



Global Research Conference (GRaCe 2020)  
16 – 18 October 2020

# Response and perspective towards Resilient Smart Glove V2 (RSGV2): Implementation at industry and different nature of businesses.

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# Resilient Smart Glove V2 (RSGV2)



Comes with heart beat detector to monitor user's heart rate so that supervisor can take immediate action in case of emergency

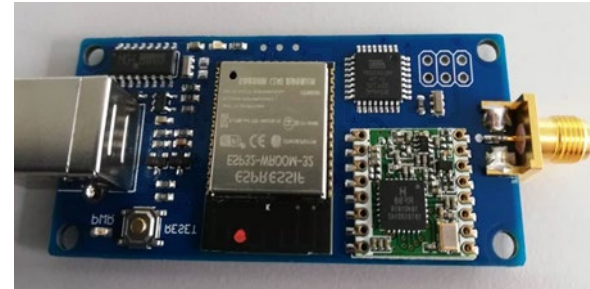
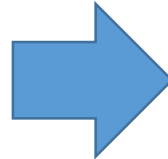
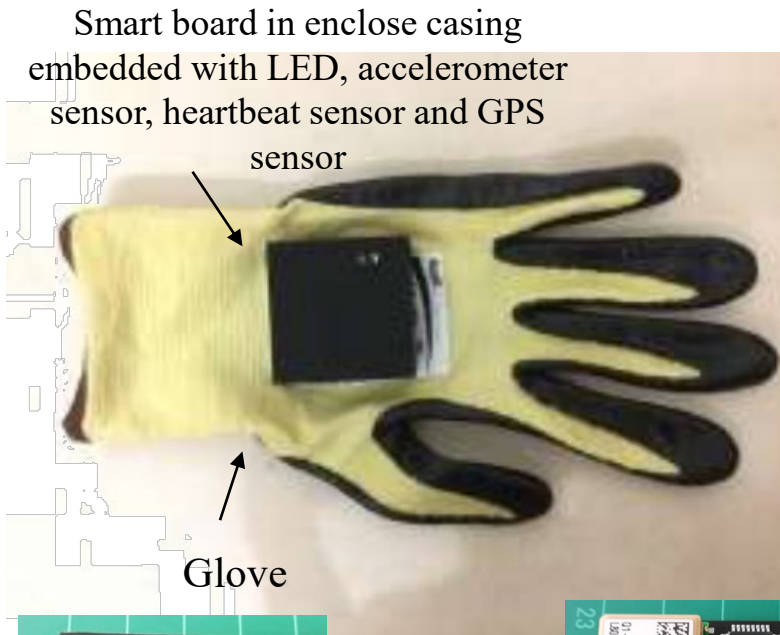


**Withstand high temperature and cut resistant** and also can aid the workers to carry out task easily by adding **LED**



GPS tracker is used to track the exactly location of the user

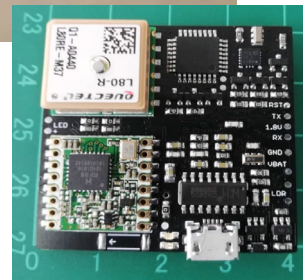
# Development of Resilient Smart Glove V2 (RSGV2)



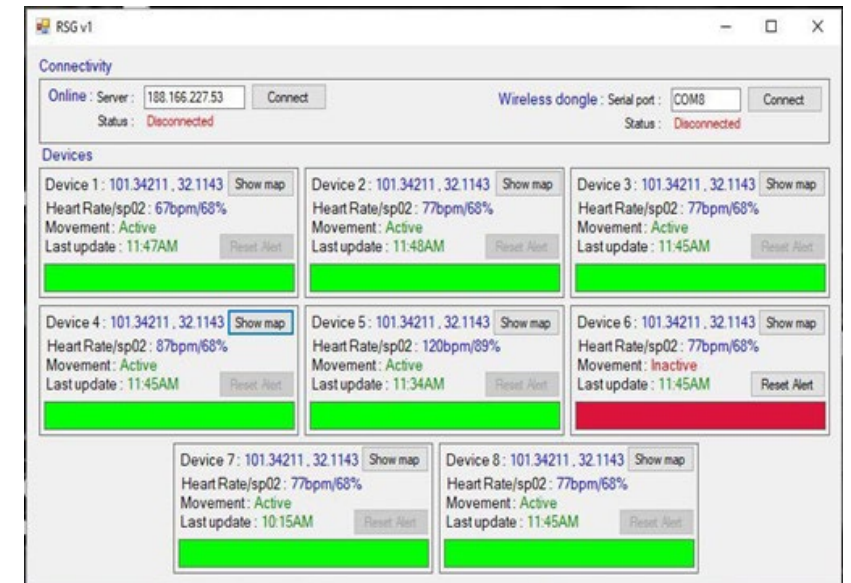
RSGV2 used dongle for interface between Board sensor and PC



