

Geberit and Eco-Design

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Company Profile



Market Leader in Sanitary Technology

- The European market leader in Sanitary Technology
- Headquarters in Jona, Switzerland
- Sales 2004 of CHF 1,907 Mio.
- 5,200 employees across 37 countries
- 30 sales and marketing companies
- 16 specialized production sites in Europe, USA and China
- Nearly 500 technical advisors
- Training of approx. 25'000 installers, planners and architects per annum

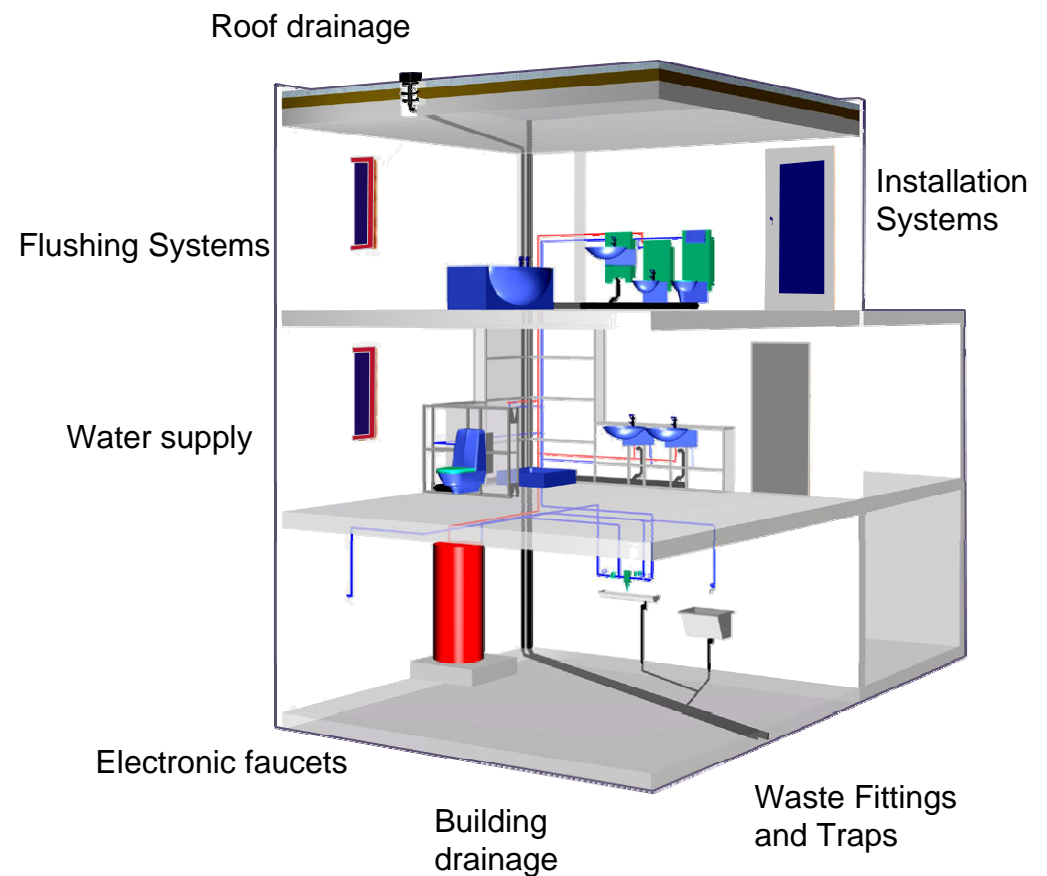


Company Profile



Integrated solutions

- Two product ranges
 - Sanitary Systems
 - Piping Systems
- Core Competences
 - Improved building procedures
 - Acoustical insulation
 - Water conservation
 - Drainage hydraulics
 - Fire protection



Geberit and Environment



Environmental Pioneer in Sanitary Industry

■ Company-oriented

- Operational improvement (processes, energy, etc.)
- Environmental Management according to ISO 14001
- Corporate eco-balances

