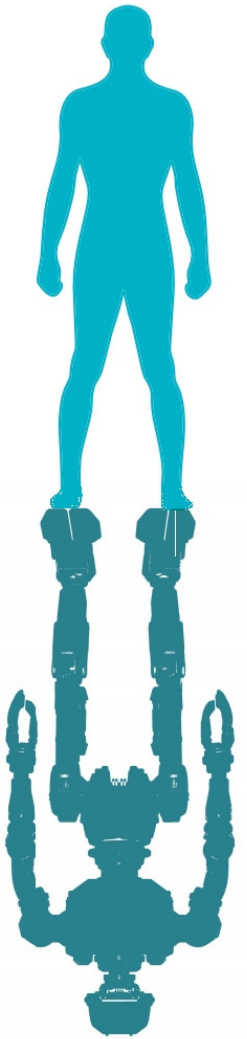
INTERNATIONAL EVENT ON
DRIVING SCIENCE
DRIVER-VEHICLE SYSTEMS IN ADVANCED ENVIRONMENTS

# Human-driven automation

## On the moral challenges of autonomous machines




**Jochanan Eynikel**

Business philosopher ETION

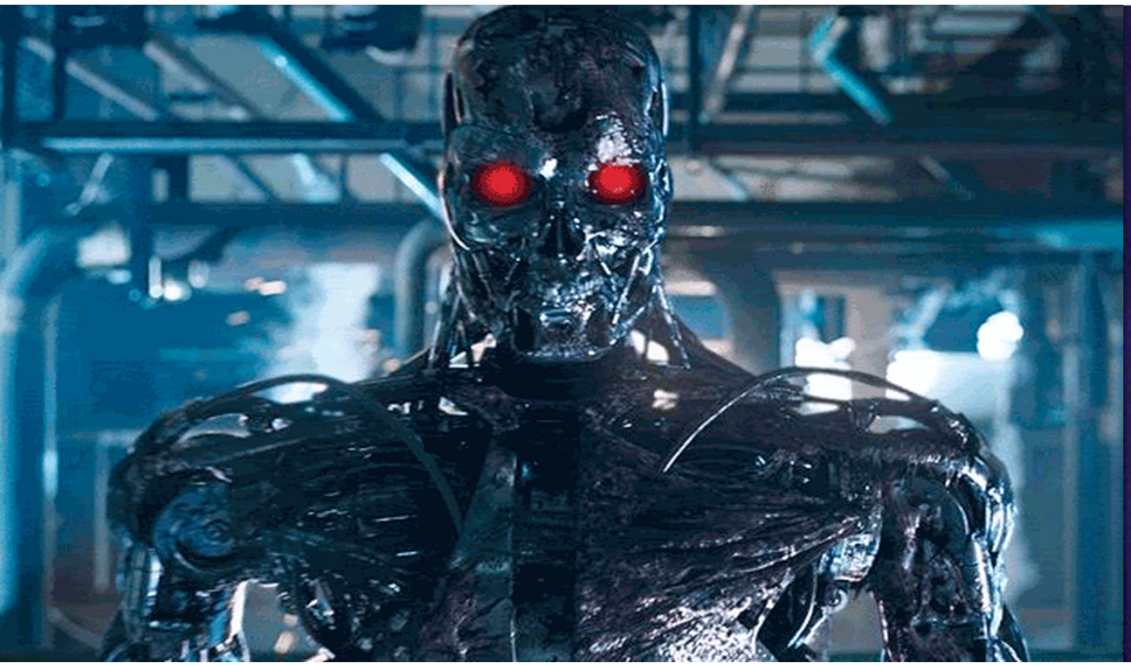

10 12 2019 | Harderwijk, The Netherlands

# Gartner picks digital ethics and privacy as a strategic trend for 2019

**Natasha Lomas** @riptari / 4 months ago

Comment

# The current tech debate



**Techno-pessimism**

**Techno-optimism**

Image: PCMag / ZDF / Giphy

# Techno-realism:
# Technology is not neutral.

# ALGORITHMS ALREADY INFLUENCE:

## WHO WE TALK TO

ALGORITHMS IN SOCIAL MEDIA SELECT WHOSE POSTS WE SEE, SHAPING OUR RELATIONSHIPS

## WHAT WE BUY

SUGGESTION ENGINES ('PEOPLE ALSO BOUGHT') SHAPE AWARENESS AND INFLUENCE PURCHASES

## WHERE WE GO

THE ROUTES SELECTED BY DIGITAL MAPS DETERMINE THE NEIGHBOURHOODS WE VISIT AND BUY PROPERTY IN

## HOW MUCH WE EARN

STOCK TRADING SYSTEMS DETERMINE SHARE PRICES, IMPACTING OUR SAVINGS AND OUR SALARIES

## WHO WE MARRY

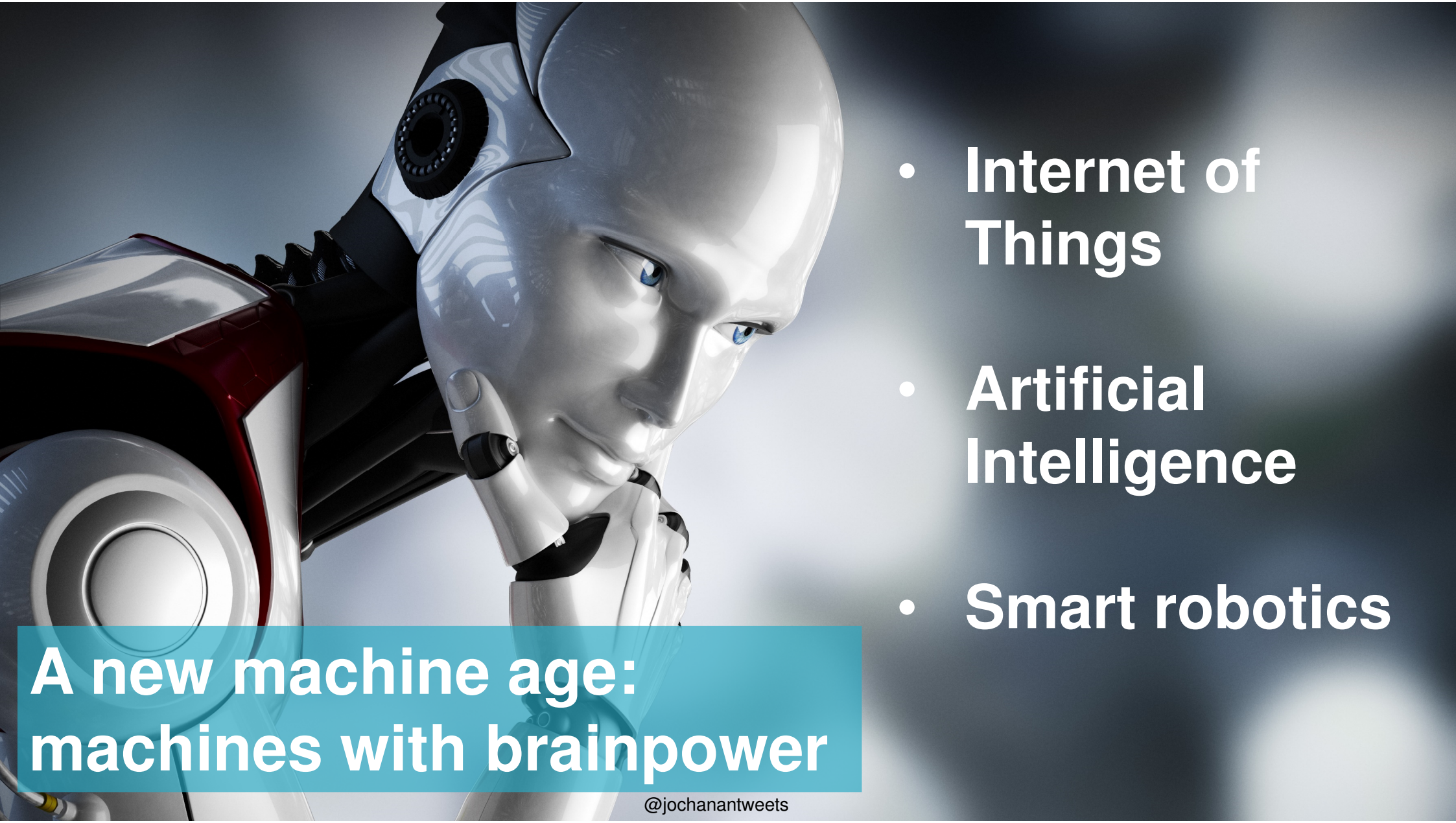
ALGORITHMS IN DATING APPS PLAY A KEY ROLE IN DETERMINING WHO WE MEET, DATE, AND MARRY

