

Summary of the ECODESIGN Workshop held at the DESIGN 2002 conference in Cavtat.

1 Round up from morning session - topics of the presented papers

Papers - ECODESIGN WS

- ⇒ cooperate company strategies
- ⇒ method development ^{OPM benchmarking Pilot}
- ⇒ method selection (eco + inno)
- ⇒ teaching and training
- ⇒ product strategies (DFX-techniques)

2 Clustering of meta cards from the morning session

2.1 I have ...

Tools and Techniques

- Free available tool for learning and applying ECODESIGN in companies
- Various environmental analysis tools / methods
- Plenty of tools (even useful ones)
- Analyzed methods for ECODESIGN and applied them to example products

Training / Education

- Training and education (experience knowledge)
- Teaching material for ECODESIGN
- A growing catalogue of environmental teaching material (for both industrialists and students)

Networking

- A platform to exchange ECODESIGN ideas

Data & Project & Results

- Many product-LCAs and system LCAs
- A lot of product data (physical, LCA, etc...)

Understanding / Insight

- Basic knowledge on why ECODESIGN implementation is problematic (environmental value chain issues)
- The insight that top-down corporate guidelines are helpful, but not enough goals

Industry Contact

- I have industrial connections (good connections with industrial environmental departments, but not beyond them)
- Contact to students

Consumer Focus

- I have skills developed during research about consumer tastes, motivations & behaviour which helps to identify new product opportunities. Currently I am applying this for a PhD to marketing environmental issues

I have ...

- tools + techniques*
- training and education material*
- understanding / insight*
- data and project results*
- industry contacts*
- consumer focus*
- networking facilities*

2.2 I need ...

Whole Life Thinking

- -Awareness, that "reduced resource consumption" does not always mean "reduced environmental impact".

Industrial Drivers / Barriers

- I need more insight on how to cope with barriers for ECODESIGN implementation: is it just money / budget restrictions? Is it just managers that are committed (I do not need a description of how things can / should be, more tools!)
- How to stimulate use of eco-designing?; through legislation considering products; Combination of education and taxation in ECODESIGN

Terminology

- Consensus about terms used ("Environment", "impact", ...)

Means for Networking

- I need a discussion forum for exchanging ideas and methods for teaching ECODESIGN
- Experiences from others in applying ECODESIGN methods
- Active research in the ECODESIGN mailing list (discussion@ECODESIGN.at)

Case studies (Design & Use)

- Product examples to show application of my tool
- Real life opportunities to apply my PhD consumer research to products / services which are eco designed for field work; Do people consider that consumer pressure will be the driving force for?
- Ideas how to design case studies to research this topic

Best Practice (Communication)

- Success factors for an environmental product development
- Success stories in ECODESIGN
- Greener marketing strategies for the company, the management and the customer

Cross Disciplinary Approaches

- Classification on how one could define product architecture for mass-customised products
- Tools to train engineers & students in civil engineering to do eco-like design and analysis
- Examples of research on the industrial dissemination & acceptance of other "new" business aspects that we can learn from (QFD, DFA, ect.,...)

I need....

- ▣ industrial drivers
best practice approaches
- ▣ cross disciplinary approaches
integration - "infiltration"
- ▣ fundamentals (terms, LCT,...)
- ▣ discussion - networking, means

3 Guided discussion

3.1 Negative (!) Brainstorming: How do we avoid the implementation of ECODESIGN in companies?

- No change in the financial system (tax system,...)
- Only talk to already convinced and non powerful managers
- Don't train engineers
- Talk about things nobody understands
- Isolate green ideas (only green touch for products)
- Show that it costs a lot of money, time, effort
- Try to shoot them
- Don't communicate with the customers
- Hide good/successful results
- Environmental impacts are not caused by products but by something else
- Swamp them with tools and useless data
- Stop law regulations and standards
- Concentrate on simple products, do not touch complex ones
- Keep annoying them with project proposals
- Keep walls/fences between departments
- No management commitment (e.g. no time for ECODESIGN)
- Ban concepts
- Close the product development process
- Keep conflict between "regular" and "eco" design
- Universities should be arrogant (e.g. know everything about the product)
- Only old labels and brands
- ...

