

European Good Practices in Smart textiles and new ways of production

Smart socks for sports and medical applications

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Strumpfwerk Lindner GmbH

4th RESET Seminar on
“Smart textiles and new ways of production”
Chemnitz, 20th June 2017



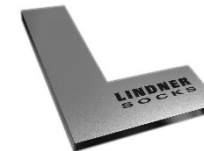
Saxony

Population: 4 Mio.

Area: 18.420 km²

Capital: Dresden

Int. Airports: Dresden, Leipzig



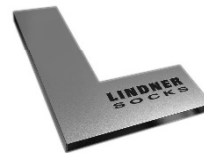


LINDNER®



LINDNER Intertrade GmbH

www.lindner-shop.de



Strumpfwerk Lindner GmbH

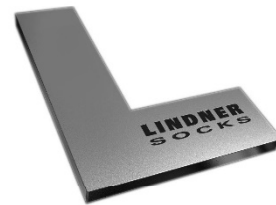


LINDNER V&V GbR

epesa GmbH
2017

LINDNER®

Product lines and production



LINDNER®
fashion



LINDNER®
sports

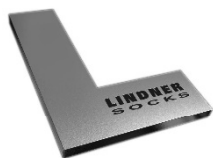


LINDNER®
medical



LINDNER®
textile





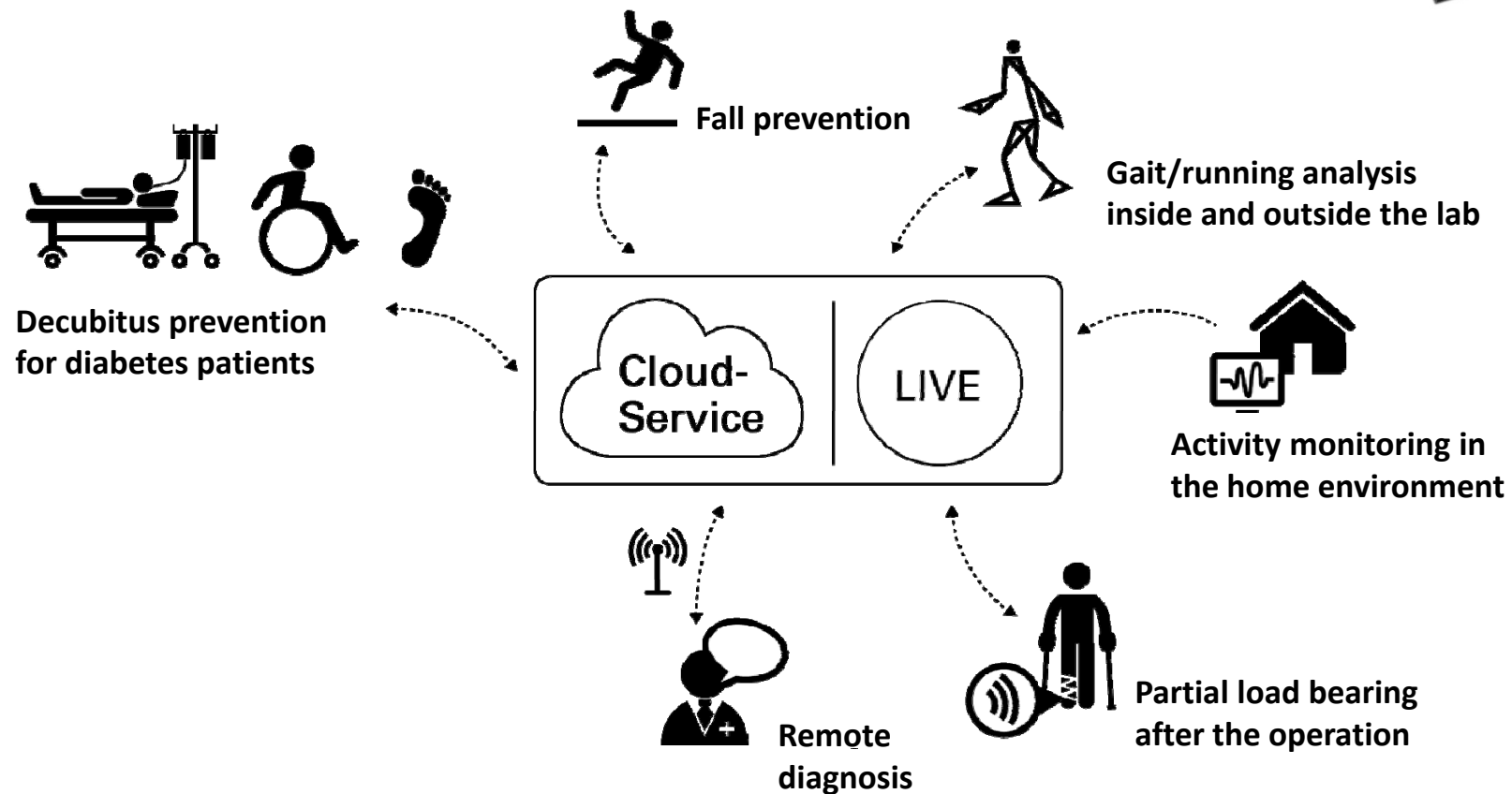
LINDNER® Product range



Smart socks for sports and medical applications

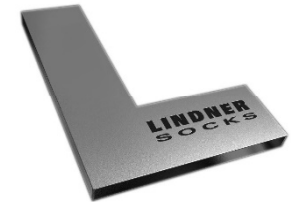
Background of the GP

Medical issues:

