



www.radicigroup.com/fibres

Milano, 31 gennaio 2019

- ✓ **Radici Group – Radici Comfort Fibres**
- ✓ **Strategia comunicativa B2C**
- ✓ **Sostenibilità nel mondo tessile**
- ✓ **Attuale Offerta «sustainable»**
- ✓ **Criticità**
- ✓ **Conclusione**

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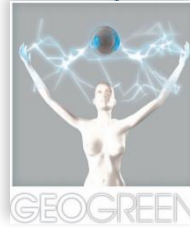
Radici World



Specialty Chemicals

Engineering Plastic

Synthetic fibres &
nonwovens



RadiciGroup's
sole energy
provider



itema

Altre Attività

I NUMERI DI RADICIGROUP



PERSONNEL

3,000 workers

- **Specialty Chemicals** = EUR 439 million
- **Performace Plastics** = EUR 360 million
- **Synthetic Fibres & Nonwovens** = EUR 451 million
- **Other businesses** = EUR 10 million

*2017 SALES - consolidated for each Business Areas
(Millions of Euro)*



UNA PRESENZA GLOBALE



Number of RadiciGroup workers in the world

ASIA

China

Shanghai
Suzhou

India

New Delhi

AMERICAS

Argentina

Buenos Aires
Rio Grande

Brazil

Araçariguama
São José dos Campos

Mexico

Ocotlán

USA

Wadsworth

EUROPE

Czech Republic

Podborany

France

Saint Priest

Germany

Hamburg
Lüneburg

Selbitz

Tröglitz

Hungary

Szentgotthard

Switzerland

Stabio

United Kingdom

London

Italy

Andalo Valtellino

Ardesio

Casnigo

Chignolo d'Isola

Gandino

Novara

Villa d'Ogna

The Netherlands

Born

Romania

Savinesti

Spain

Barcelona



SPECIALTY CHEMICALS



Adipic Acid
HMDA
Nitric Acid
KA Oil
Esters
PA66 polymer

HIGH PERFORMANCE POLYMERS



PA6, 66, 6.10, PBT,
POM polymers and
copolymers for EP
Thermoplastic
elastomers SBS and
SEBS

PERFORMANCE YARN



PA6 polymer
PA6, 66 BCF
Solution Dyed
Space Dyed
PA66 HTY

EXTRUSION YARN



PP Spunbond
PP, PE yarns
for synthetic grass

COMFORT FIBRES



PET & PA
yarns and fibres



COMFORT FIBRES

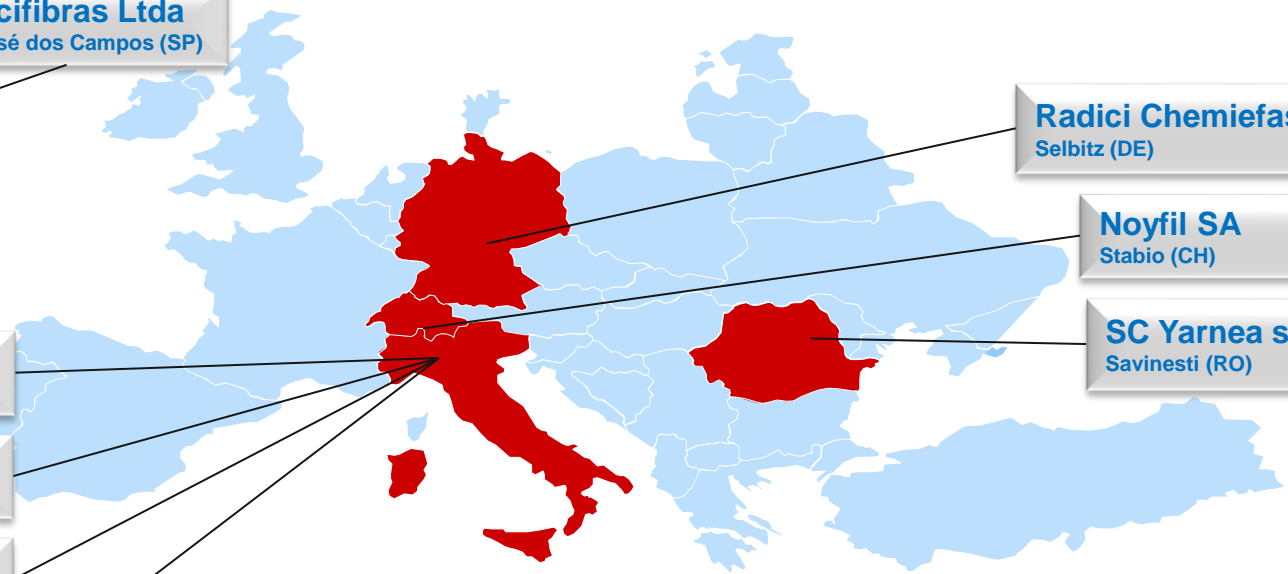


www.radicigroup.com

LOCATIONS



Radicifibras Ltda
Sao José dos Campos (SP)



