Digital Footprint

Cynny

Goal and scope of the study

DIGITAL CARBON FOOTPRINT

The goal of the **analysis** is to **determine** the digital carbon footprint associated with the usage of one minute of SDK and Video Platform.

Below is the description of the two products:

SDK

Emotion reader AI JS HTML5 SDK is the smallest and most powerful JavaScript engine, based on Deep Neural Network AI. It is able to analyse spontaneous facial expressions and features in any web page or app.

VIDEO PLATFORM

Facial emotion recognition (FER) is designed to identify, understand and react to human emotions. MorphCast's Video Platform uses facial emotion recognition technology to discern viewers' emotions. It then dynamically navigates them through pathways designed within video content, based on their emotional responses.

Perimeter

SYSTEM BOUNDARIES

The study considers the **digital emissions** associated with one minute of usage of SDK and Video Platform respectively.

The contribution to climate change from activities related to Cynny products must be determined based on the **usage** associated with the use of **devices** and the **network** included in the perimeter.

EMISSION SOURCES

- ✅ **Web data energy intensity***
  - ✅ Server and data center electricity consumption
  - ✅ Cables data transfer electricity consumption
  - ✅ Network access equipment electricity consumption
  - ✅ Storage data electricity consumption
- ✅ **Users' devices electricity consumption during thier interaction with SDK and Video Platform***

*The emission intensity associated with energy consumption depends on the national energy mix of the reference country, which, in this study, is Italy.

Methodology

DETAILS ON RESULTS

The criteria used to quantify the emissions associated with one minute of usage are showed below:

SDK

SDK usage emissions were calculated per minute of usage, considering the totale number of minutes SDK was used in 2022.

EMISSION ALLOCATION SDK

Total SDK emissions / Total usage in minutes

VIDEO PLATFORM

Video Platform usage emissions were calculated considering four different scenarios based on the total number of views that a video obtained.

EMISSION ALLOCATION VIDEO PLATFORM

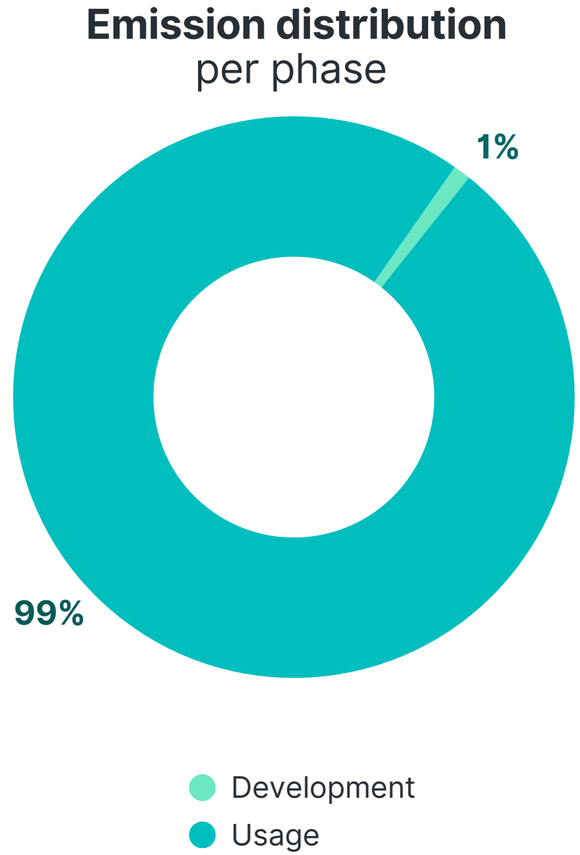
Total Video Platform emissions / Total viewing time in minutes

Results

SDK

🔍 SDK platform is characterized by significant efficiency in terms of consumption. For this reason, almost all of the product's footprint comes from its usage phase.

🔍 The **performance** is connected to the **characteristics** of the interface elements (images, animations, etc.) and **interactivity**, along with the **device's consumption**. In addition to these elements, systemic properties such as the efficiency of networks, data centers, and servers also need to be considered.

