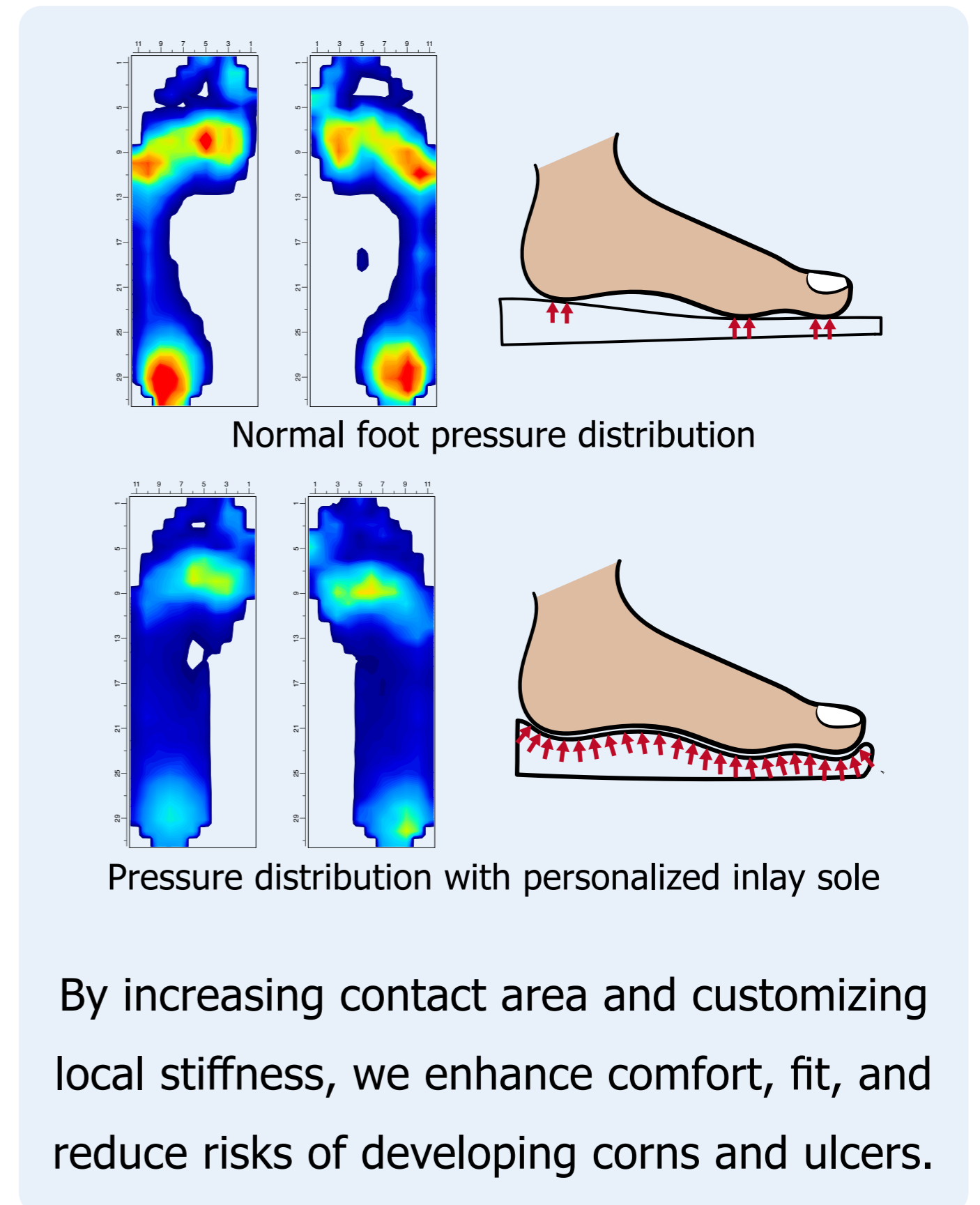