■ Product-oriented

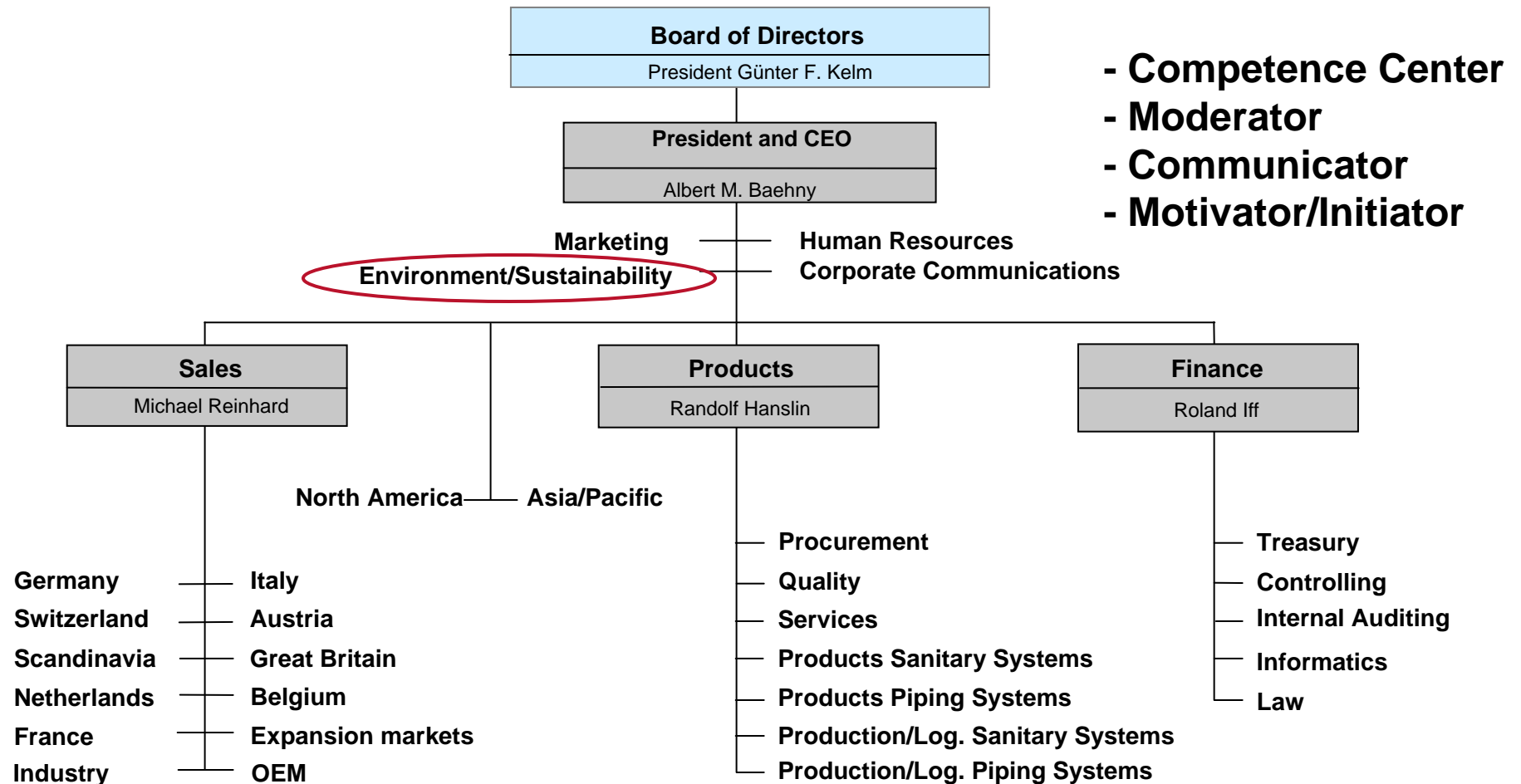
- Development of eco-efficient products
- Use of LCA's (long tradition)
- Minimisation of problematic substances

■ Market-oriented

- Take-back of old products (historic waste)
- Information and training of customers and other stakeholders (analysts, public authorities, etc.)
- Cooperation with environmental organisation (BUND)



My Role (within Eco-Design)



Environmentally friendly products create value

■ Characteristics of environmentally friendly products

- Long durability (incl. spare parts, exchange sets, etc.)
- Unproblematic materials
- Good recyclability, easy disposal
- Low water and energy consumption during use

■ Examples

- Intelligent electronic faucet
- 1 liter water saving technology for urinals
- Noise reducing pipe technology



LCA Duofix WC Element



Framework

■ Object of investigation

- WC-Element, dual flush (6/3 l)
- Flushing actuators (white, mat chromium-plated)

■ Functional Unit

- Complete cistern, 25a

■ Scope

- Whole life cycle
- No panels, no ceramic

■ Assumptions

- Production: internal energy use
- Utilization: family, 18 l per person.day, 650m³ total
1 liter flush scenario → 5 l instead of 18 l (-70%)
- Disposal: Cardboard and metal → recycling, rest → incineration

