



# The impact of MaaS, autonomous driving and car sharing on the urban environment: A European perspective

Dr. Ir. Diana Vonk Noordegraaf – Portfolio lead New Mobility & MaaS | May 9, 2019

**TNO** Innovation  
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# The impact of MaaS, autonomous driving and car sharing on the urban environment

- › Diana Vonk Noordegraaf, PhD, TNO (The Netherlands Organisation for Applied Scientific Research)

## Speakers:

- › Gonçalo Correia, Delft University of Technology
- › Sander van Lingen, Dell Technologies
- › Joseph Lubliner, PTV Group
- › Geiske Bouma, MSc, TNO (The Netherlands Organisation for Applied Scientific Research)

# INNOVATION PROCESS

## DEVELOPING FUNDAMENTAL KNOWLEDGE



Together with  
universities

## DEVELOPING KNOWLEDGE



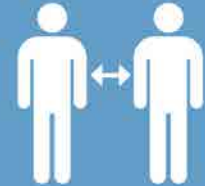
In public-private  
collaboration with  
partners from the  
golden triangle

## APPLYING KNOWLEDGE



Contract research for  
and with customers

## TRANSFERRING KNOWLEDGE



Exploiting knowledge  
through spin-offs,  
licences, etc together  
with other companies

# EUROPEAN PERSPECTIVE





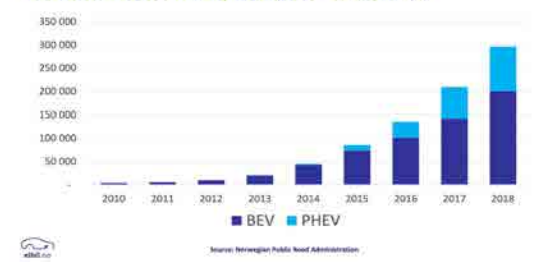
# A EUROPEAN PERSPECTIVE

## Autonomous Vehicles Readiness Index

Overall rank	Country	Total score	Policy and legislation		Technology & innovation		Infrastructure		Consumer acceptance	
			Rank	Score	Rank	Score	Rank	Score	Rank	Score
1	The Netherlands	27.73	3	7.89	4	5.46	1	7.89	2	6.49
2	Singapore	26.08	1	8.49	8	4.26	2	6.72	1	6.63
3	United States	24.75	10	6.38	1	6.97	7	5.84	4	5.56
4	Sweden	24.73	8	6.83	2	6.44	6	6.04	6	5.41
5	United Kingdom	23.99	4	7.55	5	5.28	10	5.31	3	5.84
6	Germany	22.74	5	7.33	3	6.15	12	5.17	12	4.09
7	Canada	22.61	7	7.12	6	4.97	11	5.22	7	5.30
8	United Arab Emirates	20.89	6	7.26	14	2.71	5	6.12	8	4.79
9	New Zealand	20.75	2	7.92	12	3.26	16	4.14	5	5.43
10	South Korea	20.71	14	5.78	9	4.24	4	6.32	11	4.38
11	Japan	20.28	12	5.93	7	4.79	3	6.55	16	3.01
12	Austria	20.00	9	6.73	11	3.69	8	5.66	13	3.91
13	France	19.44	13	5.92	10	4.03	13	4.94	10	4.55
14	Australia	19.40	11	6.01	13	3.18	9	5.43	9	4.78
15	Spain	14.58	15	4.95	16	2.21	14	4.69	17	2.72
16	China	13.94	16	4.38	15	2.25	15	4.18	15	3.13
17	Brazil	7.17	20	0.93	18	0.86	19	1.89	14	3.49
18	Russia	7.09	17	2.58	20	0.52	20	1.64	18	2.35
19	Mexico	6.51	19	1.16	17	1.01	17	2.34	19	2.00
20	India	6.14	18	1.41	19	0.54	18	2.28	20	1.91



200 000 EVs in Norway! (+ 96.000 PHEVs)



# A EUROPEAN PERSPECTIVE



whim.



# THANK YOU FOR YOUR ATTENTION

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