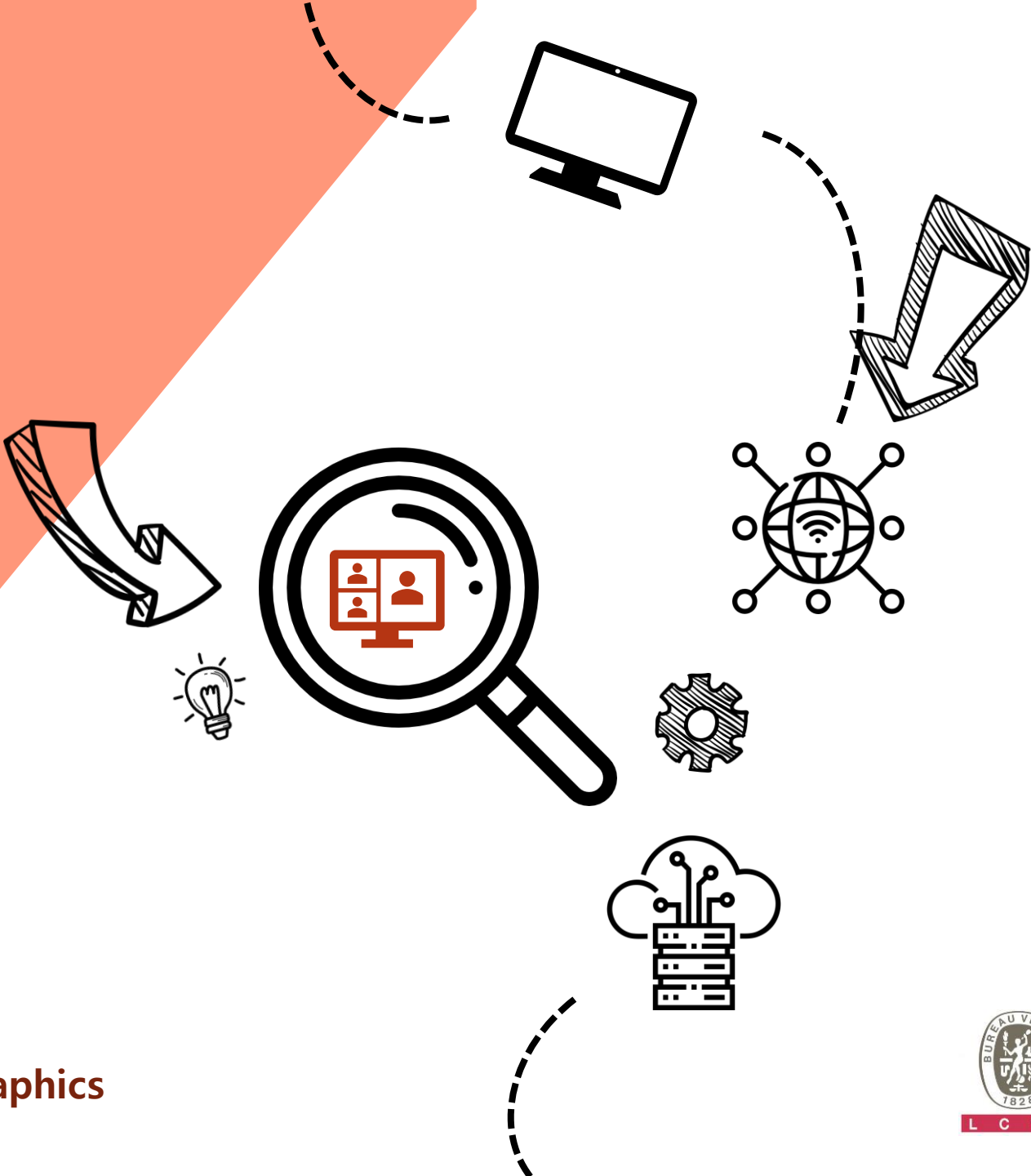


Carbon footprint of electronic card


Example of using the CODDE database



Using EIME V6 with the CODDE database



EIME allows companies to eco-design their products and services and to produce communication media with several available databases:

CODDE®
General and sectoral database

4 200 Data

NEGAOCTET®
Database dedicated to digital service

1 500 Data

ECOINVENT
Private generalist database

16 000 Data

BASE EMPREINTE®
Public database

1 650 Data

BASE PEF/OEF®
Public database

3 000 Data

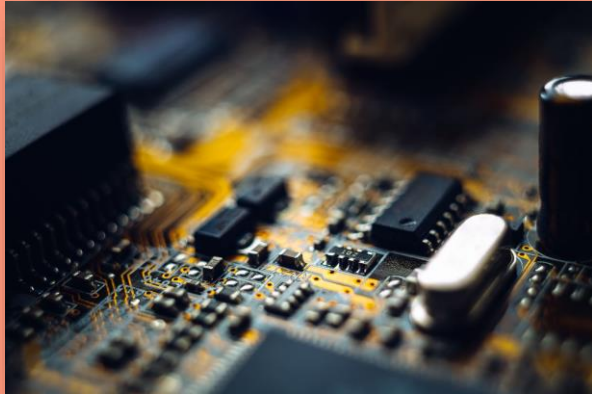
For more than 20 years, the CODDE database, specific to the electrical and electronic products sector, has been developed in-house and integrates life cycle inventories of industrial partners as well as ELCD*.



