

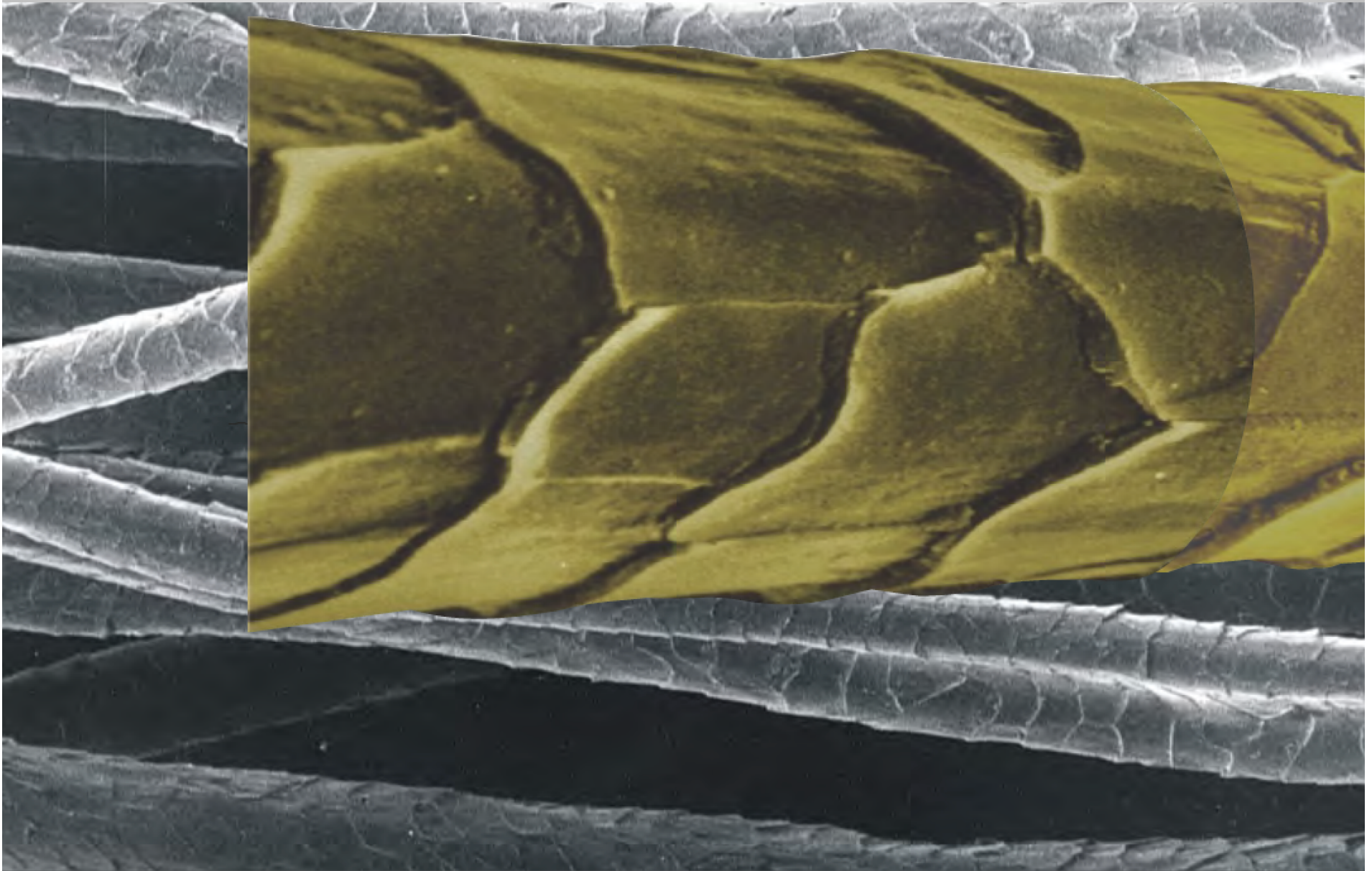
Wool: the technical fibre

Dr Geoff Naylor
CSIRO

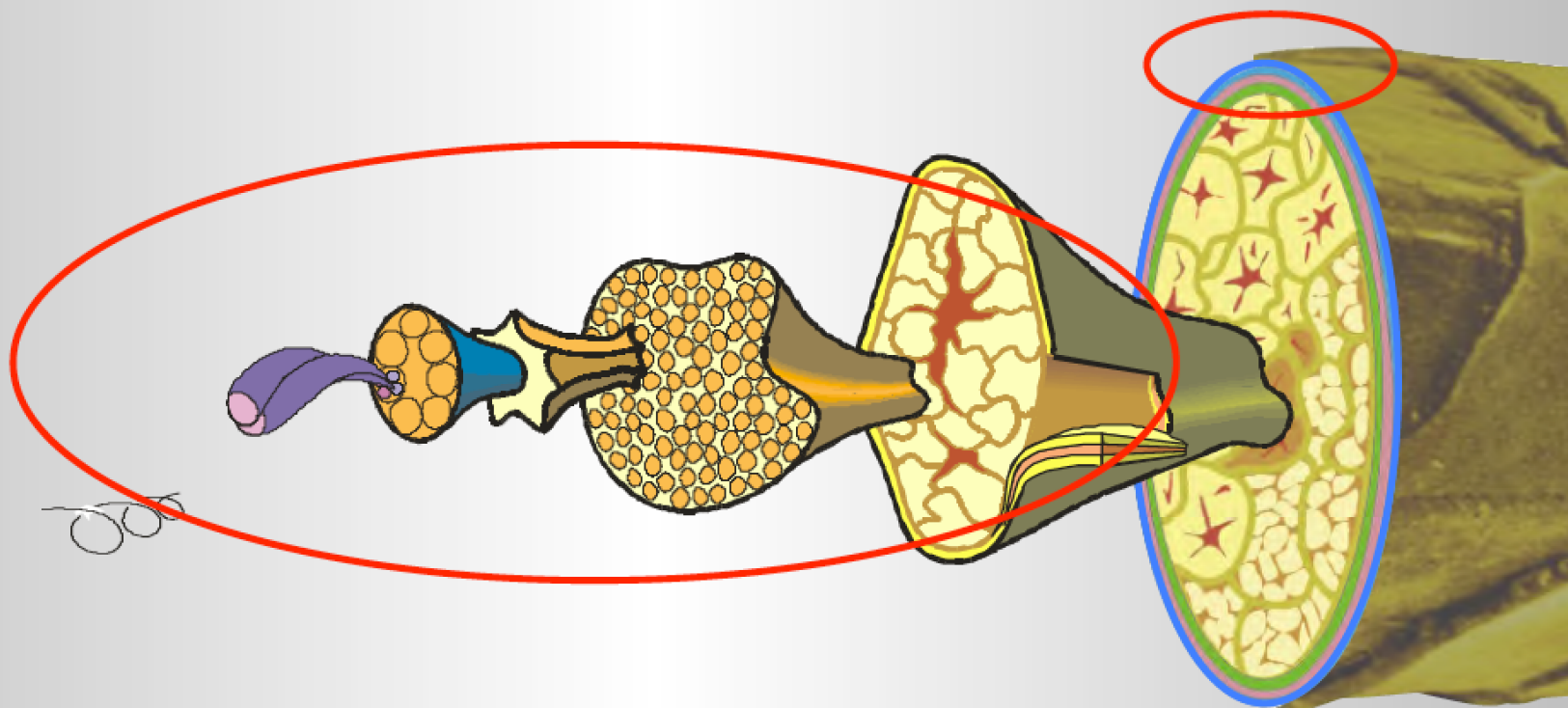




