

# Q-Park Thought Leader Event

Q-Park BV | 4 April 2019



RIK VERA

# MANAGERS

## THE DAY AFTER TOMORROW



*Connect to many  
Engage individuals*

LANNOO CAMPUS | VAN DUUREN  
MANAGEMENT

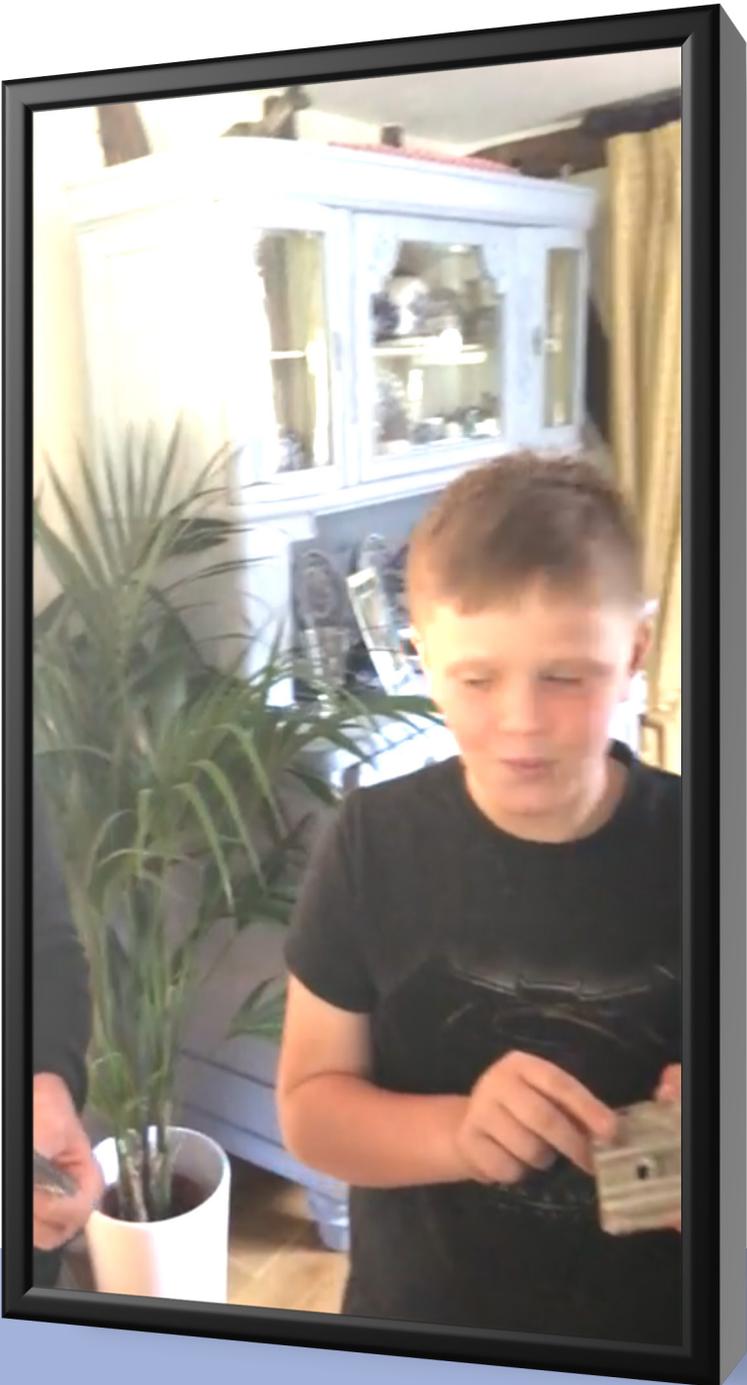
# SOFTWARE IS EATING MOBILITY

*Rik Vera*

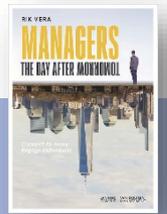
KEYNOTE SPEAKER

THE END  
21 DECEMBER 2012

**THE END  
OF THE OLD NORMAL**



*Rik Vera*  
KEYNOTE SPEAKER



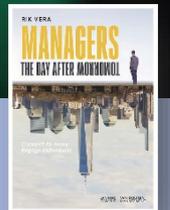
# OLD NORMAL / NEW NORMAL



10 APRIL  
2018

*Rik Vera*

KEYNOTE SPEAKER



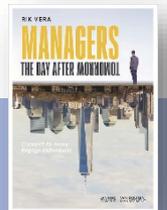


But did the senator  
him questions real  
how the internet w

# DON'T BECOME A SENATOR



*Rik Vera*  
KEYNOTE SPEAKER



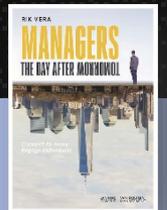


# JAMES 'JAMIE' DIMON



10 APRIL  
2015

*Rik Vera*  
KEYNOTE SPEAKER



# Jamie Dimon: Silicon Valley startups are coming to eat Wall Street's lunch



Alyson Shontell



Apr. 10, 2015, 9:02 AM 25,953



FACEBOOK



LINKEDIN



TWITTER



EMAIL



COPY LINK

"Silicon Valley is coming," JPMorgan Chase CEO Jamie Dimon warned in his annual letter to shareholders.

Dimon says startups are coming for Wall Street, innovating and creating efficiency in areas that are important to companies like JPMorgan, particularly in the lending and payments space.



## Recommended For

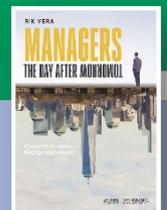


Vintage photos reveal what An before pollution

Realise  
projecte  
eer  
persoon  
lenin

Rik Vera

KEYNOTE SPEAKER



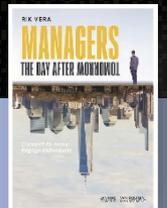
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9	5	54	5	15		1	630407	59	17	3		64517	8	91	36	99	75		6	327200	1	4		
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8353478	71	8	4	1712	36	37	2	4	148	4	9	73	35	61	39	6	14	982	317					
92752	20	3	0	2777	24	99	1	1	1119	3	0	665	86	77329	1	7	5362	563						
19	52	7	21	2		0271	46	85	0	8	41	8	0	2	993	74	36899	0	46	7	6	192		
19	91	8	56	5	5	8353	68	4276		18	3	0	872	62	46	87	4			4	0	357		
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20	35	1	83	8	2	6006	2	8	4	40	6		642	89	56		6	2	80086					
58	74	4	29	6	4	87	18	9	9	90	7	05	5	283480	10		0	1	30151					
6	31	1	83	2	7	6	98	56	5	59	4	4	0	62721	06		8	2	63517					
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**THE IMPACT  
OF DIGITAL**

**A NEW  
CUSTOMER**

**THE SPEED  
OF CHANGE**





富嶽三十六景 神奈川沖  
浪裏

大舟以爲危

# WE DIDN'T SEE THE DIGITAL TSUNAMI COMING

*Rik Vera*  
KEYNOTE SPEAKER

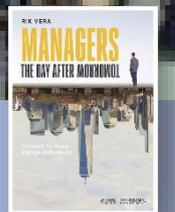


# THE BEACH CHAIR MODEL



*Rik Vera*

KEYNOTE SPEAKER



THE END

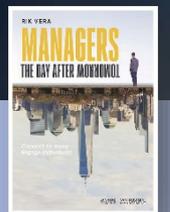
"I see  
dead  
companies"

# KODAK LESSONS LEARNED



*Rik Vera*  
KEYNOTE SPEAKER

photo FREDERIK MAESEN



**KODAK SAID:  
DIGITAL  
IS A NICHE  
PRODUCT**

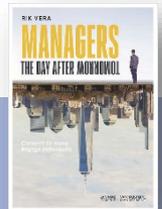
*Rik Vera*

KEYNOTE SPEAKER





*Rick Vera*  
KEYNOTE SPEAKER



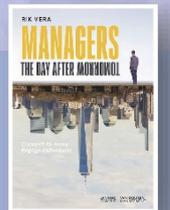
# IT IS ALL ABOUT THE INTERFACE

SLOW  
COMPLEX  
HARD TO GET  
DIFFICULT  
BORING

FAST  
EASY  
ACCESSIBLE  
SIMPLE  
TEMPTING

*Rik Vera*

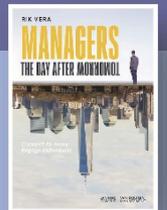
KEYNOTE SPEAKER



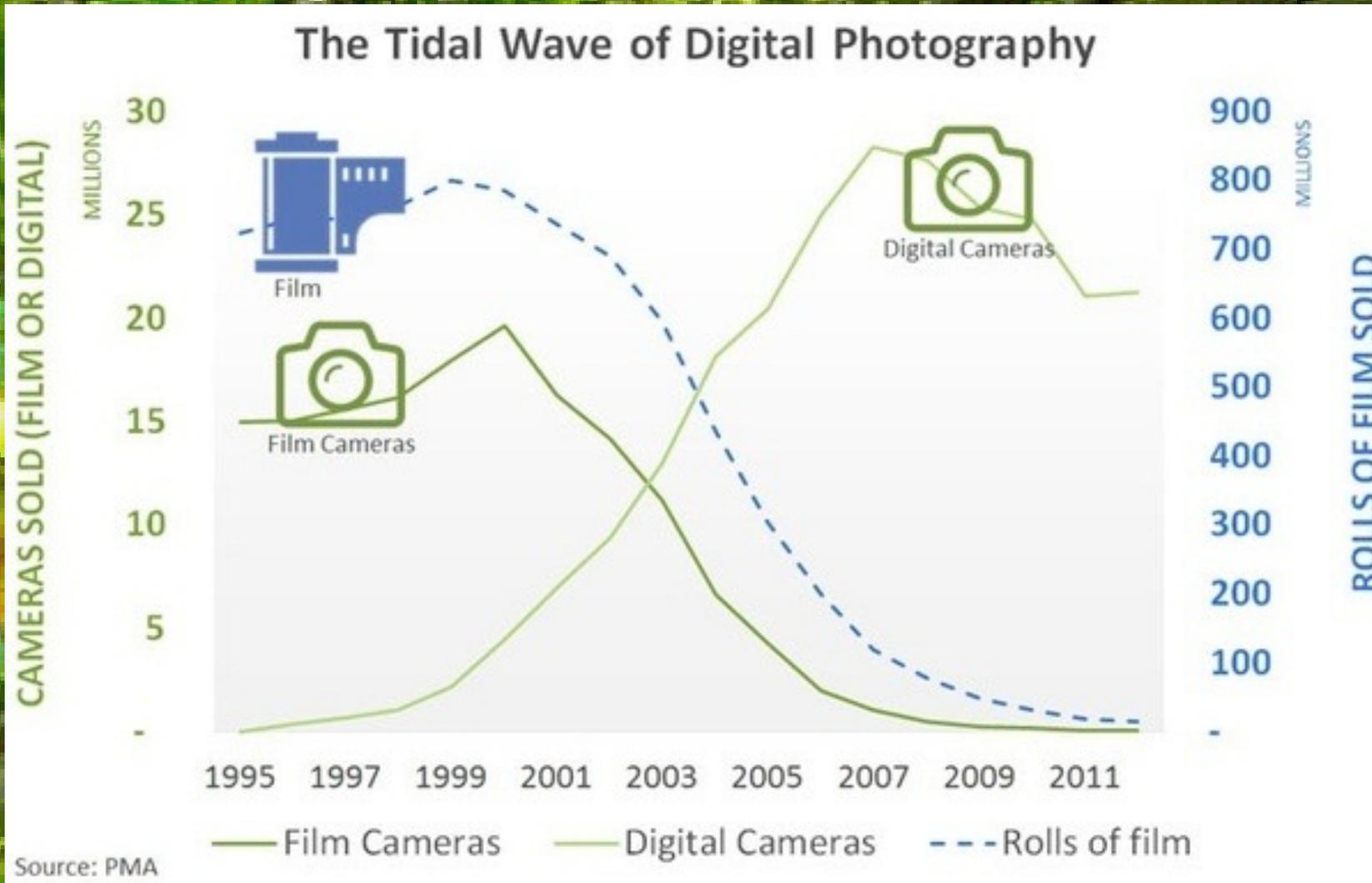
# CUSTOMERS ARE THE BIGGEST DISRUPTORS



*Rik Vera*  
KEYNOTE SPEAKER



# AND THEY KILL FAST



*Rik Vera*

KEYNOTE SPEAKER

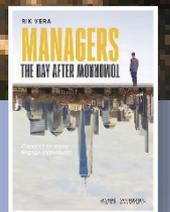


# NOKIA AND LESSONS NOT LEARNED

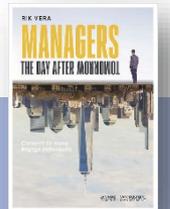


*Rik Vera*

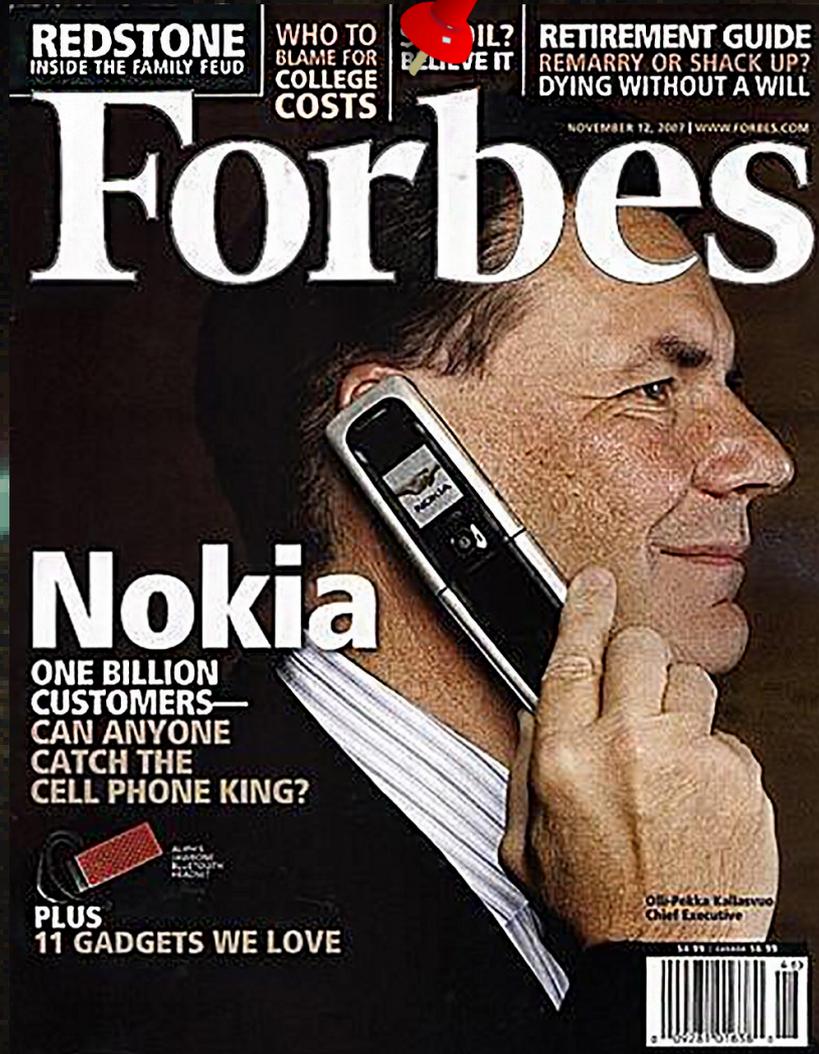
KEYNOTE SPEAKER



**NOKIA SAID:  
iPhone  
IS A NICHE  
PRODUCT**



# ARROGANCE IS DANGEROUS



DO NOT COPY THE LOSERS

“The iPhone is a niche product”

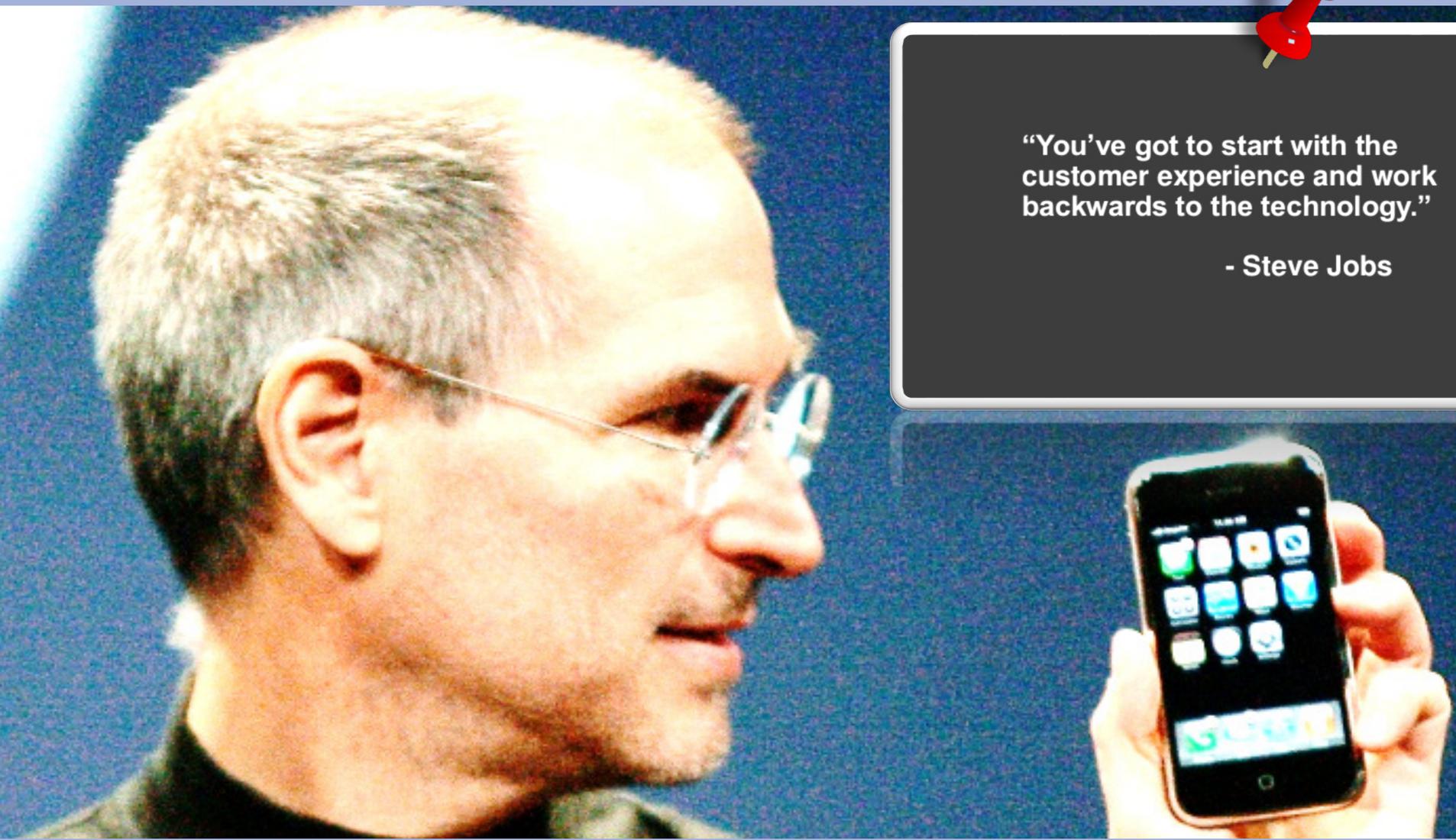
Nokia CEO Olli — Pekka Kallasvuo, 17 April 2008

*Rik Vera*

KEYNOTE SPEAKER



# LEARN FROM THE BEST

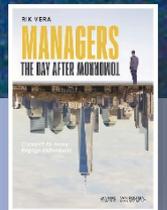


“You’ve got to start with the customer experience and work backwards to the technology.”