*European Platform on Life Cycle Assessment

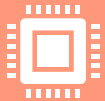
Summary result of an electronic card study

Usage scenario:



Distribution of components

Integrated circuits : 6
Capacitors : 66
Resistors : 106
Diodes : 10
Transistor : 6
Connectors : 10
Additional welds : 6

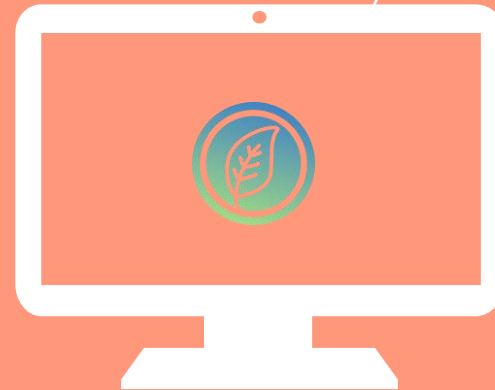


Substrate type: FR4
Number of layers : 2
Board surfaces: 104 cm²
Finishes : Solder mask



Fabrication en Chine

7,53 kg CO₂ eq.



Carbon footprint obtained with EIME software and the "PEF EF 3.0" indicator set

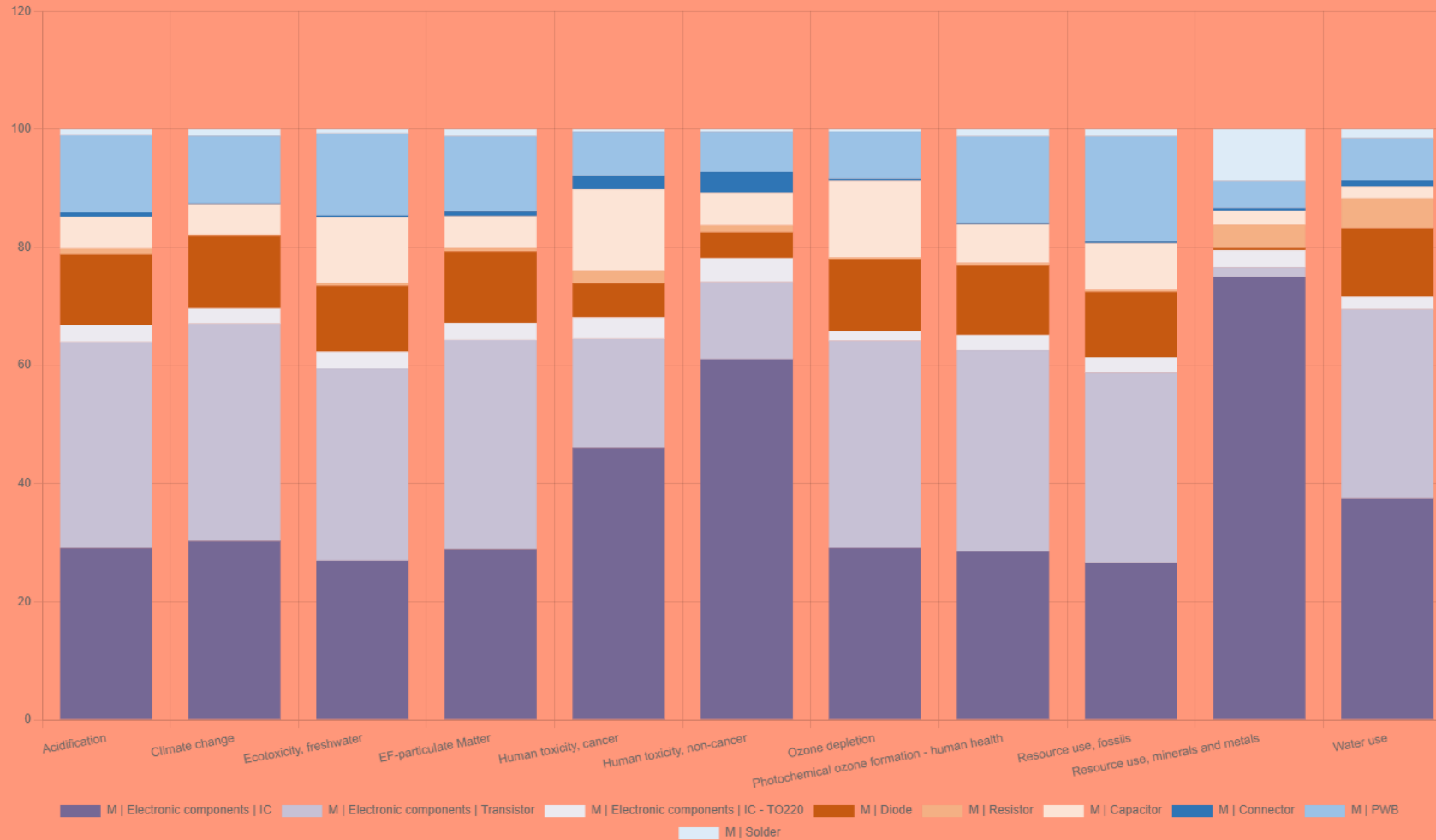


What does this represent ?