**Ethics**

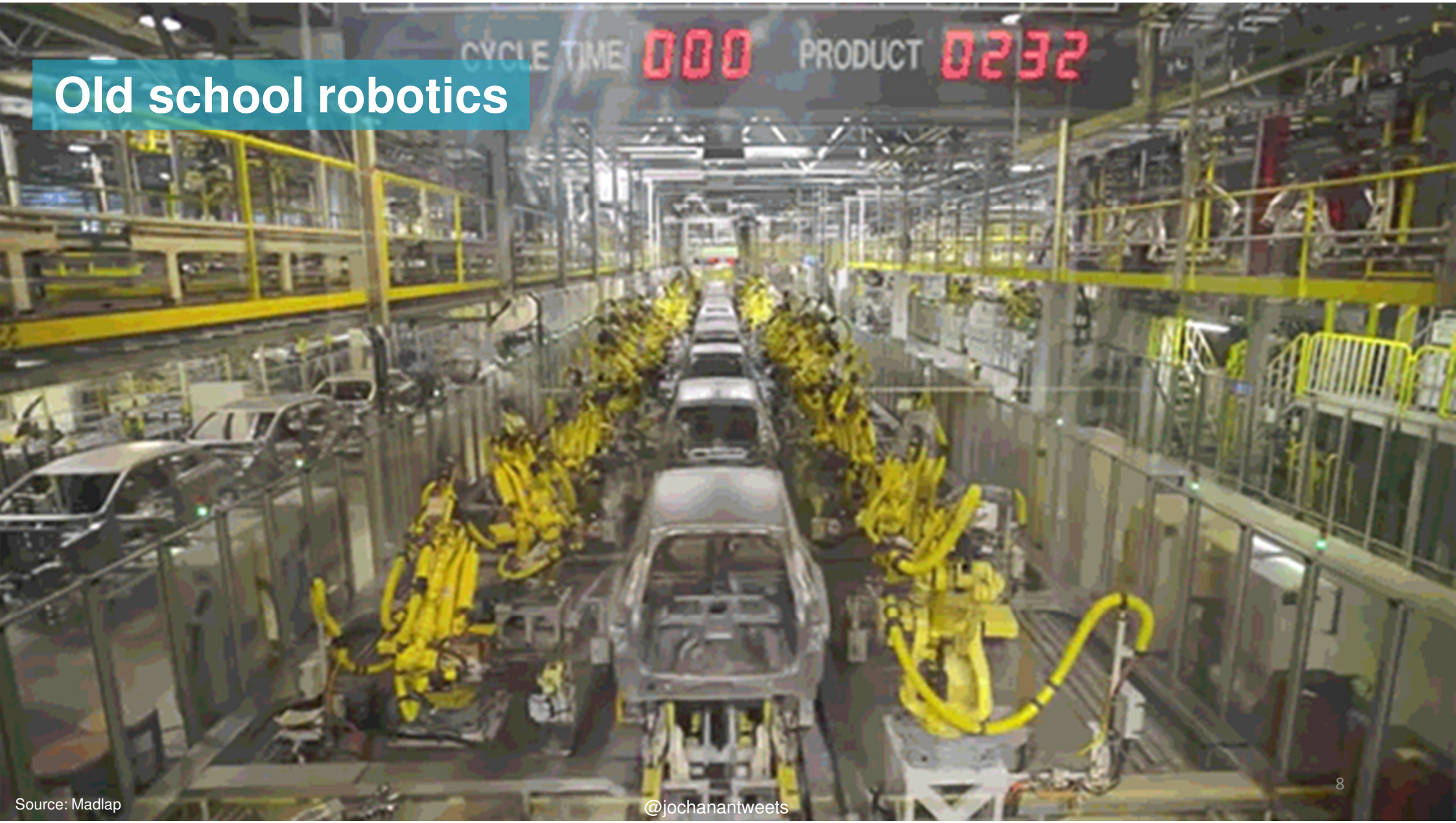
What should I do?
How should I behave?

**Technology**

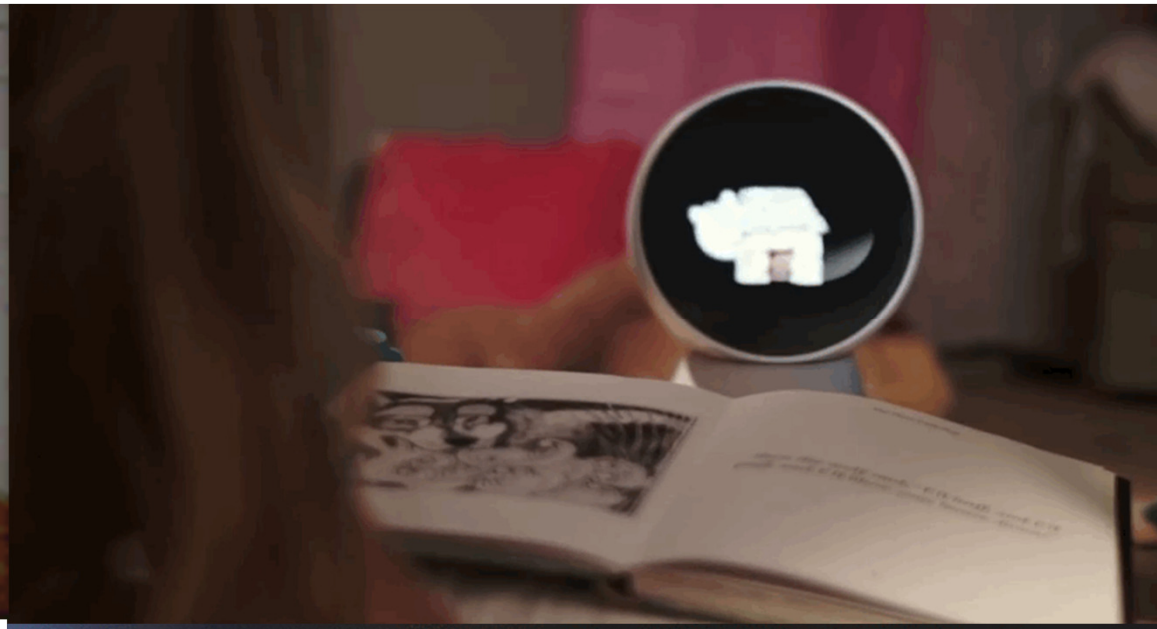
Influences human behaviour


A new machine age:
machines with brainpower
@jochanantweets
• Internet of Things
• Artificial Intelligence
• Smart robotics

# Old school robotics




Source: Madlap



# Next Gen Robotics:

- flexible
- interactive
- part of the team/family

Source: Domino's / Jibo Inc. / Moley Robotics / Giphy

From people learning how to deal with machines…
Image: Shutterstock
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# … to machines learning how to deal with people

Cobot IMEC-Claxon project - Audi Brussels

Animation: Waymo

©ioedenantweets

# Advantages

- ❑ comfort
- ❑ productivity
- ❑ sustainability
- ❑ empowerment

Photo: Jibo Inc.

