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Functional Aesthetics - Das Zusammenspiel von Technologie, Kundenbedürfnissen und Wirtschaftlichkeit im Bereich Fashionable Technology

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2. Jahrestagung des Fachverbandes der Textil-, Bekleidungs-, und Lederinstudie

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Fashionable Technology

refers to the intersection of design, fashion, science, and technology



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Functional Aesthetics

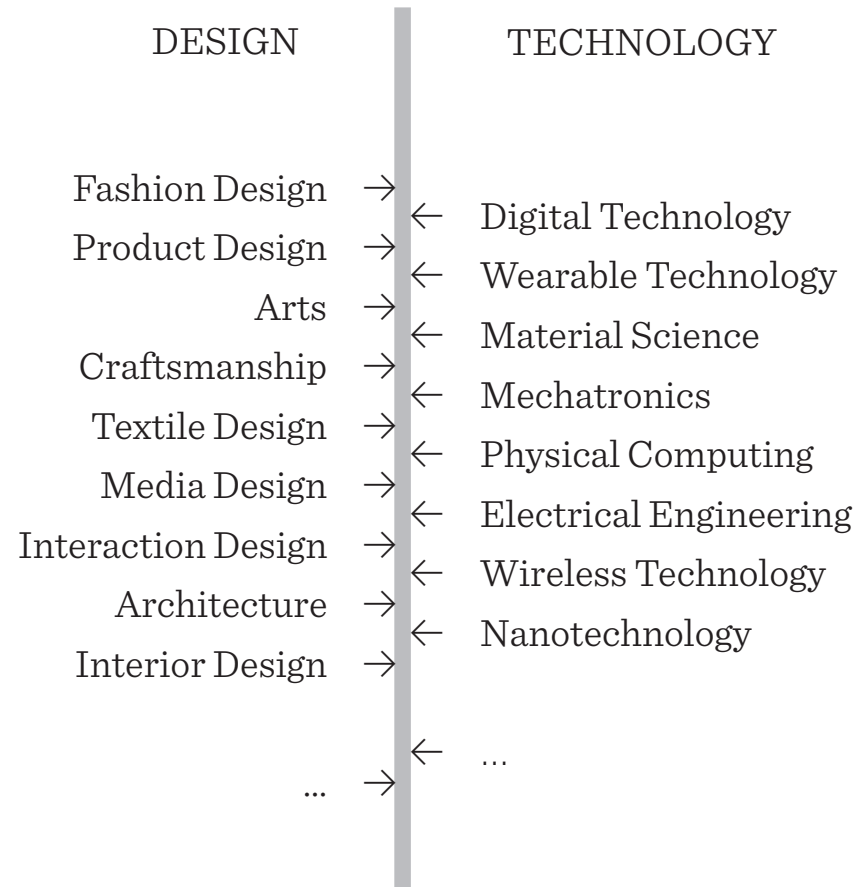
describes the concept of merging fashionable technology objects deemed aesthetically pleasant with technically enhanced functionalities.

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The Woven Interface

Technology and fashion are not as distant as it might first seem. The thread-up and thread-down of the weaving process corresponds to the binary logic of 0 and 1 of a computer circuitry.

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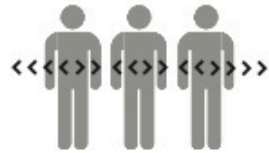
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Fashionable Wearables
are 'designed' garments, accessories, or
jewelry that combine aesthetics and style
with functional technology.

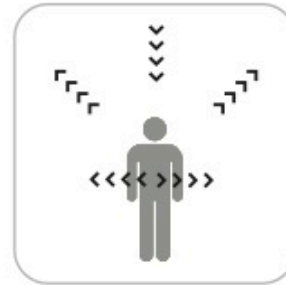
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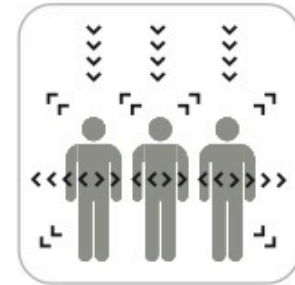
BODY