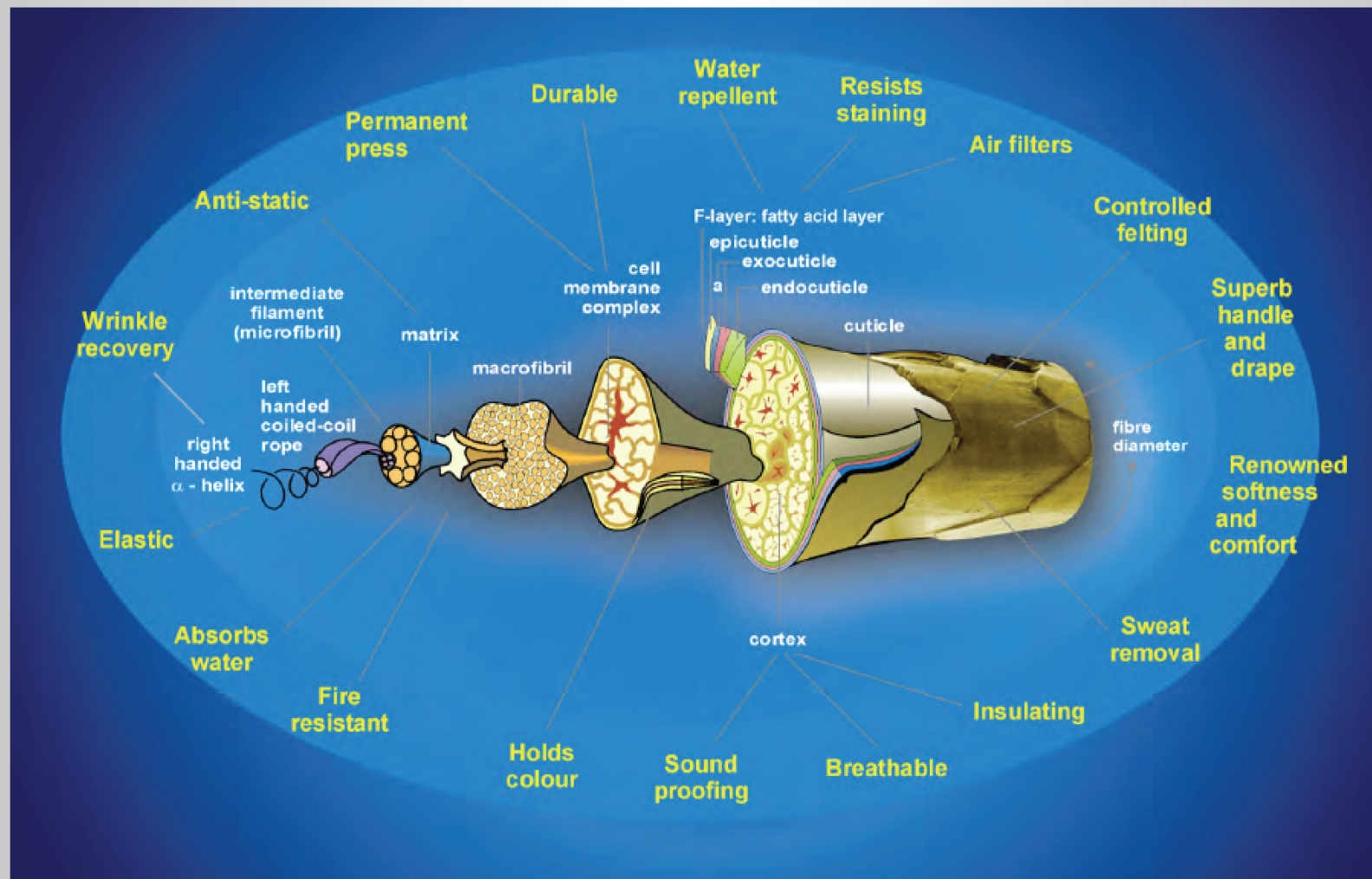
Wool: not a 'soup' of wool molecules



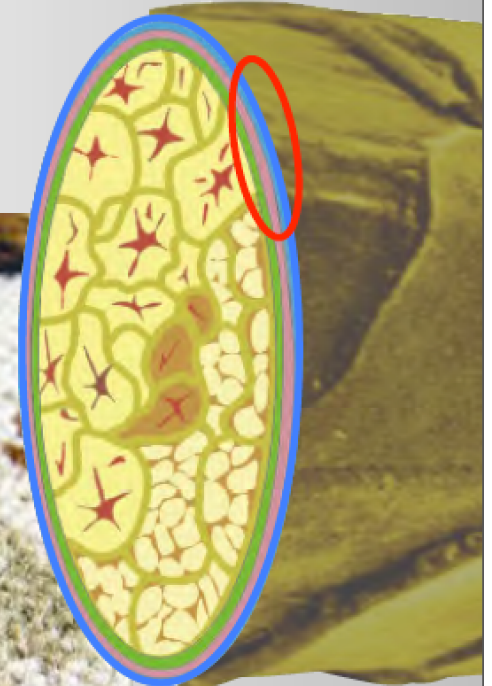