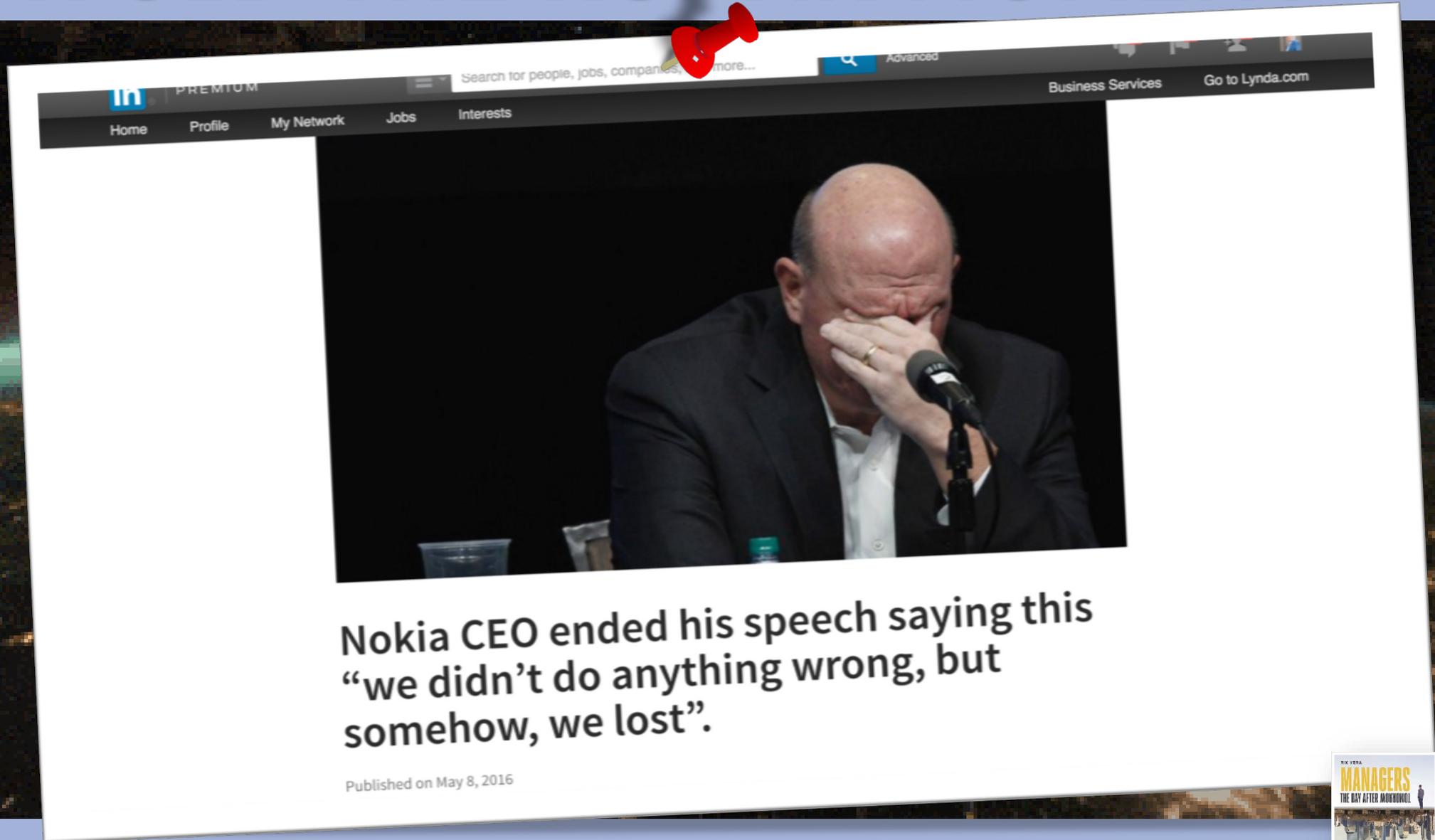
- Steve Jobs

*Rik Vera*

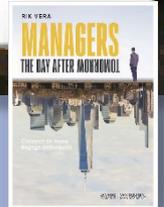
KEYNOTE SPEAKER



# AVOID THE **KODAK** MOMENT



*Rik Vera*  
KEYNOTE SPEAKER



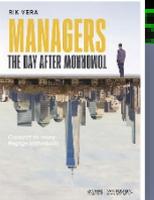
# DIGITAL HAS CHANGED IT ALL

*Rik Vera*  
KEYNOTE SPEAKER





*Rik Veria*  
KEYNOTE SPEAKER



A wide-angle photograph of a massive ocean wave cresting over a line of surfers. The wave is dark green and blue, with white foam at the top. The surfers are small figures in the foreground, mostly wearing red and black gear. The sky is a clear, pale blue.

# THE DIGITAL TSUNAMI CAME IN WAVES

*Rik Vera*

KEYNOTE SPEAKER

# THE WORLD WIDE WEB



Connect Dial-up Connection



User name:

Password:

Save this user name and password for the following users:

Me only

Anyone who uses this computer

Dial:



*Rik Vera*

KEYNOTE SPEAKER



# DIGITAL B2C



# THE INTERNET WAVE

*Rik Vera*

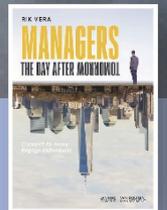
KEYNOTE SPEAKER

# JANUARY 2007



A red-bordered graphic that mimics a magazine cover. At the top, it says 'DECEMBER 25, 2006 / JANUARY 1, 2007' and 'www.time.com'. The word 'TIME' is written in large, light grey letters. Below it, a black banner reads 'PERSON OF THE YEAR'. The central image is a computer monitor displaying the word 'You.' in a large, bold, black font. Below the monitor is a keyboard. At the bottom of the graphic, the text reads: 'Yes, you. You control the Information Age. Welcome to your world.' A red pushpin is pinned to the top right corner of the graphic.

*Rick Vera*  
KEYNOTE SPEAKER



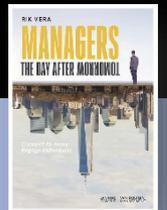
Welcome to your world.  
You control the Information Age.  
Yes, you.

# THE SMARTPHONE REVOLUTION

**iPHONE  
IS LIKE HAVING  
YOUR LIFE  
IN YOUR POCKET**



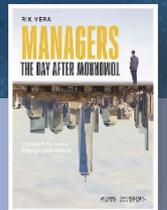
*Rik Vera*  
KEYNOTE SPEAKER





*Rik Vera*

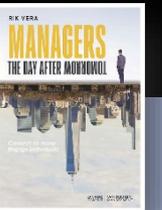
KEYNOTE SPEAKER





*Rik Vera*

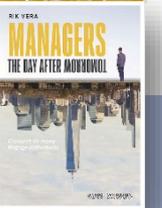
KEYNOTE SPEAKER



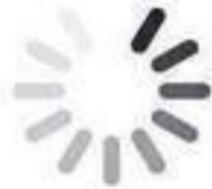
# TEST



*Rik Vera*  
KEYNOTE SPEAKER

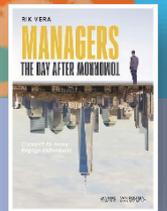


# 3 BIGGEST FEARS OF OUR GENERATION



*Rik Vera*

KEYNOTE SPEAKER

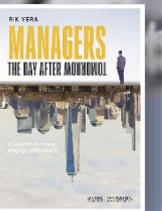




REC P04  
01/2011

01:08:32:14

*Rik Vera*  
KEYNOTE SPEAKER



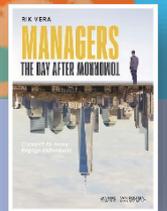
# WE HAVE BECOME SMOMBIES



Rik Vera  
KEYNOTE SPEAKER

©2016 by JUPPI JUPPEN

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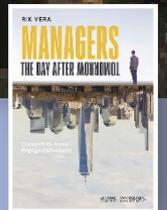
# EVERYBODY IS A SMOMBIE



**BEGGARS IN CHINA  
GO CASHLESS**

*Rik Vera*

KEYNOTE SPEAKER

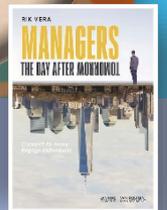


# EVEN MY DAD IS A SMOMBIE



*Rik Vera*

KEYNOTE SPEAKER



C2B



# THE MOBILE AND SOCIAL WAVE

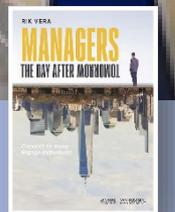
*Rik Vera*

KEYNOTE SPEAKER

# SELF-CENTERED



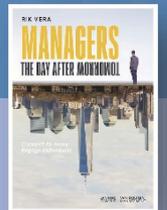
*Rik Vera*  
KEYNOTE SPEAKER



# THE FLOWER AND THE BEES



*Rik Vera*  
KEYNOTE SPEAKER



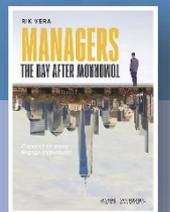
# ONE TO MANY BECOMES MANY TO ONE



MY PRODUCT  
MY SERVICE  
MY MOMENT  
MY CHANNEL

*Rik Vera*

KEYNOTE SPEAKER

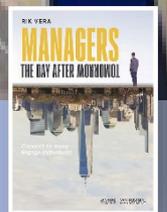


# WHY DO WE TAKE SELFIES?



*Rik Vera*

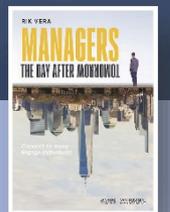
KEYNOTE SPEAKER



# MANY 2 MANY

VOLATILE  
UNCERTAIN  
COMPLEX  
AMBIGUOUS

*Rik Vera*  
KEYNOTE SPEAKER



# THE SHARING ECONOMY

## Collaborative Economy Honeycomb Version 1.0

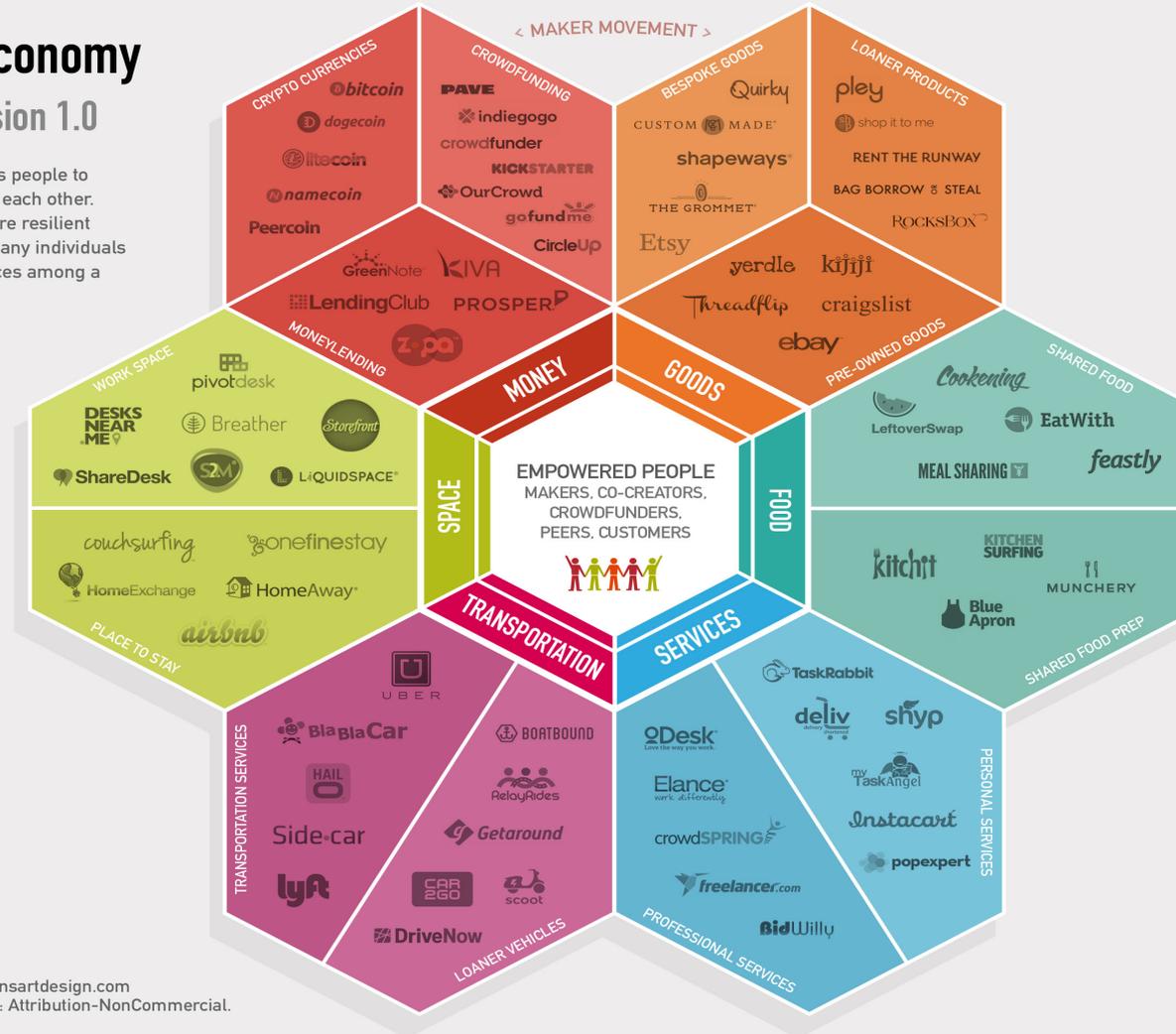
The Collaborative Economy enables people to efficiently get what they need from each other. Similarly, in nature, honeycombs are resilient structures that efficiently enable many individuals to access, share, and grow resources among a common group.

In this visual representation, this economy is organized into discrete families, sub-classes, and example companies. To access the full directory of 9000+ companies visit the Mesh Index, at [meshing.it/companies](http://meshing.it/companies) managed by Mesh Labs.

By Jeremiah Owyang  
@Jowyang

With input from:  
Neal Gorenflo (@gorenflo),  
Lisa Gansky (@instigating),  
Shervin Pishevar (@sherpa),  
Mike Walsh (@mwalsh),  
Brian Solis (@briansolis),  
Alexandra Samuel (@awsamuel),  
and Vision Critical (@visioncritical).

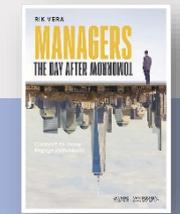
Design by Vladimir Mirkovic [www.transartdesign.com](http://www.transartdesign.com)  
May 2014. Creative Commons license: Attribution-NonCommercial.



### KEY MARKET FORCES

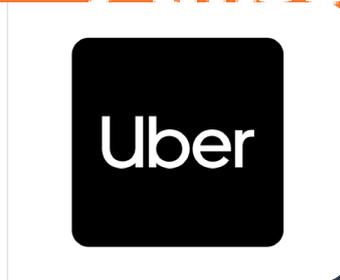
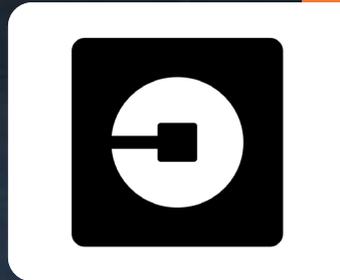
- SOCIETAL DRIVERS**
  - DESIRE TO CONNECT
  - SUSTAINABLE MINDSET
  - POPULATION INCREASE
- ECONOMIC DRIVERS**
  - FINANCIAL CLIMATE
  - UNTAPPED IDLE RESOURCES
  - STARTUPS HEAVILY FUNDED
- TECHNOLOGY ENABLERS**
  - INTERNET OF EVERYTHING
  - MOBILE TECHNOLOGIES
  - SOCIAL NETWORKS

