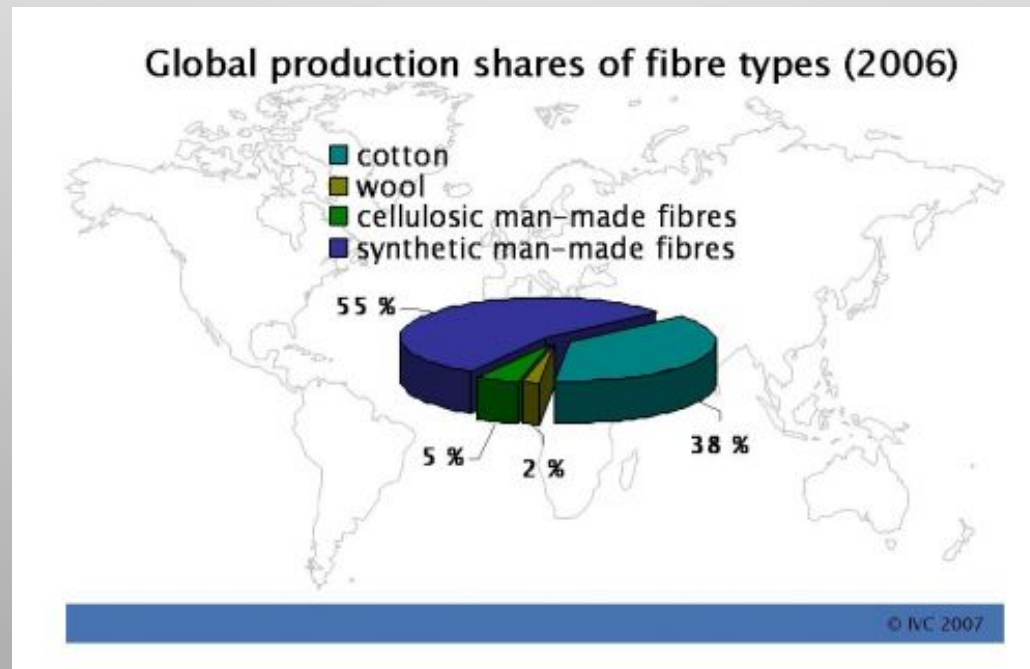


Case studies:
Digitally printed merino wool

Global fibre production share



Global wool production

Country	Metric tons
China	386,768
Australia	382,300
New Zealand	165,800
United Kingdom	67,000
Iran	67,000
Morocco	55,300
Sudan	55,000
Argentina	54,000
Russian Federation	53,280
India	43,000
World total (2009)	2,044,270
Source: FAO STAT - United Nations (2012)	

The New Zealand wool context

- 3rd largest wool producer
- Majority of wool clip is crossbred suitable for carpets, rugs and interior textiles
- Less than 5% of NZ clip is merino wool, most of which is exported in its greasy state
- Need to add value to NZ wool based products
 - eg. WRONZ initiatives

Digitally printed wool

- PFDP wool fabric virtually unattainable
 - Not mainstream
 - Processing issues
- Many appear to have tried and failed
- More relevance to NZ – our staple fibre
- Potential to develop niche products

The TDL and digitally printed wool

Early attempts:

Karen Walker – Alpine merino printed sweater

- 3 or 4 garments for New York Fashion Week
- Printed but not steamed
- For catwalk use only
- DO NOT WASH!

The TDL and digitally printed wool

Karen Walker – Alpine merino wool sweater



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The TDL and digitally printed wool

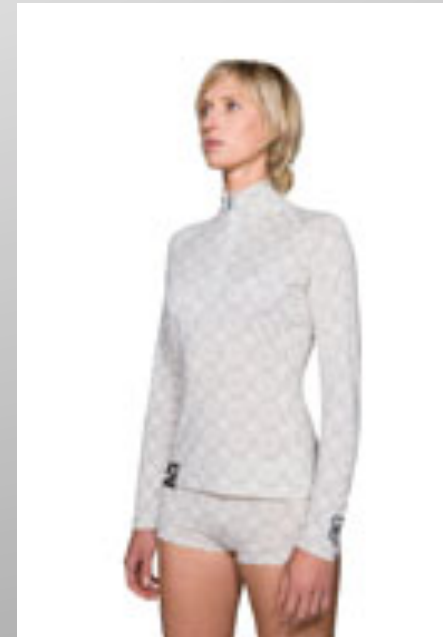
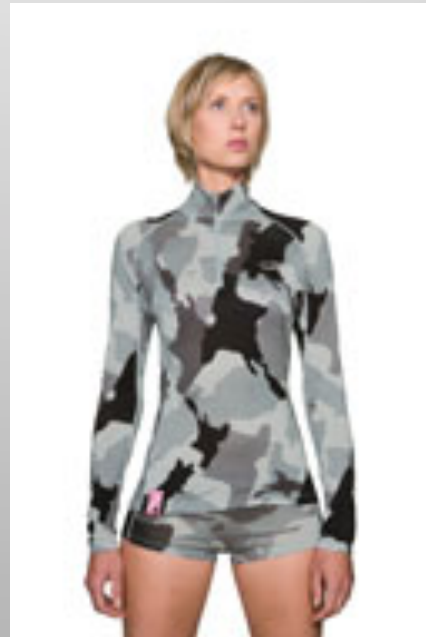
Early attempts:

Icebreaker – merino single jersey fabric for prototype all over printed base layer apparel

- Approx 20 metres of fabric
- 8 new designs
- Colour matched to Icebreaker's Pantone pallet
- Turnaround 1 week!

The TDL and digitally printed wool

Icebreaker – merino base layer apparel



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The TDL and digitally printed wool

Getting serious.....

- 2010 AUTEL funding to develop processes for digitally printed wool
- Technical support of textile chemist
- Establish raw material criteria
- Woven and knitted fabrics

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Issues to overcome.....

- Excessive dye wash off
- Cross staining of colour
- Surface fibre disturbance
- Wash and rub fastness fastness



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Solutions.....

- Whitened and untreated base fabrics
- Formulation of wash off recipes
- Acquisition of commercial washer
- Change in fabric drying method

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Outcomes.....

Parisian Neckwear: woven merino wool ties



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Outcomes.....

Soigneur: knitted merino cycling apparel



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Outcomes.....

Bettina Bley – AUT student: knitted merino scarves



SnapStar.co.nz Photo by Xavier Collin

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Outcomes.....

Ana Diaz – Australian Fashion Designer: merino
knitwear



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Outcomes.....

AUT Fashion student project in collaboration with The Carpenter's Daughter: merino single jersey



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Outcomes.....

Hannah Pritchett – AUT Textile Design student:
woven merino apparel



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Outcomes.....

Kylee Davis – NZ Knitwear Designer: merino
knitwear

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Outcomes.....

TDL – merino single jersey



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Where to now.....

- Discussions with commercial partners
- Potential for tech transfer/tech jumpstart/
WRONZ funding
- Commercialisation of processes developed
- Added value for NZ merino wool

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