BODY/BODY/BODY



BODY-SPACE



BODY/BODY/BODY-SPACE

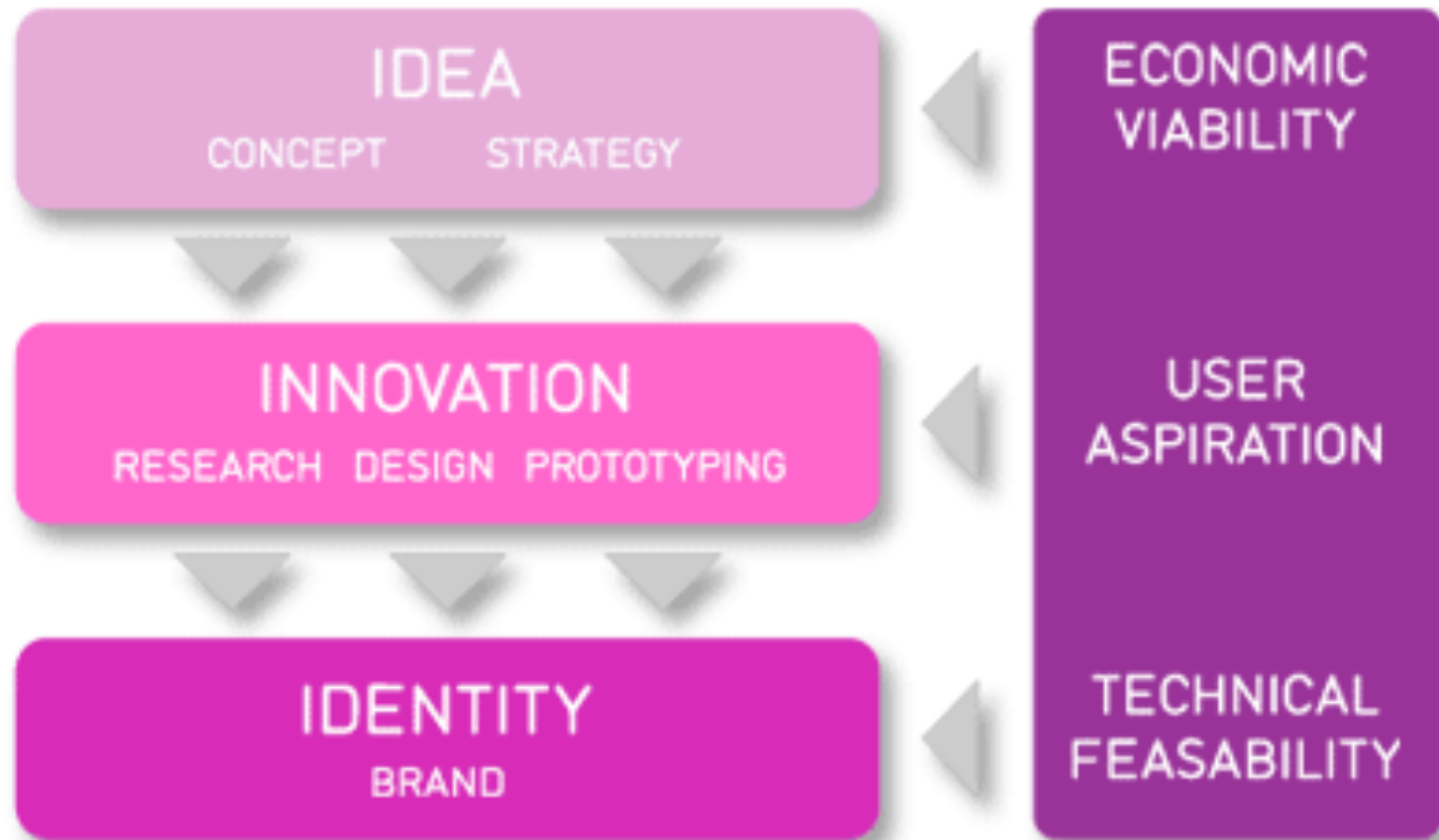


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Experiences

The value of a garments shifts from goods to services to experiences

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Garment Graffiti by Thomas Voorn

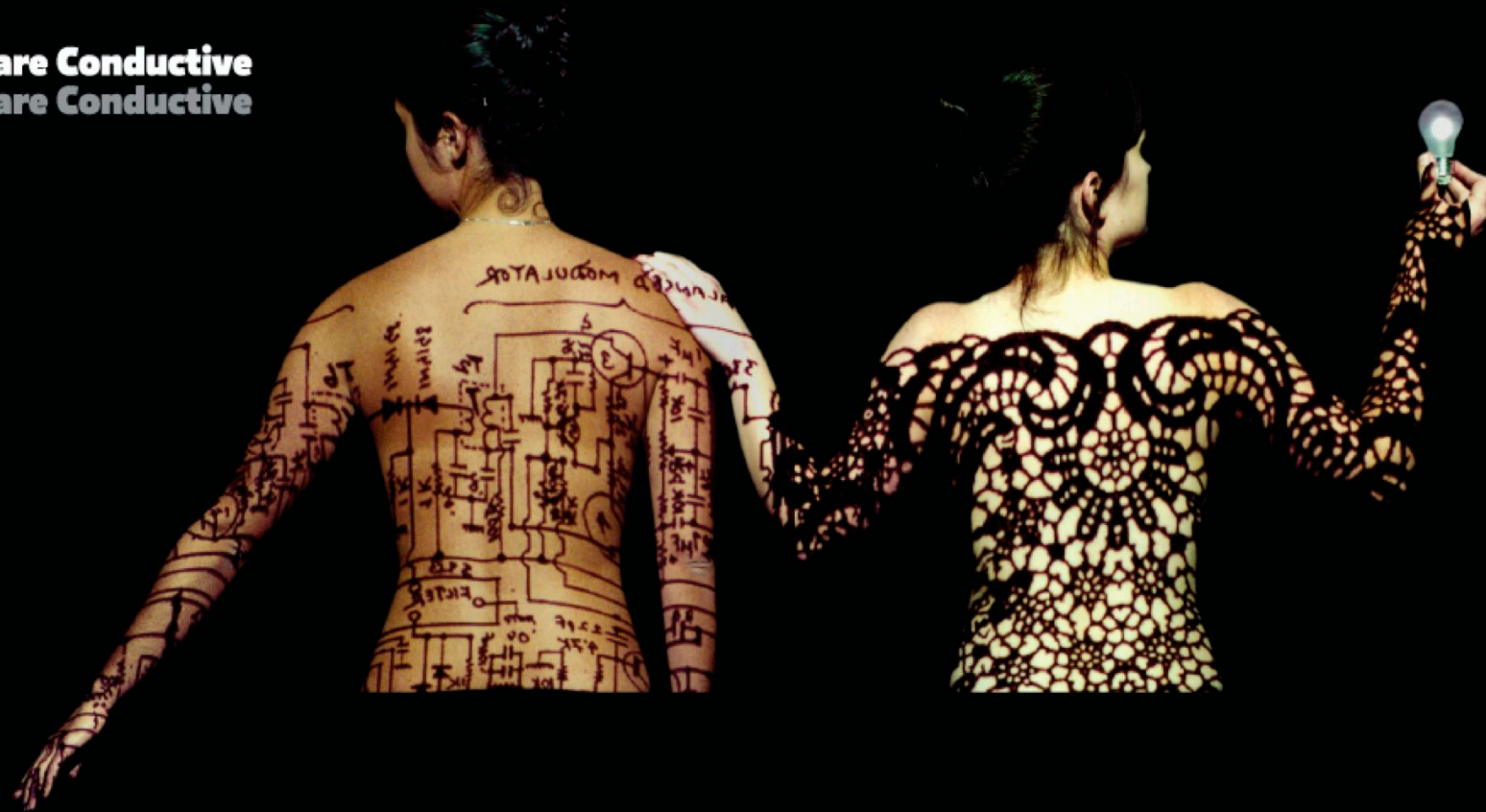
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Bare Conductive Bare Conductive



The implications of a conductive element applied directly onto the skin leaves room for many applications.

Bare, based in London, is the result of a graduate project at the Royal College of Art by Matt Johnson, Isabel Lizardi, Bibi Nelson, and Becky Pilditch.

Keywords: conductive, ink, body, skin, non-toxic, temporary

Bare is a skin safe conductive ink invented by four designers intent on creating a new space between wearable technologies and electronic

implants through direct application of electronic circuitry on the skin. Temporary, non-toxic, and water-soluble, Bare is composed of conductive carbon particles suspended in materials that are commonly found in food and cosmetic products, allowing for safe application on the skin with a brush, stamp, or spray. This unique material, first developed in 2009, has the potential to replace and augment existing technologies where wires are cumbersome

or undesirable. Bare is currently being developed for use in medical devices, standalone products, rapid prototyping, and larger-scale applications in the built environment.

www.bareconductive.com



Soomi Park LED Eyelashes

Technology is used to exemplify a social phenomenon when fantasy becomes fetish.

