 / 7





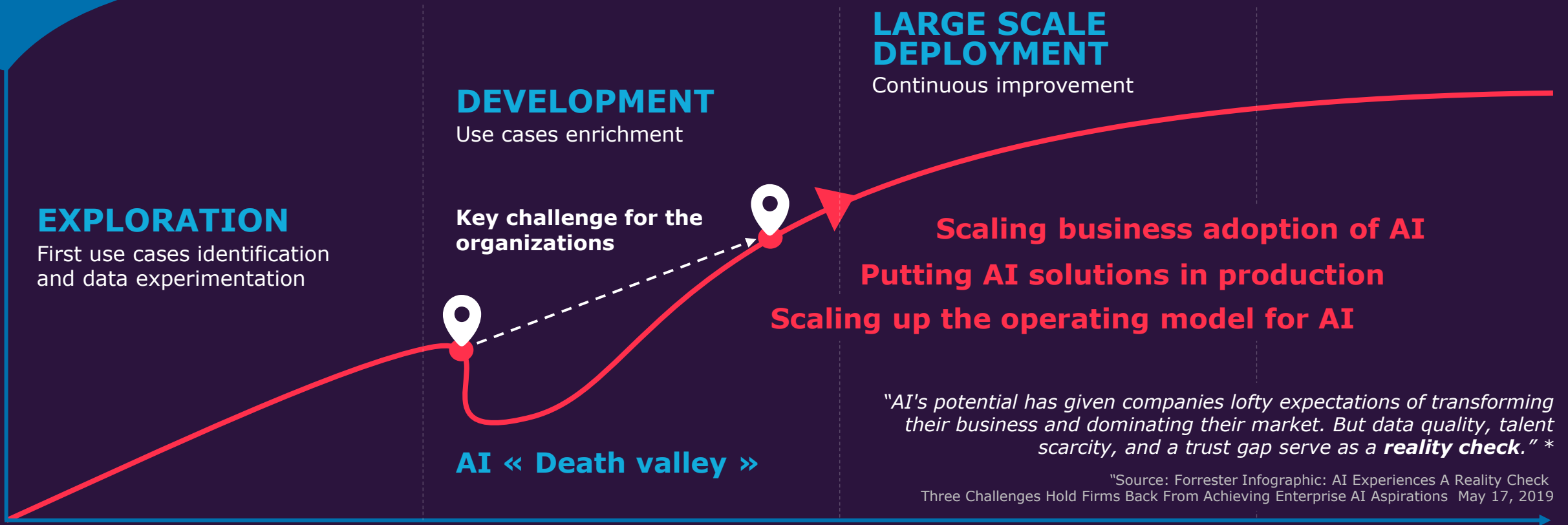
4. Helping in the decision-making process



Current challenge with AI: Realizing concrete business benefits at scale



AI needs EXECUTION to bridge the AI Death Valley and SCALE



Source: Capgemini Invent – AI maturity curve in the customer relationship field

Beyond the Hype – Successful AI projects

Not only for Public Sector projects

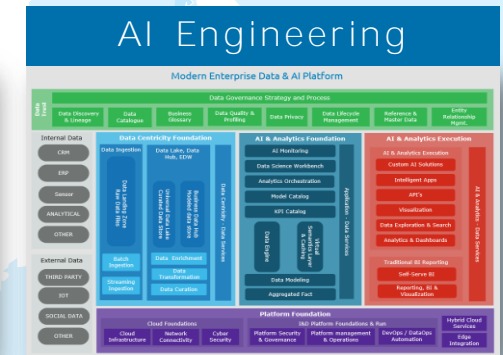
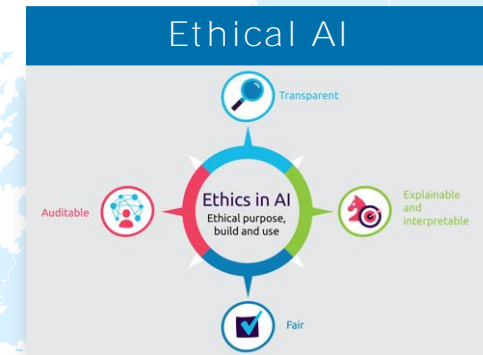
Perform AI

Artificial Intelligence.
Real World Solutions.

