



The coming transportation disruption of autonomous electric vehicles

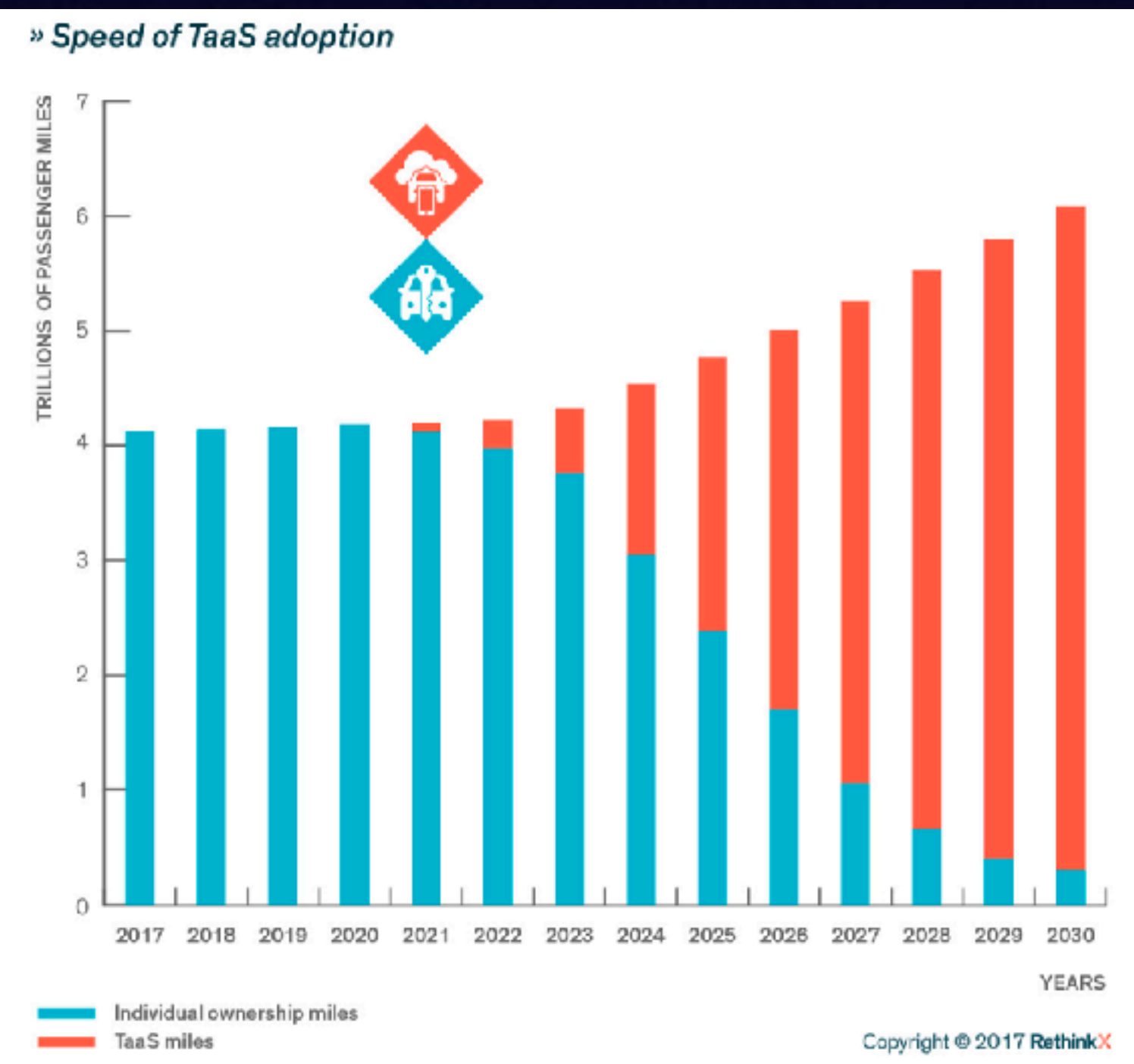
perspective from an EV leasing company

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We will not rest before fossil fuel is abandoned from this world

Mission Statement



Therefore we need to accelerate the adaptation of using Autonomous Electric Vehicles (A-EVs) in Transport as a Service (TaaS) platforms