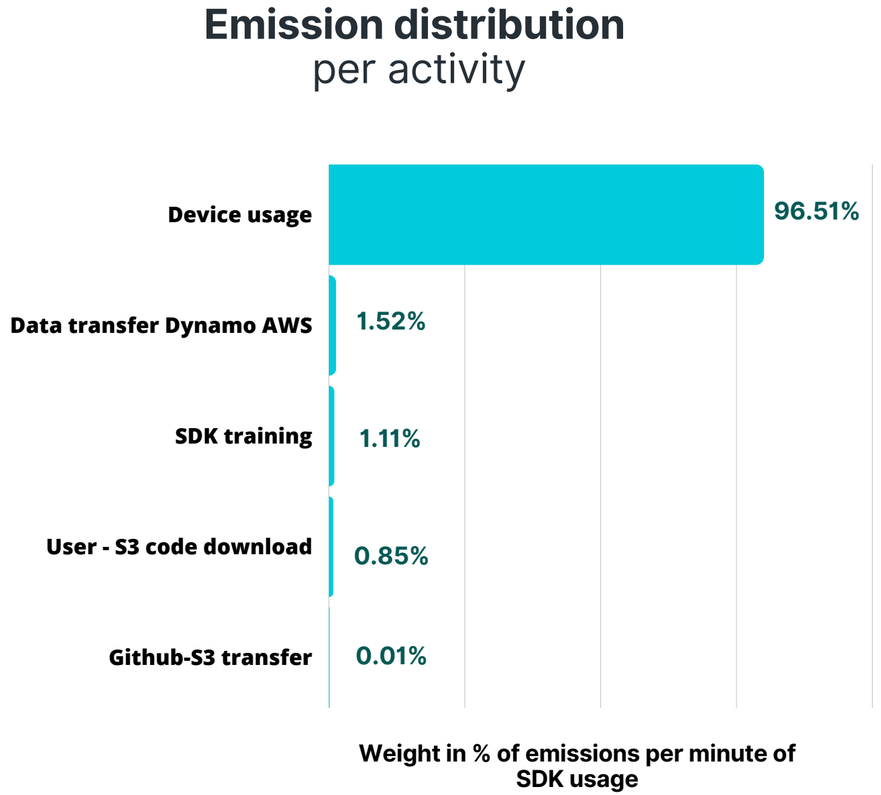


Results

SDK

🔍 The graph on the side shows the distribution of impacts resulting from different activities related to the development and usage of SDK.

🔍 The energy consumption of electronic devices represents the most significant contribution. SDK training, considering 40 annual hours, is the development activity with the highest emission intensity.



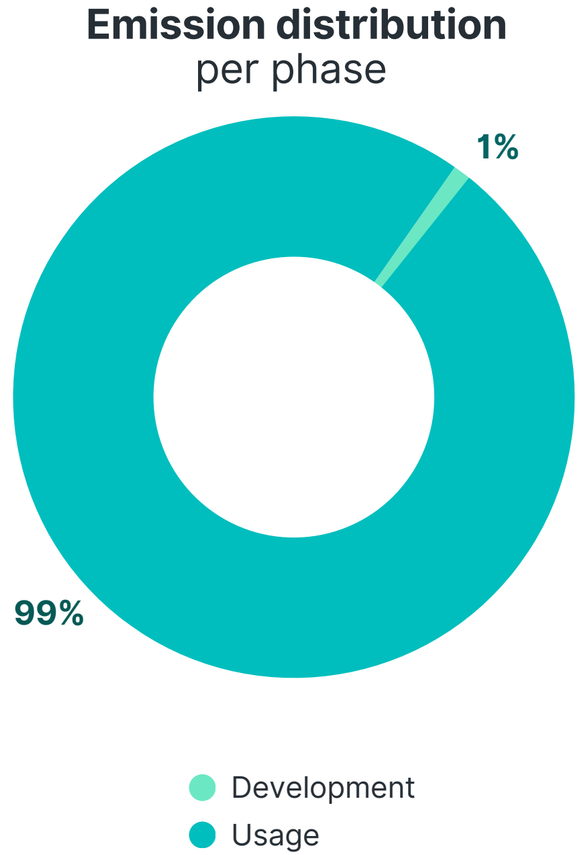
Results

VIDEO PLATFORM

🔍 The Video Platform usage phase constitutes the main impact, for both mobile and PC viewing.

🔍 The **performance** is positively influenced by the number of views: the impacts associated with usage is reduced by 89% between 1 view and 1000 views.

🔍 The emissions related to one minute of usage are lower if the user views the video on a mobile device compared to a PC, and the emission benefit increases with the number of views.



Results

The study has shown the following key results regarding the impact generated by SDK and Video Platform.

Excellent performance

The performance of SDK and Video Platform is optimized in all processes, resulting in a low emissive impact.

Decrease in emissions with increasing views

Video Platform emissions decrease as the number of views increases. This result is due to the cumulative nature of emissions related to the video content development and production. In other words, as the total number of video viewing minutes increases, the emissions generated per each individual minute of Video Platform usage will progressively decrease.

Highest impact caused by video viewing

User's video viewing, as in the case of Video Platform or SDK, represents the digital component that generates the most significant impact in the emission breakdown. This is due to the larger amount of data that needs to be transferred in the download process to view video content.

High efficiency in the development phase

For both products, the usage phase is when the highest amount of emissions is generated. Thanks to the high level of efficiency achieved in the development phase, the data transfer required for updates is minimal (each update requires a data transfer of a maximum of 1 MB), significantly reducing the impact on the emissive component.

Carbon neutrality

Cynny has taken a step beyond quantifying the emissions of SDK and Video Platform. It has chosen to **neutralize** these emissions through certified projects according to the most widely used international standards.

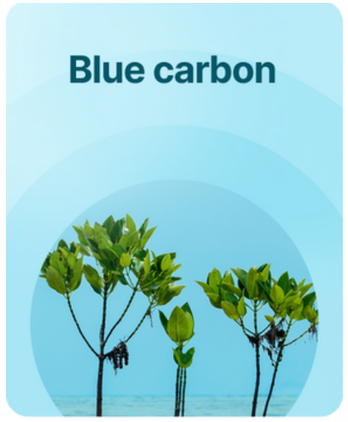
The neutralization of non-reducible emissions, along with emissions calculation and reduction, represents a **fundamental** component for achieving **carbon neutrality**.

Cynny has achieved **the carbon neutrality for the usage of SDK and Video Platform of 2022** by neutralizing their emissions.

Blue Carbon

Cynny has achieved carbon neutrality for SDK and Video Platform by supporting the **Up2You Blue Carbon package**.

The initiatives included in the package **protect and develop coastal ecosystems**, bringing numerous benefits, including water improvement and the safeguarding of endangered marine species.



Main features

Up2You Blue Carbon includes projects that generate blue carbon credits, contributing to the absorption of CO_2 and the protection of marine habitats.

KPI

Project Category: Nature-based;
Project Type: Blue Carbon;
SDGs coverage: Environmental and Social Sustainability;
Carbon Removal Projects: Yes.

Contacts

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