Radici Chemiefaser GmbH
Selbitz (DE)

Noyfil SA
Stabio (CH)

SC Yarnea srl
Savinesti (RO)

Noyfil S.p.A.
Andalo Valtellino (SO)

Noyfil S.p.A.
Chignolo (BG)

Radici Yarn S.p.A.
Ardesio (BG)

Radici Yarn S.p.A.
Villa d'Ogna (BG)

CAPACITÀ E TECNOLOGIA

Capacità

- | | |
|---------------|---------------|
| ▪ PA6 | 55,000 t.p.a. |
| ▪ PA66 | 8,000 t.p.a. |
| ▪ PET / R-PET | 25.000 t.p.a. |



Tecnologia

- Polimerizzazione (PA6)
- Filatura
- Filatura per fiocco
- Stiro Orditura, Riunitura ed Incollaggio
- Trasformazione filati (DTY, FDY, Ritorti...)
- Tintoria filati

radilon®

★ Starlight®

dorix

-Radyarn®

Biofeel

THE RESPECTFUL YARN

CornLeaf



COMFORT FIBRES



COMFORT FIBRES



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GLI ESEMPI PARLANO DA SOLI



ZARA

CAN MAKE FASHION WITHOUT POLLUTION

TELL ZARA TO DETOX ▶

GLI ESEMPI PARLANO DA SOLI

adidas

every drop counts

50% LESS ENERGY

50% FEWER CHEMICALS

25 LITERS WERE SAVED MAKING THIS SHIRT

100% PERFORMANCE MADE WITH LESS WATER

RETHINK REDUCE

ENERGY USE

CHEMICAL USE

Detailed description: This infographic features a central circular graphic divided into two halves, labeled 'ENERGY USE' and 'CHEMICAL USE'. To the left, a plug and lightbulb icon represent energy savings. To the right, a shirt and flask icon represent chemical savings. A water drop icon is positioned in the center of the circular graphic. Below the main graphic, a ribbon banner states '100% PERFORMANCE MADE WITH LESS WATER'. Two blue speech bubbles at the bottom contain the text '25 LITERS WERE SAVED MAKING THIS SHIRT' and 'RETHINK REDUCE'.

adidas

every piece counts

60% REDUCTION IN THE NUMBER OF PARTS

95% PATTERN EFFICIENCY

LESS IS MORE

100% PERFORMANCE MADE WITH LESS WASTE

RETHINK REDUCE

For more information check out adidas.com/betterplace

PARTS

PATTERN EFFICIENCY

Detailed description: This infographic features a central circular graphic divided into two halves, labeled 'PARTS' and 'PATTERN EFFICIENCY'. To the left, a shoe icon represents part reduction. To the right, a shirt icon with scissors represents pattern efficiency. A trash can icon is positioned in the center of the circular graphic. Below the main graphic, a ribbon banner states '100% PERFORMANCE MADE WITH LESS WASTE'. Two green speech bubbles at the bottom contain the text 'LESS IS MORE' and 'RETHINK REDUCE'. At the bottom right, there is a link to 'adidas.com/betterplace'.

GLI ESEMPI PARLANO DA SOLI



2 BILLION
water bottles recycled into material used in
NIKE Brand apparel product since FY10 »
Equivalent to covering over 2000 soccer fields



M&S Plan A: In Numbers...