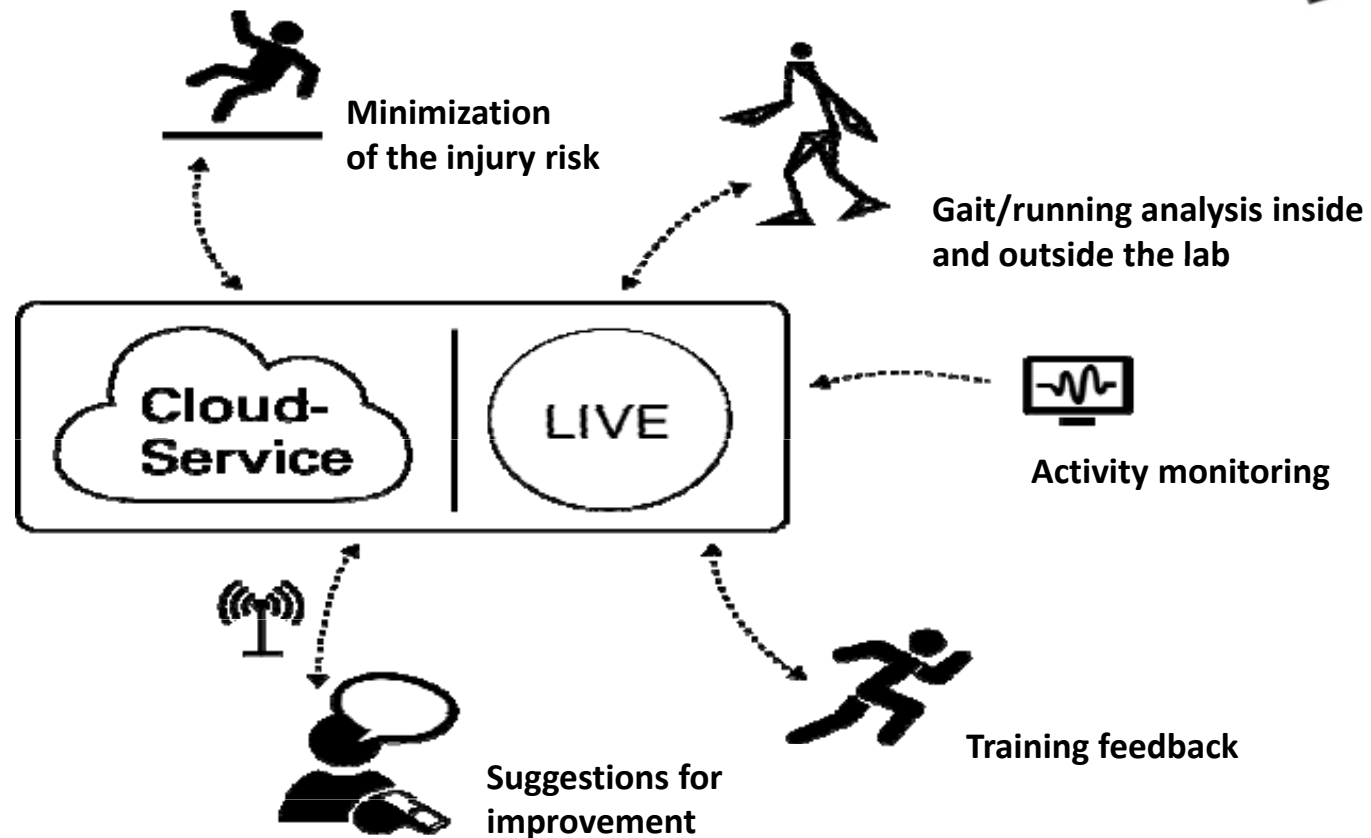


Smart socks for sports and medical applications

Background of the GP

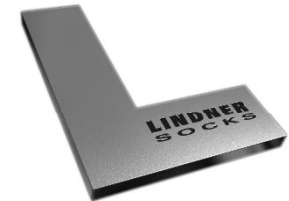


Sport issues:



Smart socks for sports and medical applications

Background of the GP- General principle



The idea behind:

1. wearable sensors
2. easy to take on / off
3. washable
4. long durability
5. light
6. small
7. data visualization

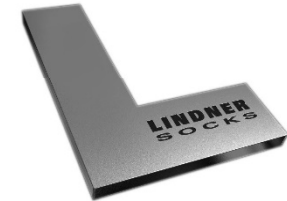
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Smart socks for sports and medical applications

Description of the GP



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Implementation:

1. double sock
2. covered sensors
3. fold free fixing
4. coupling of the MultiLogg

Smart socks for sports and medical applications

Description of the GP

- Developed by a research team consisting of the Saxon SME Strumpfwerk Lindner GmbH and Chemnitz University of Technology.
- The aim of the development was on the one hand the implementation of pressure sensors in a textile and on the other hand the visualization of the measured results after an individual calibration.
- In addition to that, the product should be easily to take on and off, washable, nice to wear, fashionably looking and with a good durability.
- The solution is a double sock with a double layer sole. Between the two soles, the pressure sensors are fixed and the user stands on a textile and not directly on the sensors.
- The fixation secures a wrinkle free fabric while wearing the smart sock. Between the layers of the leg part the cableway is covered at the outside of the sock.