Four reasons, why AI projects fail

Answers

- **Death Reason I – AI without goal**
- **Death Reason II – AI without scalability**
- **Death Reason III – AI without data**
- **Death Reason IV – AI without humans**



Real-life examples for AI in the Public Sector

Augmented Job Search



Intelligent Case Management for cities



AI Platform for the Security forces



AI enabled Smart Cities



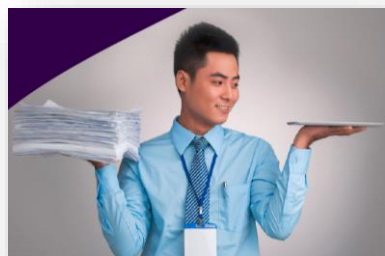
Fighting Diseases & Cancer



AI for Fraud Detection



Cognitive Document Processing



Citizen Services Guidance bot



Patient flow at the hospital

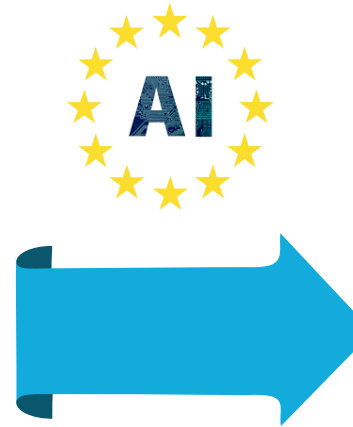
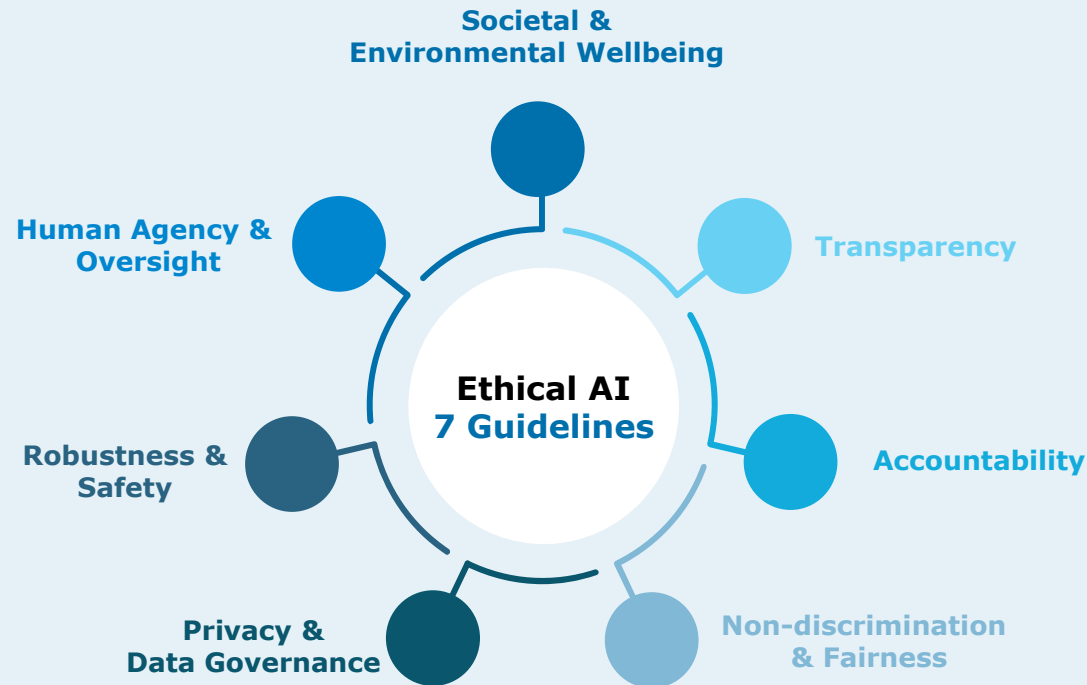




The ethical debate on AI is getting more and more relevant

Guidelines & Principles are required!

EU's High Level Expert Group on AI



Capgemini
RESEARCH INSTITUTE

Capgemini adapts!