Smart Board Bottom View - Location of the Heart rate sensor



Smart Board Top View - Location of GPS, Accelerometer, LDR and LED



Visual Basic (VB) Platform for PC Base of RSGV2

# RESEARCH OBJECTIVES

1

- Investigate the effectiveness of Resilient Smart Glove V2 (RSGV2) in different nature of business which is construction, aviation, trading and manufacturing.

2

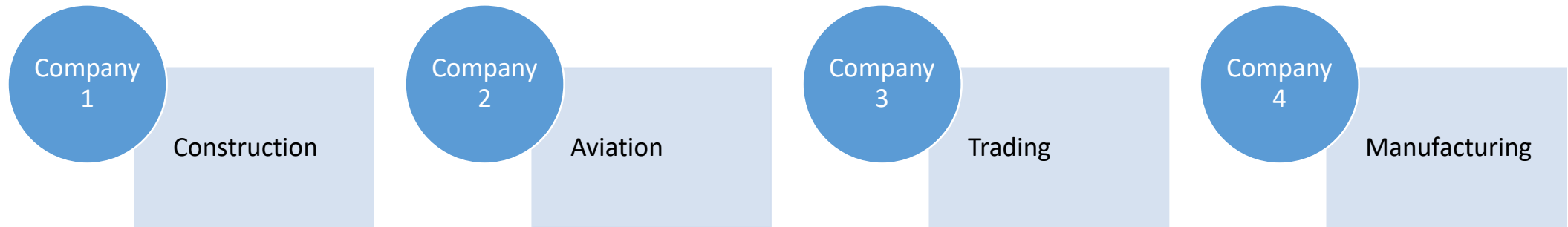
- Determine the perception of the industrial participants about RSGV2.

3

- Determine overall review from four different nature of business regarding RSGV2.

# METHODOLOGY

- The questionnaire was distributed to four (4) different selected nature of business which based in Malaysia that involved in the product testing:



- The questionnaires used in this study comprises of 4 relevant sections:
  - Section A – RSGV2 design (5 items)*
  - Section B – RSGV2 system implementation (5 items)*
  - Section C – RSGV2 feedback (5 items)*
  - Section D – Industry review in term of RSGV2 system, hardware, Real Time Application (RTA)*

# METHODOLOGY

- Likert scale 1 to 5 to measure respondents' feedback on each item submitted for section A and B.

Scale	Score
Poor	1
Not Satisfied	2
Satisfied	3
Good	4
Excellent	5

- This study applied quantitative data analysis. Data obtained were analyzed using Statistical Package for Social Science (SPSS) Version 23.0 by using techniques such as frequency and descriptive analysis.