 **CROWD™**  
COMPANIES  
[www.crowdcompanies.com](http://www.crowdcompanies.com)



*Rik Vera*  
KEYNOTE SPEAKER

# C2C (NO MORE MIDDLE MAN)

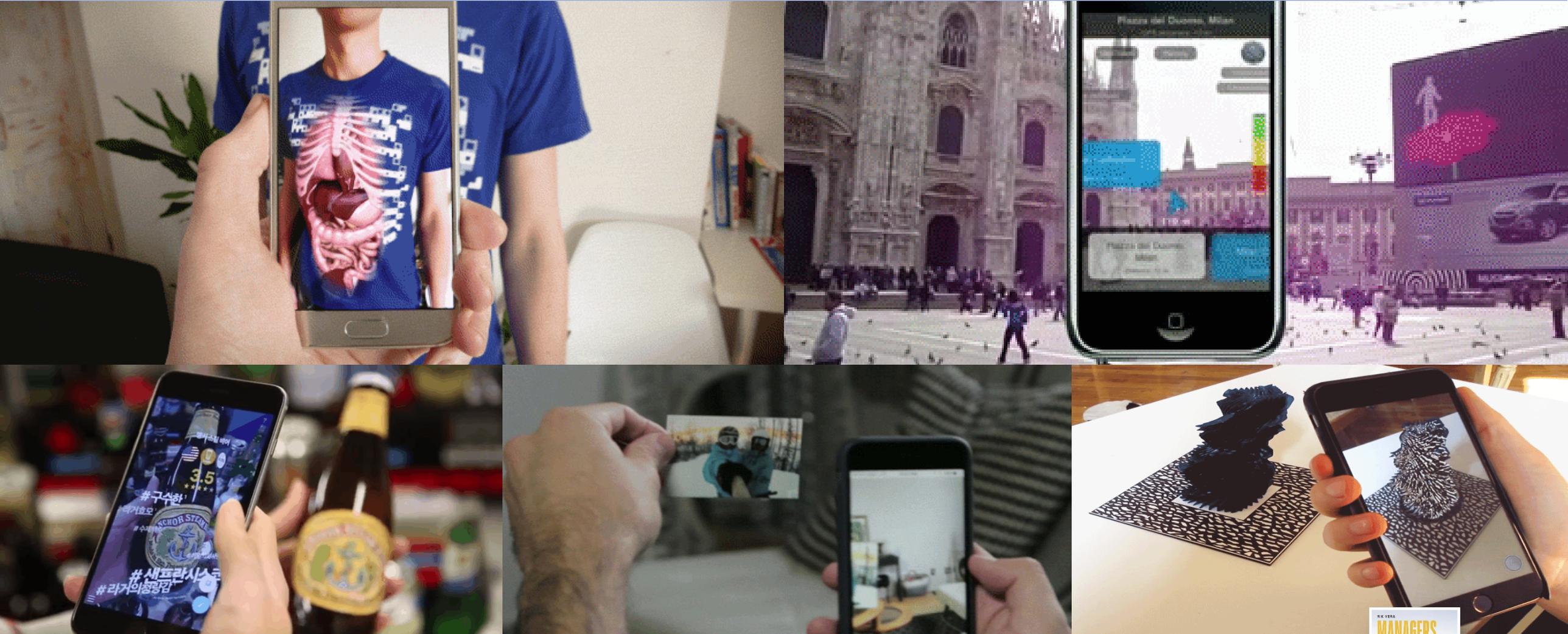


# THE PLATFORM WAVE

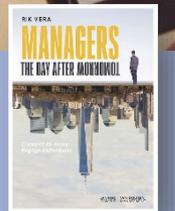
*Rik Vera*

KEYNOTE SPEAKER

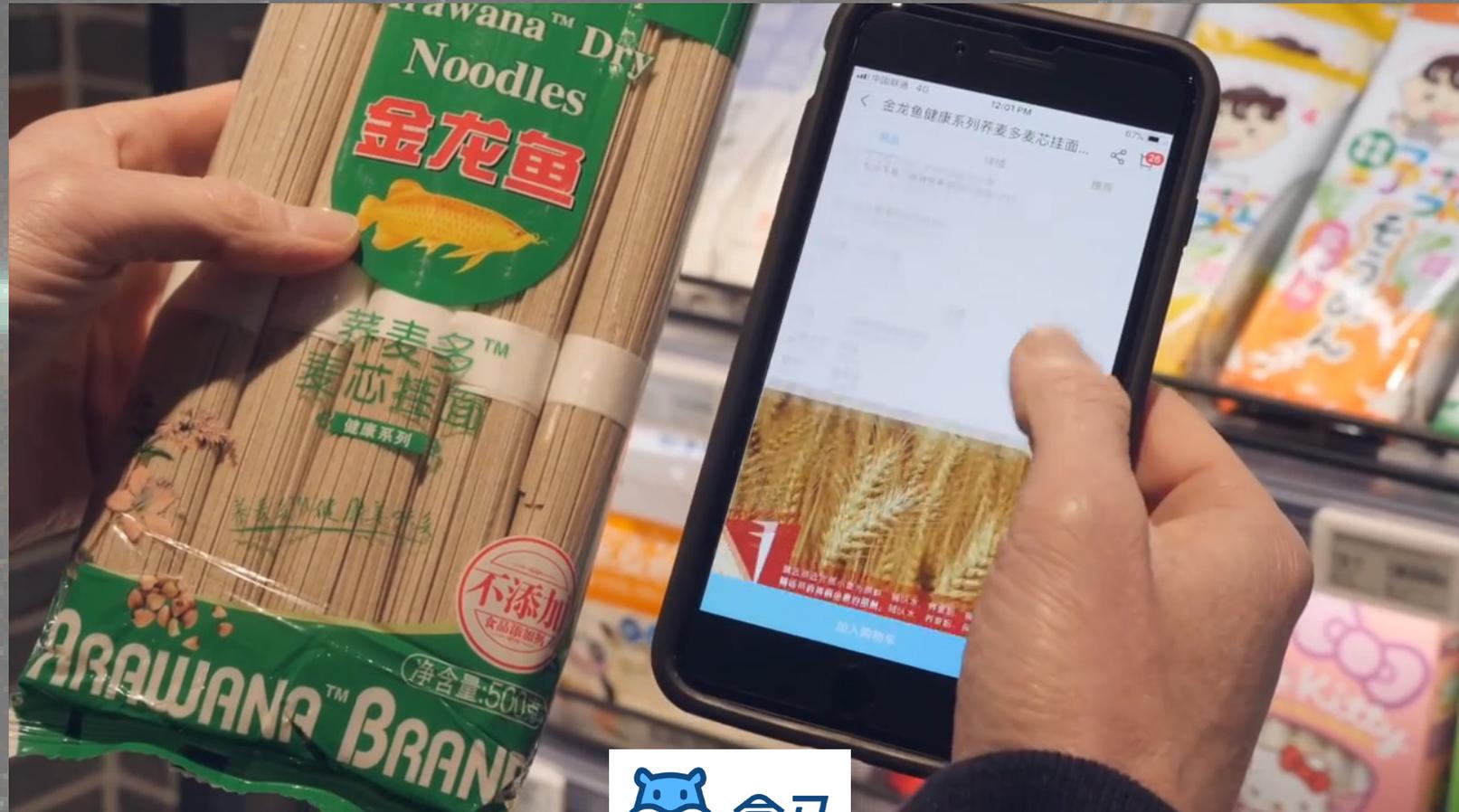
# OMO SAPIENS



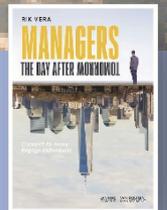
Rik Vera  
KEYNOTE SPEAKER



# ONLINE CONVENIENCE IN OFFLINE



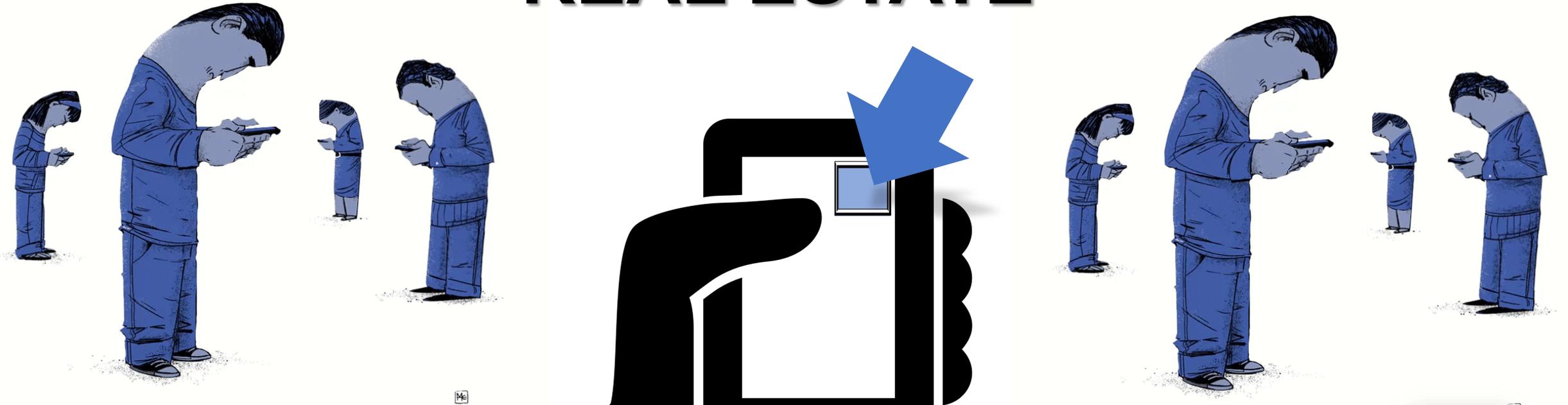
Rik Vera  
KEYNOTE SPEAKER



# MOST VALUABLE

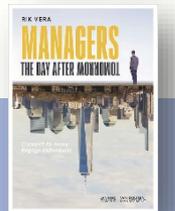
cm<sup>2</sup>

# REAL ESTATE

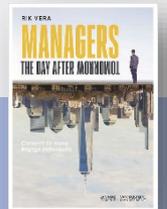
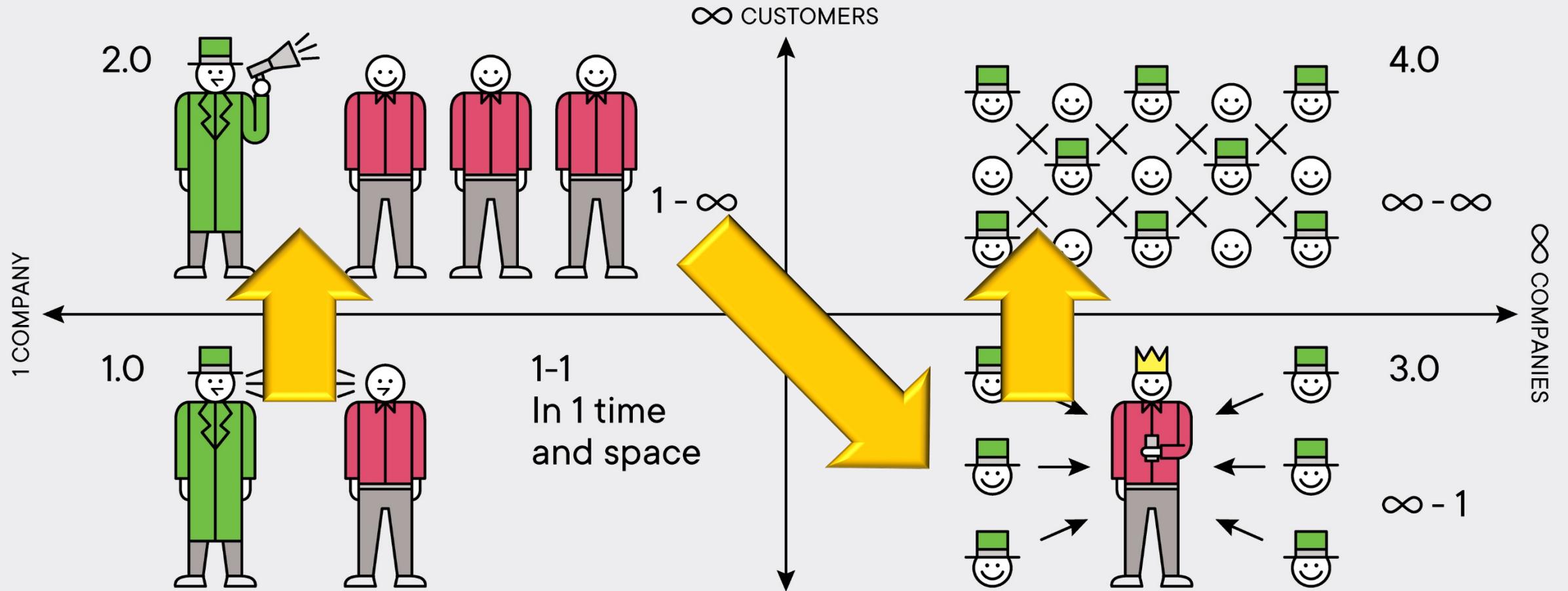


*Rik Vera*

KEYNOTE SPEAKER



# THE 4.0 NEW NORMAL

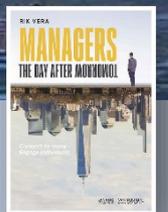


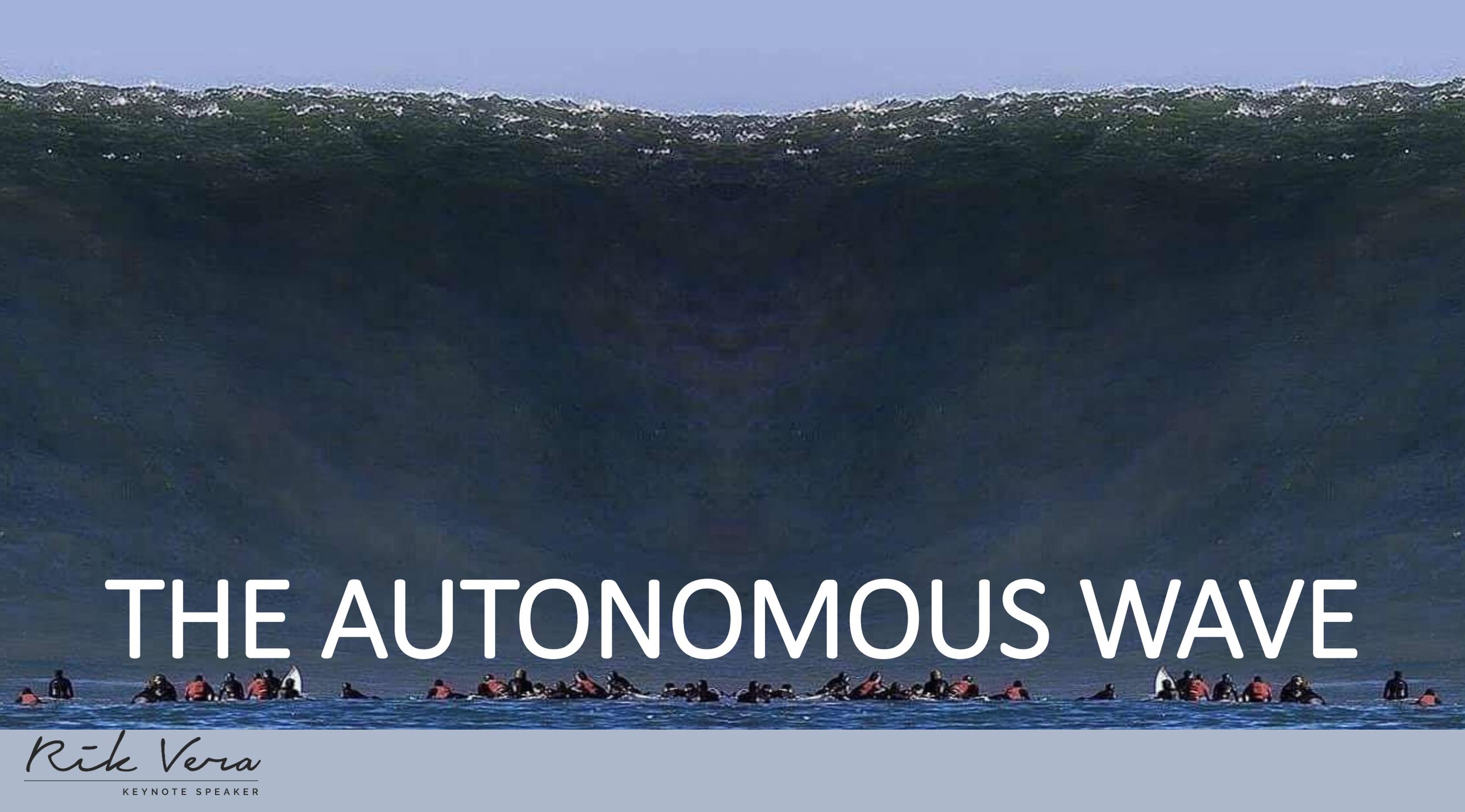
# WWTFF?

