

## CLIMATE CHANGE AND SCARCITY OF RESOURCES

We have been researching, developing and advising on the subject of environmentally compatible design of electronics and IT for over 25 years. Our range of services is geared to the growing needs of information for product developers, compliance managers and decision-makers.

## WHAT WE CAN DO

How can companies in the electronics and IT industries face the scarcity of resources and counteract climate change? Which products and business concepts are economically and socially sustainable under the changing conditions? We developed know how regarding how products can be designed to be more resource-saving, more durable and optimized for recycling. We support you in the environmental assessment of your products and business models. Based on the precise quantification of ecological aspects we develop long-term sustainable products, processes and strategies. Our experience shows that the environmental requirements vary for each company therefore we respond to each case individually. As an interdisciplinary and transdisciplinary team, we look forward to developing sustainable solutions for your electronics and IT projects together with you.

## CONTACT

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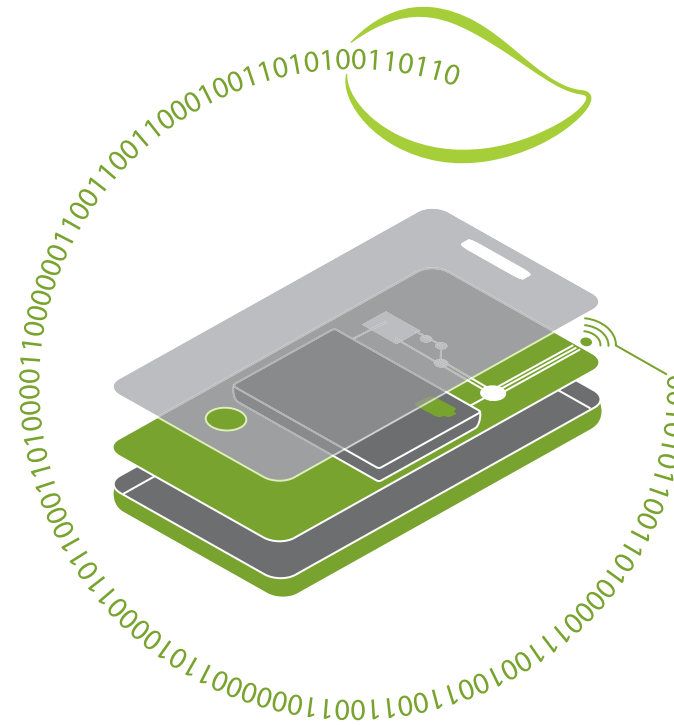
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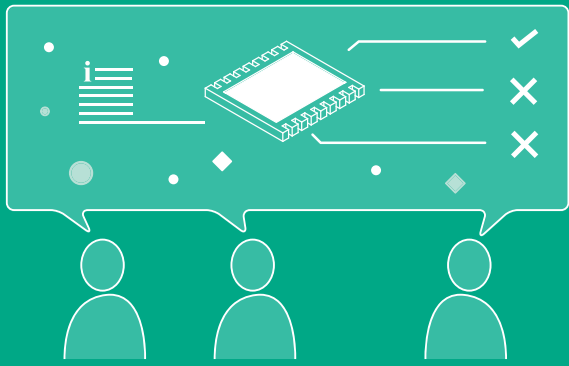


In Kooperation mit



# 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 gesetzeskonformes 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

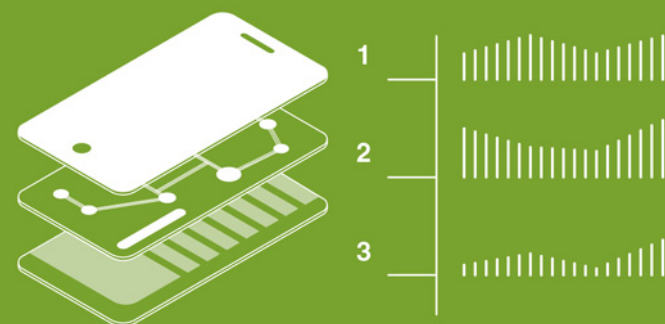
Life cycle assessments help you to quantify the environmental impact of your products, identify the relevant levers for improvement and demonstrate the benefits of new designs. We can create a lifecycle inventory for your products or review your own balance sheets for public presentation.

### 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
- **BMW:** 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 PROCESSES

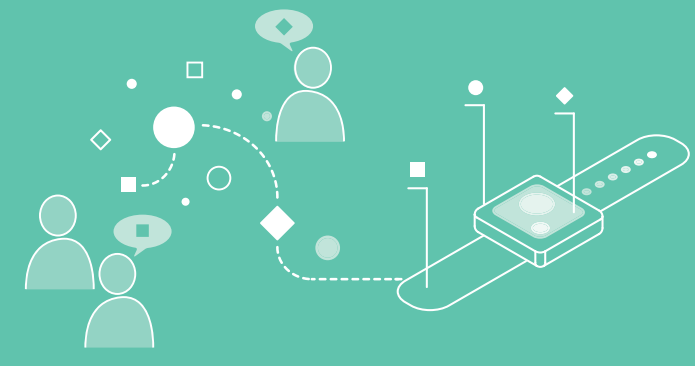
We support you in optimizing the sustainability of products and systems based on life cycle data, system understanding and cost analyses.

### 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 recycles 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

- **OHA (BMBF):** obsolescence as a challenge for sustainability – causes and alternatives
- **PROMPT (Horizon 2020):** design and testing for durability
- **MoDeSt (BMBF):** modular ICT for recycling management
- **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”