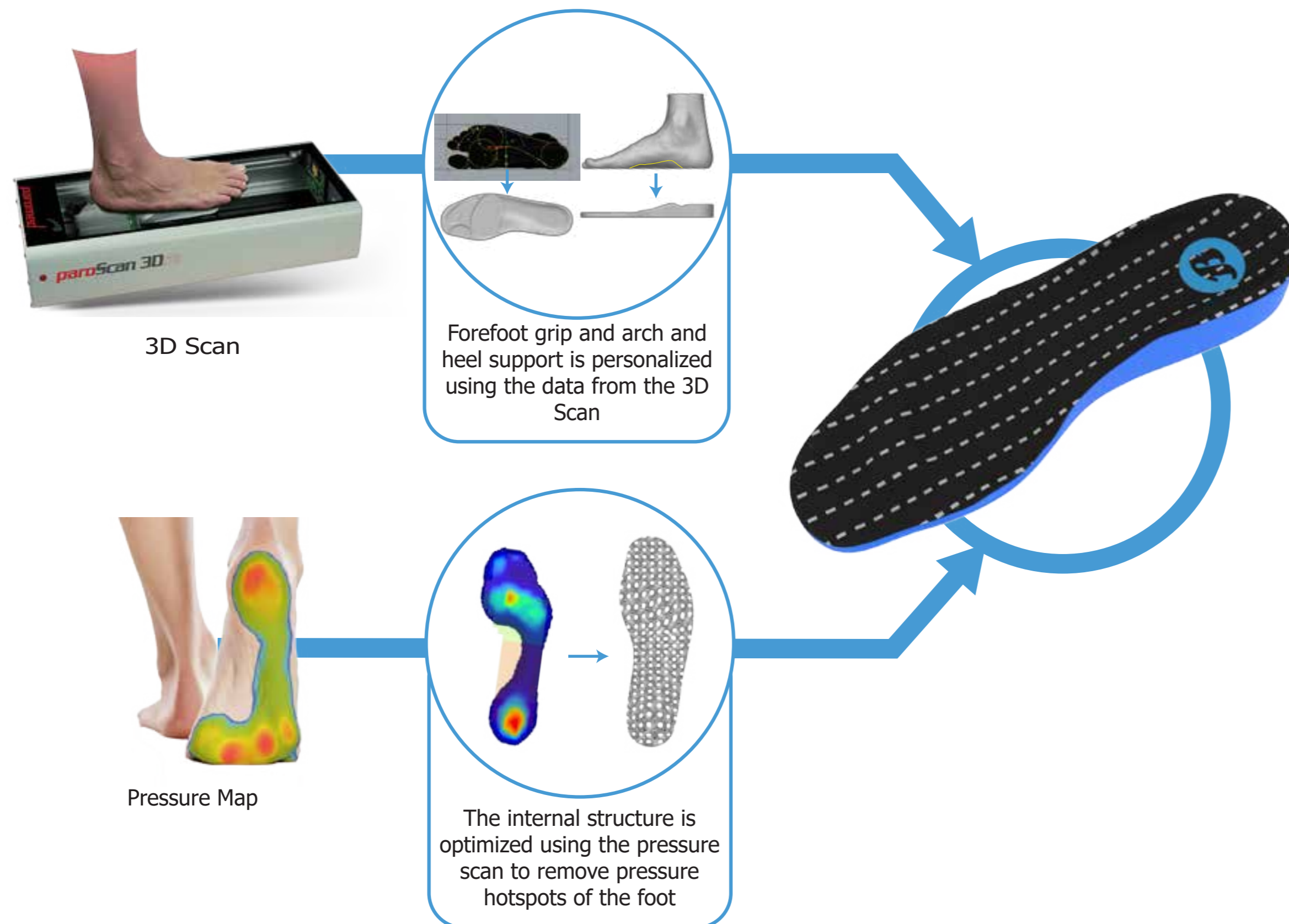


