

# Drone & Robot Delivery

## Trends – Development - Comparisons

Whitepaper 2017  
e-Commerce & Retail

# Drones and robots: Two technologies that aim to revolutionize delivery

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In 2013 Amazon boss Jeff Bezos announced that Amazon plans on letting drones deliver parcels. If Amazon had its way, a gigantic Amazon zeppelin that stores parcels would be high up in the air. Drones would grab the parcels from the so-called 'mothership' and deliver them. Ever since announcing their plans, Amazon has been working on turning its vision into reality, and has filed numerous drone-related patents, including its 'mothership' idea.

Simultaneously, delivery via robot is advancing. Estonian startup Starship Technologies has released a self-driving robot that will deliver parcels. Courier marketplace Postmates and food delivery startup DoorDash have begun pilot tests in Washington D.C. and Redwood City, California, respectively.

In some parts of New Zealand, Flirtey, a US company, has begun delivering pizza via drones. Since a regulatory framework is not in place in the US so far, commercial drone deliveries are not legal in the US yet.

**This paper provides insights on developments within logistics and shows the advantages that could come with drone and robot delivery.**



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# From first tests with robots and drones toward an „autonomous world“

## Drones



September 2014: German logistics company **DHL** introduces drone deliveries. The drone delivers drugs to a pharmacy on the North Sea island Juist. It takes the drone 16 minutes to cover the 9 mile journey.

**Amazon Prime Air** follows suit in December 2016 and tests its **first drone delivery** in the UK.

## Droids



January 2017: Courier Postmates and food delivery company DoorDash **begin testing delivery by robot**, using **Starship Technologies**.

The so-called droids drive at speeds of **4 mph** and can be opened using a code.

## Autonomous Ground Vehicles (AGVs)



March 2017: At the World Mobile Congress, Ford unveils the **Autolivery**, a **self-driving car** with a **landing platform** for drones.

Parcels are transported using the car, the drones take over the last mile and deliver to the doorstep.

# Digitizing Logistics: Interest in robots and drones is growing by the minute

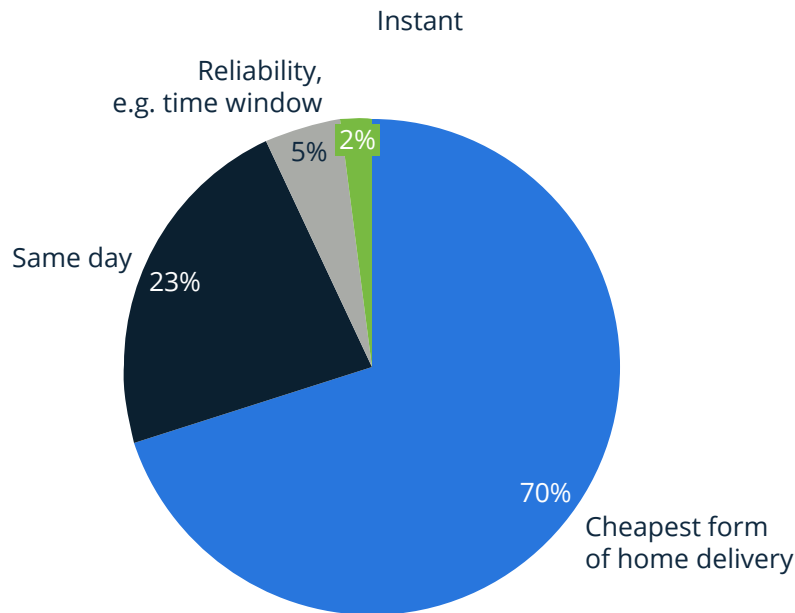
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1. **Customers favor cheaper** home **delivery** options **over instant delivery**
2. **US** consumers **trust drone-based delivery** for **non-luxury goods** but remain **skeptical** about its use for **luxury items**
3. **Drones** may **deliver cheaper** than **robots** – but can **only carry light parcels**
4. **A trend** that is here to stay: **Demand for service robots** continues to **grow**
5. **Three times** as many **US robotic companies** as the next biggest manufacturer **Germany**