RethinkX predicts in 2030 95% of all passenger miles are TaaS

Charging Infrastructure is a major roadblock

1. Occupied with slow charging
2. Lack of vision to fast-charge A-EVs

Tesla Superchargers are in place and accelerating

Somewhere around

2030

November 2016

Tesla AutoPilot 2.0





CES Las Vegas - EV all in

Januari 2017

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BMW management crisis

Januari 2017





MisterGreen Direct Platform in development

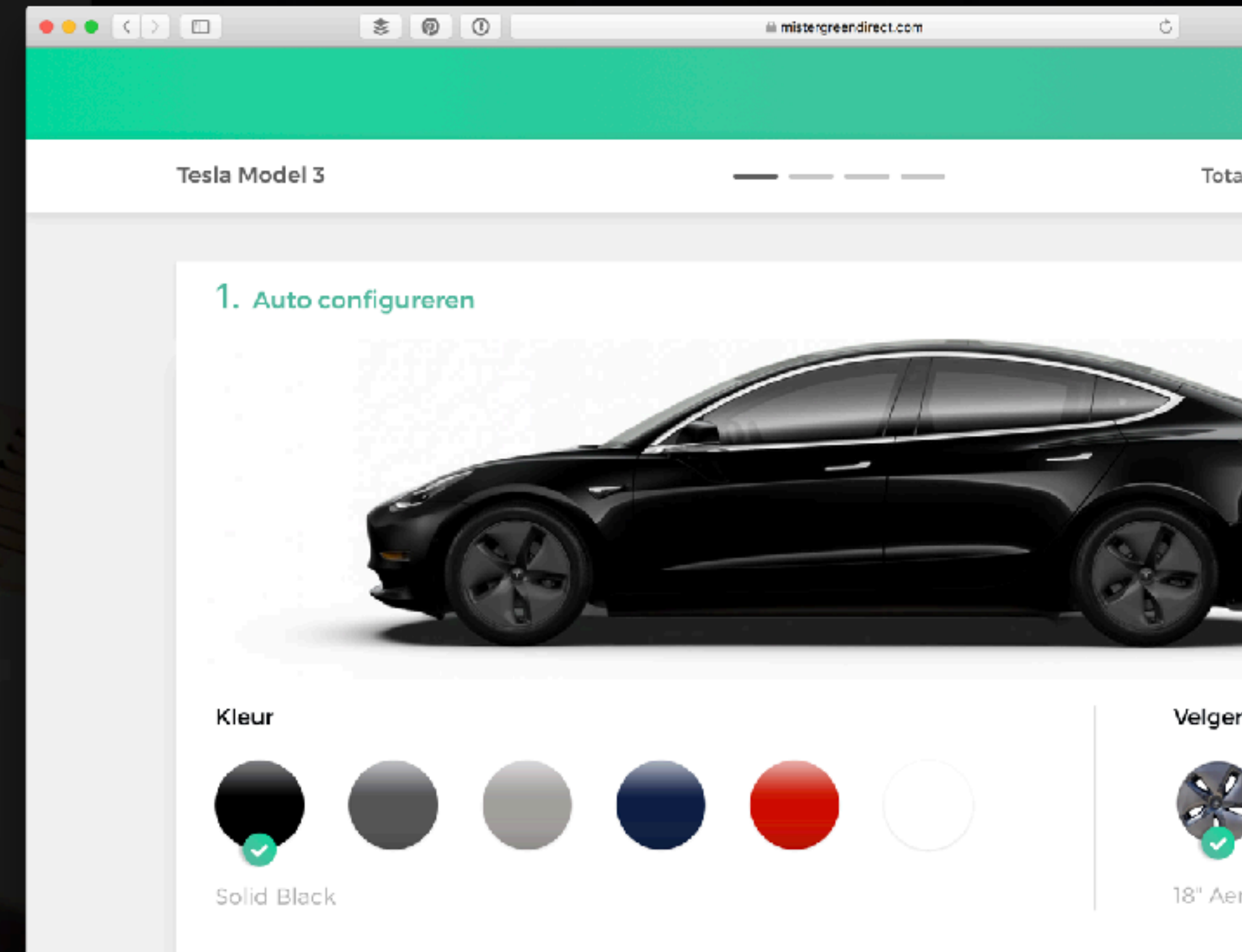
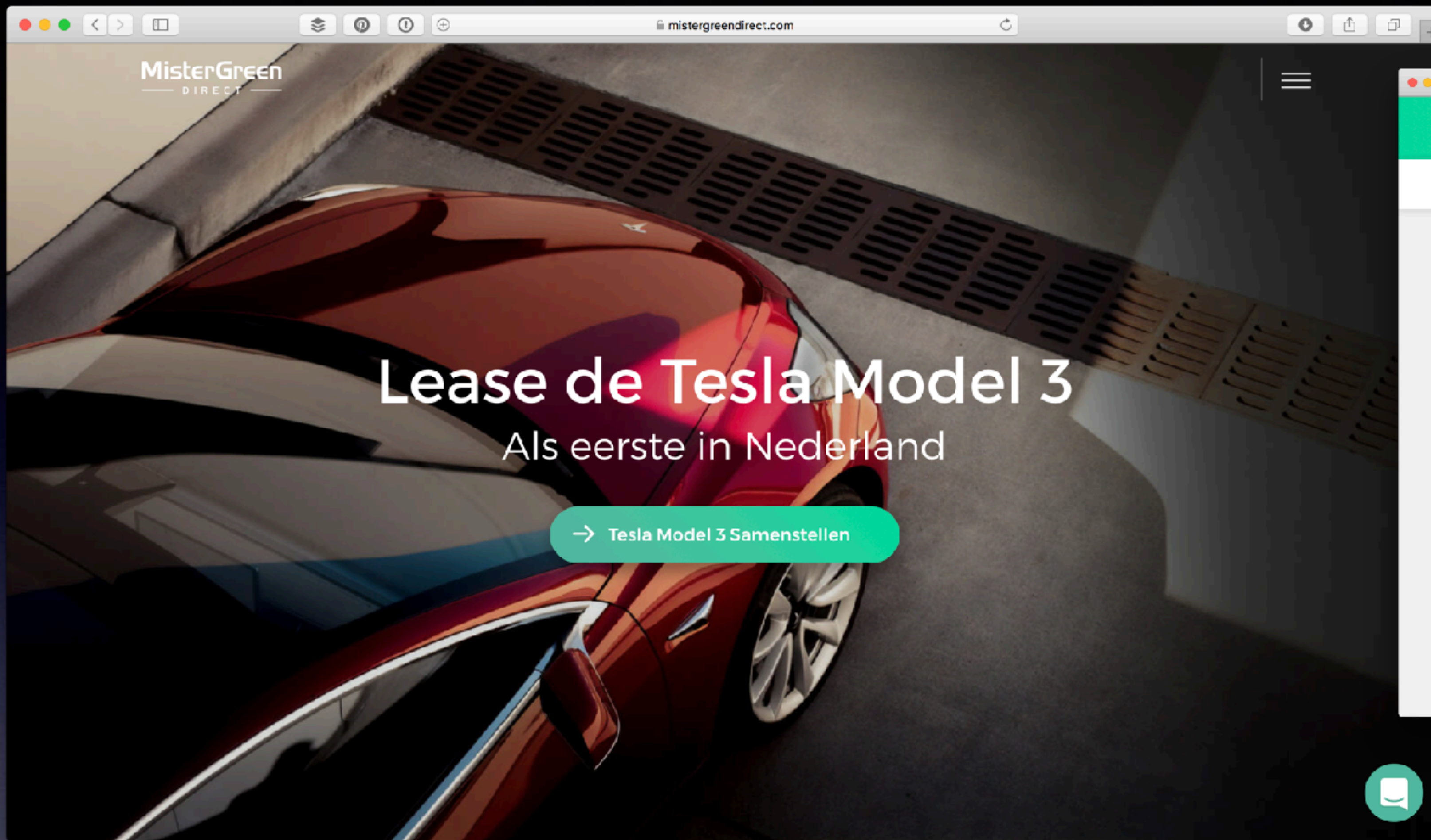
Februari 2017

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Tesla Model 3 Introduction

June 2017





Launch MisterGreen Direct

June 2017

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A-LOCATIES

ONZE SNELLAADSTATIONS

WAT KOST LADEN?

WILT U DIT OOK?

FILMPJE



MisterGreen 12 FastCharging Stations

August 2017

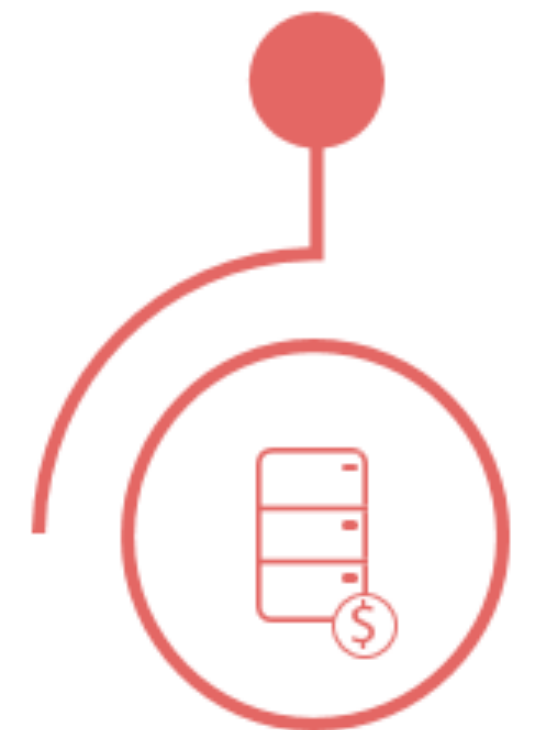
A photograph of a Shell Recharge electric vehicle charging station. The station is white with red accents and the Shell logo. In the foreground, there is a yellow parking sign with a red car icon and the word 'Parkeren' (Parking) in red. The background shows a building with wooden siding and a grey trash can.

Streep door rekening Fastned; laadpalen Shell mogen gewoon blijven staan

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Framing a winning data strategy and maximizing the value in your data assets



DATA STRATEGY

CULTURE, PEOPLE, AND PROCESSES



The entrepreneurial mind-set and accountability

Connecting customers, and partners to build a true 'data network'



WINNING AS AN ECOSYSTEM

TECHNOLOGY



A new generation of technologies to deliver the level of quality, connectivity, speed, and scale

