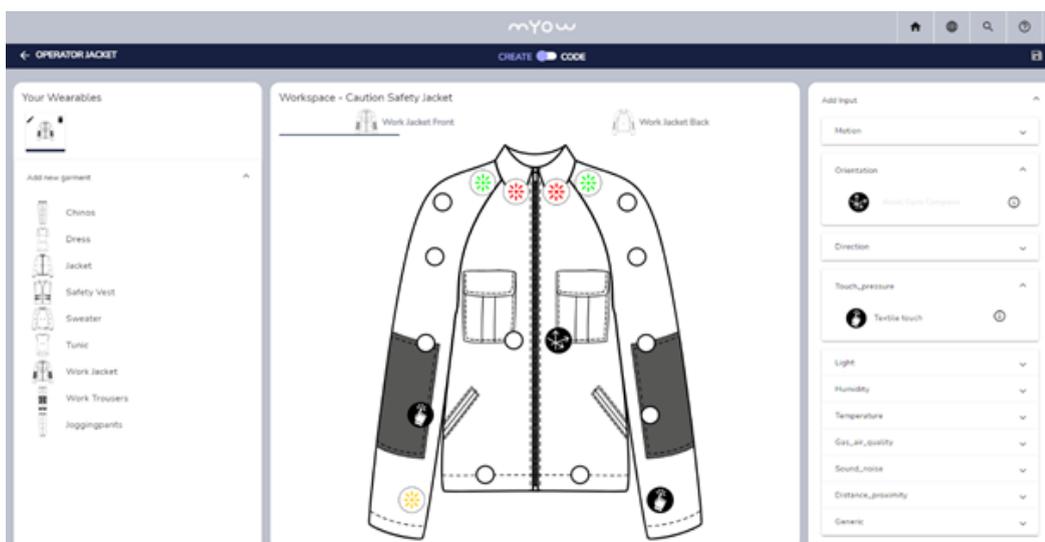


How modular systems of the MYOW Project bridge the gap between fashion and new technology

The first mention of the DIY (“Do It Yourself”) culture goes back to the beginning of the 20th century. It has evolved over the years and become especially popular in the fashion industry. In recent years, a subculture has emerged, representing a technology based extension of the DIY Culture. The Makers Culture is gathering engineers but also novices, designing and developing new devices in a self taught manner or learning from other members of the community. Even though the DIY movement has become very popular over recent years, especially with the emergence of tutorials on youtube and other platforms, they remain relatively basic or “home-made”. “This is why in 2018, the MYOW project (“Make Your Own Wearable”) was launched in Germany to create a platform enabling users to develop their own wearable products and integrating technical elements such as sensors and actuators to the garment”, explained Rolf Fricke, Head of R&D at Condat AG and MYOW Coordinator. The MYOW* Project encompasses a Web Application, a matchmaking tool, a programming platform and a DIY toolkit.

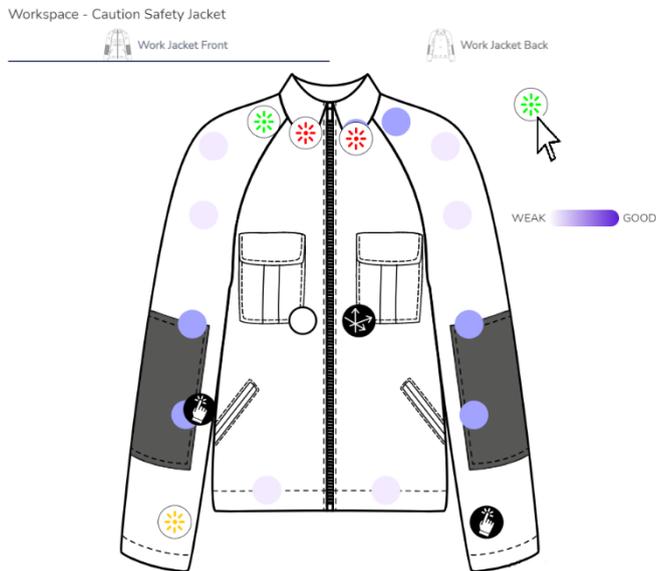
Web Application

Once a user signs up on the MYOW Web Application and creates a personal profile, they are matched by the platform based on skills and preferences with other users. When creating a project on the platform, the owner can also create open vacancies for the project. Other users of the platform will then be matched to the project based on the required skills and level of expertise. The matchmaking system, achieved through an API system, intends at filling the gaps and creating a team of people with complementary skills. It therefore brings together people of different expertise to create a team. Beate Prelle from Condat AG, responsible for the MYOW system architecture states that “If you have a great idea for a new wearable product but are not familiar with the whole skill set of designing, sewing, electronics and programming just find people on the platform with similar interests and complementary skills and implement your prototype as a team!”.



A user friendly platform.

The MYOW platform is aiming at enabling any user to create a functional garment. In this regard, Tobias Albert, project Leader at AWSi explains: “the platform has been designed by,



with the idea of making it accessible to any person non familiar with programming for example”. After creating a team, one can create a project on the platform, this can be a totally new project or be inspired by already existing designs on the platform. The Tool enables the user to choose the type of garment to be developed as well as the input and output type to be added to the piece of clothing. This could be light, touch, motion temperature and so on. The system gives the users recommendations on where to position the different components: The more

suitable the positioning the darker it will appear on the platform.

The platform then uses a visual programming system to drag and drop the different parts of the code in an easy to use manner. When starting the input and output already appear on the tool and the user has to fill in the connection between them using an if/else statement. For example it could be if the wearer of the garment touches the input sensor then an LED light should turn green, or else it should turn off or another color. After creating the connections, the MYOW Platform automatically writes the lines of code corresponding to the programming done using the tool.

From online designing to integrating electronics to a garment.

The MYOW project also included the creation of a DIY Toolkit. The kit includes all electronic parts and a manual needed by the users and their teams for the creation of new wearable tech products. Once the project has been conceptualized and programmed on the webportal, it is time for the garment to be created and electronic components to be added. On the webportal, designers can download the patterns for the garment and also use the design as a map on where to position the different components for input and output. The German electronics manufacturer Freyer & Siegel developed tailored platines and conductors for the project (picture below). Using the manual of the kit, the users can assemble to different technical parts and integrate them to the garment.



Rolf Fricke from Condat explains Professor Sussana Robra-Bissantz and Professor Christof Lattemann from BeDien the MYOW approach

How is the MYOW project revolutionising the use of technologies in designing and creating wearable products ?

The first goal of the project is to bring together designers, makers, service providers and manufacturers on a digital platform and enable any of them to create a functional tech garment. This has been made possible by creating a platform easy to use and understand. The Recommendation system created by AWSi is a prime example of how accessible the platform was intended to be. It is creating a knowledge base for integrating electronics into fashion as well as programming the different components. Using the MYOW platform could make prototyping and designing new products easier and more affordable for smaller businesses. Thanks to its ease of use and accessibility it is also reducing the time spent before prototyping. The project is indeed elevating the process of fashion designs and leading to individual professional designed products.

*The MYOW Project was co-funded by the BMBF