## WHAT IS THE FUTURE?

*Rik Vera*

KEYNOTE SPEAKER



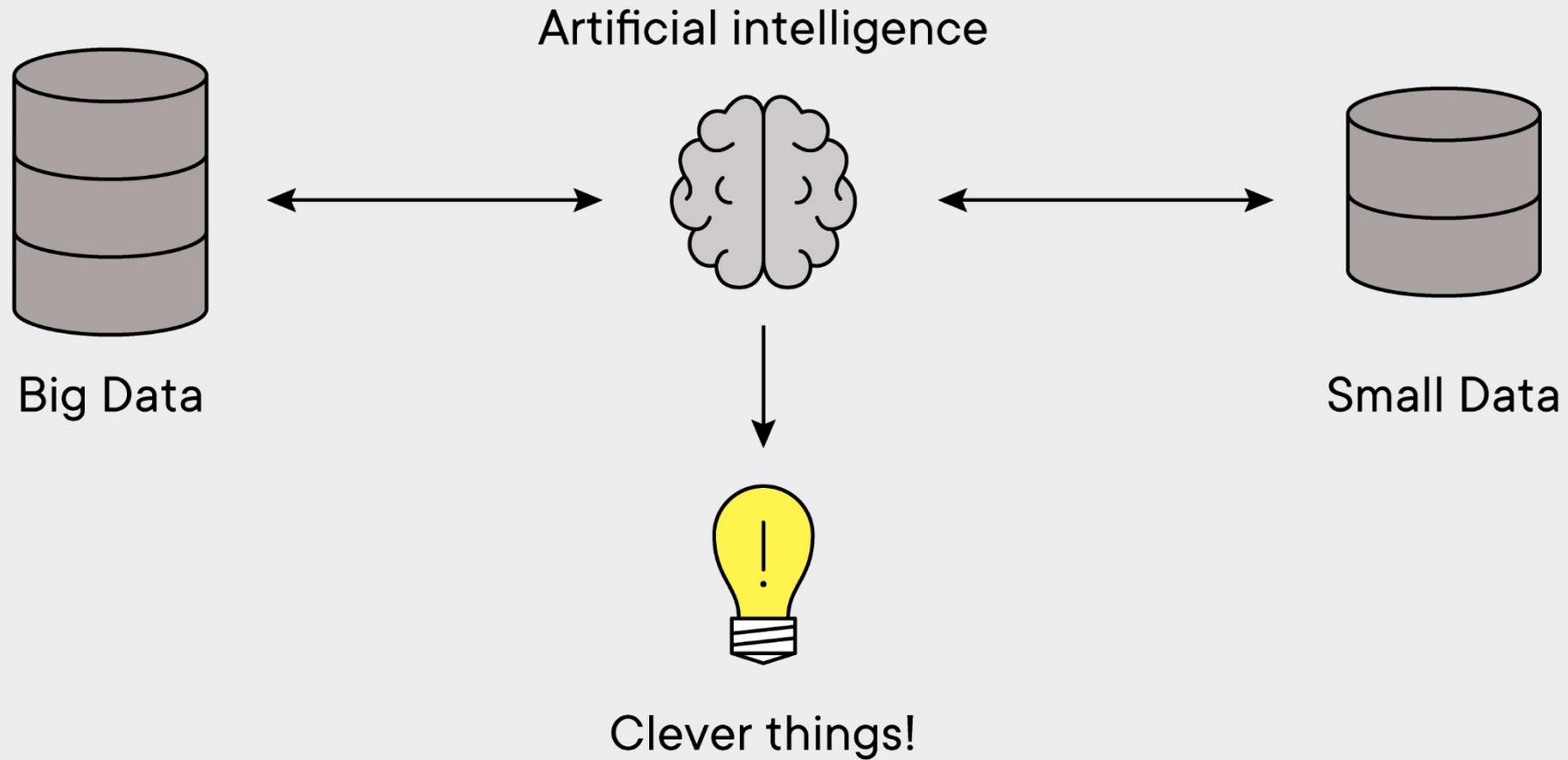


# THE AUTONOMOUS WAVE

*Rik Vera*

KEYNOTE SPEAKER

# BIG DATA / ARTIFICIAL INTELLIGENCE / ROBOTIZATION

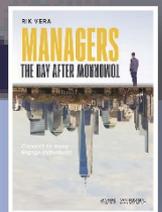


# DRAMATIC CHANGES



*Rik Vera*

KEYNOTE SPEAKER





**ACES**

**FACE**

*Rick Verra*

KEYNOTE SPEAKER

# GOOD NEWS

*Rick Verra*

---

KEYNOTE SPEAKER

**IT IS NOT GOING TO  
HAPPEN IN OUR  
LIFETIME**



*Rick Verra*

KEYNOTE SPEAKER



# BAD NEWS

*Rick Verra*

---

KEYNOTE SPEAKER

NOT ACE

**BUT ACES**

*Rick Verra*

---

KEYNOTE SPEAKER

**IT IS GOING TO  
HAPPEN IN OUR  
LIFETIME**



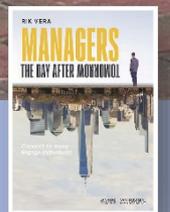
*Rick Verra*

KEYNOTE SPEAKER

# MY GRANDCHILDREN

ZERO EMISSION  
ZERO ACCIDENTS  
ZERO OWNERSHIP

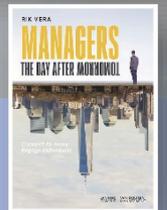
*Rik Vera*  
KEYNOTE SPEAKER



# DEVASTATING TIMES



*Rik Vera*  
KEYNOTE SPEAKER



# THINK OPPORTUNITIES

NEVER THINK IN  
ISSUES  
OR  
PROBLEMS

*Rick Verra*

---

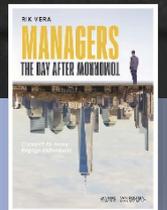
KEYNOTE SPEAKER

# GET KODAKED



*Rik Vera*

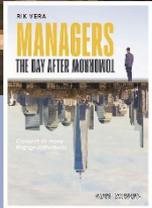
KEYNOTE SPEAKER



# OR UBERIZE



*Rik Vera*  
KEYNOTE SPEAKER



**UBER DID NOT INVENT  
ANYTHING NEW  
THEY JUST MADE  
MAXIMUM USE OF THE  
NEW NORMAL**

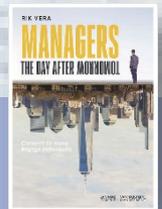


# WINNER TAKES ALL

**TECHNOLOGY FIRST**  
**RED OCEAN**  
**ENGAGED CUSTOMERS**  
**ECOSYSTEMS**

*Rik Vera*

KEYNOTE SPEAKER



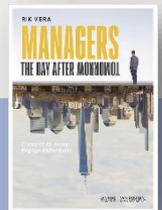
# RED OCEAN

**PEOPLE ALREADY KNOW THE  
PRODUCT/SERVICE  
BUT HAVE BEEN NEGLECTED  
FOR YEARS**



*Rik Vera*

KEYNOTE SPEAKER



# The bloody Red Ocean of Automotive

*Rick Verra*

KEYNOTE SPEAKER



1.1 billion

*Rick Verra*

KEYNOTE SPEAKER



mobility/freedom

*Rick Verra*

KEYNOTE SPEAKER



general contractor

*Rick Verra*

KEYNOTE SPEAKER



90% idle capacity

*Rick Verra*

KEYNOTE SPEAKER



dangerous

*Rick Verra*

KEYNOTE SPEAKER



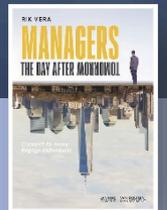
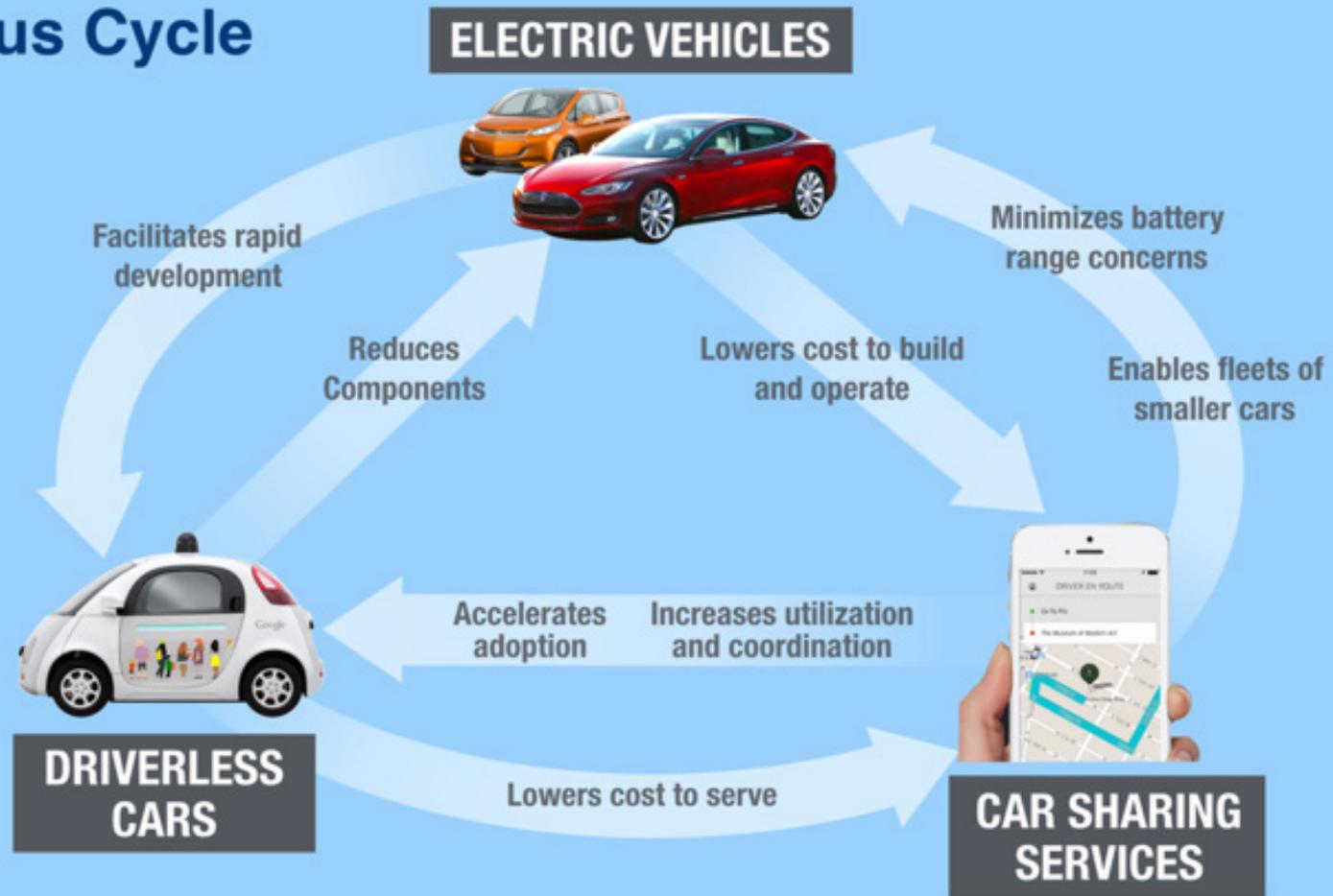
# destroying our planet

*Rick Verra*

KEYNOTE SPEAKER

# ECOSYSTEMS

## A Virtuous Cycle



# TECHNOLOGY FIRST

PEOPLE LIVE IN A DIGITAL WORLD  
DIGITAL CAN CRACK WHATEVER PROBLEM  
DIGITAL IS EXPONENTIAL  
DIGITAL IS EASY TO SCALE

## LESSONS LEARNED



Rik Vera  
KEYNOTE SPEAKER

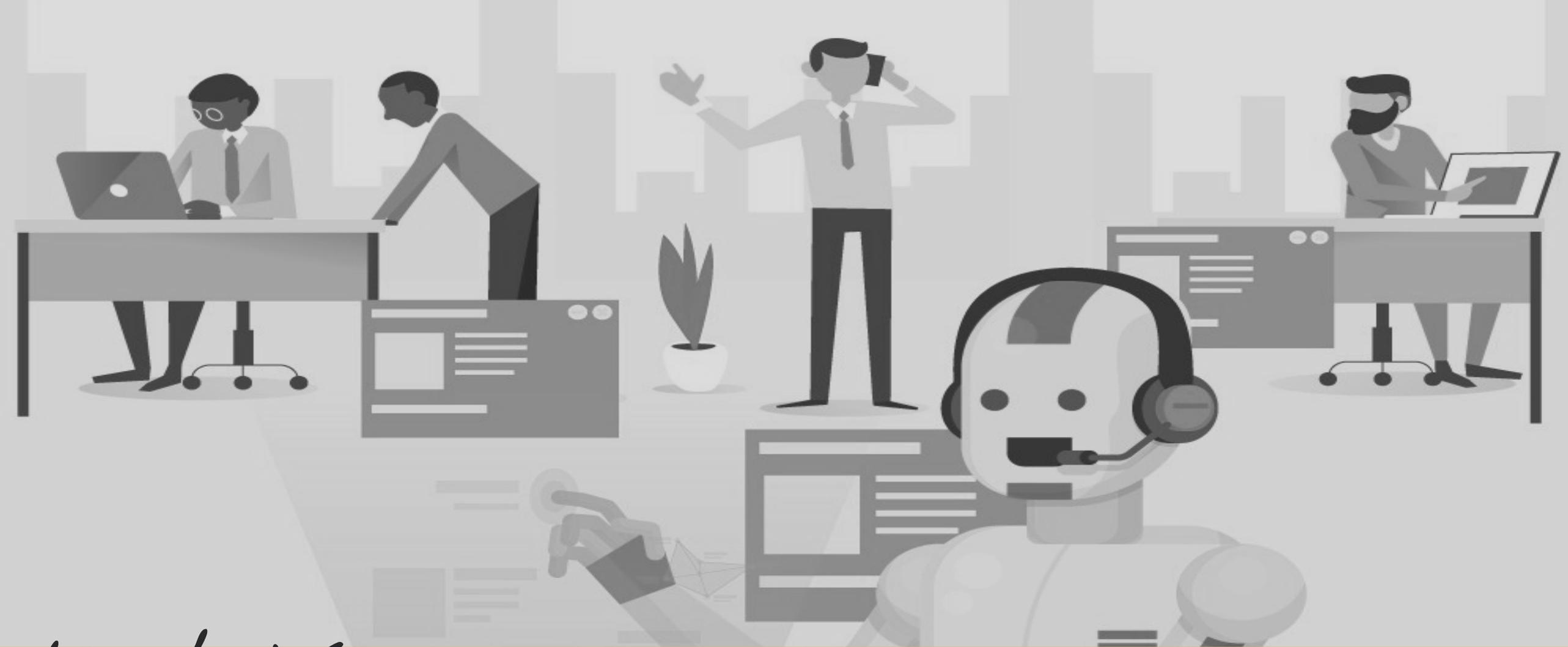


Rik Vera

KEYNOTE SPEAKER



# SOFTWARE FIRST COMPANIES



*Rick Verra*

KEYNOTE SPEAKER

# SIMPLE PLATFORM TECHNOLOGY



*Rick Verra*

KEYNOTE SPEAKER

# DATA IS THE NEW OIL

COLLECTING DATA  
PROCESSING DATA  
ACTIVATING DATA

*Rik Vera*

KEYNOTE SPEAKER

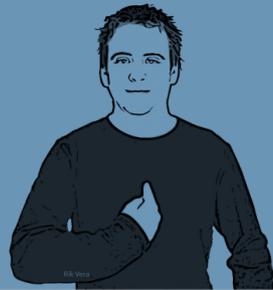


# NOT B2C C2B C2C

# BUT

# H2H

MAKING IT PERSONAL



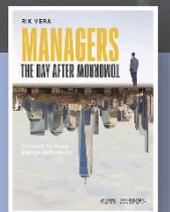
MAKING ME FEEL IMPORTANT



HAVING A REAL CONVERSATION



*Rik Vera*  
KEYNOTE SPEAKER

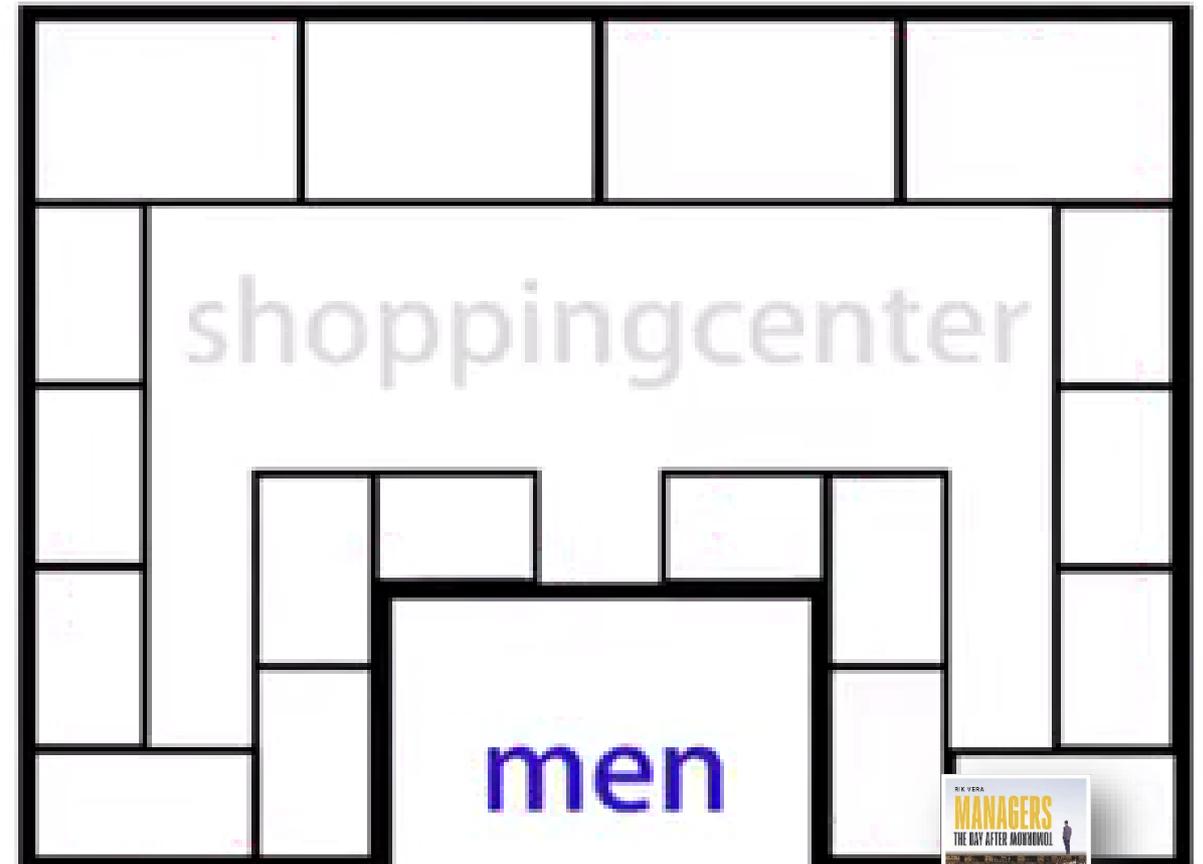


# ONE SIZE FITS NONE

women shopping -  
men shopping

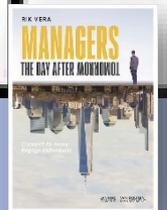


women shopping -  
men shopping



*Rik Vera*

KEYNOTE SPEAKER

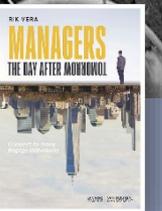


# FROM MASS PRODUCTION



*Rik Vera*

KEYNOTE SPEAKER





# FORGET CARS



*Rick Verra*

---

KEYNOTE SPEAKER

# OMO SAPIENS



*Rik Vera*

KEYNOTE SPEAKER

**MOBILE  
DEVICES  
MERGING WITH  
MOBILITY  
DEVICES**

*Rick Vera*

---

KEYNOTE SPEAKER

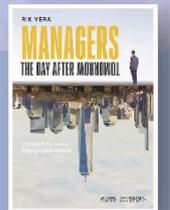
# FOCUS ON THE INTERFACE

SLOW  
COMPLEX  
HARD TO GET  
DIFFICULT  
BORING

FAST  
EASY  
ACCESSIBLE  
SIMPLE  
TEMPTING

*Rik Vera*

KEYNOTE SPEAKER



# CREATE WELL BEING



**ON DEMAND  
SERVICES AND  
PRODUCTS**

**EXTREME  
PERSONALISATION**



**THE MOST  
PERSONAL  
EXPERIENCES**

**CUSTOMER  
CENTRIC  
CULTURE**



**THE MOST  
ULTIMATE  
CONVENIENCE**

**FEAST  
THE  
INTERFACE**



**AWESOME  
COMPANIES  
TO BUY FROM**

**STORY  
ATTITUDE**

*Rick Vera*

KEYNOTE SPEAKER



# THE NEW WELL BEING WAVE

*Rick Vera*  
KEYNOTE SPEAKER

# ENGAGED CUSTOMERS BECOME

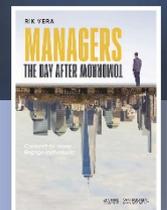
MAXIMIZE THE POWER OF THE NETWORK



### INFRASTRUCTURE

126 Reviews ★★★★★

Summary	Accuracy	★★★★★	Location	★★★★★
	Communication	★★★★★	Check In	★★★★★
	Cleanliness	★★★★★	Value	★★★★★



## BIG-BANG MARKET SEGMENTS

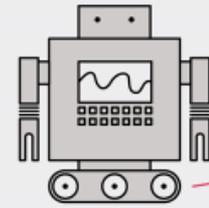
TRIAL USERS      VAST MAJORITY

INNOVATORS (2.5%)      EARLY ADOPTERS (13.5%)      EARLY MAJORITY (34%)

## ROGERS'S MARKET SEGMENTS

LATE MAJORITY (34%)      LAGGARDS (16%)

## The TREE formula



Technology first

Exponential

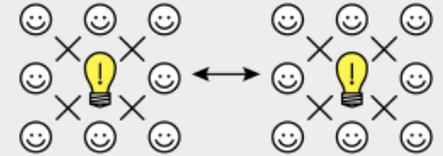
Red ocean



Engaged customers

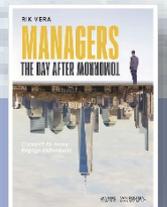


Eco system

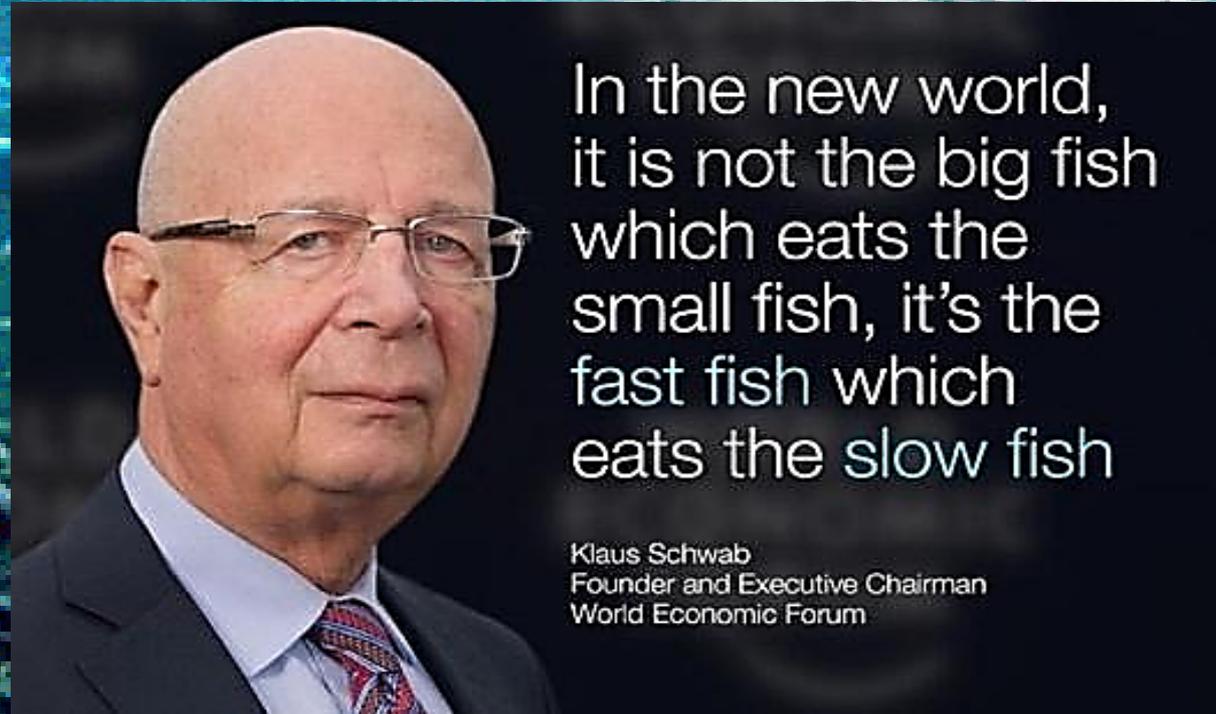


Rik Vera

KEYNOTE SPEAKER



# FAST IS THE NEW BIG



In the new world,  
it is not the big fish  
which eats the  
small fish, it's the  
fast fish which  
eats the slow fish

Klaus Schwab  
Founder and Executive Chairman  
World Economic Forum

*Rik Vera*

KEYNOTE SPEAKER



# EXCITING TIMES

OPEN MARKET  
NO SPECIALISTS YET  
LOW HANGING FRUIT  
LIMITED ENTRY COSTS

KEVIN KELLY



*Rick Verra*

KEYNOTE SPEAKER

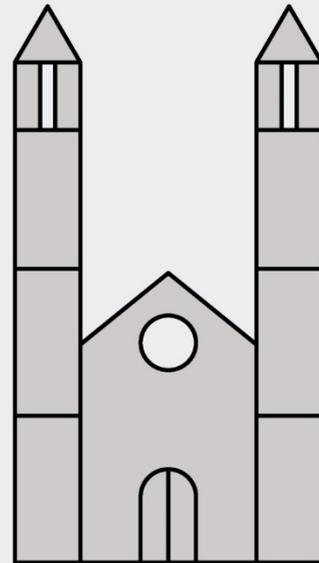
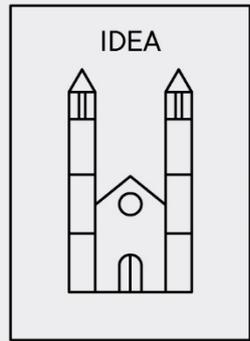
**IT IS GOING TO  
HAPPEN IN  
THE NEXT  
DECADE**

*Rick Verra*

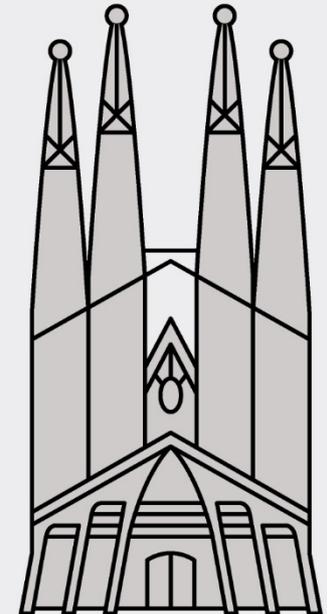
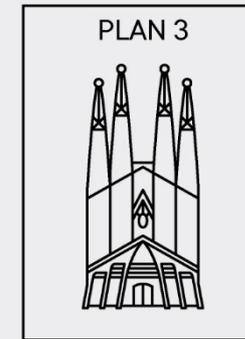
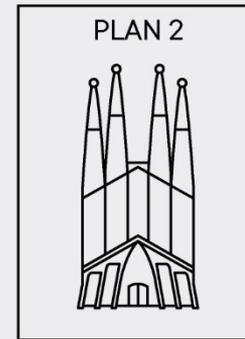
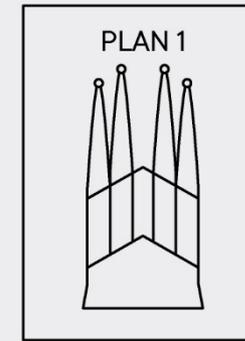
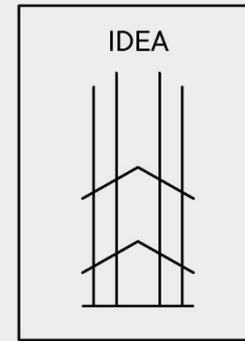
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KEYNOTE SPEAKER