# METHODOLOGY

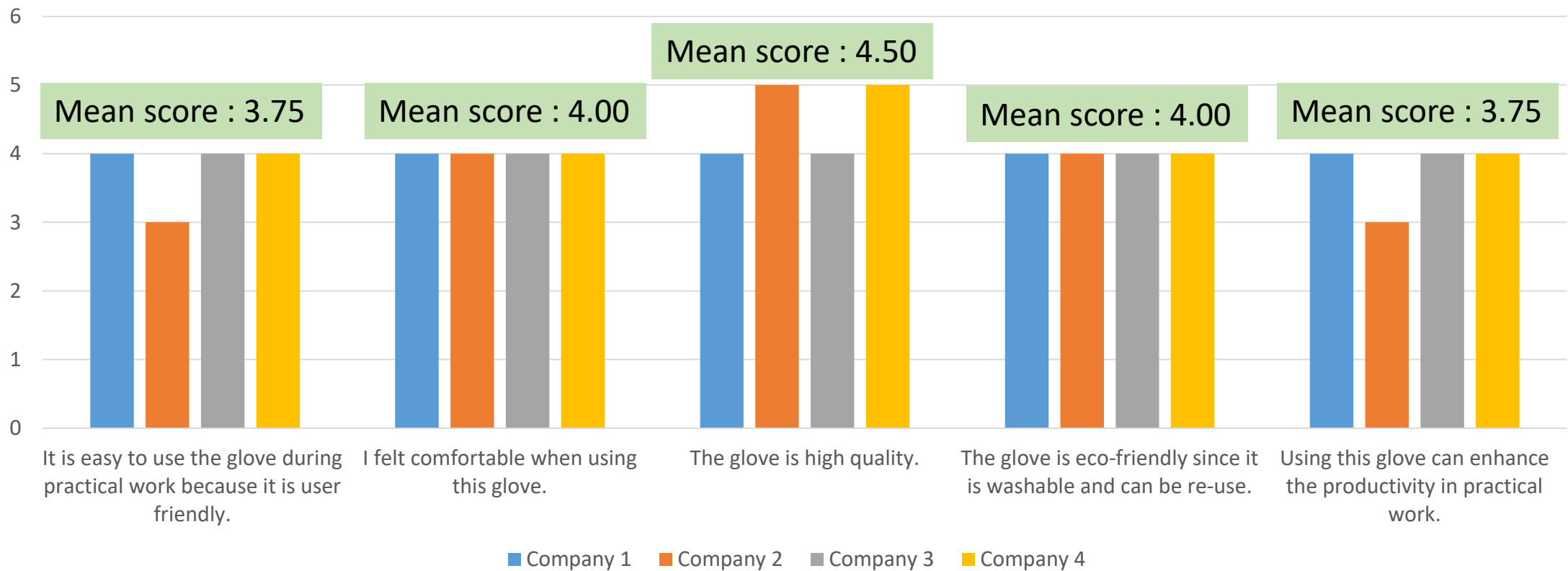
- The definition of mean interpretation is based on the range of mean scores as shown below:

Mean Score Range	Mean Interpretation
1.00 – 1.80	Poor
1.81 – 2.60	Not Satisfied
2.61 – 3.40	Satisfied
3.41 – 4.20	Good
4.21 – 5.00	Excellent

- In Section C, for feedback from the responders were asked to choose either “yes” or “no”.
- In Section D, the survey asked the responders to write few reviews according to RSGV2 system, hardware and Real Time Application (RTA).

