Adevinta

2023 REPORT

Second-Hand Effect

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Message from Adevinta's Sustainability Director

As we unveil the latest edition of the Adevinta Second-Hand Effect (SHE) Report, our aim is to provide valuable insights to consumers on the implications of purchasing decisions; potential resource savings; and the related environmental impacts of re-commerce.

In my role as the Director of Sustainability, I aim to leverage my expertise in sustainability practices, environmental stewardship and corporate responsibility to drive a positive impact across Adevinta's operations. Our dedicated team is committed to aligning our business objectives with sustainable practices, driving environmental progress across operations.

This edition, a collaboration between Vaayu and Adevinta, is particularly special as it marks a significant leap in our methodology and assessment processes thanks to an unprecedented level of data we are able to process. It updates previous editions and also enhances our approach with new methodologies that underscore our commitment to transparency and measurable impact.

This year's SHE Report introduces the Replacement Rate, which measures the likelihood of second-hand purchases replacing new ones. This metric serves as a crucial tool for gauging resource conservation and offers a clearer picture of the environmental benefits realised through our marketplaces.

We've tackled various challenges in sustainability reporting by integrating complex data across our diverse operations. With standardised data and robust software solutions like Vaayu, we have improved our reporting capabilities, ensuring compliance and supporting our strategic goals.

The insights from this report aim to empower consumers with the knowledge to make more sustainable choices, driving collective action towards a lower carbon future. By choosing second-hand products, they directly contribute to reducing carbon emissions, minimising waste, and conserving resources.

Looking ahead, the findings from this report will continue to shape our sustainability strategies. Moreover, we are committed to innovating and providing services that strengthen the second-hand trade experience as well as promote a circular economy, thus fostering a more sustainable future for all.

Thank you for engaging with our efforts and for your continued support in driving meaningful change.

Sincerely,

Christelle Esquirol
Director of Sustainability, Adevinta

Measuring circular business models

Circular business models are transforming the way industries operate, emphasising resource efficiency, waste reduction, and the continuous use of products and materials. These models are increasingly recognised for their strategic importance in mitigating environmental impact.

The global economy is only 7.2% circular[1], highlighting a vast potential for improvement. By advancing a circular economy and measuring Adevinta's Second-Hand Effect, we support environmental sustainability and help combat climate change by reducing the material footprint and associated greenhouse gas emissions. One of the most impactful circular strategies is re-commerce — the practice of buying and selling pre-owned goods, as we do across our second-hand marketplaces. Re-commerce extends the life cycle of products, reduces demand for new items and ultimately helps lower carbon emissions and waste. Through our marketplaces, we provide pre-loved products with new purpose by giving them a new life.

Accurately measuring the environmental impact of circular business models is crucial for understanding their effectiveness and potential. Precise data allows businesses and groups like Adevinta to quantify the benefits of selling second-hand items, such as reduced emissions from manufacturing.

We also use this essential data for developing robust sustainability strategies, demonstrating the tangible environmental benefits of circular practices, and meeting increasing consumer, investor, and regulatory demands for sustainable business operations.

1. Circularity Gap Reporting, 2024.

The report

The Second-Hand Effect Report

What is the Second-Hand Effect?

By reducing the need to buy newly produced goods, we are promoting more sustainable consumption. We want to encourage people to make second-hand their first choice. We call this the Second-Hand Effect (SHE).

The SHE embodies the potential environmental benefits of choosing pre-loved items over new ones. Most second-hand purchases mitigate the need to produce new items to some extent, conserving energy and raw materials, reducing greenhouse gases, and minimising waste.

At Adevinta, we are at the heart of the second-hand economy. We champion second-hand by shifting from 'linear consumption', where we buy something new and then dispose of it, to a more 'circular consumption'. Circular consumption keeps products and materials in continuous use by reusing them, as we enable at Adevinta, while wider circular models also adopt repairing and recycling.

One example is choosing to purchase second-hand furniture, which not only partially saves the carbon, energy, and materials needed to produce new furniture but can also help reduce deforestation and the depletion of other natural resources.

This aligns closely with the UN's SDG 12 for Responsible Consumption and Production[2], and could potentially help reverse the current overshoot of critical planetary boundaries, offering a robust response to our planet's escalating environmental challenges.

The 4th edition of our SHE Report aims to quantify the estimated net avoided emissions achieved by a part of Adevinta's portfolio. Avoided emissions in this context refer to the potential reduction in carbon emissions when users choose second-hand items over new ones.

The Re-Commerce platforms within Adevinta are dedicated to selling pre-owned items in categories including Home & Garden, Toys & Games, Electronics, Apparel & Footwear, Hobbies, and DIY. This report explores the potential climate impact benefits of second-hand transactions on some of Adevinta's major Re-Commerce marketplaces, including leboncoin (France), Kleinanzeigen (Germany), Marktplaats (the Netherlands), 2dehands/2ememain (Belgium), Milanuncios (Spain), Subito (Italy), willhaben (Austria) and OLX (Brazil), throughout 2023.

2. United Nations, SDG 12 for Responsible Consumption and Production, 2023.

Updates to the previous SHE Report editions

Our efforts included extensive surveys across these eight key markets to delve into users' motivations for purchasing second-hand items and their preferences for packaging and transportation methods. More details about these surveys are shared in the Methodology of this report.

We have now aligned our methodology more closely with the latest guidance from the World Resources Institute (WRI) on performing comparative life cycle assessments (LCAs) and from the World Business Council for Sustainable Development (WBCSD) on calculating and communicating avoided emissions impacts.

A major highlight of this edition is our refined calculation of the Replacement Rate: a crucial metric that measures the likelihood of second-hand purchases replacing the need for new products. This advancement represents a significant step towards more accurate assessments of environmental impact.

Additionally, we've moved beyond limited sample data to process millions of transactions across marketplaces, allowing for more granular assessments and more accurate impact calculations at the product category level. This detailed approach provides a clearer and more precise understanding of the environmental benefits associated with each type of product.

We also conducted a comprehensive Corporate Carbon Footprint calculation in close alignment with the Greenhouse Gas (GHG) Protocol[3], taking into account the full scope of our operational footprint, as detailed in our Annual Report[4]. This enabled us to calculate net avoided emissions more accurately, reflecting the true climate change impact benefits of our Re-Commerce marketplaces.

This edition of the report showcases our methodological advancements as well as underscores the tangible climate change impact benefits of second-hand commerce. By extending the useful life of products, we are collectively making an important contribution to reducing global carbon emissions and fostering a more sustainable future.

3. Greenhouse Gas (GHG) Protocol develops standards, tools and online training that helps countries and cities track progress towards their climate goals.
4. For a detailed description of the methodology used for Corporate Carbon Footprint calculations, see the About this report section in our Annual Report 2023.

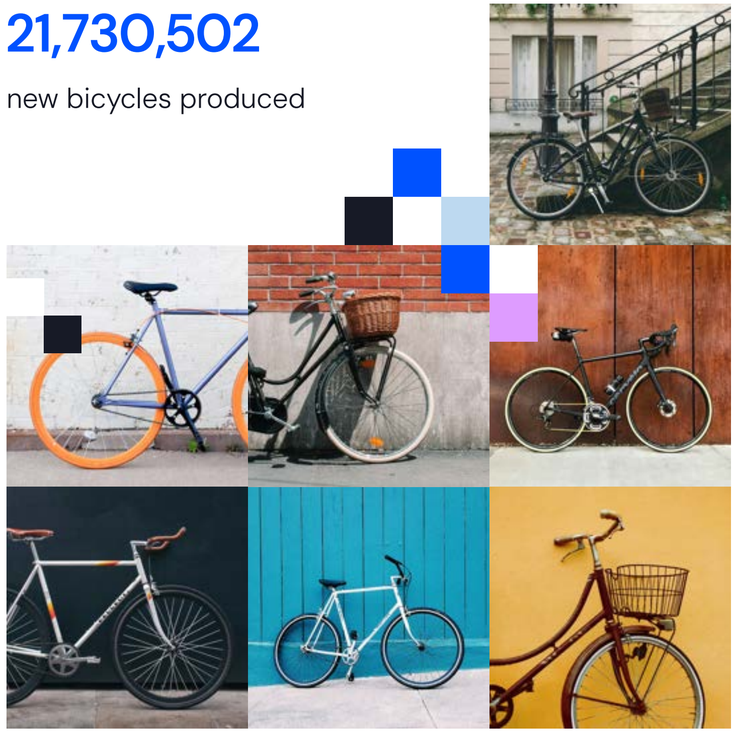
Key findings indicated that, collectively, Adevinta's marketplaces potentially[5] avoided

3,181,215 tonnes CO_2e

Equivalent to:

21,730,502

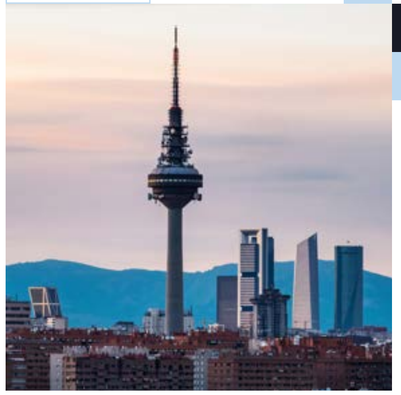
new bicycles produced



1,863,203

return flights from Madrid to New York[6]

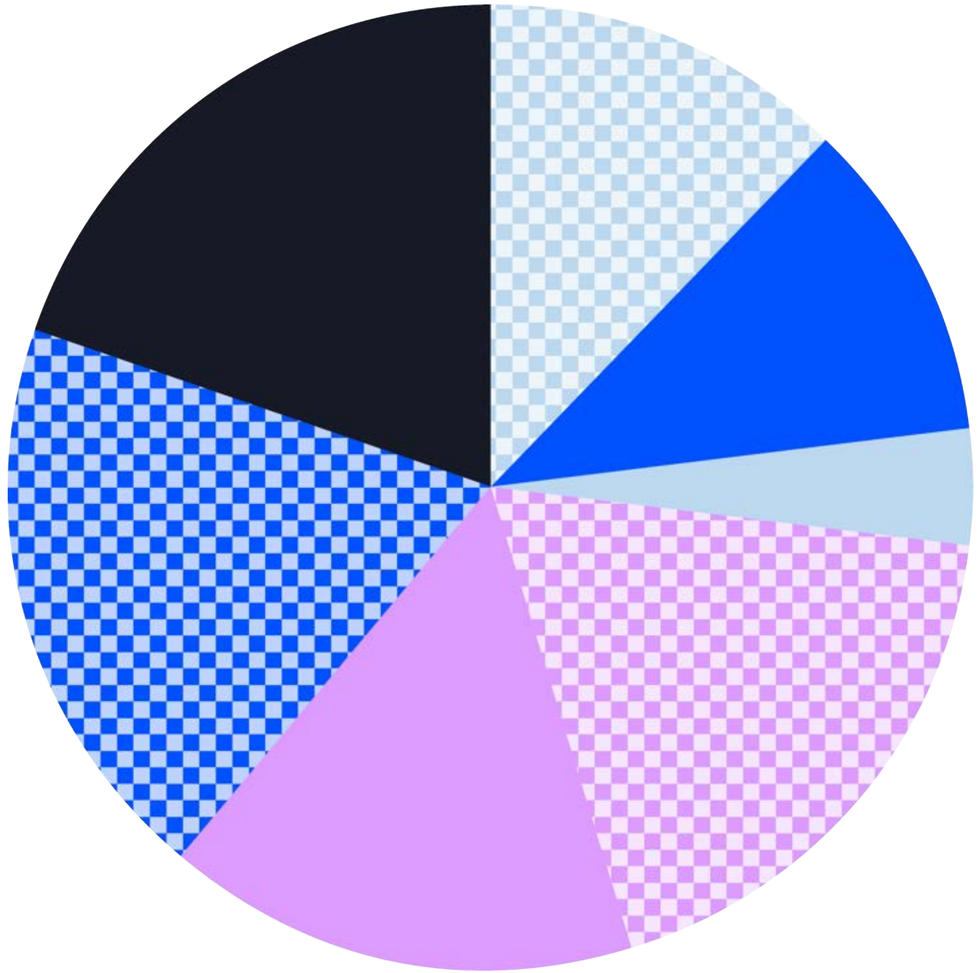
MADRID



NEW YORK

5. All avoided emissions discussed in this report are *potentially* avoided emissions since avoided emissions are the result of a hypothetical calculation. We hereby use the term 'avoided emissions' throughout this report. These estimates involve a comparison between the actual scenario (purchasing a second-hand product on Adevinta's marketplaces) and a hypothetical alternative scenario (purchasing a similar first-hand product instead) and accounting for the likelihood that the second-hand purchase actually replaced a first-hand purchase or not (Replacement Rate).
6. 11, 536 km. Passenger kms, long haul flight, Economy class. GOV.UK, Greenhouse Gas Reporting Conversion Factors, 2022.

Net avoided emissions split (%) per product category:



19.5% All other categories

19.4% Furniture

18.2% Bicycles

16.2% Computers & Accessories

12.4% Domestic Appliances

10.7% Electronics

3.5% Sports Gear

The section Marketplace results provides a detailed breakdown of each product category's contribution to the overall net avoided emissions per marketplace.

Key insights

Factors influencing net avoided emissions

The scale of re-commerce net avoided emissions was influenced by several factors.

Product-related factors:

Emissions avoided from production and distribution:

Products with higher carbon footprints — such as electronics or large appliances — offer greater potential for emissions reductions when purchased second-hand.

Proportion of new items in a category:

The proportion of products listed as 'new-with-tags' affects the cradle-to-consumer reference values. New products are assumed to have a zero Replacement Rate, resulting in zero potentially avoided emissions. Consequently, a higher percentage of new products in a category will lower the average net avoided emissions for that category.

Total number of successfully sold items:

The higher the number of transactions that avoid emissions, the greater the total net avoided emissions per product category — more successful sales of second-hand items directly contribute to the avoided emissions from re-commerce.

Consumer-behaviour-related factors:

Replacement Rate:

Higher Replacement Rates indicate that more consumers are substituting new items with second-hand ones, significantly reducing the demand for new product manufacturing.

Deliveries and packaging choices made by re-commerce users:

Efficient delivery methods and sustainable packaging options can further reduce the footprint associated with the logistics of second-hand transactions.

The key insights into users' motivations for purchasing second-hand items (Replacement Rate) and their preferences for packaging and transportation methods are summarised in this section.

Replacement Rate

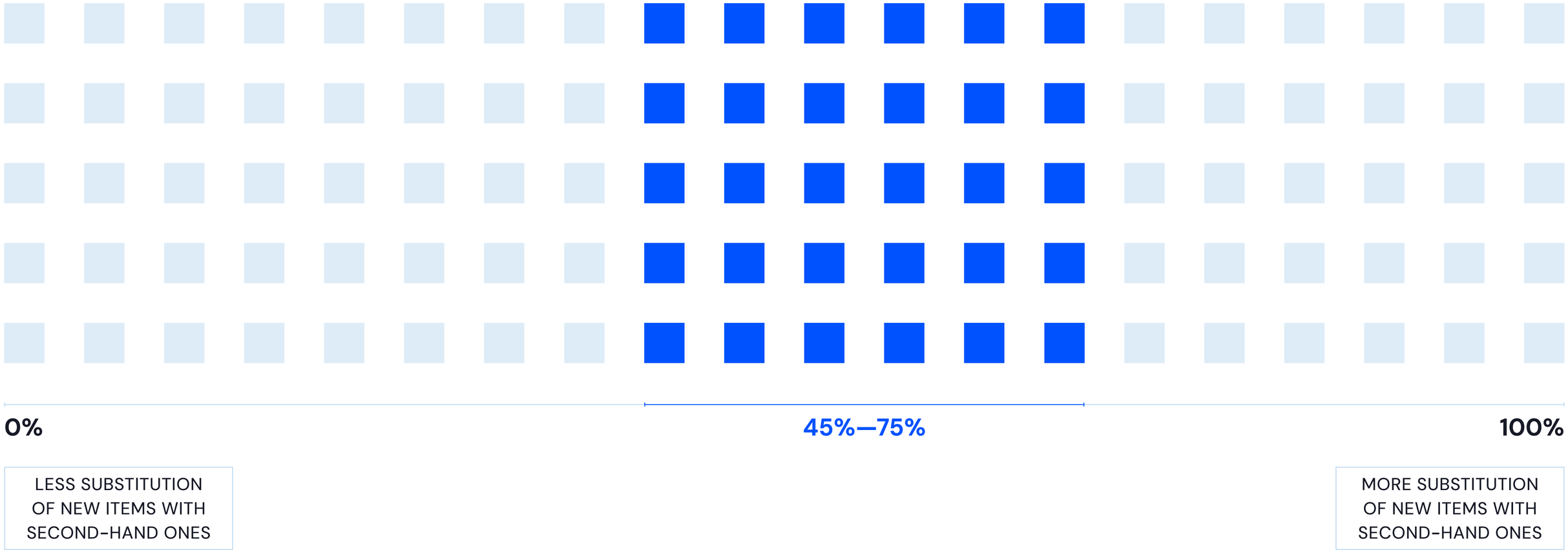
The Replacement Rate helps to quantify the level of ‘substitutability’ of the second-hand product with a new one.

It determines the extent to which a second-hand product can displace the purchase of a new product.

The Replacement Rate was derived from responses of close to 32,000 buyers to the survey question:

> **If you had not found this product on the platform, would you have bought this, or a similar product, brand new?**

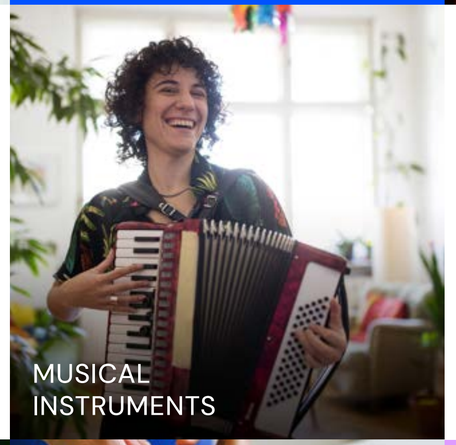
Replacement Rates range from **45% to 75%** across marketplaces and product categories.

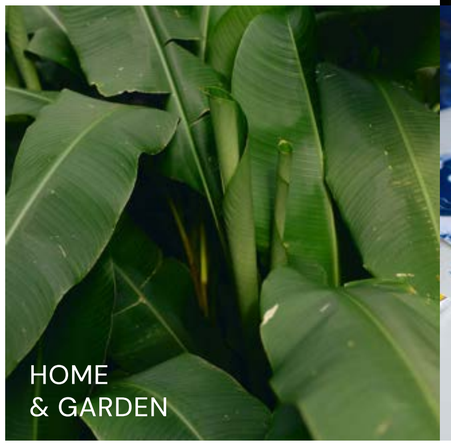


Product categories

The analysis reveals diverse consumer preferences for second-hand items across the marketplaces, reflecting a strong demand, with some variation among marketplaces.

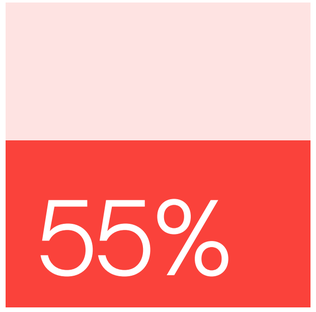
The Replacement Rate differs across product categories and markets due to several factors. For instance, in the home and garden category, products tend to have a higher Replacement Rate because consumers typically keep these items for longer periods and less frequently opt for buying similar new products. In contrast, categories like fashion may have a lower Replacement Rate, since consumers might be led to spontaneous purchases of new items during sales, for example.





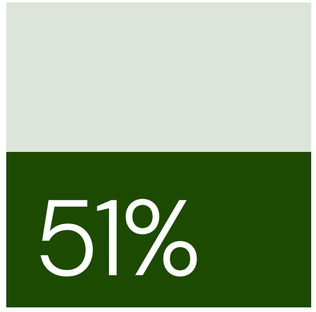
Additionally, market-specific factors, such as economic conditions, cultural attitudes towards sustainability, and the availability of quality second-hand options, also influence consumer behaviour. In regions with strong environmental consciousness, there may be a higher preference for pre-owned goods, contributing to a more active second-hand market.

Highest Replacement Rates per marketplace[7]



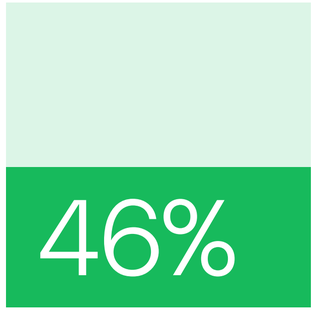
subito

Electronics
category



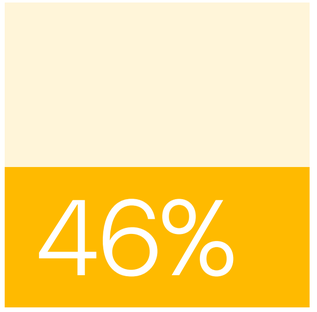
kleinanzeigen

Personal Care & Wellbeing
category



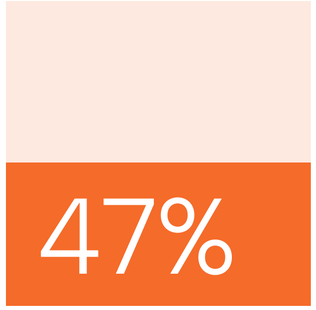
milanuncios

Hobby & Leisure and Garden
categories



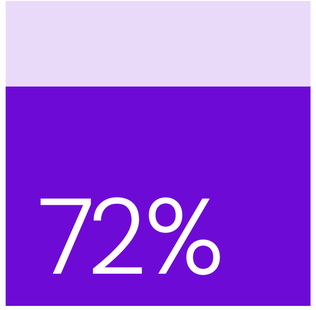
2dehands
2ememain

DIY, Musical Instruments and Garden
categories



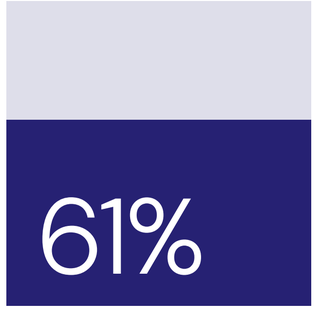
leboncoin

Home & Garden and Toys & Games
categories



OLX

Home & Garden
category



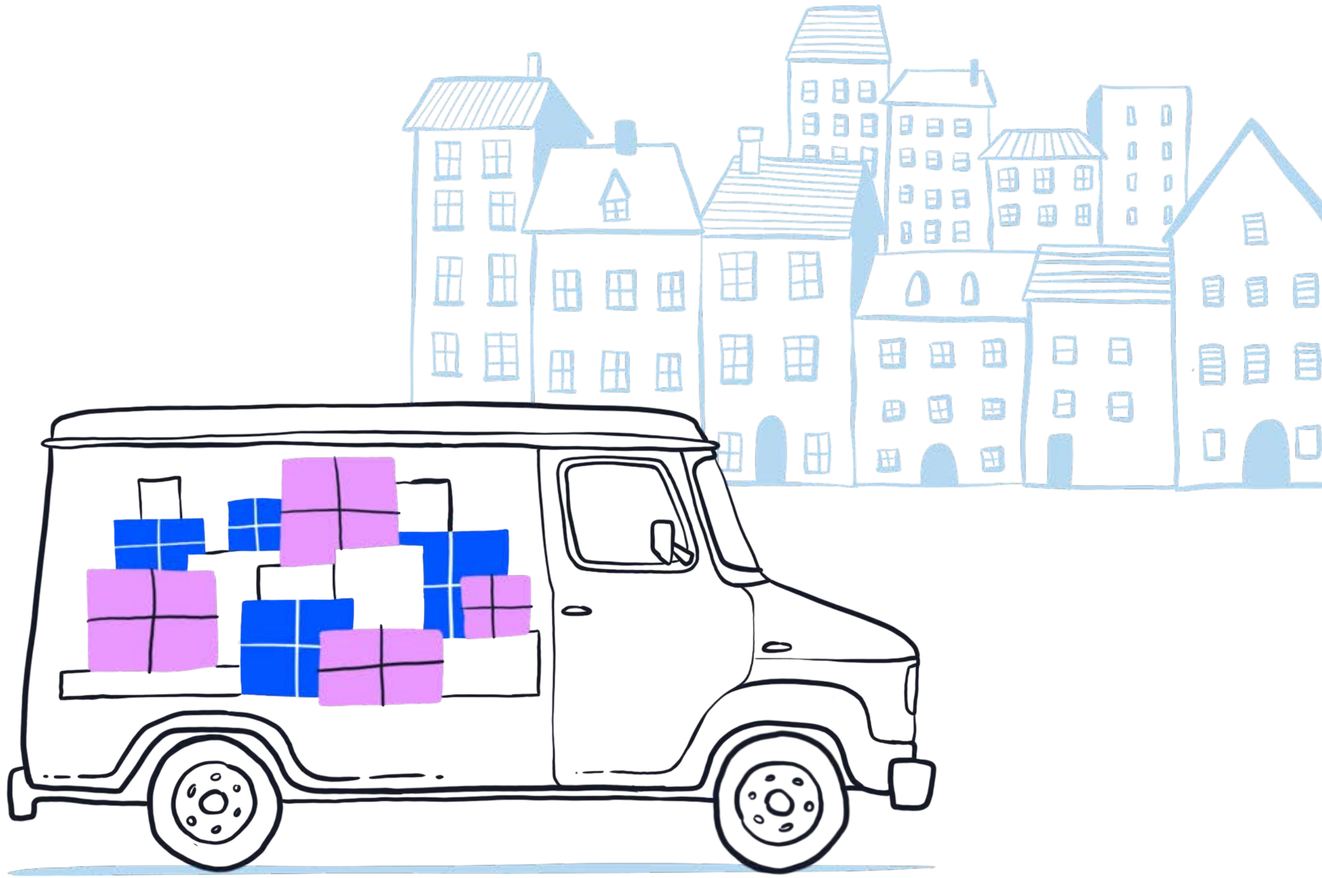
WILLHABEN

Family, Child, & Baby
category

7. No specific user data from Milanuncios, Marktplaats and 2dehands/2ememain was applied in this analysis (given the limited sample size of the survey), so EU market averages were utilised to ensure robust and representative data.