# Personalized Inlay soles

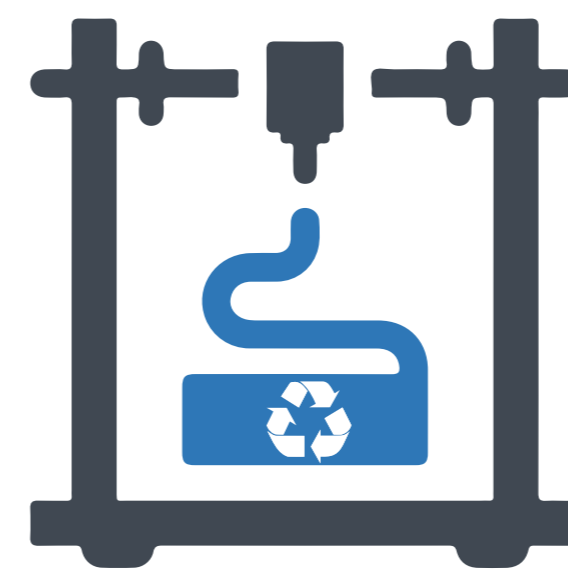
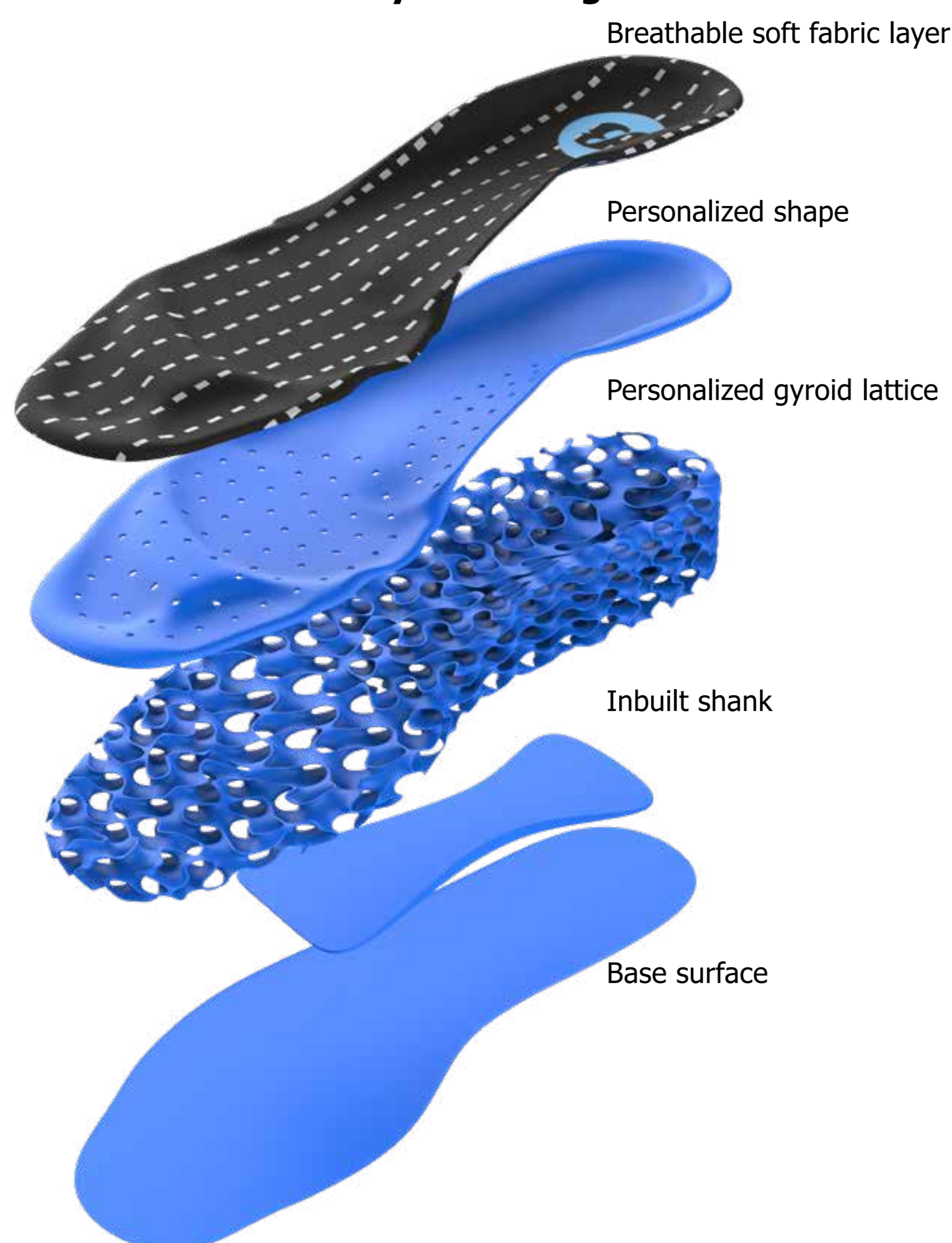
for safety shoes, designed using dynamic foot data

Individuals' feet exhibit a wide array of shapes and sizes, and they demonstrate distinct dynamic behaviors in various circumstances. Despite the considerable variability in parameters among individuals, the customization of shoes seldom accommodates this diversity comprehensively. Through this project, a workflow has been designed to personalize inlay soles for safety shoes using multiple 3D scans and dynamic plantar pressure data during walking. Using the workflow, a 3D printable personalized inlay sole design was created which was tested to be effective in providing better comfort, fit and pressure relief.