## Fast architecture



## Slow architecture



>> **SLOW ARCHITECTURE**

RIK VERA

# MANAGERS

THE DAY AFTER TOMORROW



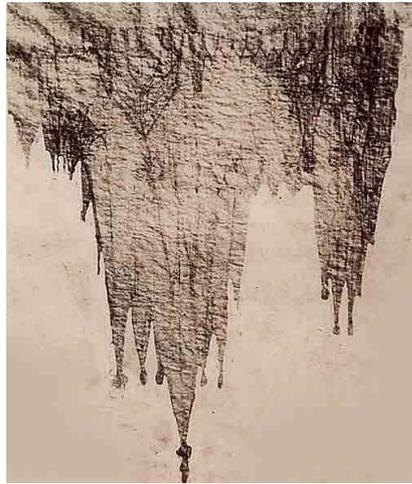
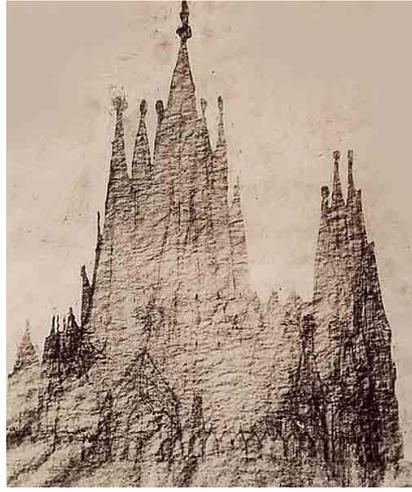
*Connect to many  
Engage individuals*

LANNOO CAMPUS | VAN DUUREN  
MANAGEMENT

# SOFTWARE IS CREATING MOBILITY

*Rik Vera*

KEYNOTE SPEAKER





DO NOT SURF  
TO SURVIVE

*Rick Verra*

KEYNOTE SPEAKER



# BECAUSE IT IS FUN SURF

*Rick Verra*

KEYNOTE SPEAKER

THANK YOU FOR YOUR

**TIME**

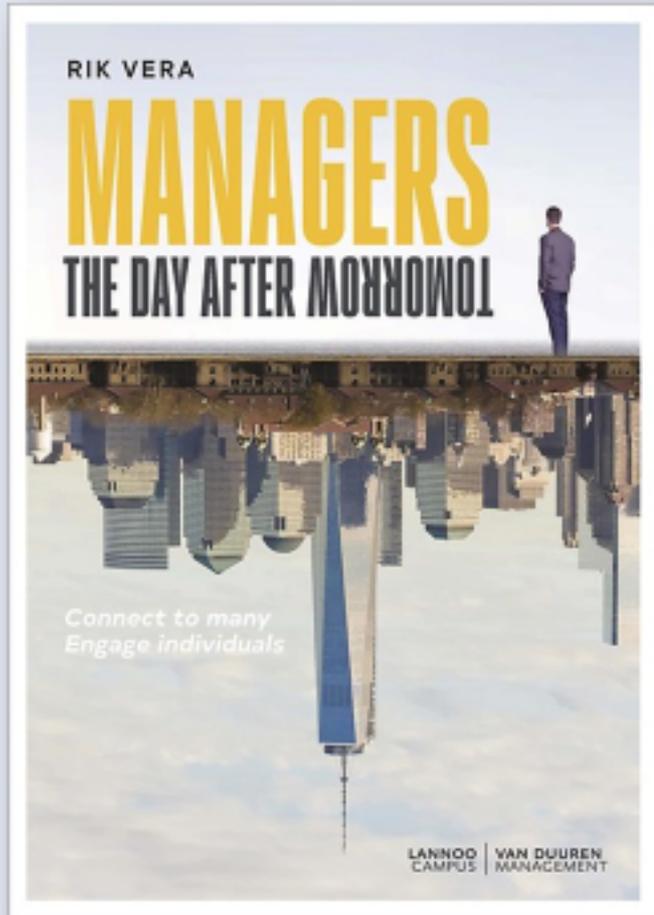


*Rik Vera*

KEYNOTE SPEAKER



AND A SPECIAL THANKS TO THE VERY BEST AUDIENCE IN THE WHOLE UNIVERSE



**Rik Vera**

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[www.rikvera.com](http://www.rikvera.com)

[rik@nexxworks.com](mailto:rik@nexxworks.com)



[///golf.owns.thinker](https://golf.owns.thinker)

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[Stephanie@nexxworks.com](mailto:Stephanie@nexxworks.com)

*Rik Vera*  
KEYNOTE SPEAKER

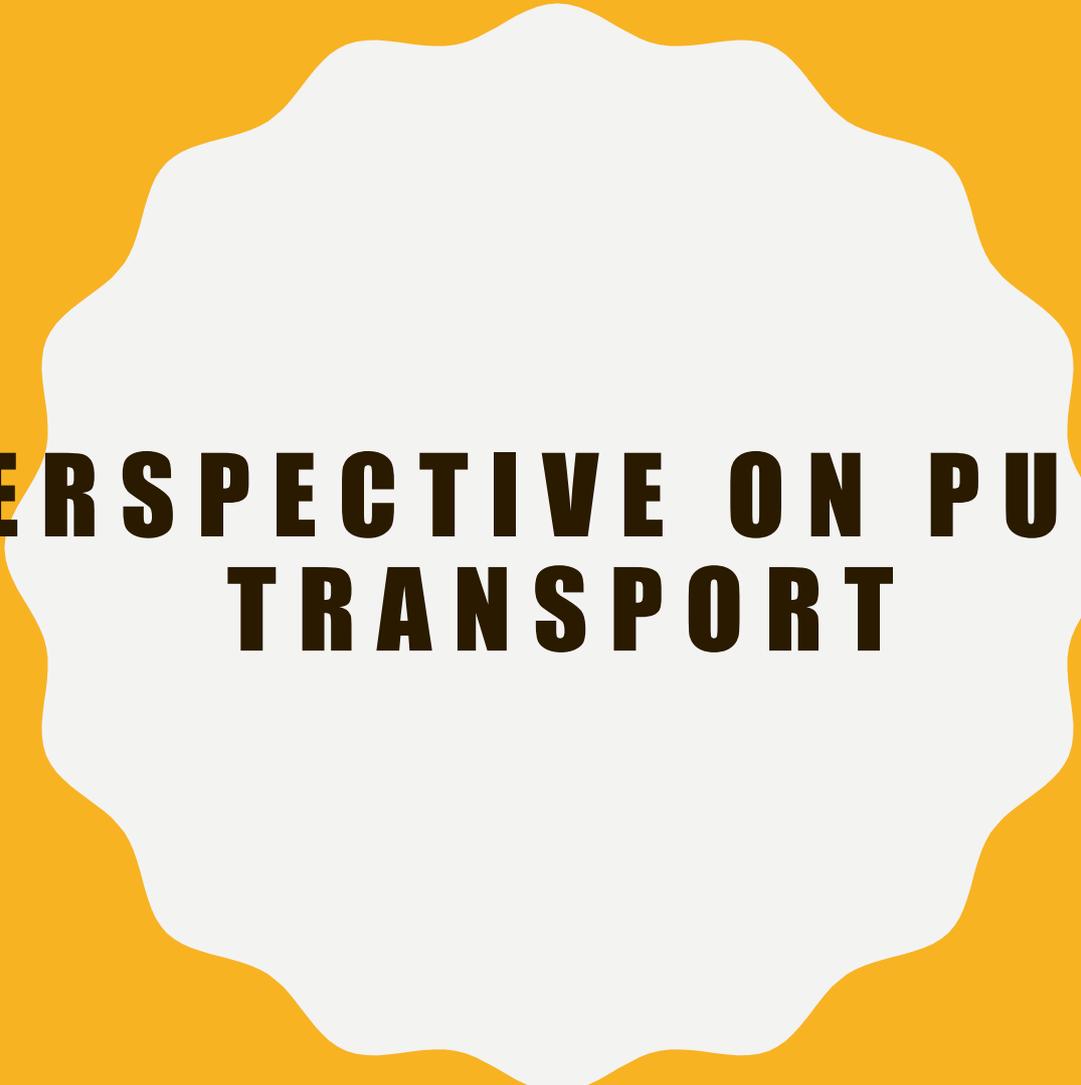
*Rik Vera*

KEYNOTE SPEAKER



We  
Develop  
Quality





**A PERSPECTIVE ON PUBLIC  
TRANSPORT**

**BART SCHMEINK**



# PT MARKET GLOBAL CHALLENGES

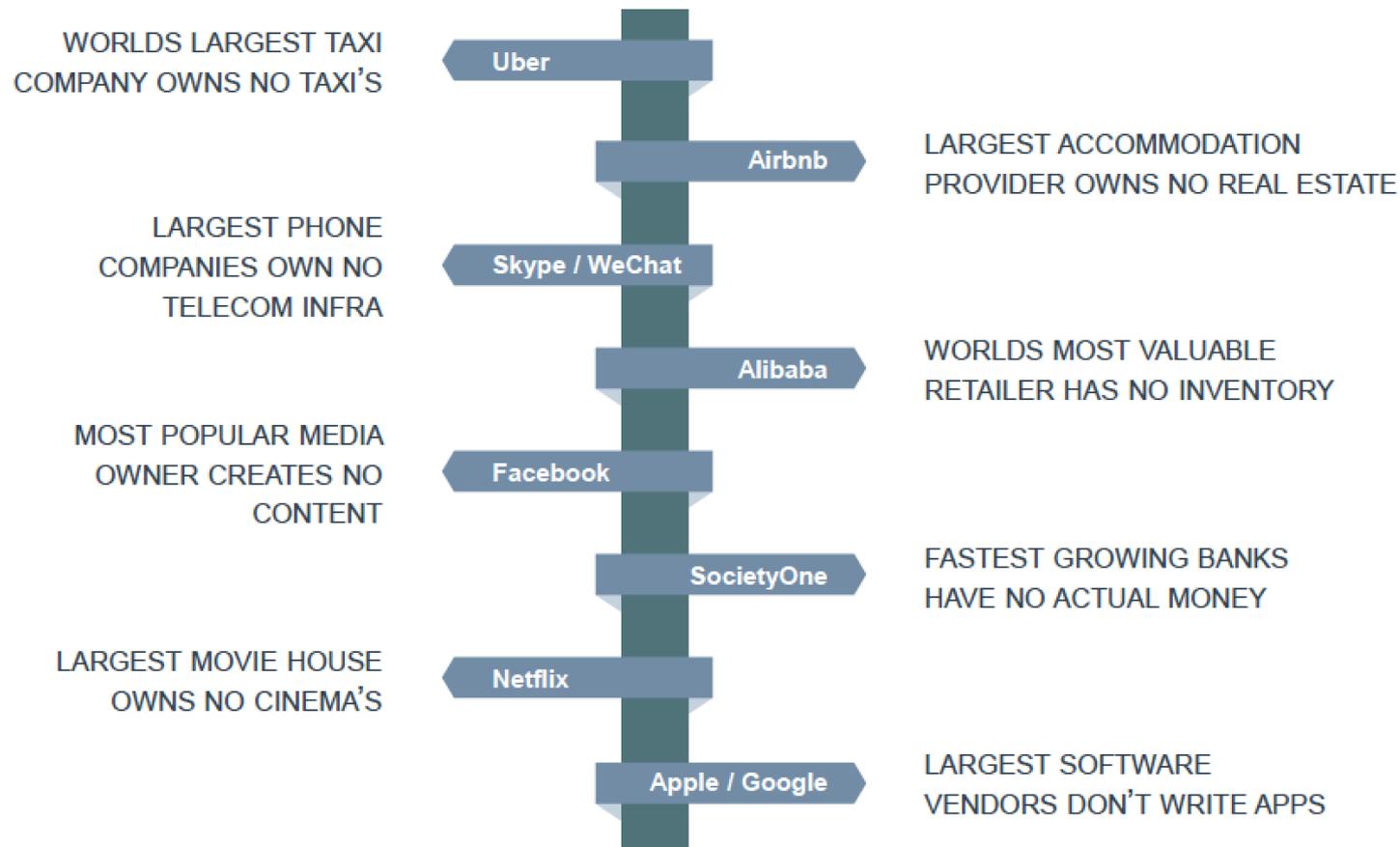
PROTECT OR ADAPT

# MEGATRENDS – PUBLIC TRANSPORT

<b>Changing customer needs</b>	<b>Aging population</b> 	<b>Emergence of megacities</b> 	<b>Shift to rapidly developing economies</b> 	<b>Millennial Needs</b> 	<b>More convenience &amp; time compression</b> 
<b>New mobility frontiers</b>	<b>The infrastructure challenge</b> 	<b>Energy scarcity &amp; price evolution</b> 	<b>Sharing economy</b> 	<b>Environmental concerns</b> 	<b>Information &amp; entertainment everywhere</b> 
<b>New technology vectors</b>	<b>Rise of big data and telematics</b> 	<b>E-/M-commerce &amp; multichannel retail</b> 	<b>Mobile connectivity 3.0</b> 	<b>Internet of Things/ Smart Transport</b> 	<b>Social media/Web 2.0</b> 
<b>Key capabilities for the future</b>	<b>Autonomous &amp; semi-autonomous vehicles</b> 	<b>Customization</b> 	<b>Innovation imperative</b> 	<b>New challengers</b> 	<b>Seamless user experience</b> 

# MEGATRENDS – PUBLIC TRANSPORT BECOMES B TO C BUSINESS

## Industry platforms: companies successfully riding the fourth wave



# CHALLENGES FOR PUBLIC TRANSPORT COMPANIES

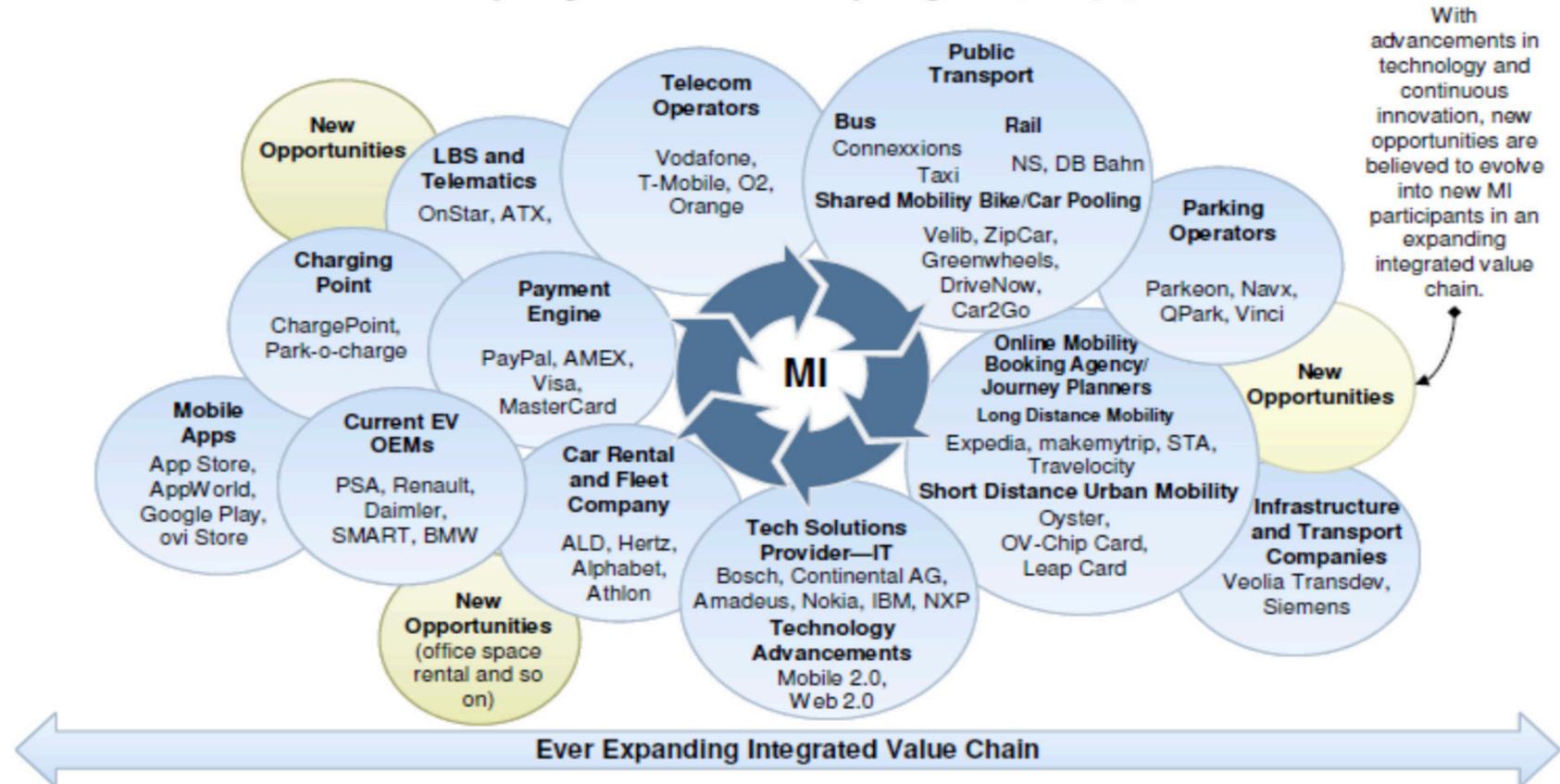
- PT is captured in an old fashioned, middle aged business model
- Extremely asset heavy whilst having no clue about who the customer is
- Heavily dependent on subsidy
- Clients are local, regional and national governments (and they are per definition....)
- They are being attacked from all sides: revenue and payment solutions, customer interfaces, open data, energy transition, new technology, etc. etc.
- In summary, the PT market is transforming from a B to G to a B to C market

# MOBILITY INTEGRATION/MAAS

## Mobility Integrators—Stakeholders making it possible

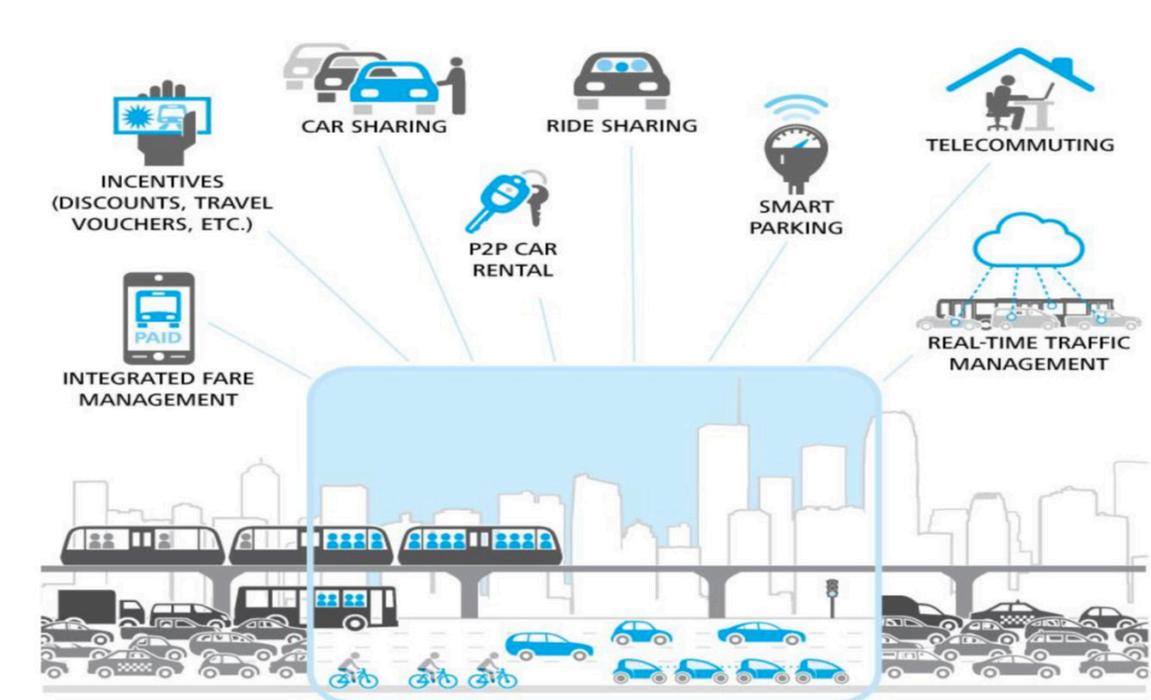
Stakeholders in an ever expanding integrated value chain taking the role of mobility integrators in the quest for totally integrated multi-modal door-to-door connected travel.