Transportation habits

The user surveys showed that the preferred delivery methods for on-platform transactions can vary depending on the marketplace and product category, while face-to-face meetings dominate off-platform transactions.



On-platform transactions

Meet-ups and Pick-Up/Drop-Off (PUDO) points[8]

For on-platform transactions[9], primary data for seller and buyer locations (home or PUDO points), carriers, and delivery methods were used where available.

88%

of Marktplaats buyers preferred products to be drop-offs at a designated collection point.

Marktplaats

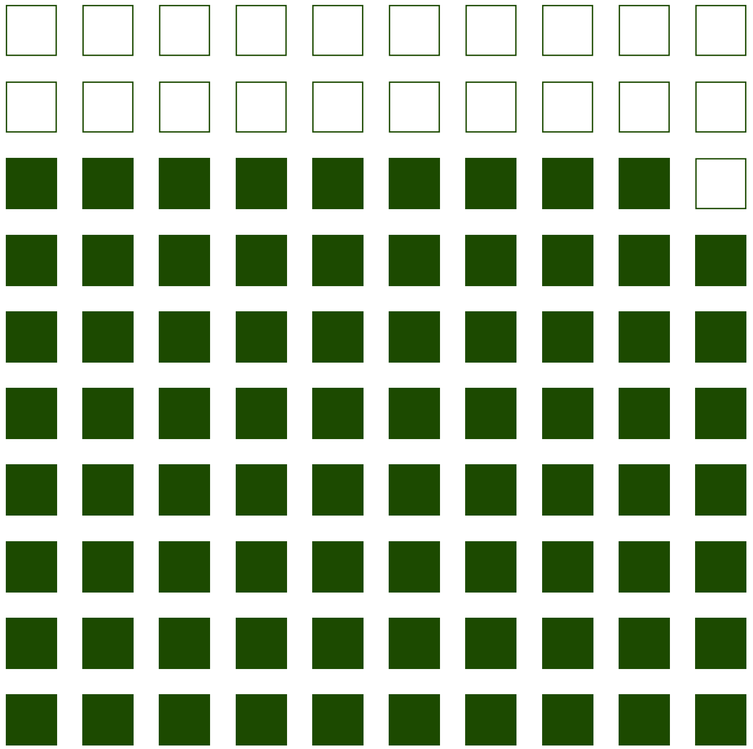
On **Marktplaats**[10], the preferred choice for receiving products was drop-offs at a designated collection point (by the buyer or for a carrier to take it to the buyer), with no variance among product categories (88%).

8. A service model that allows consumers to collect their purchased items from designated locations or lockers, and also drop off items they wish to return or send.
9. On-platform sales are defined as cases of product sale where the marketplace managed the payment through a payment service offered by the marketplace.
10. Where influential activity data (e.g. shipment methods) was only partially provided by Marktplaats, data from the surveys was used instead. Due to the sample size of the Marktplaats survey being too low, data from an average of all the Adevinta European marketplaces survey responses was used instead (due to the sample size of the survey).

79%

of buyers on **Kleinanzeigen** showed a strong preference for home delivery

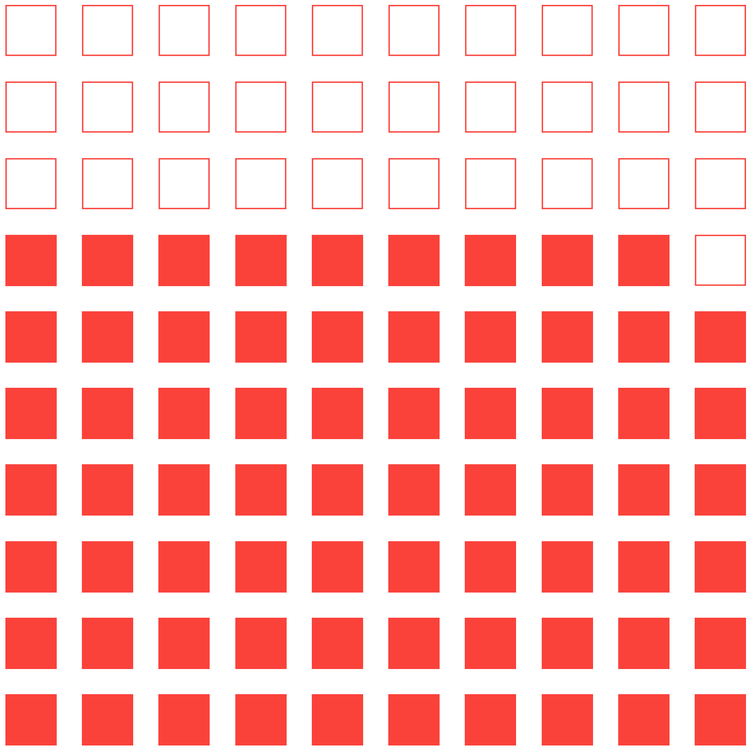
kleinanzeigen



69%

of buyers on **Subito** showed a strong preference for home delivery

subito

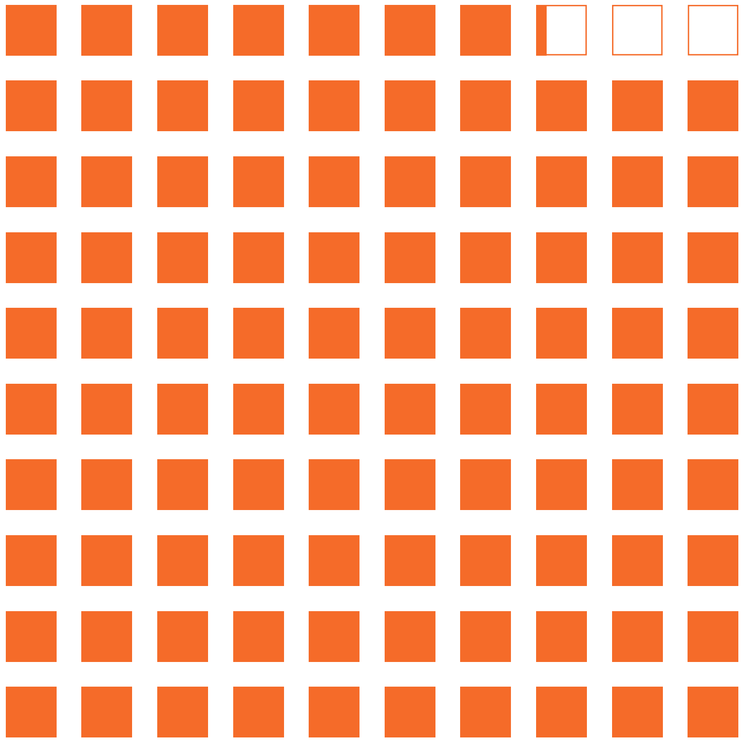


In contrast, buyers on **Kleinanzeigen** and **Subito** showed a strong preference for home delivery, at 79% and 69%, respectively.

97.2%

of **leboncoin** buyers predominantly preferred PUDO

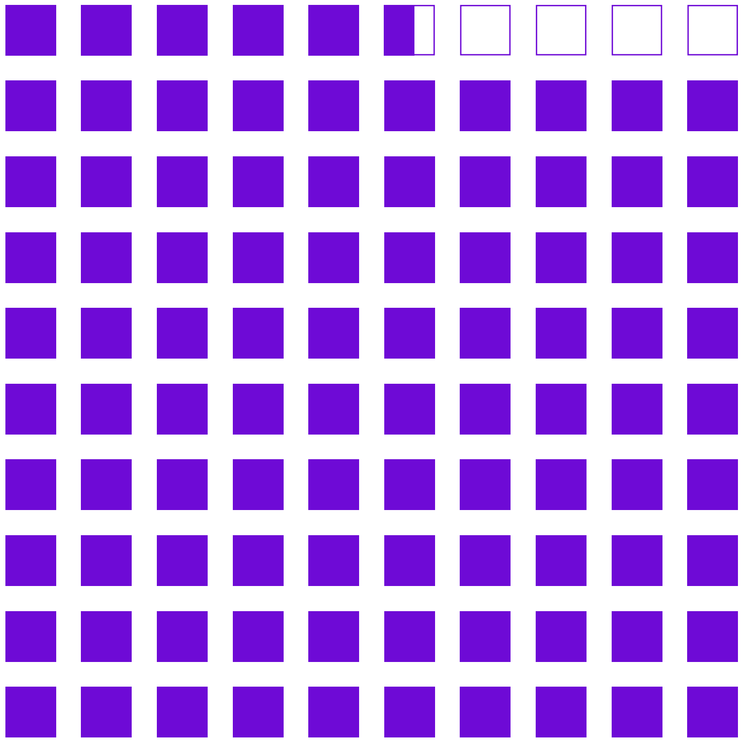
leboncoin



95.6%

of **OLX Brazil** sellers and buyers preferred meet-ups

OLX

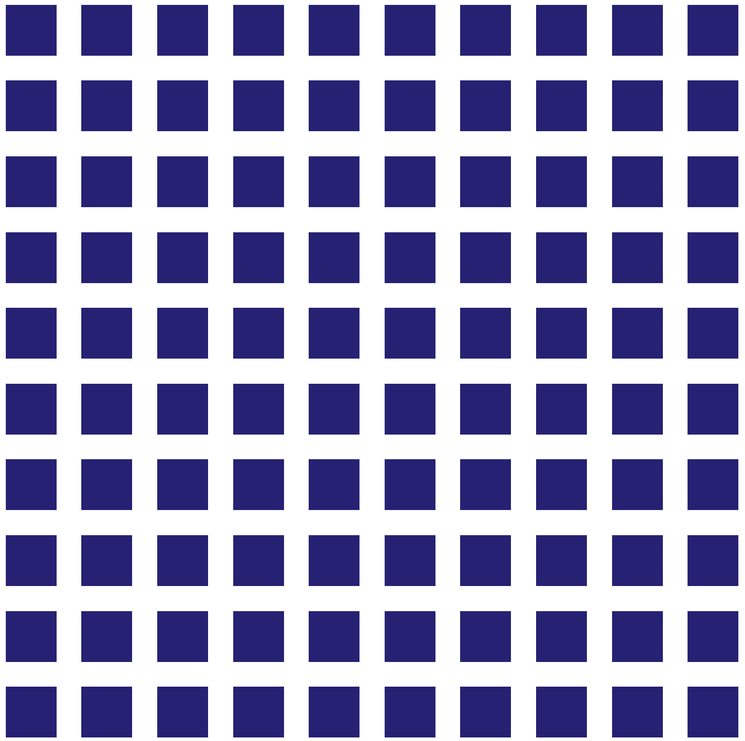


On **leboncoin,** sellers exclusively used PUDO, with buyers also predominantly preferring PUDO (97.2%) over home delivery (2.8%).

OLX data indicated a strong preference for meet-ups for both sellers and buyers (95.6%), with minimal reliance on PUDO or home delivery.

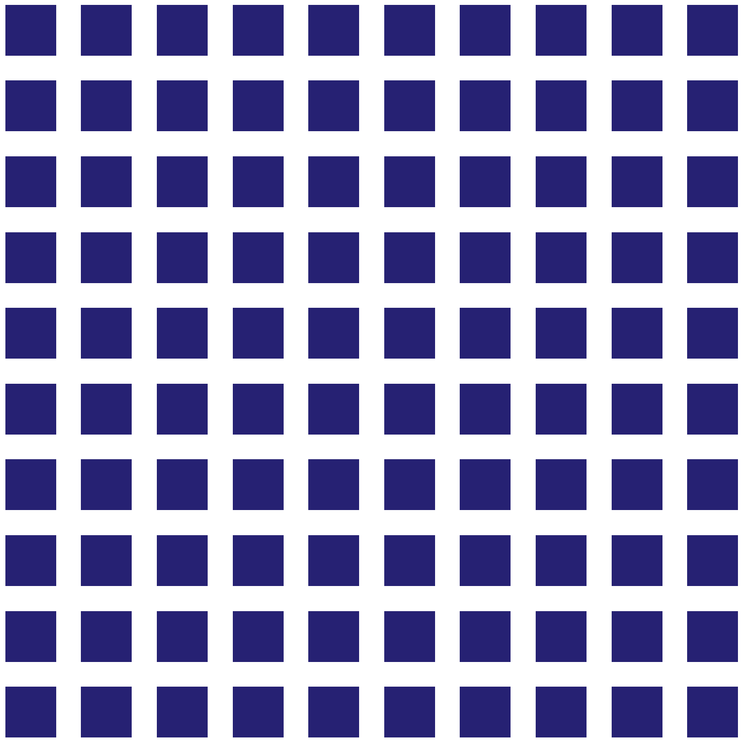
100%

of **willhaben** sellers used PUDO



100%

of **willhaben** buyers used home delivery



For **willhaben,** all sellers used PUDO while all buyers received items through home deliveries.

Off-platform transactions

For off-platform transactions[11], data shows that most exchanges occurred directly between buyers and sellers, with face-to-face meet-ups being the most common delivery method:

75% of OLX Brazil users preferred meet-ups

71% of Subito users preferred meet-ups

Face-to-face meet-ups were particularly popular on **OLX Brazil** and **Subito,** where 75% and 71% of transactions, respectively, were conducted in person, especially for Family, Child & Baby products at 82% and 88%.

11. Off-platform sales are defined as cases of product sale where the buyer and seller connected through the marketplace (classifieds), but managed the sale outside of the platform.

53% of willhaben users favoured meet-ups

52% of 2dehands/2ememain users favoured meet-ups

39% of Kleinanzeigen users favoured meet-ups

46% of leboncoin users preferred sellers to drop off items in person

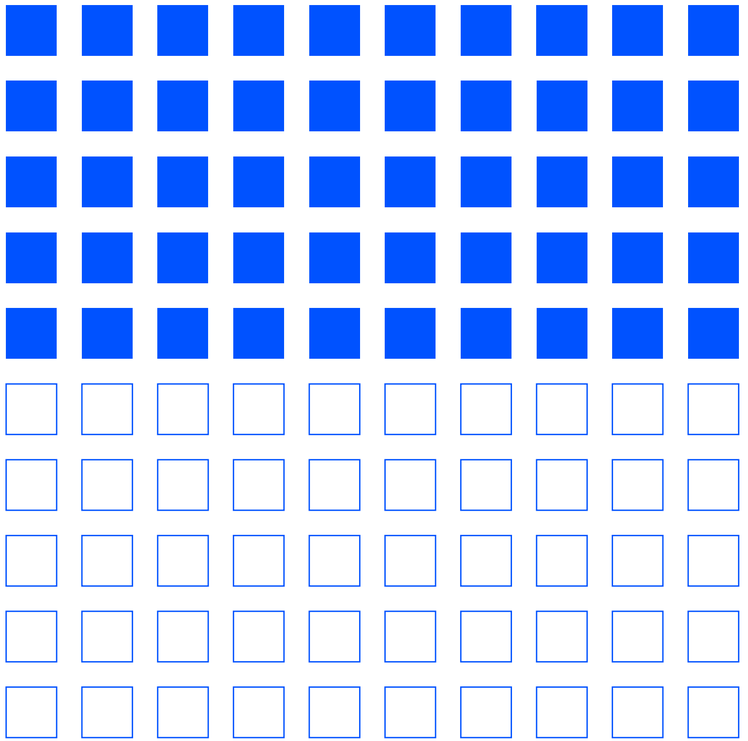
willhaben (53%), **Kleinanzeigen** (39%) and **2dehands/2ememain** (52%) also favoured meet-ups, notably for Home & Garden products (79%, 61% and 59% respectively).

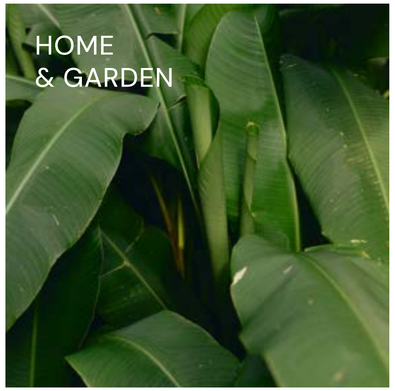
leboncoin showed a strong preference for in-person meet-ups with users (46%), particularly in the Family, Child & Baby category (53%).

Packaging choice

The user surveys revealed a strong preference for more sustainable packaging options across the different marketplaces.

Users consistently choose no packaging or reused materials, indicating a shift towards resource-conservation options.





50%

of transactions in the Home & Garden category avoid packaging altogether across marketplaces like **Milanuncios, 2dehands/2ememain,** and **willhaben.**

This trend likely reflects the durable nature of Home & Garden items, which often don't need additional protection.

Conversely, in the Fashion and Leisure categories, there is a significant preference for reused cardboard packaging:

leboncoin

On **leboncoin**, over 60% of users favoured reused boxes, with Fashion items at 66% and Leisure, Sport, and Hobbies at 65%.

Marktplaats

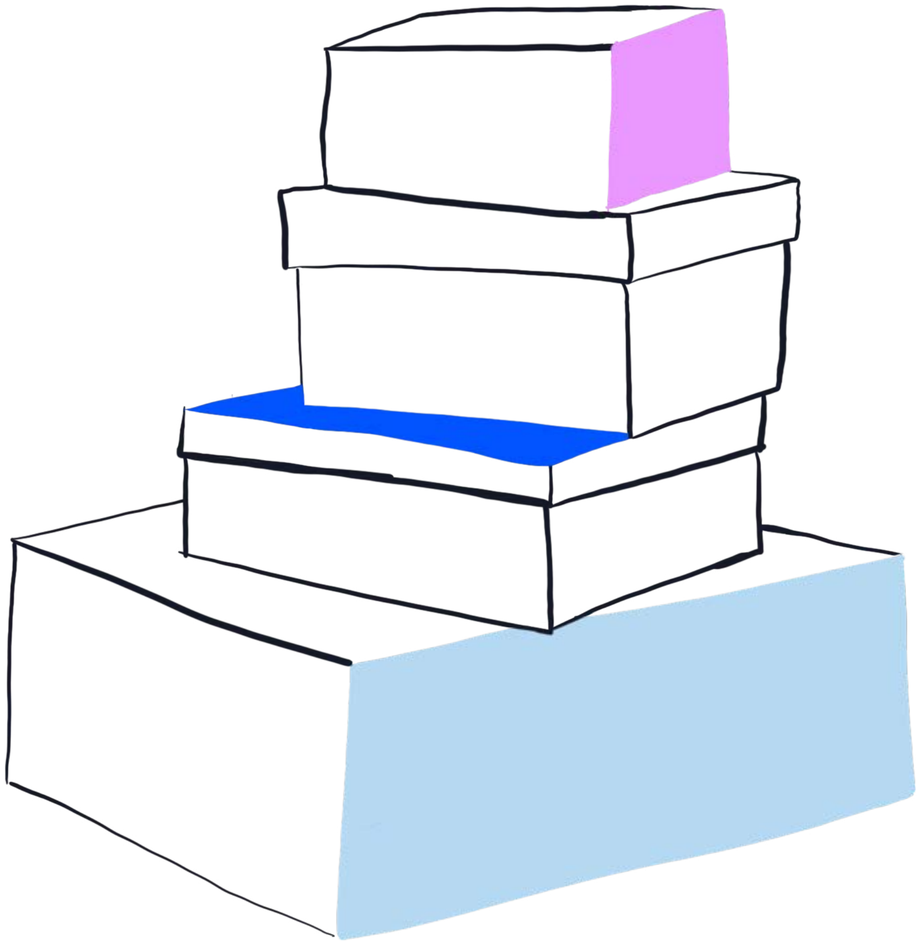
Similar trends were seen on **Marktplaats,** where more than half of the transactions preferred reused cardboard for Fashion at 71% and Leisure items at 64%.

subito

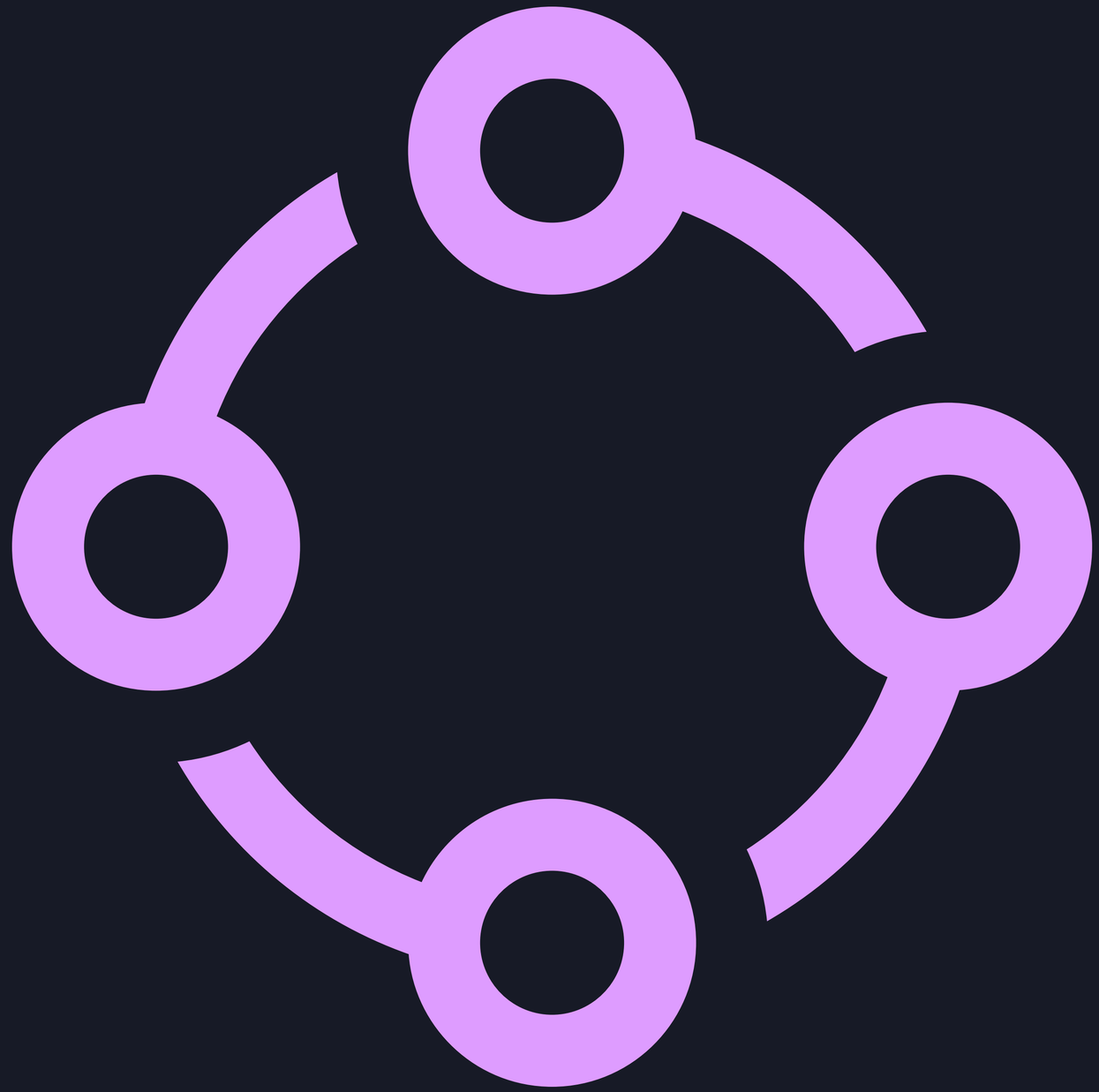
Also, more than half of the **Subito** transactions preferred reused cardboard with 58% for Fashion, and 56% for Leisure items.

kleinanzeigen

Kleinanzeigen users also showed a strong preference for reused cardboard in these categories (61% for Fashion and 46% for Leisure and Hobbies).