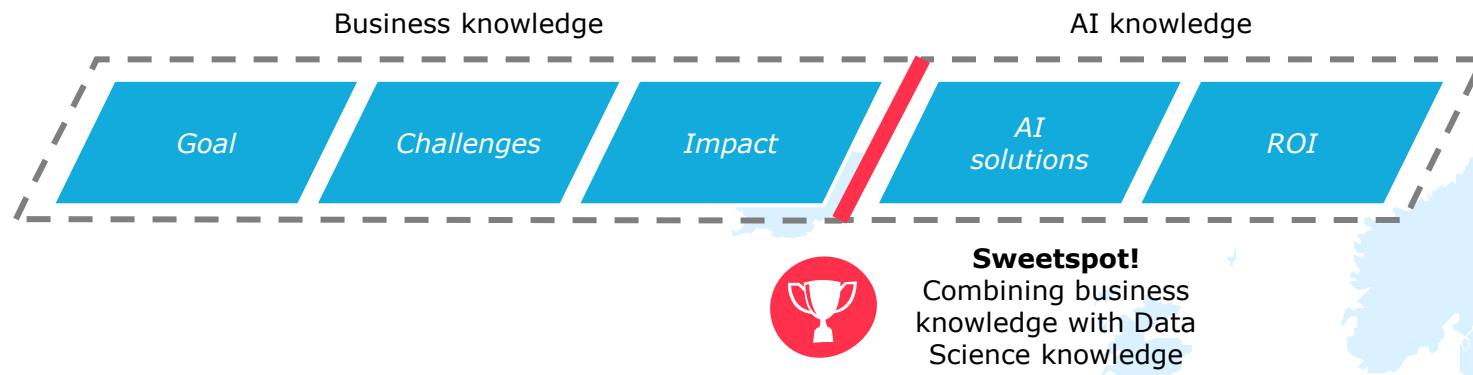


+ Capgemini is part the
Nationale AI Coalitie

Tooling by Capgemini is necessary in order to create and implement guidelines

We invite you to a free, high-level AI-value discovery workshop

<https://www.capgemini.com/nl-nl/bronnen/webinar-week-ai-public/>



1

What are the use cases that are interesting in your context?

High

Low

Difficult

Easy

Ease of implementation

2

How to start with implementing AI use cases?

AI Project Canvas

Title:

AI Project Canvas

Title:

AI Project Canvas

Title:

Data

Skills

Value Proposition

Integration

Customers

Output

Stakeholders

Cost

Revenue

Sustainability Value Canvas

Contact us for an AI value discovery workshop!

<https://www.capgemini.com/nl-nl/bronnen/webinar-week-ai-public/>



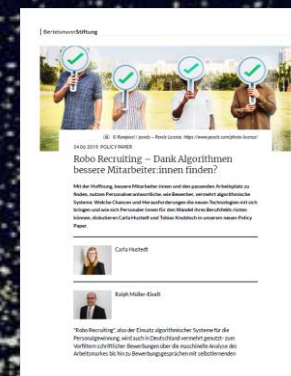
Jasper Hillebrand

*Insights & Data Artificial
Intelligence Lead*



Martijn van de Ridder

*Insight & Data Public Sector
Lead*



Identity Management

AI for public

Jasper Hillebrand

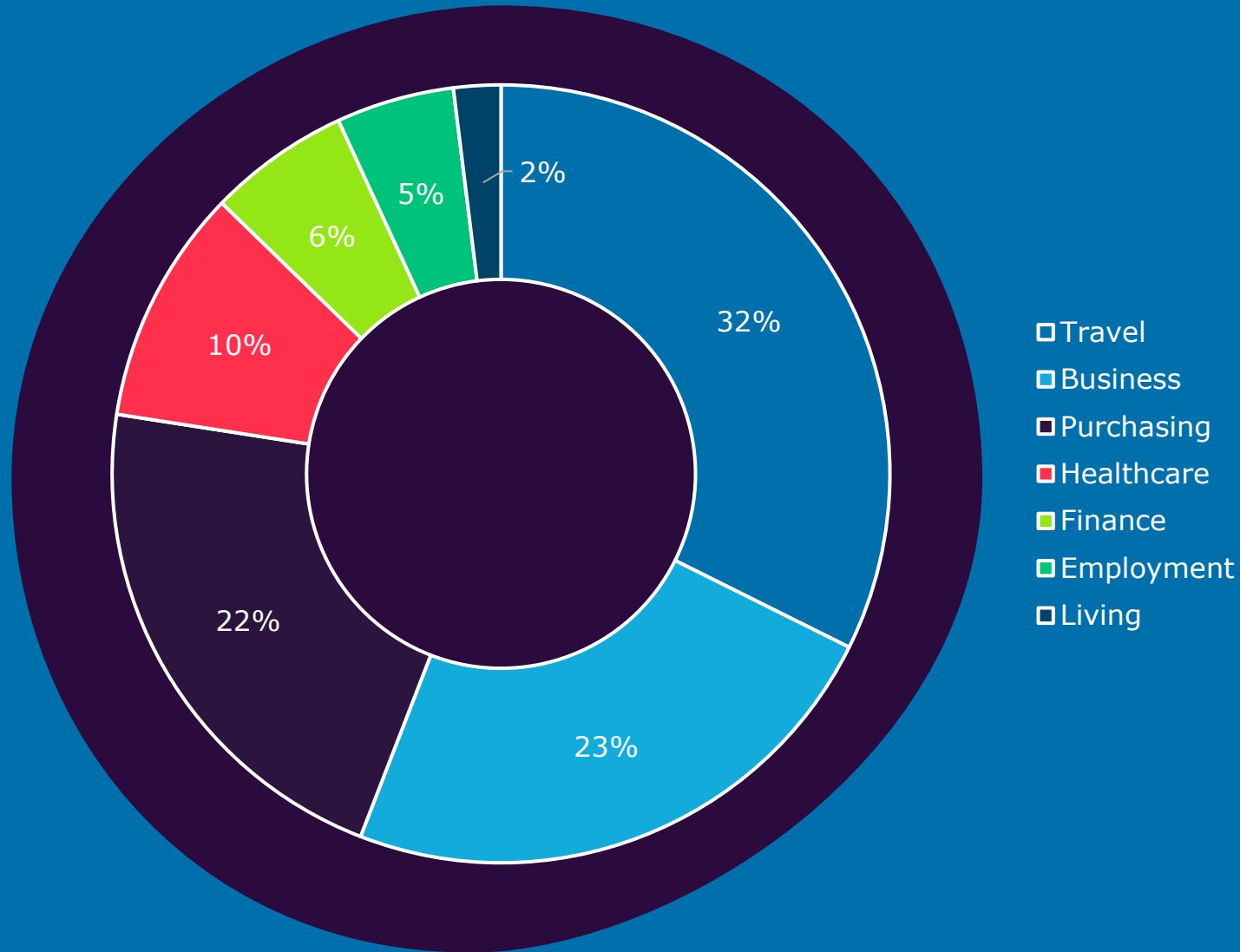
Data Science & Analytics Lead Capgemini
Insights & Data Netherlands