Start small and focus on business outcomes



EXECUTE FAST

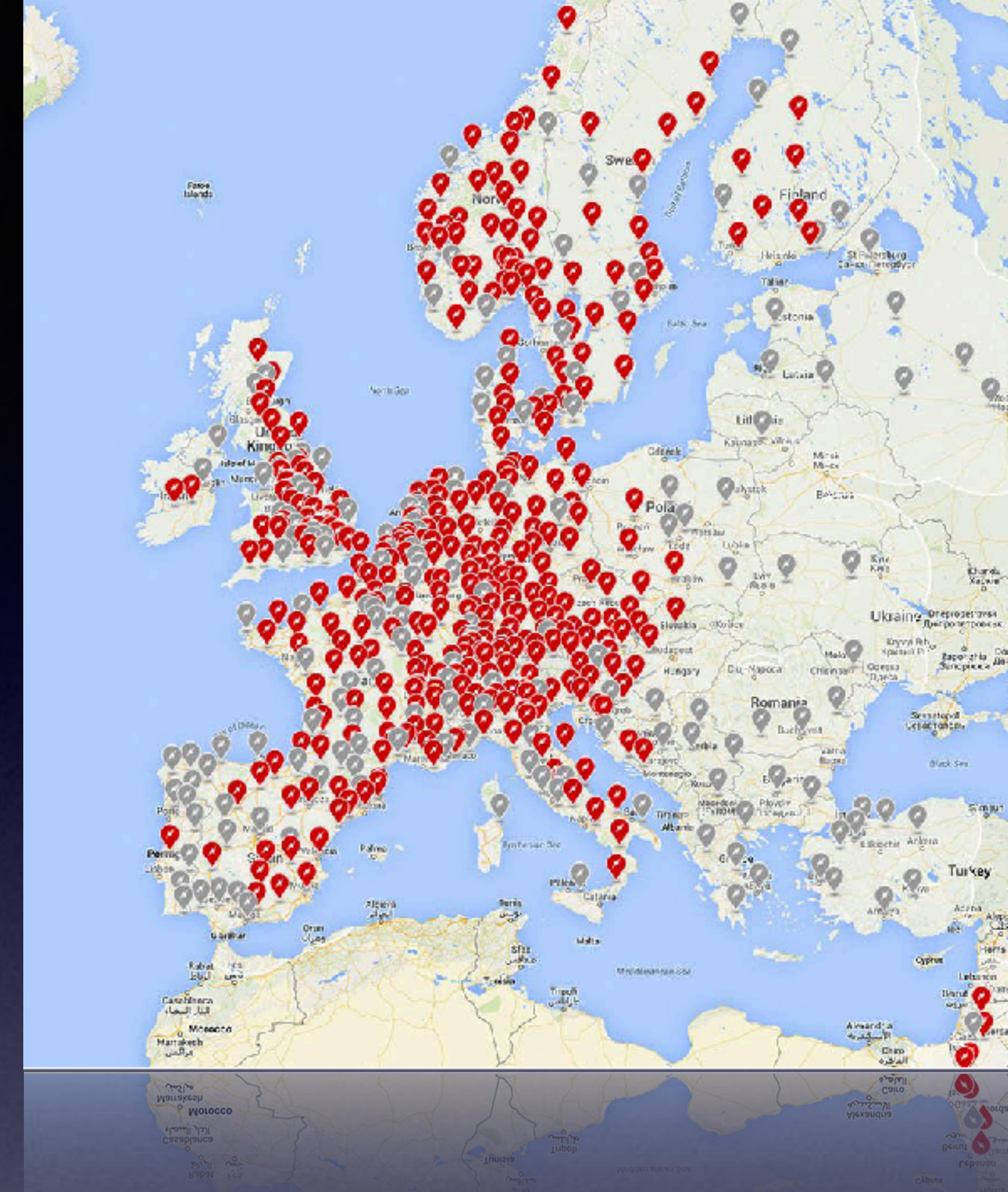


www.sapdatanetwork.com
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MisterGreen Data as an Asset

August 2017

MisterGreen
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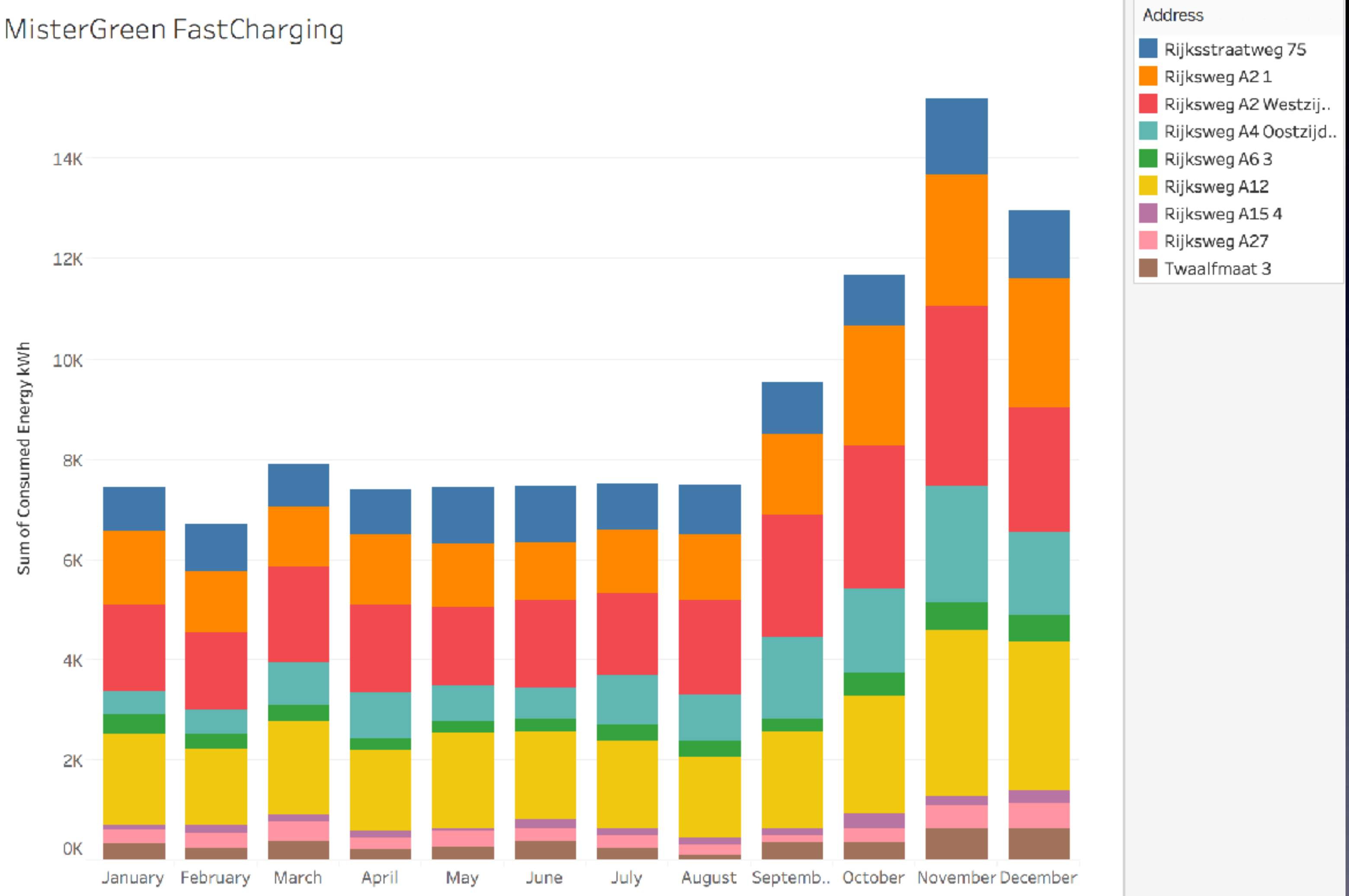
Ford and Europe's auto giants to build a
long-distance electric charging network

September 2017

Sharp increase EV charging

November 2017

MisterGreen FastCharging



CES Las Vegas - Autonomous EV

Januari 2018





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is abandoned from this world

Mission Statement MisterGreen

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To 'read' the future and stay ahead of curve

