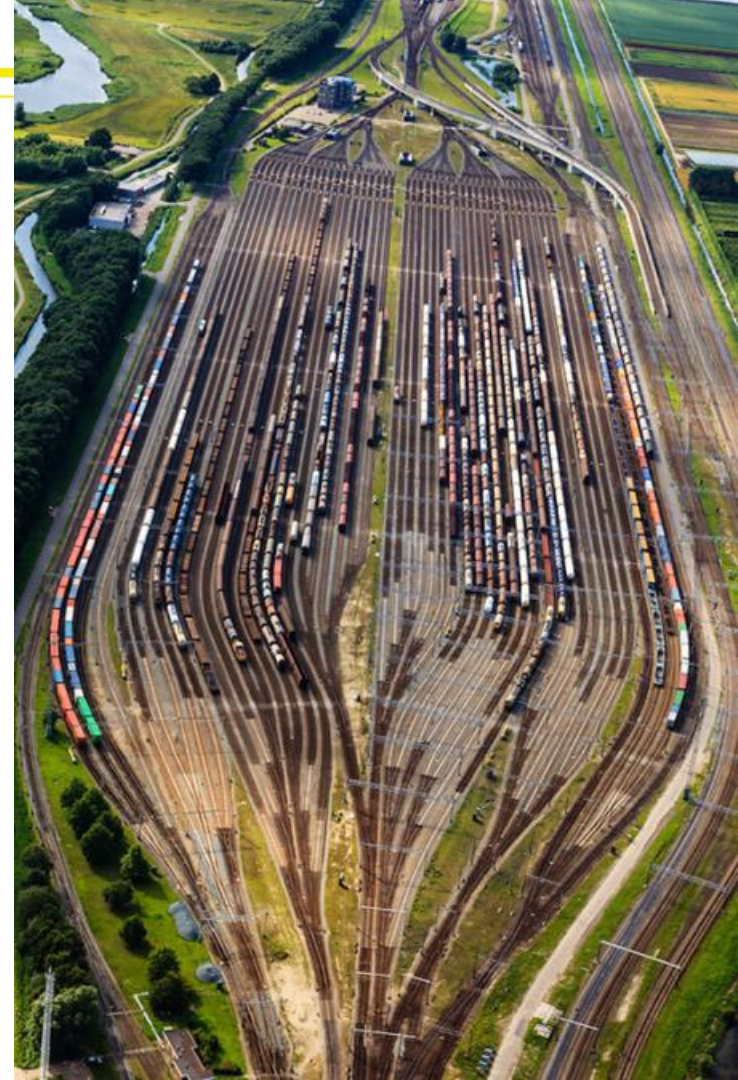


8th Session of the RID Committee of Experts' standing working group
(Utrecht, 20 to 24 November 2017)