# The ethics of technology

# The ethics of things

(Verbeek, 2014)

**Technology**
**is an extension of our**
**moral assumptions**

**good = driving safely**

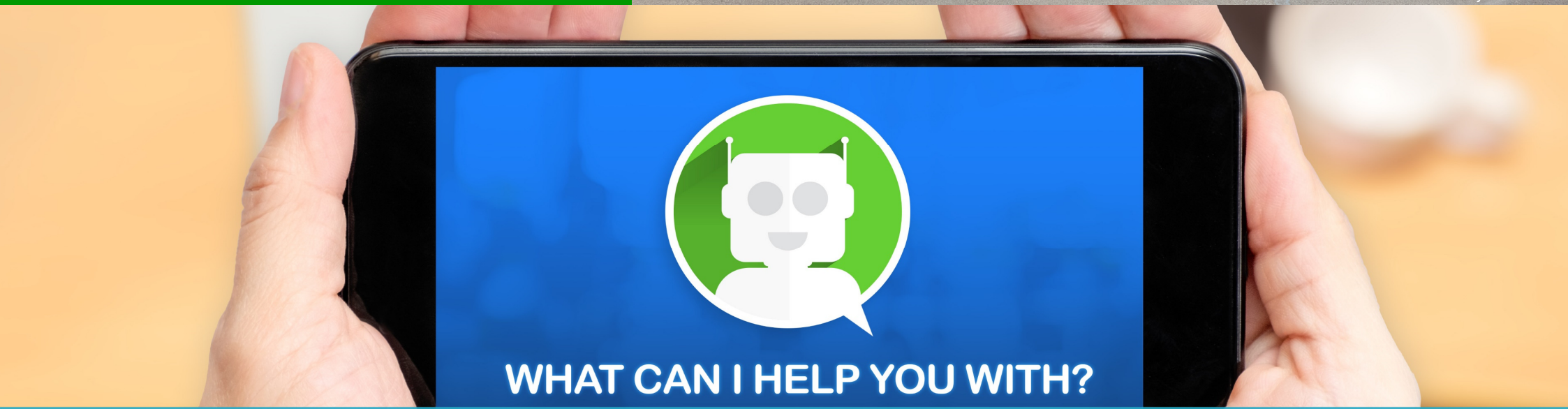
@jochanantweets

good = paying your ticket

Animation: Efteling/Giphy

nudging
Photo: Peter Bilak
@jochanantweets

FAKE NEWS DETECTOR AI




# From nudging to judging technology

“An algorithm is an opinion, embedded in math.”
- Cathy O’Neil
Author *Weapons of math Destruction*
Photo: Cathy O’Neil

# Historical dataset

# Definition of succes

## How to build an algorithm

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What is a healthy meal?
@jochanantweets

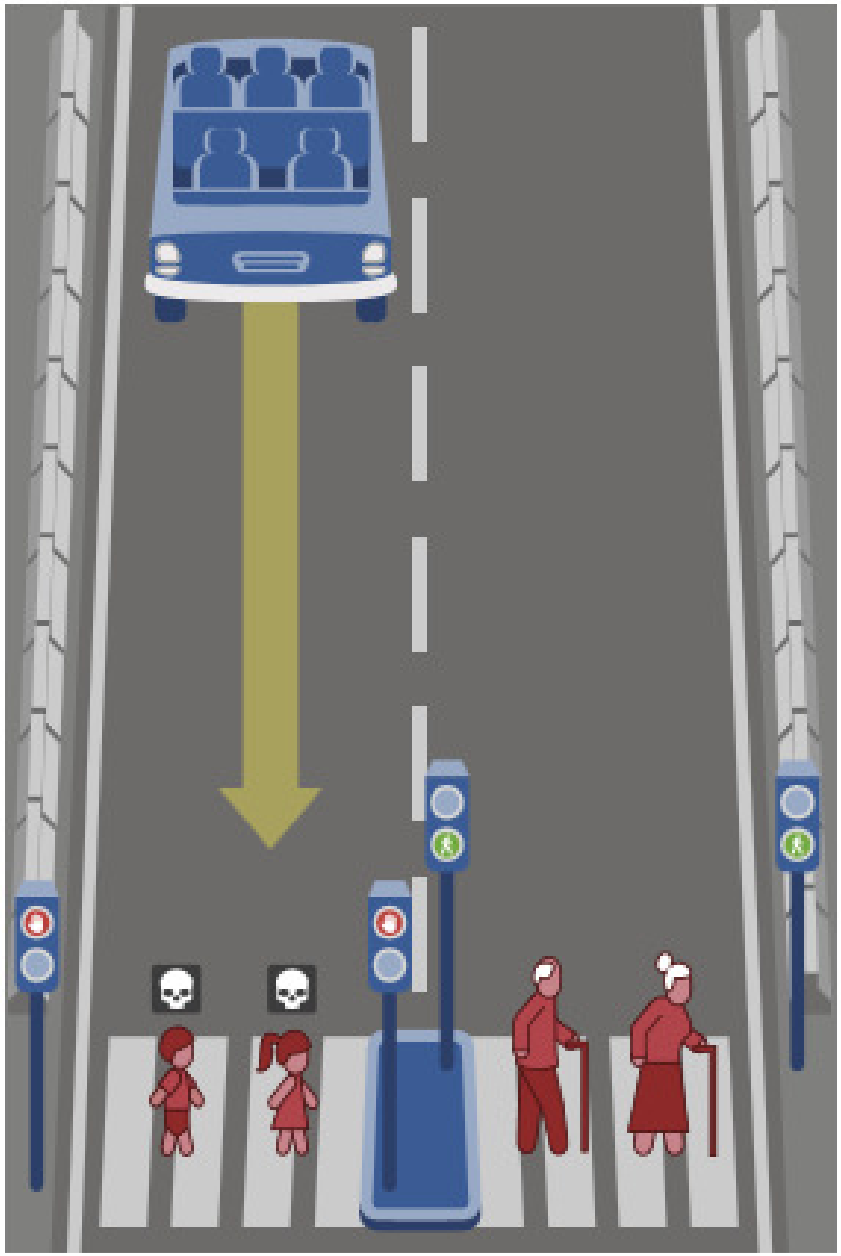
# Crimea will now be seen as part of Russia in Apple Maps or Weather Apps

*The annexed region, which has a Russian-speaking majority, will now be visible in Russian territory on Apple Maps and Weather Apps*