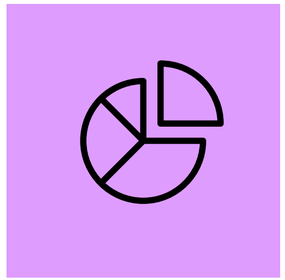


Marketplace results



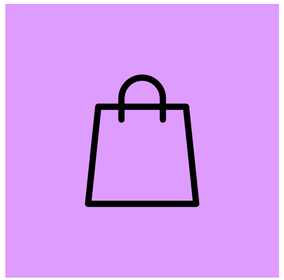
Net avoided emissions per marketplace

It is important to note that the net avoided emissions per marketplace and for the same product categories on the marketplaces might differ for several reasons, including:



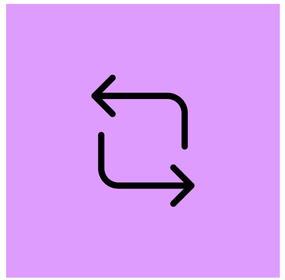
Data granularity

The level of detail in the provided data varies between marketplaces. Higher-level categories tend to show higher emissions averages but are less precise as they encompass a broader range of products.



Proportion of new products

The higher the number of transactions that avoid emissions, the greater the total net avoided emissions per product category — more successful sales of second-hand items directly contribute to the avoided emissions from re-commerce.



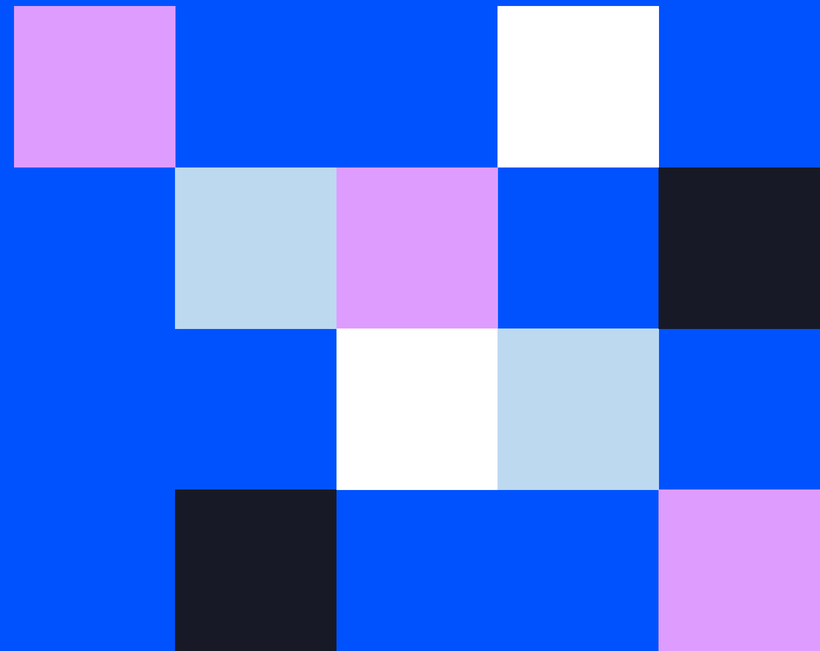
Replacement Rate variance

Different marketplaces may have varying Replacement Rates for similar product categories. A higher or lower Replacement Rate directly influences the reference values, leading to differences in net avoided emissions.

Generated emissions per product

The emissions generated by second-hand products vary per category and marketplace. Factors such as packaging, delivery emissions (which depend on user habits, distances travelled, shipment methods, and transport modes), and business operations emissions (which depend on the total operational emissions of each marketplace) all contribute to these differences.

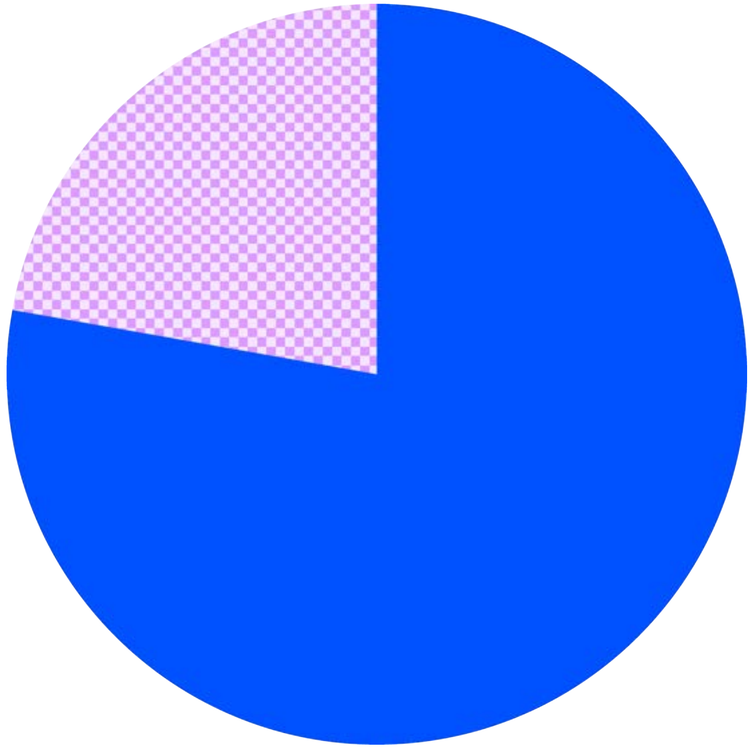
leboncoin



leboncoin

Total net avoided emissions:

460,840 tonnes CO_2e



78% from off-platform transactions

22% from on-platform transactions

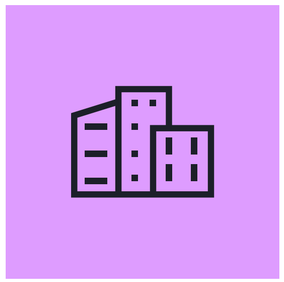
Equivalent to:

The annual electricity usage of 1,222,485 households in France

Equation

=

–



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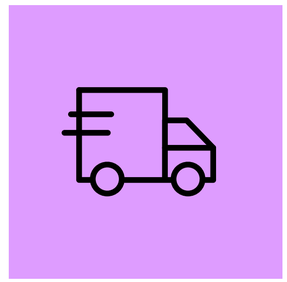

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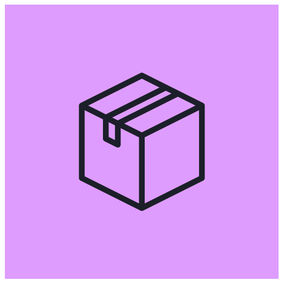


460,840 tonnes CO_2e

Total net avoided emissions

610,536 tonnes CO_2e

Alternative scenario[12]

48,200 tonnes CO_2e

Total emissions from business operations

100,966 tonnes CO_2e

Total deliveries emissions

528 tonnes CO_2e

Total emissions from secondary packaging

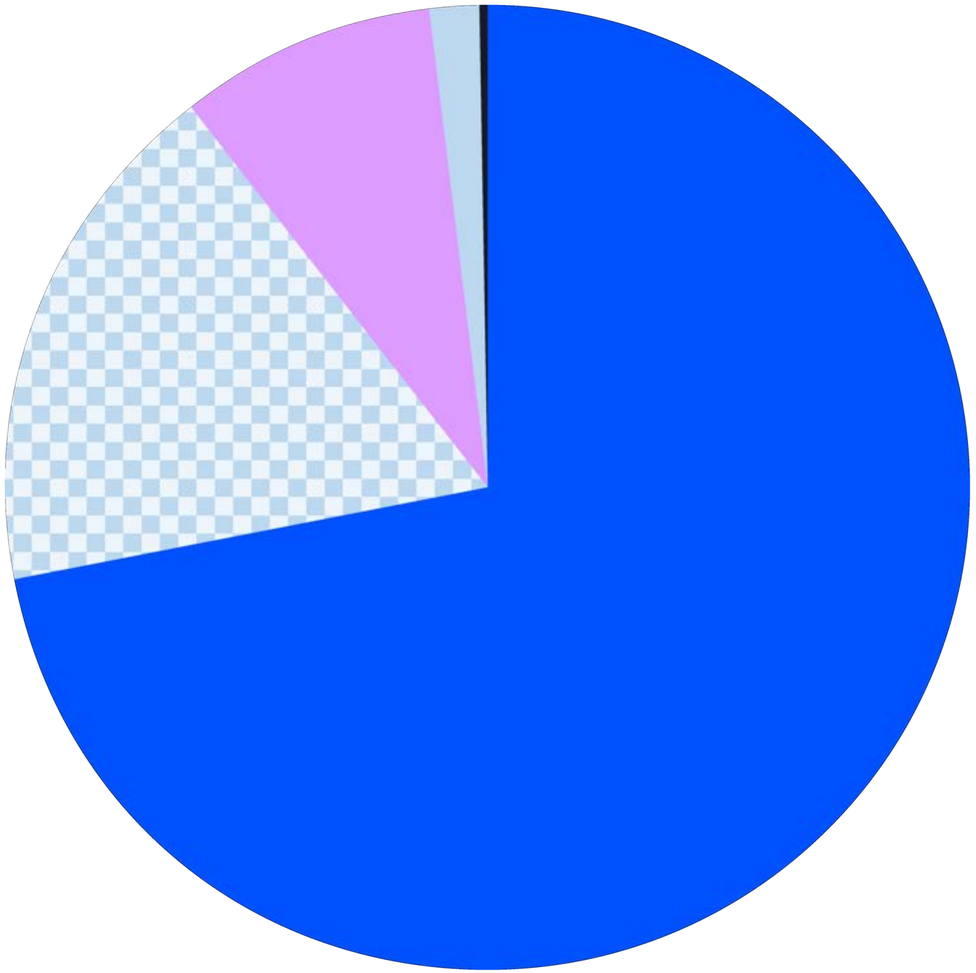
12. The ‘Alternative scenario’ refers to the emissions from producing and distributing a comparable new item which second-hand shopping on Adevinta’s marketplaces may "avoid" to a certain extent (the Replacement Rate). The Alternative scenario here includes the Replacement Rate within the emissions value. More details are are available in the section Alternative scenario.

Avoided emissions

leboncoin

Net avoided emissions split (%) per product category

- **72.2%** Electronics
- **17.4%** Leisure
- **8.7%** Home & Garden
- **1.6%** Family
- **0.1%** Other



Products with the highest average net avoided emissions

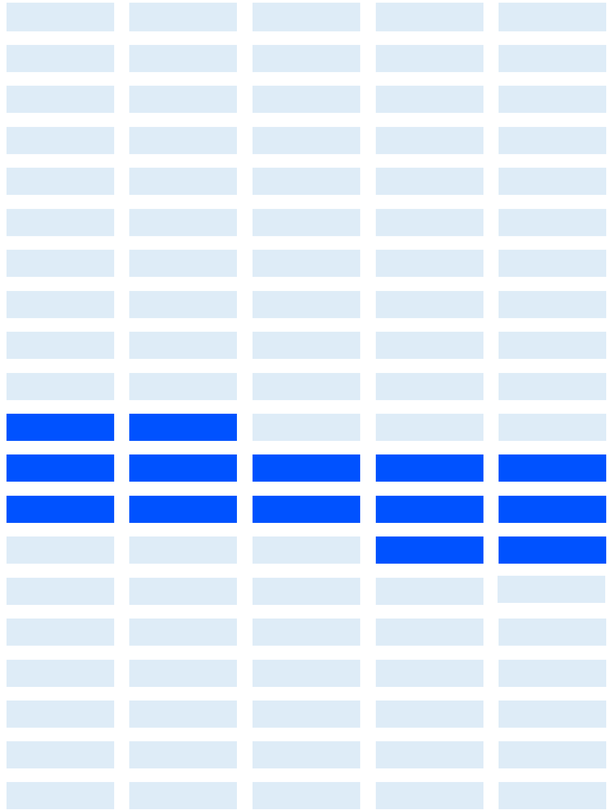
- **Cargo Bicycles**
  162 kg of CO_2e avoided per product on average
- **BMXs**
  130 kg of CO_2e avoided per product on average
- **Mountain Bicycles**
  106 kg of CO_2e avoided per product on average
- **Electrical Bicycles**
  106 kg of CO_2e avoided per product on average
- **Convertible Sofas and Sofa Beds**
  105 kg of CO_2e avoided per product on average

Replacement Rate insights

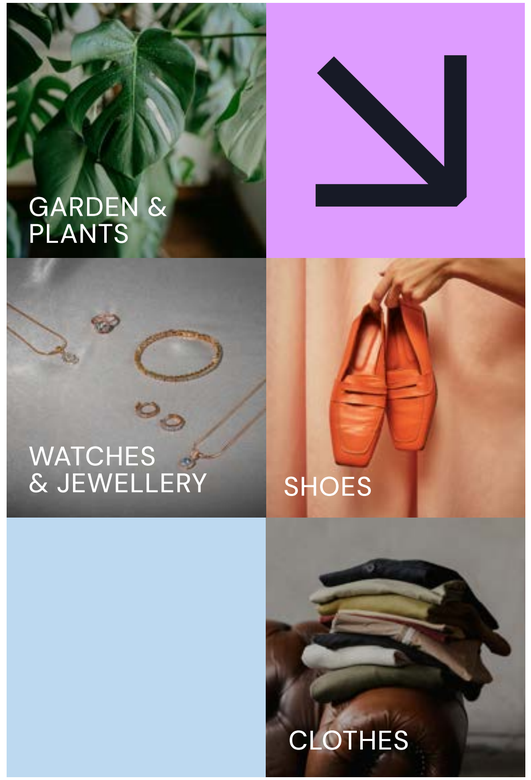
leboncoin

The range

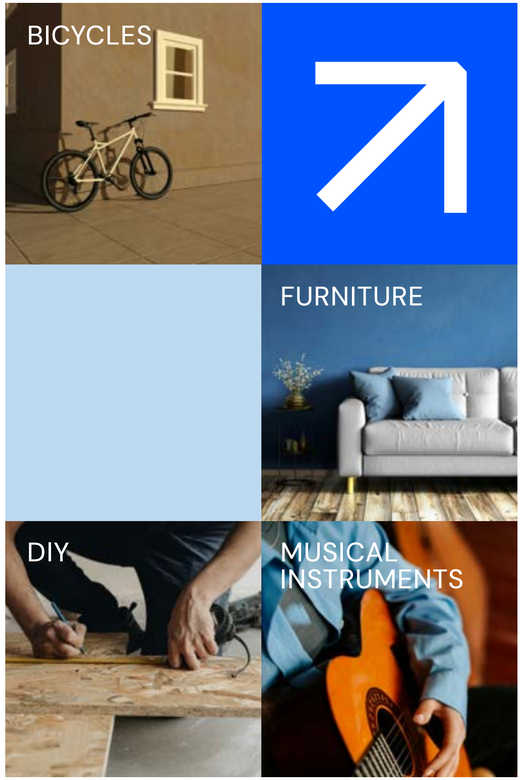
34%—47%



Lowest Replacement Rate products



Highest Replacement Rate products



Delivery insights

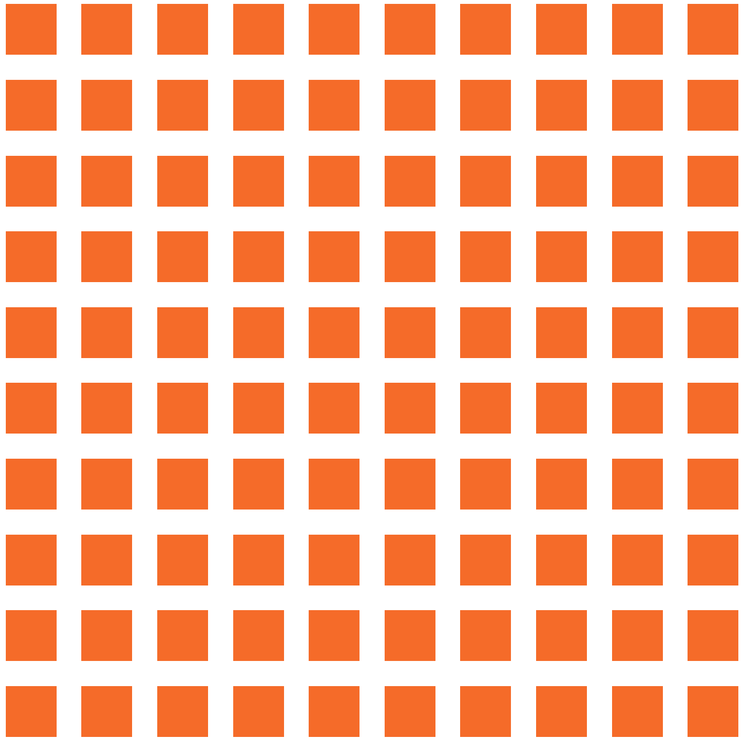
leboncoin

On-platform transactions

Seller

100%

of sellers preferred PUDO (Pick-Up/Drop-Off points)



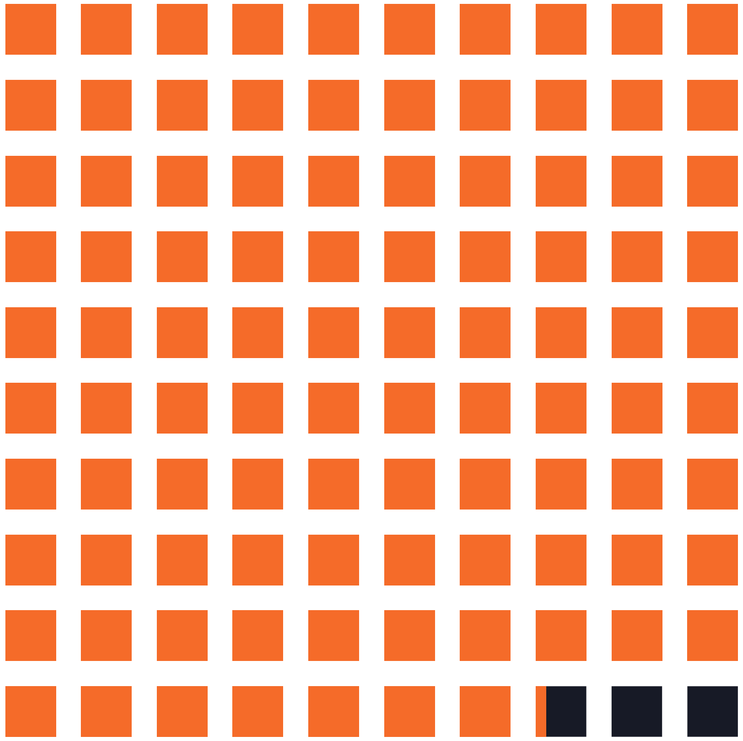
Buyer

97.2%

of buyers preferred PUDO (Pick-Up/Drop-Off points)

2.8%

opting for home delivery



Delivery insights

Preferred shipment methods for off-platform transactions

Dropped off in person

23.4%–53%

This is the most preferred method across most categories, with percentages ranging from 23.4% to 53%.

Other methods[13]

32% and 44.3%

High preference in some categories, especially Electronics (32%) and Home & Garden (44.3%).

Dropped off at a designated collection point or locker for shipping

19.3% and 18.8%

Significant in categories like Fashion (19.3%) and Luggage (18.8%).

Carrier pick-up from home

9.4% and 4.2%

Notable usage in some categories, like Luggage (9.4%) and Electronics (4.2%).

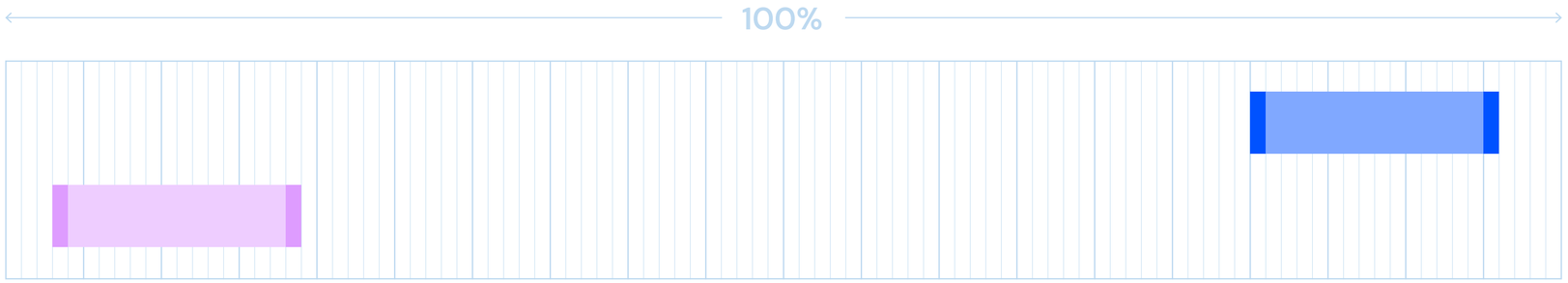
13. Assumed as an equal split between carrier pick-up/drop-off and the use of a designated collection point/locker.

Packaging insights[14]

leboncoin

Type of sold items/transaction

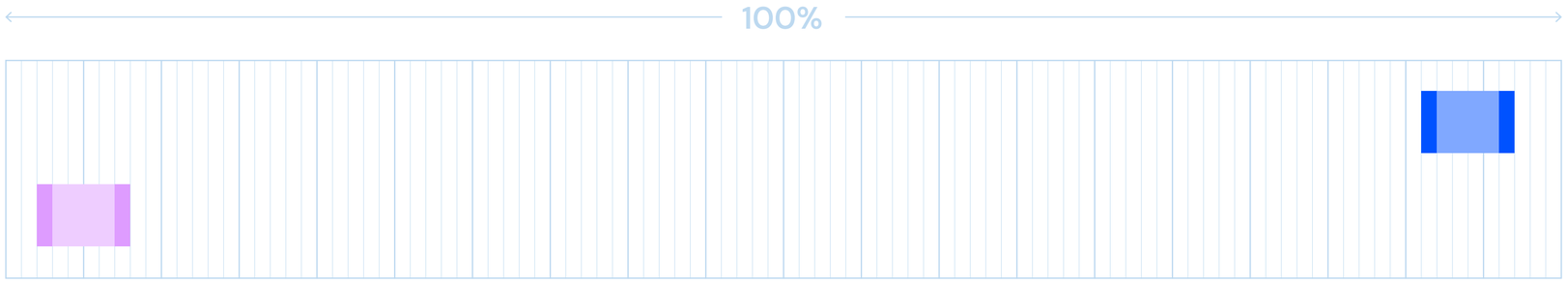
On-platform transactions



4%—19%
Other packaging options
across all product categories

81%—96%
Reused packaging or no packaging
used across all product categories

Off-platform transactions

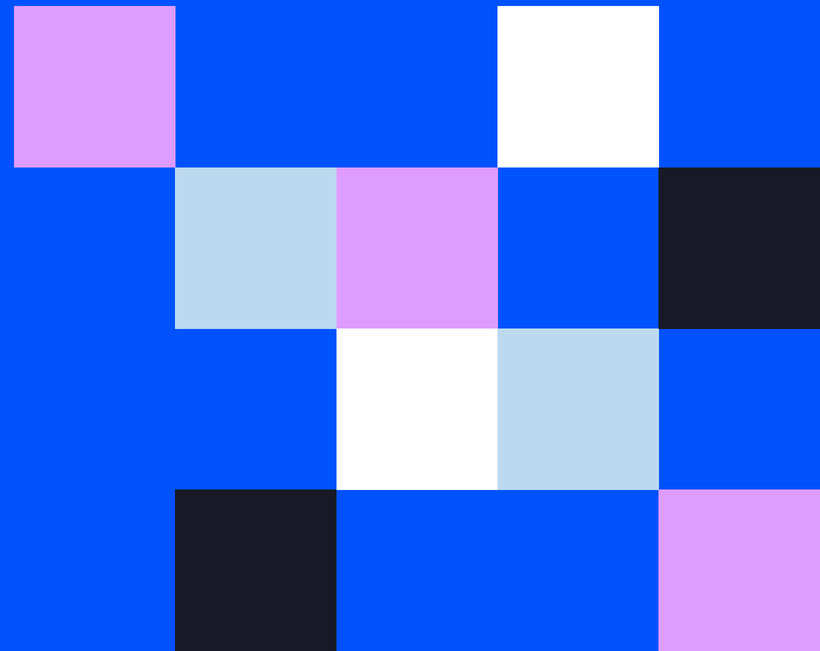


3%—8%
Other packaging options
across all product categories

92%—97%
Reused packaging or no packaging
used across all product categories

14. Europe market average values were used for the product category Luggage due to a non-representative sample size.

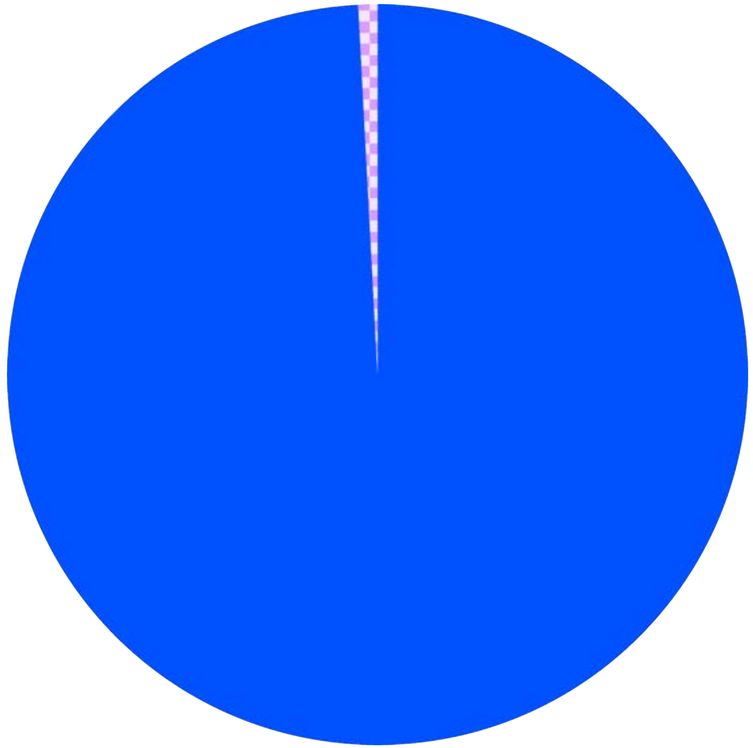
kleinanzeigen



kleinanzeigen

Total net avoided emissions:

1,477,537 tonnes CO_2e



99.4% from off-platform transactions

0.6% from on-platform transactions

Equivalent to:

12 billion km driven in an average new car in the EU

Equation

kleinanzeigen

1,477,537 tonnes CO_2e

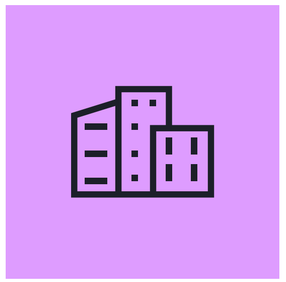
Total net avoided emissions

=

1,748,000 tonnes CO_2e

Alternative scenario[15]

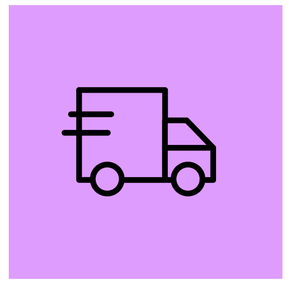
–



40,645 tonnes CO_2e

Total emissions from business operations

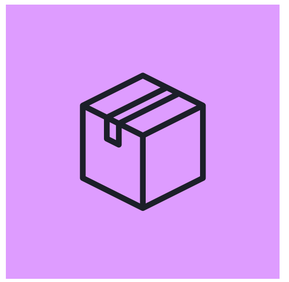
–



228,644 tonnes CO_2e

Total deliveries emissions

–



1,174 tonnes CO_2e

Total emissions from secondary packaging

15. The ‘Alternative scenario’ refers to the emissions from producing and distributing a comparable new item which second-hand shopping on Adevinta’s marketplaces may "avoid" to a certain extent (the Replacement Rate). The Alternative scenario here includes the Replacement Rate within the emissions value. More details are are available in the section Alternative scenario.