Soomi Park is a multimedia artist and graphic designer based in Seoul, Korea. Her design work is driven by her curiosity for new types of emotional design: inspiration is found in online and offline features that illustrate the dialogue between humans and the world. She has exhibited in various festivals and galleries in Asia and Europe, and was awarded an honorary mention at the Ars Electronica for her project LED Eyelash. She is also a lecturer at Dankook University.

Keywords: emotional, fashion, wearable, media, fetishism, aesthetics

The LED Eyelash project originates from a simple question: Why do women want larger and more prominent eyes? Asian women tend to have a stronger need for bigger eyes as a standard of beauty, but relatively few of them are born with them naturally. Alternatives must be sought to make their eyes look prettier, i.e. larger – for example, a repertoire of skills such as putting on makeup and wearing jewelry. At the verge of

obsession, many women opt for plastic surgery in order to make their dream come true.

Soomi calls this 'the fetish of big eyes'. LED Eyelash responds to this desire: It features an inclination sensor with mercury to turn it on or off, which follows the movements of the pupil and the eyelids. When you wear it and move your head, LED Eyelash will flicker accordingly. It is as simple as wearing false eyelashes and as easy to remove as a piece of jewelry. The LED Eyelash project was created at IDAS (International Design School for Advanced Studies), Hongik University in June 2007 using LEDs, an inclination sensor, battery, and headphone housing.

www.soomipark.com/entry/LEDEyelashes



Suzanne Lee
BioCouture



*Research in biology and materials engineering
open new possibilities for a sustainable future.*





Linda Kostowki & Mashallah Design T-Shirt Issue

New methodologies in fashion design lead to new forms and aesthetics. The use of actual body data adds a personal layer to the creation.

Linda Kostowski was born 1980 in Poland and raised in Berlin, where she studies experimental fashion design at the University of the Arts. Hande Akcayli was born 1974 in Turkey and studied fashion in Moscow and Istanbul. Hande co-founded Mashallah Design in 2007 with Murat Kocyigit, who was born 1974 in Germany and studied product design at the College of Fine Arts in Hamburg and at the University of the Arts in Berlin. The project grew out of a first time collaboration in 2008.

Keywords: 3D scanning, laser cutter, body, pattern

Three people are portrayed digitally by scanning their bodies. The output of this

scan is a 3D file; the resolution is defined by the amount of polygons, similar to pixels in a bitmap graphic. The 3D data is turned into 2D sewing patterns via the unfolding function, a common tool in industrial design to make paper models. The single fabric pieces and the inner interface that defines the edges are cut out with a laser cutter. This unfolding process fundamentally changes the aesthetics of the garment because contrary to ordinary pattern construction methods, orientations like center front or the shape of an armhole are irrelevant.

www.the-t-shirt-issue.com

www.mashallahdesign-lacaptas.com

www.realfakewatches.com





Gluejeans Gluejeans #1

The application of successful new methods in the production of traditional garments encourages further investigations.

The designer duo Gerrit Uittenbogaard and Natasja Martens left the sewing machine for what it was. In 2008, they discovered that gluing instead of sewing actually works, even for a conventional, steady pair of jeans. Gluejeans is handmade in the Netherlands and is available in a limited edition at Droog. The duo won a Dutch Design Award for Gluejeans and has been nominated for the Audi Design Award as well as the Fashion Award.

Keywords: glue, jeans, material

Jeans as we know them have changed. Unlike your traditional pair of jeans, Gerrit and Natasja's innovative 'gluejeans' haven't been stitched, but are glued together from

top to bottom showing a distinctive play of glue lines. The ultra strong glue has been pigmented to obtain different colors. The result is a pair of jeans that looks familiar like your old-fashioned jeans but, upon closer look, is totally different. It has a minimal, raw look but is still comfortable, and the dry denim used will only get more beautiful the longer you use it. Gluejeans were extensively tested for over 2 years to ensure the quality and durability of the product.

www.gluejeans.com



CuteCircuit Galaxy Dress

*Illuminating garments are the predecessors
of fully dynamic textile-based displays.*