Wool: Nature's nano-composite



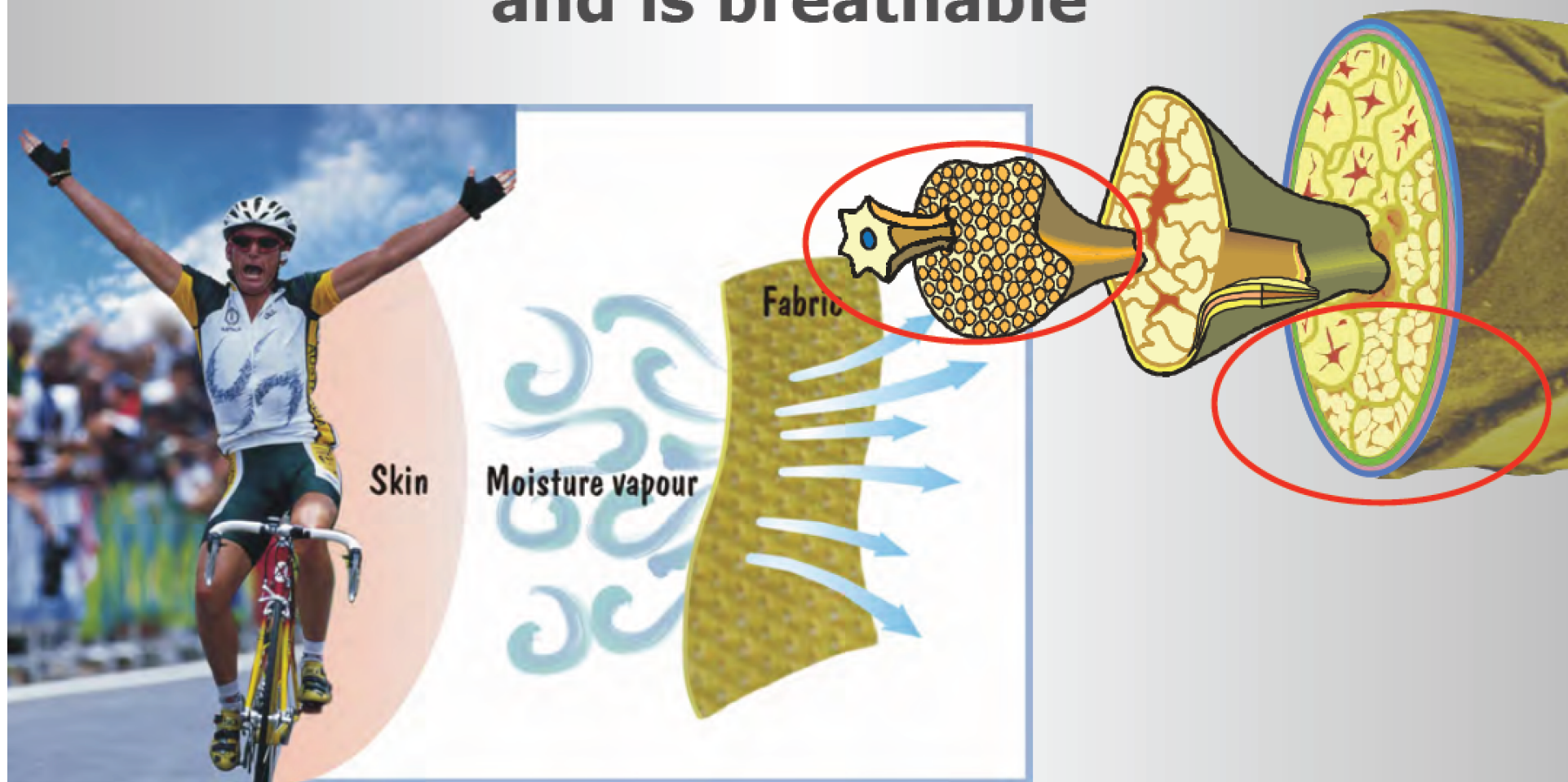
Wool: the technical fibre



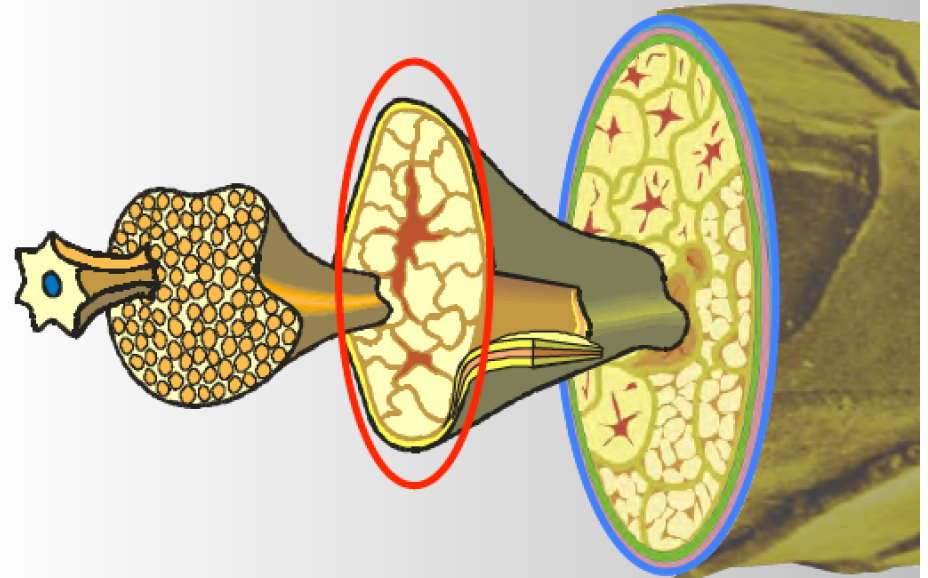