# RESULTS AND DISCUSSIONS (SECTION A)

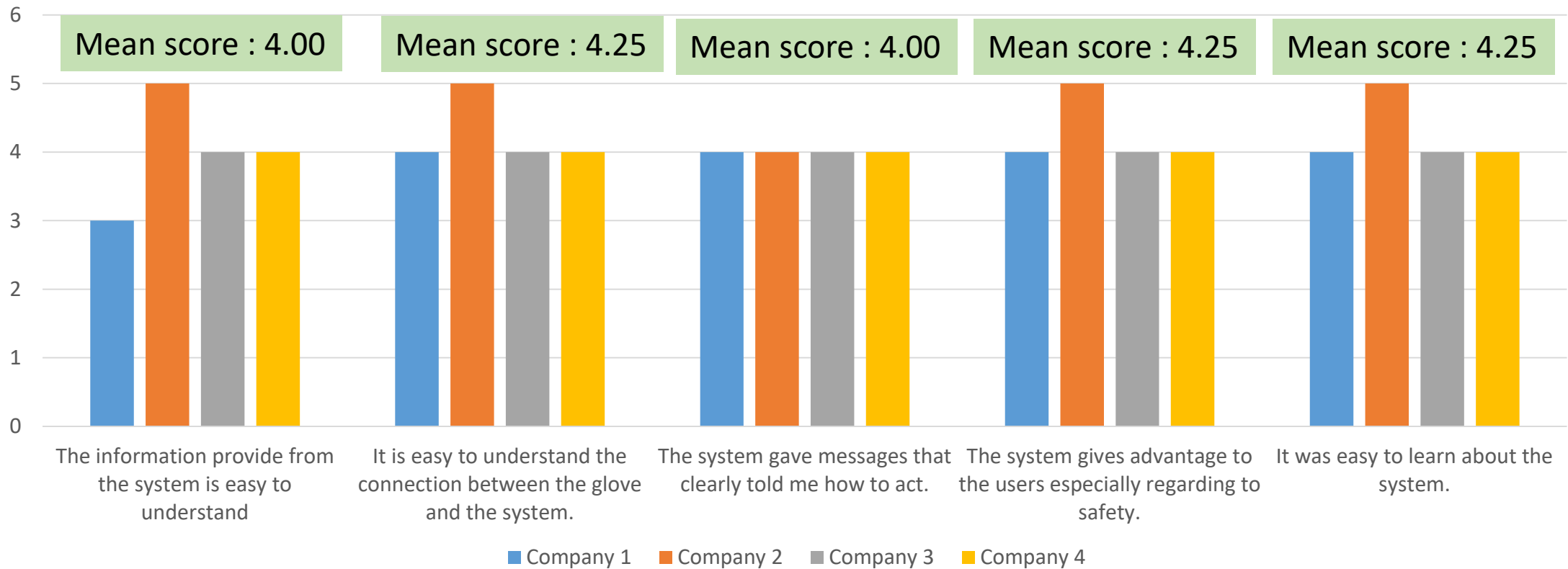
Section A: RSGV2 design





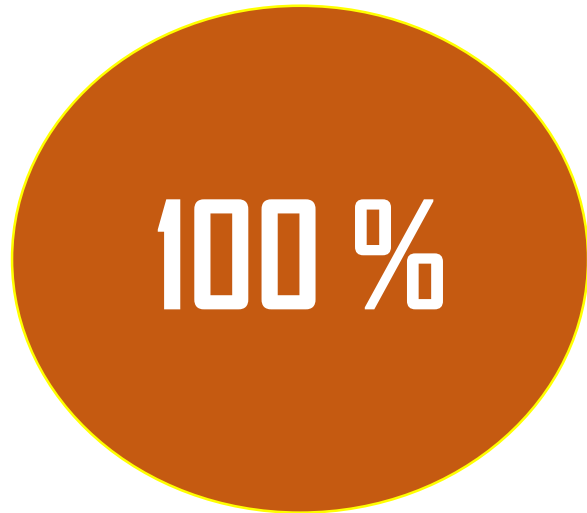
# RESULTS AND DISCUSSIONS (SECTION B)

Section B – RSGV2 system implementation



# RESULTS AND DISCUSSIONS (SECTION C)

- Section C - RSGV2 feedback



**YES**

Item
Does this new technology we provide in this product make your life easier?
Do you think this product will ease you in completing your task?
I think the product is a good purchase.
I am likely to recommend the product to others.
Overall, did you satisfied with this new product

# RESULTS AND DISCUSSIONS (SECTION D)

- Overall industry review from FOUR (4) industry and different nature of businesses regarding RSGV2

## System

- Uses Arduino board to control sequence of the programming.
- The transceiver might be upgraded into using radio frequency connection for optimum of mapping
- The appliances box that attached on the gloves might be upgraded to put LCD for display heartbeat rate.

# RESULTS AND DISCUSSIONS (SECTION D)

## Hardware

- The glove is made of Kevlar material and it is resistance to cutting and high temperature heat.
- These features are good enough to protect user when doing heavy machining job especially in sheet metal workshop.
- It would be great if chemical resistance features to be add on and made the gloves all multipurpose duty.

# RESULTS AND DISCUSSIONS (SECTION D)

## Real Time Application (RTA)

- It is really convenient to wear and feel comfortable and safe due to its safety features and material made.
- I can still feel my hand and can grab things tightly without slippery and still can feel the things

# RESULTS AND DISCUSSIONS (SECTION D)

## Review conclusion

- The gloves are very innovative and has potential, simply because it can help worker to do heavy work safe and sound.
- my review as above for the systems, hardware, and real time application to be considered perhaps to further improve Resilient Smart Glove V2 (RSG)

# CONCLUSIONS AND RECOMMENDATIONS

- Design and system implementation on RSGV2 among four different nature businesses **achieved above satisfaction** where the mean score range is 3.75 to 4.50
- Respondents were also **satisfied with RSGV2 development** and willing to **recommend** the innovation to their colleague and also others industry.
- A very **positive feedback** also acquired from the respondents that might be considered for further improvement for future development of RSGV2.
- Some of the recommendations that can be considered for further development of RSGV2 are **improving the material of the glove that can withstand chemical resistance**, further **enhancing personnel tracking system**, **repeat signal processing system** and **display devices attachment**.