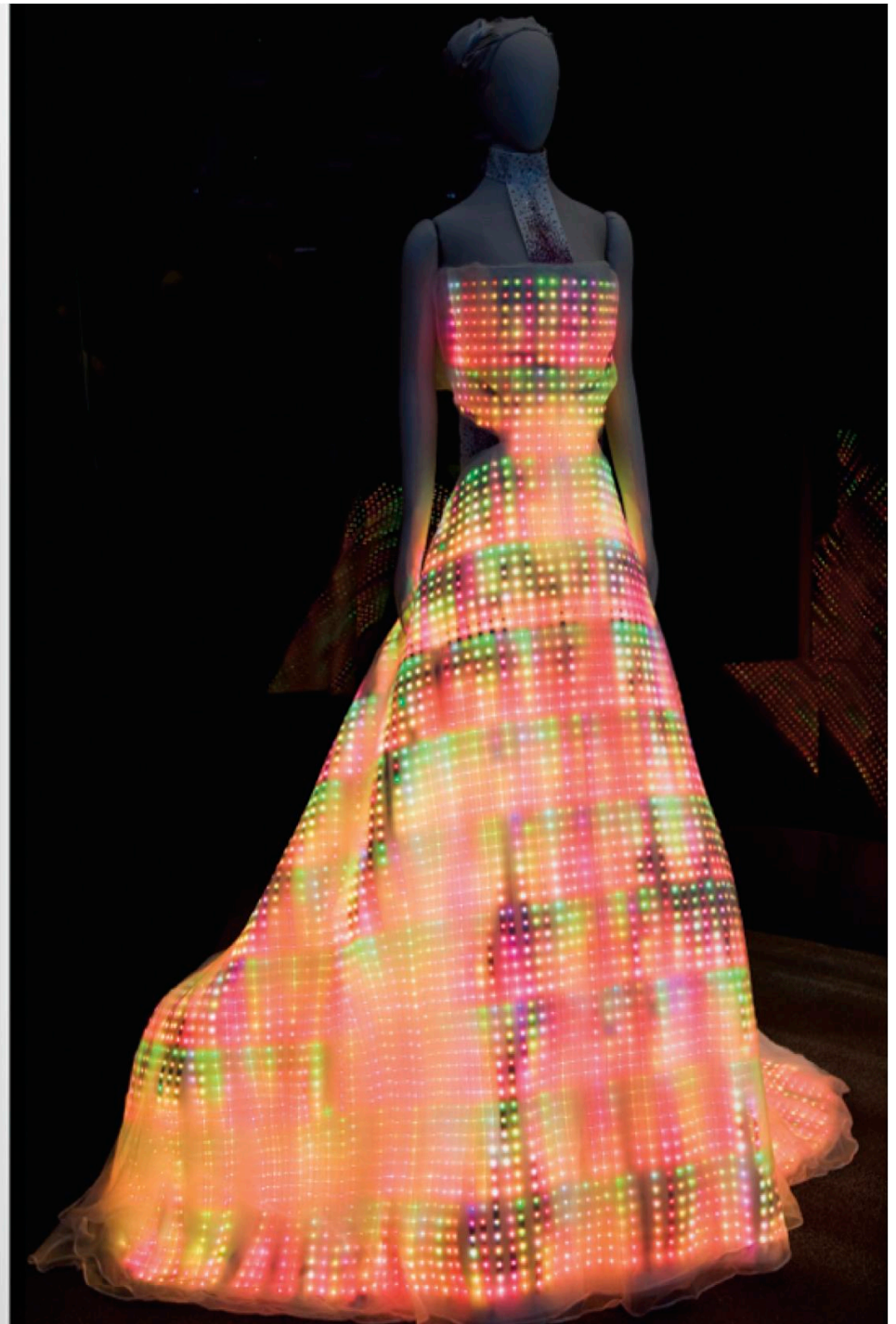
CuteCircuit, based in London, is a fashion company that designs wearable technology products, innovative intelligent clothing that integrates new functionalities into fashion through the use of smart textiles and microelectronics. They combine wearable and telecommunication technology and create emotionally rich experiences for users in the fashion, sport, and communication industries.

*Keywords: LED fabric, luminous,
lightweight, smart surface*

The Galaxy Dress was the centerpiece of the Fast Forward: Inventing the Future exhibit at the Museum of Science and Industry in Chicago in 2008. In celebration of its 75 years, the museum commissioned the Galaxy Dress for their permanent collection.

Embroidered with 24,000 full color LEDs, the Galaxy Dress provides a spectacular and mesmerizing effect and is the largest wearable display in the world. It uses the smallest full color LEDs, which are flat like paper and measure only 2x2 mm. The circuits are extra-thin, flexible, and hand embroidered on a layer of silk in a way that gives it stretch, so the LED fabric can move like normal fabric with lightness and fluidity. Additional materials include silk chiffon, silk organza, silk taffeta, and Swarovski crystals.

www.cutecircuit.com/products/galaxydress



V2_Institute for Unstable Media Intimacy

The use of an architectural material and the psychological effects of its transparency illustrate how new materials can be applied to body architecture.

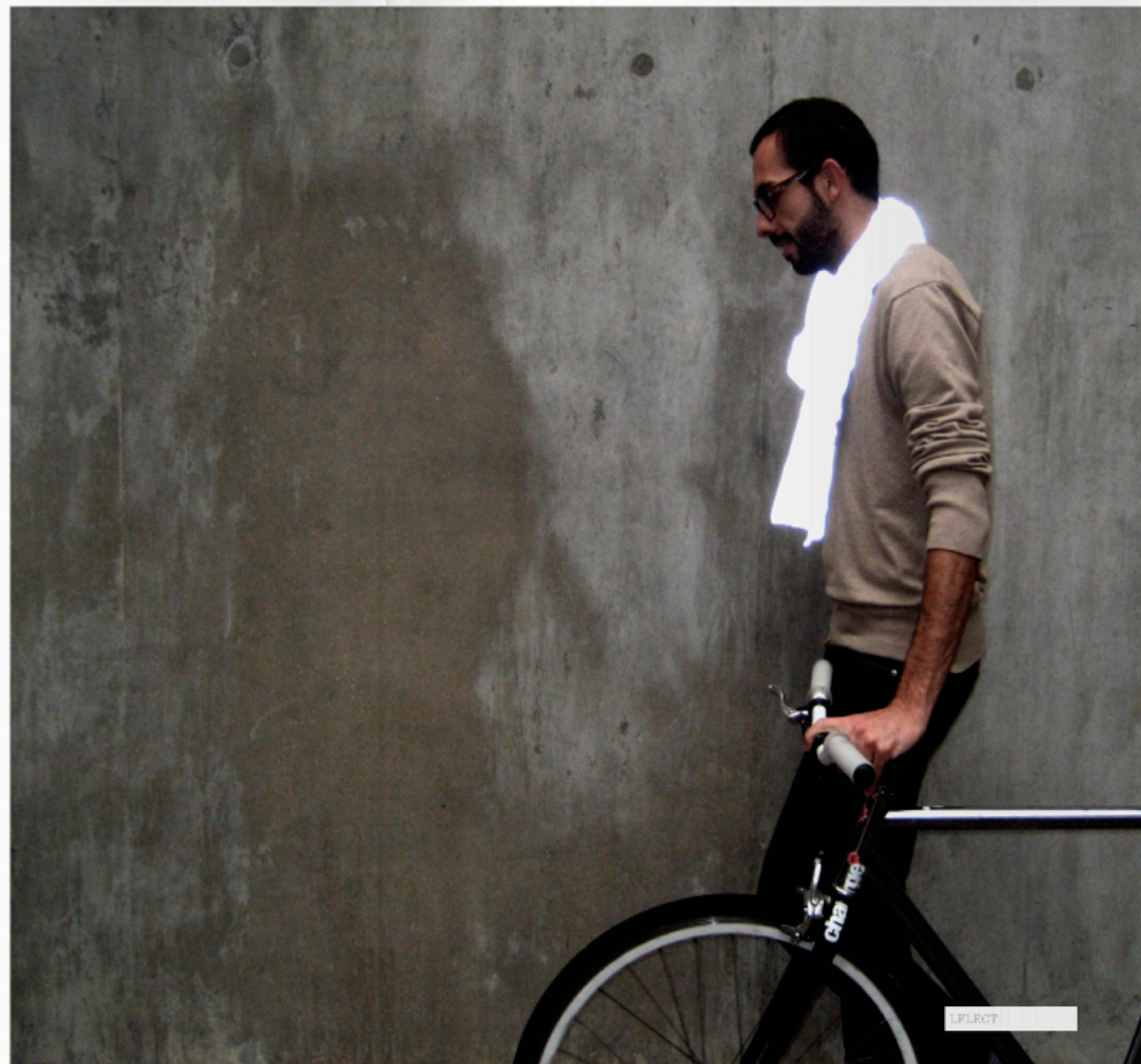
V2... has a long history of supporting, presenting, publishing on, and (co)developing wearable technology in collaboration with artists and universities. While in the past these projects predominantly consisted of handheld devices and other body-extending hardware, V2... has in recent years shifted its focus to fashion. V2...Lab has created various tools and applications that are now available for innovative uses in new artistic projects. By making these technologies available under creative commons licenses, V2...Lab aims to fulfill the role of a central hub in contemporary wearable technology artistic research and development (aRt&D). The collective included Daan Roosegaarde and Maartje Dijkstra.



