Response to Reviewer 3

Manuscript ID: sensors-751628

The authors would like to thank the Reviewer for the deep and thorough review of this manuscript. The research paper has been revised in the light of the Reviewer's useful suggestions and comments, hoping to have improved its quality to a better scientific level.

- **Comments and Suggestions for Authors:** *Three manufacturing techniques for textile contact-less sensor were tested: screen printing with conductive ink; embroidery with conductive thread; and thermoseal conductive fabric. In principle, the sensors are meant for gesture-recognition applications. The scientific justification of the study was not appropriately depicted. The authors provided extensive design details as well as characterization of the sensors. However, the clarity of those details in the manuscript is poor, and the study lacks a real validation of the sensors. This paper represents a very low contribution to the field.*

- **Comment #1:** *The paper lacks of a definite scientific justification. The demand of wearable sensing textiles itself cannot be considered a motivation for a scientific study. Nevertheless, such call for such technology must be objectively supported.*

  Response: Dear reviewer, as you can understand, we do not absolutely agree with your comment. This paper is the last of five papers developed within a Ph.D. thesis dealing precisely with textile sensors. All the papers have been published in indexed journal, some of them in MDPI, with no problems from the reviewers. The only difference is that this paper presents a more technological approach, of Industry transference. The Ph.D candidate (Josue Ferri) works for a Textile Technological Institute (AITEX), whose main objective is the technology transfer to Industry. We really do not think that a transference approach is less scientific by itself, then what is Science useful for?

  On the other hand, you make the comment "wearable sensing textiles itself cannot be considered a motivation for a scientific study", then, why are there dozens of articles dealing with the topic published every year? Why are there specific Textile Engineering journals? We totally disagree with your comments.

- **Comment #2:** *The manuscript includes no validation of the sensors. It only has a figure (15) that depicts a single case of swipe to the left and swipe to the right in a single subjec.*

  Response: As stated in the paper, this kind of sensors have been validated and the results published in previous publications (referenced in the same paper). Of course, the sensors of the current paper have been validated for the Ph.D thesis, but have not included the results in the paper because we thought it was redundant.

- **Comment #3:** *Abstract should include more quantitative or more detailed qualitative assessment of the sensors tested in the study. Later I realized there is no such a quantitative evaluation to include in the abstract.*

Response: We think the abstract faithfully reflects the work. None of the other 4 reviewers have made any comment on it.

- **Comment #4:** *If the authors decide to turn the paper into a gesture-recognition study using textile sensors, it needs a thorough edition. Furthermore, the authors should highlight the results and limitations of previous studies, to determine the novelty of their study. The introduction has a couple of paragraphs on the state of the art, but it is limited to mentioning previous studies, and no analysis was provided.*

  Response: The purpose of the paper is not a gesture-recognition study using textile sensors, but the technological development of this kind of sensors.

- **Comment #5:** *When the gesture-recognition from Microchip Technology is mentioned, it is not clear what kind of technological approach it is (e.g. EMG, video, gyroscopes, etc.). it looks like it is a proximity sensor, but how the proximity is used to define gesture is not clearly stated. The text is not clear in conveying a straightforward explanation of the functioning of the devices. Besides, if this is not the design of the authors, it shouldn't be described with such level of detail. If it is partially work of the research group, their specific contribution should be clearly stated.*

  Response: Proximity is a feature of this kind of sensors, as well as lateral movements, etc. The explanation about the functioning of this kind of sensors has been exposed in previous publications (referenced) and we considered its inclusion as redundant. The theoretical base of the sensors developed by Microchip is the same, but the technology is not. In this case, the technological difference influences noticeably in the behaviour of the sensor.

- **Comment #6:** *(alternatively in appendix). Tables must be kept for results of the study. Some figures are also irrelevant (8, 9, 10, 11, 12).*

  Response: We have modified some of them at our discretion.

- **Comment #7:** *The details on the electrical properties of the sensors should be accompanied with the relevance of each parameter, and described with a sufficient still succinct level of detail. The attention should be driven by the accuracy of the gesture recognition provided by each sensor.*

  Response: The fundamental parameters have been included: measure of relative permitivity, capacitance values, equivalent resistance, etc. and the corresponding results have been disussed. We do not think more information is needed.

- **Comment #8:** *How were comfort, conformability, flexibility, and lightness assessed? The authors have claimed that the e-textiles provided those features.*

Response: Some of these parameters are not objectively measurable. If, as you state, the paper must be more scientific, it does not make much sense to include these parameters.

- **Comment #9:** *Extensive revision of the English language is required. (for example, the use of "Sensibility": Sensitivity is a more technical term; hand recognition is not the same as gesture-recognition).*

  Response: We are sorry, but we do not understand your comment. The language is similar to other publications in this technological area. None of the other four reviewers have made any negative comment on the utilized language.

Yours sincerely,

Eduardo García-Breijo
Full Professor
Universitat Politècnica de València, Spain