

Innovation at Dutch Customs



Pushing Boundaries – The Next Steps!
Smart Enforcement – Smooth Logistics



Mission:

- Guarantee

- * a solid collection of duties and taxes at import (and export)**
- * safeguarding the society against direct threats for humans, flora, fauna and environment**
- * controlling prohibitions and restrictions concerning (product) safety, health, environment and economy**

At the same time:

Contribute to the countries' competitiveness

SUPERVISION – FACILITATION

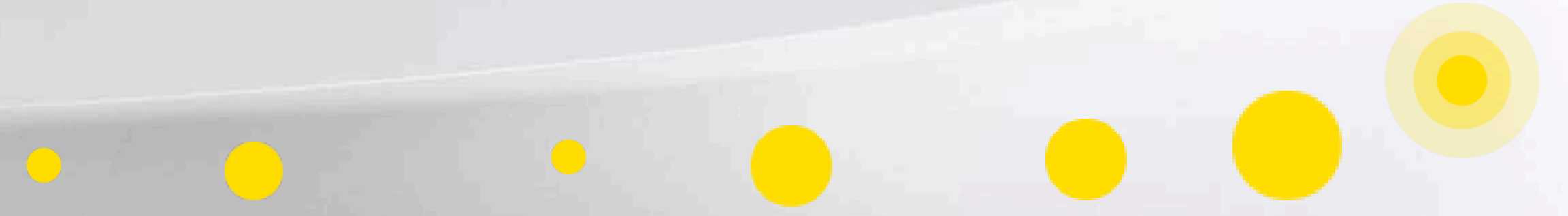


Developments:

2017

180.000.000

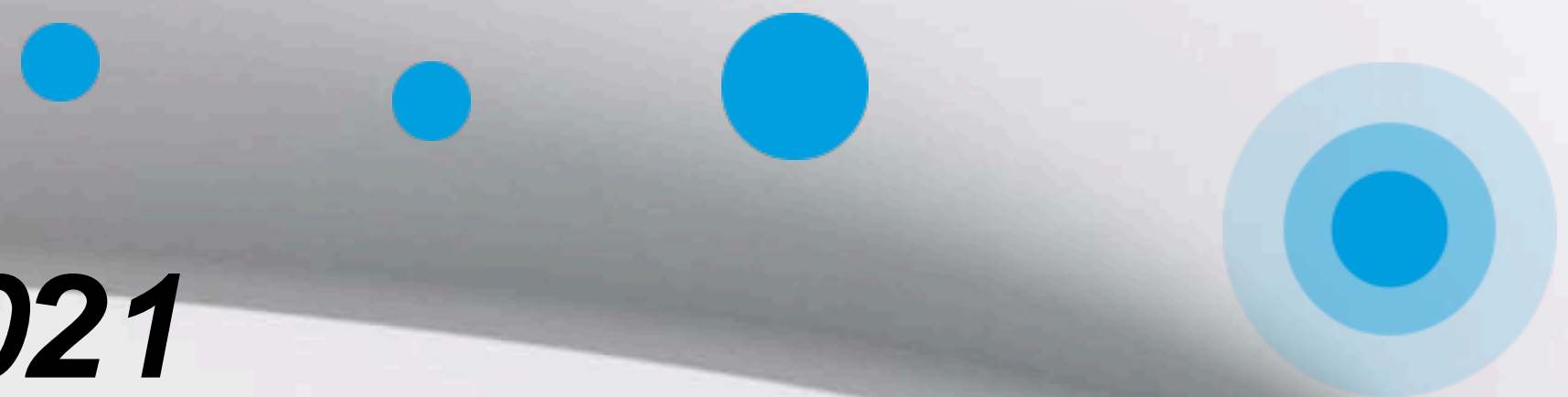
IT customs transactions



2021

350.000.000 ???

IT customs transactions



2007

8.000.000

IT customs transactions





HAZARD

A **HAZARD** is something that has the potential to harm you



RISK

RISK is the likelihood of a hazard causing harm



Challenge

FROM IF-THEN SELECTIONS TO ALGORITHMS



The dilemma: From innovation to implementation

(Possible) transfer
for implementation

Explore Evaluate

Research

Generating idea



Vision on innovation

- Innovation must contribute to a responsive Customs
- This means a Customs Organization that can deal with all challenges from a pro-active attitude, with resilience and adaptability
- More attention for increasing adaptability and innovative power of Customs.