Elena Corchera
LFLECT /
Solar Street Lights

The call for sustainability often correlates with local production and is examined particularly when prototypes require specialized craftsmanship.

Elena Corchera, founder of Lost Values, envisions a future where technology helps us to become more human and less machine-like. Her lifestyle products embrace craft and tradition as well as new technologies and innovative materials. Elena studied fine arts in Spain and Germany, and completed the Textile Futures Masters at Central Saint Martins in London, UK. With interest in the power fashion has to reach people, she decided to explore wearable technology as a research associate at MIT Media Lab Europe. Determined to make sustainability one of the major driving forces in her work and after various international exhibitions, publications, and awards, Elena joined Distance Lab as a senior researcher. In 2008, Lost Values, based in London, was formed with their support.



LFLECT

Moondial & Wendy&Jim SUN No 1



Storytelling via interactivity on the surface of a garment possesses great appeal.

Moondial is a fashionable wearable technology studio and lab focusing on design, fashion, and mobile and wearable technologies based in New York and Austria. Moondial develops fashionable wearable products and consults on fashionable technology worldwide. Hermann Fankhauser and Helga Schania founded the Viennese fashion label Wendy&Jim in 1999. They started working together when they were students at the University of Applied Arts Vienna in the class of Helmut Lang. Since then, they show their prêt-à-porter fashion in Paris and create performances

and installations in international museums and galleries around the world.

Keywords: photochromic, dynamic surface, storytelling, fashion, Tencel

The surface of the garment lends itself to the display of interactive storytelling. The conversion of a static interface into a dynamic one by the simple natural power of the sun is the basis of SUN. Moondial and Wendy&Jim launched a limited edition of this new series of shirts at the Ars Electronica Festival

in September 2009. SUN uses the shirt as a canvas to tell a story and the sun as the switch to turn on the graphic. As such the static graphic becomes an interactive story.

www.moondial.com/sun



The Protean Image tennis dress (not shown) was created in collaboration with C.E.B. Reas, Serena Williams, and Nike for the Australian Open in 2009.

The Generated Network Scarf Series was designed with C.E.B. Reas in 2009-10. He created a software to explore network relationships with which Cait Reas experimented and developed a series of images that were printed onto fabric. Cait was interested in the relationship between digital networks and traditional textile techniques such as lace and knitting. Each scarf in the series is completely unique.

<http://1of1studio.com>

http://reas.com/iperimage.php?section=works&view=&work=tissue_collection&id=0



Tissue Collection

Rip Curl H-Bomb

The ability to perform activities in extreme weather conditions has implications far beyond sports.

Rip Curl is an Australian surf company that has been making wetsuits since it was founded in 1969. It is headquartered in Torquay, Australia.

Keywords: surfing, heating, carbon fiber coils

Launched in 2009 as a consumer product, Rip Curl advertises the H-Bomb as the world's first power heated wetsuit. The temperature is controlled via three different heat settings located on a switch panel, using color-coding to indicate the setting. Heating elements are positioned on the back of the H-Bomb

suit with batteries in internal pockets in the lower area. Rip Curl notes that the major challenge was to build a suit that included batteries, electronics, and heating elements with minimal impact on the flexibility and comfort of the wearer. The suit introduces the E3 neoprene, a thinner neoprene that offsets the weight of the heating components. The heating elements are 'free flying' carbon fiber coils, configured to attain maximum stretch in the back panel where they are located.

www.ripcurl.com



Context as prerequisite

“The context conveys the story. It allows for the intent of the product to be communicated by the creative practitioner and comprehended by the consumer.”

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Fashionable Technology Report