Roel Smelt
Chief Innovation MisterGreen





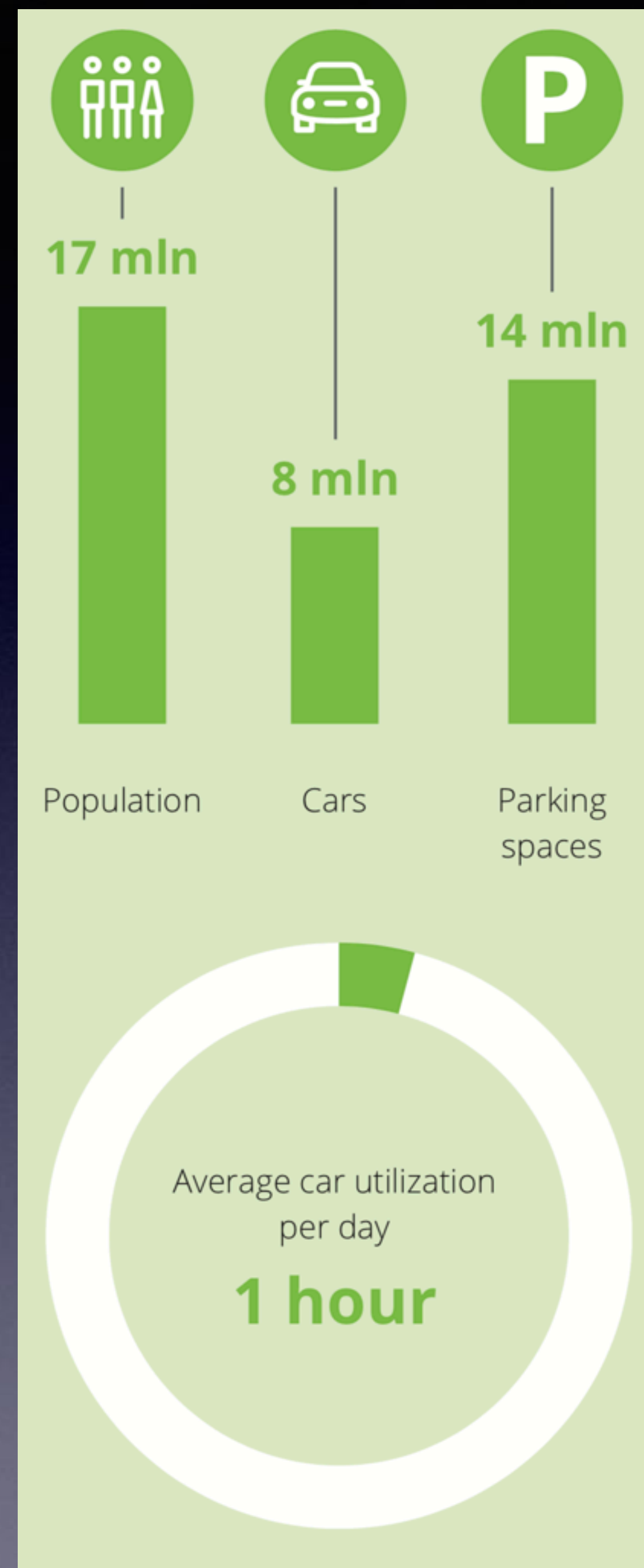
Saving space in the city through smart
mobility 40% fewer parking spaces in 2040

Deloitte - 18 January 2018

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Parking Spaces

In the Netherlands

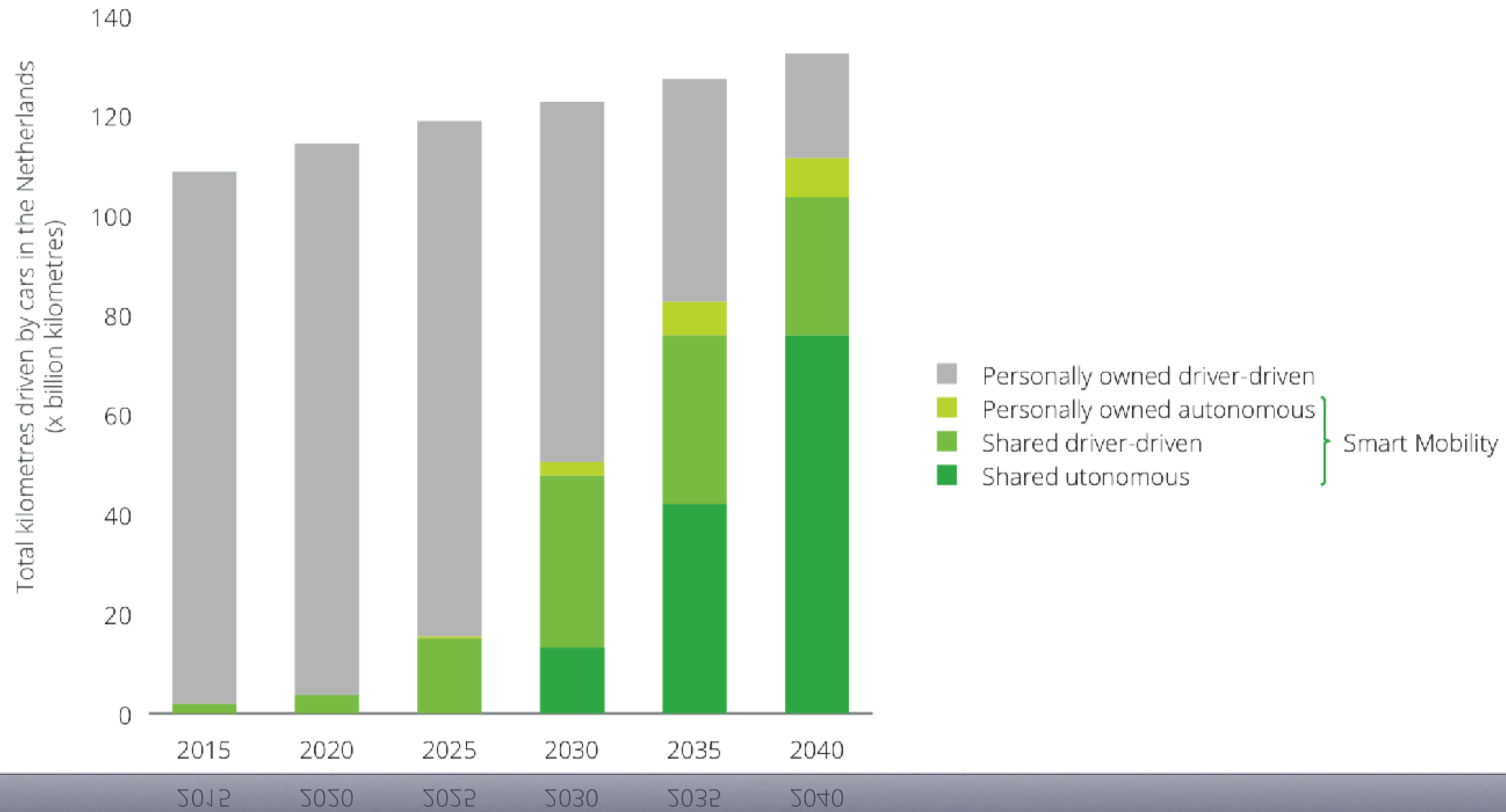




Redevelopment potential street parking spaces

Approximately 80% of all public parking spaces in the Netherlands is street parking

Prognosis speed of transition smart mobility in the basis scenario



Prognosis speed of transition smart mobility in the basis scenario

Tony Seba - Stanford & RethinkX

Due to major transportation disruption, 95% of U.S. car miles will be traveled in self-driving, electric, shared vehicles by 2030



Tony Seba



Clean Energy Action

Clean Disruption of Energy & Transportation

Tony Seba of Stanford University is recipient of the **Clean Energy Action 2017 Sunshine Award** and founder of RethinkX.

RethinkX
Disruption, Implications and Choices

TonySeba.com
RethinkX.com

Clean Energy Action, June 8, 2017 in Boulder, Co.
Cleanenergyaction.org

Video pro bono by Martin Voelker, Colorado Renewable Energy Society, cres-energy.org

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Box 2: Cost of transport choices

Based on our model, these are the costs-per-mile of the choices that individual consumers will face as the TaaS disruption unfolds. Consumers will face these choices on day one (the disruption point):

Buy a new car

- ICE: 65 cents (2021), rising to 78 cents¹⁰ (2030)
- EV: 62 cents, falling to 61 cents