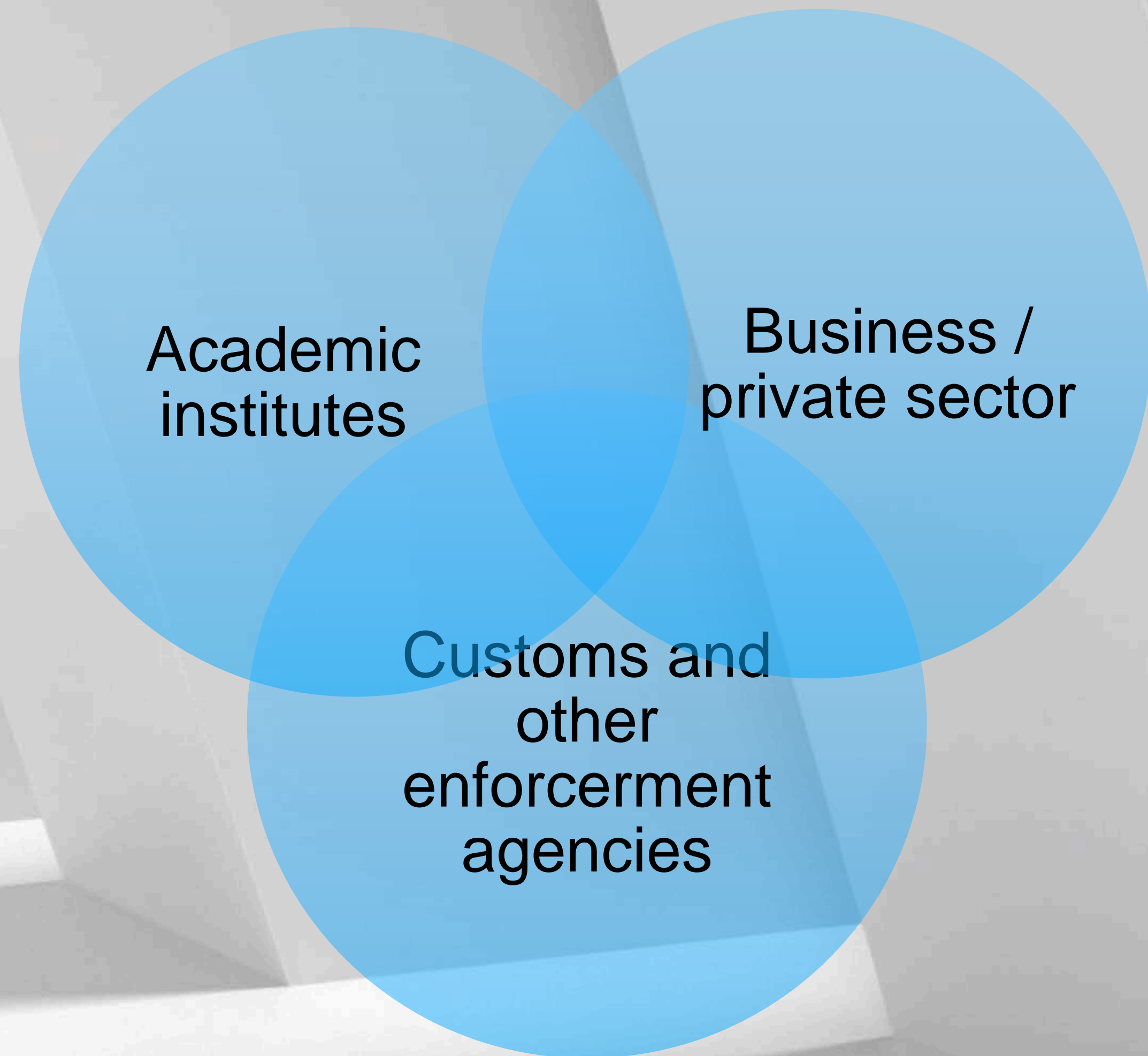
Innovation with whom and how?

Stakeholders:

External: Triple Helix

Internal: Coordination Group Innovation

- Lead: CIO
- Board of Customs
- National Targeting center
- Business Support
- Regional offices



Innovation toolbox

the cooperation
partners

the pace of an
innovation

about the
competences

financing of an
innovation

Innovation Channels

- *Internal funds*
- *European Union - Horizon 2020*
- *Top Sector Logistics – Netherlands organisation for Scientific Research*
- *Incubators & Accelerators*
- *Internship and applied research*
- *Hackathon*
- *Innovative vendor management*