Trend / industry report

2x year

Subscription

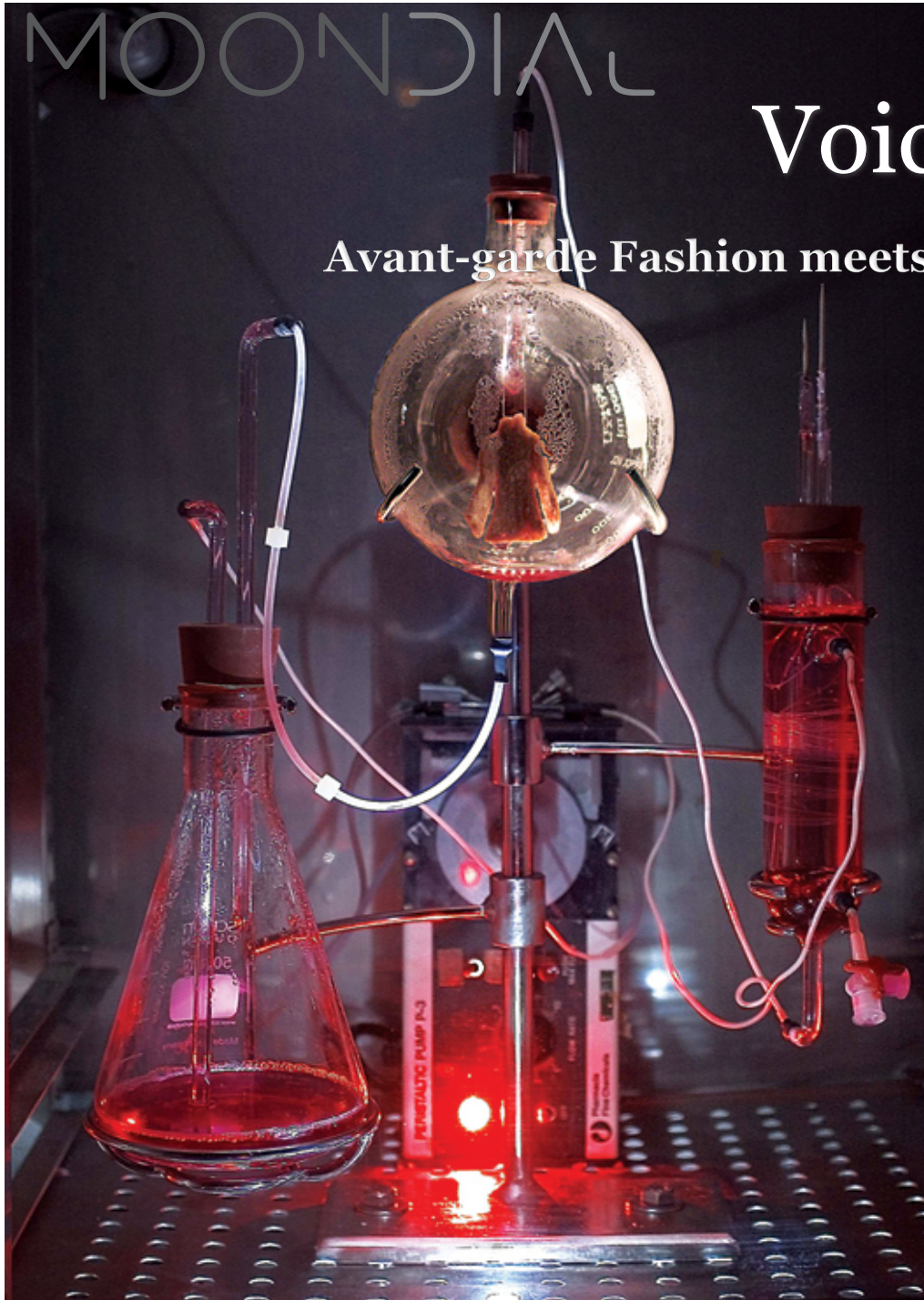
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Voice

Avant-garde Fashion meets Popular Science



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SlopeStyle by Moondial V01 (2003)

SLOPESTYLE

* EXTREME SPORTS * URBAN COUTURE * TECHNOLOGY



MOONDIAL

Produkte – Video, Photo

- Goggles, skiing
- Sun glasses
- Goggles, swimming & diving
- Mounted cameras

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Produkte - Navigation

- Gloves
- Goggles

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Produkte - Heating

- Wetsuits
- Rash guards
- Ski jackets
- Gloves

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Produkte - Light

- Musik: U2
- Haute Couture: Katy Perry (MET)
- Event: Black Eye Peas @ Superball

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Produkte (per Industrie)

- Sport
- Medizin / E-fitness
- Unterhaltung
- Bekleidung
- Sicherheit
- etc

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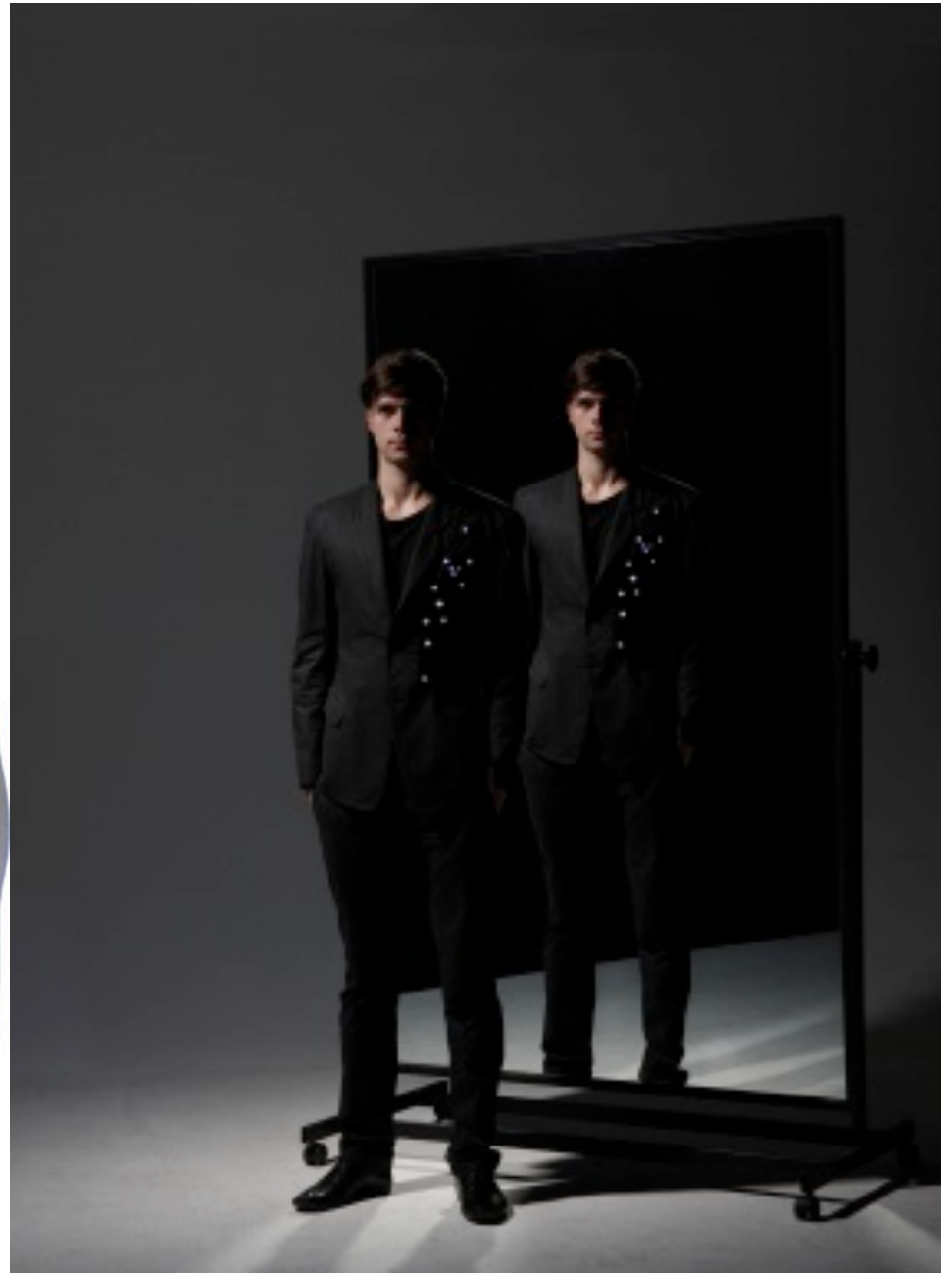
F&E aus Österreich

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A woman is shown in profile, facing left. She is wearing a large, dark, feathered hat that covers her eyes and extends upwards and backwards. She has a soft pink blush on her cheeks and is wearing a dark top. The background is a plain, light color. The word "MOONDIAL" is written in a large, thin, sans-serif font across the top of the image.