3.2 Statements of the participants

- It is difficult to communicate that ECODESIGN is not only time consuming but also allows saving money.
- The awareness for ECODESIGN can be actively supported by authorities (e.g. laws, standards, taxes).
- Companies which are aware of environmental weaknesses of their products do not necessarily want to change that.
- Companies do ECODESIGN because they want to be aware of their ecological weak-points (to have evidence for acting or not acting)
- Knowledge about future legislation activities can trigger ECODESIGN activities
- Not to be worse than competitors
- ECODESIGN brings money e.g. reducing waste, reduces disposal costs, but also less materials are purchased. This is cost relevant by a factor 10-15.
- Low hanging fruits of ECODESIGN are not the problem, if higher level wants to be achieved the benefit must be evident
- Achieved benefits should be accounted to the environmental department – new accounting systems are needed
- Tough burden such as ecological taxes or laws might raise the profits on the long run
- Instruments are needed (e.g. balanced score cards) that break down the company goal to the level of the product and the departments

- What should we communicate: How can we make it happen? How can we design case studies, to convince them...can we identify causes...why are they not implemented even if they are good – How can we solve this information flow problem?
- Companies often have no environmental design department.
- How do I know that investment actually brings cost saving?
- We can almost always show that it work in theory, the problem is convincing people in practice.
- Environmental issues are sometimes not clear enough for company goal settings.
- What are the success factors for well accepted methods (e.g. project management methods, requirements list)?
- There is always the treat that there might be not so much money in it.
- Companies have too many restriction and that is why nobody is doing environmental effort in addition.
- Reasons for ECODESIGN are customers requirements, laws/standards or potential cost saving.
- The legislative framework can be built in a way that reward companies' environmental activities so that they save money.
- Legislative “push” on the one hand and market “pull” on the other hand can be separated: Reducing cost is more a push factor while having a green image is more a market pull factor, i.e. a company may sell more products. Example: Like it happened over the last years with organic/ecological foods and drinks.
- To become aware of ECODESIGN you have to teach it to the customer. It can be compared with safety issues. Today, we expect ABS, airbags, side impact protection etc. All together features we did not know of just a couple of years ago. Everybody knows them today now – can we do that with environment as well ?
- The main difference is that information at universities is public, while at companies it is secret.
- Companies are sometimes hiding environment from the customers, because they are afraid that a significant number of customers will go away. This is also true between companies.
- Suppliers are selling products to others, they are not so well organised and big. They need easy tools, the approach is different. Main issues are: What type of material or component do I choose?. They cannot access the required information in given time frame.
- We need to distinguish between big and small companies in the different types of industry/products.
- For implementation, we should learn from other fields such as QFD, modularisation, etc. Companies can also learn from each others experience.

3.3 How close to the target (i.e. sustainability) are we?

- Judging on this depends on many factors, such as reference year, type of product, system borders, etc.
- Usage phase is often the most important one. There, reaching a factor 20 might be possible
- Electronics products get greener “by themselves” due to increasing miniaturization.
- Take “rebound effects” into account: If the product is improved by a factor of 2 but sold 5 times more then the overall environmental impact gets higher.

- In the field of recycling, Europeans already are good, in others they are behind the possibilities.
- Europe is aware of the environmental impacts. In developing countries, this is different and will change in the future.
- We are just starting with ECODESIGN in industry. (Solar power is an issue, though).
- The environmental and the normal goals have to be aligned more, otherwise we will never be efficient.
- Only if the individual is forced or convinced it is working. Everybody needs personal benefits; the customer as well as the designer.
- This is a “chicken and egg” problem. If there would be customers there would be products and the designer would design them. However, only 15% of the customers would pay more for environmental products (depending on product category).
- Environmental products are not always more expensive.
- We can change something within our design society, but not the world.
- Consumers often do not trust into companies. How can consumers really believe that a product is environmental friendly?
- We face the same problem with transfer of methodology into industry. We have to show the benefit of using methods and we have to do the same with sustainability.
- We have to deal with the reality and overcome the barriers and integrate environmental ideas.
- Industry should not be confronted with too many tools.
- We have to broaden-up the view with environment; not only focusing on cost or quality. We need an integrated approach.
- Teaching and training have to be worked on differently. We have to collect good examples but it can take long time until methods really are accepted.
- The competence is going right into the environmental department, but no further, not into the design department.

3.4 How do we infiltrate environmental efforts:

- ▣ how do we infiltrate environmental efforts into:
 - * top management ⇒ teaching on eco... awareness
 - * product management ⇒ linking univ. + indus.
 ⇒ convincing
 - * project management ⇒ exchanging information
 examples
 - * single designer ⇒ positive experiences

3.5 Future activities:

How do we follow up?

- * exchanging education exp.
- * product examples
- * invite industry people
- * ways of motivation
- * participation in the SIG
 - └ us at ICED 03
 - └ support from president

3.6 Picture gallery:

Impressions from a good discussion at the ECODESIGN – Workshop:

