



*The potential of AI & Data Science
in reducing the vulnerability of ports
to criminal activities*

De Groes, N., Van den Heuvel, W., & Tops,
P. (2022).



Nienke de Groes
Dutch Police Academy
June 8th 2022

The 'cocaine collectors' retrieving smuggled drugs in Rotterdam

By Linda Pressly and Michael Gallagher
BBC News

26 November 2021



Nine Trapped Inside Container While Hunting For Drugs in Rotterdam; Arrested

Posted in [Maritime Security](#) by Ankur Kundu on Oct 12, 2021 at 06:52.

In a blizzard case, nine individuals were discovered suffering from respiratory issues after being trapped inside a container in [Rotterdam](#) in early September.

Although the duration of their stay in the container has been unknown, a spokeswoman for Hutchison Ports ECT Rotterdam claimed that the men broke in to retrieve a narcotics consignment. The container itself was packed with tree trunks.



Dutch police seize 1.6 tonnes of cocaine in Rotterdam port

COMMENTS

By AFP • Updated: 29/12/2021



Government of the Netherlands

> News >

Nearly 7 million euros to tackle subversive crime in mainports

News item | 14-05-2021 | 10:03

Dealing with organised subversive crime in two of our internationally important mainports – the Port of Rotterdam and Amsterdam Airport Schiphol – will receive an extra stimulus of nearly 7 million euros this year. Today, Minister Grapperhaus of Justice and Security wrote to the



What makes seaports attractive for criminal activities?

- Quality of the port facilities, logistical efficiency
- Excellent accessibility by water, rail and road
- High quality infrastructure
- Efficient handling of containers and cargo



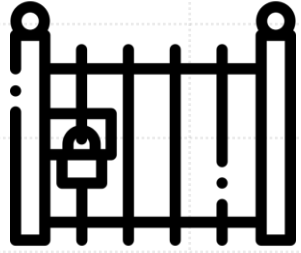
The consequences of criminal activities at seaports are great

- The corruption of organisations, such as security companies, customs, transshipment companies;
- The attraction to young people in particular, who for example take the drugs out of the containers;
- The use of violence, in the form of liquidations, mistaken murders, shooting incidents.

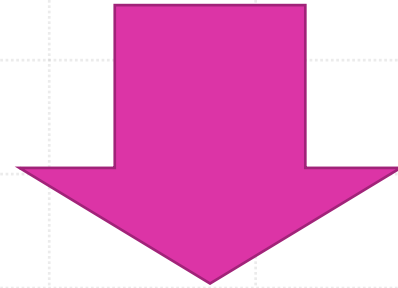
1. Nelen & Kolthoff, 2017; Bisschop et al., 2019

2. Verseput & de Haan, 2021; Ghosen, D., 2021

3. Meeus, 2019



From trying to bypass physical security to...