Avoided emissions

kleinanzeigen

Net avoided emissions split (%) per product category

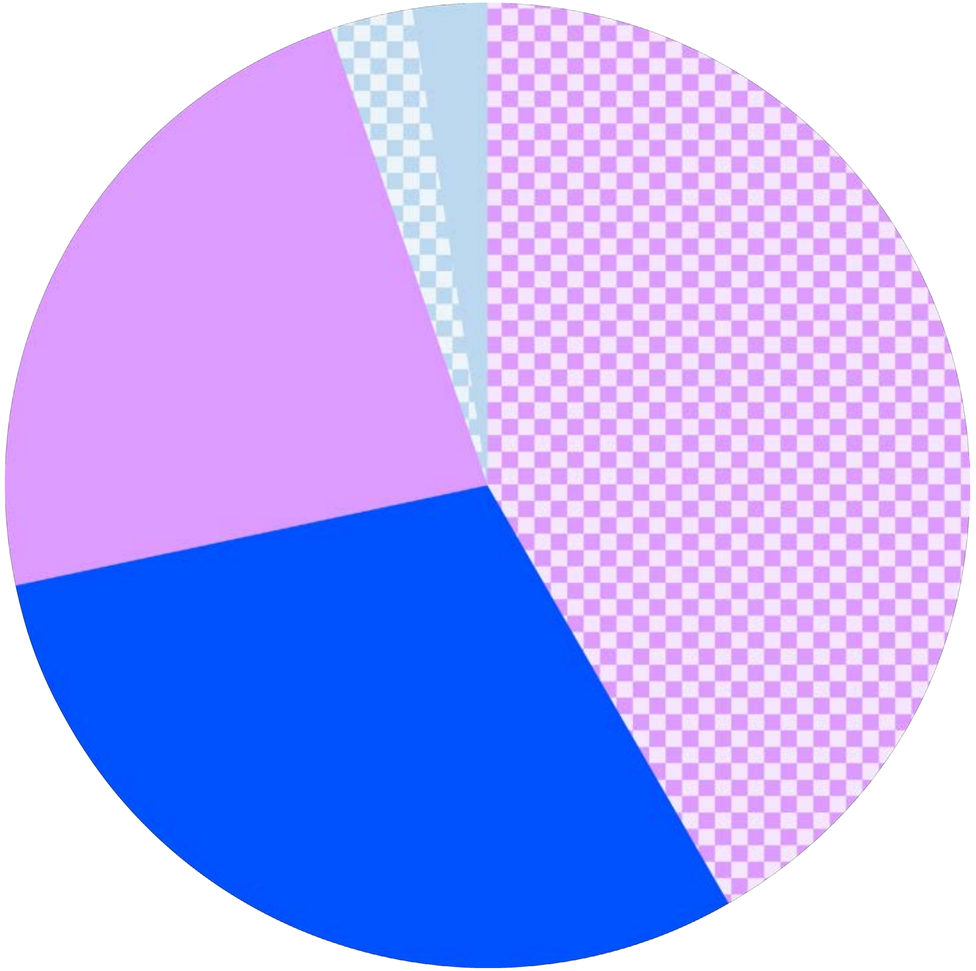
41.7% Bicycles

30.1% Multimedia & Electronics

23% Home & Garden

2.7% Leisure

2.4% Family



Products[16] with the highest average net avoided emissions

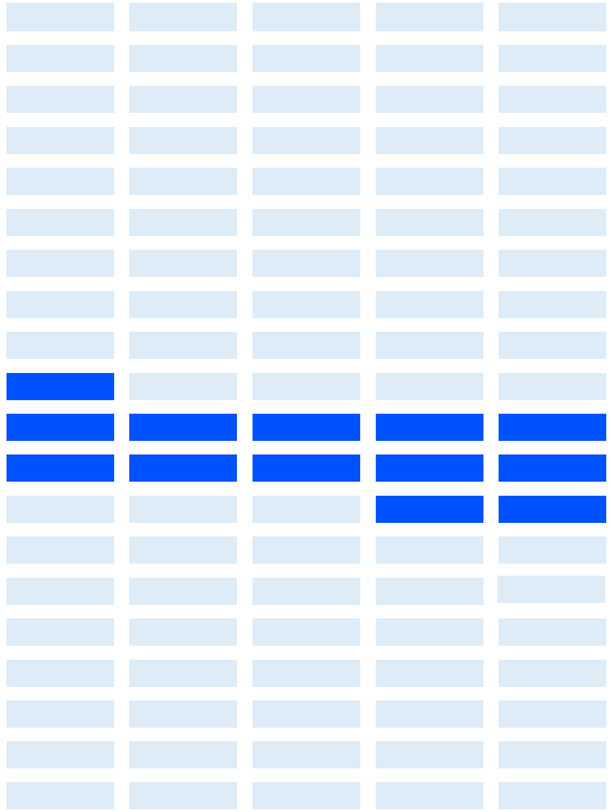
- **Men's Bicycles**
  186 kg of CO_2e avoided per product on average
- **Kids Bicycles**
  186 kg of CO_2e avoided per product on average
- **Women's Bicycles**
  186 kg of CO_2e avoided per product on average
- **Refrigerators**
  173 kg of CO_2e avoided per product on average
- **Washing Machines**
  135 kg of CO_2e avoided per product on average

16. The net avoided results for similar products across different marketplaces vary due to a number of factors. See the explanation at the start of the Marketplace results section for full details.

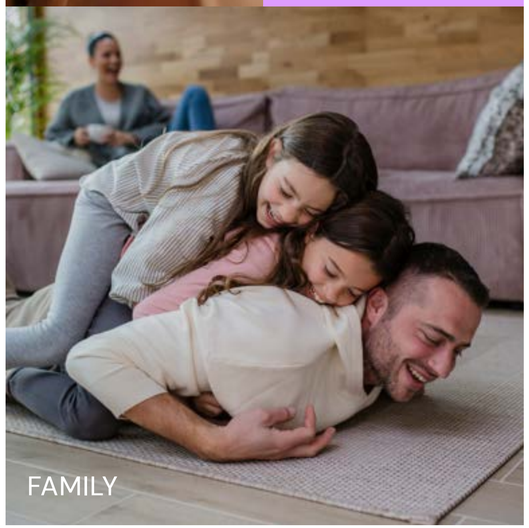
Replacement Rate insights

The range

39%—51%



Lowest Replacement Rate products



Highest Replacement Rate products

Delivery insights

kleinanzeigen

On-platform transactions

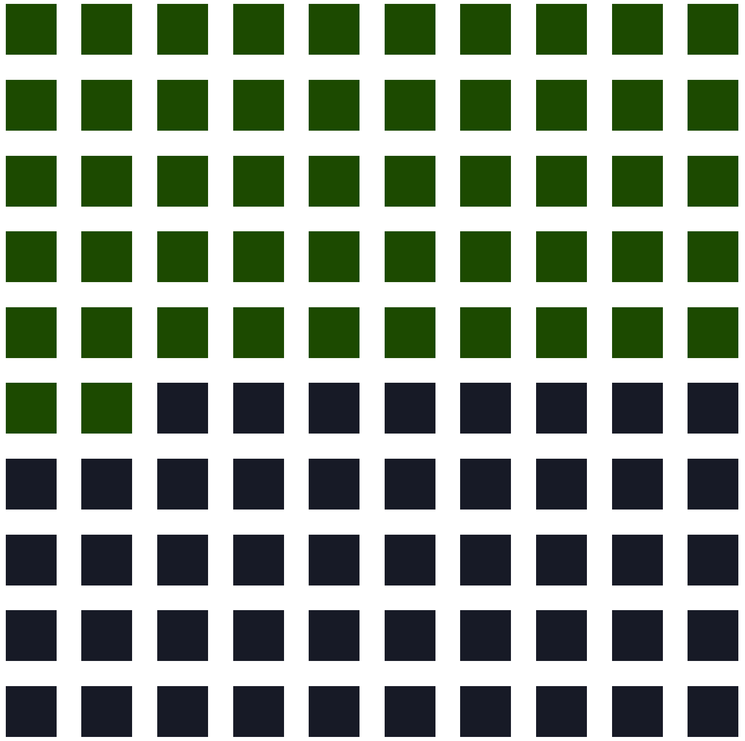
Seller

52%

of sellers used carrier pick-up from home

48%

of sellers drop off at a collection point or locker



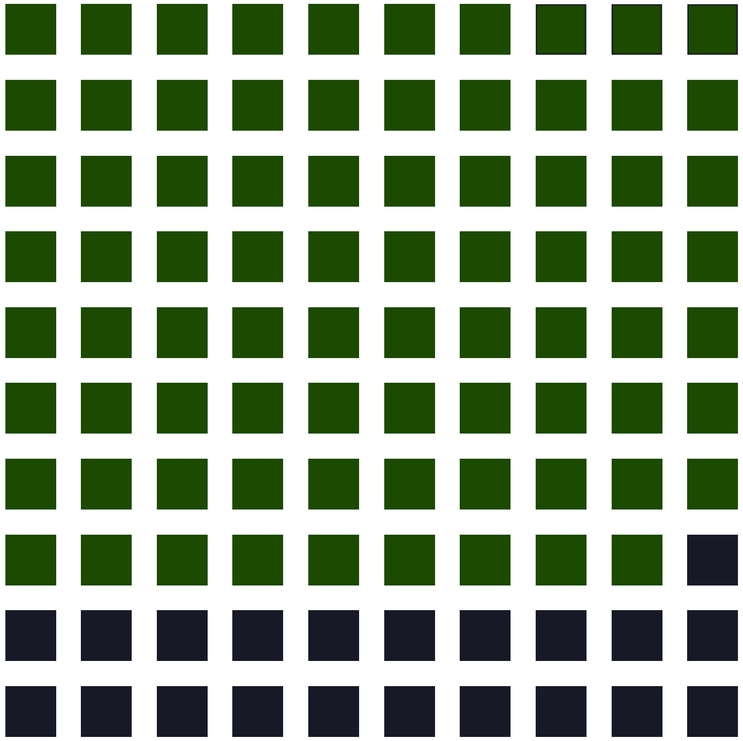
Buyer

79%

of buyers preferred home delivery by the carrier

21%

of buyers pick up items from designated collection points or lockers



Delivery insights

kleinanzeigen

Preferred shipment methods for off-platform transactions

Meeting in person

19.3%–60.6%

Meeting in person is the most prevalent option, used by 19.3% to 60.6% of transactions across various categories.

Carrier pick-up from home

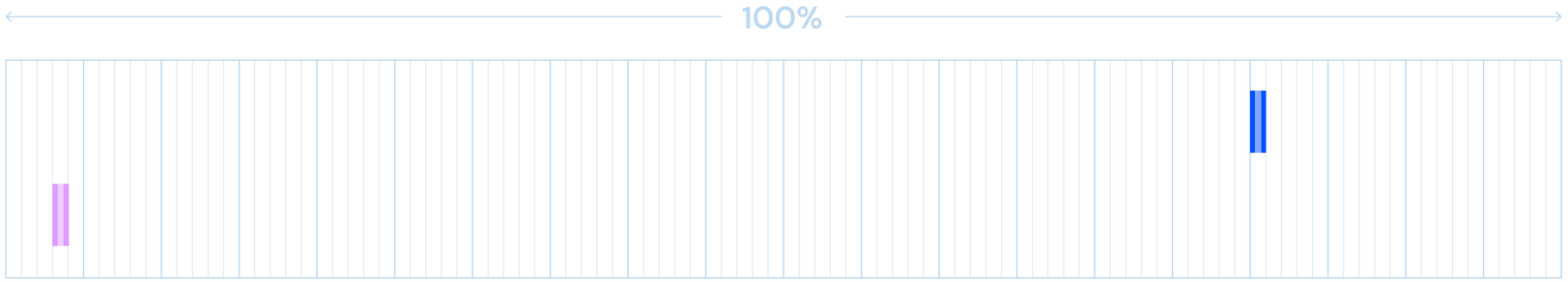
8.9%–31.1%

Carrier pick-up from home is another method that stands out — utilised by 8.9% to 31.1% of the sellers who took part in the survey.

Packaging insights

Type of sold items/transaction

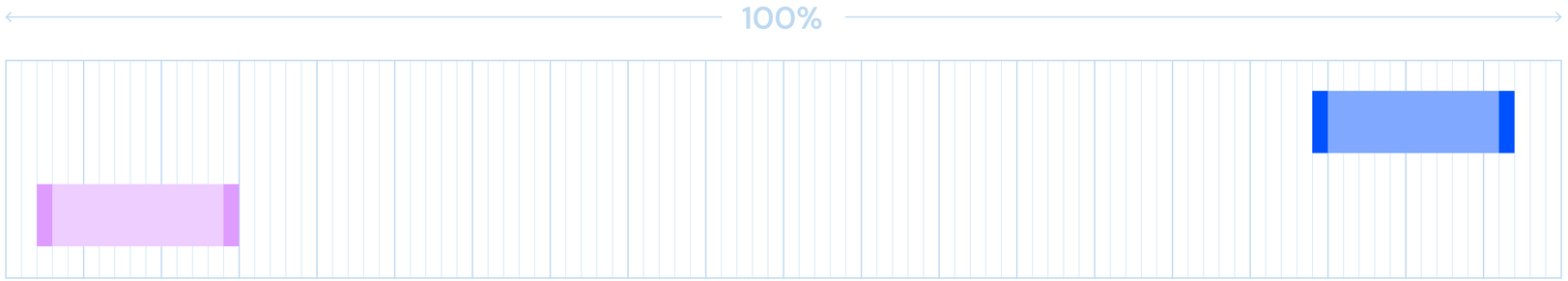
On-platform transactions[17]



4%
Other packaging options
across all product categories

81%
Reused packaging or no packaging
used across all product categories

Off-platform transactions[18]



3%—15%
Other packaging options
across all product categories

85%—97%
Reused packaging or no packaging
used across all product categories

17. Results represent the Leisure, Sport & Hobbies Category. Europe market average values were used for all other categories due to a non-representative sample size for the other product categories on Kleinanzeigen.

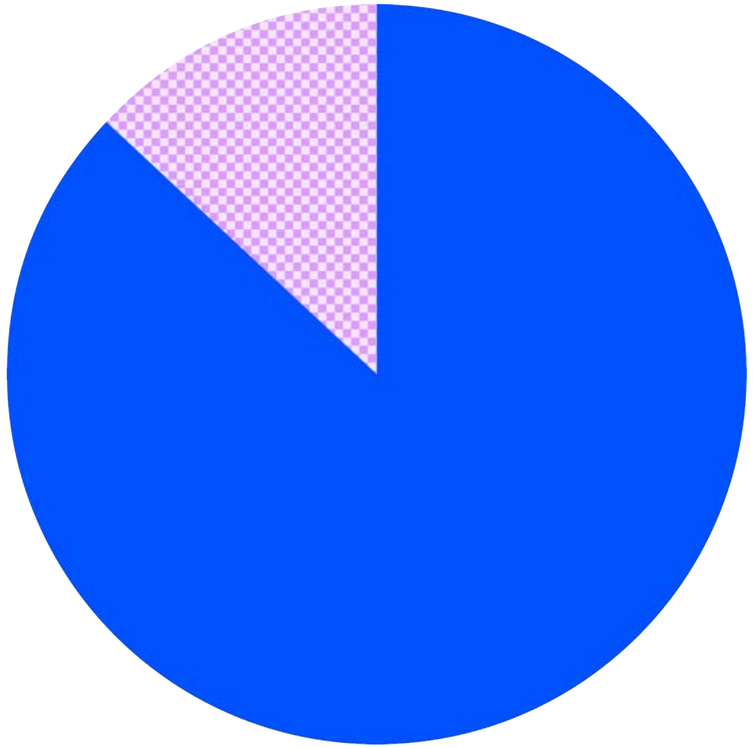
18. Europe market average values were used for the categories Luggage, Personal Care & Wellbeing and Other Consumer Products due to a non-representative sample size for the other product categories on Kleinanzeigen.

Marktplaats

Marktplaats

Total net avoided emissions:

329,109 tonnes CO_2e



87% from off-platform transactions

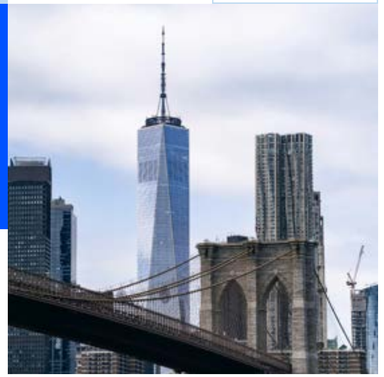
13% from on-platform transactions

Equivalent to:

189,671 return flights between Amsterdam and New York

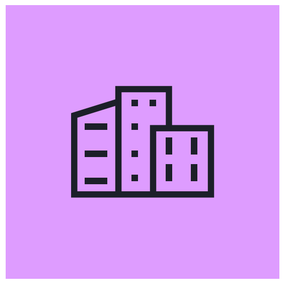
AMSTERDAM

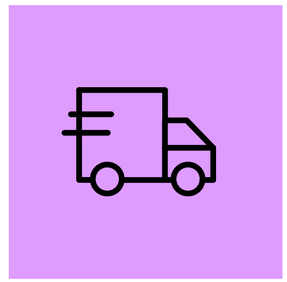
NEW YORK

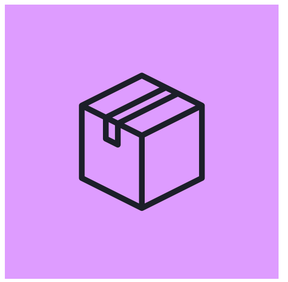


Equation

Marktplaats







329,109 tonnes CO_2e

Total net avoided emissions

=

393,193 tonnes CO_2e

Alternative scenario[19]

–

22,517 tonnes CO_2e

Total emissions from business operations

–

41,369 tonnes CO_2e

Total deliveries emissions

–

198 tonnes CO_2e

Total emissions from secondary packaging

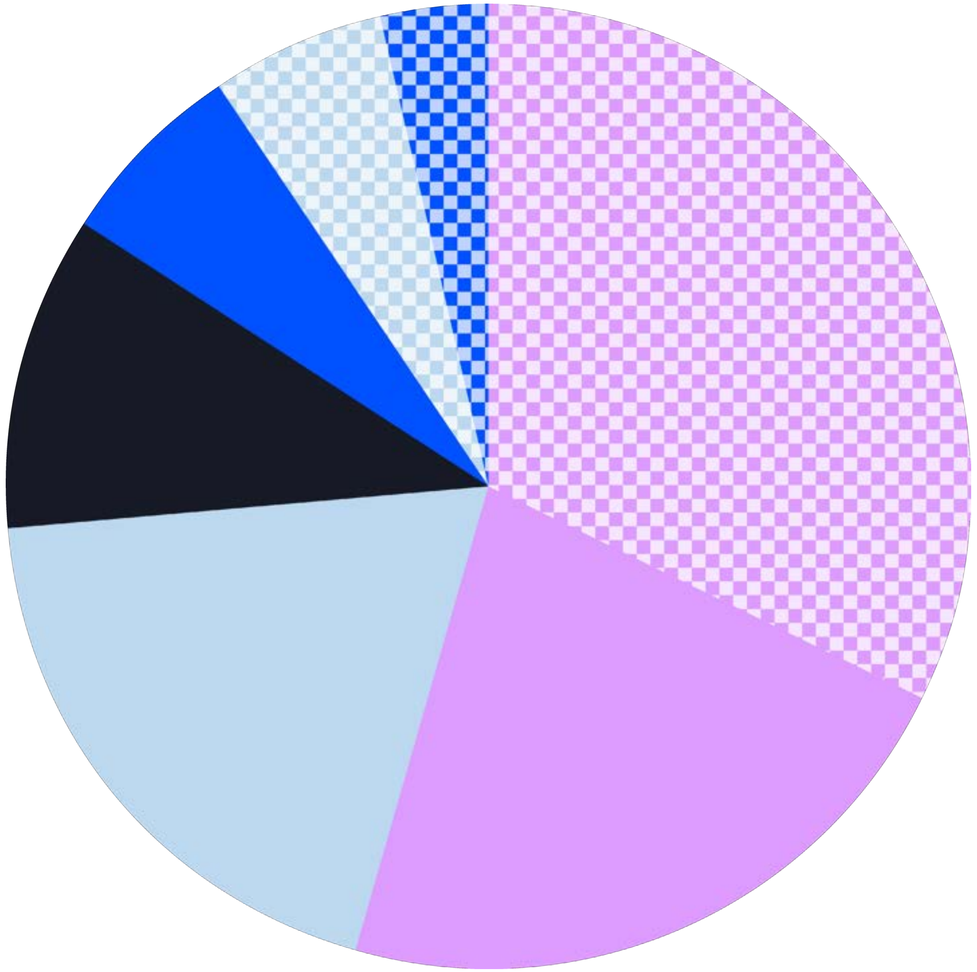
19. The 'Alternative scenario' refers to the emissions from producing and distributing a comparable new item which second-hand shopping on Adevinta's marketplaces may "avoid" to a certain extent (the Replacement Rate). The Alternative scenario here includes the Replacement Rate within the emissions value. More details are are available in the section Alternative scenario.

Avoided emissions

Marktplaats

Net avoided emissions split (%) per product category

32.4%	Bicycles & Mopeds
22%	Home Appliance
19.3%	White Goods & Equipment
10.4%	Other
6.5%	Computers & Software
5.9%	Children & Babies
3.4%	Audio, TV & Photo



Products[20] with the highest average net avoided emissions

- **Freezers and Chest Freezers**
  464 kg of CO_2e avoided per product on average
- **Cycling/Cargo Bicycles**
  254 kg of CO_2e avoided per product on average
- **Washing Machines**
  222 kg of CO_2e avoided per product on average
- **Cycling/Ladies Bicycles**
  167 kg of CO_2e avoided per product on average
- **Electric Bicycles**
  167 kg of CO_2e avoided per product on average

20. The net avoided results for similar products across different marketplaces vary due to a number of factors. See the explanation at the start of the Marketplace results section for full details.