Sounava Ray Sarkar | November 28, 2019 3:00 pm

Source: The Statesman

# What is morally right?



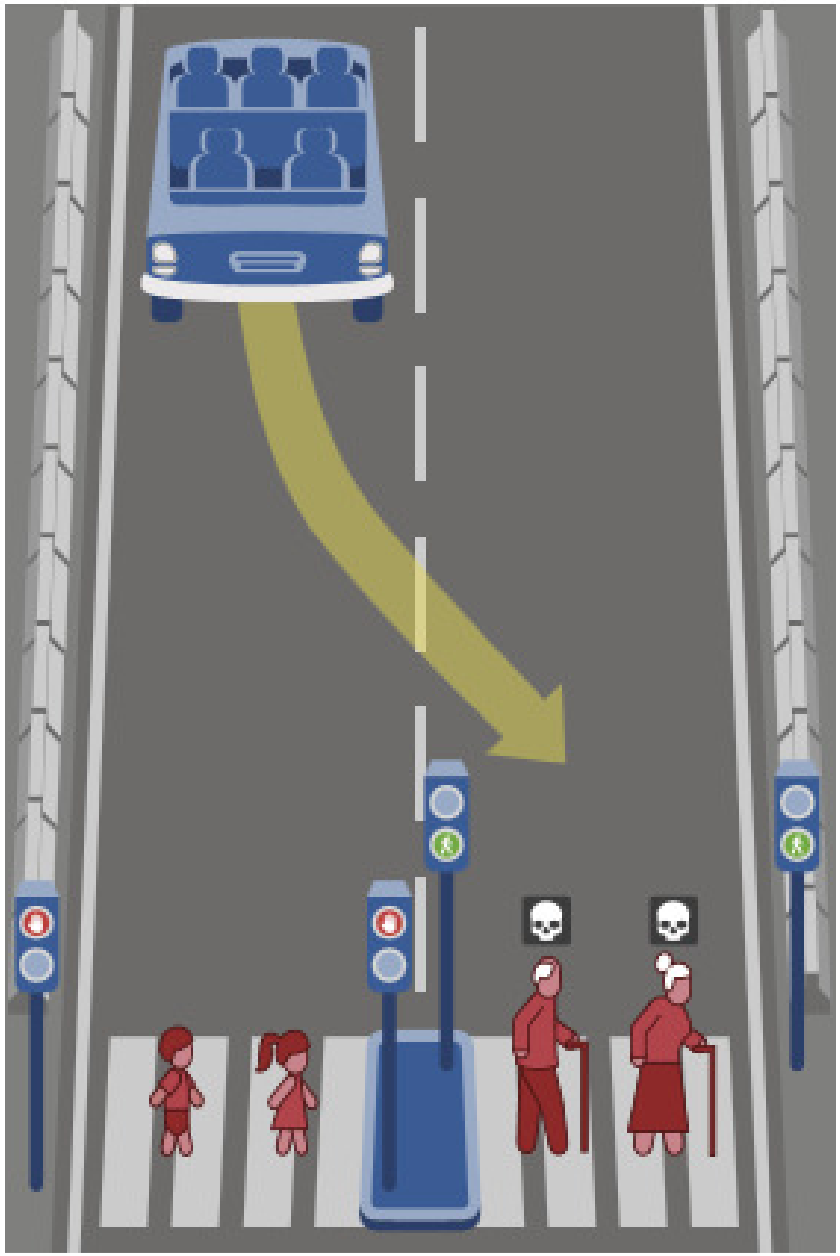


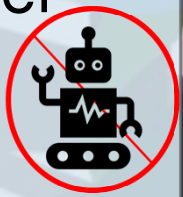
Image: MIT / Iyad Rahwan

# Two perspectives on moral decision making

- **Consequentialism**: the consequences of any action are the only standard of right and wrong

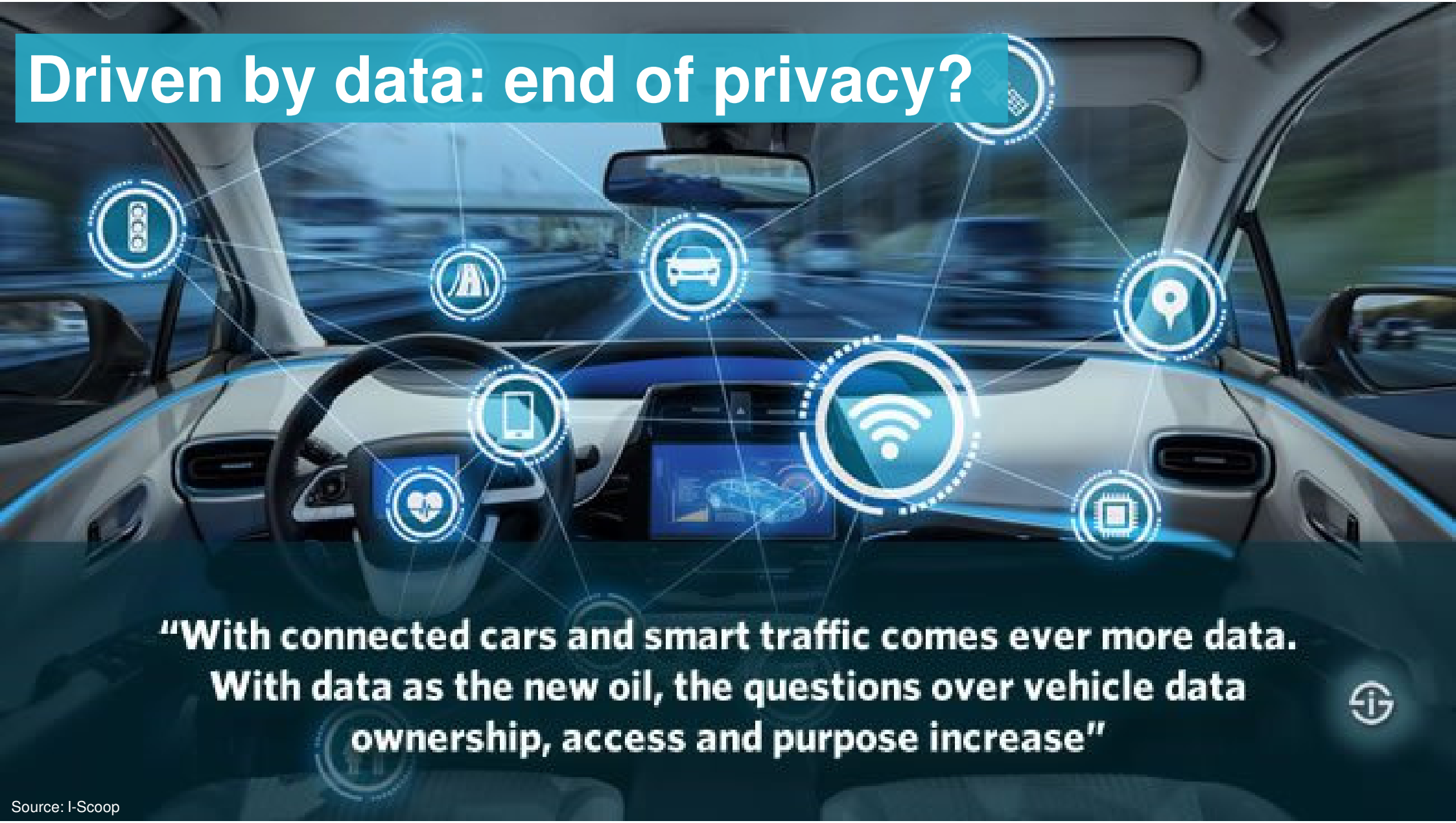
⇒ importance of ratio and calculation

- **Deontology**: the morality of an action is based on whether that action itself is right or wrong (based on a set of rules, duties or values, …)



⇒ importance of emotion, empathy and 'experienced morality'

# Driven by data: end of privacy?




Source: I-Scoop

In the olden times, privacy was good. Today people want to share, people are more open.
— Mark Zuckerberg —
AZ QUOTES

CAPITOL HILL
FACEBOOK HEARINGS
LAWMAKERS GRILL FACEBOOK CEO MARK ZUCKERBERG
LIVE
CBSN
MP CLAIMS RAID ON HIS LONGTIME PERSONAL ATTORNEY MICHAEL COHEN IS "D

# Privacy vs. the expanding public space

## Antwerp football club excludes eight youth players from training after they refuse to shower naked

Friday, 15 November 2019

Source: The Brussels Times

Photo: Getty Images

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# Privacy as a competitive advantage