Use paid-off existing ICE vehicles

- Operating cost only of ICE: 34 cents, falling to 31 cents

Use TaaS

- TaaS: 16 cents, falling to 10 cents
- TaaS Pool: 5 cents,¹¹ falling to 3 cents

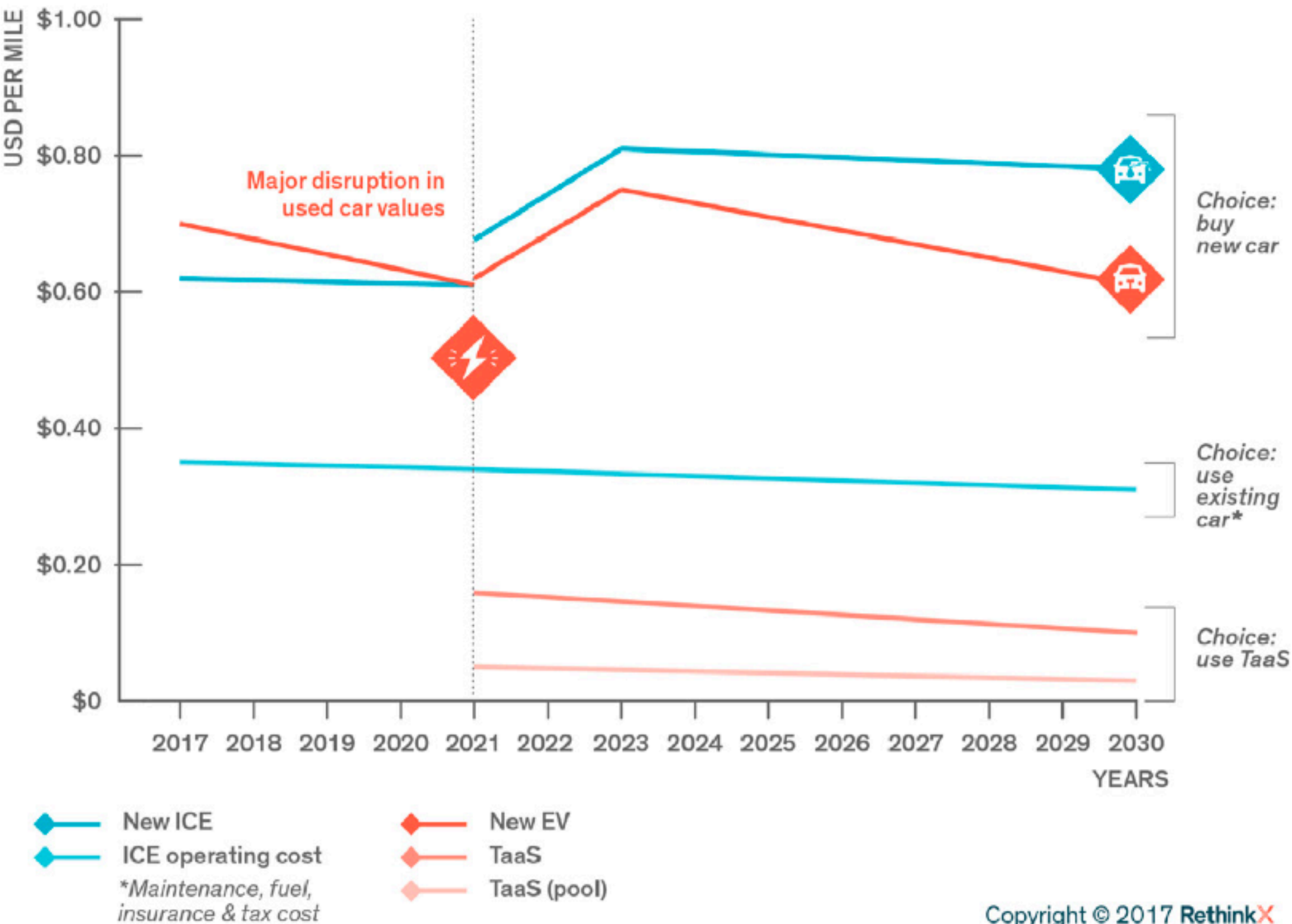
Annual savings per vehicle in 2021:

- TaaS vs. driving paid-off existing ICE: \$2,000
- TaaS vs. new ICE: \$5,600

Figure 2. Consumer Choices: cost-per-mile analysis⁹

Sources: Authors' calculations based on data from Edmunds, Kelley Blue Book, Your Mechanic, U.S. Department of Energy, U.S. Department of Transportation, U.S. Bureau of Labor Statistics and uSwitch. See Appendix A for further details on the methodology

