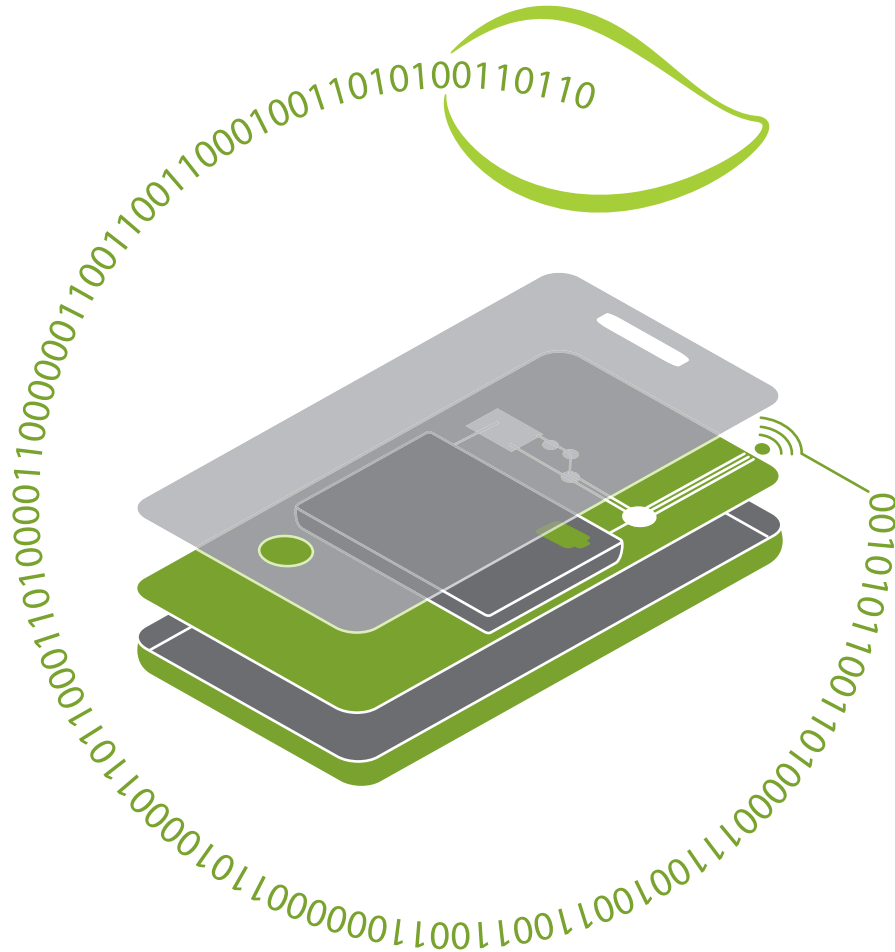
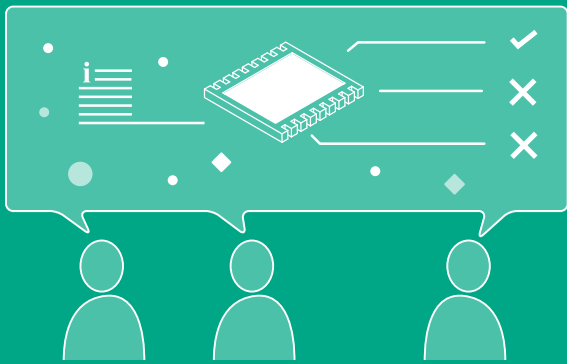


# SUSTAINABLE ELECTRONIC SYSTEMS







## SPECIALIST CONSULTING AND FURTHER TRAINING

We bring you up to date on legislative issues and eco-design methods and prepare you for future regulations and environmental trends.

### WHAT WE CAN DO

- **Lectures and consultations** on customer-specific topics
- **Eco-design training courses** for hardware and software development
- **Design thinking and co-creative methods** for the development of new ideas and solutions
- **Technical workshops and international conferences** including the Electronics Goes Green every four years

### REFERENCES

- **Arbeitskreis gesetzestkonformes Design**
- Advice on the Ecodesign Directive (ErP Maßnahmen)
- Advice on prohibited substances and support for exemption applications (RoHS, REACH)
- Advice on energy efficiency (Produkte und Software)
- **Training on environmental assessment** (LCA, criticality, toxicity) and sustainable product development
- **REFER (EU project):** impart knowledge about critical raw materials in repair cafés