35 km by car
Source : datagir.ademe.fr

Analysis of results – multi-indicator impacts on the manufacture of an electronic card

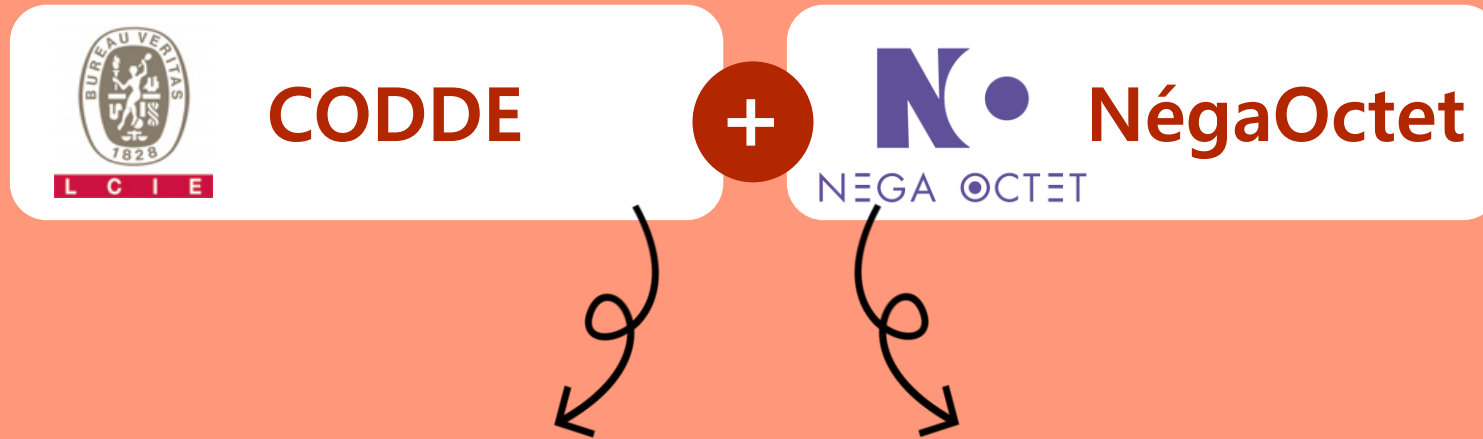


Contribution

Major contribution of integrated circuits on the depletion of abiotic resources in elements 75% of impacts. Between 25% and 32% on other indicators.

Transistors contribute from 29% to more than 37% of impacts while PWB PCB contributes 4% to 22% on all indicators.

More details with the use of the NégaOctet database!



Component and process data on:

- | Batteries
- | Capacitors
- | Connectors
- | Diodes
- | Heat sinks
- | Inductors
- | Printed circuit boards
- | Resistors
- | Thyristors
- | Transformers
- | Transistors
- | **And many more...**

Additional precision at the component level with:

- | Wafer
- | Processors
- | RAM
- | SSD
- | Screens
- | Graphics cards
- | **And much more...**

More details with the use of the NégaOctet database!



Benefits:

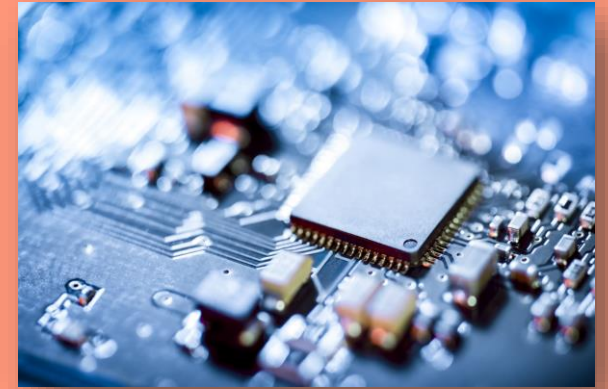
- Modeling data adapted to the IT sector
- Access to an additional component catalog

Key figure

9, this is the difference in carbon impact that can exist for the manufacture of processors.

Not all processors are equivalent on the environment. The NégaOctet database takes into account the technical parameters of semiconductor manufacturing: die surface, number of masks.

Source : [Rapport final d'étude NégaOctet, 2021](#)



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LCIE Bureau Veritas General public infographics