64% - of M&S products now have at least one Plan A quality

36% - improvement in energy efficiency in UK stores

2.8 billion – the number of carrier bags saved as a result of the 5p Food Hall carrier bag charge introduced in 2008

2.8 million – Garments donated through the M&S Shwopping initiative over the past year

1 million – the number of customers engaged with Plan A online since 2007

100% - of M&S's directly-purchased electricity in the UK comes from renewable 'green' tariffs

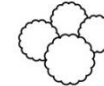
10 – years of collaboration with WWF on a shared vision of sustainable natural capital

Zero – waste to landfill from M&S operations since 2012

Highlights: Plan A 2025 Commitments



By 2022, all M&S product packaging will be 'widely recycled'



By 2025 all key raw materials M&S uses will come from sustainable sources, including all the cotton we use by 2019



We aim to halve food waste from M&S stores by 2025



We will reduce greenhouse gas emissions by 80% in our own operations by 2030 (compared to 2007 levels) and, during the same period, cut emissions in our supply chain by 13.3m tonnes



By 2025 50% of our Clothing, Home and Food stores and offices will make space available for community groups and charities



Between 2017 and 2025 M&S colleagues will complete a million hours of work-time community volunteering



By 2025 all edible surplus food from M&S stores and direct food suppliers will be redistributed to charities



By 2020, in 10 locations we will have completed programmes that aim to secure meaningful economic, social and environmental benefits in the communities around our stores. We'll roll out to 100 locations by 2023 and share learnings with 1,000 locations by 2025



Half of M&S Food sales will come from healthier products by 2022



Between 2017 and 2025 we will help raise £25 million for charities that support people affected by cancer, heart disease, mental health, loneliness and dementia



By the end of 2018 all single portion snacks, confectionery and ice cream will be less than 250 calories

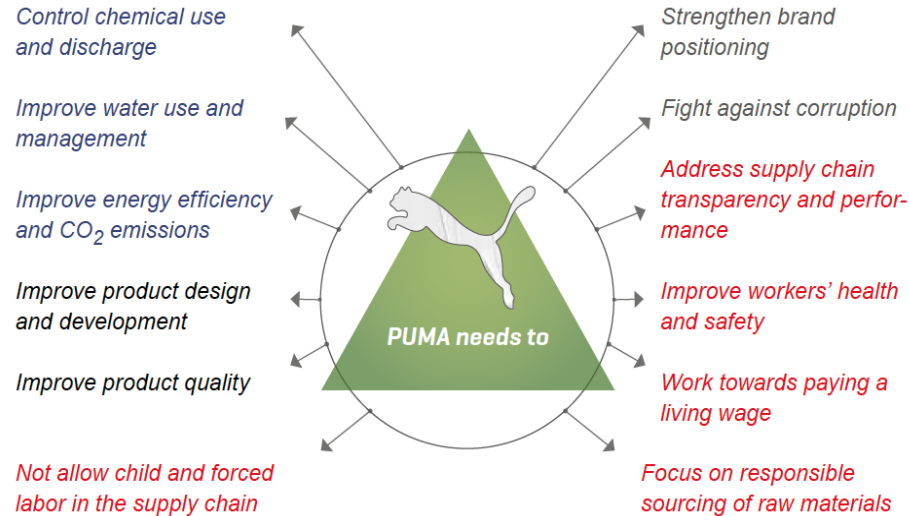


Over the next seven years our Global Community Programme will help a million people in our supply chain communities to help build livelihoods and protect the environment