Wool: water repellent



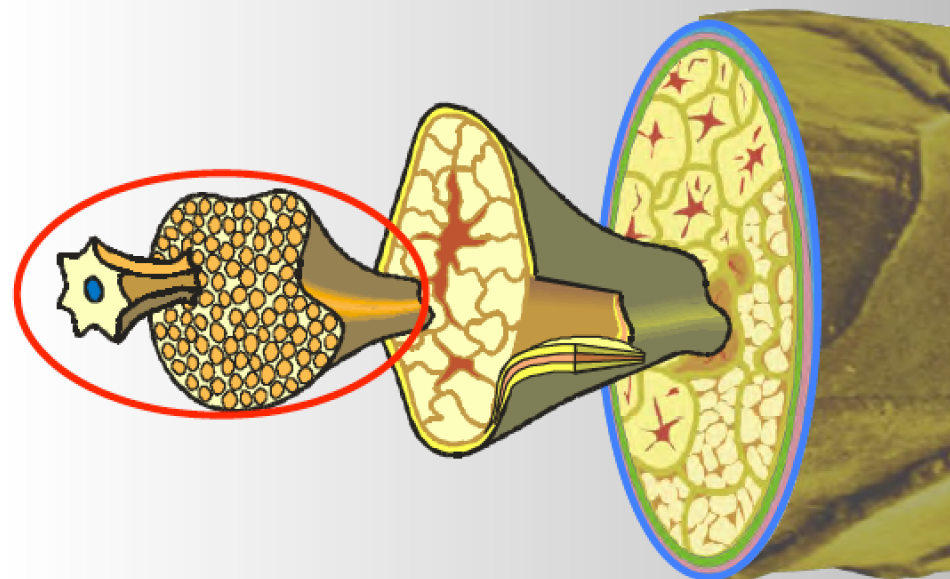
Wool: naturally absorbs water vapour and is breathable