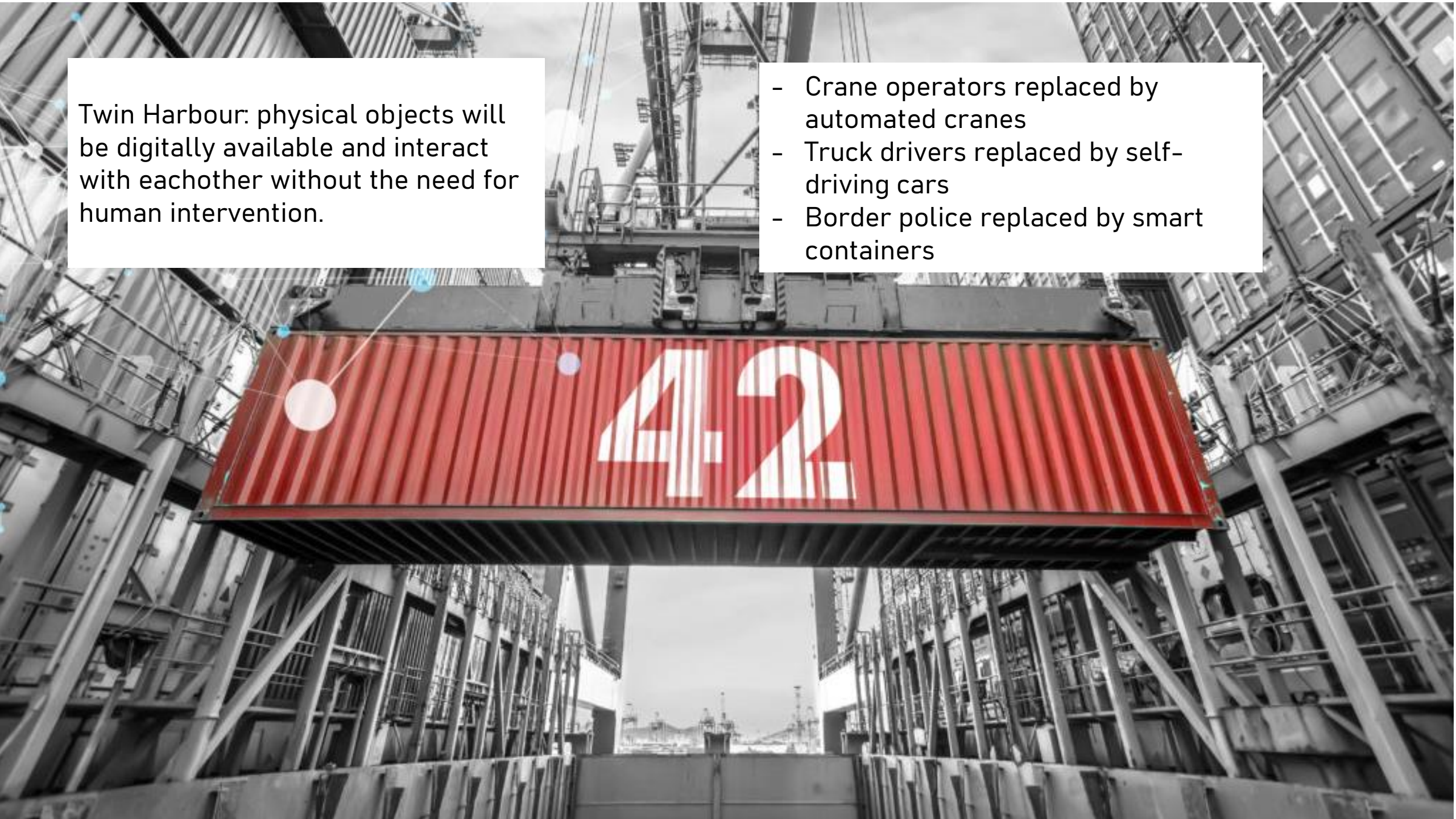


Criminal attention to the human factor



- Relatively low incomes
- Physical access to port sites
- Insight into the port logistics
- Detailed knowledge about container numbers and -locations & security measures







Twin Harbour: physical objects will be digitally available and interact with each other without the need for human intervention.

- Crane operators replaced by automated cranes
- Truck drivers replaced by self-driving cars
- Border police replaced by smart containers



The potential of technologies in smart ports

- Making it physically more difficult to enter ports and containers.
- Detecting contraband.
- Provide detection information using smart sensors on the container.
- Reducing human actions in the process of container transport.

- 
- 1. Recent years have shown increasingly better physical security at ports (f.e. through better surveillance, access passes, smart fencing);
 - 2. As a result, criminal attention has shifted to the human factor (bribing people to gain access to the port area); Therefore,
 - 3a. On the short term, we need to pay more attention to the human factor because this risk is not likely to disappear soon.
 - 3b. On the long term, we could reduce these vulnerabilities by investing in promising technological developments (Twin Ports, Container 42, AI, Data Science) which announce amongst others to diminish the importance of the human factor.
- 



Discussion: What is needed to realise this potential?

- Ensuring the acceptance of the new (automated) technologies.
- System's approach: to prevent a waterbed effect.
- Paying attention to new vulnerabilities that might arise.



Collective (criminal) counter-thinking

- To what extent will organised (drug) crime also digitalise?
- What new vulnerabilities will arise as a result?