How Newboot supports its customers in managing their carbon footprint with Digital Twins

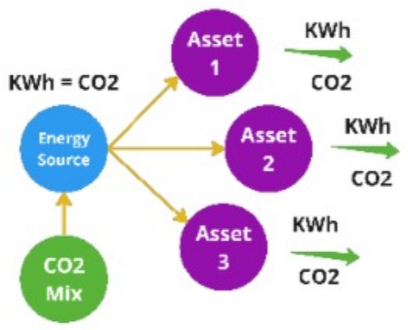
Carbon footprint mapping and assessment achieves its full potential when process operation is measured and integrated simultaneously.
This raises a relevant question: what is the CO2 consumption of a machine during maintenance?

Newboot improves carbon footprint management by adopting digital twins that accurately reflect process and energy data models

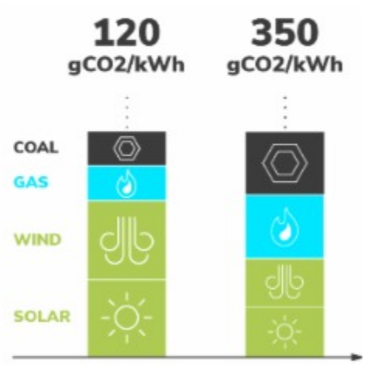
Newboot extends energy data models with Digital Twins

Newboot innovates in the calculation of CO2 emissions thanks to its Digital Twin energy data models

This method allows each asset to be virtualized, where its digital twin offers a detailed description of its data. Through this virtual duplication, we measure the energy consumption of the asset in real time, thanks to the use of industrial sensors which provide standardized data in kWh.



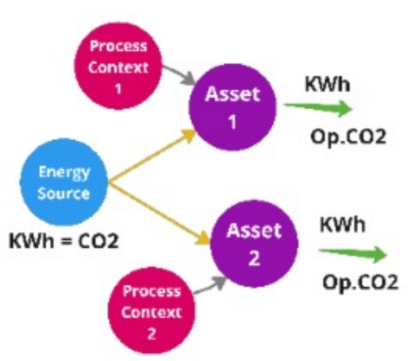
The next step, the conversion of kWh into tonnes of CO2, becomes almost intuitive once the energy source is known and precise on the part of the energy operator.



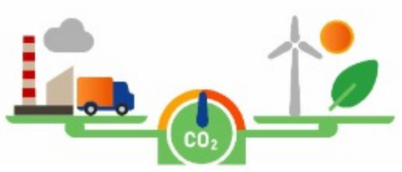
The key to this enhancement lies in digital twin modeling, which establishes a direct correlation between energy consumption and energy source. The model specifically integrates the CO2 factors associated with each type of energy mix, thus ensuring an accurate and responsible assessment of CO2 emissions.

Real-time monitoring of CO2 emissions in operation for a ZeroCO2 strategy

Newboot's innovative solution creates a virtual connection between an asset and its operational environment, primarily through the MES (Manufacturing Execution System), thus making it possible to determine operational CO2 consumption. This means that even periods of machine inactivity, which are traditionally seen as a drag on operational efficiency, can be revalued to the advantage of reducing CO2 emissions.



By integrating energy data with process information, Newboot paves the way for detailed analysis of the carbon footprint within operational processes. This makes it possible to precisely calculate the tonnes of CO2 linked to operational requirements (Op.CO2.tons).



Thus, Newboot offers companies a key solution to optimize their actions and investments in favor of reducing their carbon footprint, aligned with the objectives of sustainability and environmental responsibility.