Martijn van de Ridder

Public Sector Lead
Insight & Data Netherlands



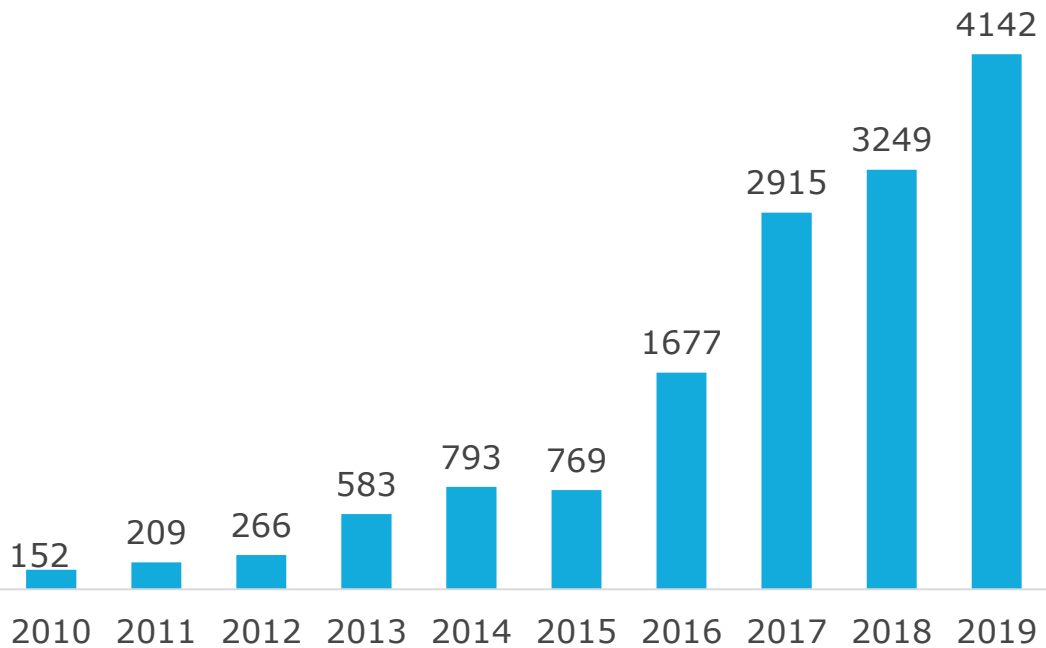
Personal Identification plays a large and important role within our lives, where travel is the most dominant sector



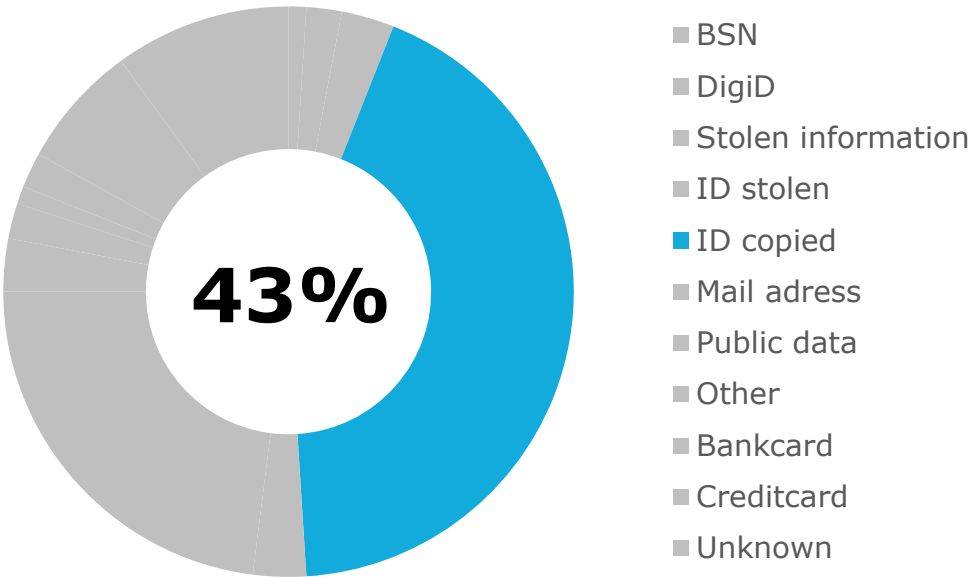
In the last 4 years the Netherlands witnessed an increase of identify fraud, where most fraud was committed using the ID



