2018 Wearable Technologies Workshop
Challenge Request

Challenge Title: Absorbent Garment Design Improvements

Your Company or Organization Name: Kimberly-Clark Corporation

Teams that could be supported for this Challenge: 1

Summary of the Challenge and Team Project

Background (brief background on your organization and the problem):
Kimberly-Clark is a personal care products company that makes a range of disposable absorbent garments for children and adults under our Huggies®, Pull-Ups®, GoodNites® and Depend® brands. These products are primarily designed to absorb and contain bodily fluids and must be disposable, cost-effective, able to fit a wide range of body types and manufacturable at high speeds. These constraints limit the construction of these garments (in both materials and design) and makes designing the garment for fit and comfort, particularly during movement, particularly challenging.

Problem Statement (a few sentences summarizing the problem to be addressed or the task the Team is expected to perform):
Given the previously mentioned challenges posed in absorbent garment design, we would like the Team to create new insights for improving the design of absorbent garments for dynamic fit during movement through application of Iberall’s lines of non-extension or other similar concepts. Identifying how the garments might need to elongate or contract during body movement based on these concepts should allow for absorbent garment design approaches with targeted application of stretch properties.
Important Design Considerations (high level, fundamental or critical requirements for the Team to achieve. These can be discussed, and possibly negotiated, in more detail after the Team has been assigned):

- The wearer focus should be on active babies/toddler and movements including sitting/standing, crawling, walking
- The product design focus should primarily be on the diaper “chassis” of the absorbent garment (i.e. not the absorbent pad, which can be in scope if project insights suggest it needs to be)
- Proposed absorbent garment designs should not compromise its ability to hold fluids and should account for the size and bulk of an absorbent pad within.
- For the proposed absorbent garment (diaper) designs, assume that an all-over stretch material cannot be used to create the chassis, and use of stretch materials must be targeted to only where they are needed

What funding and/or resources will you provide to each Team? Teams may require some funding to cover project costs, and for teams located outside of the Houston region, the teams may also need some funding to cover travel costs. The details of the payment arrangements must be negotiated with the Team.

The Team will be provided with $2,000 in funding, access to subject matter experts at K-C, and sample products, materials for evaluation.

Deliverables (the final product you expect the Team to provide – such as a report, garment, user evaluation, …):

- Brief report of illustrations providing insights gained from application of lines of non-extension concept, how different parts of the garments might need to respond (elongate/contract, or neither) during different types of movement
- Absorbent garment product design concepts including targeted application of stretch properties. Preferably, provide a prototype of product design in a physical form (can be textile based) illustrating targeted application of stretch properties.

How Will the Results Be Used (what you will do with the results and how the results of this project will benefit/complement the work you are doing in your organization):

The key learnings from the project will be shared with product developers across our different businesses and will be used to generate new ideas for absorbent garment designs and new methods for evaluating our product designs for dynamic fit.

What deliverables (if any) do you want transferred to you at the end of the project?:

- Brief report of illustrations of insights from application of lines of non-extension concepts
- Absorbent garment product design concepts and a physical prototype (if applicable)