Smart socks for sports and medical applications

Description of the GP

- An integrated mobile and modular data logger (Dialogg) can be put on and off very easily. The Dialogg, developed by Chemnitz University of Technology, is equipped with additional sensors, a battery, a device for wireless messaging and special software. This device allows data storage and wireless messaging if required.
- There is a wide range of applications for LINDNER® smart socks in the fields of home care, rehabilitation, medical and sports.



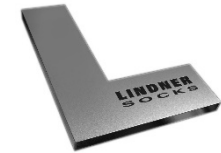
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Smart socks for sports and medical applications

Description of the GP



Smart socks for sports and medical applications



Transferability of GP - Success factors



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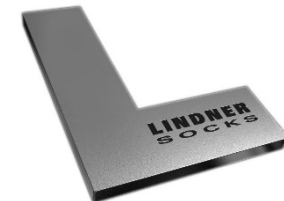
Good Practice value added at regional and transregional (EU) levels

- Establishing *innovative* and *interdisciplinary* technologies and products in the region
- Interdisciplinary *cooperation between research and industry*
- Textile industry: *saving* of both *jobs* and *regional production sites* (short delivery times and ways)
- Opening up of *new market segments* for textile industry
- *Transferability* of Good Practice to other (European) regions and to other industrial sectors (diverse application fields, extension of product features possible)



European Union
European Regional
Development Fund

Thank you!



Project smedia