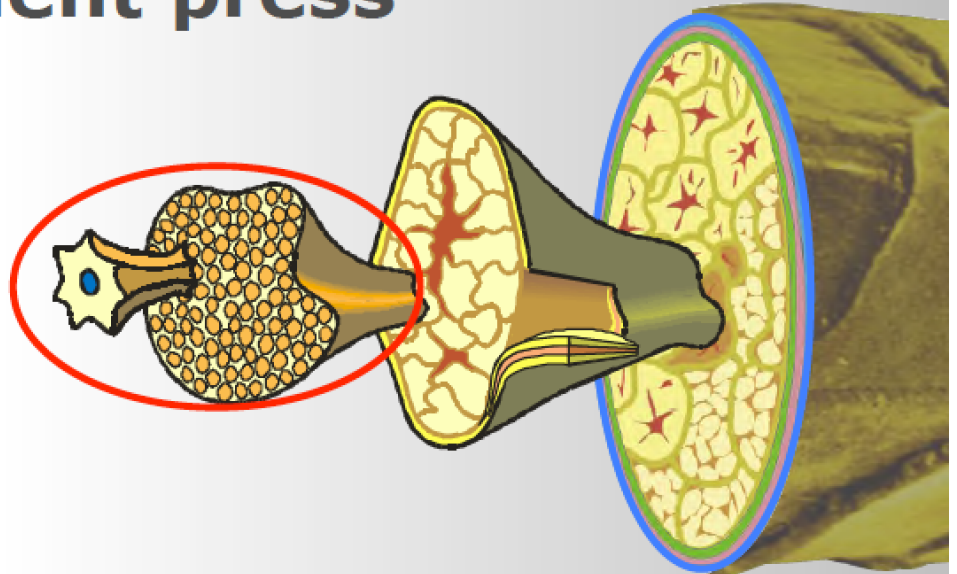
Wool: active heating



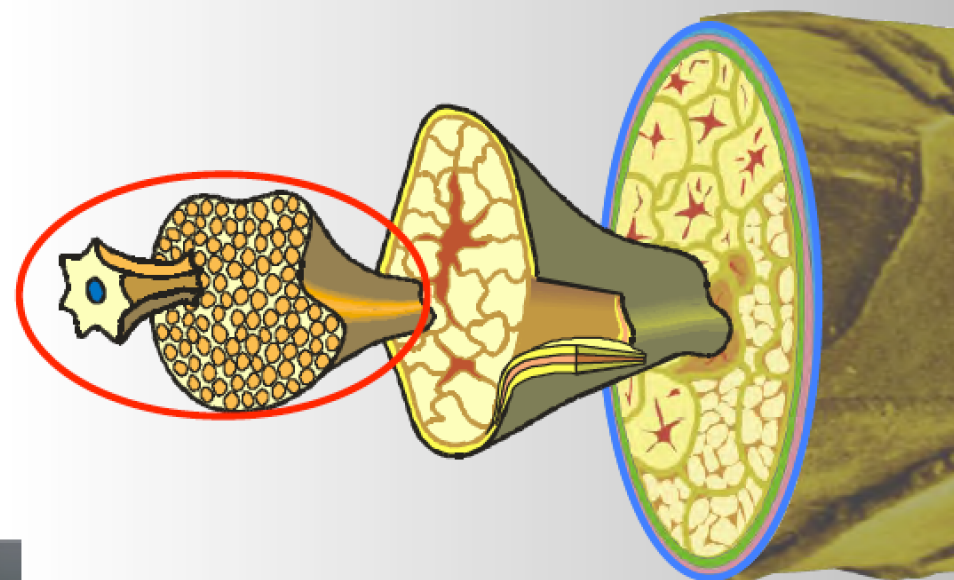
Wool: shape retention



Wool: shape retention and permanent press



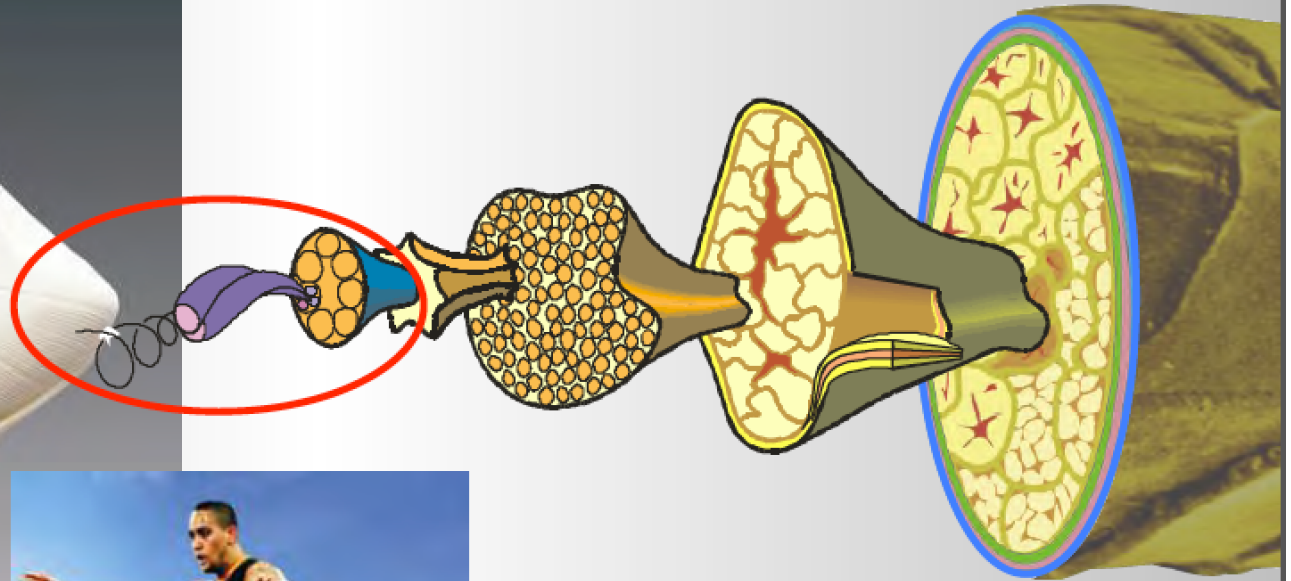