GLI ESEMPI PARLANO DA SOLI

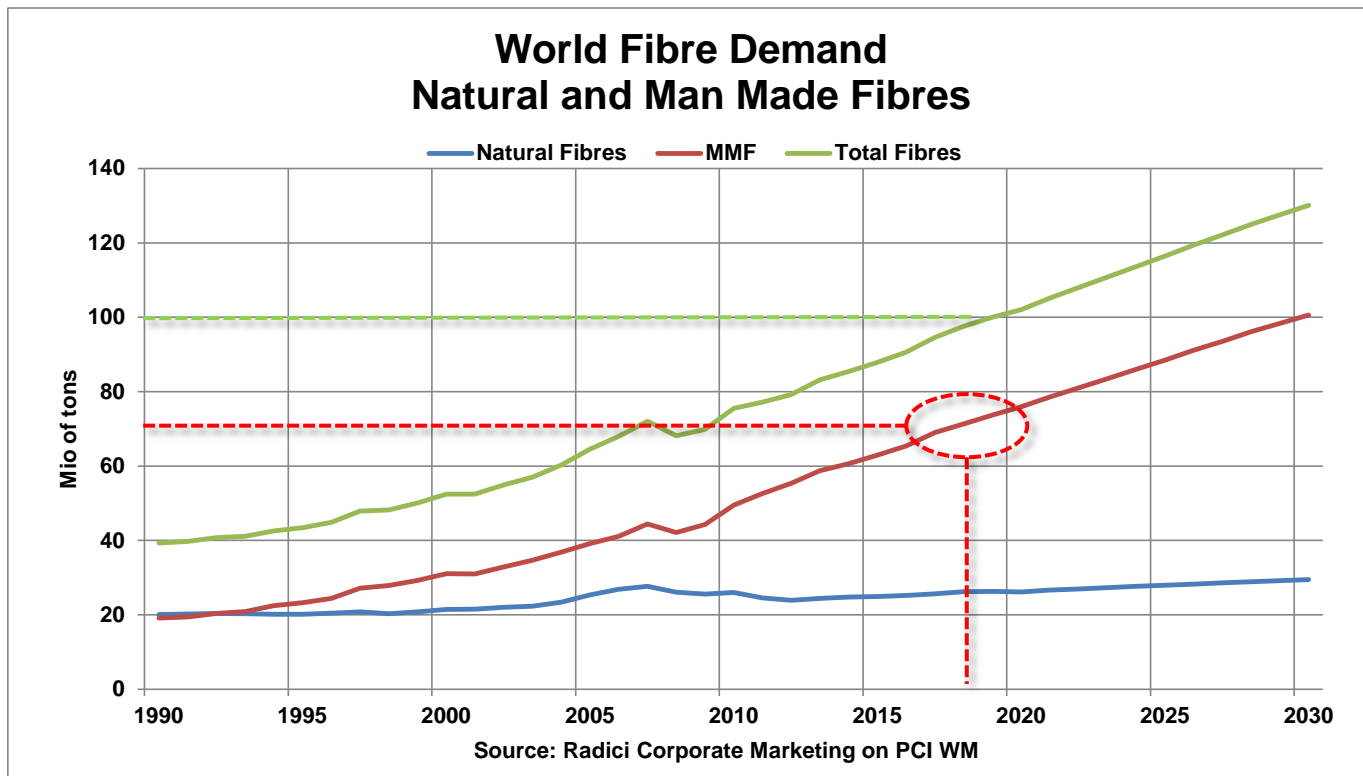


Materiality Analysis²



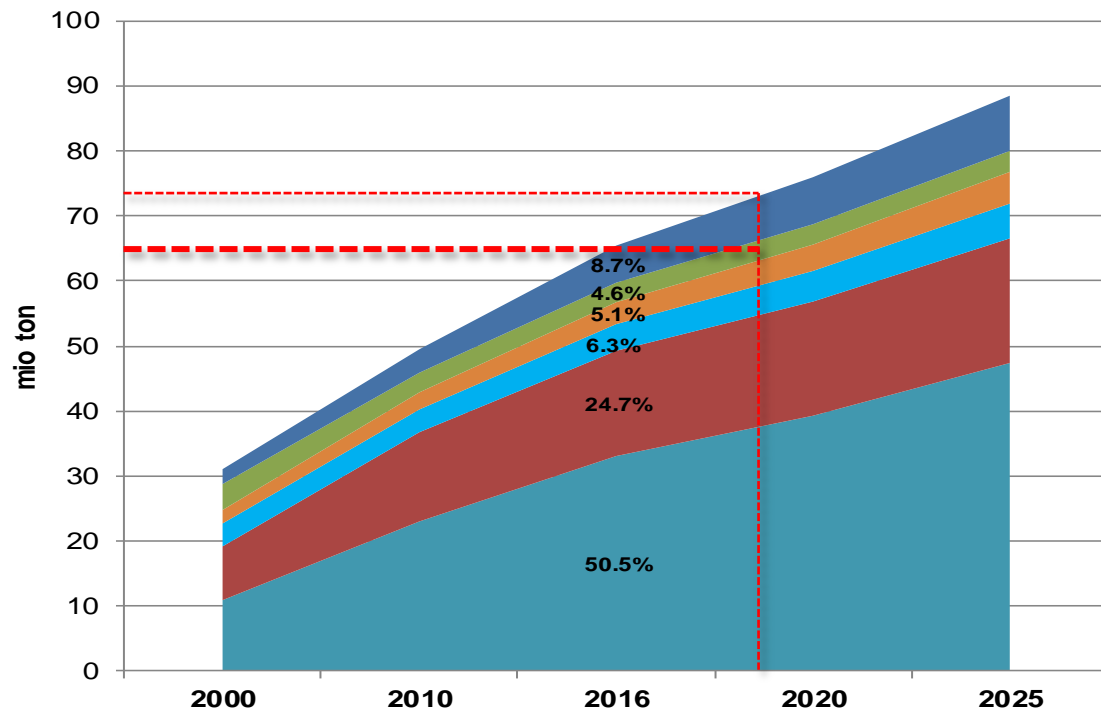
Environment Corporate Supply Chain Product

