

AIRCREW ESCAPE AND SURVIVAL (AES) AIR  
COMMODITIES PROJECT TEAM

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# SCOPE

- LEGACY SITUATION 2012
- USER REQUIREMENT
- PROCUREMENT STRATEGY
- ADDITIONAL CAPABILITY
- MATERIALS
- TESTING AND TRIALS
- ROLL OUT
- THE FUTURE
- ENSEMBLE DESCRIPTION

# LEGACY SITUATION 2012

- UNDERWEAR AND MID LAYER CONTRACT EXPIRED
- COVERALL CONTRACT ABOUT TO EXPIRE
- NO TWO PIECE ENSEMBLE POST AFGHANISTAN
- DISPLAY TEAMS WEARING UNPROVEN SUIT

# USER REQUIREMENT

- ONE AND TWO PIECE ENSEMBLES
- SAFE
- FLEXIBLE
- CONTROL THERMAL BURDEN OVER LARGE PERCENTILE GROUP
- TWO PIECE TO LOOK LIKE GROUND FORCES-MTP
- COMMON LAYOUT

# PROCUREMENT STRATEGY

- REQUIREMENT TO LOOK LIKE A SOLDIER LED TO DEFENCE CLOTHING CUT AND SEW CONTRACT
- COLLABORATION APPROACH
  - ROYAL AIR FORCE CENTRE OF AVIATION MEDICINE
  - QINETIQ ANTHROPOMETRY SME AND HF SPECIALISTS
  - DEFENCE CLOTHING TEXTILE TECHNICIAN
  - MANUFACTURERS DESIGNER
  - AIRCREW ESCAPE AND SURVIVAL PERSONNEL
  - USERS-OBVIOUSLY!
- CONDUCTED ALL IN ONE ROOM-OBVIOUS TO ME BUT APPARENTLY NOT TO ALL

# ADDITIONAL CAPABILITY

- IMMERSION LINERS
- SELF REPAIR
- COMPATABILITY WITH OTHER SYSTEMS-BALCS

# MATERIALS

- RANGE OF FR MATERIALS AND WEIGHTS
  - KERMEL VISCOSE
  - ARAMID
  - DEFENDER M
  - FR MESH
  - PYRAD
  - PRO FIRE
- MID LAYERS NON FR BUT UTILISING AFFORDABLE MODERN MATERIALS

# TESTING AND TRIALS

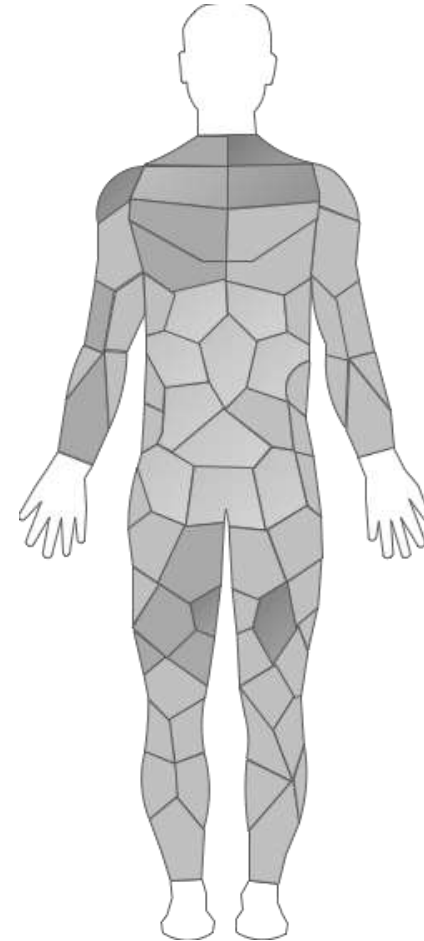
- LOWER LEVEL TEXTILE TESTS
- FULL ENSEMBLE BURNS
- IMMERSION THERMAL MANNEQUIN TESTING
- USER TRIAL-130 PERSONNEL