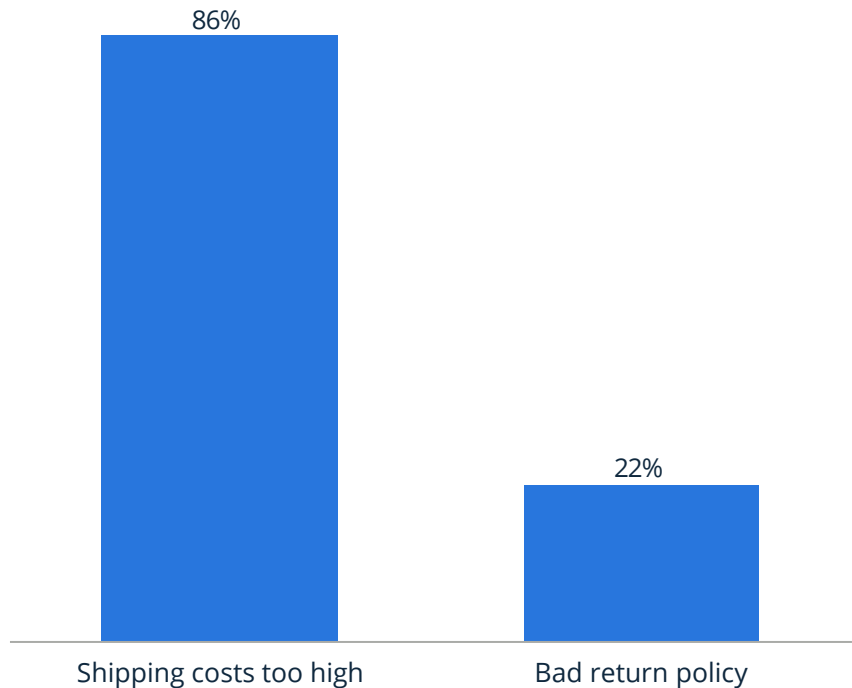
# Customers favor cheaper home delivery options over instant delivery