» IO ICE, IO EV and TaaS costs

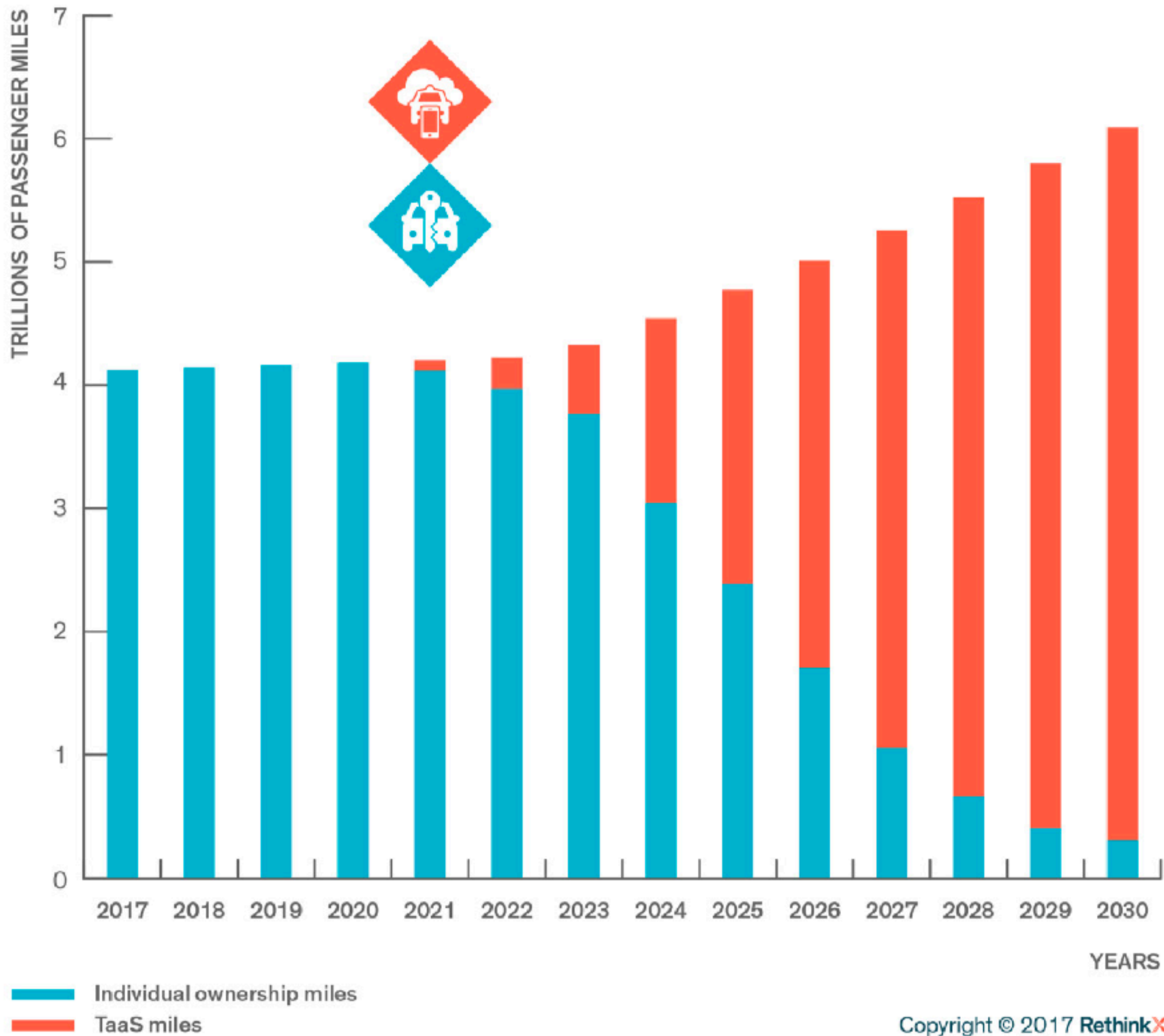


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It's all about economics

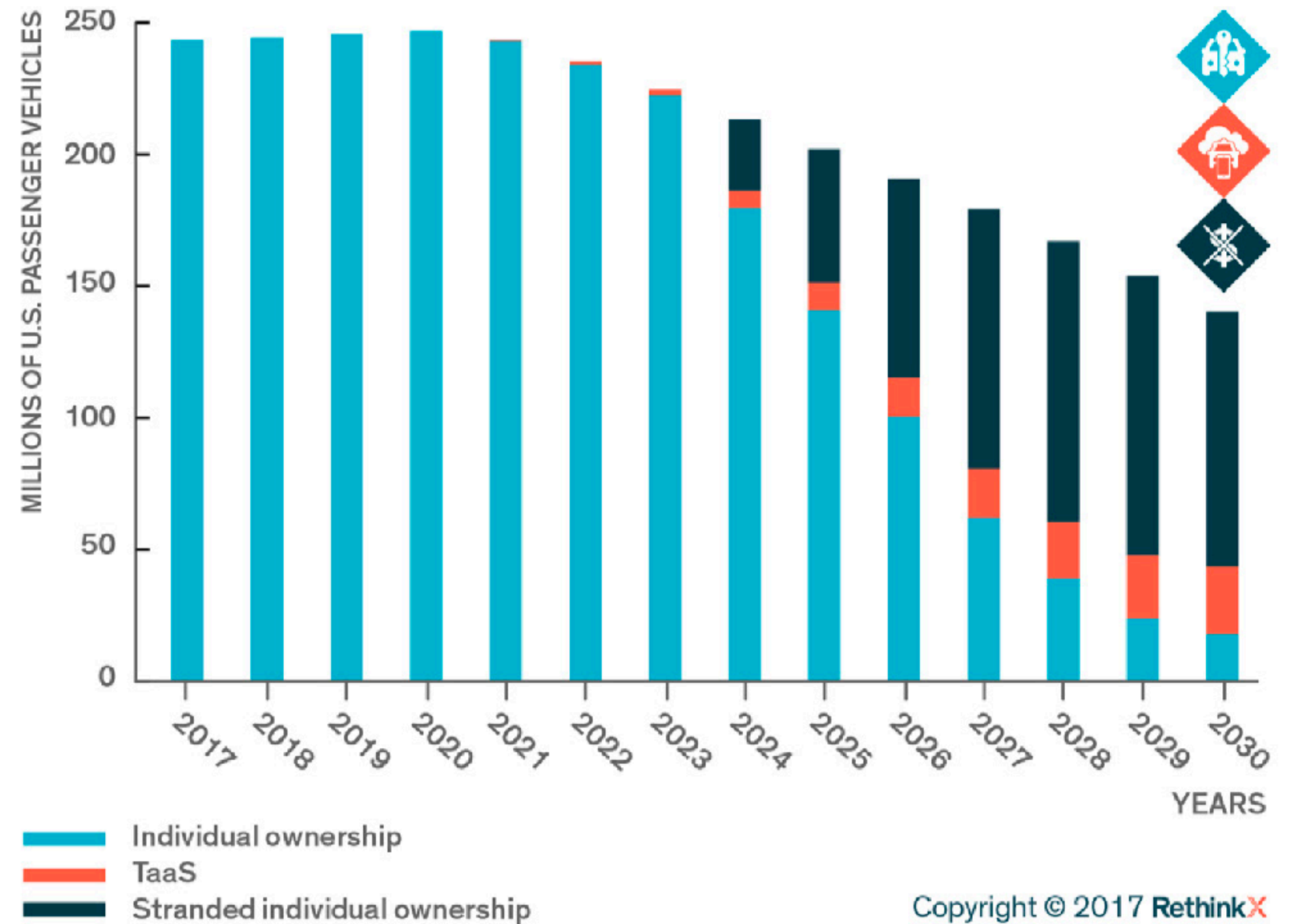
» Speed of TaaS adoption



Speed of TaaS
adaptation

Within 10 years of the regulatory approval of driverless vehicles

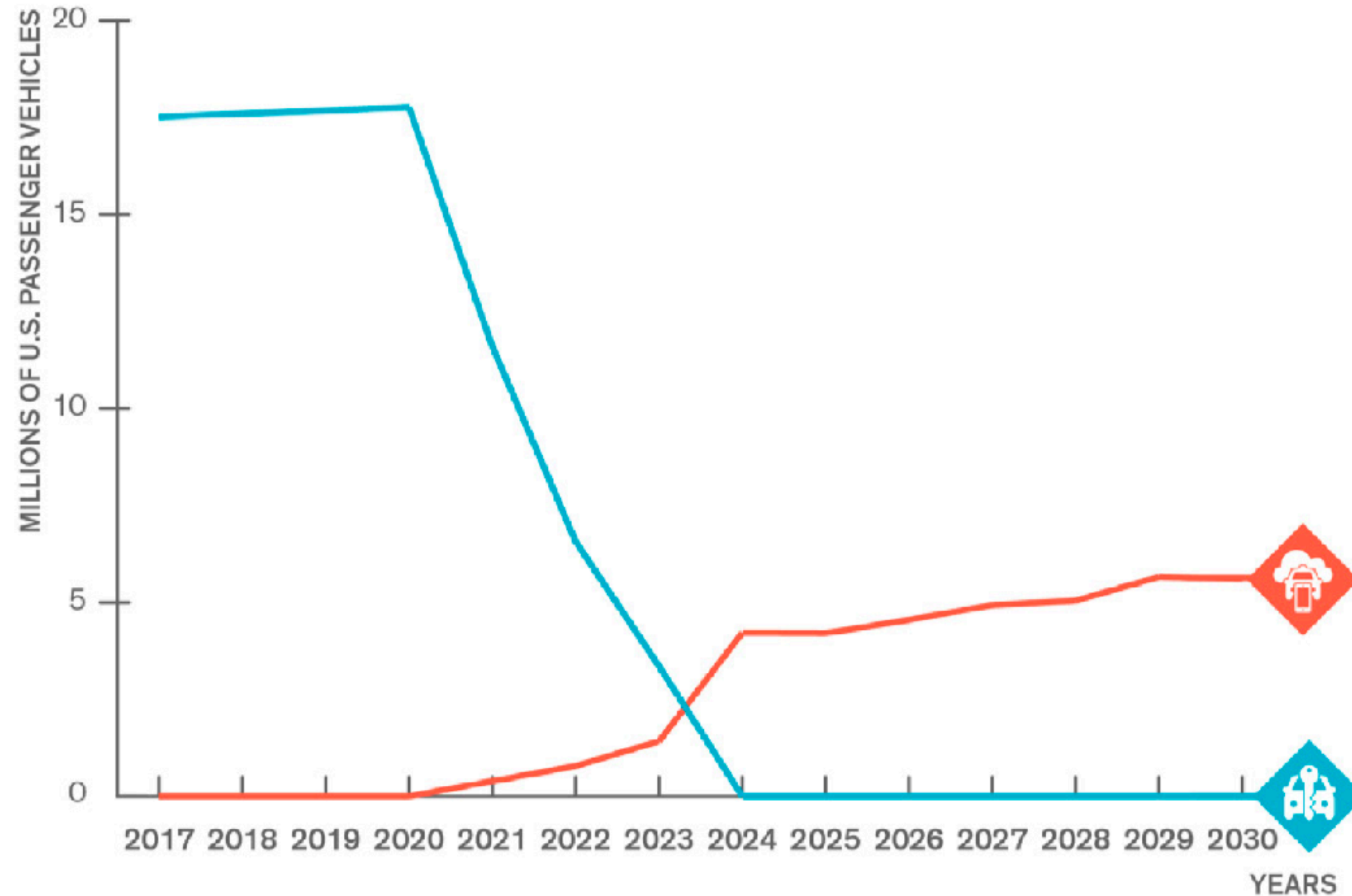
» *Projected trends in fleet size and composition*



Stranded individual ownership
TaaS
Individual ownership

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» ICE vs. TaaS: Projected trends in annual sales