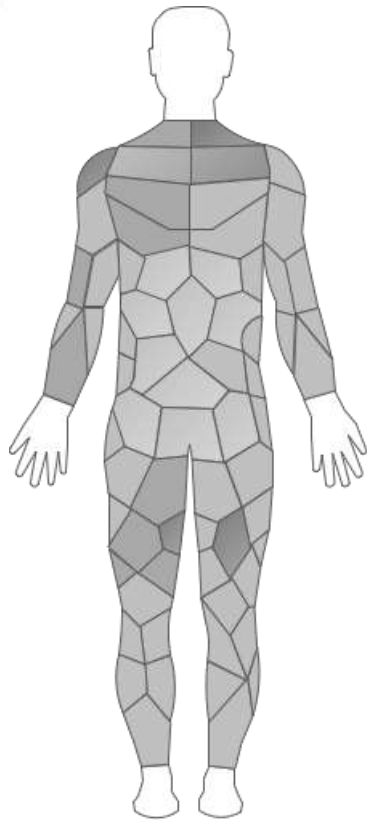


# BURNS TRIALS

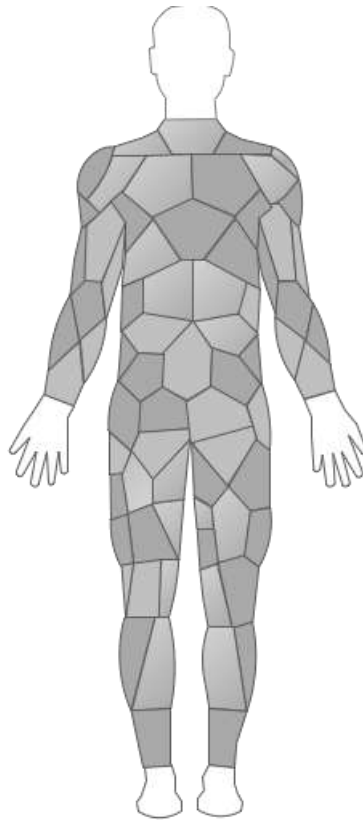
# R.A.L.P.H

BRITISH TEXTILE TECHNOLOGY GROUP





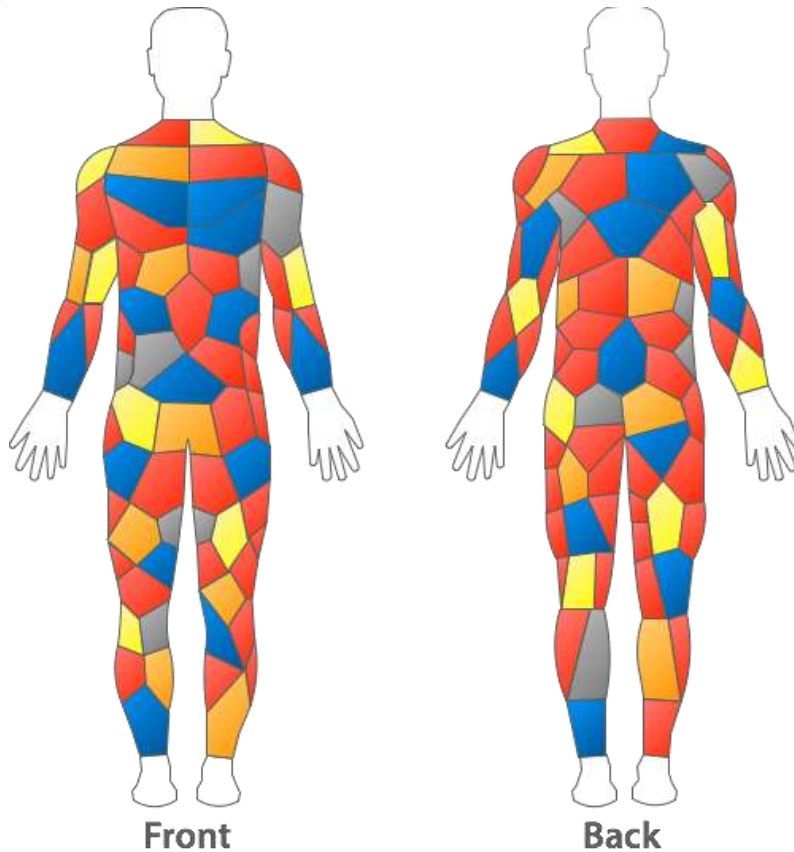
Front



Back

# RESEARCH AIM LONGER PROTECTION AGAINST HEAT

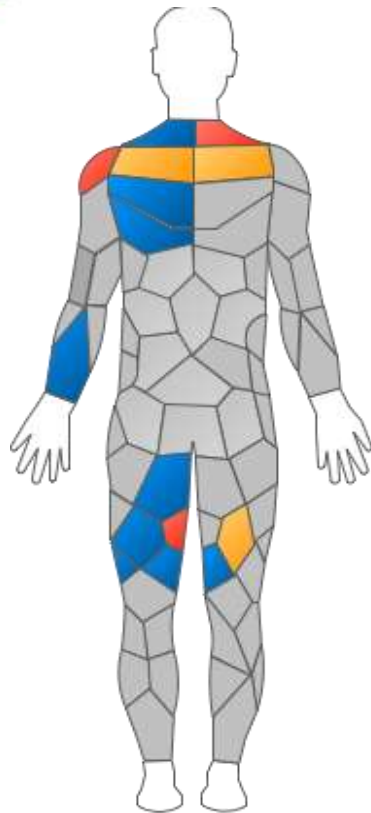
A test manikin with 123 sensors, which predicts thermal injuries ranging from pain up to 3rd degree burns. It's subjected to 1200c° flames for 4 seconds, representing an aircraft flash fire.



