SNS COLLEGE OF TECHNOLOGY

(AN AUTONOMOUS INSTITUTION)

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Recognized by UGC Saravanampatti (post), Coimbatore-641035.

Department of Biomedical Engineering

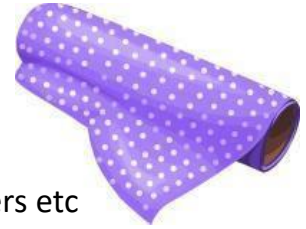
Course Name: 19BMO302 & WEARABLE TECHNOLOGIES Title 3

Topic :SMART FABRICS

Semester :6

INTRODUCTION

Fabric manufacturer



Typical Users
Sportsmen
Cyclists, Runners etc
Caregivers
First Responders
Military

Manufacturer

Retail

Electronic ink

Electronic ink printer

Clothes will outsell phones

Smart Clothes can monitor body functions eg:

- Heart Rate
- Breathing Rate
- Muscle Fatigue
- Movement and Form
- Sweat

MEDICAL ELECTRONICS

First Responders, Medical and Military

- Preventative; Early Detection
- Rehabilitation; Self Monitoring
- FR/EMT; Safety and Prevention
- Military; Safety, Performance, Communication

Sports and Fitness

(institutional sports, individual sports, active lifecycle)

- Bio Feedback
- Performance Tracking
- Performance Enhancement
- Coaching and Development
- Injury Prevention, Detection and Recovery

Lifestyle

- Personal Enhancement
- Hands Free Multi Tasking
- Alternative Safe Commuting
- Entertainment; Music, Film and Gaming Industry
- Travel/Hospitality
- Education and Child Development

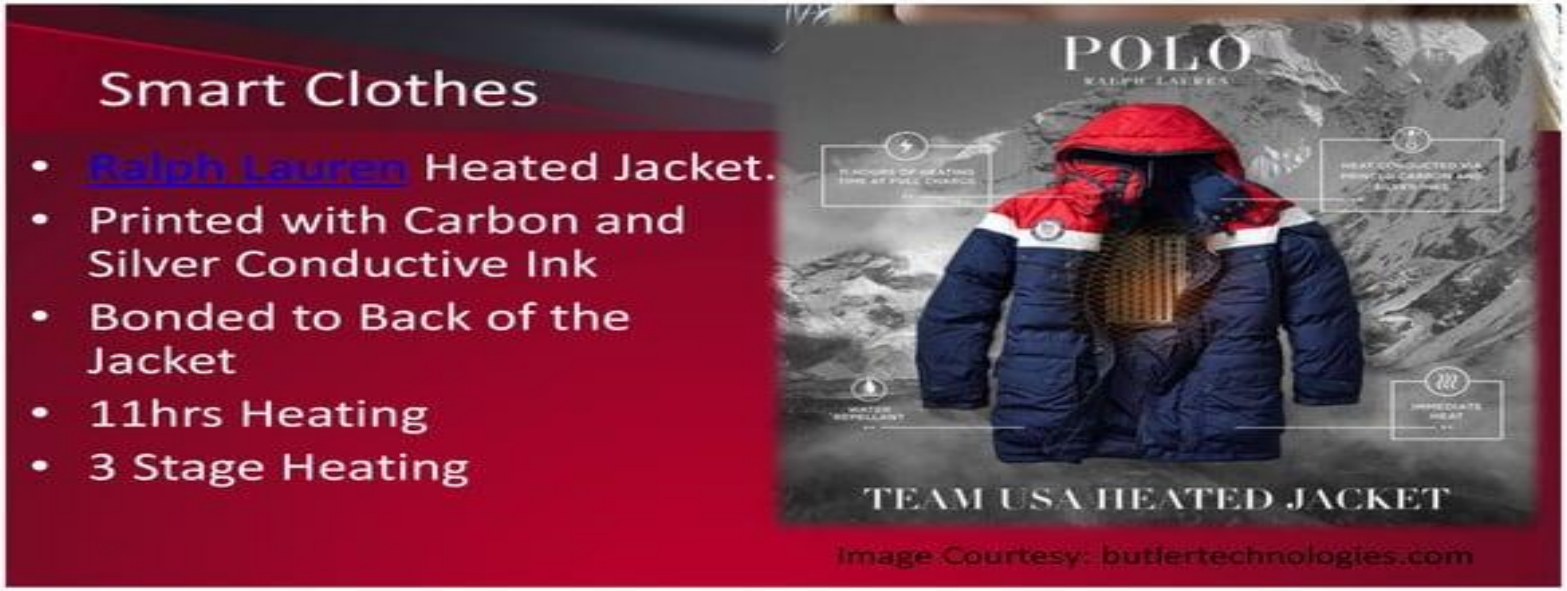
Photos from Ortiz Industry's presentation to Raleigh Wearables Workshop March 2016

MARKET TREND

- Worldwide market for smart fabrics - $2.25b with an annual growth rate of 18%
- US market for smart fabrics - $1.016b with annual growth rate of 27%
- Market Segmentation
  - 27% for Transportation
  - 21% for Military
  - 20% for Industrial Commercial Uses
  - 17% for Sports and Fitness
- Electronics in clothing has great potential and various major companies are exploring the field eg Levi, Nike, Ultimo, Underarmor, Adidas etc

CLASSIFICATION OF FABRICS

SAMPLE OF SMART FABRICS



IOT TECHNOLOGIES

Wearable Technology

- Wearable technology: Gadgets or devices that involve sensors or feedback.
- Wearable technology - connected to you or your smart phone, provides feedback through sensors

Image Courtesy: mdpi.com

- Smart textile and Electronic Textiles are a sub set of Wearable technology

Thank
you