

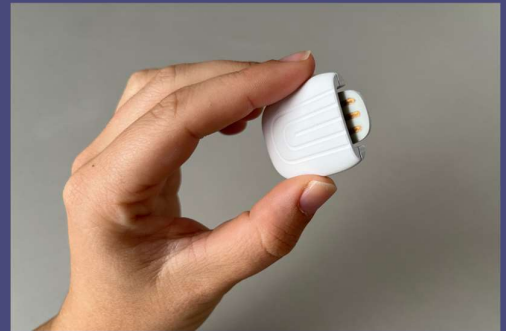
Flexible & Wearable Electronics Application Experiments



Pilotfish Berlin GmbH

Pilotfish works from concept design to mass production to help customers to build and scale innovative projects and businesses.

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Problem to be solved

Current wearable connectors today either include costly metal parts or take a shape and size making integration difficult. It is especially observed in connectors for flexible humidity sensors used for incontinence management in diapers. Due to size and cost, solutions struggle to successfully enter the market. There is a need for a thin connector (lower or equal to 8mm) with a low-cost limited number of parts enabling signal transmission from a flexible sensor to provide a solution to be integrated to diapers for better incontinence management.

Solution provided by SmartEES

The aim was to create a connector for wearable one-time-use humidity sensors inserted in diapers for incontinence management. The emergence of easy-to-process metallic inks creates the opportunity to apply the conductive layer directly on various cheap substrate such as paper (by printing), plastic parts and/or flexible parts (by spraying) and avoid the additional metallic parts commonly used for connection. The new connector concept focused on conductive ink that can be printed on a paper layer for the diaper sensor part and sprayed on the relevant plastic part of the connector on the monitoring device side. In that manner, metal parts are not necessary.

Business model & impact

Project result aims to generate new turnover with existing and new customers to IC value chain itself as manufacturer of products. Future opportunity is to license the solution to different manufacturers and providers of connector solutions beyond medical to other fields like industry and consumer

Project improved elder monitoring by improving their living condition inside specialized structures. The idea is to inform in real-time nurses when diapers need to be changed. The impact of such solutions is multiple: cost-reduction of diapers by only changing when needed, respect for the intimacy of elders by avoiding brutal intrusion due to “visual check” of diapers, avoiding letting elder in dirty diapers for long periods with the risk of skin disease. New better connector has been created to medtech market.

