Simulate, Print and Go!

Staying Ahead of the Technology Curve with Virtual Garment Simulation
Prof. Meike Tilebein:

"Together with textile and clothing companies, which mostly co-operate within networks, we constantly develop and test concepts, methods and instruments to acquire knowledge that can be applied to the fields of innovation and operational management and new organisational structures."

Alexander Artschwager:

"New technologies and integrated workflows are transforming the textile and garment industries. The Simulate, Print and Cut process integrates virtual modeling, layout, printing and cutting tools to reduce time to market while supporting options like made-to-measure and print-on-demand."

The Centre for Management Research (MR) is part of the German Institutes for Textile and Fibre Research Denkendorf. On current issues such as innovation management, knowledge management, production management and logistics, our approach consists in transferring best practices to individual companies and to value-added networks within the textile and clothing industries and their partners.
Simulate, Print and Go!

Mission, Vision, Strategy

On the future of the European textile industry and staying ahead of the technology curve

The textile and fashion industries have always been characterized by fast changes in trend and style. But both are now also coping with the changes caused by negative impacts of standard industry practices on the environment and on the position of the industry in the west. This is where the development of new technologies, like virtual garment development and modeling, digital textile printing and surrounding processes can make a difference. Alterations to the chain of supply and efficient use of materials combined with increased cooperation between industry branches leads to the creation of better, more ecologically aware and customer-focused products.

Virtual, rather than physical models are translated directly into a product made with a reduced consumption of water, ink and material. The technologies which support this process are flexible and can be used to help both independent designers and large industry partners to transform their traditional approach to business and offer new product options to customers.

Our goal for the future is to rethink our relationship to raw materials, the production process and our evolving customer base to create a modern business network which addresses the needs and desires of these diverse interests.

Simulate, Print and Go!

An internet service module supporting the actual production of the final clothing by automatically creating input for the large format digital printer which can be processed further without major manual intervention.

3-D visualisation and animation.

An automated marker making of all the clothing patterns.

A module to combine the boundaries with fabric, color, prints and cutting markers.

Color Managed Workflow in distributed design- and production framework. Establish a new process chain to design custom clothing for small series or individuals.

Co-operation between Partners.

R&D collaboration and knowledge transfer between:
- Research organisations
- Software companies and
- Industrial partners from the textile chain
Ben Neumann:

„Digital textile printing means flexibility and it is therefore ideal for fast prototyping and production. Thinking 3-D starts with the 2-D printing process."

Doreen Thierfelder:

„This new technology offers an exciting virtual connection between fashion and textile design. It gives the designer a playground of creativity and supports the holistic development of garment and textile designs."

Color Textil is a full-service textile printer and finisher with 180 employees located in Germany. The printing mill has rotative and digital printing facilities and specialises in premium qualities for home textiles and exclusive collections for ladies' wear. CTX is a business unit of the PEPPERMINT Holding GmbH.
Design Development and Print on Demand

Development of the textile design:

- On-demand inkjet printing on different substrates in a variety of color ways using a managed color workflow.
Dr. Martin Lades:

"The introduction of Virtual Product Development in the Fashion and Textile Industry significantly reduces Time-to-Market and Cost as well as opens up new prospects in this industrial sector. We provide the High-Tech Solutions required for this big step forward."

Larry H. Preußer:

"Designers can dramatically reduce development time by using simulation tools within the design process. With the Vidya software suite, garments and textile designs can be altered to fit different avatars. Changes are automatically reflected in the production pattern. Automarker.com is a web based marker making service which marks the pattern pieces of the chosen garment automatically for a minimum consumption on a fabric with a given width. The textile designs are placed within each pattern piece on the optimised marker and a PDF-file for the printout on a fabric printer is created. This file also includes the cutting information, drill holes, notches, contour lines and seam allowances for each piece. Vidya is the first tool for an integrated process, that links textile design, pattern making and marker making for rapid prototyping and large scale fabric prints."

assyst GmbH is a leading provider of expert, value-add IT systems for innovation monitoring and process control in the fashion and interior industries.
Simulation / Virtual Design

3D Virtual Design and integrating Textile Designs with Patternmaking:

- Transform pattern, textile designs, accessories into 3D rendering including all specifications that suppliers need to sew a garment
- Integrate the AMC-Service for marker making
- Integrate ICC-based color management workflow to print designs into markers
Hans Peter Tobler

“Digital textile printing is at the centre of everyone’s interest because it can unburden the textile industry by delivering lower-impact production alternatives while creating opportunities for new kinds of products. ErgoSoft RIP software is one of the favorites in this area because it works so well with the surrounding technologies.”