## Consumer View

*Share of consumers choosing different delivery options<sup>1</sup>*



*Primary reason for US online shoppers to abandon their carts<sup>2</sup>*

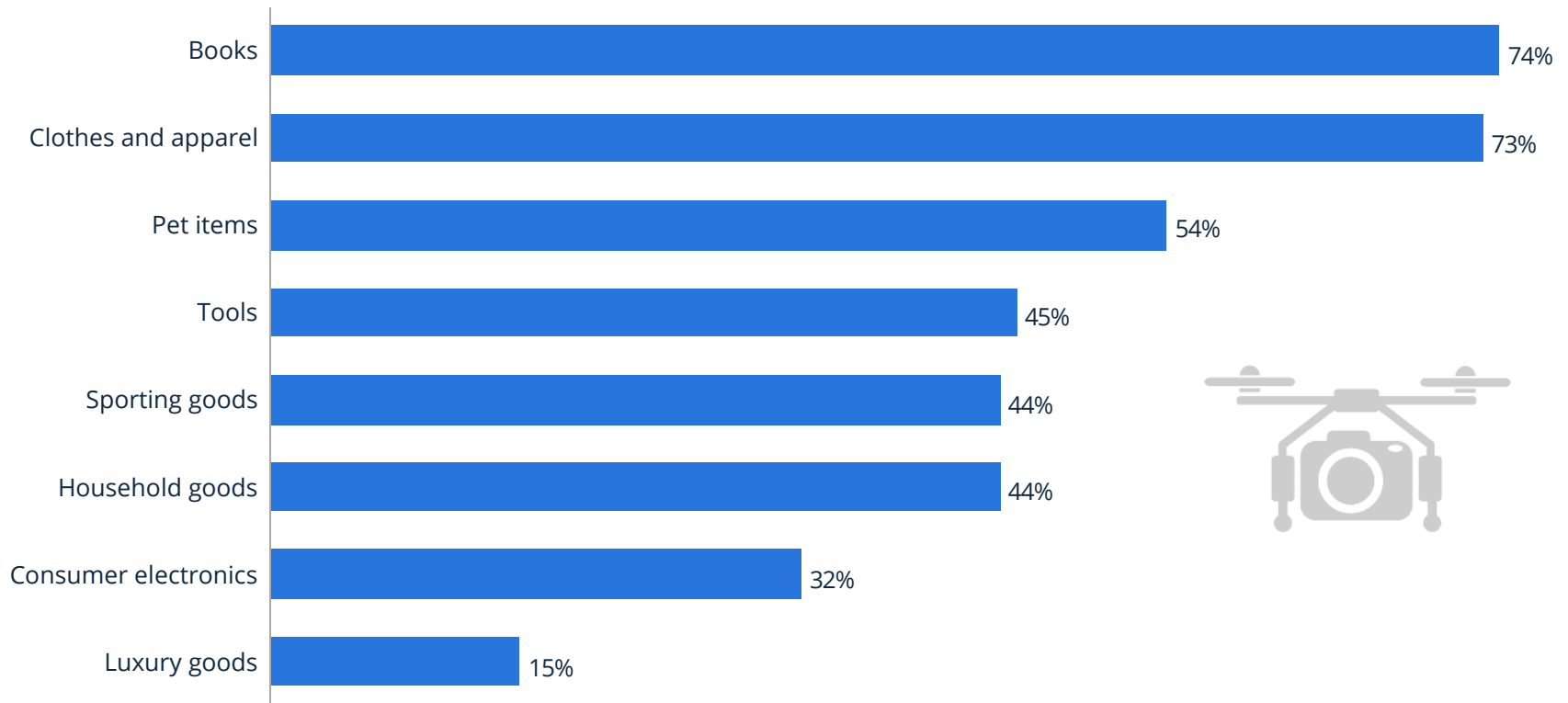


1: N=4,700; Germany, China und US; Source: McKinsey  
2: N=1,500; US; Source: FuturePay

# US consumers trust drone-based delivery for non-luxury goods

## Industry Insights

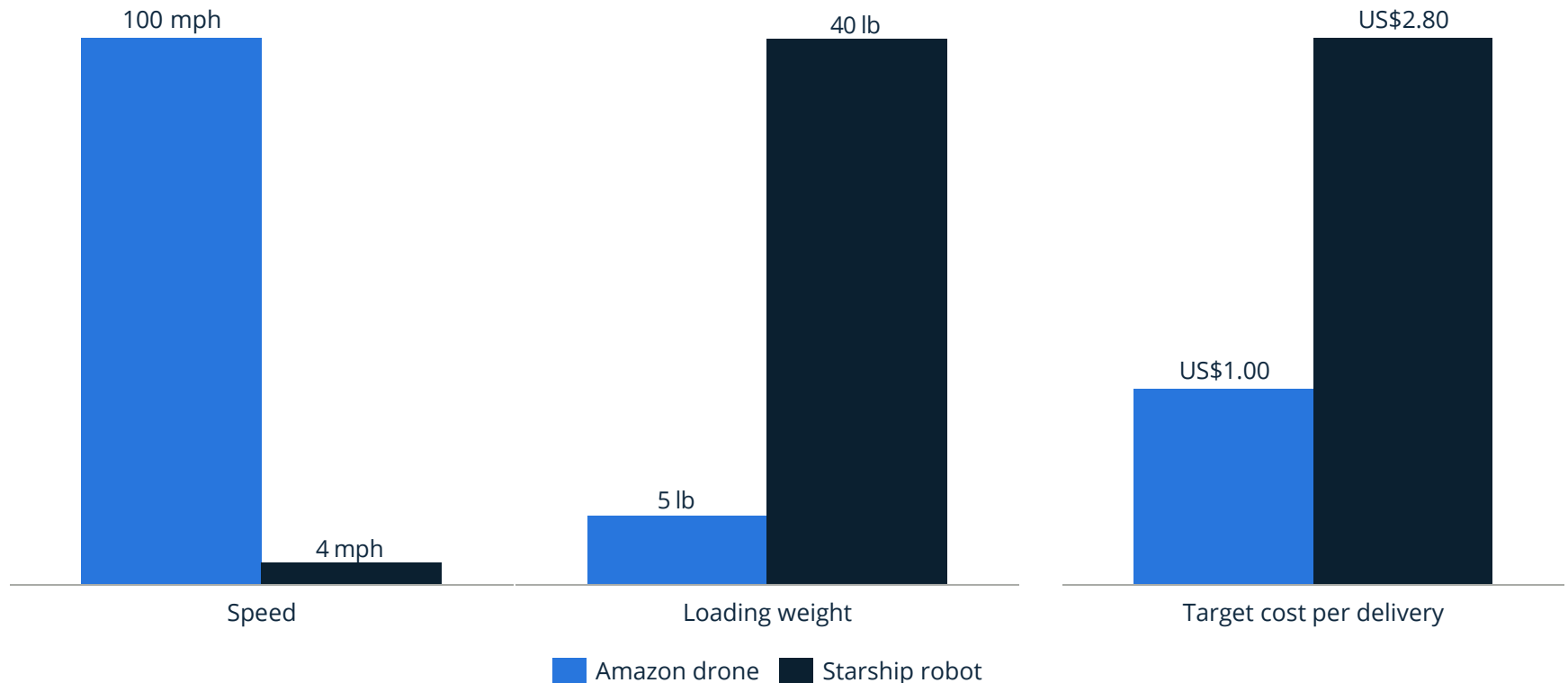
*For which of the following products would you be open to trusting drone delivery?<sup>1</sup>*



