

## Exploring the Role of Digital Tools in Supporting the Circular Economy

It is not new that the circular economy applies to many areas, including technology.

This article aims to understand how digital tools can support the circular economy. Digital tools play, indeed, a big role in the implementation of the circular model. Here they are:

- **Exchange platforms:** Digital platforms can support exchanges between businesses and consumers. In this way, it is possible to extend the life of products and avoid waste. For example, second-hand platforms can allow products that have reached the end of their useful life to find a new life with other users.
- **Environmental impact modelling:** Digital modelling tools can help companies understand the environmental impact of their products and production processes. As such, it can help them identify areas where improvements can be made to reduce their environmental footprint.
- **Waste management:** Digital tools can facilitate more efficient and responsible waste management. Waste tracking and management systems can help companies track their waste streams and find ways to reduce or recycle them.
- **Data analysis:** Data analytics tools can help track and measure circular economy performance. With these tools, companies will find it easier to understand their environmental impact and find ways to improve it.
- **Sharing economy:** Digital tools facilitate the sharing economy. Indeed, they allow individuals to share resources and goods. This economy helps to reduce resource consumption and to promote a better use of existing goods.

In addition, digital tools can also be used to facilitate the traceability and transparency of raw materials and waste streams. With these, it will be possible to identify bottlenecks and inefficiencies in the supply chain. This will make resource management more efficient.

**Some tools used for tracking can be listed, such as:**

- databases.
- QR codes.
- barcodes.
- radio-frequency identification (RFID), It uses electromagnetic fields to automatically identify and track tags attached to objects.
- watermarks.

By providing valuable information on raw materials, recycling waste in a better way, sharing resources and goods, and improving the traceability and transparency of raw material and waste flows, digital tools play an important role in implementing the circular economy principle.

**Sources:**

[Toward a circular economy: The role of digitalization - ScienceDirect](#)

[Include-CE – Circular economy to infinity](#)



*Annika Hedberg, Stefan Šipka - Toward a circular economy: The role of digitalization*