



# QUANTIFIRE

Smart Technology for Future Firefighters



Firefighters work under severe conditions. Strenuous work, heat and heavy protective equipment bring a lot of physiological stress to the body. Cardiovascular diseases are the number one cause of death among firefighters, causing strokes and heart attacks.

The Quantifire earpiece is a custom molded smart communication device that filters out background noise, enhances voices and helps firefighters to deal with these severe conditions. By measuring physiological signs such as body temperature, heart rate and blood pressure, it uses data analytics to predict when a heat stroke occurs and warns the user. The Quantifire App provides insights into the firefighter's performance and enables personal input from the firefighter for data analytics.

O.S. van Nieuwmegen  
QuantiFire  
08 / 06 / 2017  
Integrated Product Design

**Committee**  
  
  
**Company**

Prof. dr. G.W. Kortuem, TU Delft  
Dr. ir. A.I. Keller, TU Delft  
C. Hen, Schiphol Group  
J. Brug, Fire Brigade Schiphol  
Royal Schiphol Group

**TU Delft**