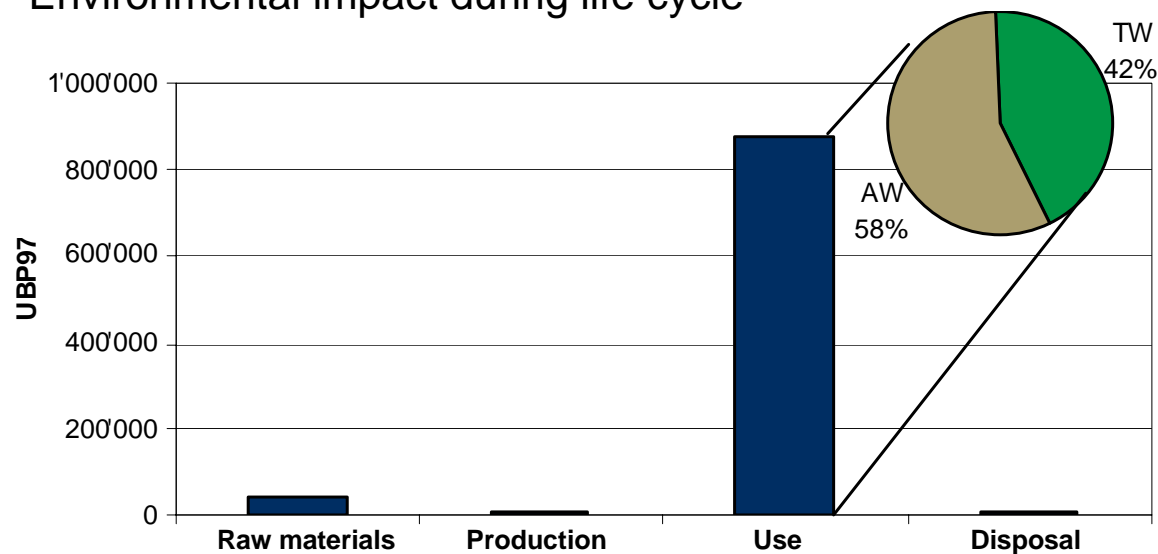


LCA Duofix WC Element



Results whole life cycle

Environmental impact during life cycle

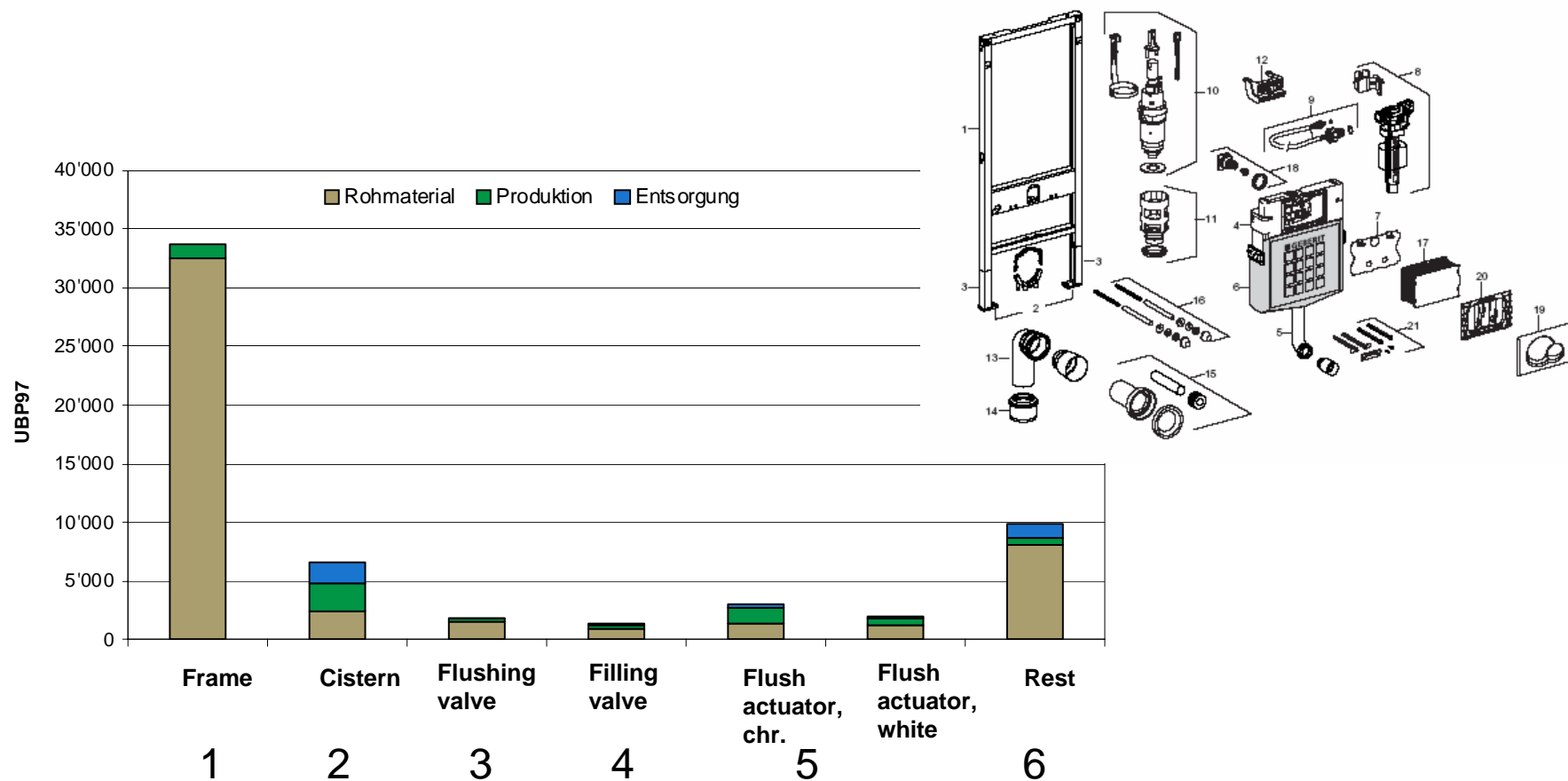


- Highest impact during use (94%), 5% raw material → Water saving
- Water saving limitations (flushing technology, sewer system)
- Optimization of the existing system (on the short/long run)
- New system (e.g. 1 liter), leap of technology (on the long run)

LCA Duofix WC Element



Optimizing Geberit Duofix WC Element

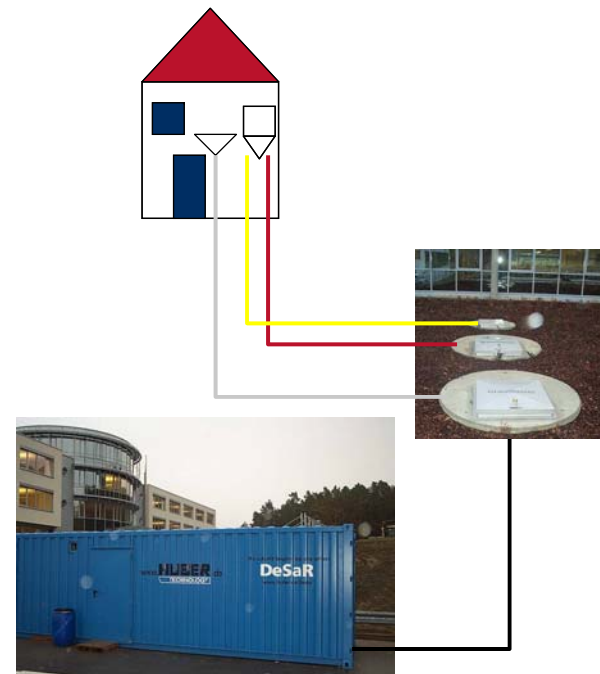


LCA Duofix WC Element



Flushing Technology in future

- Open system boundaries
 - House + Supply + Disposal
- Besides water saving ...
 - Use of „grey“ water
 - Separation urine - excrements
 - (Intermediate)Storage
 - Controlling (intelligence)
 - Etc.



→ Completely new product requirements, new technology

Ecodesign Workshops

- Project-specific, punctual
- Eco-design workshop at an early stage (2-4 hours)
- Rough analysis based on
 - Existing LCA
 - Grey energy
 - Qualitative aspects
- Legal compliance check → increasing importance
- Benchmark, incl. existing product (😊, ☹️)
- Definition of measures
- To go into detail
 - Eco-Design pilot / assistant
 - LCA
 - Internal experts

LCA and Ecodesign-Tools

■ LCA

- Strong focus on product
- Tool for analysis
- (Relatively) complex
- Detailed information necessary
- Convenient for comparisons and discussing scenarios
- Basis for external communication (leaflets, EPD's, etc.) and marketing
- Experts are needed

■ Ecodesign-Tools

- Broad view (benchmark, legal compliance, social aspects, etc.)
- Easy integration into R&D process (at an early stage)
- Rough data pool is sufficient
- Easy to understand
- Moderating and inspiring
- Support by experts is necessary

Challenges

- Integrate Eco-Design into product development process at an early stage
- Acceptance within project team
- Good moderation
- Speaking developer's language
- At the beginning: get an overview instead of going too much into detail
- Finding all important eco aspects
- Communication of realised measures to the customer

Thank you for your
attention !