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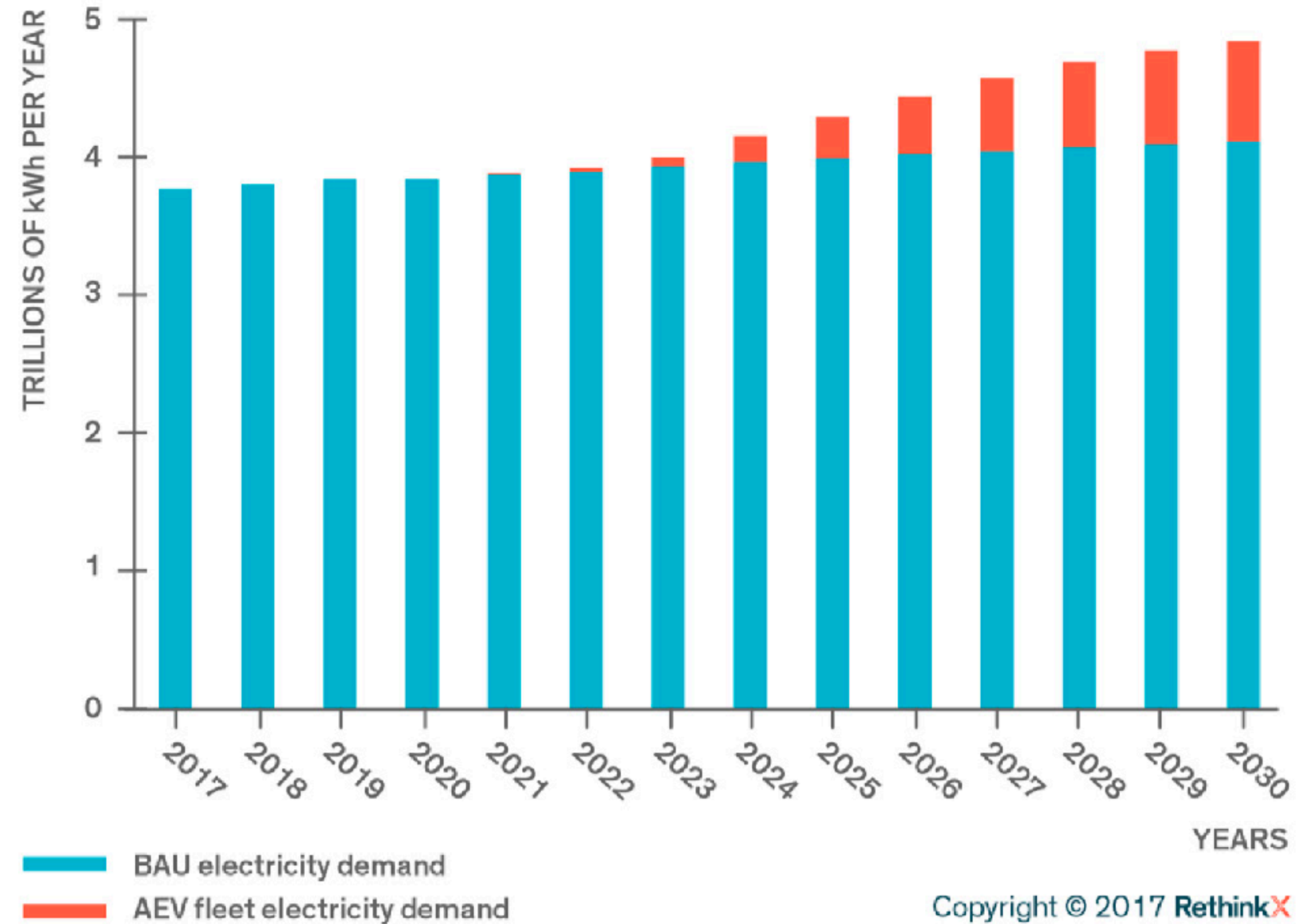
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Individual ownership
annual sales drops to
zero

More electricity
needed

» *TaaS as a share of total electricity demand in the U.S.*



Tesla Master Plan 2017-2027

MASTER PLAN, PART DEUX:

1. Create stunning solar roofs with seamlessly integrated battery storage.
2. Expand the electric vehicle product line to address all major segments.
3. Develop a self-driving capability that is 10X safer than manual via massive fleet learning.
4. Enable your car to make money for you when you aren't using it.



Roadmap MisterGreen

International

MisterGreen TaaS

Data | AI/ML

Subscriptions

Fleet Entrepreneurs

Crowd Funding

Forensic Sales

Added value to big TaaS

Car Sharing

Price per Mile

Crowd Sales

Fleet Sales

MisterGreen Fleet

Configure | Get Approved | Contract

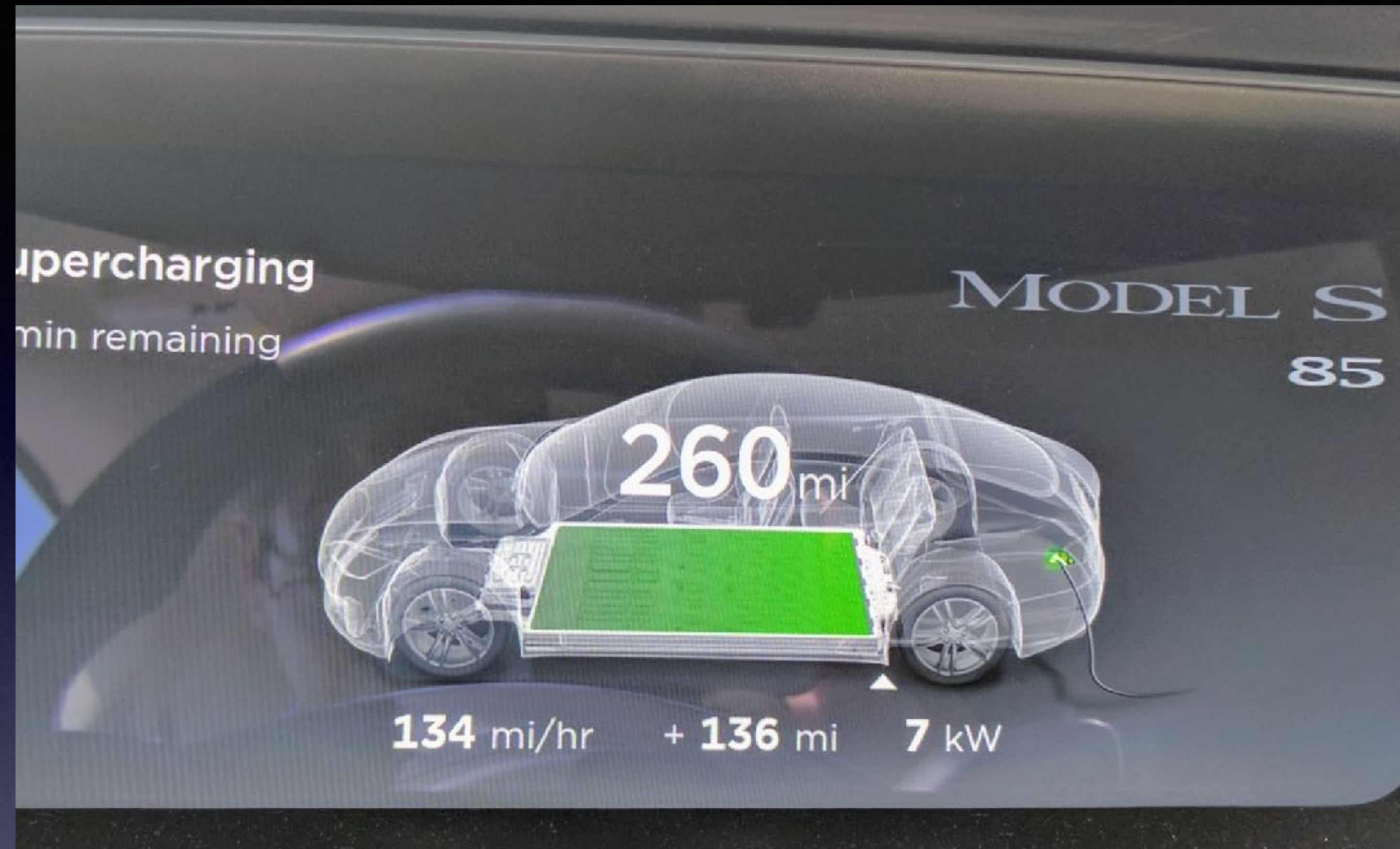
2018

2021

2025

2030

Autonomous driving legal



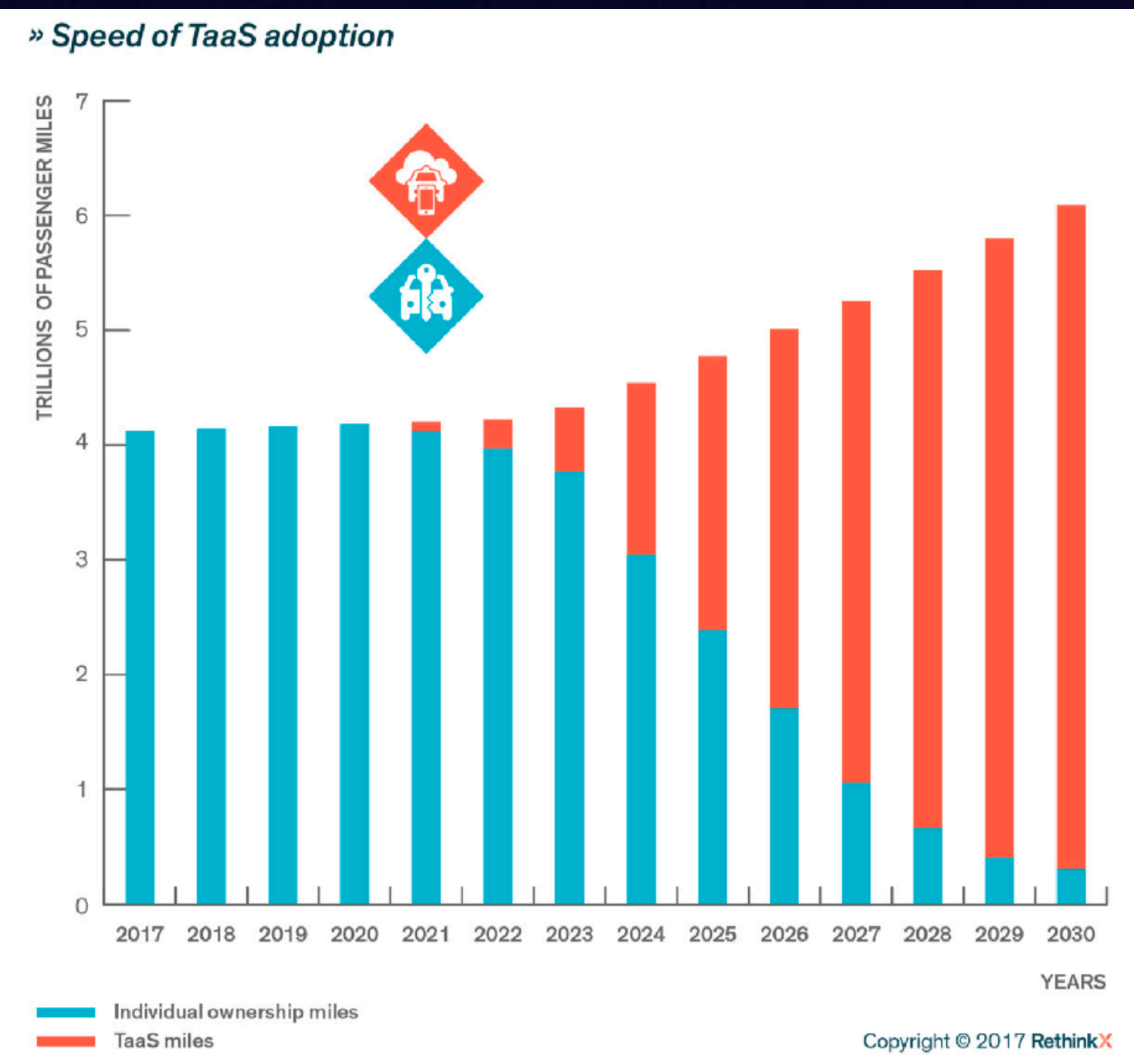
Charging Infrastructure

Consequences

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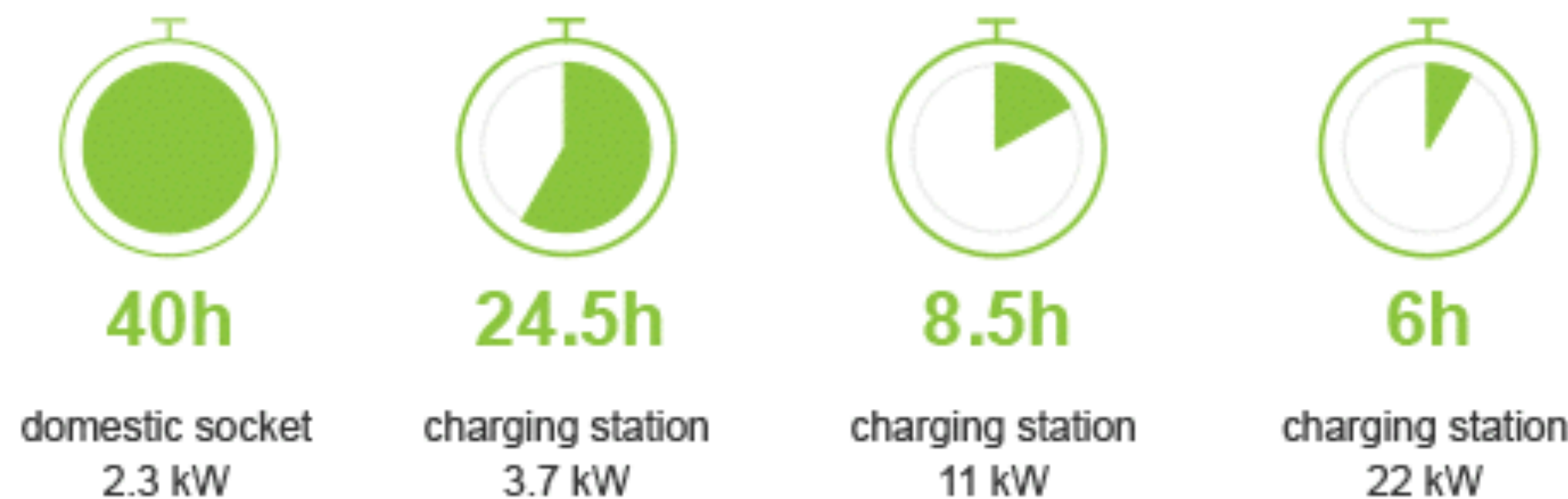
1. Occupied with slow charging
2. Lack of vision to fast-charge A-EVs

The current data is biased towards hybrids (PHEVs)

- no more (tax) subsidiaries
- stop extrapolating this data
- EV full charging in the day for 6hrs is useless



Charging Time of Tesla Model
Duration of a Complete Charging Cycle (Battery Capacity 90 kWh)



Charging Infrastructure is a major roadblock

1. Occupied with slow charging
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Ultra-fast-charging

- Porsche 350kW 15 minutes (beta)
- Tesla 120kW 50 minutes (active)
- more than a snack



A-EV in a fleet

- utilisation is key
- fast-charging a prerequisite
- A-EV Service Center as a business

A-EV private use

- unlikely to drive more than 400km
- full night charge is sufficient
- 22kW 6hrs is fast enough
- at home / nearby A-EV Parking Center
- no need to charge in the day

Ultra-fast-charging

- more than a snack

Ultra-fast-charging network
120kW+ near restaurants & shops

Tankstations/Snackshops along the highway are EOL

A-EV private use

- at home / nearby A-EV Parking Center

Develop guarded parking area's nearby cities
and villages with 22kW+ for night charging

Redevelopment parking spots near our homes

A-EV in a fleet

- A-EV Service Center as a business

Develop guarded service centers in cities for
A-EVs to charge wash, maintain & repair

Business opportunity for Rentals (Hertz) and Carwash (Loogman)



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Ultra-fast-charging

- more than a snack

A-EV private use

- at home / nearby A-EV Parking Center

A-EV in a fleet

- A-EV Service Center as a business

Charging infrastructure vision

As seen by MisterGreen to accelerate the transition

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@mistergreenev
- <https://roelsmelt.com>