Keeping track of dangerous goods

RID meeting, november 2017

Chris Verstegen,
Head of Innovation, ProRail



24/7

Passenger transport



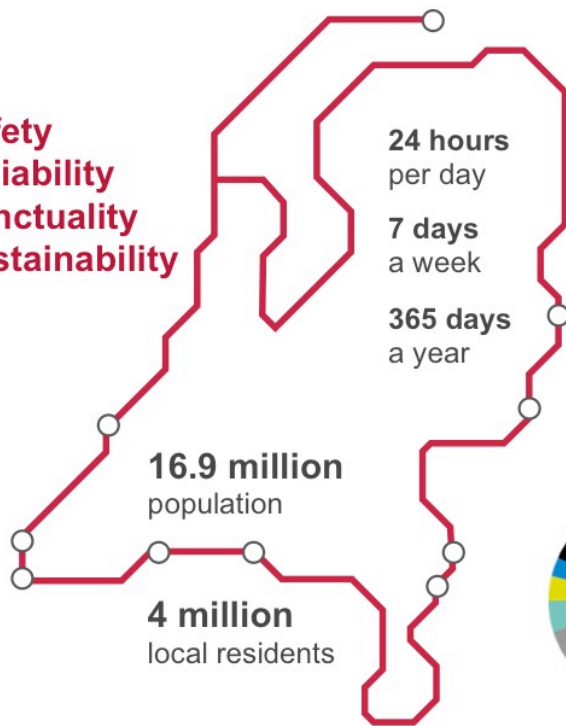
1.1 million
passengers per day

9 operators
of passengers

147 million km.
passenger transport per year



Safety
Reliability
Punctuality
Sustainability



Freight transport



3.3 million
trains per year

54 milliard
Freight tonne-kilometers
per year



21 railway
undertakings

11 million km.
freight transport per year

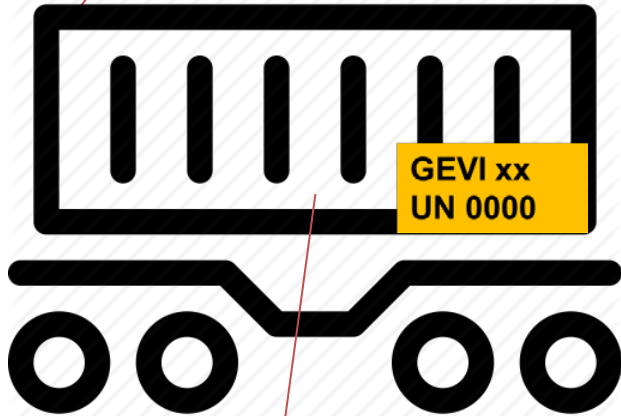
Routes and shunting/marshalling yards with dangerous goods

- ▲ Marshalling Yards for dangerous goods
- Test area
- Area with a lot of transactions with dangerous goods
- Route with a lot of dangerous goods
- Route with temporarily more dangerous goods



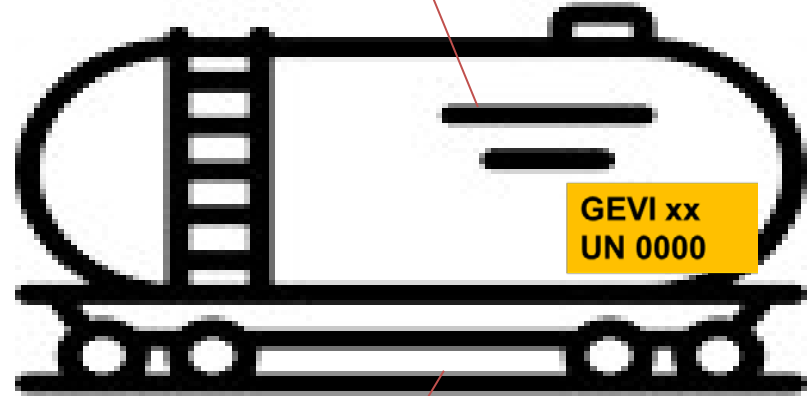
Which information is needed?

RID or non-RID?



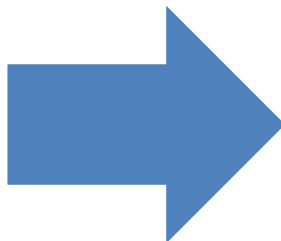
Container and rail car number?

fixed or variable load?



Rail tank car number?

Current manual system is vulnerable for errors



Sporenoverzicht Venlo

Datum van opvraag: 23-01-2017 Tijd: 09:56
 Opgevraagd door: ProRail E.V. - Jaap van den Ing
 Emplacement: Venlo
 Dienstregelpunt(en): Venlo
 Oriëntatiepunt: Bierick

Spoorselectie (=RID aanwezig):	2a	2b	5a	5b	7	8	9
	10	11	12	13	14	15	16
	17*	18	19	20	21	22	23
	24	25	26	30	31	32	33
	34	35	36	37	38	40	42
	43	44	45	46	47	48	49
	50	52	53	54	55	56	59
	60	62	64	65	85	GH	HH
	HJ	MA					

Transitdelen aanwezig (=RID in transit): Js

Spoor 2a
Er zijn geen wagens aanwezig

Spoor 2b
Er zijn geen wagens aanwezig

Spoor 5a
Er zijn geen wagens aanwezig

Spoor 5b
Er zijn geen wagens aanwezig

Spoor 7

#	Wagennummer	Vervoerder	Status	Bruto gewicht	GEVI	RID UN	Netto gewicht
1	2388 4259 109-9	DB Schenker Rail	Beladen	46,7 t			
2	2388 4259 107-1	DB Schenker Rail	Beladen	47,4 t			
3	2388 4259 025-5	DB Schenker Rail	Beladen	46,8 t			
4	2388 4259 061-0	DB Schenker Rail	Beladen	47,5 t			
5	2388 4259 115-4	DB Schenker Rail	Beladen	47,1 t			
6	2388 4259 044-6	DB Schenker Rail	Beladen	48,0 t			
7	2388 4259 050-3	DB Schenker Rail	Beladen	46,0 t			
8	2387 4271 064-9	DB Schenker Rail	Beladen	40,7 t			
9	2387 4271 092-0	DB Schenker Rail	Beladen	41,9 t			
10	2387 4271 387-4	DB Schenker Rail	Beladen	40,8 t			
11	2387 4271 139-9	DB Schenker Rail	Beladen	41,7 t			
12	2387 4271 601-8	DB Schenker Rail	Beladen	41,2 t			
13	2387 4271 256-1	DB Schenker Rail	Beladen	41,5 t			
14	2387 4271 567-1	DB Schenker Rail	Beladen	41,3 t			