Mobility Integrators Market: Mobility Integrators, Europe, 2011



Source: Frost & Sullivan analysis.

# SEAMLESS TRAVELLING



TESLA



# WHO OWNS THE PASSENGER?

## Mobility Integrators and Existing Product Portfolio

NS Business card is the only full-fledged MI, while Mobility Mixx uses the same platform to extend its offering; it will be easier for the transport companies to become the Mobility Integrators.

Mobility Integrators Market: Snapshot of Mobility Offerings by Mobility Integrators, Europe, 2011

Company Name	Car Leasing and Carsharing					Public Transport			Parking Management		Long-Distance Travel		Others			Service Platforms
	Carsharing (Traditional)	Car Leasing (Long-term)	Car Rentals (Short-term)	Bike (Cycle) Renting	Scooter Renting	Intra-city	Inter-city	Taxi	Bike Sheds	Car Parking	Trains	Flight	Refuel/Teleconferencing	Others (Hotels, accessories and charging)	Infrastructure and Charging	Apps, Journey Planners, Scheduling, Re-routing
Transport Operators	NS Business Card	✓		✓	✓	✓	✓	✓	✓	✓				✓		✓
	Connexion	✓				✓		✓								
Car Companies	μ by Peugeot			✓	✓									✓		✓
	Multicity by Citroën	✓		✓			✓					✓				✓
	BMW/Daimler	✓	✓													✓
Leasing Companies	MobilityMixx (LeasePlan)	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
	ALD	✓	✓			✓										✓
	Alphabet	✓	✓													✓
	Athlon	✓	✓													
	Arval	✓	✓													
Transport Company	Siemens					✓	✓				✓			✓	✓	
	Veolia-Transdev	✓		✓	✓	✓	✓				✓			✓	✓	✓

Source: Frost & Sullivan analysis.

# CONCLUSION

- Public Transport as we know it, will be gone in 5 to 10 years
- Mobility will become fluid, a service, MaaS, problem of first and last mile is solved
- It's all about the customer, 'who has the customer, has the future of mobility'
- Payment solutions, Energy transition and AV/ML are going to be real drivers of change
- Public Transport companies should partner with major technology players
- 'On demand' is going to be key
- Positions in the value chain will change
- From B to G to B to C: but governments continue to play a major role
- governments will have to think how to change their contracting models to maximise leverage the latest technology in order to drive change and effectiveness of PT

**SHIFT  
HAPPENS !**

Thank you for listening

We  
Develop  
Quality





Q-Park Thought Leader Event – 04 April 2019

# Parking: the academic perspective

Dr. Giuliano Mingardo

Erasmus Centre for Urban, Port and Transport Economics

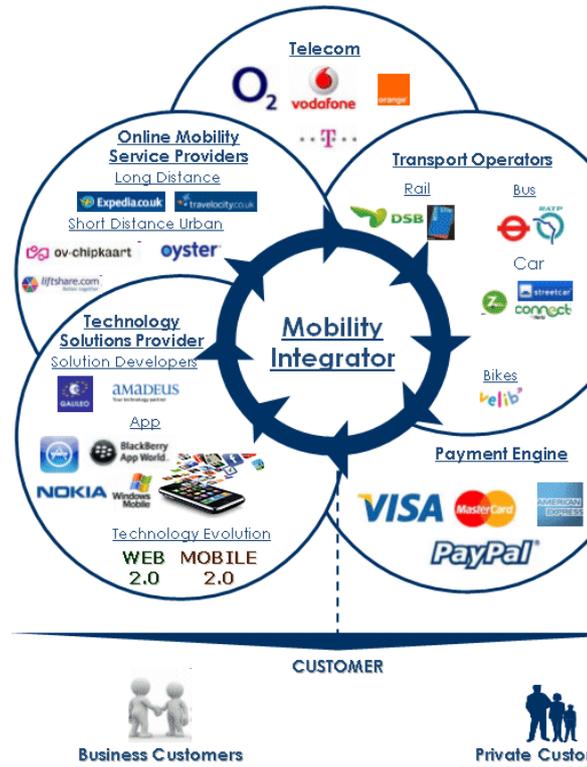
Erasmus University Rotterdam

[mingardo@ese.eur.nl](mailto:mingardo@ese.eur.nl)



# The academic perspective

What do we know about mobility?  
What do we know about parking?



\*The company logos mentioned are

## Mega Trends Influencing Rise of Mobility Integration

Global Mega Trends are changing the way humans live, move, and co-exist. Dependency on technology and need for operational ease and comfort are amongst key reasons for the evolution of new business models.

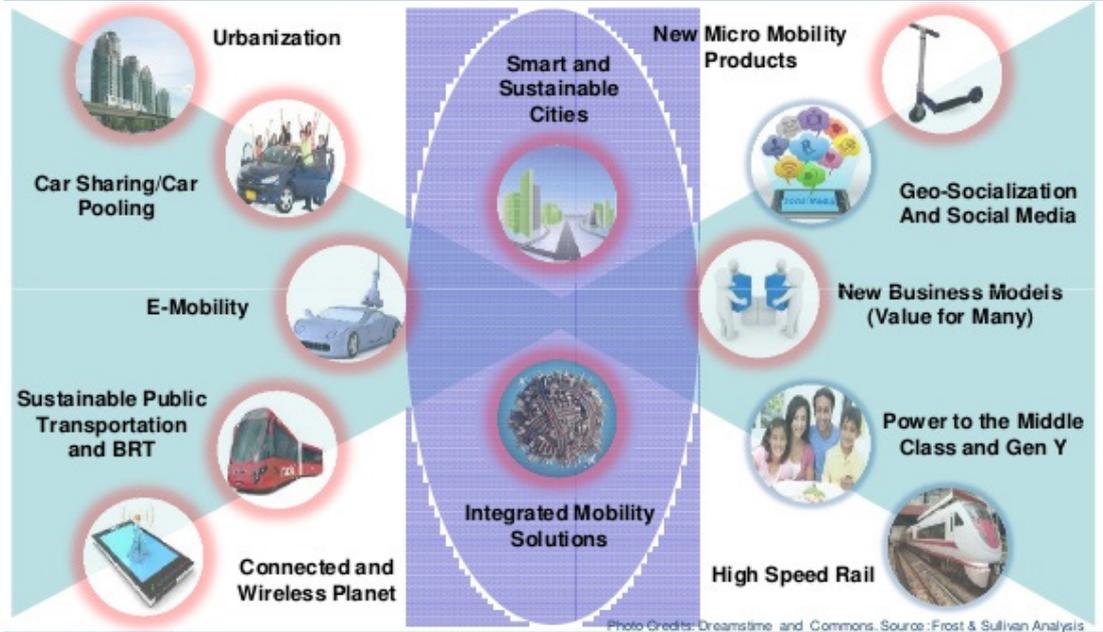
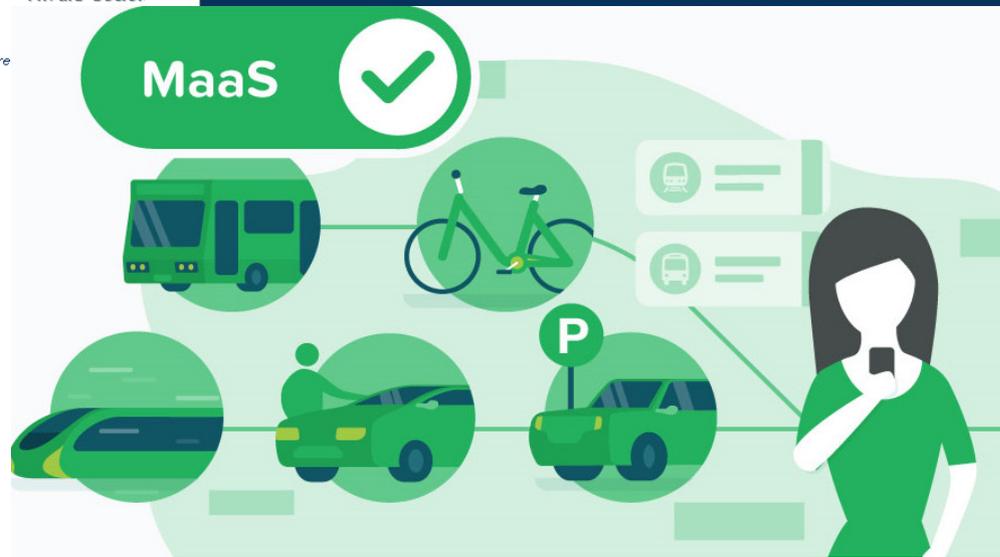


Photo Credits: Dreamstime and Commons. Source: Frost & Sullivan Analysis





# The future of mobility



*designthinkers*



# The future of parking



Parking is a sector  
where there is still  
little knowledge!!!



# Academic research on parking

- There is still a large gap between academic research and practitioners
- Why?
  - Academic researchers and practitioners might have different aims and interests;
  - Sometimes they speak a different “*language*”;
- It is important both for academics and practitioners to bridge this gap



# Q-Park Thesis Award

- It's an important step to bridge this gap;
- It's a joint project of Q-Park and Erasmus University Rotterdam
- It's meant to prize the three best MSc thesis written on the theme of parking and mobility
- It's open to all Dutch and Belgium Universities
- Evaluation criteria: added value both from a scientific and business point of view
- Started in 2014
- More than 40 MSc thesis have been submitted to participate



# Q-Park Thesis Award 2018

- The three finalist are (in alphabetical order):
  - **Ruben Camphuijsen** - Smart mobility: a strategic solution in urban development (*TU Delft*)
  - **Stefan Laro** - Parking choice and the role of Social Influence (*TU Eindhoven*)
  - **Frank Siebers** - Optimizing non-aeronautical revenues of airports - the case of Rotterdam The Hague Airport (*Erasmus University Rotterdam*)



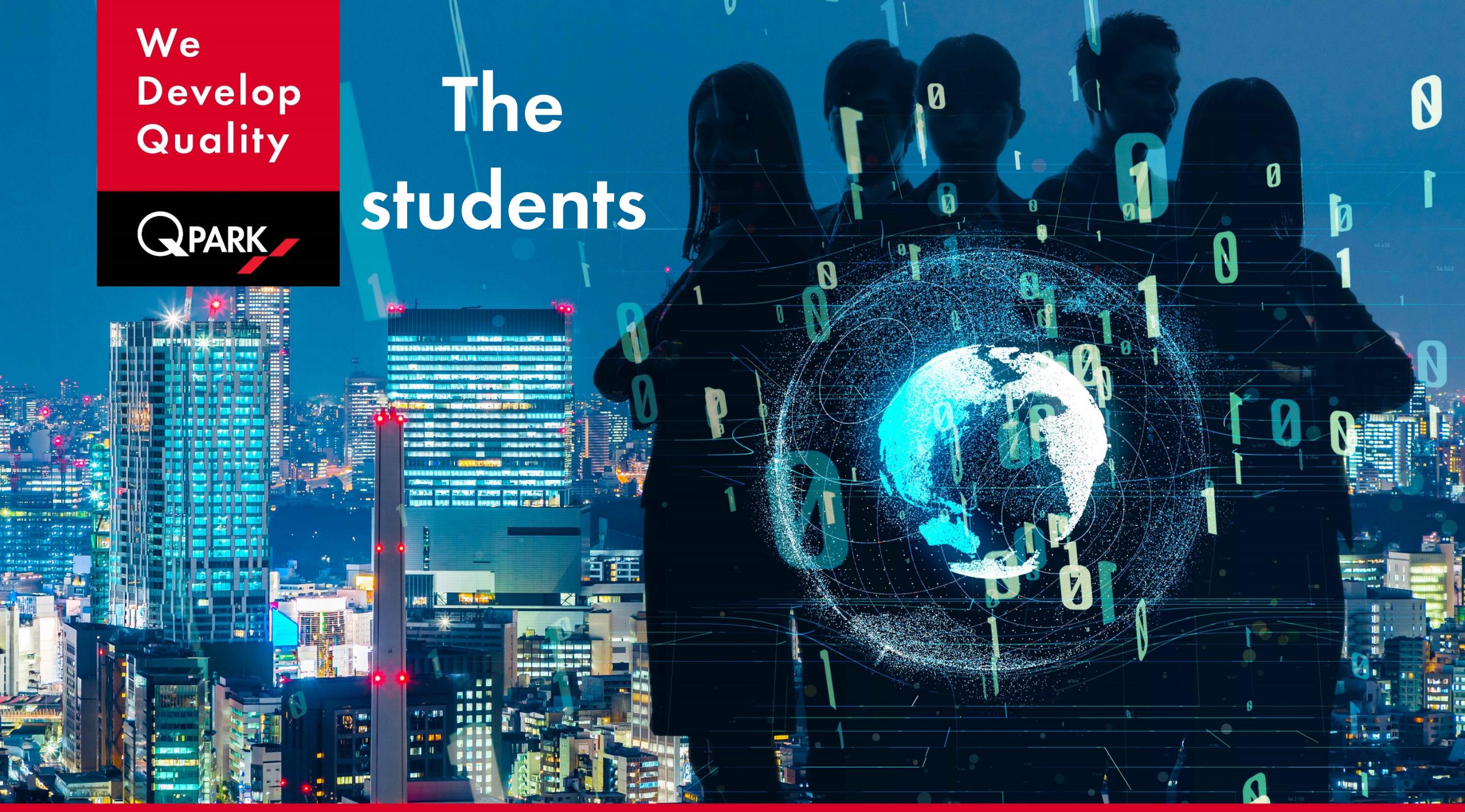
# THANKS

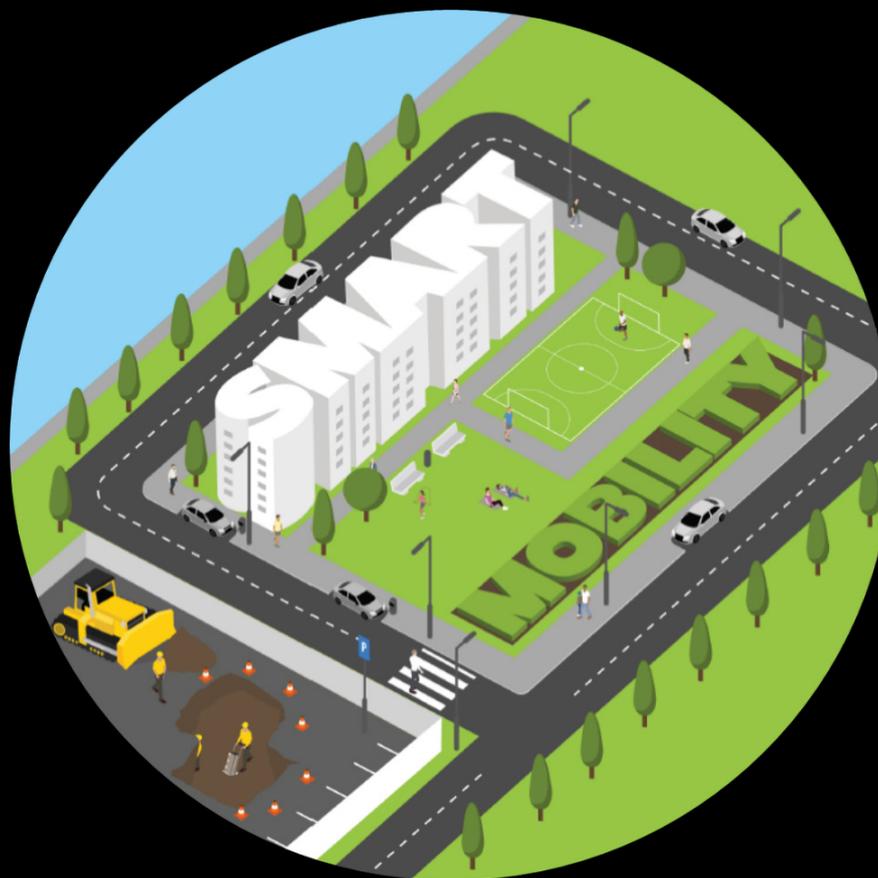
Giuliano Mingardo  
Erasmus Universiteit Rotterdam  
mingardo@ese.eur.nl

We  
Develop  
Quality



# The students





**Smart mobility: a strategic  
solution in urban development**

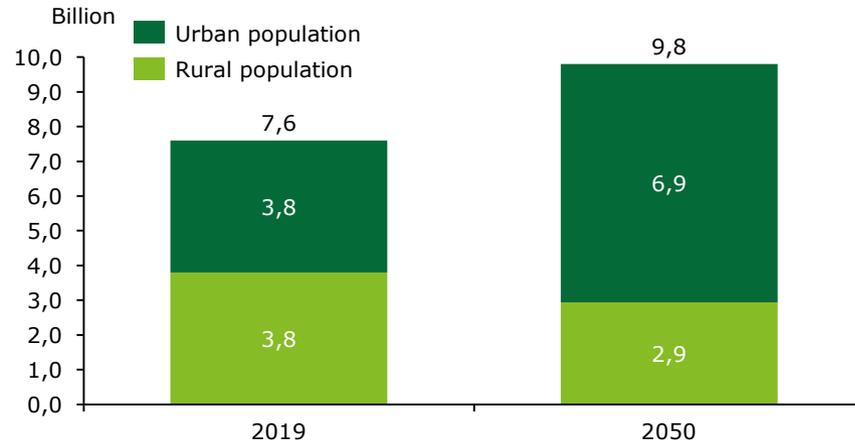
Thesis presentation  
Ruben Camphuijsen

# Background information

# A changing city

## Population growth, urbanization and inefficiencies trouble our cities

### 2050: 70% of world population in cities

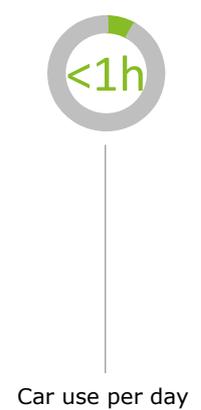
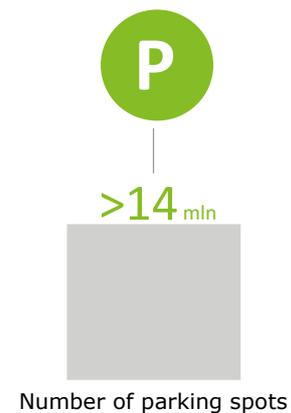


Source: UN(2017)

### Congestion and intensity in cities increases

- 2025: Congestion will double in many Dutch cities, and on highways an increase of 38 percent is expected
- 2050: Energy use could increase as much as 70%

Source: IEA (2016), CROW (2016)





# Youtube

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Telephone use

- [Link](#)

# Impact of Smart mobility

Expected transition rate and possible effects have been discussed with several mobility experts.