Source: Apple.com / Fortune.com

# End of uncertainty?

# Insurances: Three sources of data

- ❑ Delivered data
- ❑ Inferred data patterns
- ❑ Observed data in behaviour

Big data tech & AI ↗
Predictability ↗
Transparency & control consumer ↘

Source: Grip op data VVV 2016

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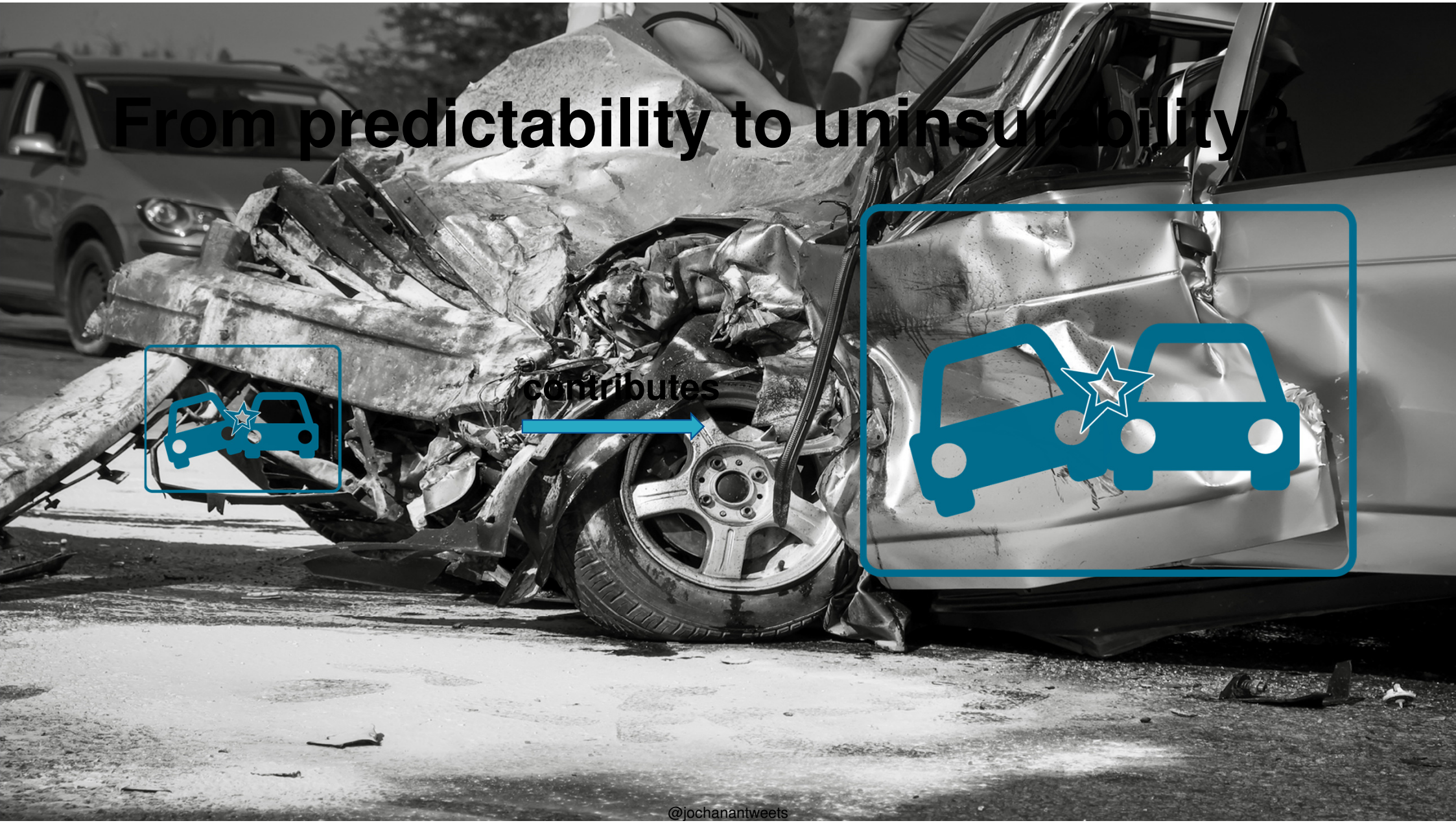
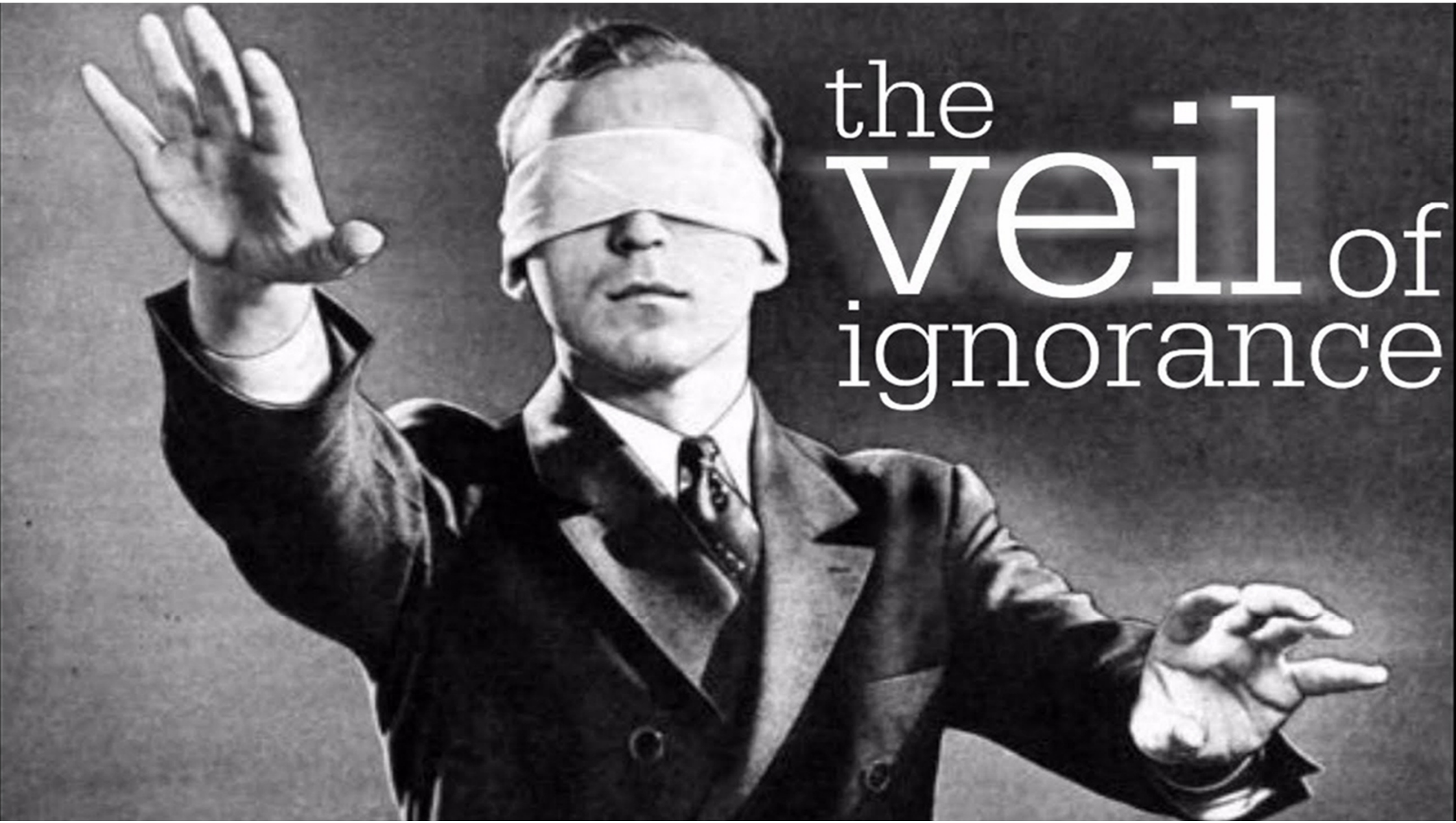
# From predictability to uninsurability