# Drones may deliver cheaper than robots – but can only carry light parcels

## Industry Insights

*Comparison of technical data and projected delivery costs of Amazon drone and Starship robot<sup>1</sup>*

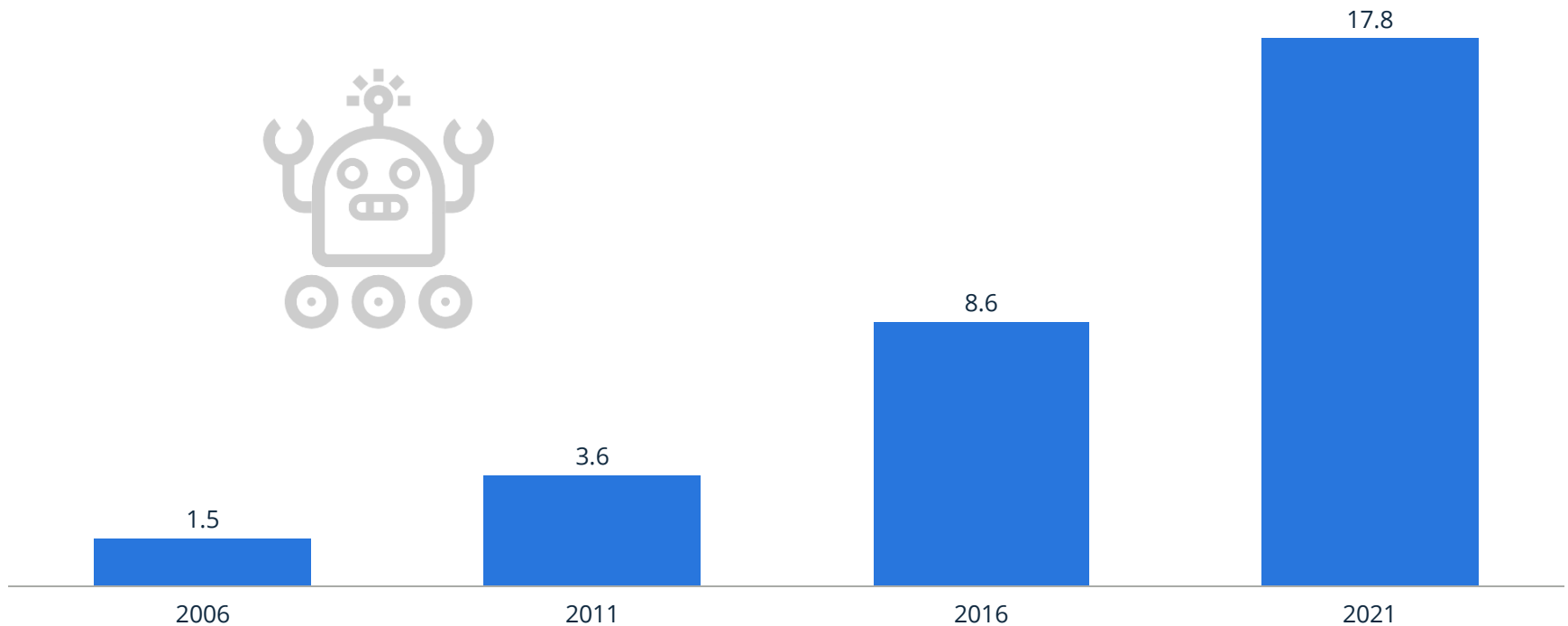


1: The target cost per robot delivery with Starship Technologies is between US\$1.40 and US\$4.20  
Sources: Ivey Business Review; heise; Bloomberg Technology

