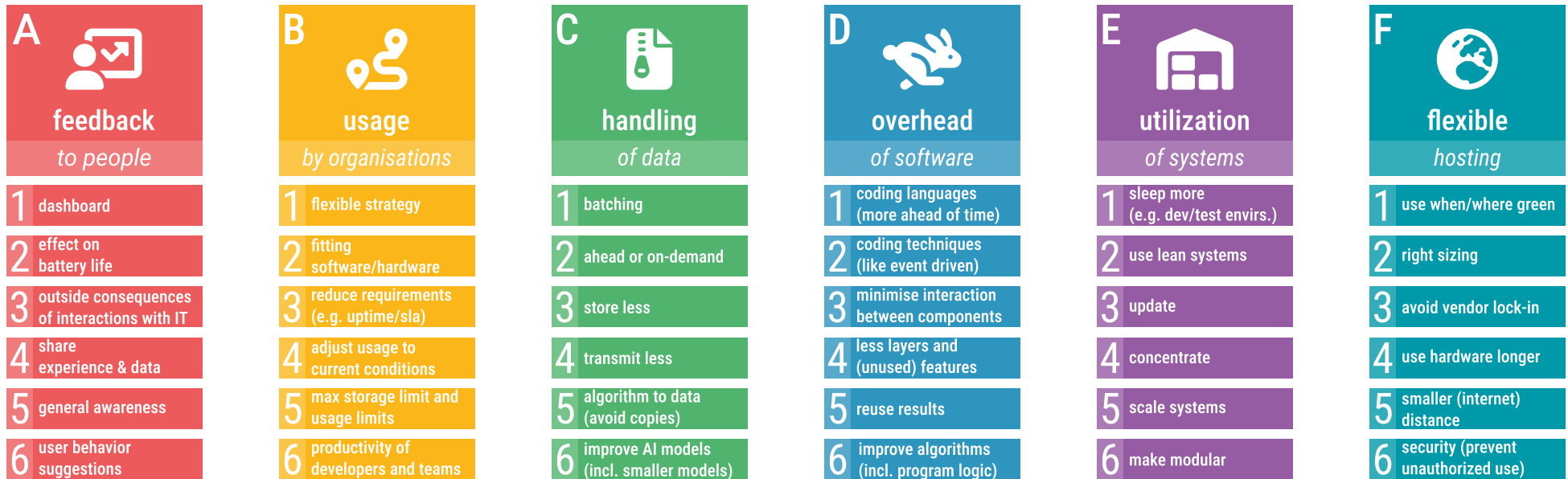


# Strategies for green software (incl. AI) | v2026.02.25

Infographic | *Software Energy Lab* | Radboud University

Bernard van Gastel | [Bernard.vanGastel@ru.nl](mailto:Bernard.vanGastel@ru.nl) | <https://sustainablesoftware.info>



## Explanation

Our research (see our website) indicates that it is **difficult for stakeholders** within ICT projects to **communicate about the environmental impact** of/with software, and that **many professionals lack an overview of strategies** in their conversations. With this discussion guide, we aim to support these challenges.

These strategies can be applied during **requirements, architecture, implementation, testing, and deployment**. This infographic can be used in **conversations between different roles**, such as technicians, purchasers, and managers.

A structure for consumers that is often used: **computing, storage, transmission, and idle**. Each application and use case has a **different mix of consumers**, and therefore requires **different strategies**. Sometimes there is a **conflict between different strategies**, and a **custom trade-off** must be made.

The perspective of **process, technology, and product** is often used for producing quality products such as sustainable software.

## Definitions

**Sustainable digitalization** is deciding which processes in a chain to support with software, and which not to. This takes into account economic, social, and environmental impact.

**Sustainable software** is created with **sustainability-by-design** (which includes green-by-design): being aware of impact throughout the entire software development process. This is in contrast to impact analysis and mitigations done afterward, which can lead to missed opportunities.

**Green software** is **green-by-design**:

- software with **minimal environmental impact** (from IT itself), or
- software with a **green effect** (using IT to achieve a positive environmental outcome).

Electronics have an environmental impact during **production, use, and end-of-life**. This impact can be **electricity** (energy) and the associated **CO<sub>2</sub> emissions**, but also **water** or other resources.