Wool: exquisite drape



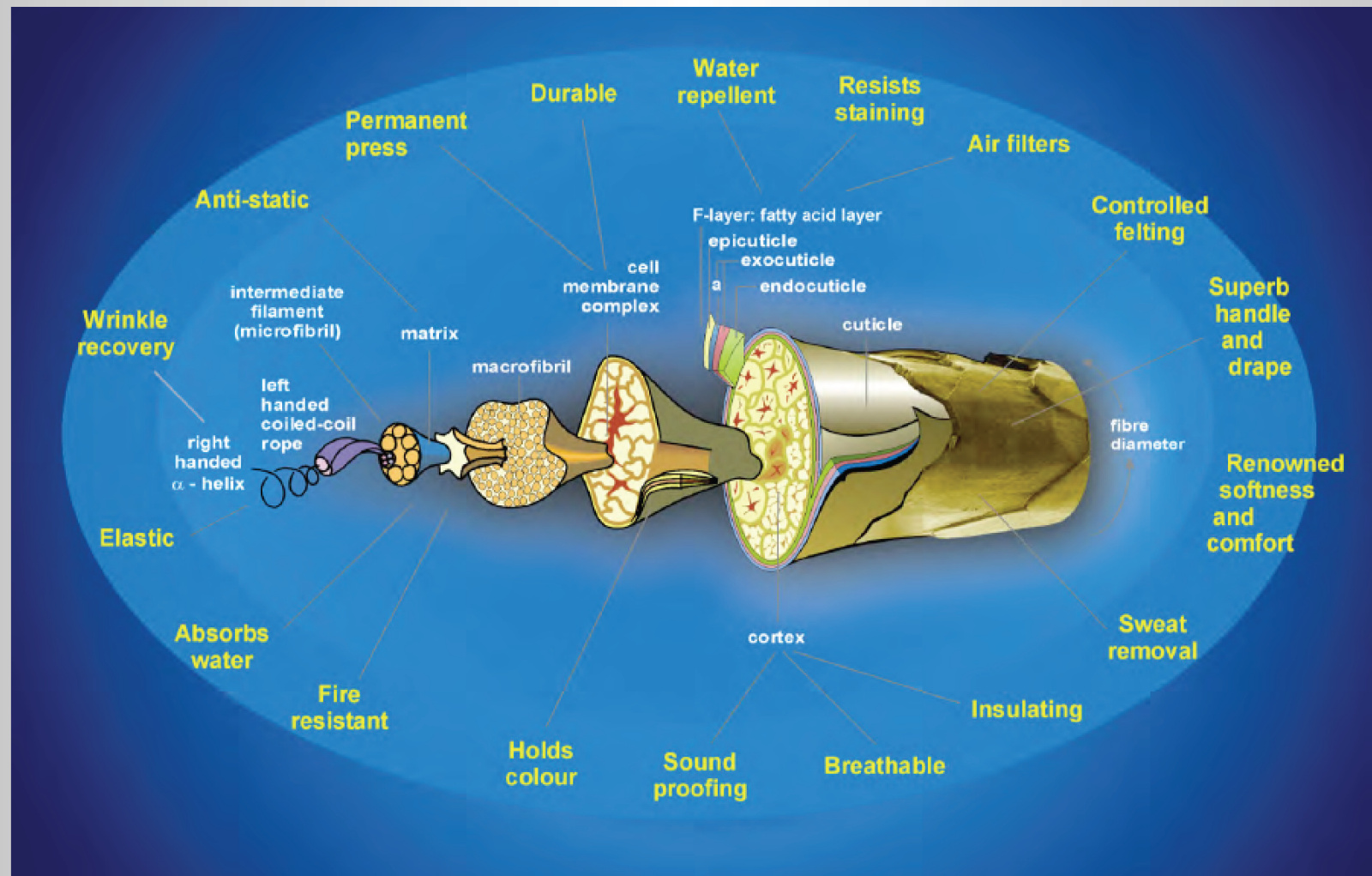
Wool: natural fire resistance



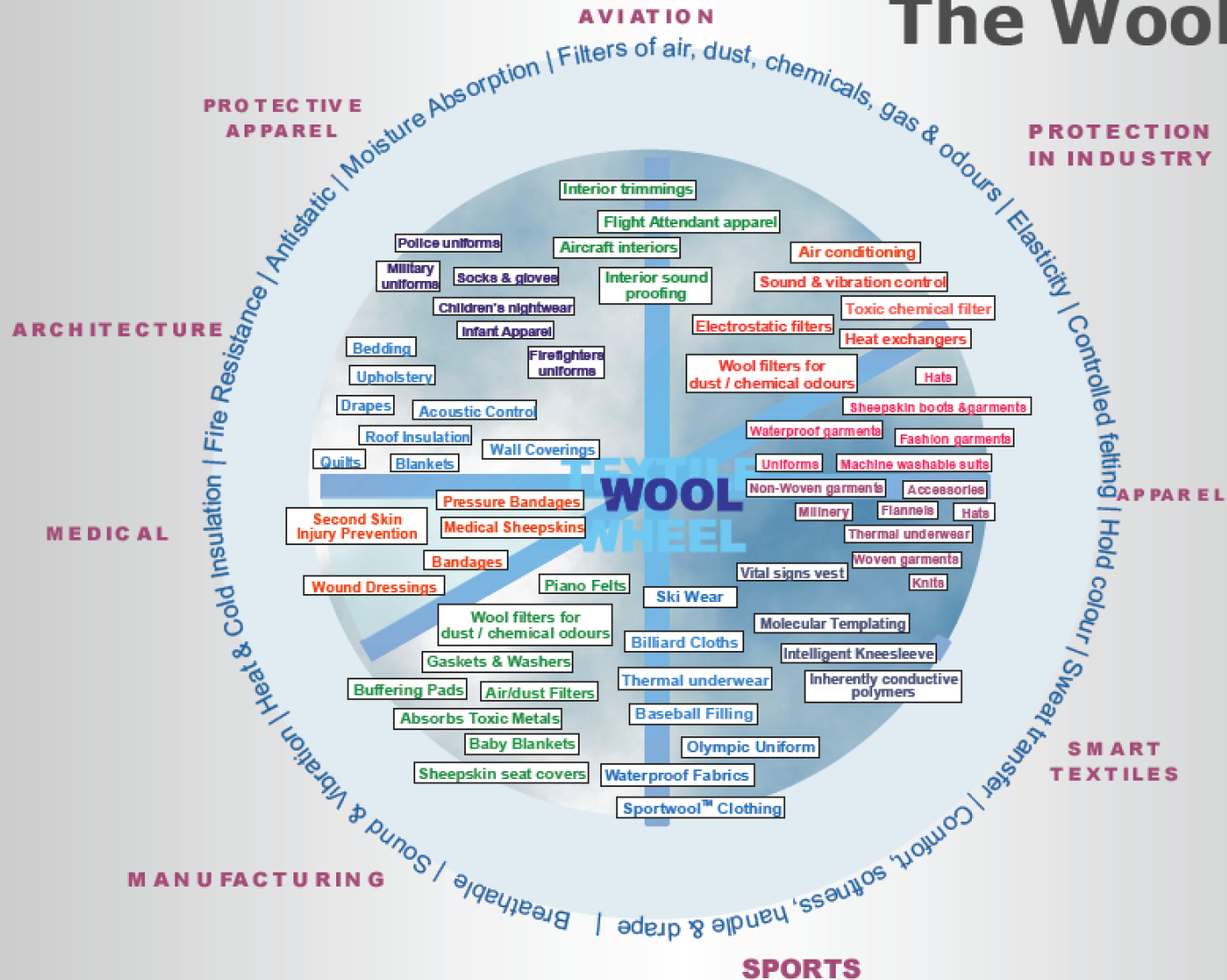
Wool: naturally elastic