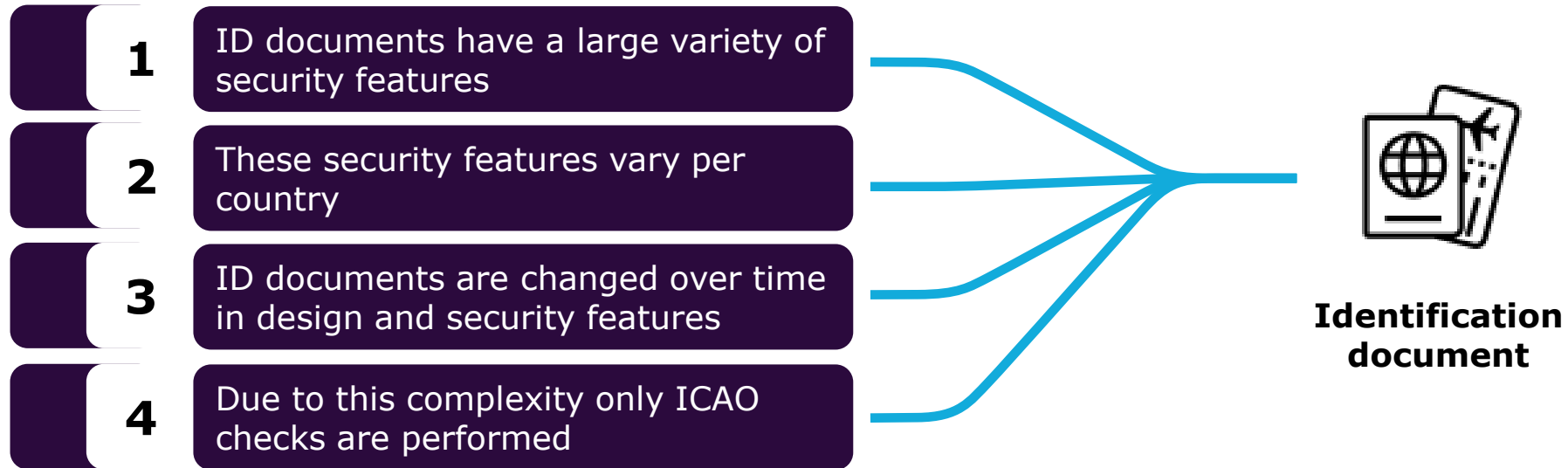
Reports on identity fraud



Object used for identity fraud

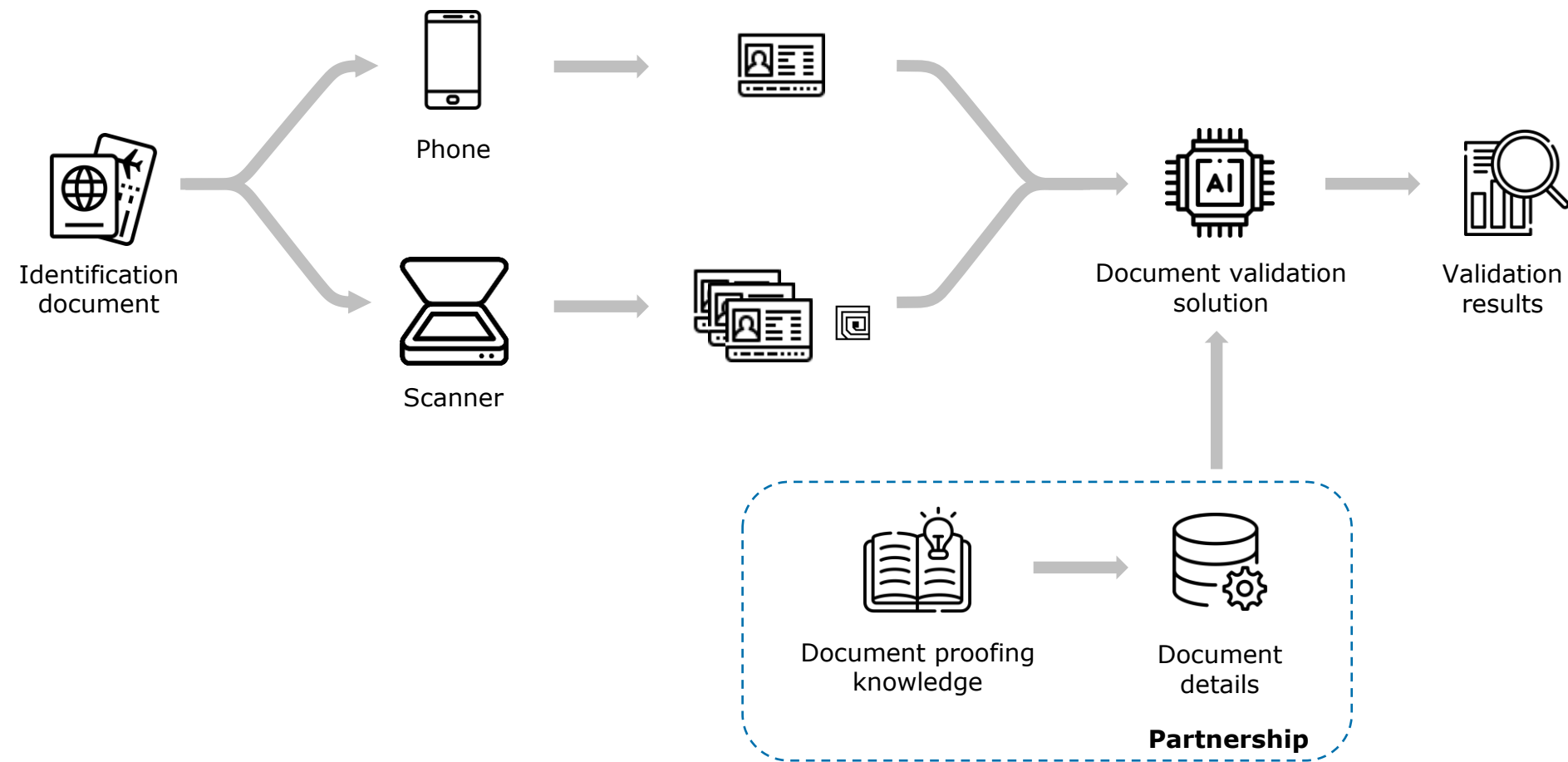


As ID fraud is on the rise, ID validation will play a more important role; however, systems are not able to validate all features of an ID document 