Kunstuniversität Linz, Interface Culture

MOONDIAL



Wolfgang Langeder, Jacke Sporty Heroe (ri), utopia (le)

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Produkte aus Österreich

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Zanier HEAT.GX



Zanier X-plore XGX

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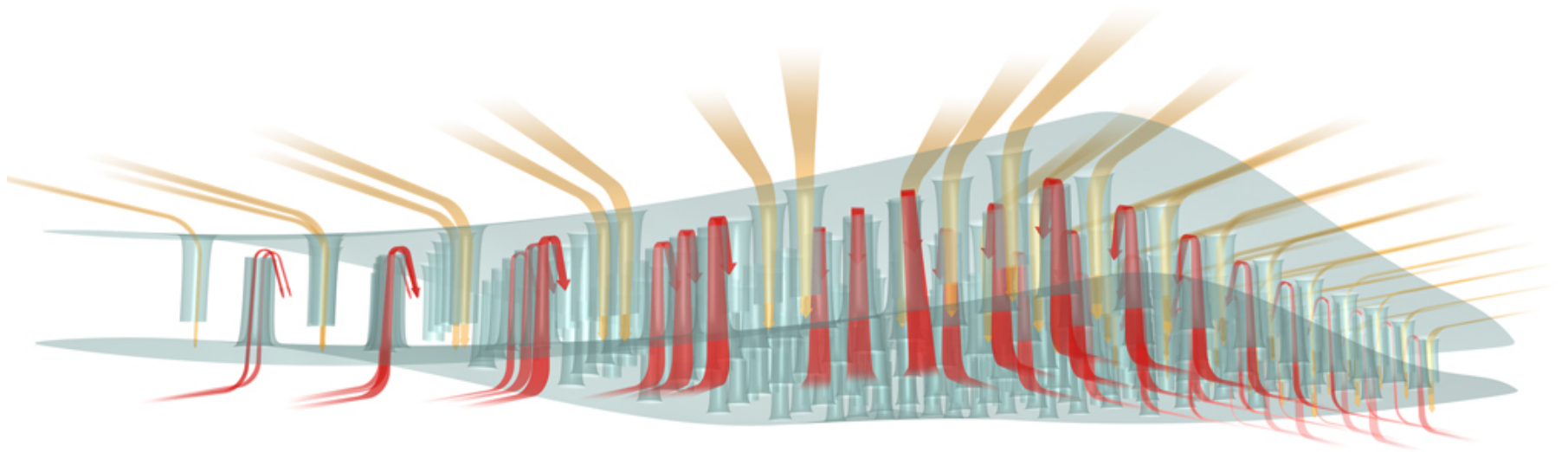
Urban Tool