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Ad oggi le MMF rappresentano circa il 70% dei consumi totali con un tasso di crescita sensibilmente superiore alle fibre di origine naturale

CONSUMO MONDIALE (e trend) FIBRE «MAN MADE»



**Le fibre sintetiche:
Poliestere, Poliammide e
Polipropilene
rappresentano quasi il 90%
delle fibre utilizzate in ambito
tessile (approx. 65 MTpa)**

- Cellulosic Fibres
- Other Staple Fibres
- PP fil
- Polyamide Filament
- Polyester staple
- Polyester filament
- Totale MMF

Le fibre sintetiche «sostenibili» devono essere:

- **Largamente disponibili e fruibili**
- **Certificate (no «green washing»)**
- **Economicamente competitive**
- **Soddisfare i principi dell'Economia Circolare**

✓ **Utilizzo risorse naturali**

- ✓ *Acqua / Energia / Suolo / ...*
- ✓ *Fonti fossili*

✓ **Impatto Ambientale**

- ✓ *Carbon footprint/...*
- ✓ *Materiali di consumo (lubrificanti, finissaggi, coloranti,...)*
- ✓ *Microplastiche / Dispersione*

✓ **Socioeconomiche**

- ✓ *Sfruttamento*

✓ **Economia Circolare**

- ✓ **Utilizzo risorse naturali**
 - ✓ *Acqua / Energia / Suolo / ...*
 - ✓ *Fonti fossili*

- **Prodotti da fonte Rinnovabile**
 - **Prodotti riciclati**
 - **Prodotti riciclabili**

- Abbattimento Emissioni
- Efficientamento della produzione
- Energia da fonte rinnovabile

✓ Impatto Ambientale

✓ Carbon Footprint/...

✓ Materiali di consumo (lubrificanti, finissaggi, coloranti,...)

✓ Microplastiche / Dispersione

- Biodegradabilità
 - Riciclabilità
 - Manutenzione

- Prodotti meno inquinanti
- Tecniche tintoriali
- Solution dyed

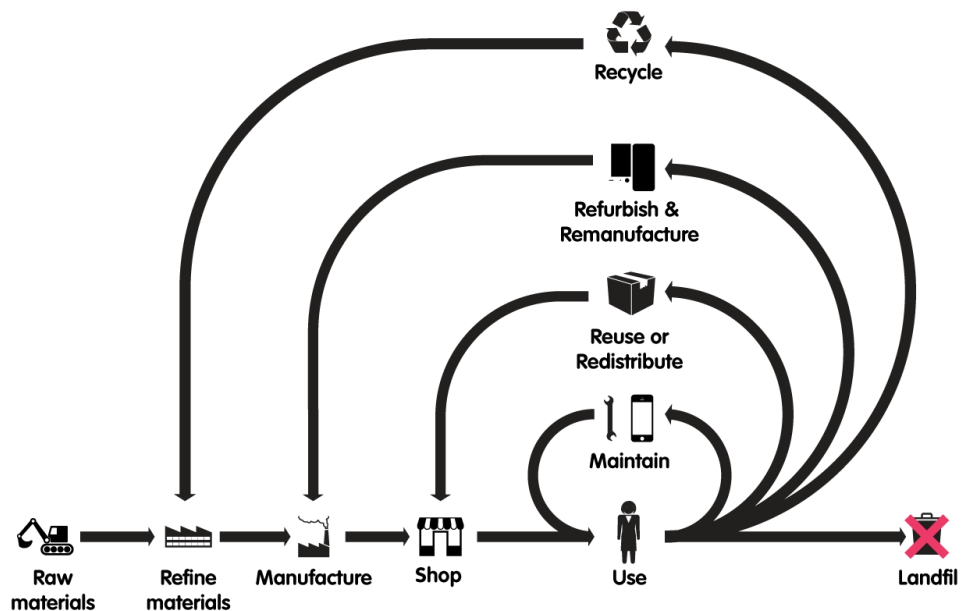
- Re-shoring
- Politiche sociali
 - Patrocini
- REduce / REuse
- ...e ... tanta pubblicità ...