Capgemini wants to reduce ID fraud and has been actively working on a solution that can overcome these challenges

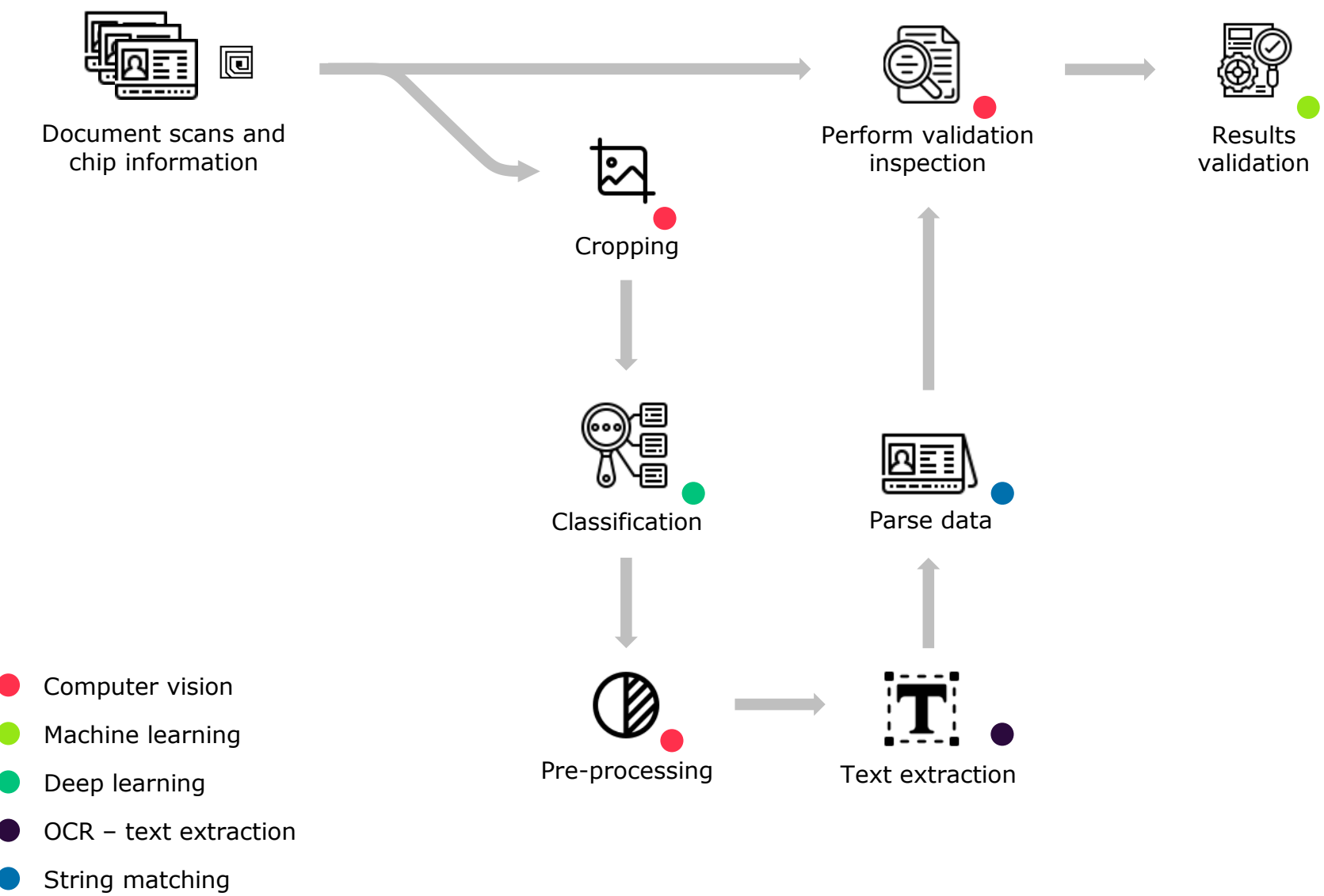
Our solution combines ID proofing knowledge with AI technology and enables validation on scale