Urban Tool Groove Rider

MOONDIAL



Seibersdorf Laboratories und Austrian Institute of Technology NFC tag



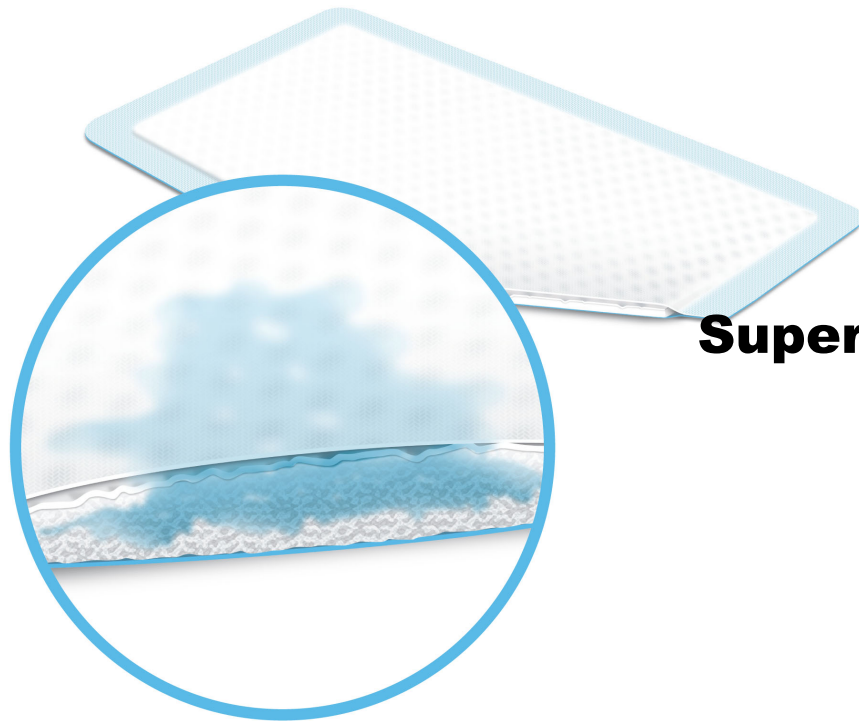
Lohmann & Rauscher

Suprasorb CNP Drainagefolien

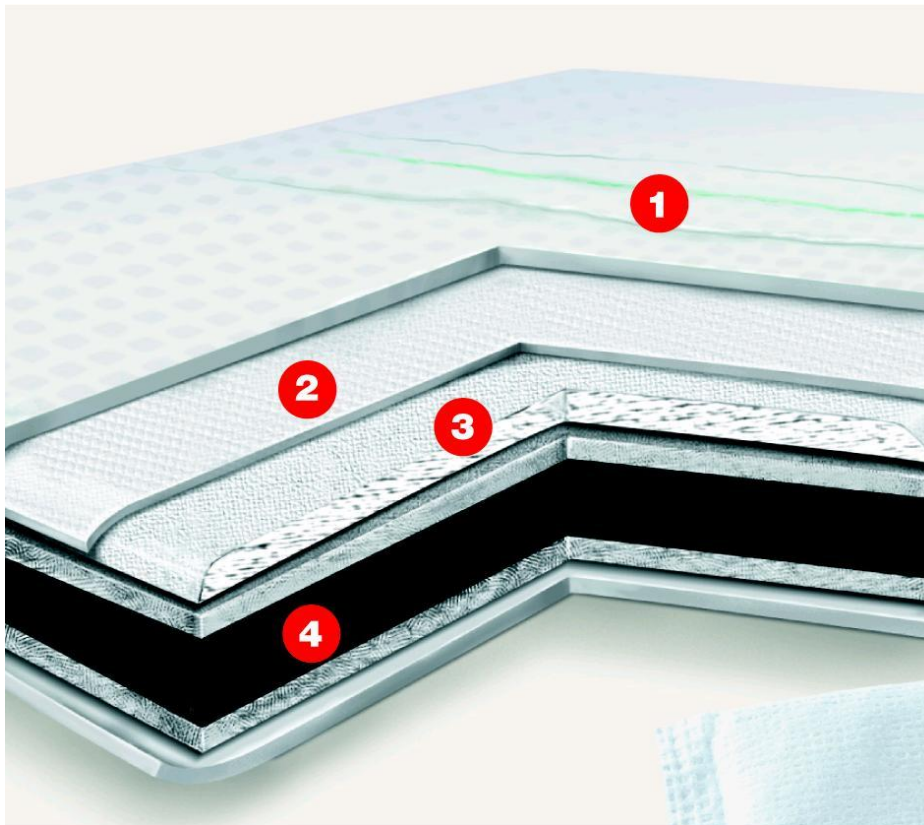


Lohmann & Rauscher

Debrisoft



Superabsorbierende Saugkompress



Saugkompresse mit Aktivkohlelage

Lohmann & Rauscher

Vliwaktiv



Sattler

Biogasspeicher



Sattler

textile Architektur



Shape & Control

Legwear

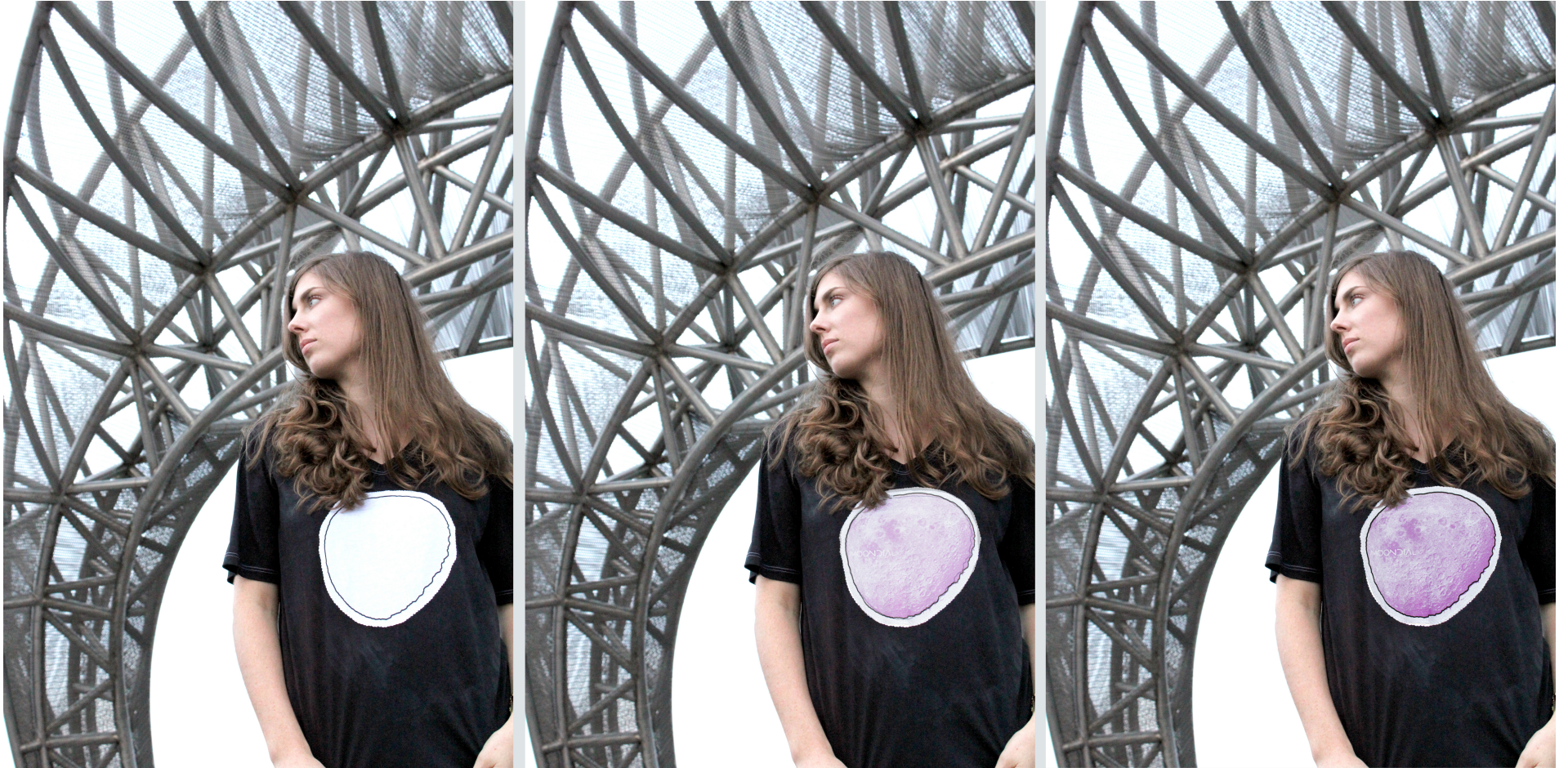


Lingerie



Wolford Shape & Control

MOONDIAL



Moondial SUN N° 2 Moon

MOONDIAL

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www.moondial.com

www.functionalaesthetics.org

www.fashionabletechnology.org

www.newschool.edu/parsons

Thank you.