the
veil
of
ignorance

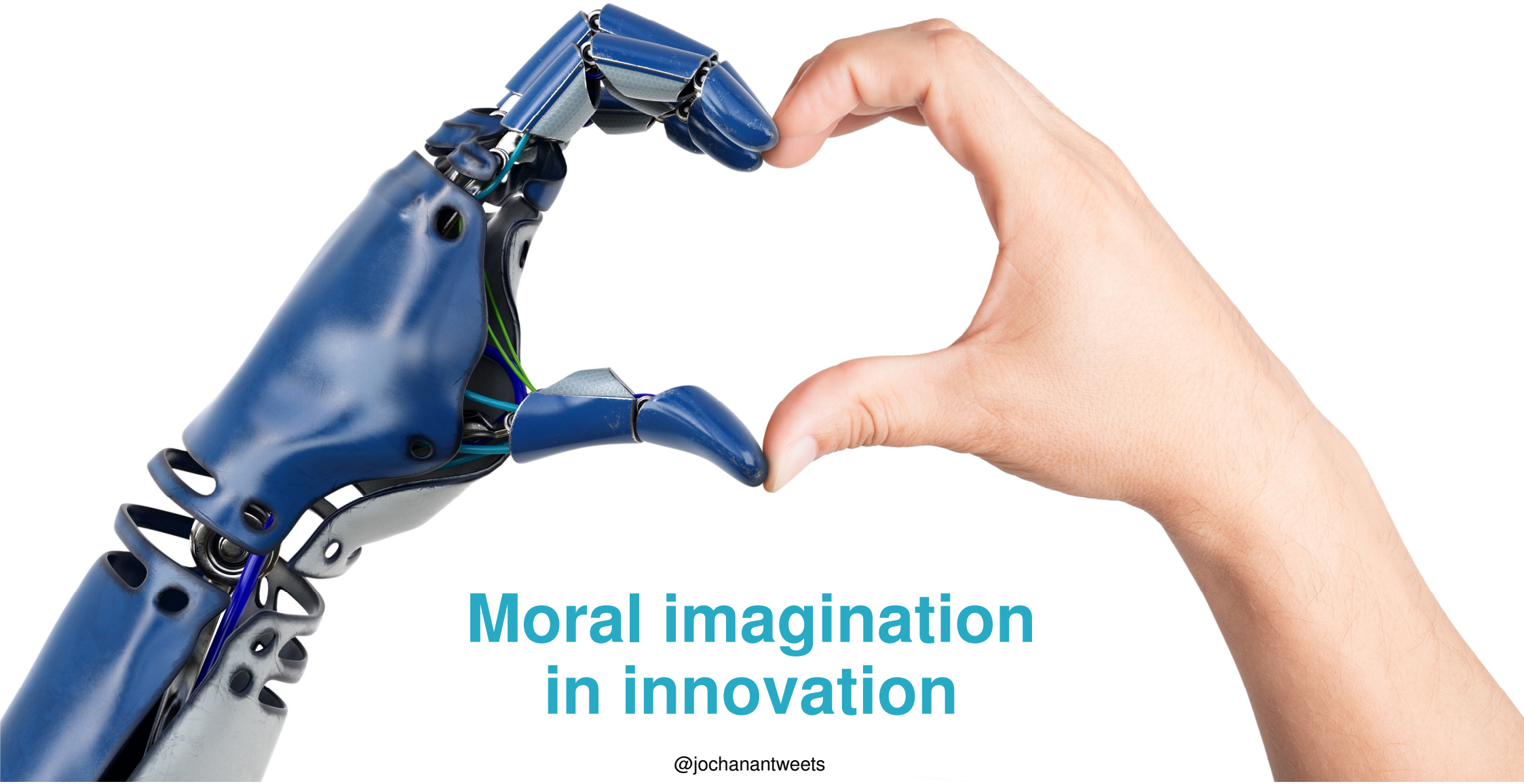
# Uninsurability?

€€€€

# Challenges

- ❑ moral responsibility of judging technology
- ❑ biased AI
- ❑ privacy
- ❑ uninsurability

Photo: Wikipedia



# Moral imagination in innovation

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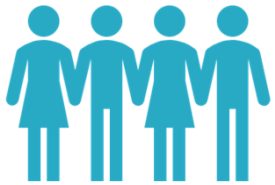
# Moral imagination in innovation



**Who** might be affected by our innovation?

What are likely **impacts** on our stakeholders?

What **values** are supported/challenged?

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Admiral LittleBox

1 They fit a clever little device into your car

2 The device measures how well you drive

3 View feedback on how you're driving

4 Good drivers could save money on their car insurance

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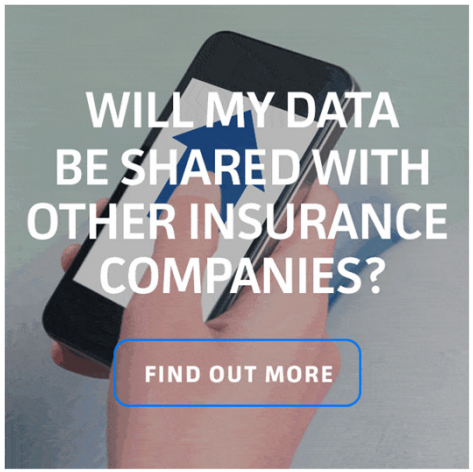
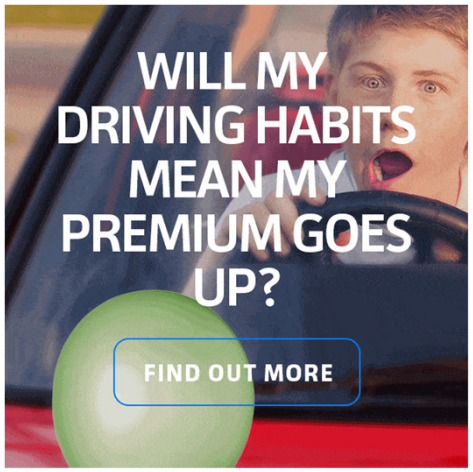
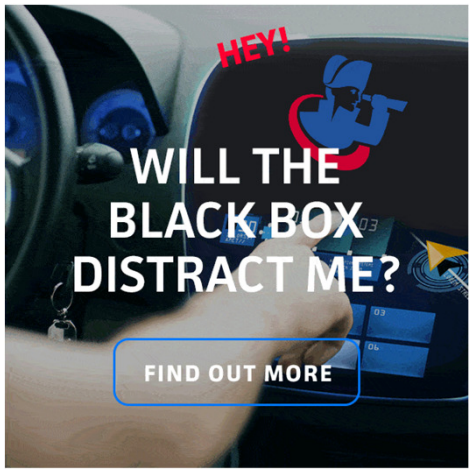
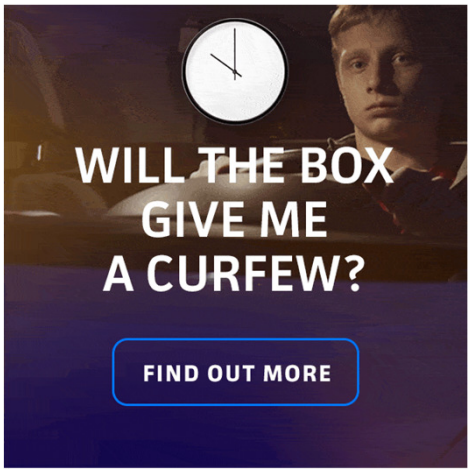
# Impact analysis