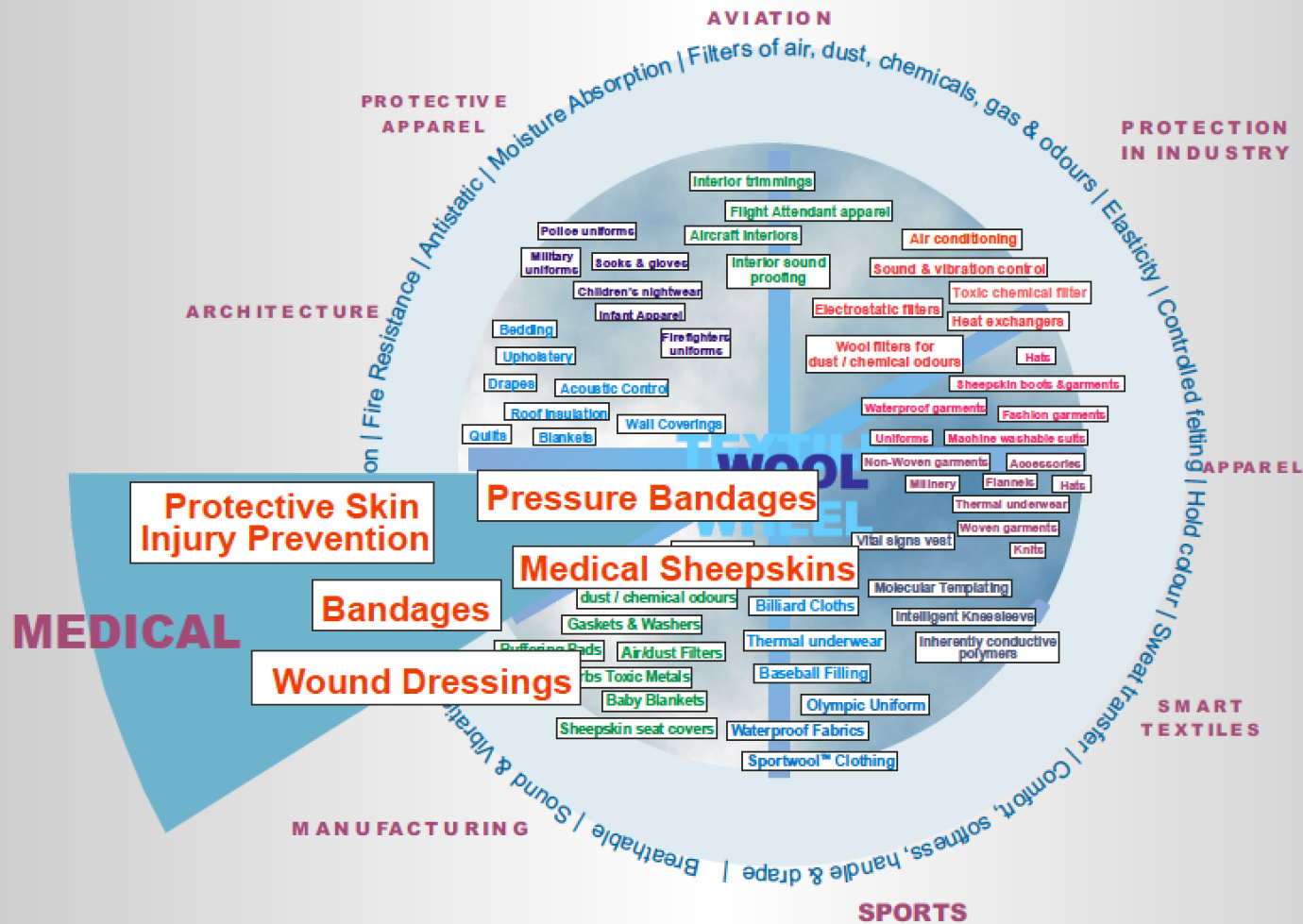
Wool: the technical fibre



The Wool Wheel



Medical textiles



Medical textiles

Area A: Novel wool textiles for injury prevention especially in the aged population