Replacement Rate and delivery insights

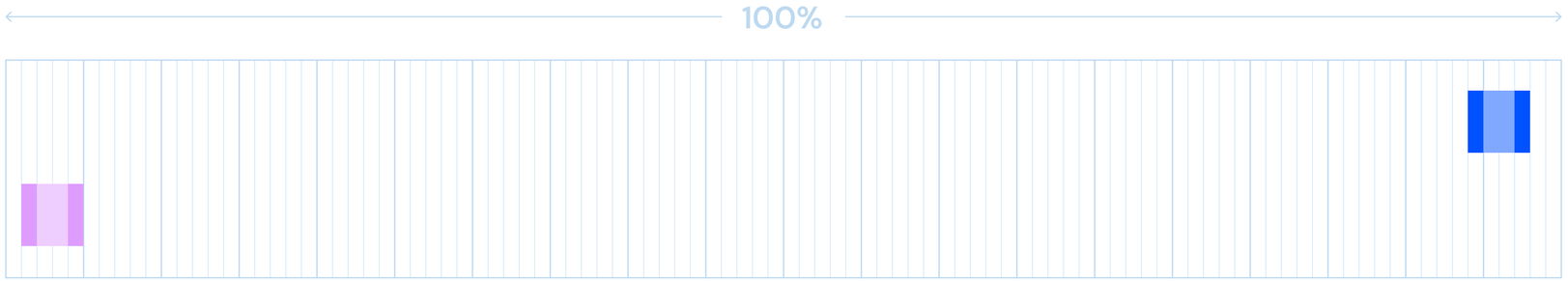
No specific data from Marktplaats users applied in this analysis (given the limited sample size of the survey), so EU market averages were utilised to ensure robust and representative data.

Packaging insights[21]

Marktplaats

Type of sold items/transaction

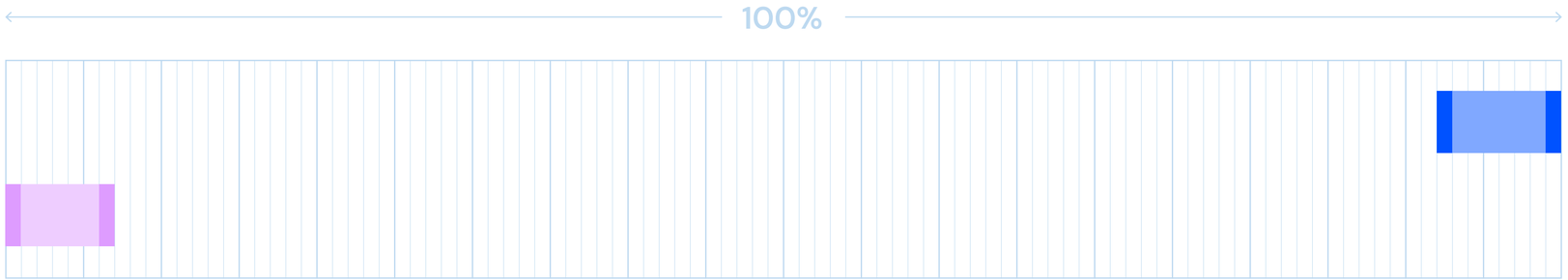
On-platform transactions



2%—5%
Other packaging options
across all product categories

95%—98%
Reused packaging or no packaging
used across all product categories

Off-platform transactions

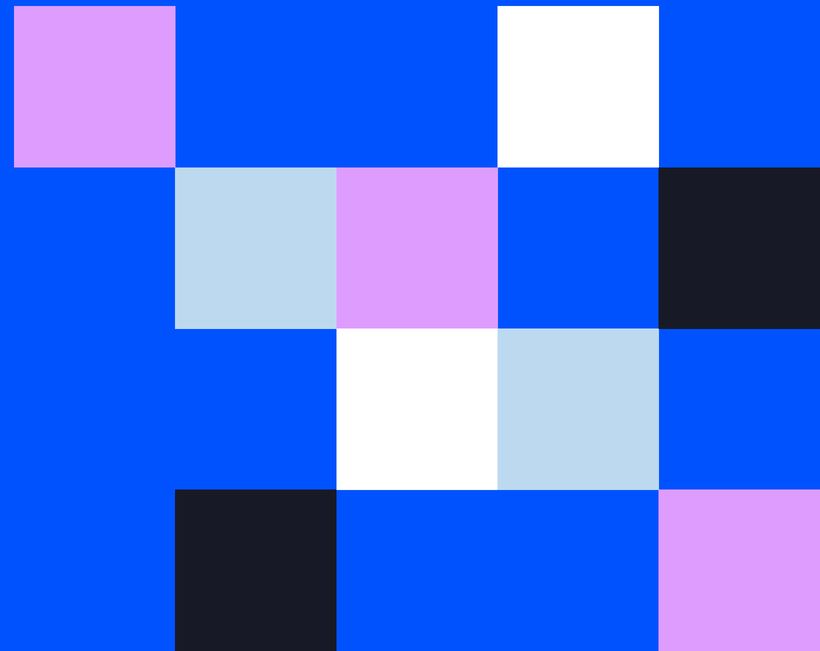


0%—7%
Other packaging options
across all product categories

93%—100%
Reused packaging or no packaging
used across all product categories

21. Only includes results for the product categories Home & Garden, Leisure and Sport & Hobbies. Europe market average values were used for all other categories due to a non-representative sample size for the other product categories on Marktplaats.

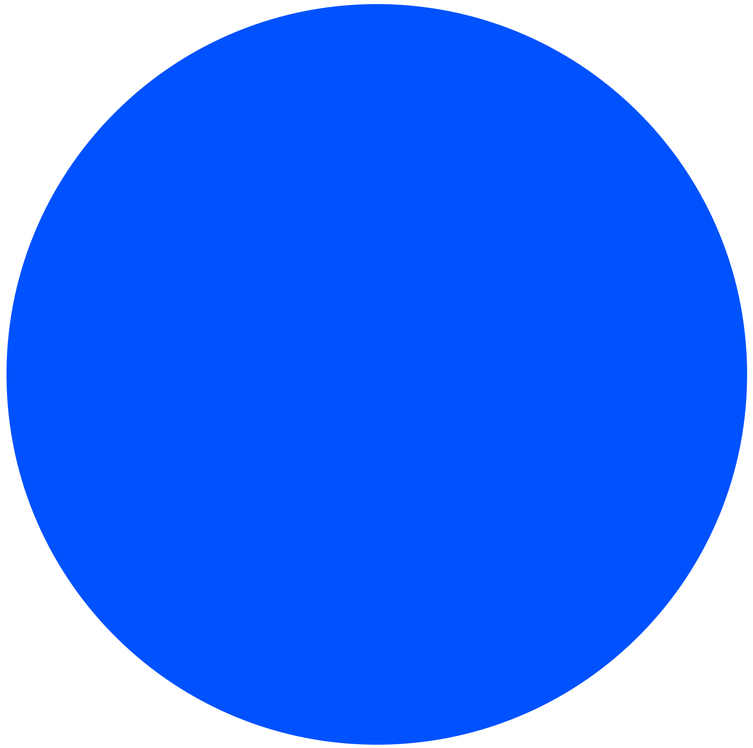
2dehands
2ememain



2dehands
2ememain

Total net avoided emissions:

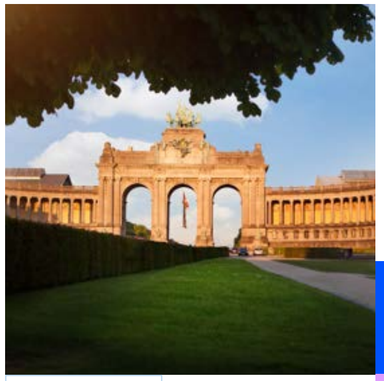
45,575 tonnes CO_2e



100% from off-platform transactions

Equivalent to:

26,146 return flights between Brussels and New York



BRUSSELS

NEW YORK

Equation

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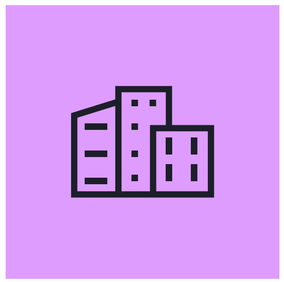
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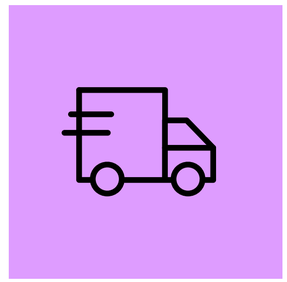
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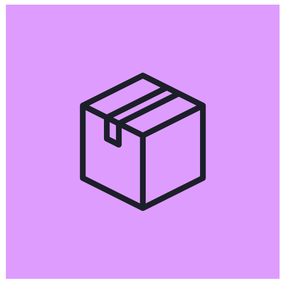


45,575 tonnes CO_2e

Total net avoided emissions

52,467 tonnes CO_2e

Alternative scenario[22]

1,843 tonnes CO_2e

Total emissions from business operations

5,019 tonnes CO_2e

Total deliveries emissions

30 tonnes CO_2e

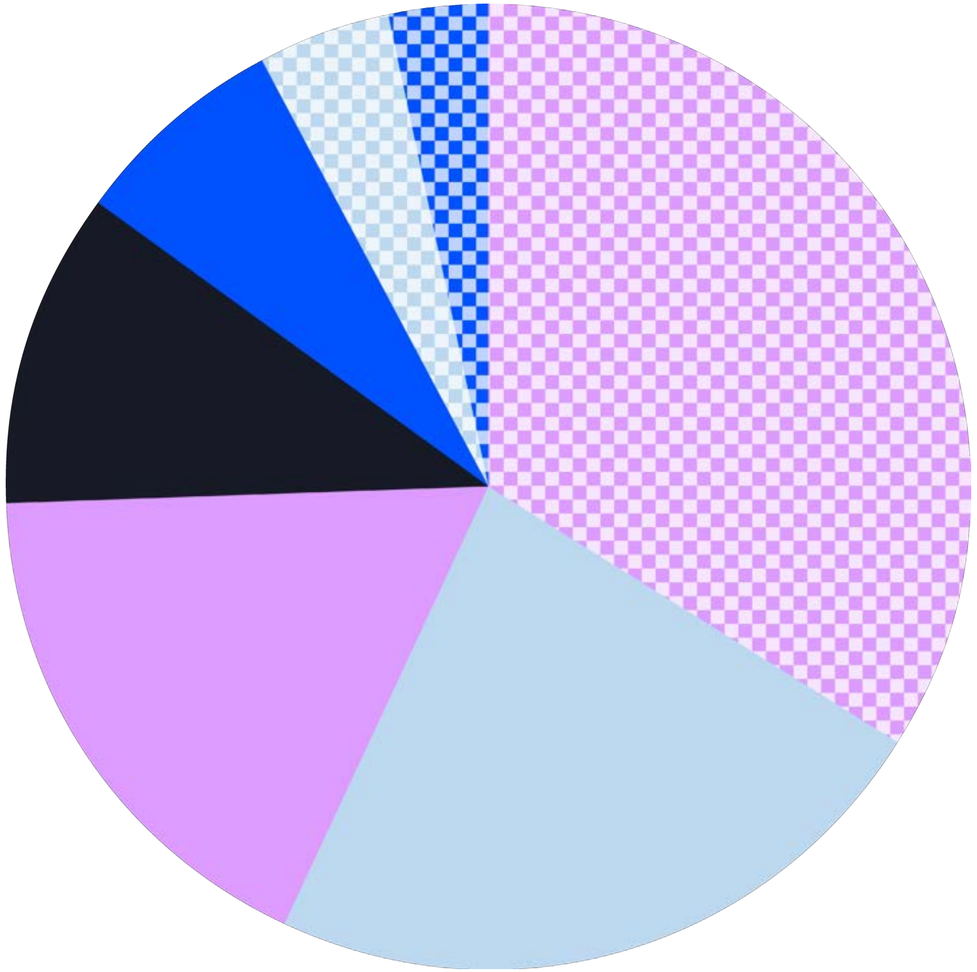
Total emissions from secondary packaging

22. The 'Alternative scenario' refers to the emissions from producing and distributing a comparable new item which second-hand shopping on Adevinta's marketplaces may "avoid" to a certain extent (the Replacement Rate). The Alternative scenario here includes the Replacement Rate within the emissions value. More details are are available in the section Alternative scenario.

Avoided emissions

Net avoided emissions split (%) per product category

34.1%	Bicycles & Mopeds
23.1%	White Goods & Equipment
17.3%	Home Appliance
10.7%	Other
7.1%	Computers & Software
4.6%	Children & Babies
3.1%	Audio, TV & Photo



Products[23] with the highest average net avoided emissions

- **Freezers and Chest Freezers**
  465 kg of CO_2e avoided per product on average
- **Cycling/Cargo Bicycles**
  225 kg of CO_2e avoided per product on average
- **Washing Machines**
  226 kg of CO_2e avoided per product on average
- **Cycling/Ladies/Granny Bicycles**
  170 kg of CO_2e avoided per product on average

23. The net avoided results for similar products across different marketplaces vary due to a number of factors. See the explanation at the start of the Marketplace results section for full details.

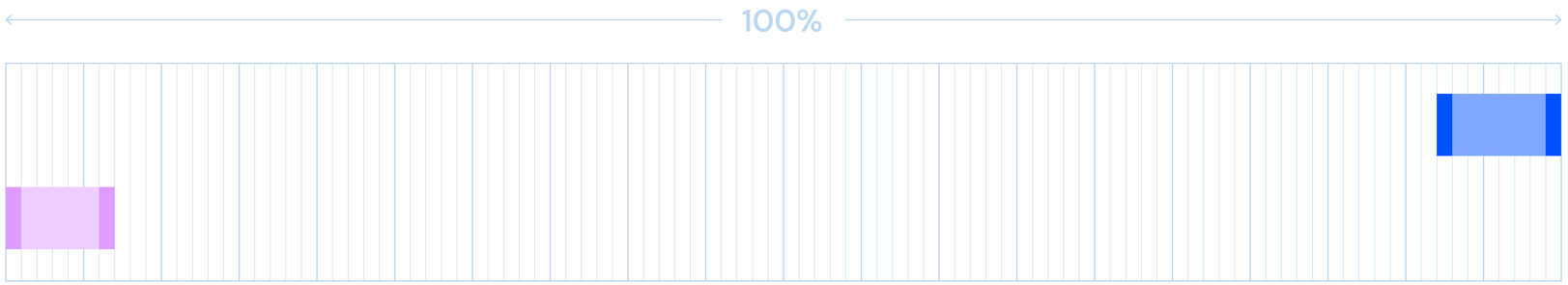
Replacement Rate and delivery insights

No specific data from 2dehands/2ememain users applied in this analysis (given the limited sample size of the survey), so EU market averages were utilised to ensure robust and representative data.

Packaging insights[24]

Type of sold items/transaction

Off-platform transactions



0%—7%
Other packaging options
across all product categories

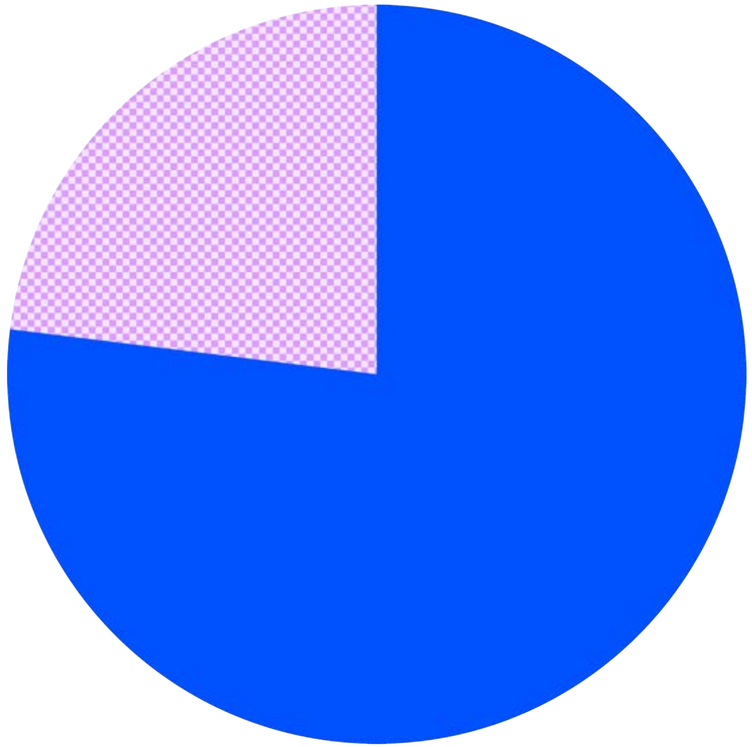
93%—100%
Reused packaging or no packaging
used across all product categories

24. Only includes results for the product categories Home & Garden, Leisure and Sport & Hobbies. Europe market average values were used for all other categories due to a non-representative sample size for the other product categories on 2dehands/2ememain.

subito

Total net avoided emissions:

99,142 tonnes CO_2e

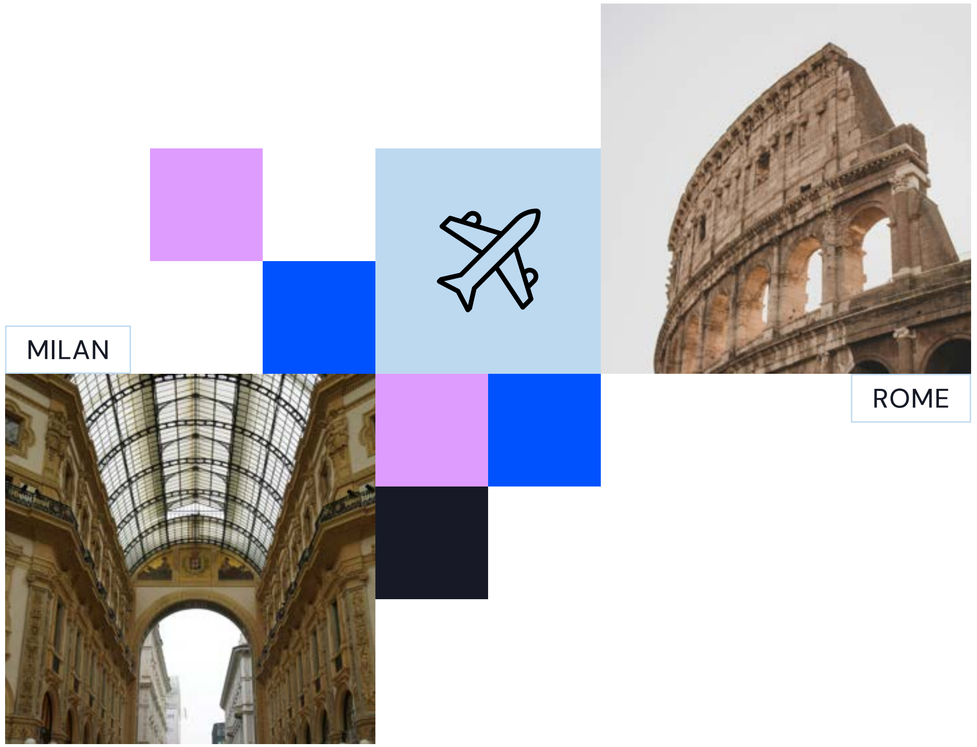


77% from off-platform transactions

23% from on-platform transactions

Equivalent to:

502,241 return flights between Milan and Rome



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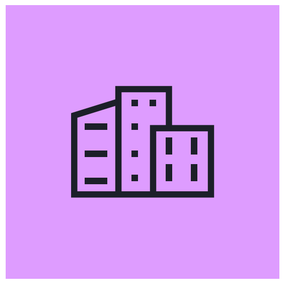

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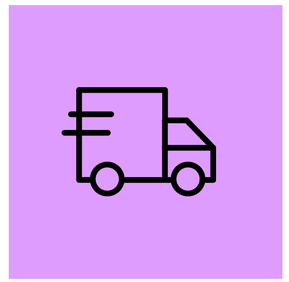

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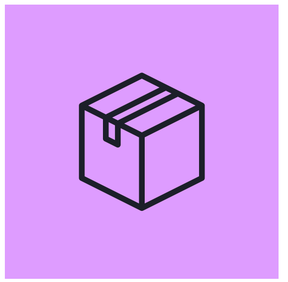


99,142 tonnes CO_2e

Total net avoided emissions

121,796 tonnes CO_2e

Alternative scenario[25]

9,235 tonnes CO_2e

Total emissions from business operations

13,353 tonnes CO_2e

Total deliveries emissions

66 tonnes CO_2e

Total emissions from secondary packaging

25. The 'Alternative scenario' refers to the emissions from producing and distributing a comparable new item which second-hand shopping on Adevinta's marketplaces may "avoid" to a certain extent (the Replacement Rate). The Alternative scenario here includes the Replacement Rate within the emissions value. More details are are available in the section Alternative scenario.

Avoided emissions

Net avoided emissions split (%) per product category

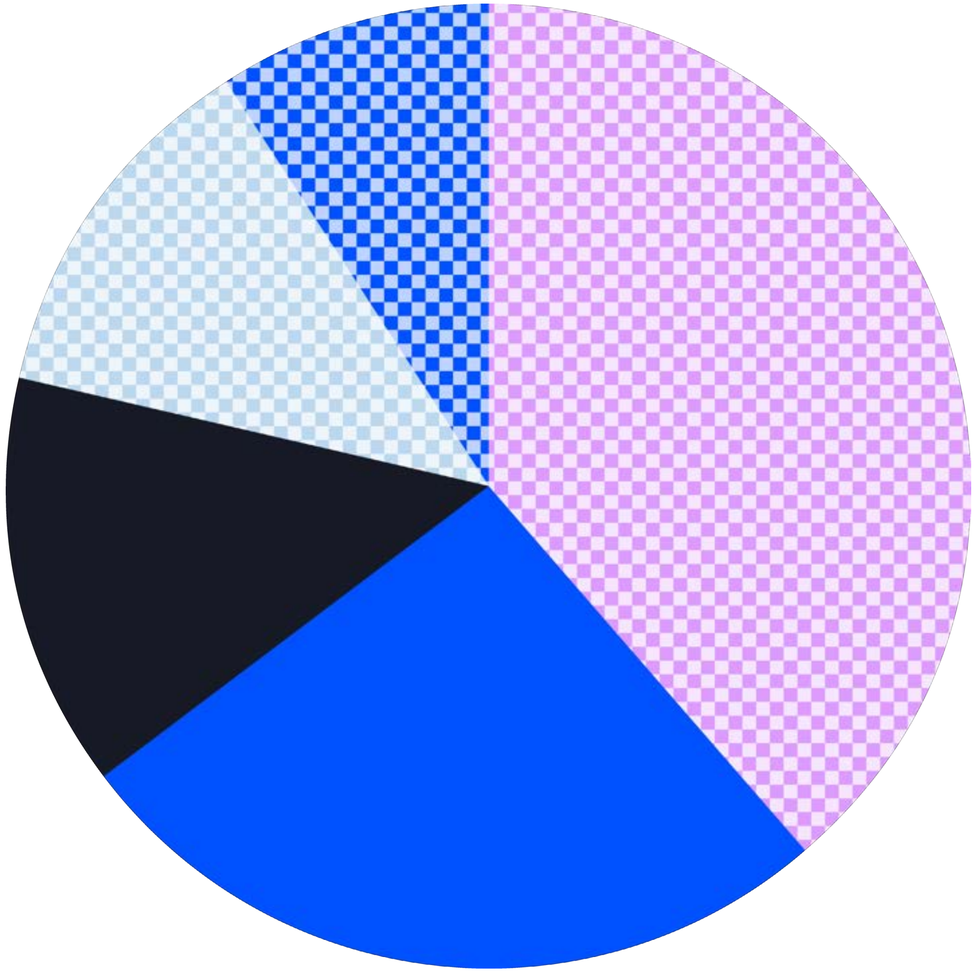
38.8% Bicycles

26% Computing

13.8% Other

12.4% Furnishing & House

8.9% Audio & Video



Products[26] with the highest average net avoided emissions

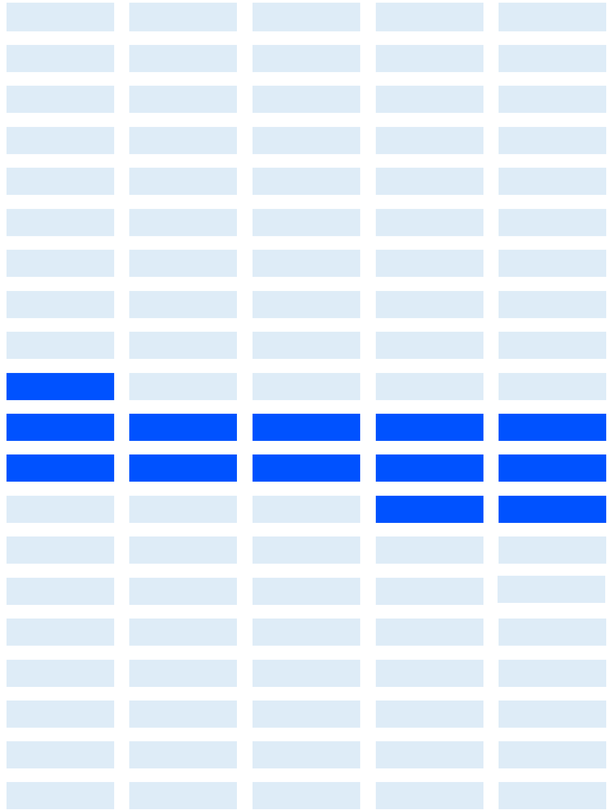
- **Kids' Bicycles**
  208 kg of CO_2e avoided per product on average
- **BMX Bicycles**
  205 kg of CO_2e avoided per product on average
- **Adult Bicycles**
  200 kg of CO_2e avoided per product on average
- **Fixed Gear & Single Speed Bicycles**
  192 kg of CO_2e avoided per product on average
- **Motorbikes & Touring**
  182 kg of CO_2e avoided per product on average

26. The net avoided results for similar products across different marketplaces vary due to a number of factors. See the explanation at the start of the Marketplace results section for full details.