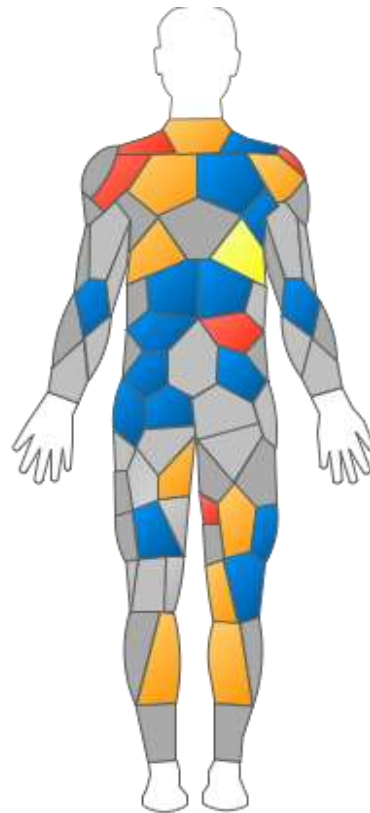
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Front

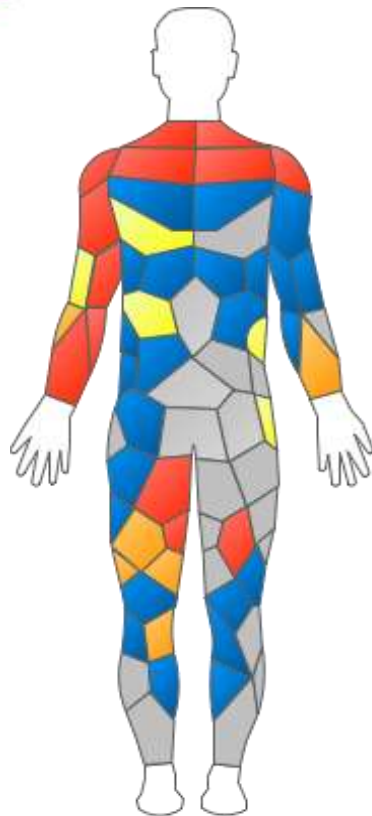


Back

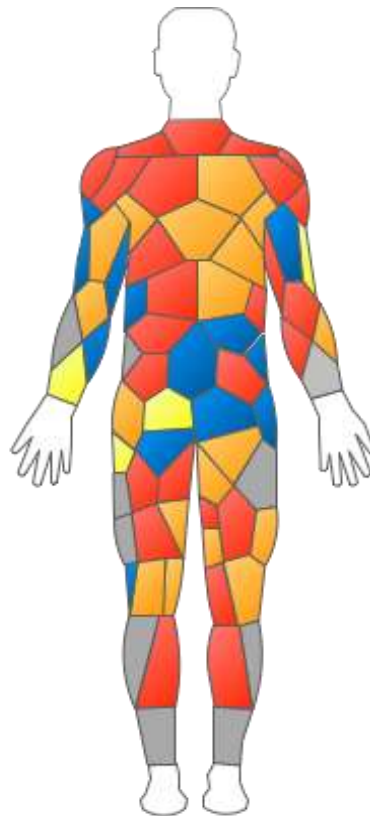
**MULTIPLE LAYERS  
(UNDERWEAR)**

**14.9%**  
**SERIOUS BURNS**





Front



Back

**SINGLE LAYER  
(NO UNDERWEAR)**

**46.5%  
SERIOUS BURNS**





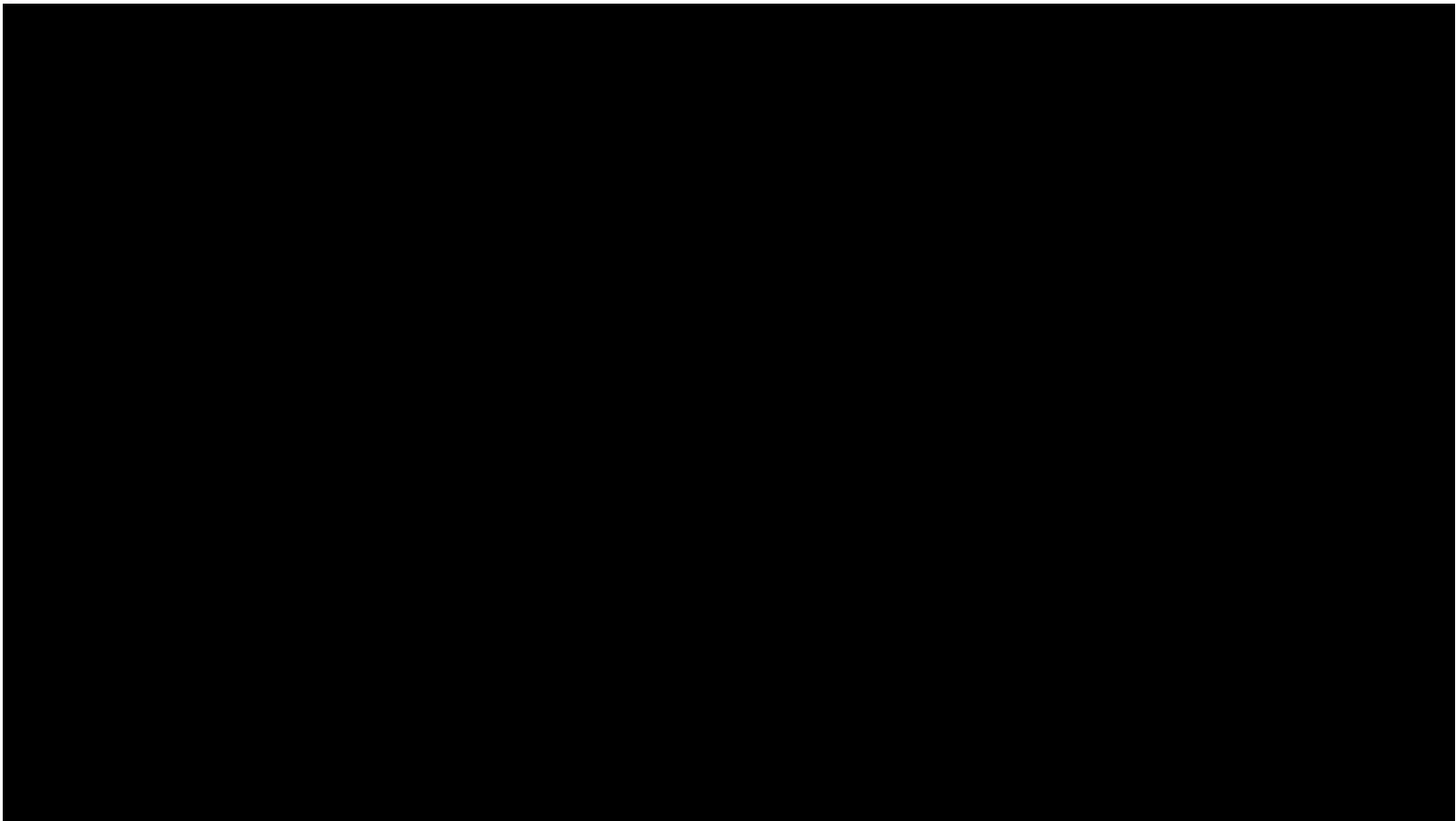
# BURN PROTECTION ISSUES

- SHRINKAGE
- AFTERFLAME-TRADE OFF BETWEEN AFTERFLAME AND PROTECTION









MINISTRY OF DEFENCE









# ROLL OUT

- BIG BANG ROLLOUT
- WHOLE OF DEFENCE IN SIX MONTHS
- STATION ROAD SHOWS
- SIZING PACKS
- BROCHURE, ADVERTISEMENT
- COMPATABILITY WITH LEGACY GARMENTS BEING ASSESSED
- MVP SUIT BEING COMPETED SEPERATELY

# THE FUTURE

- EVOLUTION RATHER THAN REVOLUTION
- TECHNOLOGY INSERTION
- SELECTION FIGHT MAY WELL BE BASED ON DURABILITY, COLOUR FASTNESS, COMFORT ETC, NOT SAFETY

# ENSEMBLE DESCRIPTION



# TAKE HOMES

- INVOLVE THE USERS-BUY IN ESSENTIAL
- COLLABORATION WORKS, EVERYONE IS A SPECIALIST-  
END RESULT LOOKS WORLD CLASS
- CUT AND SEW PREVENTS GARMENT MANUFACTURERS  
COMPETING, BUT NOT TEXTILE MANUFACTURERS
  - MVP FR LAYER COMPETITION COMING

# QUESTIONS?

QUESTIONS?

**HOW DO YOU KNOW IF A PILOT IS IN  
THE ROOM?**

QUESTIONS?

HOW DO YOU KNOW IF A PILOT IS IN  
THE ROOM?

**THEY'LL TELL YOU!**