



The ESA Business Incubation Centre in Darmstadt, Germany, was founded in 2007 and is managed by Centrum für Satellitennavigation Hessen (cesah). The centre offers business start-up support as well as technical expertise in different space related areas, and in particular in satellite navigation, data systems, software systems and navigation test environments.

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## feelSpace GmbH

**Extent your senses by a sense of direction. With the navigation belt you feel directions and routes.**



Website

**Founded in 2016 by**

- **Silke Kärcher**

- **Jessika Schwandt**

- **Susan Wache**

## **Incubation period**

01-09-2016 to 31-10-2017



space solutions

## **About feelSpace GmbH**

The feelSpace GmbH arose 2015 from the research project of the same name that was conducted since 2005 at the University of Osnabrück. What started as fundamental research on space perception using tactile compass belts is now about to be applied in everyday life. Motivated by the very positive feedback of the study participants on the tactile direction signaling Silke Kärcher, Susan Wache, and Jessika Schwandt founded the feelSpace GmbH to market tactile navigation belts.

## **Contact info**

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## The challenge

Traveling from A to B and being mobile has become very important in our modern society. However, although common navigation systems help finding one's way in unknown environments, they also tend to distract attention and can lead to stressful and potentially dangerous situations. Whereas common systems are visually or acoustically based, the feelSpace belt communicates directions through the sense of touch somewhere around your waist. This makes the feelSpace belt unbeatably intuitive to use. The feelSpace belt is for everybody who wants it simply easier – hands, eyes and ears remain free. And notably, people who face particular challenges when it comes to orienting and navigation e.g. visually impaired people gain more independence and mobility with the feelSpace belt. The accuracy of the geolocalization is of central importance for us. Being hosted at the ESA BIC provides us the opportunity to consult ESA experts who support us with technology insights and ideas to improve the system.

## The solution

The principle is easy, you put the belt on, tell the feelSpace App where you want to go and vibrations around your waist signal the direction towards your destination. The smartphone can be put away and you just follow your gut feeling. Directions can be displayed through 16 equally spaced vibration units and the signal adapts automatically to your movements.

The feelSpace navigation belt has 3 different modes:

- If you want to get to your destination as fast, safe and effortless as possible, choose the routing mode. The belt always points in the direction you should go to.
- If you want to explore a new city on your own without losing the way to a certain

landmark? The beeline mode “connects” you with any location you want.

- The third mode is for those with a sense of adventure: compass mode. Research has shown that training with a tactile compass belt over a certain time period gives you a never before experienced sense of direction and spatial understanding.

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