Replacement Rate insights

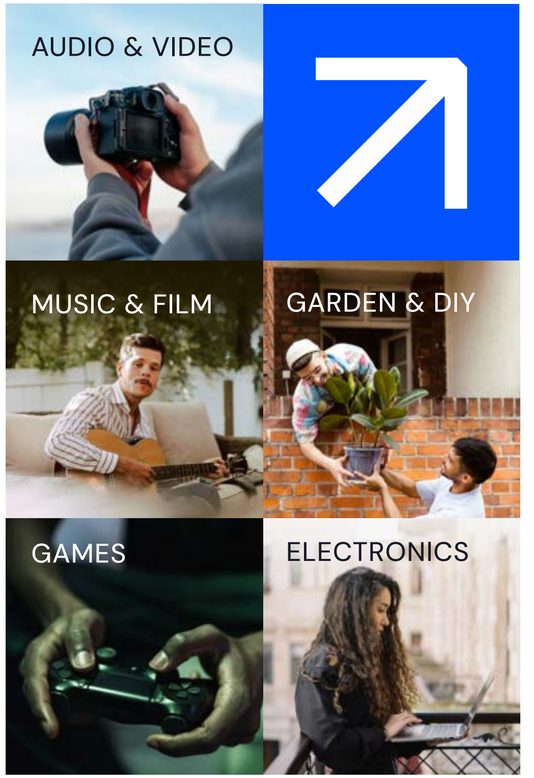
The range

48%—55%



Lowest Replacement Rate products

Highest Replacement Rate products



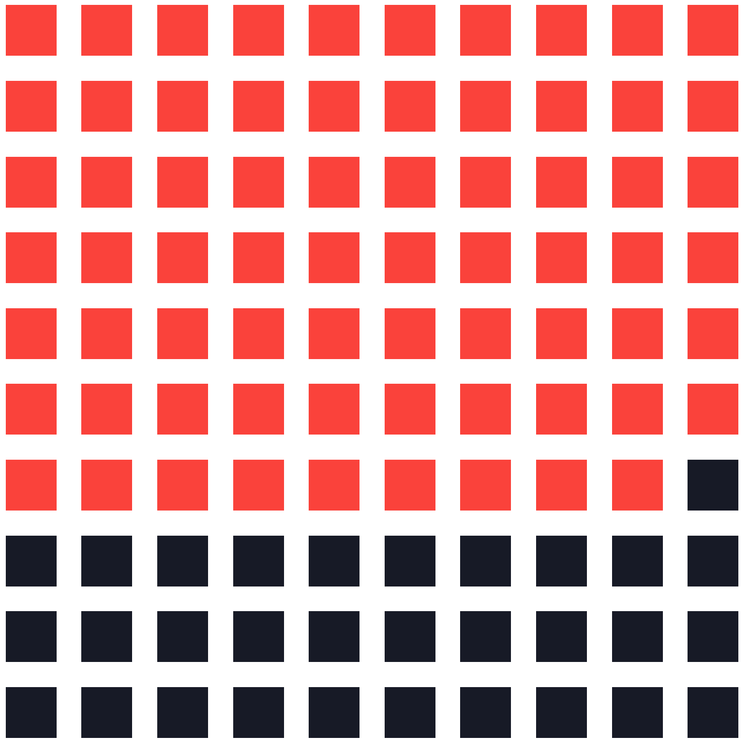
Delivery insights

On-platform transactions

Buyer

69%

predominantly preferred home delivery



31%

opted for pick-up at a designated point

Delivery insights

Preferred shipment methods for off-platform transactions

High in-person transactions

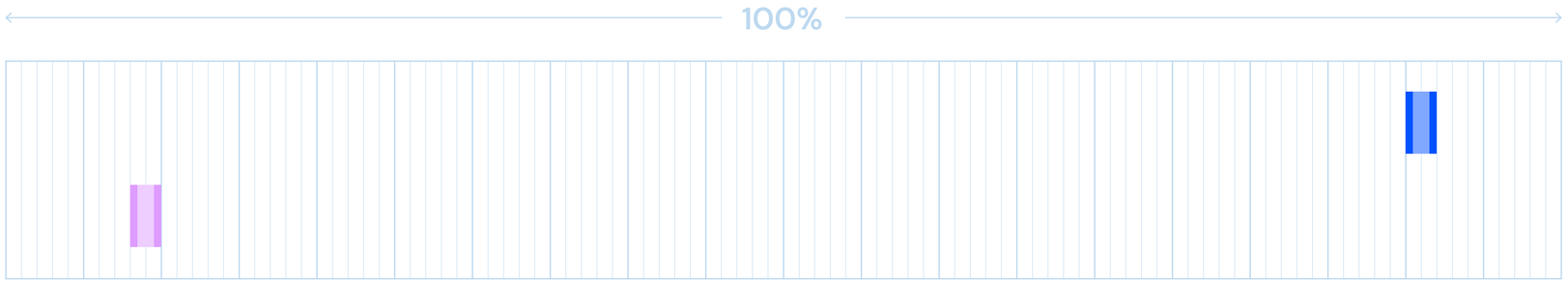
80%

of transactions across most categories, especially Electronics, Family, Child & Baby and Home & Garden were completed by meeting up in person.

Packaging insights[27]

Type of sold items/transaction

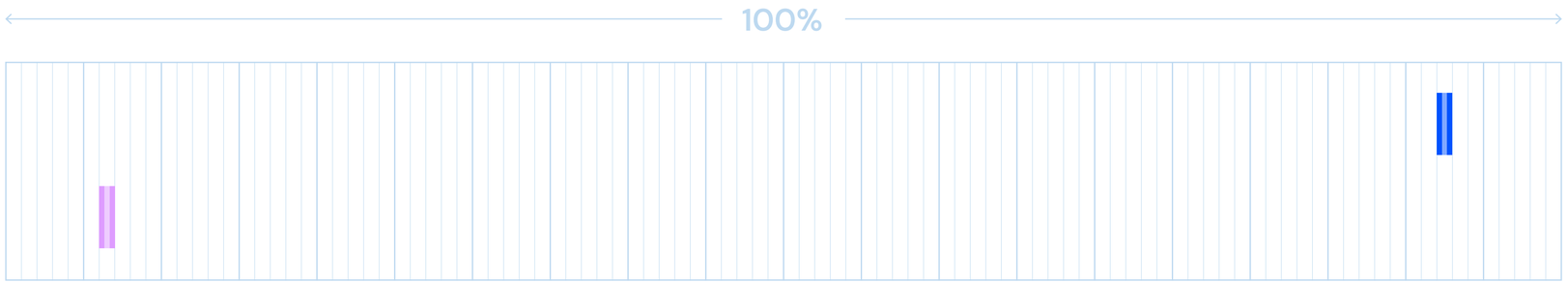
On-platform transactions



8%—10%
Other packaging options
across all product categories

90%—92%
Reused packaging or no packaging
used across all product categories

Off-platform transactions



7%
Other packaging options
across all product categories

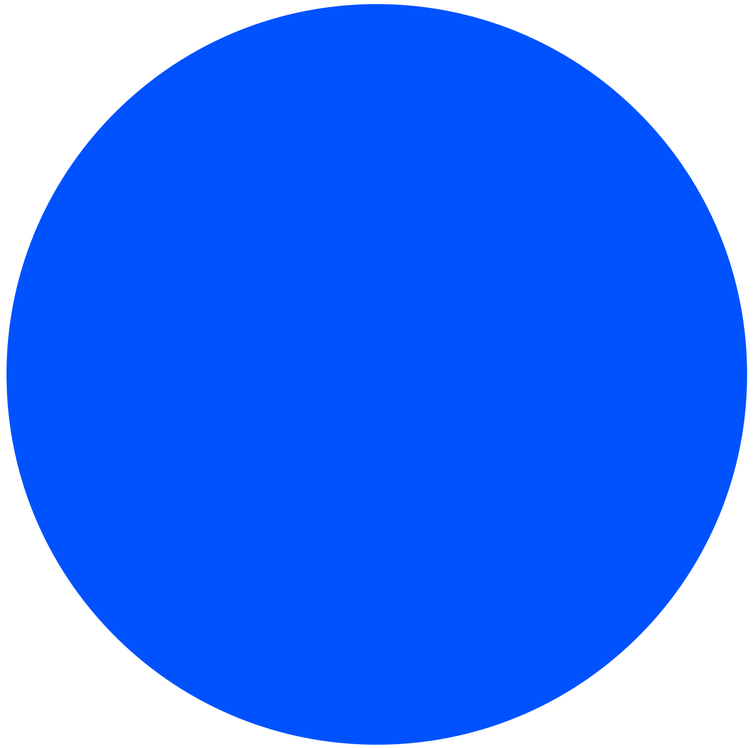
93%
Reused packaging or no packaging
used across all product categories

27. Only includes results for the product categories Electronics and Leisure and Sport & Hobbies. Europe market average values were used for all other categories due to a non-representative sample size for the other product categories on Subito.

milanuncios

Total net avoided emissions:

7,607 tonnes CO_2e

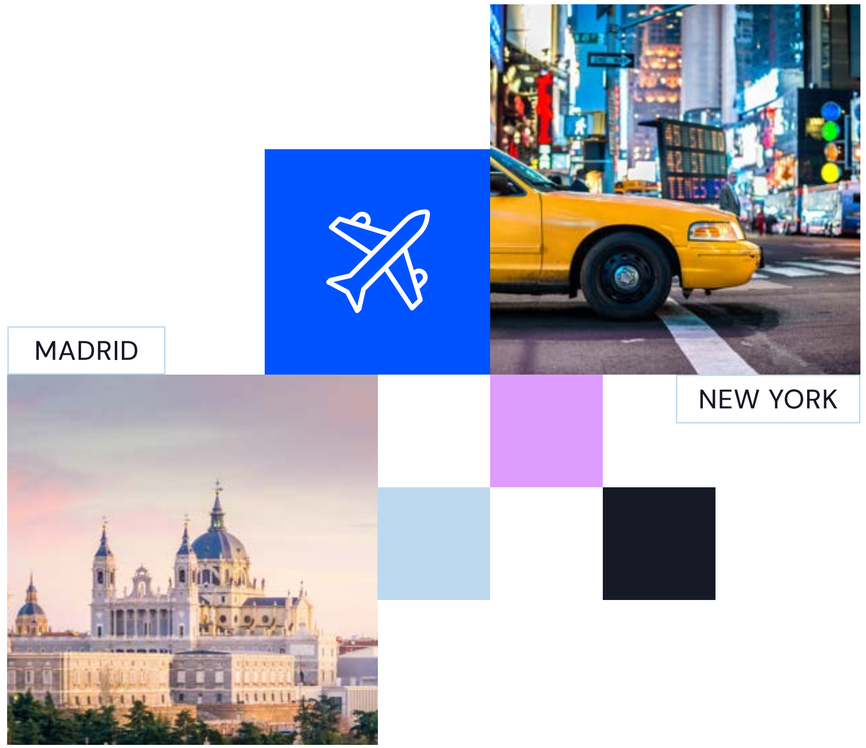


100% from off-platform transactions[28]

28. The on-platform transactions did not result in any avoided emissions. The total of 7,607 tonnes CO_2e represents the net result of the avoided off-platform emissions (8,431 tonnes CO_2e) reduced with the emissions generated by the on-platform transactions (824 tonnes CO_2e).

Equivalent to:

4,455 return flights between Madrid and New York



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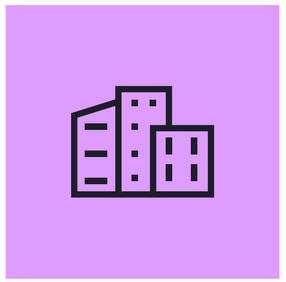

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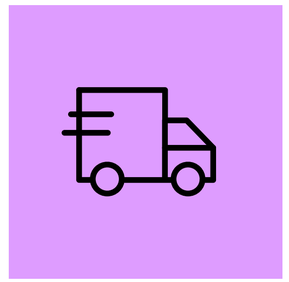

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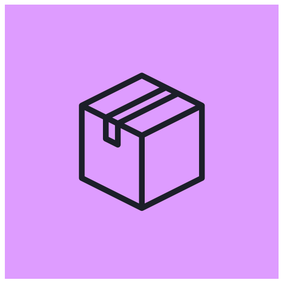


7,607 tonnes CO_2e

Total net avoided emissions

24,843 tonnes CO_2e

Alternative scenario[29]

14,490 tonnes CO_2e

Total emissions from business operations

2,736 tonnes CO_2e

Total deliveries emissions

10 tonnes CO_2e

Total emissions from secondary packaging

29. The 'Alternative scenario' refers to the emissions from producing and distributing a comparable new item which second-hand shopping on Adevinta's marketplaces may "avoid" to a certain extent (the Replacement Rate). The Alternative scenario here includes the Replacement Rate within the emissions value. More details are are available in the section Alternative scenario.

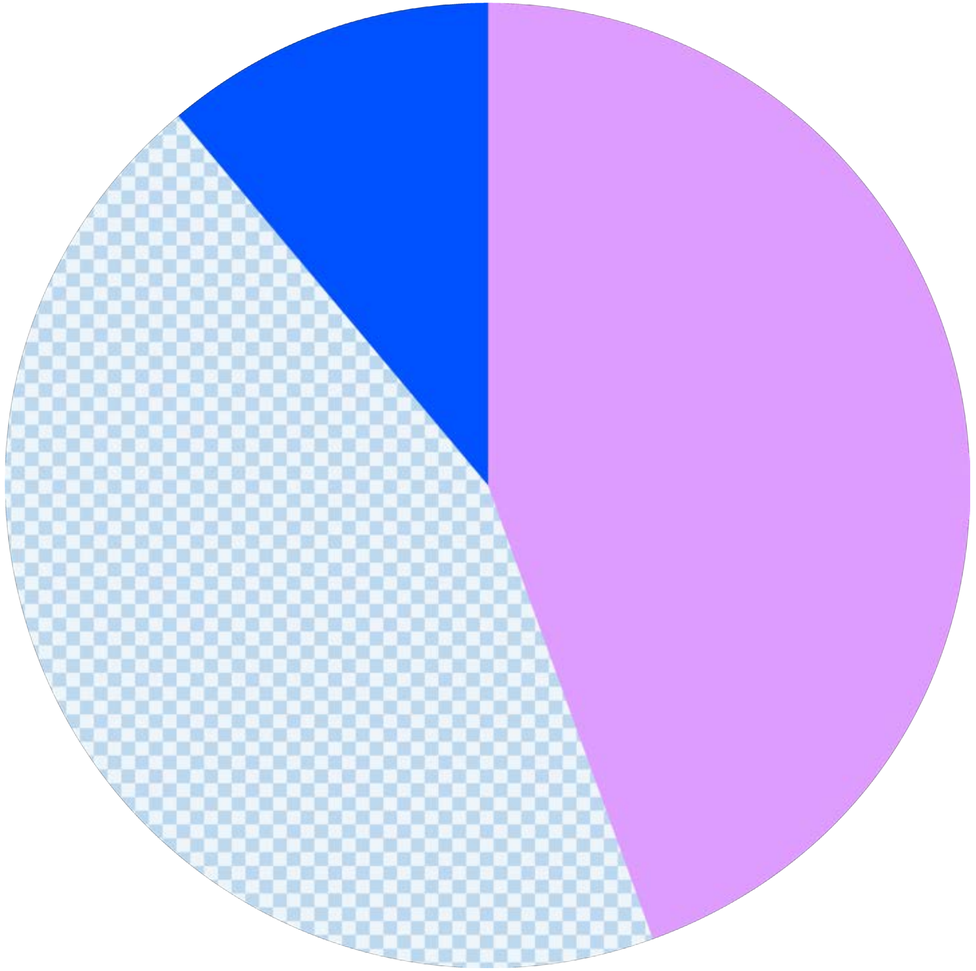
Avoided emissions

Net avoided emissions split (%) per product category

44.6% Home & Garden

44.4% Sports & Nautical

10.9% Computing



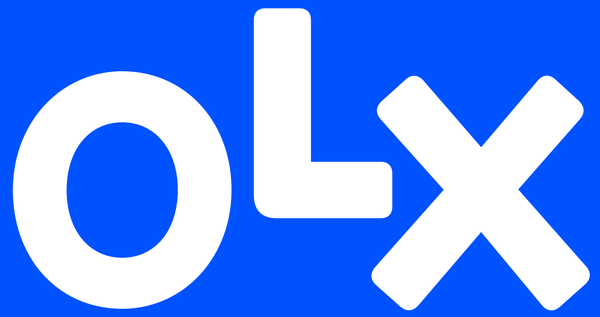
Products[30] with the highest average net avoided emissions

- **Electrical Appliances**
  494 kg of CO_2e avoided per product on average
- **Sports**
  173 kg of CO_2e avoided per product on average
- **Apple Mac Computers**
  133 kg of CO_2e avoided per product on average

30. The net avoided results for similar products across different marketplaces vary due to a number of factors. See the explanation at the start of the Marketplace results section for full details.

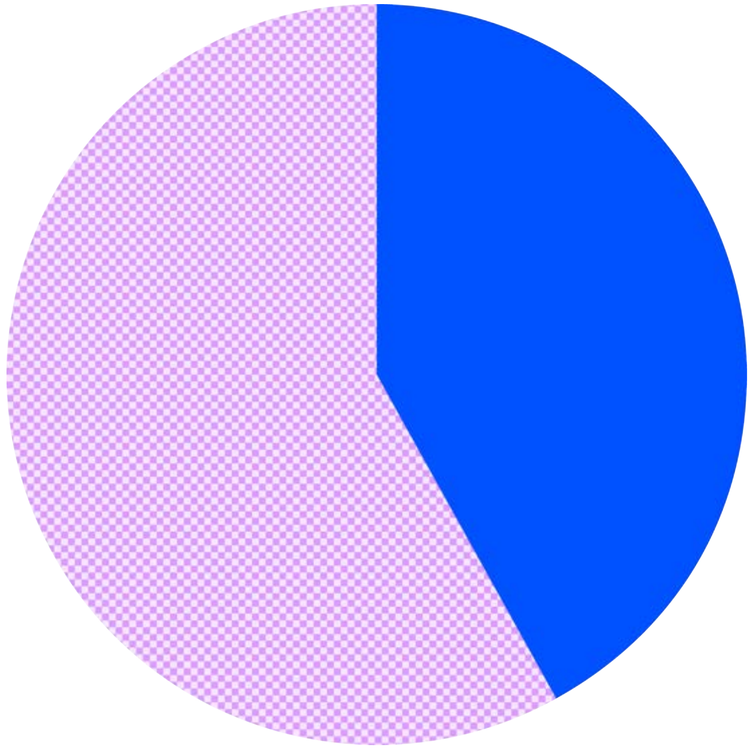
Replacement Rate, delivery, and packaging insights

No specific data from Milanuncios users applied in this analysis (given the limited sample size of the survey), so EU market averages were utilised to ensure robust and representative data.



Total net avoided emissions:

625,357 tonnes CO_2e



42% from off-platform transactions

58% from on-platform transactions

Equivalent to:

5,593,531 return flights between Sao Paulo and Rio De Janeiro

SAO PAULO

RIO DE JANERIO

Equation

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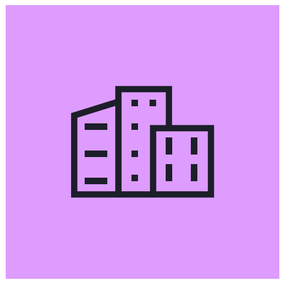

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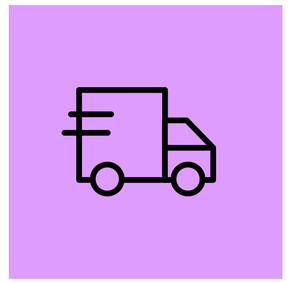

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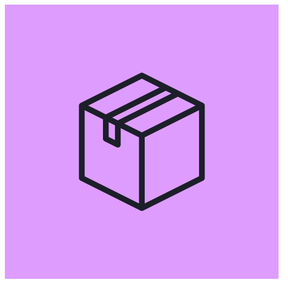


625,357 tonnes CO_2e

Total net avoided emissions

715,436 tonnes CO_2e

Alternative scenario[31]

3,483 tonnes CO_2e

Total emissions from business operations

85,565 tonnes CO_2e

Total deliveries emissions

1,031 tonnes CO_2e

Total emissions from secondary packaging

31. The 'Alternative scenario' refers to the emissions from producing and distributing a comparable new item which second-hand shopping on Adevinta's marketplaces may "avoid" to a certain extent (the Replacement Rate). The Alternative scenario here includes the Replacement Rate within the emissions value. More details are are available in the section Alternative scenario.

Avoided emissions

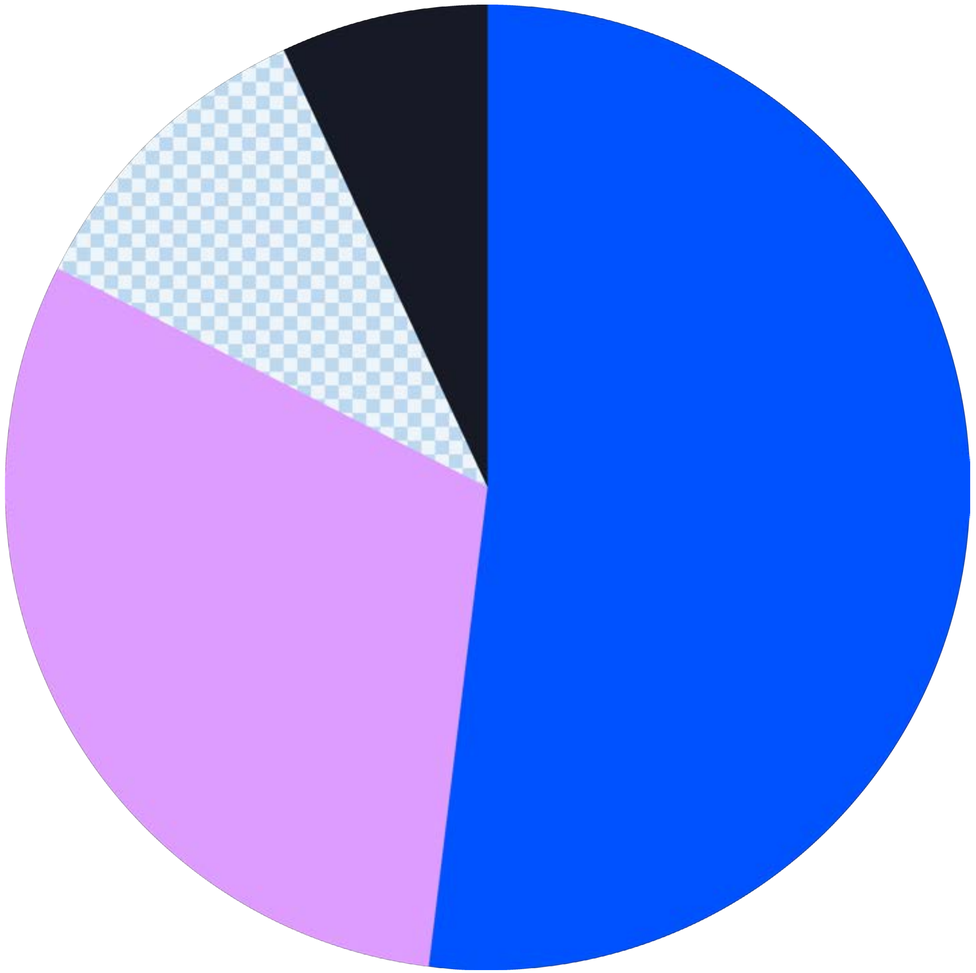
Net avoided emissions split (%) per product category

52.2% Electronics

30.4% Home

10.6% Sports & Leisure

6.8% Other



Products[32] with the highest average net avoided emissions

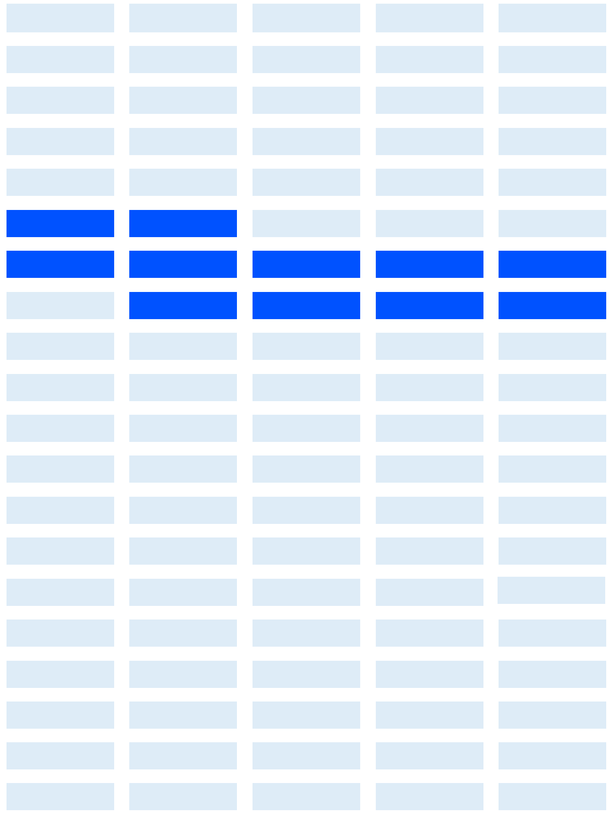
- **Computers and Desktops**
  183 kg of CO_2e avoided per product on average
- **Notebooks**
  157 kg of CO_2e avoided per product on average
- **Monitors**
  123 kg of CO_2e avoided per product on average
- **TVs**
  123 kg of CO_2e avoided per product on average
- **Bicycles**
  121 kg of CO_2e avoided per product on average

32. The net avoided results for similar products across different marketplaces vary due to a number of factors. See the explanation at the start of the Marketplace results section for full details.