Animation: Admiral

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# Values assessment

Photo: Waymo Press Images

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Proactive ethics through stakeholders
Ethical rules for automated traffic
German Fed. Ministry of Transport
✓Protect human lives
✓No sacrifice of non-involved parties
✓Moral ‘’black box’
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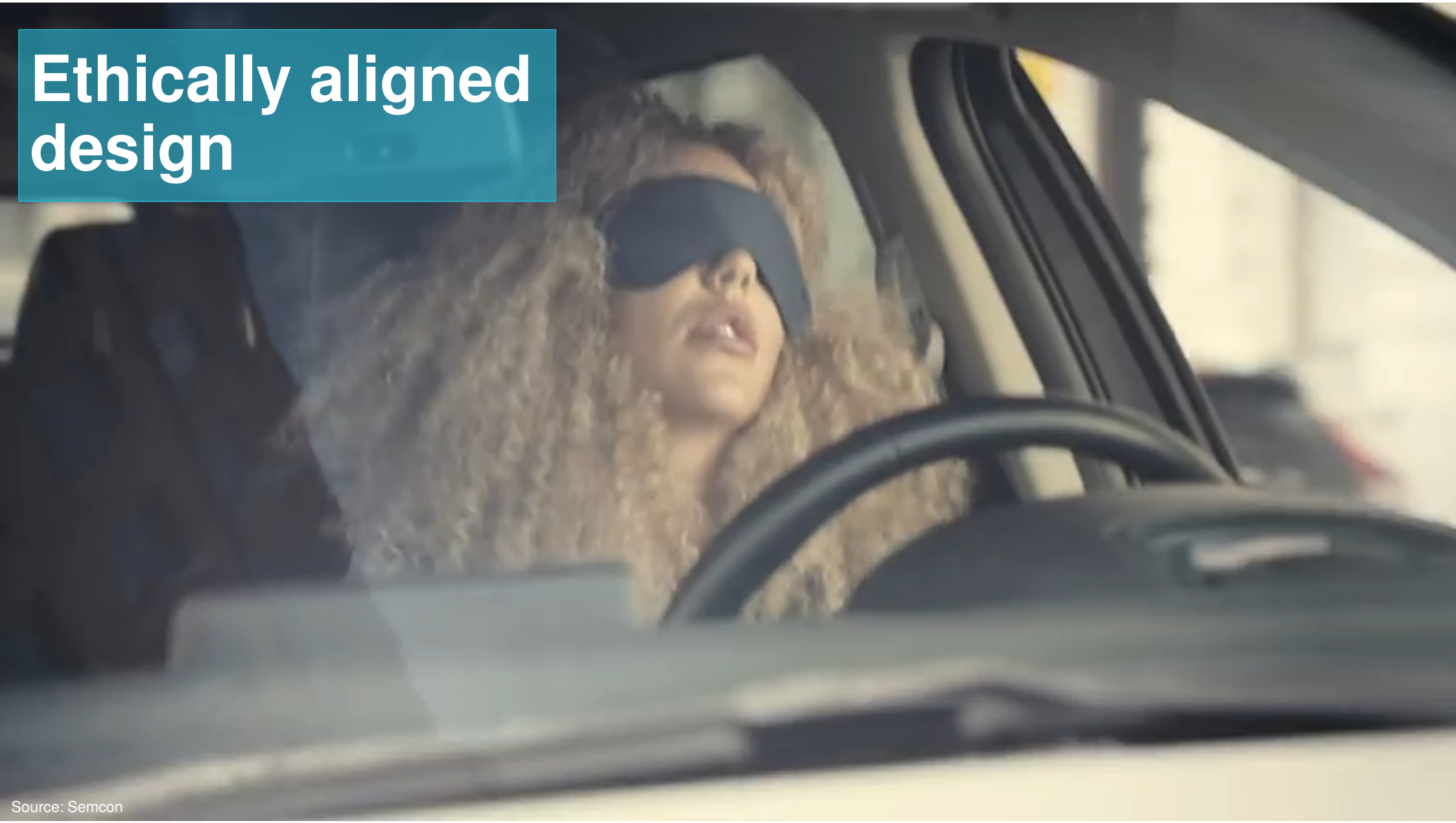
# Ethically aligned design