Plaats een document op de scanner

Our solution leverages on Computer Vision, Deep-learning and OCR technology to realize a high level of validation confidence



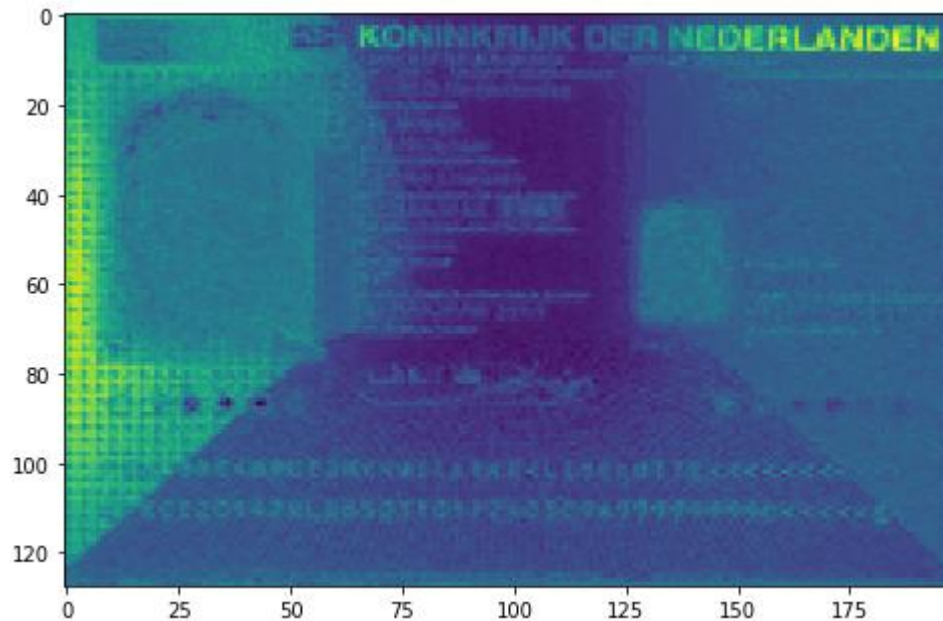
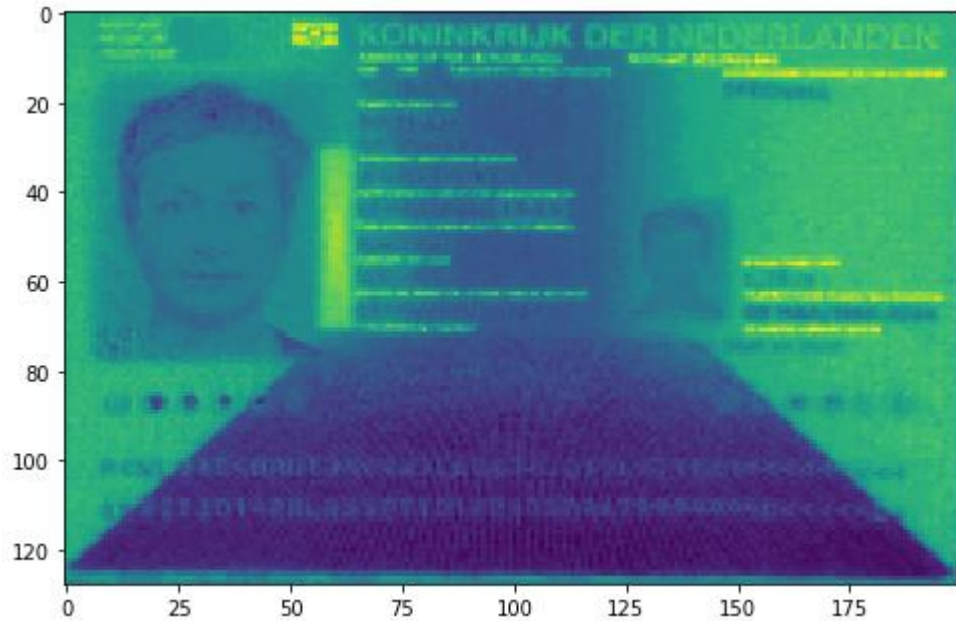
[illegible]