Accurate, actual & accessible information is needed





Inhoud
Vol/Leeg
Wagon nummer & type

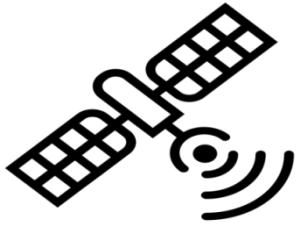


Inhoud + GEVI Code
Vol/Leeg
Wagon nummer & type



Windrichting
Windsnelheid

Automated tracking & tracing, using combination of new technologies



Differential GPS



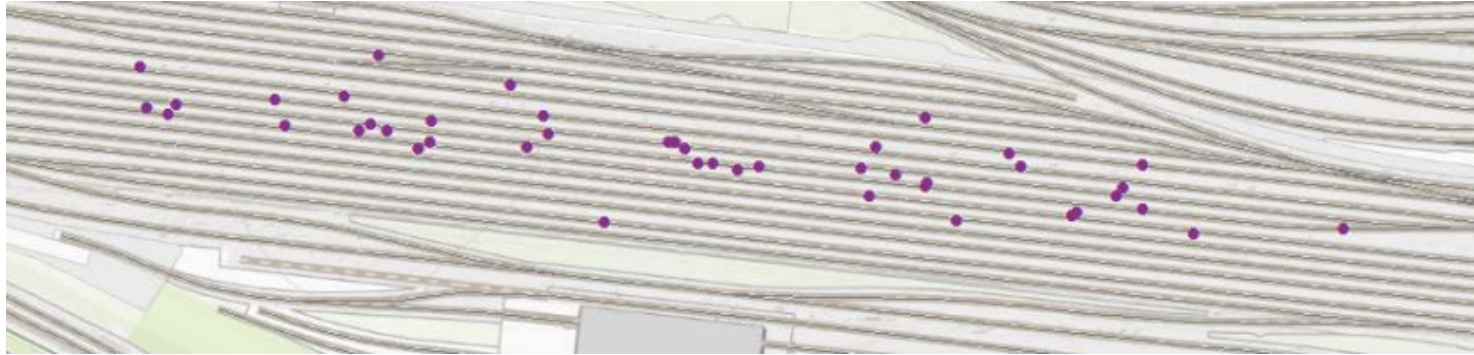
Smart camera



IOT Sensors



GPS



DGPS



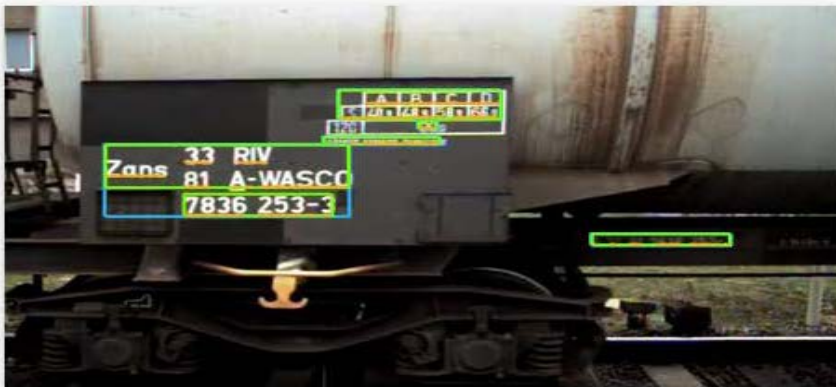


Testing DGPS from 6 suppliers





Smart camera



Image_31.png

+Paragraph 1

00

+Block 3

+Paragraph 1

SOFT GOASSENCÉO

+Block 4

+Paragraph 1

33 RIV Zans 81 A - WASCO

+Paragraph 2

7836 253 - 3



Smart camera's





Internet of Things sensors



From Talking to Testing