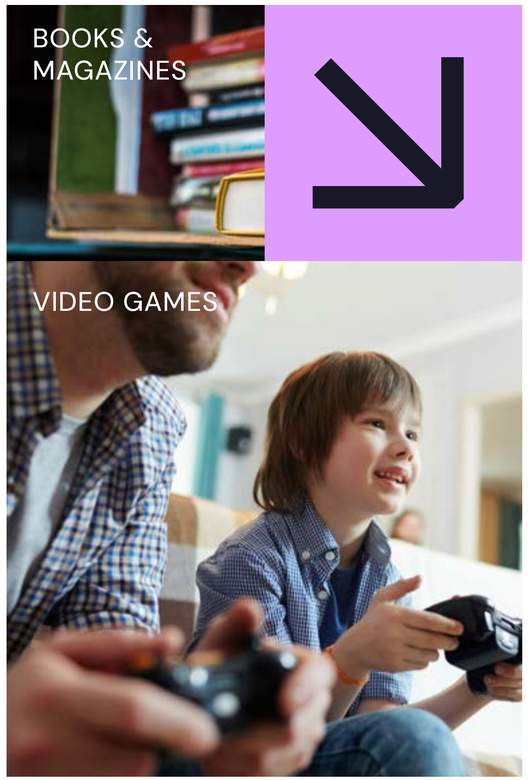
Replacement Rate insights

The range

62%—72%



Lowest Replacement Rate products



Highest Replacement Rate products

Delivery insights

On-platform transactions

Buyers & sellers

95.6%

predominantly preferred meet-ups

4.4%

opted for home or PUDO delivery

Delivery insights

Preferred shipment methods for off-platform transactions

In-person meetings dominate

54.6%–82.1%

The majority of transactions across all categories were completed by meeting up in person, with percentages ranging from 54.6% in Personal Care & Wellbeing to 82.1% in Family, Child & Baby.

Use of designated collection points

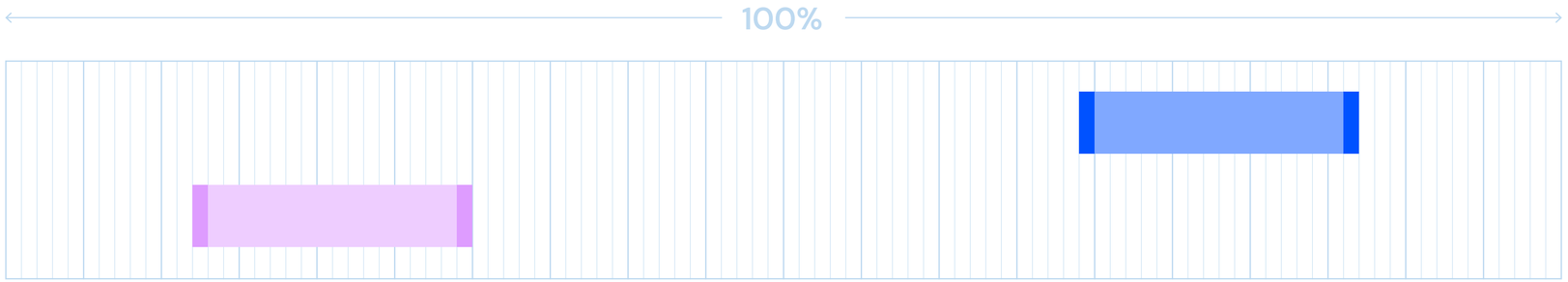
10.2%

A notable percentage of transactions were completed by dropping off items at designated collection points or lockers for shipping through a carrier, particularly in Leisure, Sport & Hobbies (10.2%).

Packaging insights

Type of sold items/transaction

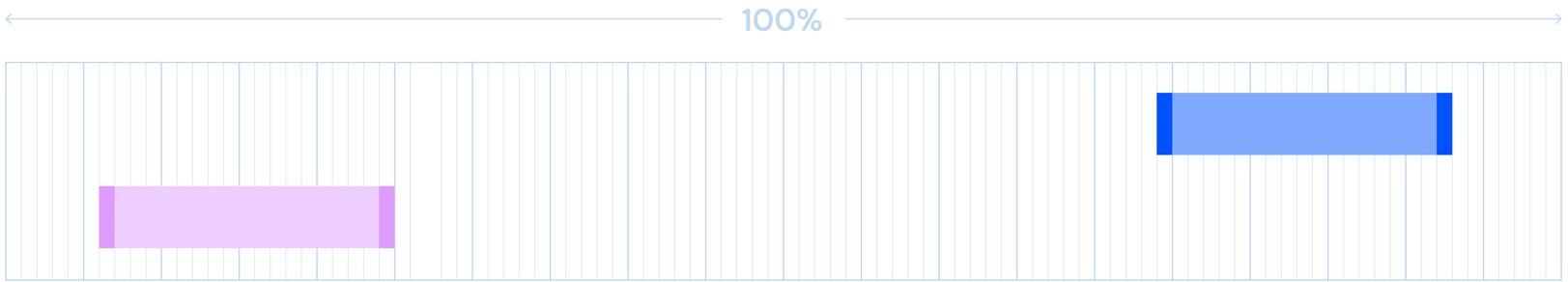
On-platform transactions[33]



13%—30%
Other packaging options
across all product categories

70%—87%
Reused packaging or no packaging
used across all product categories

Off-platform transactions[34]



7%—25%
Other packaging options
across all product categories

75%—93%
Reused packaging or no packaging
used across all product categories

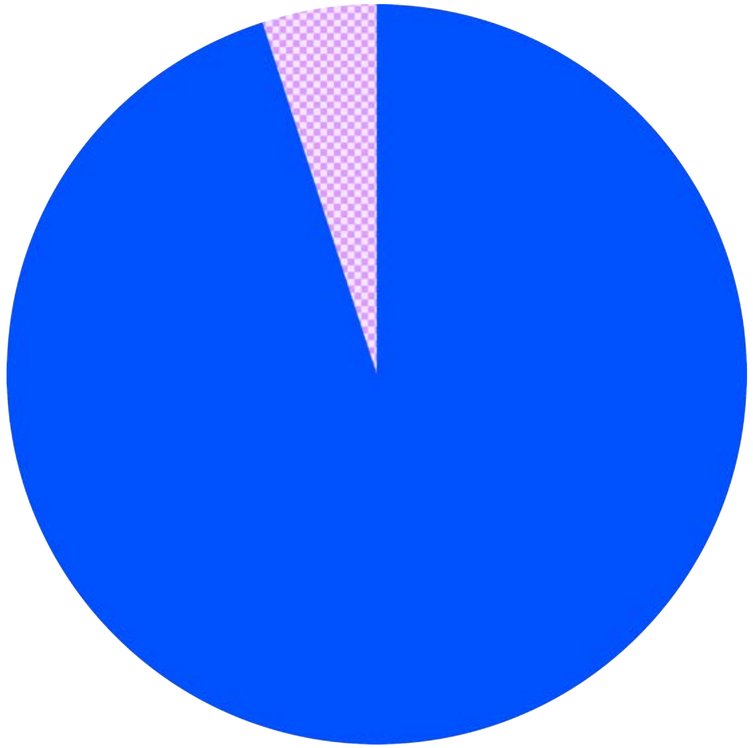
33. Excluding the product categories Fashion, Personal Care & Wellbeing where New packaging is equally frequently used as Reused or No packaging.

34. Excluding the product category Fashion where New packaging is equally frequently used as Reused or No packaging.

WILLHABEN

Total net avoided emissions:

136,046 tonnes CO_2e



95% from off-platform transactions

5% from on-platform transactions

Equivalent to:

the amount of CO_2 absorbed by 6,183,927 trees in one year

Equation

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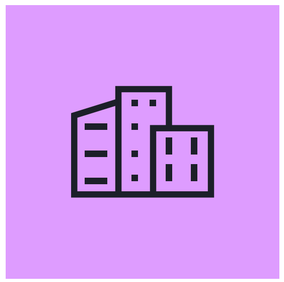
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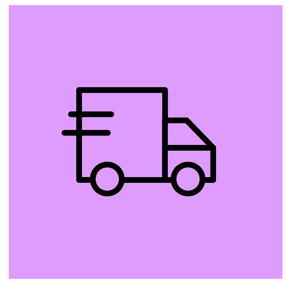
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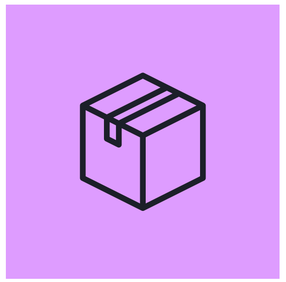


136,046 tonnes CO_2e

Total net avoided emissions

173,636 tonnes CO_2e

Alternative scenario[35]

3,481 tonnes CO_2e

Total emissions from business operations

34,020 tonnes CO_2e

Total deliveries emissions

89 tonnes CO_2e

Total emissions from secondary packaging

35. The 'Alternative scenario' refers to the emissions from producing and distributing a comparable new item which second-hand shopping on Adevinta's marketplaces may "avoid" to a certain extent (the Replacement Rate). The Alternative scenario here includes the Replacement Rate within the emissions value. More details are are available in the section Alternative scenario.

Avoided emissions

Net avoided emissions split (%) per product category

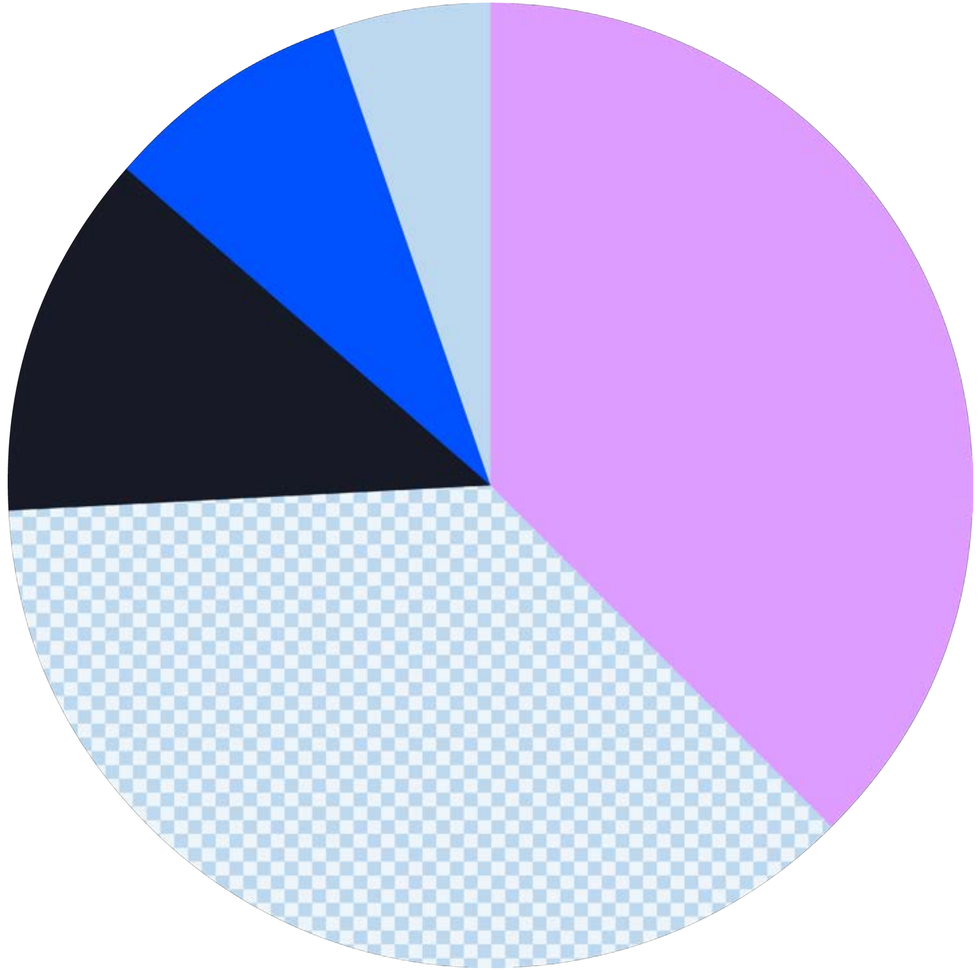
37.6% Living & Household

36.6% Sports & Sports Equipment

12.3% Other

8.4% Computer & Software

5.1% Baby & Kids



Products[36] with the highest average net avoided emissions

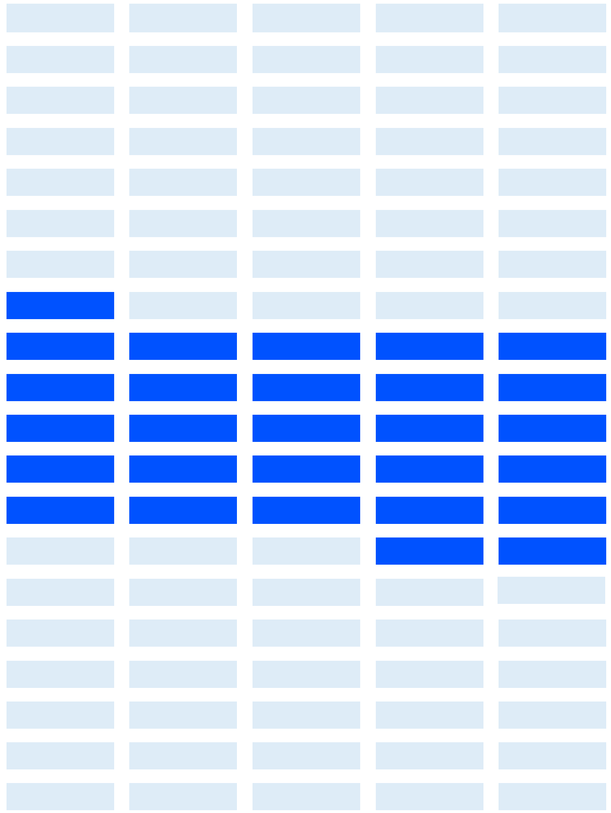
- **Freezers**
  512 kg of CO_2e avoided per product on average
- **Washing Machines**
  243 kg of CO_2e avoided per product on average
- **Cross Trainers/Steppers**
  209 kg of CO_2e avoided per product on average
- **Children's Bicycles**
  207 kg of CO_2e avoided per product on average
- **City Bicycles**
  206 kg of CO_2e avoided per product on average

36. The net avoided results for similar products across different marketplaces vary due to a number of factors. See the explanation at the start of the Marketplace results section for full details.

Replacement Rate insights

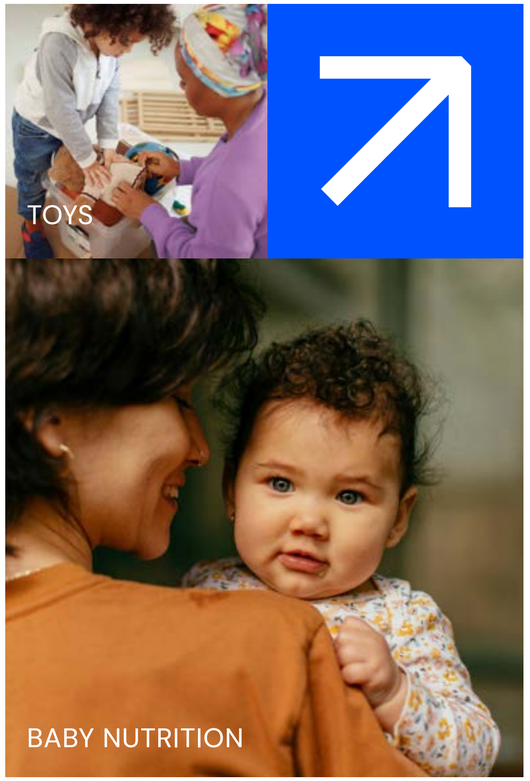
The range

34%—61%



Lowest Replacement Rate products

Highest Replacement Rate products



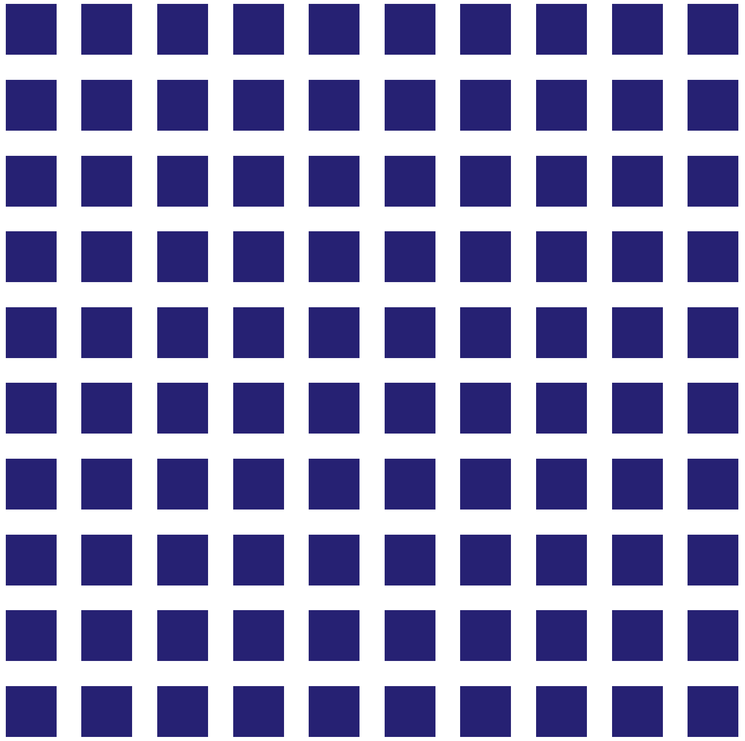
Delivery insights

On-platform transactions

Seller

100%

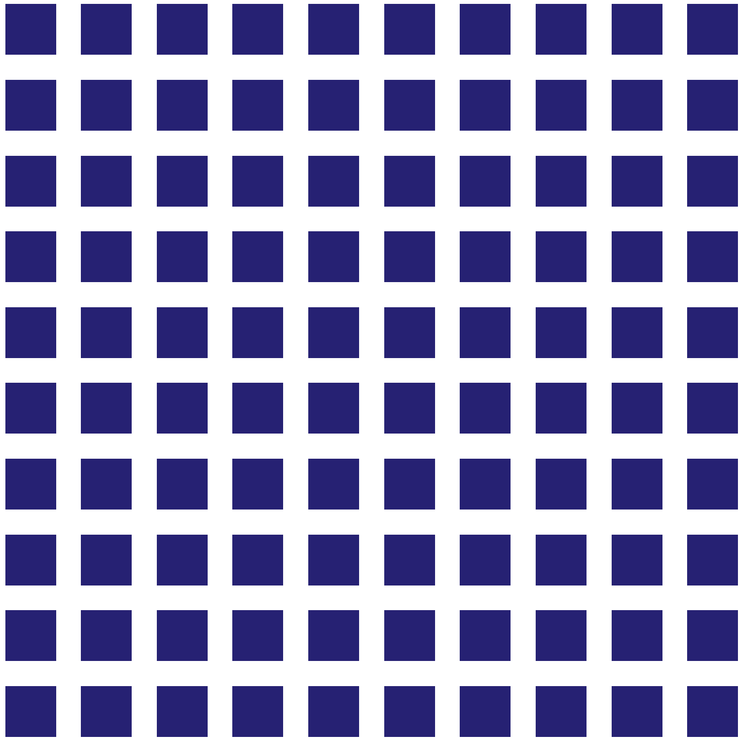
of sellers preferred PUDO usage



Buyer

100%

of buyers preferred home delivery



Delivery insights

Preferred shipment methods for off-platform transactions

In-person meetups

78.8% and 61.5%

The majority of transactions in Home & Garden (78.8%) and Leisure, Sport & Hobbies (61.5%) were completed by meeting up in person, indicating a strong preference for direct exchanges in these categories.

Carrier shipping

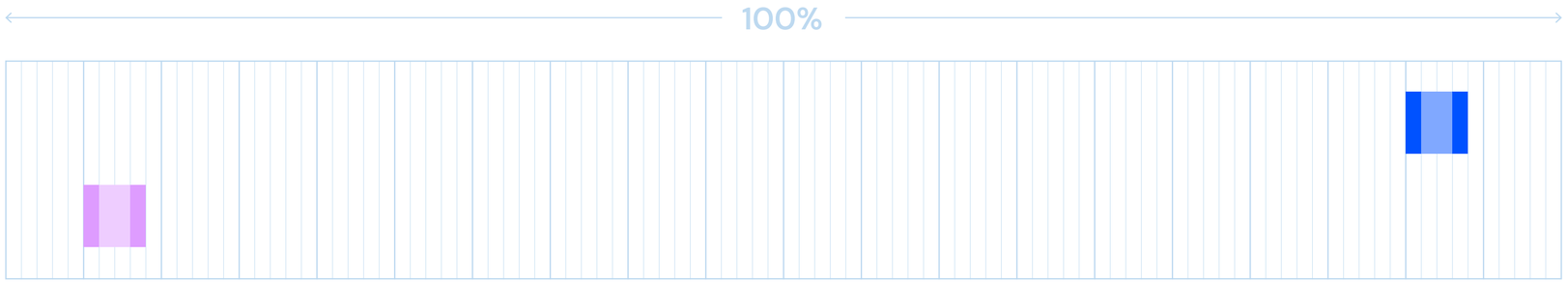
47.5% and 28.7%

A significant portion of transactions in the Fashion (47.5%) and Other Consumer Products (28.7%) categories involved dropping off items at designated collection points or lockers for shipping through a carrier, reflecting the popularity of this shipment method.