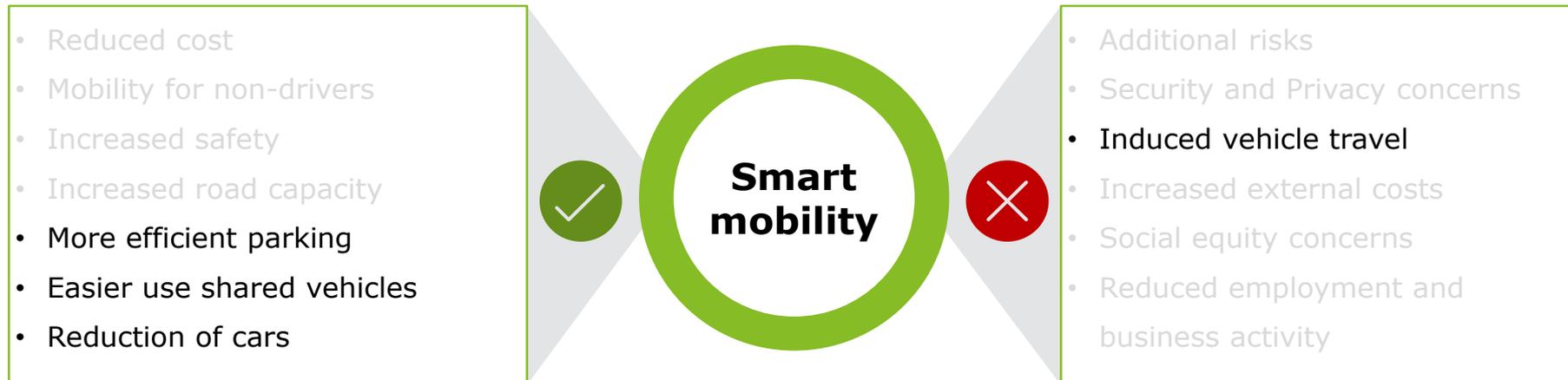
## Expert interviews



## Transition affected by



## Effects of smart mobility



Source: T. Litman (2017)

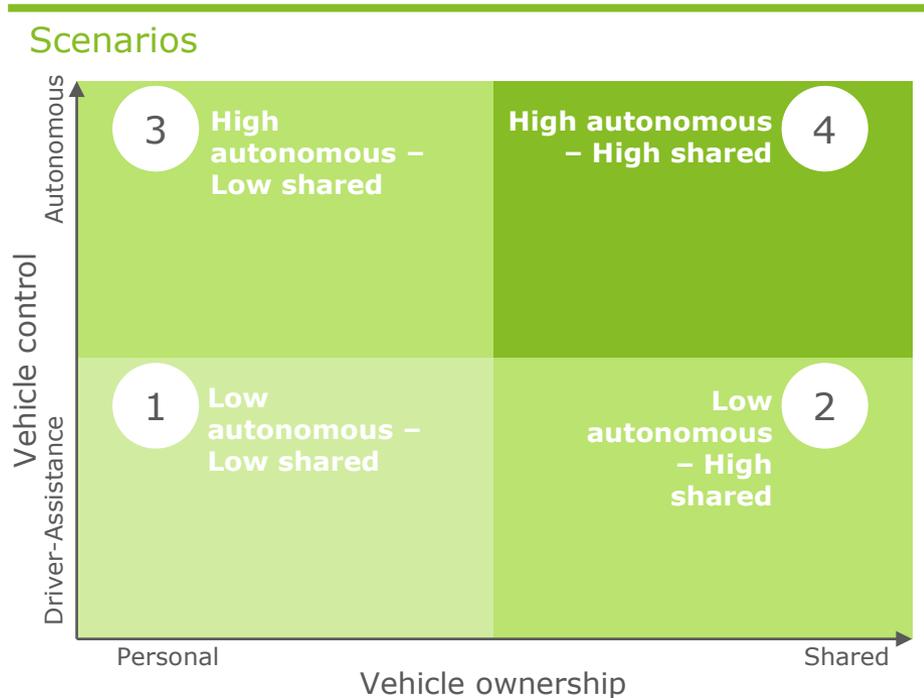
# Research question and scenario's

# Research question and scenario's

The possible effect of smart mobility is divided into 4 scenario's

## Main research question:

“To what extent can autonomous and shared mobility contribute to the restructuring and transformation of the public space and help to achieve a region's public ambitions, taking into account different mobility future scenarios?”

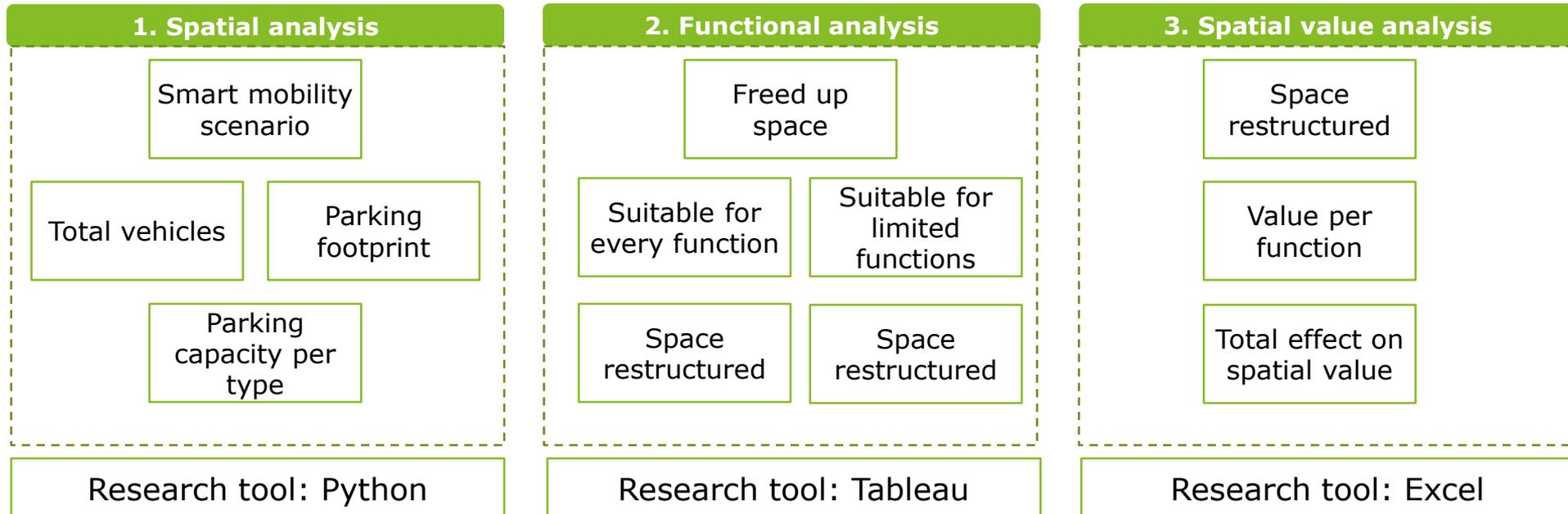


## Scenario variables

Scenario	Total driven kilometers	Replacement ratio	Parking footprint
Scenario 1	No change	1	No change
Scenario 2	-44%	5	No change
Scenario 3	+20%	1	-25%
Scenario 4	+10%	15	-60%

# Research question and method

## Analysis steps



# Results

# Spatial analysis

Only scenarios with a large share of shared mobility show clear positive effects.

## Parking reduction

Scenario	2020	2025	2030	2035	2040
Scenario 1	0%	0%	0%	0%	0%
Scenario 2	0%	-6%	-15%	-34%	-55%
Scenario 3	0%	0%	0%	-1%	-2%
Scenario 4	0%	-5%	-12%	-64%	-88%



EU commission expects number of European cars to be reduced by 50% in 2050

## Results: freed up space

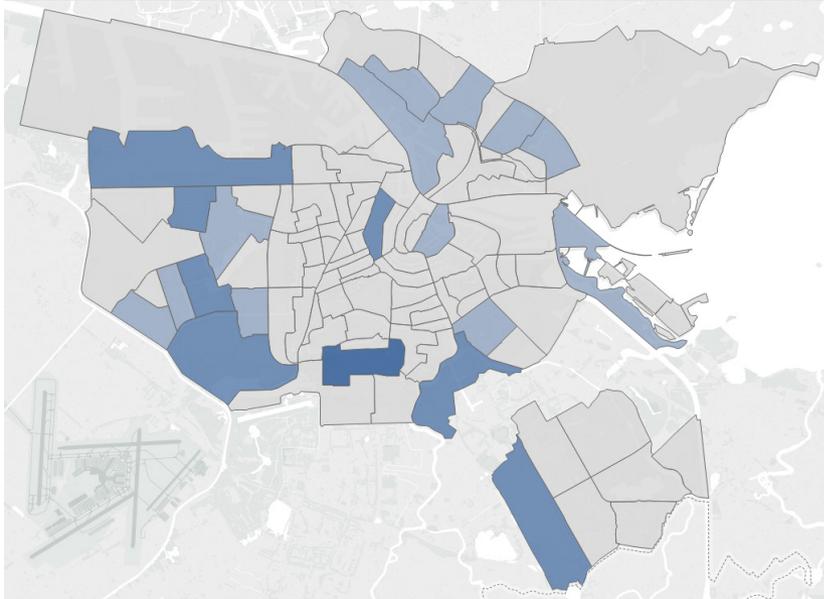
National level	All functions	Limited Functions
Scenario 1	0	0
Scenario 2	2.073 ha	5.350 ha
Scenario 3	471 ha	202 ha
Scenario 4	2.866 ha	7.974 ha

Amsterdam	All functions	Limited Functions
Scenario 1	0	0
Scenario 2	69 ha	196 ha
Scenario 3	48 ha	7 ha
Scenario 4	345 ha	292 ha

# Spatial analysis

Housing dynamics and type of parking strongly determine to what extent the freed up space can be used; potential to increase density

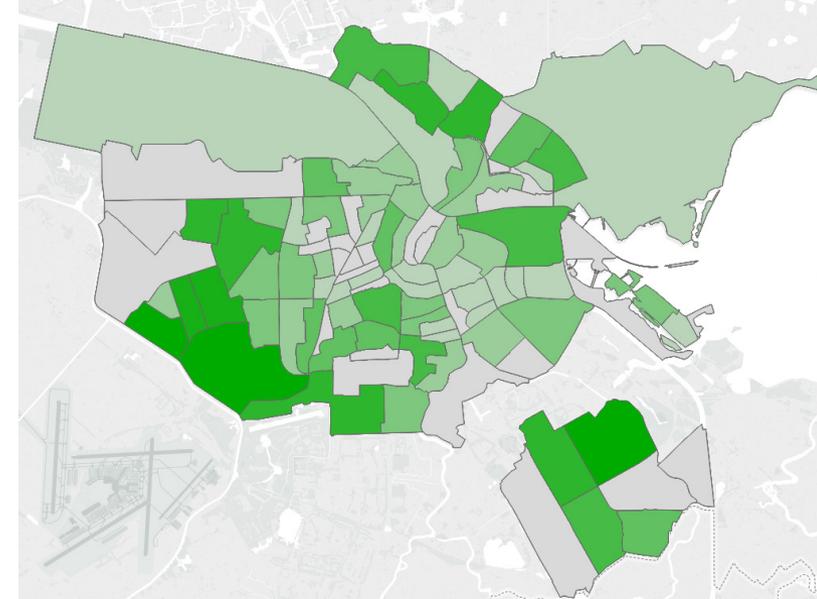
All functions



**Amsterdam New homes**

<b>Scenario 1</b>	0
<b>Scenario 2</b>	3.021
<b>Scenario 3</b>	2.286
<b>Scenario 4</b>	3.331

Limited functions



**Amsterdam Limited Functions**

<b>Scenario 1</b>	0
<b>Scenario 2</b>	196 ha
<b>Scenario 3</b>	7 ha
<b>Scenario 4</b>	292 ha

# Spatial value analysis

The transformation of the public space can result in several value improvements.

## Economic spatial value



- Extra houses sold
- Value increase of 4% to 12% when homes are located within 300 meters of public green

Source: Luttik & Jókövi (2003)

## Social spatial value



- 1% increase of greenery results in 0.55% increase of social cohesion

Source: Vreke et al. (2010)

## “Health” spatial value



- 1% more greenery within a radius of 1 km results in 0,835 fewer patients per 1,000 inhabitants.

Source: Maas (2009)

## Environmental spatial value



- Biodiversity, water storage, food production are uncertain
- Trees can take up 1kg of fine particles per tree
- Change of 1% from red to green area results in heat reduction of 0,1 degree Celsius

Source: Klok et al. (2010), Kirchholtes (2012),

# **Conclusion and recommendation**

# Conclusion and recommendation

## Smart mobility: a strategic solution in urban development

**“To what extent can autonomous and shared mobility contribute to the restructuring and transformation of the public space and help to achieve a region’s public ambitions, taking into account different mobility future scenarios?”**







# Parking choice and the role of Social Influence

04-04-2019

# Introduction

- Current research regarding parking often only includes characteristics of a parking facility
- Parking policy measures are limited in their success
- Maybe social influence plays a role in the decision making process of a car driver

# Aim of the study

- Identify the attributes that play a role in the decision making process of a car driver to choose for a certain parking facility constrained by the information given in the dataset
- Compare three different model approaches (MNL, LC, ML) based on their effectiveness on determining what attributes are most important for the respondents and what information can be derived with the use of these models

# Methodology

Multinomial Logit Model (MNL)	Latent Class Model (LCM)	Mixed Logit Model (ML)
Estimates are based on average utilities (response homogeneity)	Estimates classes based on regularity patterns in answers	Can account for taste heterogeneity by estimating the range of each utility weight among the respondents
Independence of irrelevant alternatives	Takes heterogeneity into account by assigning respondents to a certain class	Able to identify the source of heterogeneity

# Dataset

- Earlier study from a student from University of Hasselt, Belgium
- Data was gathered with a web-based questionnaire

### This is a trial question!

Below you see a description of a parking facility that is available at your destination. You also see the opinions of all involved persons. Assume that you have to decide to park your car in the presented parking facility for a shopping trip to the city center. Please, indicate at the end of the table how **(un)likely** it is that you park your car at the presented parking facility.

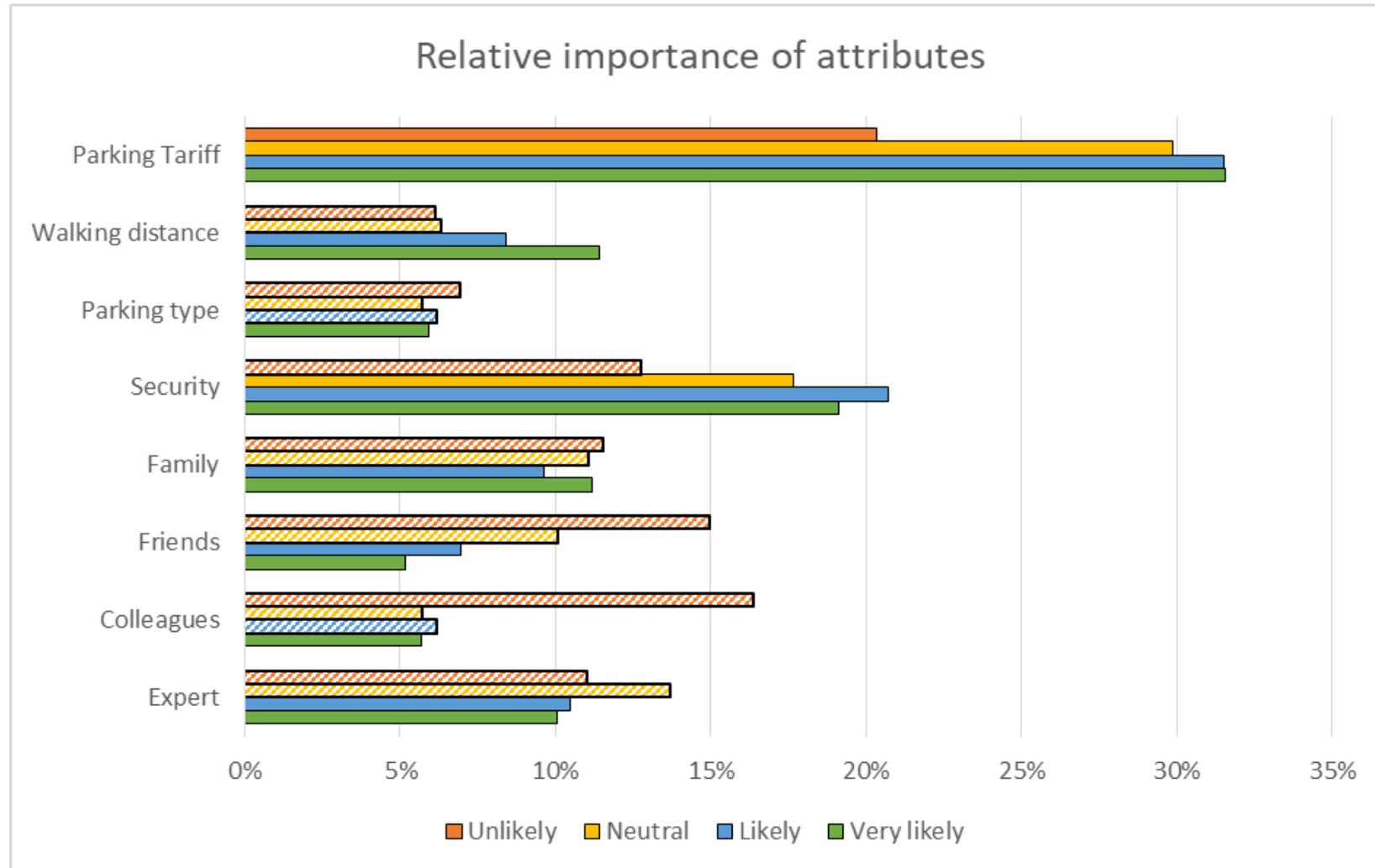
Example evaluation TASK	Attributes	Parking facility
Parking facility	<i>Parking tariff</i>	1 euro
	<i>Walking distance</i>	500 meter
	<i>Parking type</i>	On-street parking
	<i>Level of security</i>	Security staff
Social environment	<i>Opinion Family member</i>	Closest
	<i>Opinion Friend</i>	Safest
	<i>Opinion Colleague</i>	Cheapest
	<i>Opinion Expert</i>	Closest
How likely are you to park your car at the presented parking facility?	<input type="text" value="Make a choice"/>	

After this page you will be presented 8 evaluation tasks

Previous

Next

# MNL – importance of attributes



# MNL – social influence

- Social influence does not seem to play a very big part in the decision making process according to the MNL model
  1. The advice did not impact the decision of the respondent
  2. Difference in taste preference, respondents prefer different advice compared to others from their social network



# Latent class model

- Estimation with 2 classes
  - Error 1027: Models - estimated variance matrix of estimates is singular
- Estimation with 3 classes
  - Error 1027: Models - estimated variance matrix of estimates is singular
- Estimation with 4 classes
  - Error 1076: Latent class model has too many parameters ( $\#C \cdot K$ )



# Socio-demographic influence

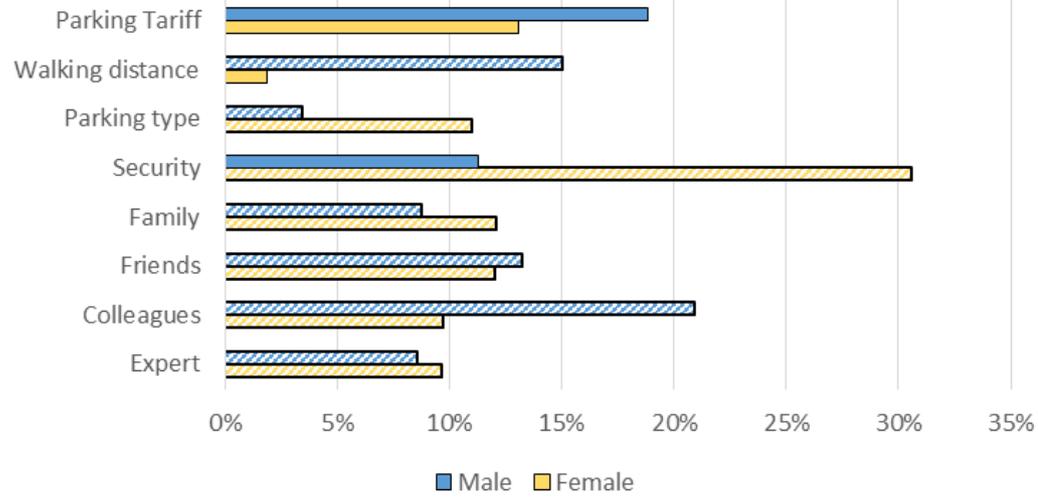
1. Age
2. Gender
3. Education
4. Nationality
5. Offspring