Ellen Mutchler:

“The fashion industry is focusing increasingly on small runs of unique products and this requires a new method of production that is just as flexible. ErgoSoft RIP software offers not only top-quality color management tools for printing but also streamlines many other steps in the production of large format digital textile prints. In TexPrint ICC profiles are created for each available textile and can be automatically applied to incoming print data. The comprehensive workflow easily adapts to service complex, multi-layer files. Creating a cut file, for automated cutting later in the production, is straightforward and barcodes and QR codes can be added to help identify orders. With a setup like this, small print runs can be done with the same speed as mass production.”

ErgoSoft is a provider of high fidelity RIP software and solutions. ErgoSoft RIPS are uniquely designed to meet the specific requirements of Fine Art, Photography, Large Format Graphics, Dye Sublimation, Custom Garment Decoration and Digital Textile printing.
Generating a Print Job

Color Management:
- A framework to manage color workflow on different media combinations in a textile design and production environment.

Digital Textile Printing
Production of the Product
THINK BIG! some comments.

Noémi Szalai

Vision: This pattern collection intends to point the fact out that how shallow and frustrating are the ideal parameters and sizes of today's fashion. These fashion-created idols cause huge problems and stress to millions of people! ... It is absolutely irrelevant how somebody looks like. The only thing what matters is what we consider to be good for ourselves. The fashionable look is only the matter of harmony and that we are capable to wear fashion and not to let fashion wear us! ... but try to realize that the person you are looking at is absolutely outstanding and unique ... and I believe this is pretty amazing!

Julia Sardinha

Vision: The work was done based on the subtlety of watercolor and digital work strength, which enables us to work quickly with practicality and incredible varieties. For me this describes much of the modern women, who besides working, caring for family, exercise, always have to look beautiful, be feminine and strong at the same time.
... Making her feel beautiful and elegant even if she is a larger size woman.

Sophie Valentin

Vision: ... I wanted to create a simple but special draft because in my opinion women of all sizes are allowed to enjoy the pleasure of wearing nice and elegant patterns without falling in large, luminous, colorful and showy motifs.
... The thread games design is a good way between a dress full of patterns and just a simple white dress.

Eva Srubaro

Vision: Around the world are presented human bodies, which are slim, skinny and beautiful. But the rest is ignored, so they should be „rude“ and present their bodies because WHY NOT? Everybody is beautiful with his body. Dress are interactive, so you could add, write something about you or your rude text, motto into the lines of pattern, BECAUSE WHY NOT.
example: I am pretty, why I should NOT show my body as it was created...

„As people are used to say – curvy body instead of saying obese, I would like to think that curvy body is an very sexy and feminine body of strong woman which is showing of her style independently of what´s people general opinion.“
(Zuzana Zmatekova)

Create Your Own

The annual Create Your Own Contest is an ongoing project developed by industry partners to support student designers. The contest is part of the European Research Project - CoReNet

www.create-your-own-contest.com
1st Place Design Award
„Think Big“

„Forme Oublié“
Zuzana Zmatekova
(AFAD Academy of Fine Art and Design
Bratislava, SK)

1 Textile Designs
2 Pattern Layer / Print file
3 Simulation on a Scanned Avatar
2nd Place Design Award „Think Big“
„THE BIRD ATLAS“
Filip Mensl
Technical University of Liberec (CZ)

1 Textile Designs
2 Pattern Layer / Print file
3 Simulation on a Scanned Avatar
3rd Place Design Award
„Think Big“

„MODERN CHAKRA“
Lubica Skalská
Technical University of Liberec (CZ)

1 Textile Designs
2 Pattern Layer / Print file
3 Simulation on a Scanned Avatar
CoReNet is an EU-funded programme that develops methods, tools and technologies for sustainable production of individualized garments and small series. The industrial value of the project is based on applying innovative solutions for design and production of healthy, fashionable clothing, footwear and accessories for consumers with health problems.

We thank the following companies for their contribution to the Showcase:

**JOOP!**

**ZÜN**

At a Glance

Project: CoReNet
Customer-ORiented and Eco-friendly
NETworks for healthy fashionable goods
Project Coordinator:
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TEL: +39 02 25771.1
E-MAIL: eva.coscia@txtgroup.com
Project URL: www.corenet-project.eu
Partners: 13 partners from 6 European countries
Duration: June 2010 – May 2013
Programme: FoF.NMP.2010–2
Contract Number: 260169