Packaging insights

Type of sold items/transaction

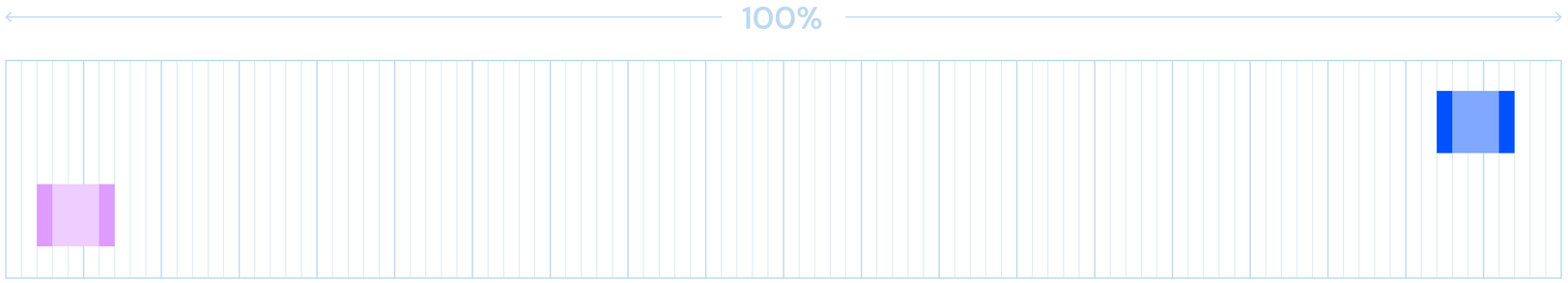
On-platform transactions



6%—9%
Other packaging options
across all product categories

91%—94%
Reused packaging or no packaging
used across all product categories

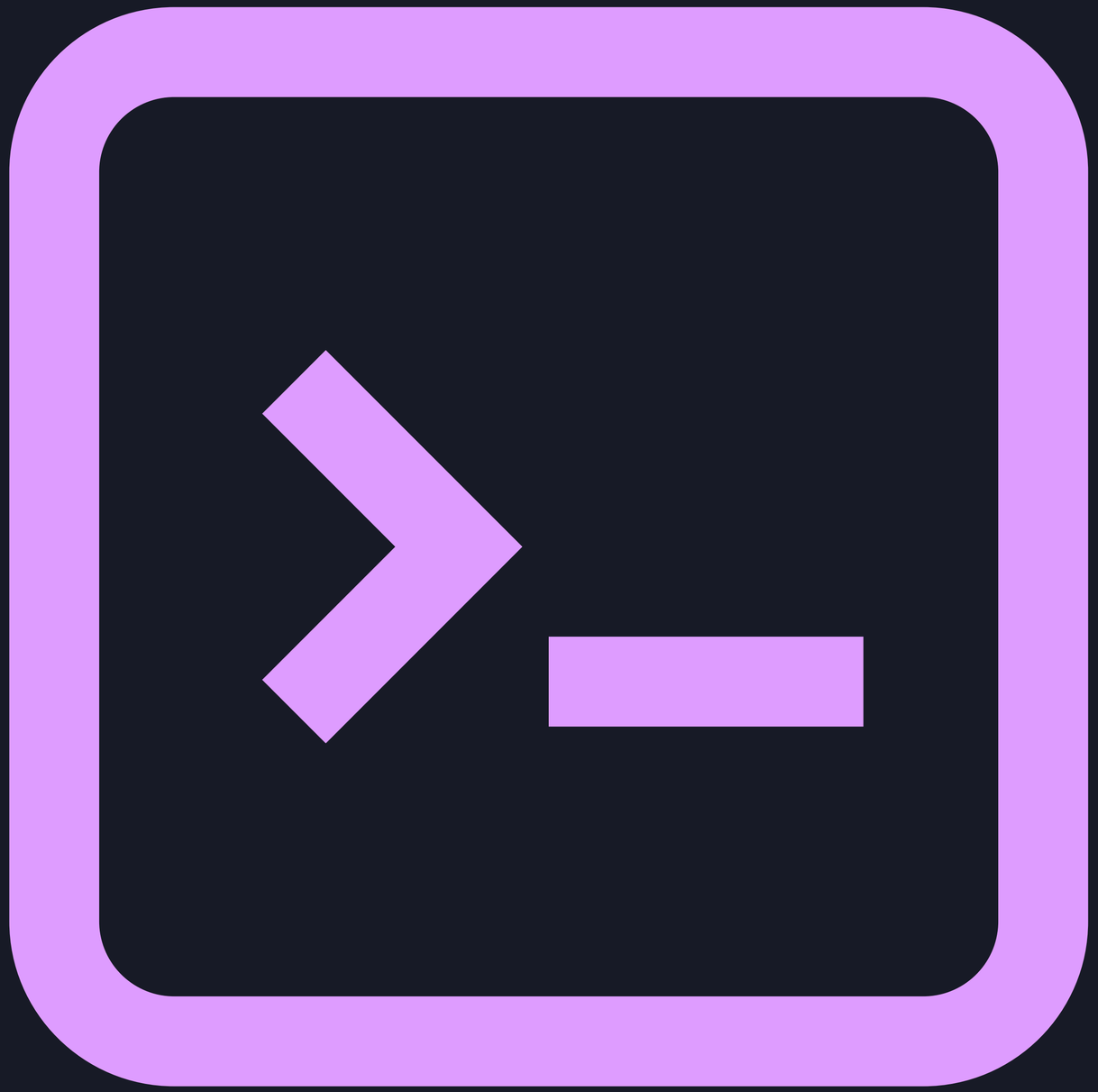
Off-platform transactions



3%—7%
Other packaging options
across all product categories

93%—97%
Reused packaging or no packaging
used across all product categories

Methodology



Scope

Adevinta Re-Commerce marketplaces assessed:

leboncoin
Marktplaats
milanuncios
subito
olx
kleinanzeigen
2dehands
2ememain
WILLHABEN

The analysis was based on data from more than 150 million items sold[37] on the eight Adevinta marketplaces in scope, further enriched by insights gathered from close to 50,000 Adevinta users about their purchasing and selling behaviours.

The product categories included in the analysis:

- Fashion
- Bags & Luggage
- Home & Garden
- Personal Care & Wellbeing
- Family
- Child & Baby
- Leisure
- Sport & Hobbies
- Electronics
- DIY

Exclusions

Real-Estate and Motorised Vehicles were not considered due to the current challenges in developing a reliable life cycle assessment (LCA) methodology to measure the emissions savings accurately, specifically the significant variability in emissions, influenced by factors such as driving habits, maintenance, and fuel efficiency. This remains an area of future research and improvement, with the objective of contributing to and eventually including the measurement of impact from second-hand vehicles in the future.

Similarly, Services or Tickets and Arts & Antiques are omitted from the scope as they are deemed not to contribute to emissions avoidance — with Arts & Antiques regarded as unique items that do not replace new purchases.

37. Sold products are the total amount of products sold on the marketplaces. This is the sum of known sales (i.e. on-platform transactions) and assumed sales of classifieds, the latter based on an indicator provided by the marketplaces.data.

LCA methodology

Here is a deep dive into the scientific LCA methodology used by Vaayu, which was reviewed and approved by Adevinta.

Approach

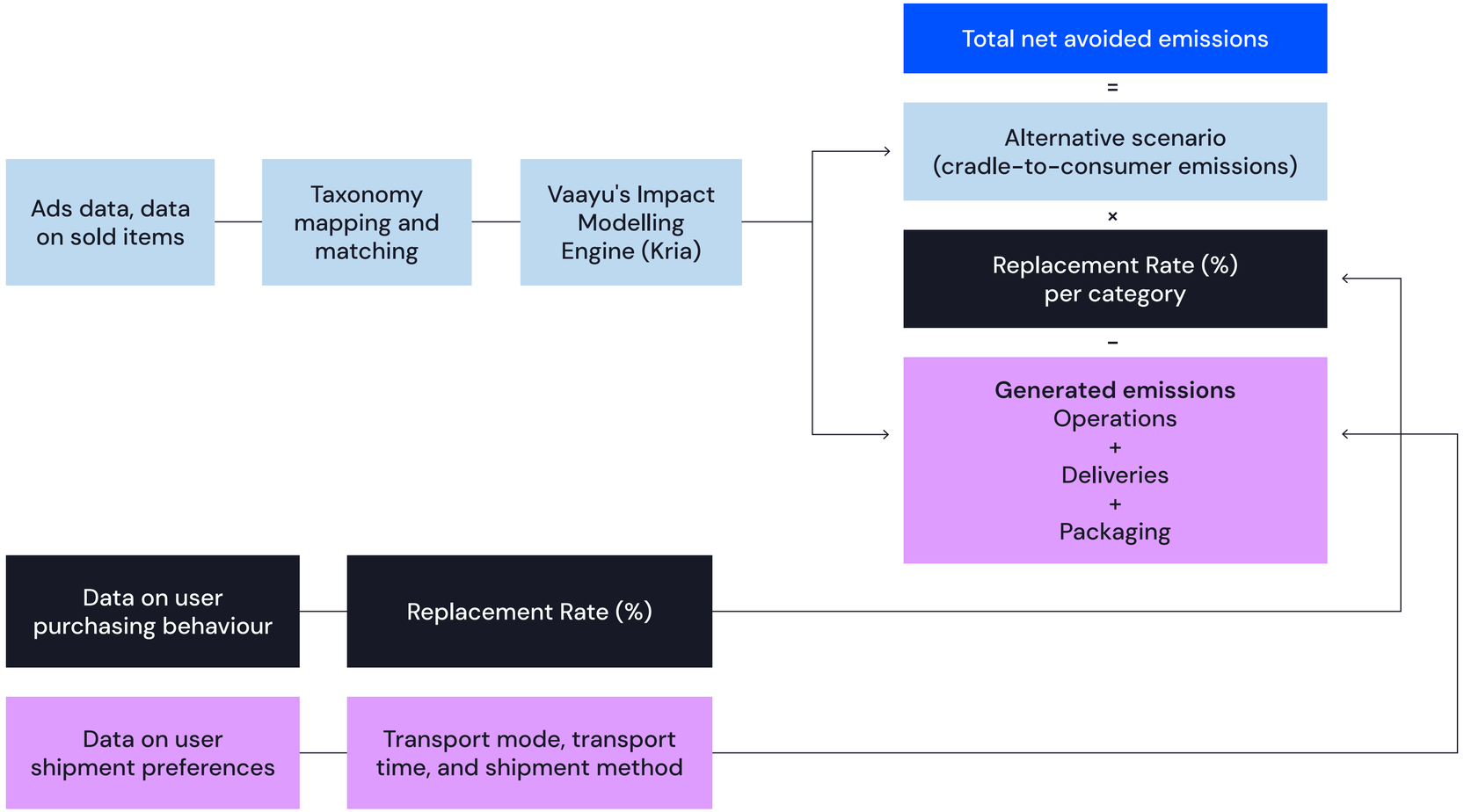
Vaayu's approach used consequential LCA to calculate net avoided emissions, extending beyond examining individual product sales and aiming to evaluate the broader systemic impacts:

- Avoided emissions: the potential reduction in emissions resulting from users buying second-hand items instead of buying new products elsewhere
- Consequential LCA: a comprehensive method recognised globally for its robustness in calculating avoided emissions

The methodology closely followed the World Resource Institute guidelines[38], which focused on comparative product emissions analysis.

38. World Resources Institute (WRI), Estimating and Reporting the Comparative Emissions Impacts of Products, Russell, S., 2019.

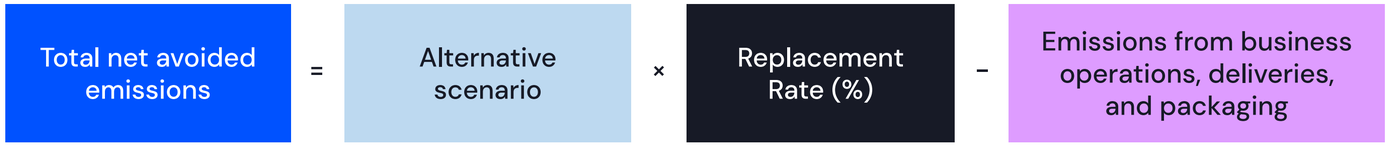
Vaayu's approach to calculating the potential net avoided emissions of Adevinta's marketplaces



Several factors influenced the potential to reduce emissions through second-hand purchases:

- **Alternative scenario:** the emissions from producing and distributing a comparable new item (see more in the Generated emissions section) which second-hand shopping on Adevinta's marketplaces may "avoid" to a certain extent (the Replacement Rate)
- **The Replacement Rate:** the metric that assessed whether a second-hand item was a suitable substitute for a new one, indicating how likely it is that a second-hand purchase via Adevinta replaced a new purchase (see more in the Replacement Rate section)
- **Generated emissions (Adevinta's Corporate Carbon Footprint 2023):** included the emissions generated by second-hand purchases on the Adevinta marketplaces in scope via their delivery and packaging, as well as the associated business operations from the overall management and maintenance of the marketplaces

Calculating net avoided emissions



LCA modelling

To calculate the net avoided emissions for the marketplaces in scope, Vaayu analysed more than 150 million second-hand transactions across all relevant product categories. The information was processed using Kria, Vaayu's proprietary LCA Impact Modelling Engine and database.

To accurately quantify the total net impact of Adevinta, emissions from on-platform deliveries and packaging associated with all successfully sold items were also incorporated into the GHG inventory and emissions assessment.

Items labelled as 'new' are included in the overall calculation because they contribute to the platform's operational footprint. However, since these items are assumed to have a zero Replacement Rate, they do not result in avoided emissions.

This methodology aligns with a conservative approach to assessing avoided emissions, aiming to prevent over-accounting in the absence of a model that accurately predicts the substitution rate for new products.

Consumer survey

To deepen the understanding of user behaviour on the eight marketplaces in scope, Vaayu commissioned the following surveys:

- Two surveys per marketplace (one for buyers and one for sellers)
- 16 surveys altogether
- 49,500 responses

Their purpose was to gather essential data for calculating the Replacement Rate and the potential avoided emissions from the sale of second-hand items. They also collected additional delivery logistics data, including the types of packaging and packaging materials.

The survey size ensured a representative sample by considering factors such as market specifics, product category, and user activity levels on the marketplaces in the prior 6-12 months.

Replacement Rate

Calculating a perfect like-for-like replacement of new products with second-hand items is not straightforward. To account for this challenge, the Replacement Rate is:

- A key metric driven by consumer behaviour, measuring the substitution ratio and clarifying how effectively second-hand items can replace new ones
- Pivotal in evaluating the environmental advantages of reuse
- An influencer in calculating the extent to which carbon emissions from the production and distribution of similar new products are “offset” by purchases on the marketplaces

In this analysis, users were surveyed on their rate of avoided purchases within the product categories specified. The Replacement Rate was derived from responses of close to 32,000 buyers to the survey question:

> **If you had not found this product on the platform, would you have bought this, or a similar product, brand new?**

Calculating the Replacement Rate

$$\text{Replacement Rate (\%)} = \frac{\text{Replaced purchases}^{*}}{\text{Total responses}^{**}}$$

* Replaced purchases = 100% of ‘Yes’ responses and 50% of ‘Maybe’ responses while excluding all unplanned purchases

** Total responses = total number of responses to the above core question. All replies from professional sellers or businesses were omitted from the calculations of the Replacement Rate. It is assumed that their engagement is primarily for economic benefits rather than sustainability-driven motivations. Additionally, their responses do not accurately represent the purchasing patterns of typical users, hence their exclusion.

For calculating net avoided emissions, the Replacement Rate was tailored to each category and marketplace, provided there was a statistically adequate sample size (i.e., more than 100 responses per category after excluding those from professional sellers). Where it was not adequate, a Europe-market average Replacement Rate per category was used instead.

Alternative scenario

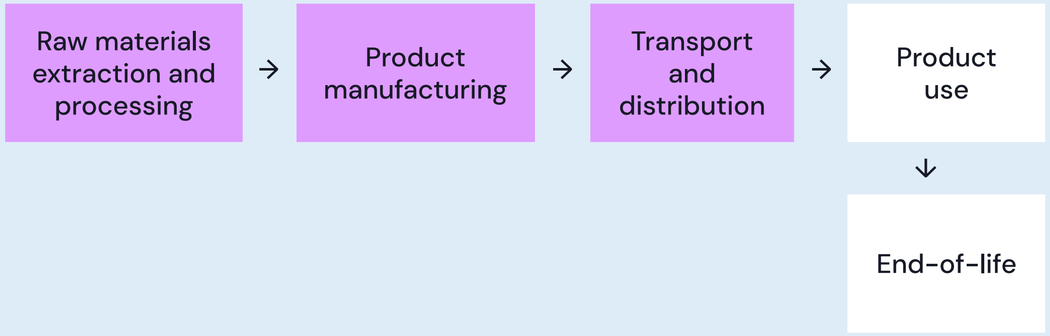
To estimate the carbon emissions avoided by purchasing second-hand items on each marketplace instead of these comparable new ones, it was necessary to account for the emissions from producing new products through their distribution.

Vaayu evaluated this impact using a cradle-to-consumer life cycle assessment approach. This approach includes the calculation of energy and material usage, transportation, extraction of natural resources and waste management at each stage of the product life cycle.

Emissions from the product use and end-of-life stages were excluded from Adevinta's net avoided emissions calculations because the impacts from using both new and second-hand products are considered equivalent in the comparative analysis.

This means that the emissions generated during the use and disposal of products are assumed to be the same for both second-hand and new products, and so neutralise each other when comparing the two scenarios (i.e., purchasing a second-hand product versus buying a similar new product).

The product life cycle considered
(both second-hand and new products)



It is important to note that the product carbon footprint assessment for calculating potentially avoided cradle-to-consumer emissions, as well as the assessment of emissions from deliveries and packaging of second-hand items, was performed at the product category level. This approach accounts for varying taxonomy trees across different marketplaces.

The data analysed were available only at the product category level, meaning different product types can be listed under a single category. LCA data were therefore used by assuming certain reference products for specific product categories.

Consequently, the calculated emissions should be interpreted as representative of the entire category rather than individual transactions or specific product models.

In cases where a direct correspondence in Vaayu's taxonomy[39] could not be established for a product category, a proxy or average emissions figure was applied to ensure comprehensive assessment.

39. The classification system within Vaayu's database used to categorise and store emissions and impact data.

Generated emissions

Deliveries

Emissions associated with deliveries were analysed using Vaayu's unique logistics model, integrating data from consumer surveys to enhance accuracy.

This model calculates the carbon emissions associated with various delivery methods, including meet-ups, PUDO points, and home deliveries, employing a fuel-based calculation approach based on the total distance travelled during delivery.

Logistics calculations for on-platform sales:

- Primary data regarding seller and buyer locations (home or PUDO points), carrier and delivery methods was used where available.
- When the cities, localities or postal codes of both the buyer and seller were available, the distance between the two was calculated.
- Where both the buyer and seller locations could not be geolocated (e.g. only having postal code data for the seller), a country-specific, population-weighted average distance was used.
- In the absence of explicit delivery methods, multiple approaches were taken;
  - Where carrier was used and carrier name was provided: Research was conducted by Vaayu to determine the delivery methods offered by the carrier partners.
  - Where other delivery methods were used: Delivery method distributions for both origin and destination were taken from the seller and buyer surveys, respectively.
  - Where there was not a statistically adequate sample size: Europe-market average delivery method distributions were used instead.
- The package mass and volume of each delivery were estimated based on the mapped category to account for the variance in categories being sold across the marketplace.

Logistics calculations for off-platform sales:

- The distribution among meet-up, PUDO, and home delivery methods was derived from the buyer and seller surveys and then used to calculate a weighted average delivery impact per category.
- The proportion of meet-ups was determined by averaging the responses from both sellers and buyers.
- Where there was not a statistically adequate sample size, Europe-market average delivery method distributions were used instead.
- Meet-up distances per marketplace and category were estimated using the seller and buyer survey responses.
- Transport times were multiplied by average vehicle speeds to determine distance per time frame and vehicle type.
- A weighted average distance for each vehicle type was then calculated, and a further weighted average was computed based on the distribution of vehicle types as indicated by the survey.
- Where there was not a statistically adequate sample size, European market meet-up distance was used instead.

Packaging

Emissions attributed to secondary packaging were calculated using Vaayu's Logistics Calculation Engine, where the secondary packaging distribution on a per-category basis was derived from the survey data.

Each packaging element type was estimated by calculating volume or mass using quality LCA data in Vaayu's taxonomy.

The emissions impact of each element was multiplied by its distribution within a product category, so the emissions contributions from secondary packaging could then be calculated on a per-sale basis.

Where there was not a statistically adequate sample size, a Europe-market packaging distribution was used instead.

Reused packaging elements were presumed to have zero emissions since they are designed for single use only and were therefore excluded from these calculations.

Business operations

The calculation of Adevinta's operational footprint encompassed a comprehensive inventory of Scope 1-3 emissions related to business operations in line with the minimum boundaries defined in the technical guidance by the GHG Protocol[40]. The full Adevinta Group Corporate Carbon Inventory and GHG emissions results for the reporting year 2023 can be found in Adevinta's Annual Report 2023[41].

The organisational boundary for the report was set using the operational control approach, including all operations under Adevinta's control or its subsidiaries. The emissions from each activity were allocated to the different marketplaces in scope of these net avoided emissions calculations, based on the allocation approach provided by Adevinta's Global Sustainability Team, to provide a holistic view of environmental impact.

The emissions per Scope were calculated as follows:

Scope 1, emissions from fuel combustion in leased company vehicles;

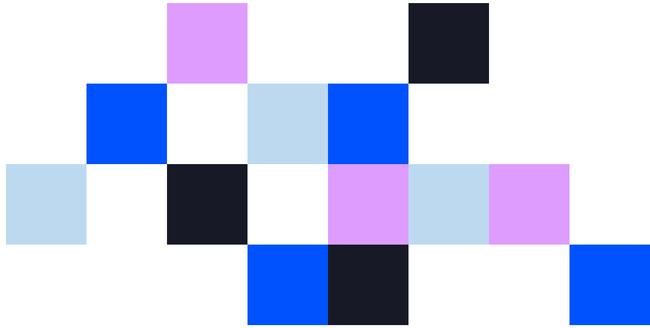
- Quantified using Adevinta's primary data on fuel consumption

Scope 2, emissions from electricity, heating and cooling for Adevinta's leased offices, electric company vehicles and on-premise data centres;

- Calculated and tracked using market-based and location-based methods, in line with the GHG Protocol Scope 2 technical guidance

Scope 3, emissions from purchased goods and services, capital goods, energy (not covered by Scope 1 or 2), upstream transportation, upstream leased assets, waste, business travel, employee commuting, investments, packaging, and deliveries related to on-platform transactions;

- Employee commute, waste generated in operations, digital platform use, cloud and hosting services, and upstream leased assets were calculated using activity-based methodology
- For categories including purchased goods and services, capital goods, business travel and investments, a mixture of activity-based and spend-based methodologies were applied



40. Greenhouse Gas (GHG) Protocol, Corporate Standard.
41. Adevinta, Annual Report 2023: Changing commerce together.

About

About Adevinta

Adevinta

Adevinta is a leading online classifieds group and champion for sustainable commerce with a focus on Europe.

Our portfolio of 25+ digital marketplaces spans consumer goods, mobility, real estate, holiday rentals and jobs. Every month, our industry-leading technology enables more than 120 million people and over a million businesses across Europe to connect and trade. Loved local brands include leboncoin in France; mobile.de and Kleinanzeigen in Germany; Fotocasa and InfoJobs in Spain; Subito in Italy; Marktplaats in Benelux and the Canadian marketplace Kijiji.

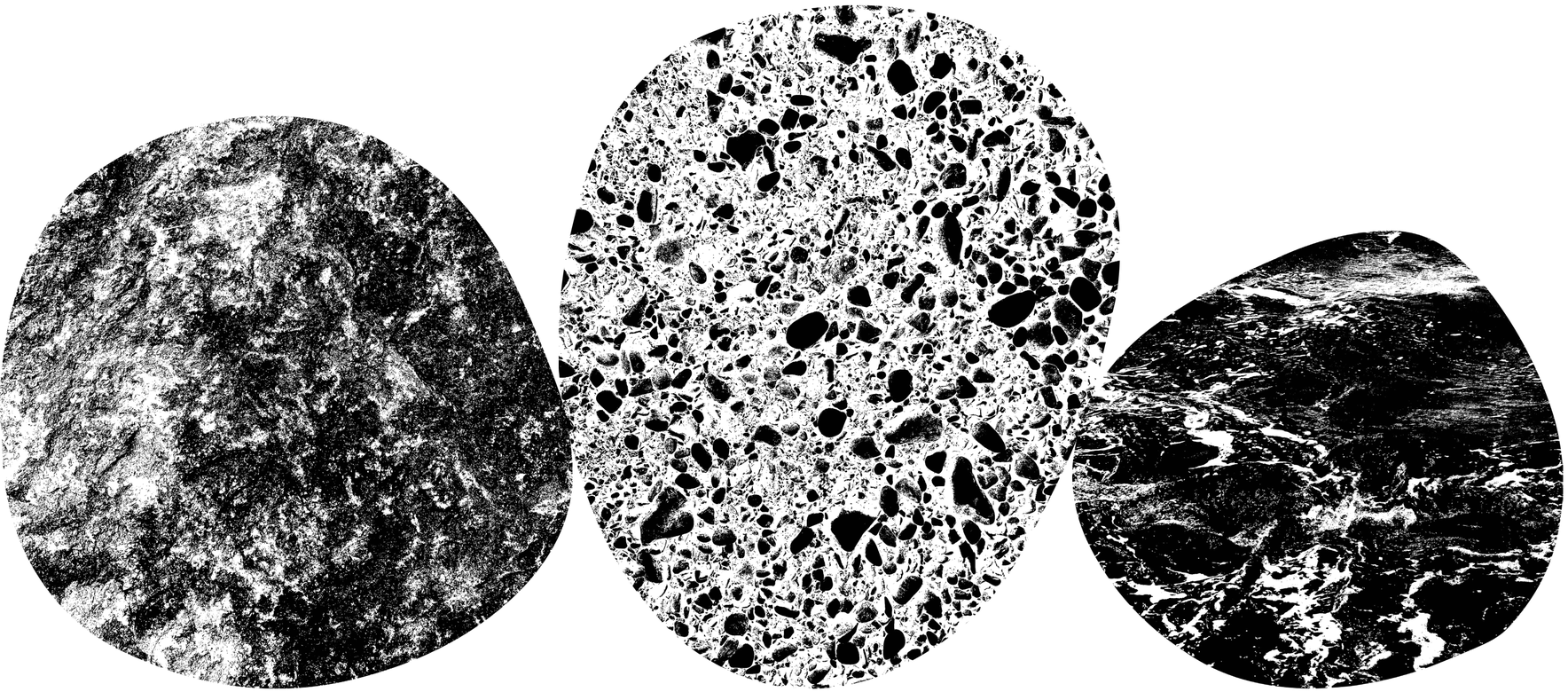
Our international team of diverse individuals are united in their purpose to make a positive impact on the environment, the economy and society every single day.

Adevinta — Changing commerce together.

To find out more, visit Adevinta.com

About Vaayu

Vaayu is the world's first automated software empowering brands and businesses within the retail industry to track and cut their carbon and environmental impact in real-time.



By leveraging proprietary AI and machine learning technology, Vaayu calculates impacts like emissions, water and waste across product, packaging and logistics using certified[42] life cycle assessment (LCA) methodology to provide granular insights and inform data-driven decision-making.

Named one of TIME's Best Inventions[43] and with more than 100 brand partners, Vaayu has pioneered research into the climate impact potential of circular business models and calculated product footprints at scale for partners including Klarna, New Balance and Redcare Pharmacy.

To find out more, visit vaayu.tech

42. Vaayu's methodology is certified by TÜV Rheinland.

43. Vaayu is one of TIME's Best Inventions 2022 in the Sustainability category.

Adevinta

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