Source: Semcon

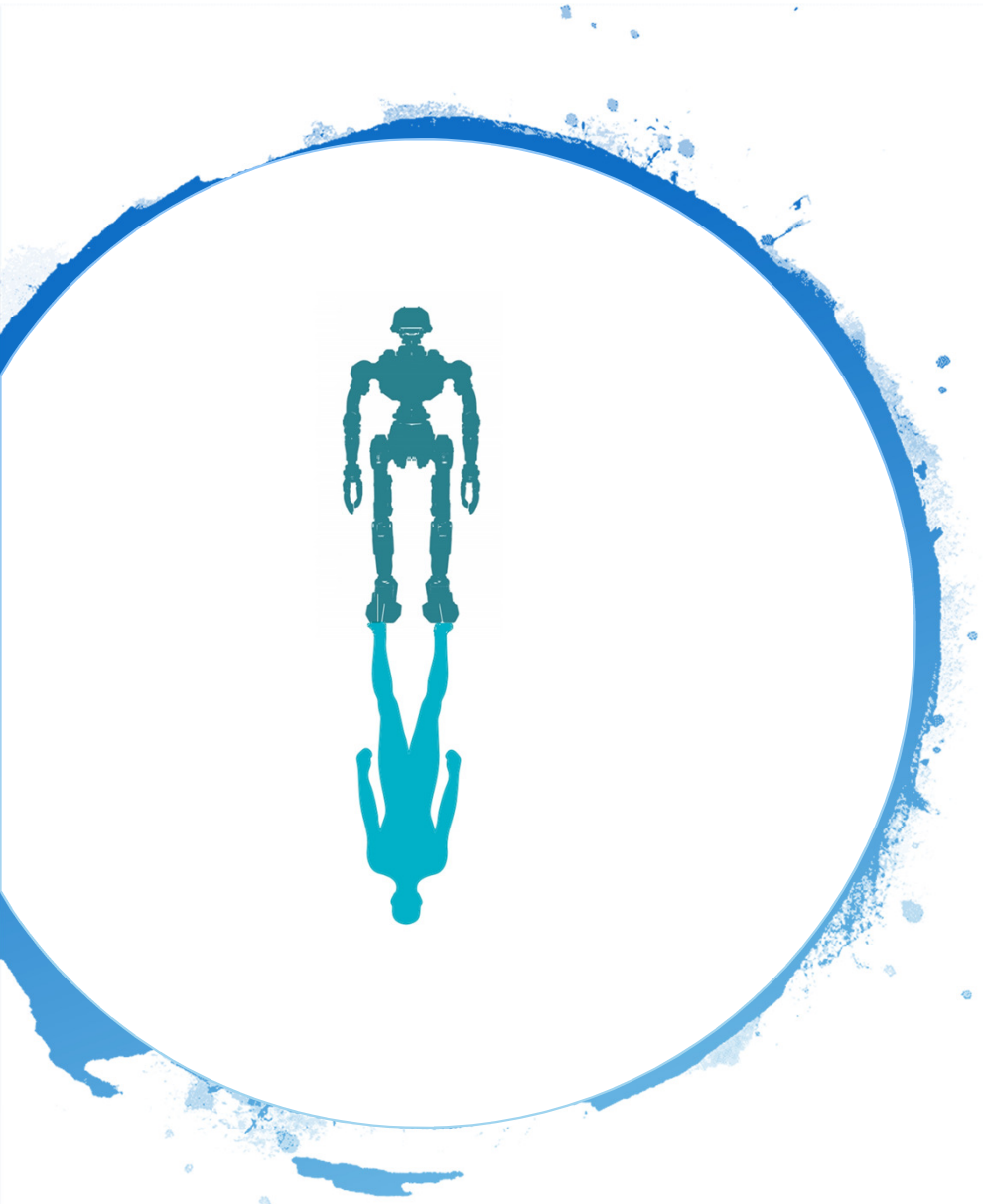


Image: De Witlofcompanie

**The more we integrate technology in our lives,
the more we are in need for a human perspective**

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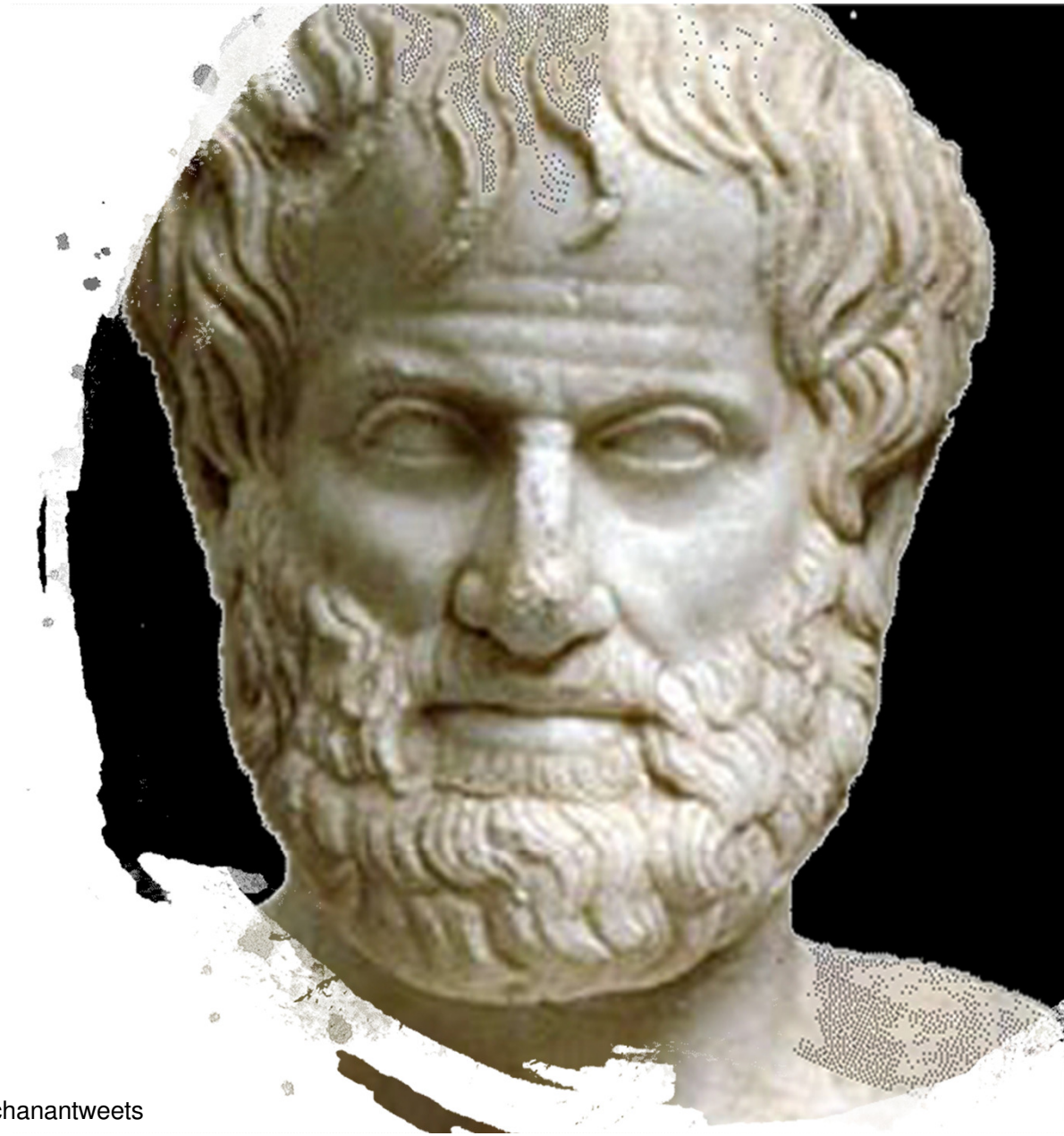
# What makes us human?

"Man is an animal gifted with **reason** and **speech**"

- Aristotle, 4thC AD



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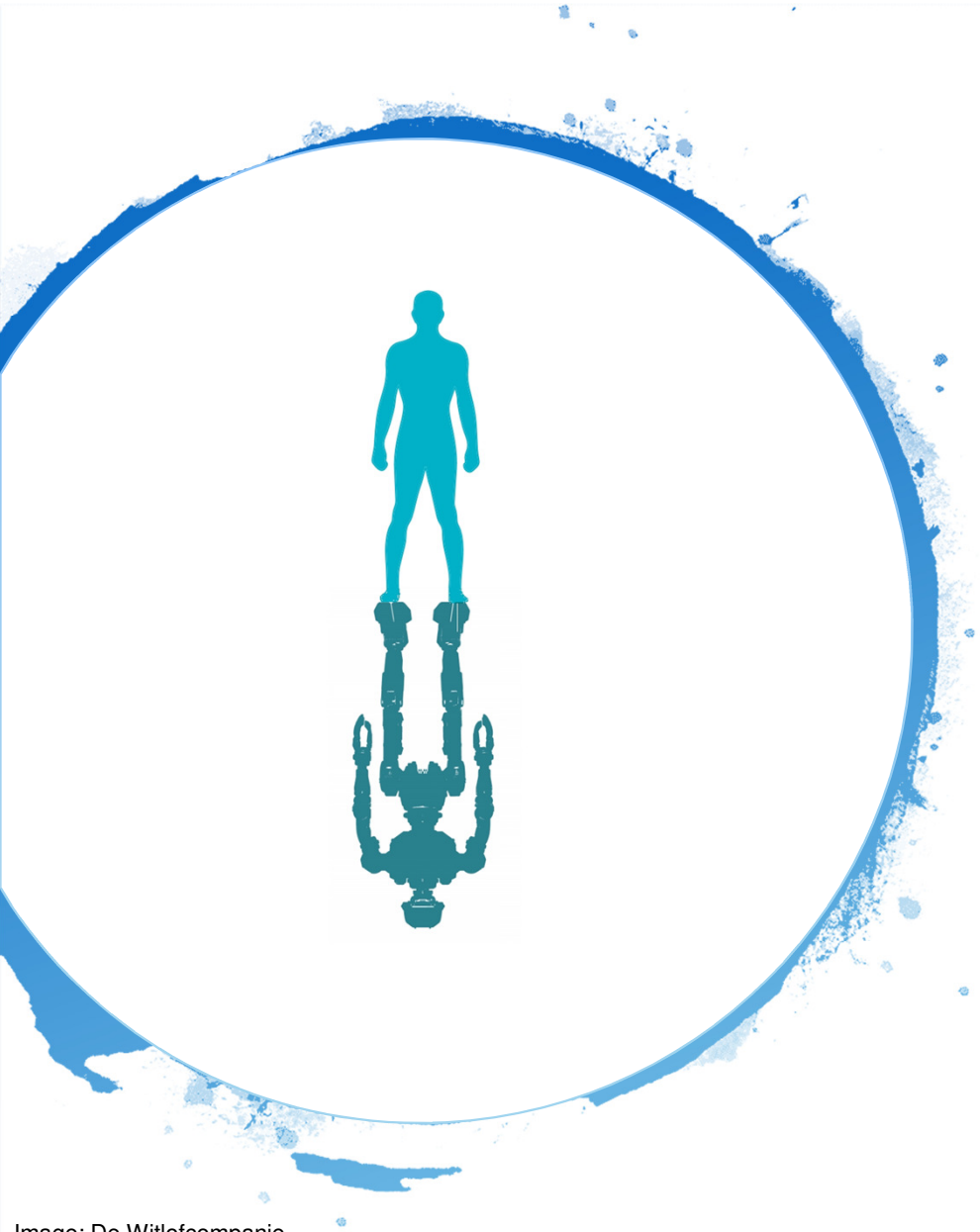

# Human imagination as a guide for intelligent tech

- ❑ Creativity
- ❑ Cooperation
- ❑ Empathy and moral sensitivity

Image: De Witlofcompanie

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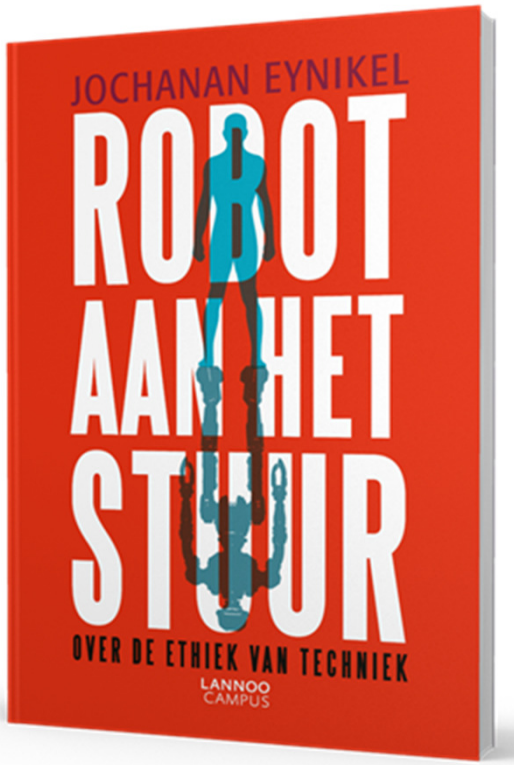
# “Innovating is doing ethics, only by other means”

**Peter-Paul Verbeek, UTwente**

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