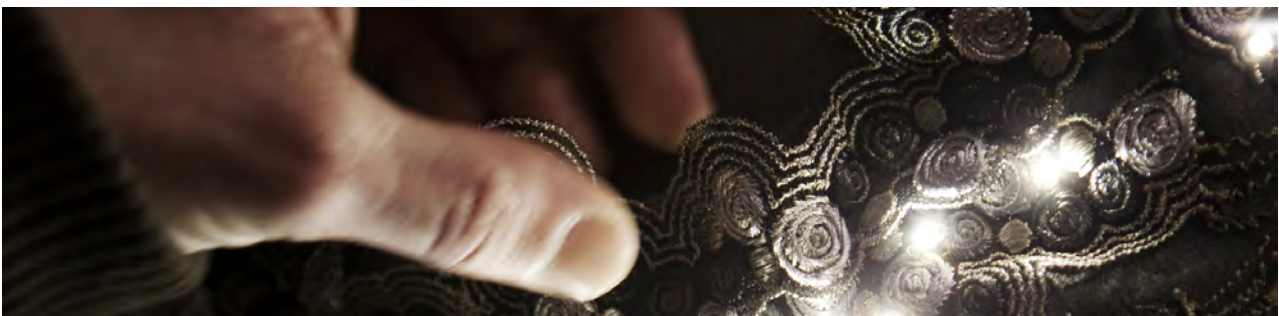


## When Haute Couture meets High Tech!

### - conductive embroidery lights up the Climate Dress by DIFFUS

Hundreds of tiny LEDs integrated into an intricate embroidery pattern light up the CO<sub>2</sub> sensing dress developed by Danish design studio Diffus and herald the next generation of wearable technologies. Using innovative conductive yarns developed especially for this purpose, Swiss embroidery specialist Forster Rohner created patterns that were both appealing and functional without compromising their textile quality. This soft circuitry is a milestone in integrating electronic functionality into textiles and enables a true blend between fashion and technology.



A dress that tells a story about the surrounding CO<sub>2</sub> concentration  
*The climate dress* is an interactive dress that is reacting on the CO<sub>2</sub>-changes in the nearby surroundings. The dress senses the CO<sub>2</sub> concentration in the air, then accordingly creates diverse light patterns by the use of over hundred LEDs - varying from slow, regular light pulsations to short and hectic. *The Climate Dress* is a statement that, through an esthetical representation of environmental data, contributes to the ongoing debate about environmental issues.

#### How Haute Couture and interaction design blend

*The Climate Dress* uses soft conductive thread that has a similar consistence to the kind of thread used for traditional and industrial embroidery. This way the embroidery becomes more than an esthetical element - it has a crucial function conveying electricity and computer information, thereby giving "power to the dress". Several microcontrollers are connected to the embroidery via conductive threads, gathering data from the CO<sub>2</sub> sensor and transforming the information into light patterns.

#### What you see is what you get

The LEDs blink and sparkle on *The Climate Dress*, but where is the wiring? The dress does not rely on any wiring, soldering or crimping typically impairing the textile aspect of other "smart textile" products. All functional elements are blended into the embroidery, proudly exposed to the eye. Ornamental design and functionality are no longer antagonists.

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**Your new interactive wardrobe**

*The Climate Dress* opens up new ways of integrating interactive technology and sensors into textiles. The soft circuit approach and the seamless integration of functional and aesthetic electronic elements into textiles will support developments for communication, health care related monitoring and fashion statements as part of your wardrobe.

**A unique collaboration**

To realise *The Climate Dress* project Danish based design studio Diffus brought together experts from diverse fields of knowledge like microelectronics, wireless communication, embroidery, fashion design and interaction design. Establishing common ground for these radically different fields creates a base for unique and innovative product designs.



**The project was initiated by:**

*Diffus* ([www.diffus.dk](http://www.diffus.dk)) by Michel Guglielmi & Hanne-Louise Johannesen

The Danish Design School [www.dkds.dk](http://www.dkds.dk)

Forster Rohner AG [www.forsterrohner.ch](http://www.forsterrohner.ch)

Fashion designer Tine M Jensen [www.tinemjensen.com](http://www.tinemjensen.com)

**In collaboration with:**

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