# Gender differences

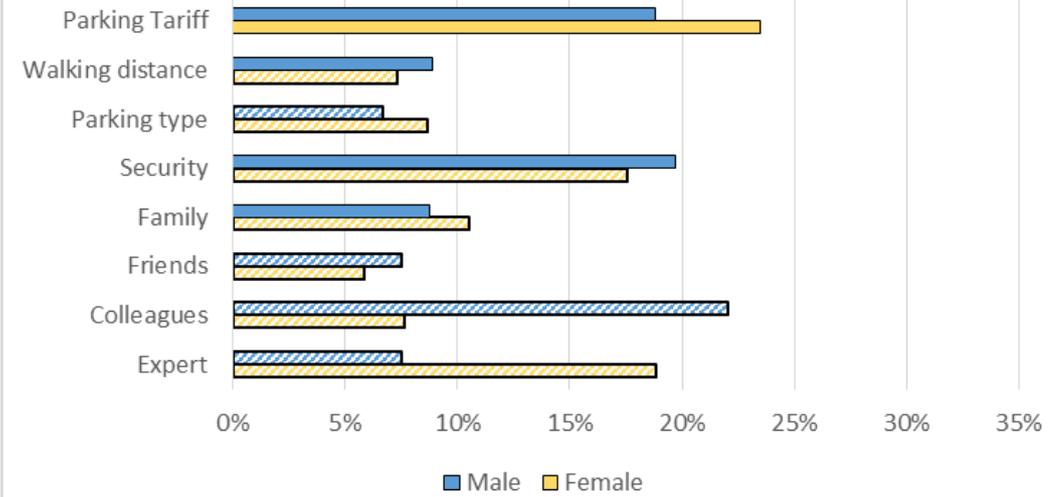
- Model with male only respondents showed to have much more significant parameters
- Model with only female respondents only showed significant attributes for 3 attributes (parking tariff, security level and expert opinion)



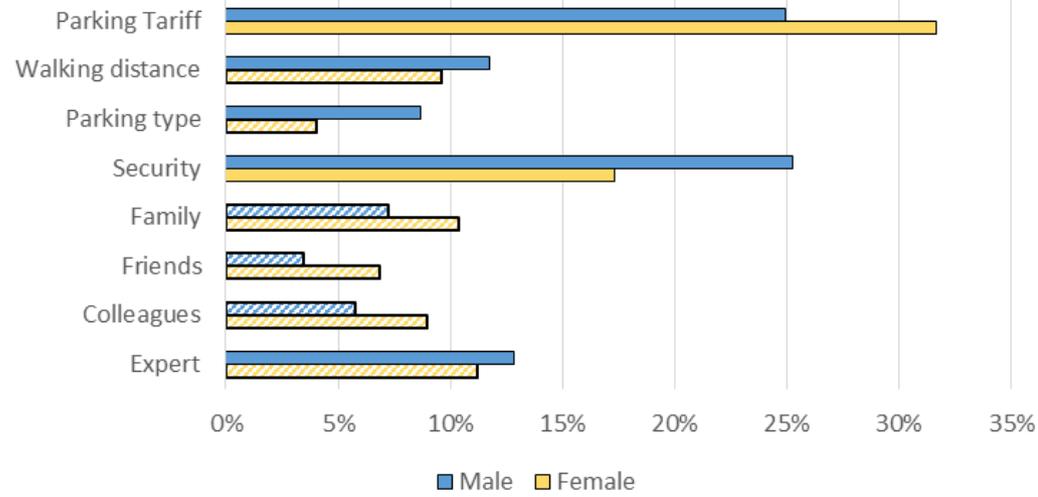
### Relative importance of attributes (unlikely)



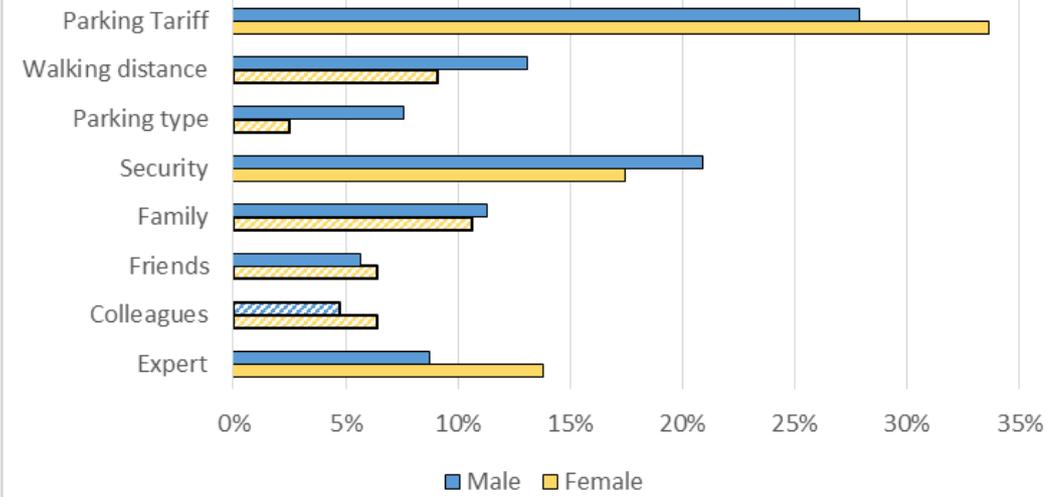
### Relative importance of attributes (neutral)



### Relative importance of attributes (likely)



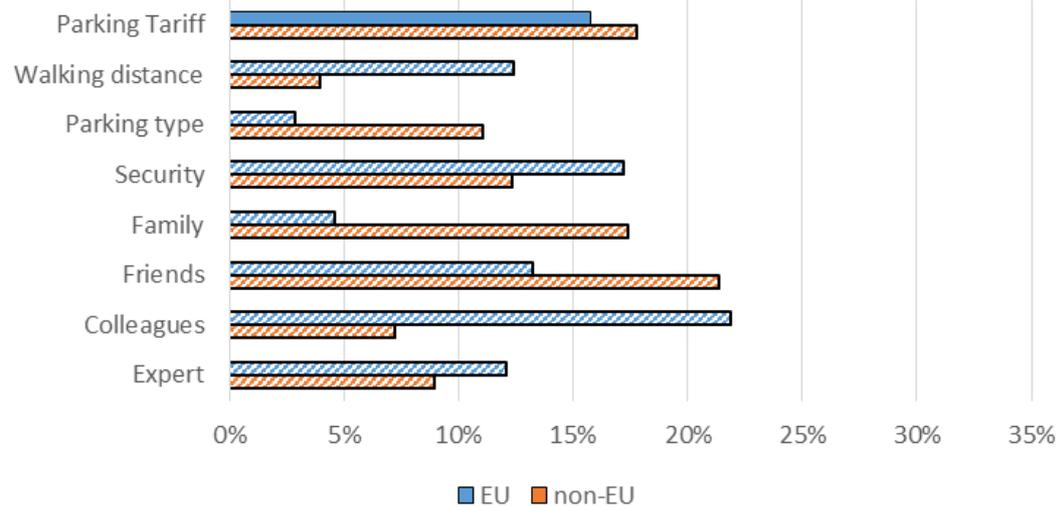
### Relative importance of attributes (very likely)



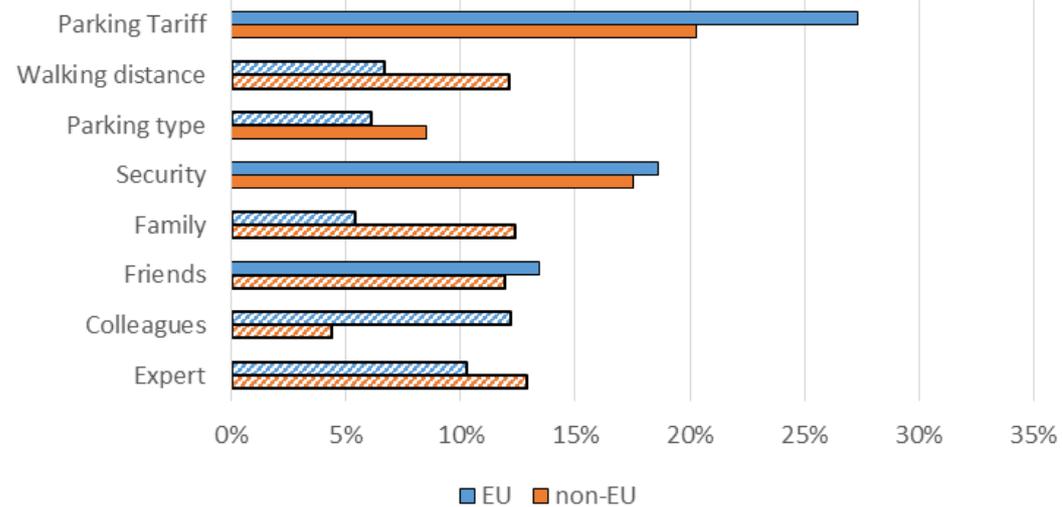
# Regional differences

- Respondents were grouped in EU and non-EU citizens
- 264 respondents for EU-citizens
  - 83.71% Belgian nationality
- 113 non-EU citizens
  - 66.37% Pakistani nationality

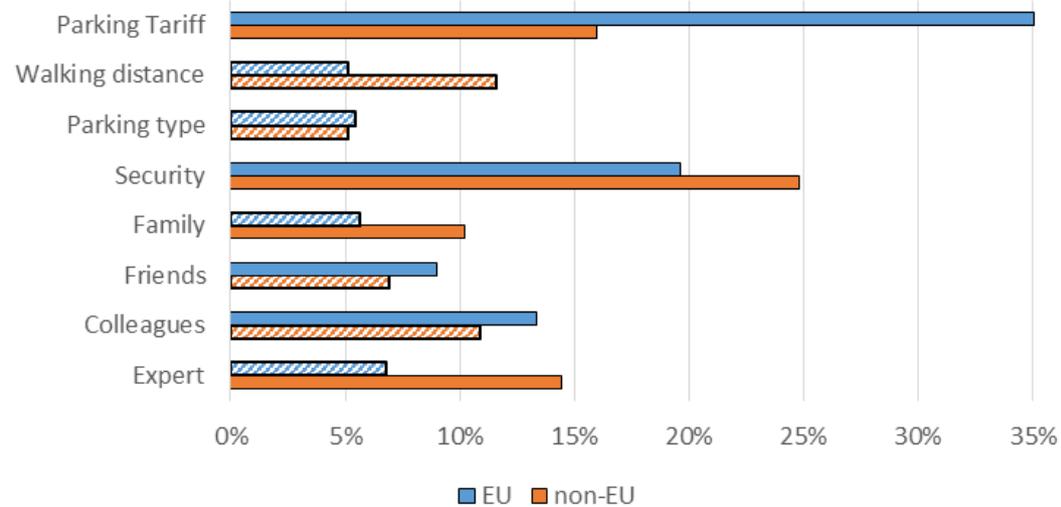
Relative importance of attributes (unlikely)



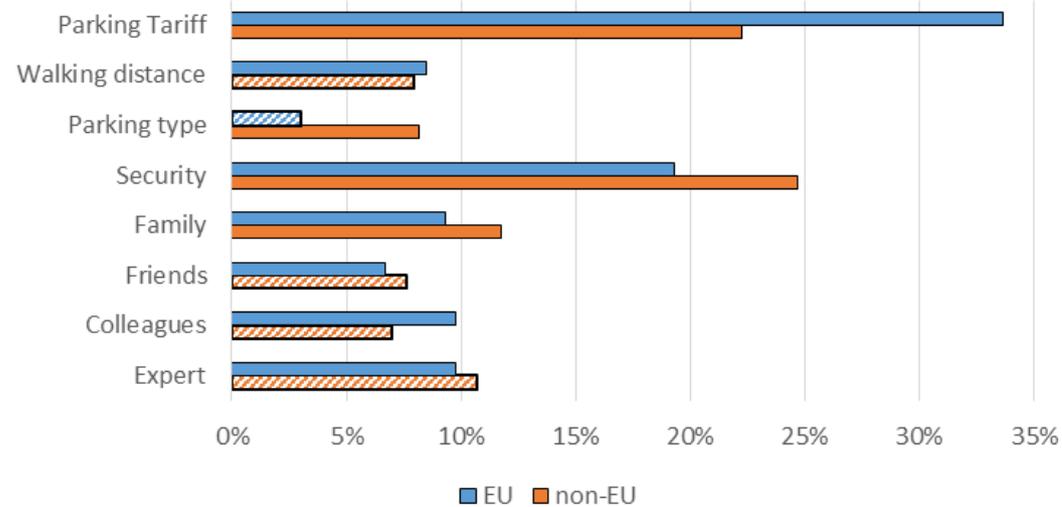
Relative importance of attributes (neutral)



Relative importance of attributes (likely)



Relative importance of attributes (very likely)





# Mixed logit model

- All attributes were initially added as random parameters
- If no significant deviation was found they were removed
- Final model contained five attribute levels with significant standard deviation

# Mixed logit model

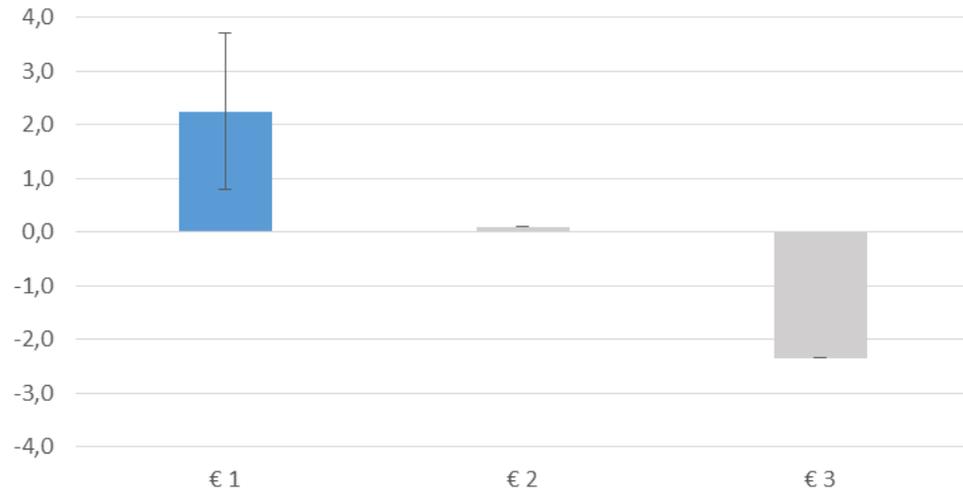
---

	Unlikely	Neutral	Likely	Very likely
<b>Constant</b>	***0.7827	***0.6266	***0.9041	***2.1372
<b>Parking tariff €1</b>			***0.7881	***1.4541
<b>Parking tariff €2</b>		***0.9002		
<b>Walking distance: 100m</b>				***0.8099
<b>Parking type: on-street parking</b>	***0.5638			***0.7981
<b>Security: no security</b>				***1.1813

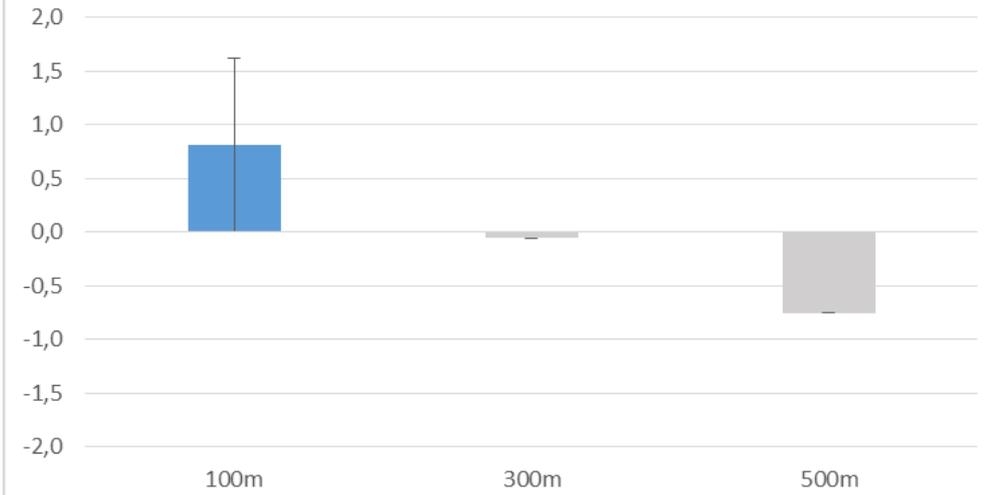
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# Very likely

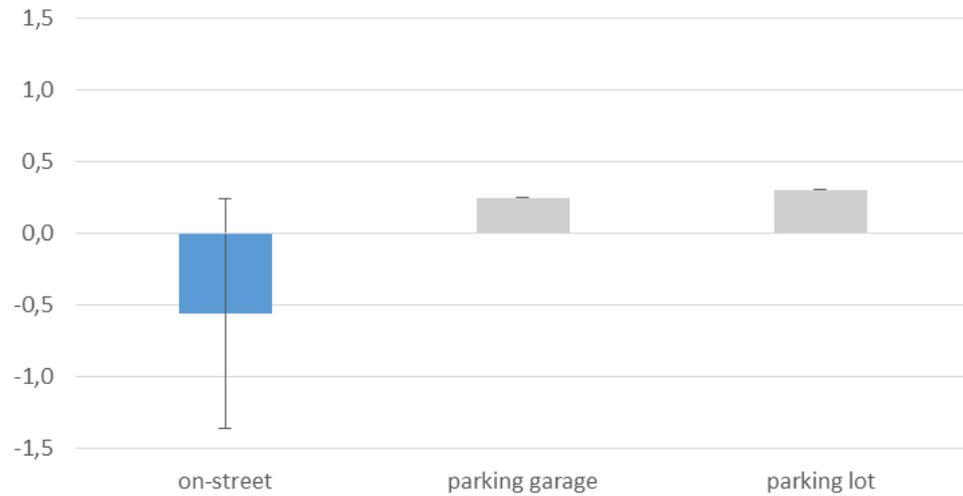
## Parking tariff



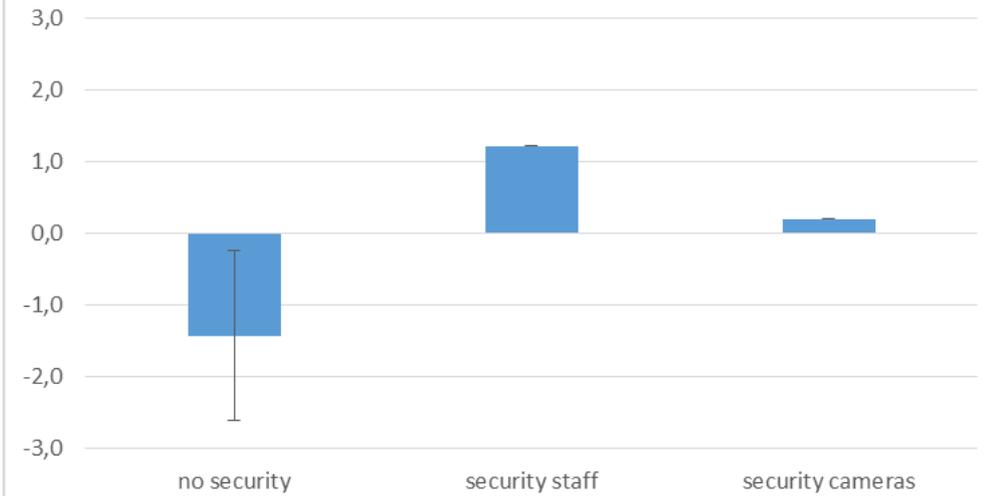
## Walking distance



## Parking type



## Security



# Mixed logit model – source of heterogeneity

- Gender
- Nationality
- Education
- Offspring

# Research goal

- Identify the attributes that play a role in the decision making process of a car driver to choose for a certain parking facility
  1. Parking tariff
  2. Security level
  3. Walking distance
  4. Parking type

# Research goal

- Identify the attributes that play a role in the decision making process of a car driver to choose for a certain parking facility
  1. Family - safest
  2. Experts - closest & cheapest
  3. Friends - cheapest
  4. Colleagues - cheapest

# Parking choice and the role of Social Influence

04-04-2019



Quality in parking