# A trend that is here to stay: Demand for service robots continues to grow

## *Industry Insights*

*Worldwide demand for service robots from 2006 to 2021 in million US\$*

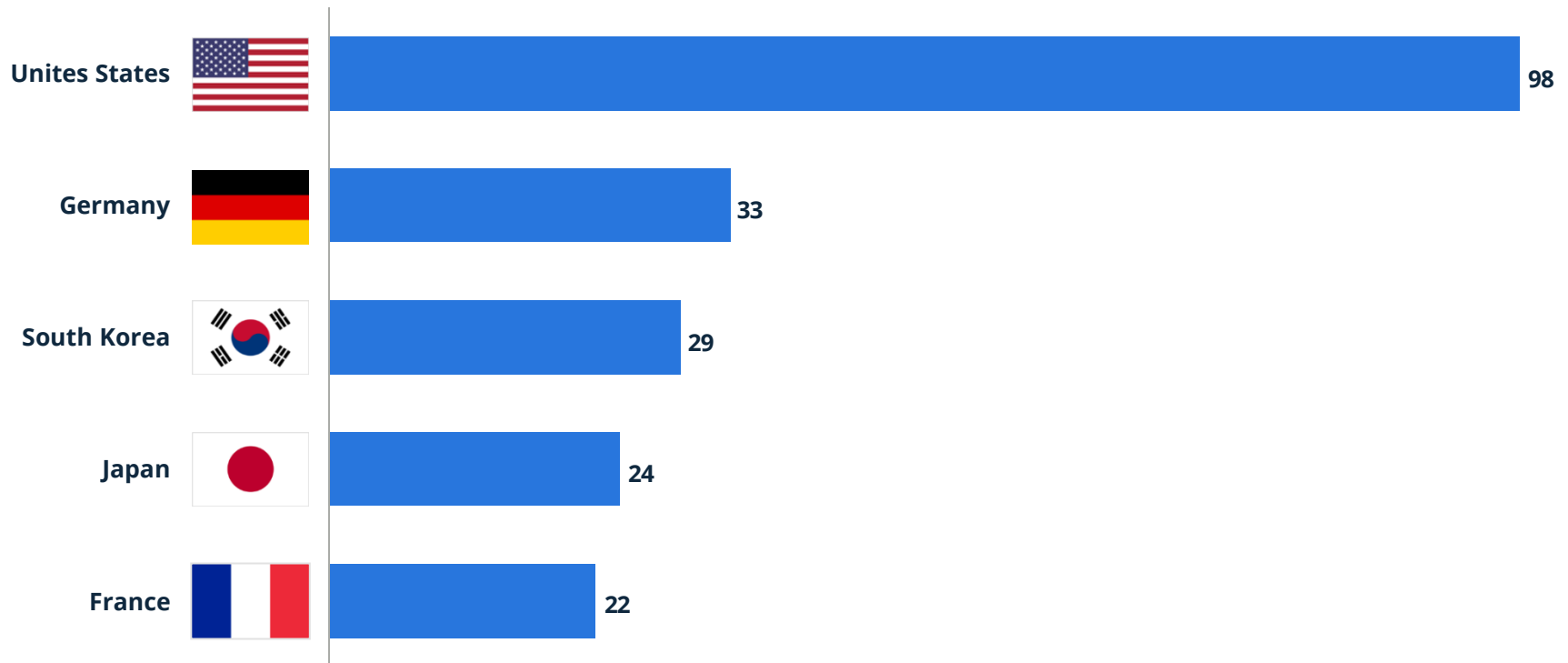




# Three times as many US robotic companies as the next biggest manufacturer Germany

## Industry Insights

*Number of service robot manufacturer in top 5 countries<sup>1</sup>*



# About the Digital Market Outlook

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*9 markets, 34 segments, 50 countries*

## *Further Data*

This paper provides insights on **process automation within the logistics industry**. Further data on digital topics can be found via **Statista's Digital Market Outlook**.

The Digital Market Outlook provides direct access and download of revenue forecasts, user count & penetration, as well as cross-country comparisons.

It includes data on 9 digital markets, Digital Media, Digital Advertising, e-Commerce, eServices, Smart Home, FinTech, eHealth, Connected Car, eTravel and covers 50 countries worldwide.

The Digital Market Outlook is exclusively available on statista.com and is included in Statista Corporate Account and Statista Enterprise Account.

## *Contact*



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Tobias Bohnhoff studied Geography and Innovation Management.

He gathered deep knowledge of digital transformation processes and innovative business models in numerous research and consulting projects before he started to build up the Digital Market Outlook team at Statista.

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