✓ **Socioeconomiche**
✓ *Sfruttamento*

REUSE 
REDUCE
RECYCLE



ECO DESIGN

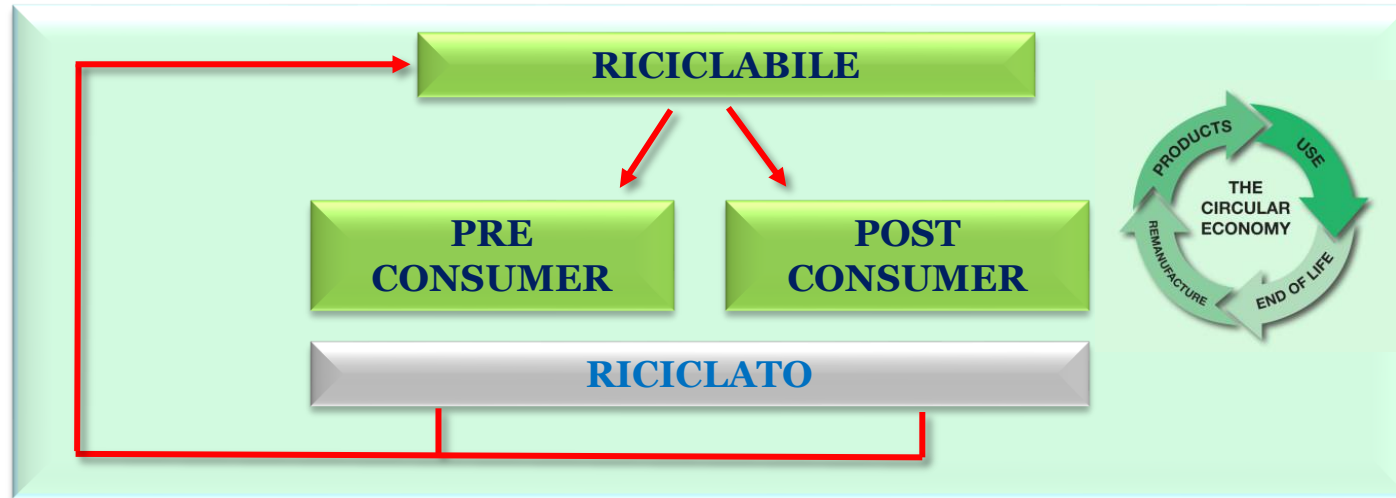


✓ **Economia Circolare**

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ORIGINE BIO

ORIGINE FOSSILE



ORIGINE BIO

Polilattato (PLA)

Poliammide 11

Poliammide 10.10

Poliammide 5.10

(parzialmente bio) **Poliammide 6.10**

ORIGINE FOSSILE

Poliammide 6, 6.6

Poliestere

Polibutilentereftalato (PBT)

Polipropilene

Biofeel

THE RESPECTFUL YARN

CornLeaf



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Supply Chain

Caratteristiche tessili

Impatto ambientale

Costo

- **Disponibilità limitata**
- **Pochi fornitori**

- **Qualità non ancora allineata agli standard attuali dei filati da polimeri fossili (tenacità, modulo elastico, affinità tintoriale, ...)**

- **Occupazione suolo / Food competition**
- **Uso risorse idriche**
- **Elevata emissione CO2**
(CO2 biogenica & mix energetico origine)

- **Da 3 a 7 volte il costo di polimeri fossili**
- **Fast Fashion / Low cost Fashion**
-

Caratteristiche tessili

- **Qualità non ancora allineata agli standard attuali dei filati da polimeri fossili (tenacità, modulo elastico, affinità tintoriale, ...)**

Impatto ambientale

Riciclo Chimico

- **Elevato consumo di risorse per depolimerizzazione e ri-polimerizzazione**
- **Scarti chimici**

Riciclo Meccanico

- **Caratteristiche tessili (maggiori scarti)**

Supply Chain

- **Limitatissima disponibilità Post Consumer (PA)**
- **Limitata disponibilità Pre Consumer (PA & PET)**

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POLIMERI DI ORIGINE BIO

Soluzione solo parzialmente interessante per la filiera tessile

Cause:

- Il fattore **PREZZO**
- Il **NON VIRTUOSO** impatto ambientale
- La **LIMITATA** disponibilità

La soluzione cui l'offerta di fibre sintetiche
deve tendere per soddisfare le esigenze del mondo tessile
è:

RICICLABILITA' A BASSO IMPATTO

- **Efficiente**
- **Pre e Post Consumer**
- **Ripetibile**



Un'offerta BIO:

- Ad elevata efficienza produttiva
 - Largamente disponibile
 - Prodotta con un mix energetico virtuoso
 - No Food competition
 - Con adeguate prestazioni tessili
 - Cost Competitive
- Riciclabile in modo:
 - Efficiente
 - Pre e Post Consumer
 - Ripetibile





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GRAZIE