- In Australia, 2.5 million people > 65 years old
- 5.6% in high care homes (140,000) and 25% have a skin wound at any time
- 59% skin tears, 31% pressure wounds, 10% ulcers
- In low care and for self-care (i.e. at home) 15% have a wound at any time with similar spread (354,000)



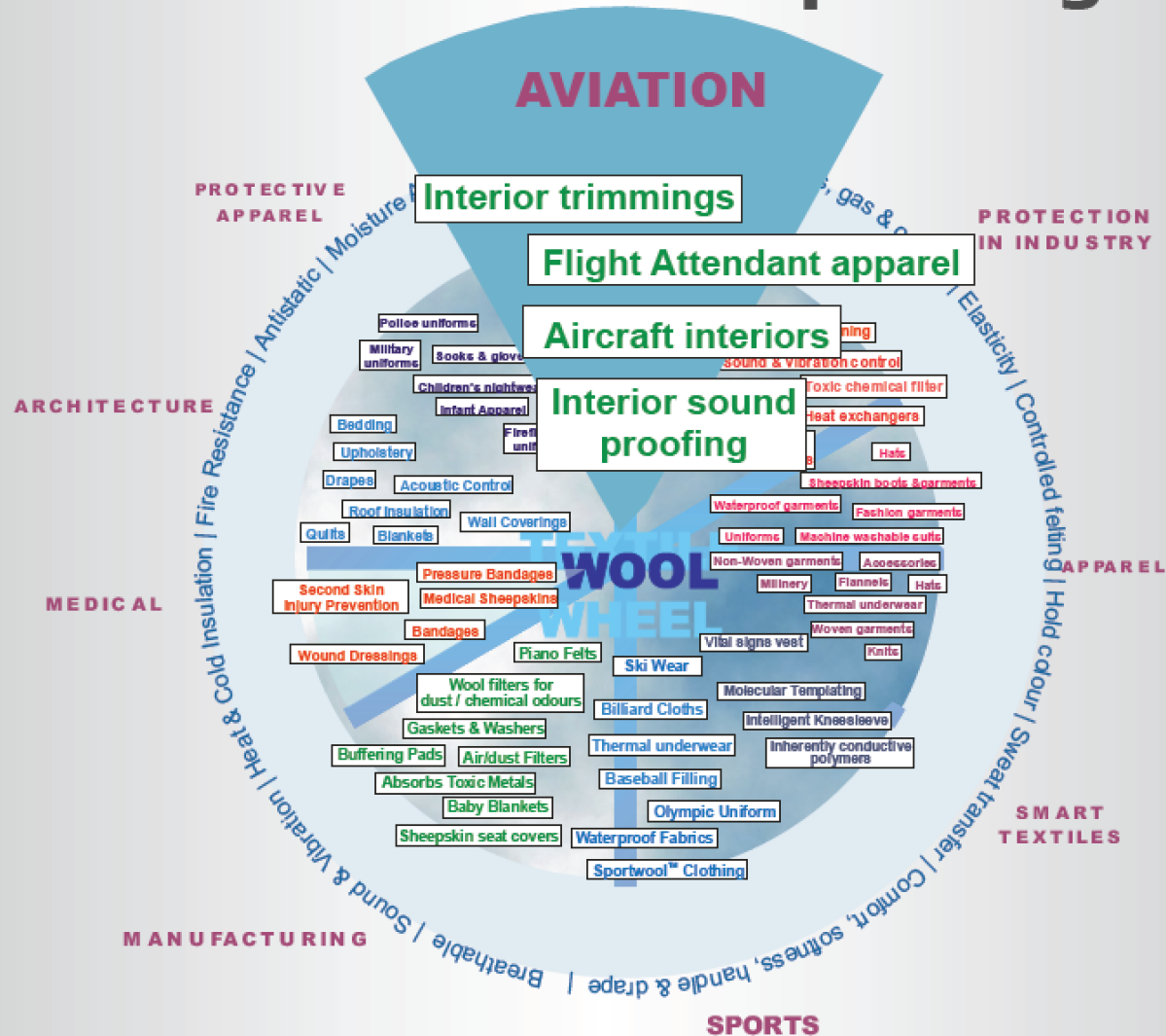
Medical textiles

Solution:

- a wool-based limb protection cover to reduce injuries



Murata Vortex Spinning



Murata Vortex Spinning

Spinning System	Ring Long	Ring Short	Rotor	MJS	MVS
Spindle Nos.	16M	166M	7.6M	250K	26K
Delivery m/min	20	20	250	300	400

Murata Vortex Spinning



The Murata Vortex Spinning machine – MVS 810

Murata Vortex Spinning

Objective:

- Make wool a viable fibre on MVS systems
- Develop successful short-staple wool and wool-blend products from MVS yarn.

Benefits:

- Lower yarn cost by 30%
- MVS yarn approaches ring spun quality plus low-pill → good handle and wear properties
- Wool into larger short-staple yarn market → 170M spindles versus 16M spindles.



Murata Vortex Spinning



The Wool Wheel