Deep-learning technology allows us to classify the document that is on the scanner while only having one reference image

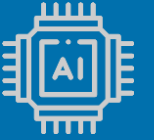


Classification

GDPR regulations prohibits us from storing ID documents, which implies that there is only one reference image per ID document. A special implementation of deep-learning technology still enabled us to classify these documents.



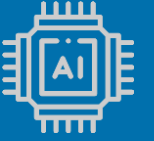
The eye's of the deep-learning model triggering on the security features and the text location.



Document validation solution

Pre-processing

ID documents vary in color and material, which can result in reflections on the scan. A combination of three advanced pre-processing methods enables us to handle these variations.



Document validation solution

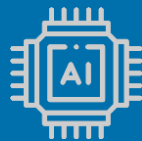
Parse and compare the extracted MRZ data with the extracted OCR data



Parse data

The MRZ of ID documents is structured in a predefined way depending on the document type. This enables us to extract the underlying data and use a smart string matching algorithm to compare it with the extracted data from the OCR.

	MRZ	OCR	String Matching
DocumentType:	P<NLDDE<BRUIJN<<WILLEKE<LISELOTTE<<<<100 %<<<<		
CountryCode:	NLD		100 %
Surname:	SPECI20142NLD6503101F2403096999999990<<<<84	De Bruijn	100 %
GivenNames:	Willeke Liselotte	Willeke Liselotte	100 %
DocumentNumber:	SPECI2014	SPECI2014	98 %
CheckDigit1:	2	-	-
Nationality:	Nederlandse	Nederlandse	100 %
DateOfBirth:	10-03-1965	10-03-1965	100 %
CheckDigit2:	1	-	-
Gender:	F	F	100 %
DateOfExpiry:	09-03-2024	09-03-2024	100 %
CheckDigit3:	6	-	-
BSN:	999999990	-	-
CheckDigit4:	8	-	-
CheckDigit5:	4	-	-

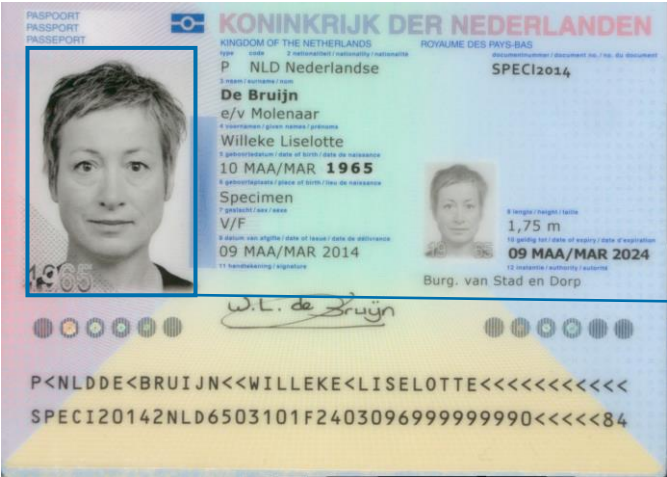


Document validation solution

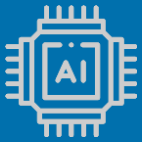
Validating the document is just one step, we also validate if the person holding the document is the rightful owner



Face matching technology allows the solution to match the images from the document and chip with a live photograph. Capgemini uses software from one of it's partners to bring state of the art classification results.



Facial comparison is done on all available sources. Counterfeit documents often have a sticker over the White-light image, blocking the original image. However, the original image is visible in the IR image, allowing us to instantly flag this document as false!



Document validation solution

ID validation authentication requires your attention, and through Capgemini's solution you can give it all it needs!



Performs document validation within 8 seconds and on scale



Our solution leverages on ID proofing knowledge through existing partnerships



It performs validation beyond the checks (ICAO) that are found in existing solutions, giving you just that extra bit of safety



It provides a robust alternative even when you don't have documents scanners available



Available as an application, but soon also "as a service" for one-time use by smaller organizations

Let's fight identity fraud together



<https://www.capgemini.com/nl-nl/bronnen/webinar-week-ai-public/>



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Artificial Intelligence Lead



Martijn van de Ridder
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Public Sector Lead

Afsluiting en Q&A



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