Solution roadmap

- Artificial Intelligence

- Distributed Ledger Technology

- Internet of Things

- Data driven supervision

- Robotization

- Sensor technology

- Social innovation

- Physical Internet

Stroom	Proces raking	Autodetectie data	Autodetectie goederen	2018				2019				2020				2021			
				Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Blauw	Artificial Intelligence																		
	TCM (autodetectie verboden ingrediënten Chinese)	Binnenbrengen	✓																
	Flora & Fauna	Binnenbrengen/Invoer	✓																
	BTI	Binnenbrengen/Invoer	✓																
	Scanbeelden:																		
	Verkenning implementatie automatische X-ray interpretatie treinscan	Binnenbrengen/Uitgaan	✓																
	Ontwikkeling CT X-ray beeld interpretatie algoritmes voor post en koeriers	Binnenbrengen/Uitgaan	✓																
	Verkenning grenzen mogelijkheden container X-ray algoritme (stage)	Binnenbrengen/Uitgaan	✓																
	Ontwikkeling geautomatiseerde VM detectie voor CT-Scan	Binnenbrengen/Uitgaan	✓																
	Internet of Things																		
	Smart Seals	Binnenbrengen	✓																
	Robotisering																		
	Nearby drone	Binnenbrengen/Uitgaan	✓																
	3D-printer	Binnenbrengen	✓																
	Sensortechnologie																		
Cosmic (H2020)	Binnenbrengen	✓																	
C-BORD	Binnenbrengen	✓																	
Physical Internet																			
<i>Niet in de Innovatieagenda opgenomen</i>																			
Algoritme ontwikkeling CT scan Post en Koeriers	Koeriers	✓																	
Axcis (geautomatiseerde detectie in container X-Ray)	Binnenbrengen	✓																	
Koppeling X-ray systeem aan Plato	Binnenbrengen/Uitgaan	✓																	
Schiphol Pax Slikkers criteria	Passagiers	✓																	
Autodetectie routine dmv EMCS	Accijns	✓																	
Filter Binnenbrengen Maritiem (reductie FP)	Binnenbrengen	✓																	
Filter Binnenbrengen Lucht (reductie FP)	Binnenbrengen	✓																	
Filter Post en Koeriers (reductie FP)	Koeriers	✓																	
Filter Douanelab (reductie FP)	Binnenbrengen	✓																	
Onderzoek data analytics DSP en DLTC (risicoweging passagiercontroles)	Passagiers	✓																	
Algemene Bewoordingen Uitvoer	Uitvoer	✓																	
Intensivering speurhonden controle (monstername, detectie, administratie)	Binnenbrengen	✓																	
Verkenning volledige bagage CT-oplossing bij aankomst	Passagiers	✓																	
Groen	<i>Niet in de Innovatieagenda opgenomen</i>																		
	Bonus Malus	AEO	✓																
	Monitoring groene stroom	AEO	✓																
Geel	<i>Niet in de Innovatieagenda opgenomen</i>																		
	SSTL	Keten	✓																
	Compliance in e-commerce (DAFOE)	Koeriers	✓																
Overig	Data driven toezicht																		
	Big Data Platform	Data science	✓																
	Kennisplatform Geneesmiddelen	Data science	✓																
Profile (H2020)		✓																	
Selectie voor laboratorium		✓																	
POC Bureau van Dijk	Data analyse	✓																	
POC Supergraph	Binnenbrengen	✓																	
PoC Pandora	Accijns	✓																	
<i>Niet in de Innovatieagenda opgenomen</i>																			
Digitaal Klantbeeld Douane	Data analyse	✓																	
CRIS	Data analyse	✓																	
Workflowmanagement Invoer	Data analyse	✓																	
Anomaly detection	Data science	✓																	
Realisatie Douane Datafundament	IV keten	✓																	
Onderbrengen X-Ray systemen in Belastingdienst omgeving	IV keten	✓																	
POC Corsys/Smiths Detection	Binnenbrengen	✓																	
Aanschaf en implementatie RAMAN	Binnenbrengen	✓																	
WCO uniform X-ray image file format	IV keten	✓																	
Rest	<i>Wel in de Innovatieagenda niet in Grensverleggend</i>																		
	Distributed Ledger Technology																		
	DLT DG Taxud	Douanebreed	✓																
	Intern inzetten DLT	Douanebreed	✓																
	Sociale innovatie																		
	PENCP (H2020)	Data science/Analyse	✓																
Sociaal leren	Douanebreed	✓																	
AR/VR (nieuwe leren)	Binnenbrengen	✓																	

- I Idee generatie
- V Verkennen
- B Beproeven
- E Evaluatie
- O (Mogelijke) overdracht
- D Doorontwikkeling
- P Productie (inclusief B&C)

Dutch innovation

Smart Risk Selection at the Dutch NTC

- based on big data
- using innovative filtering methods
- shared with other government agencies



Dutch innovation:

Rotterdam Maritime Mainport Netherlands:

- ***Customs***
- ***Food & Consumer product Safety Authority***
- ***Harbor authorities***
- ***Human Environment & Transport Inspectorate***

One stop shop



Thank you for your attention
Frank Heijmann
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