## ENVIRONMENTAL ANALYSIS OF YOUR PRODUCTS AND SYSTEMS

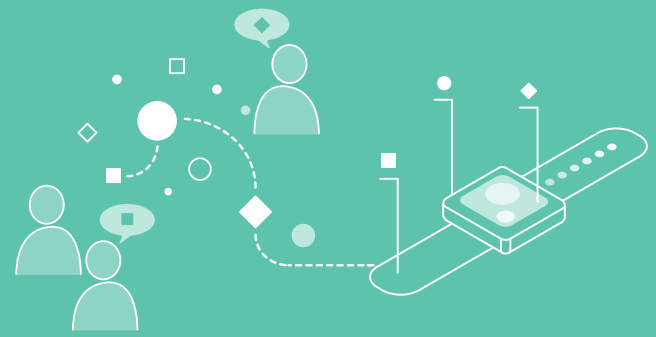
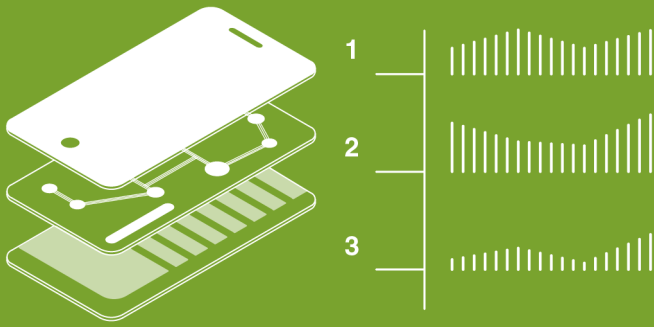
Life cycle assessments help you to quantify the environmental impact of your products, identify the relevant levers for improvement and demonstrate the benefits of new designs. We can create a lifecycle inventory for your products or review your own balance sheets for public presentation.

### WHAT WE CAN DO

- **Preparation** of life cycle assessments incl. product carbon footprinting and process lifecycle inventory
- **Review** external life cycle assessments
- **Model complex life cycle inventories** (multi-level model) for the evaluation of future developments
- **Recycling:** modelling end-of-life processes

### REFERENCES

- **Apple:** Company Carbon Footprints reviews
- **Fairphone:** Life Cycle Assessment (LCA) for ecologically and socially fair produced smartphones
- **BMWi:** modelling the ICT-related electricity demand in Germany
- **Umweltbundesamt:** data sets and evaluation for ecological cloud computing
- **LCA to go** (EU Project): simplified life cycle assessment for electronics



## OPTIMISATION OF PRODUCTS AND PROCESSE

We support you in optimizing the sustainability of products and systems based on life cycle data, system understanding and cost analyses.

### WHAT WE CAN DO

- **Ecodesign** of ICT devices: modular concepts, improvement of durability and recycling friendliness
- **Detailed cost analyses** for novel assembly and connection techniques as a basis for ecological process and technology optimisation
- **Green IT and smart city solutions**
- **Close cycles:** concepts for the recycling and reuse of polymers, for the reuse of components and equipment

### REFERENCES

- **sustainablySMART** (Horizon 2020): optimisation of the product life cycle of mobile ICT devices
- **Re-FREAM** (Horizon 2020): sustainability concepts for smart technologies in the fashion industry
- **PolyCE** (Horizon 2020): post-consumer recyclates for electrical and electronic equipment
- **Panel Level Packaging Consortium:** derive process optimisations from cost scenarios

## SHAPING CHANGE TOWARDS A SUSTAINABLE FUTURE

We engage collaboration among research and companies and offer methodological and content-related knowledge to actively shape future trends at the intersection of technology, environment and society.

### WHAT WE CAN DO

- **Participation** in technology development
- **Social appropriation and dissemination** of sustainable technologies
- **Transdisciplinarity** – bring together different branches of science as well as science and practice

### REFERENCES

- **PROMPT** (Horizon 2020): design and testing for durability
- **MoDeSt** (BMBF): modular ICT for recycling management
- **OHA** (BMBF): obsolescence as a challenge for sustainability – causes and alternatives
- **SobO** (Umweltbundesamt): strategies against software-related obsolescence
- **C-PLANET** (Horizon 2020): user acceptance for recycled plastics
- **Repara/kul/tur** (BMBF): citizen research “repair and do it yourself”

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*In cooperation with*