## Personalization workflow

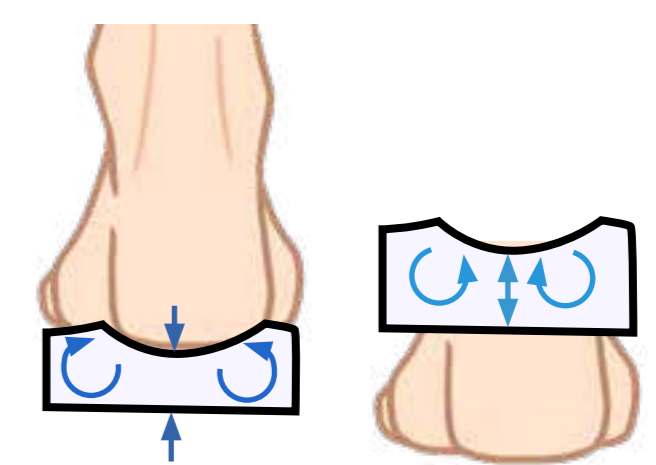


## Inlay sole design



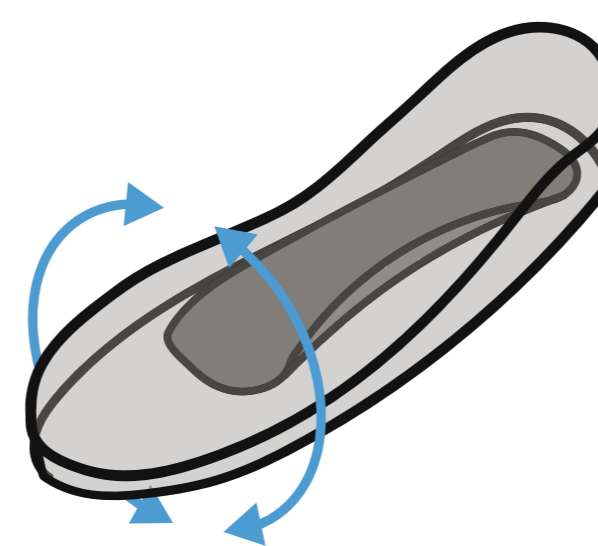
### 3D Printed & Recyclable

The inlay soles are made from 3D printing with no material wastage using recyclable TPU.



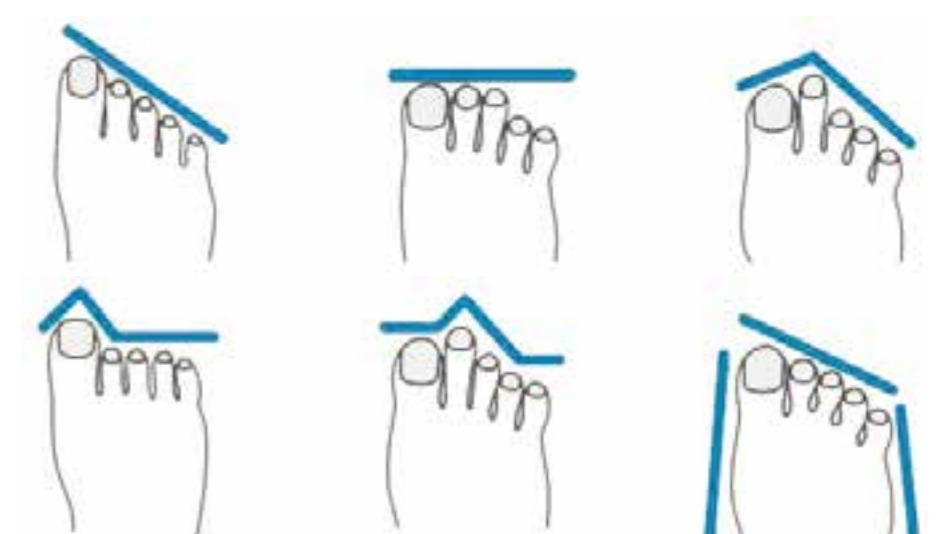
### Active Ventilation

Compression and rarefaction of the inlay sole during walking actively promote airflow



### Torsional Stiffness

The inbuilt solid shank provides torsional stiffness and midfoot stability



### Personalized Shape

The inlay sole is personalised to accommodate all different foot shapes



Abhijith Souparnika  
Personalisation of safety shoe inlay soles using dynamic foot data  
22nd August 2023  
Integrated Product Design

**Committee** Dr. Toon Huysmans  
Dr. Jun Wu  
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**Company** Bata Industrials

