

永續環保趨勢下 台灣紡紗的轉型與應用

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張子揚



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Patrick

0972-959-707

patrickchang@fenc.com

教育背景

- 美國約翰霍普金斯大學 MBA碩士
- 元智大學 企業管理學士

工作經歷

- 現職: 遠東新世紀 紡紗事業部 副理
- 台塑集團 總管理處石化採購 專員
- 勤業眾信管理顧問公司 供應鏈管理 副理
- 北京殼牌石油公司 產業分析 實習
- 華豐橡膠 外銷業務部 專員

遠東集團- 遠東新世紀

- 大宗原物料採購 原棉/精梳落棉/特殊原料
- 紗線外銷 東北亞/東南亞/南亞
- 新原料開發、新產品企劃



Macro Environment



新冠疫情 / 供應鏈阻斷



通貨膨脹 / 俄烏戰爭



永續環保 / 零碳經濟

Sustainability at the core

NATURAL



Made from natural materials

Cotton
 (Organic, BCI, USCTP, Regenerative)
 Cellulose Fiber
 (Modal, Tencel, Naia)
 Linen
 Linen look (cotton)

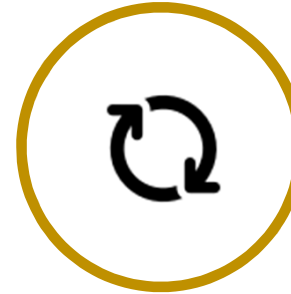
RECYCLE



Made from recycled materials

Recycle Poly
 (Top Green, Parley)
 Recycle Cotton
 Recycle Nylon
 Recycle Rayon

CIRCULAR



Made to be remade

Recycle Textiles
 - Fabric recycle (Footwear)
 - Fabric recycle (Denim)
 Bio 2 PET
 Bio 3 PET

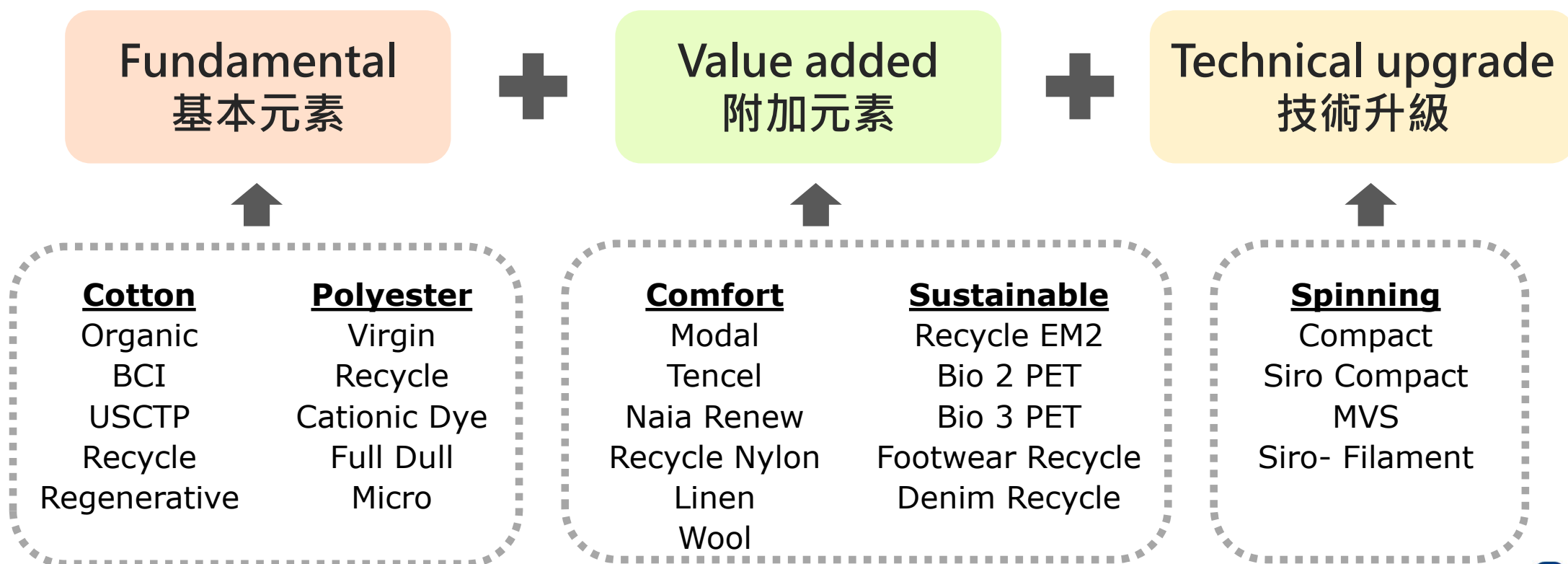
FUNCTIONAL



Performance yarns

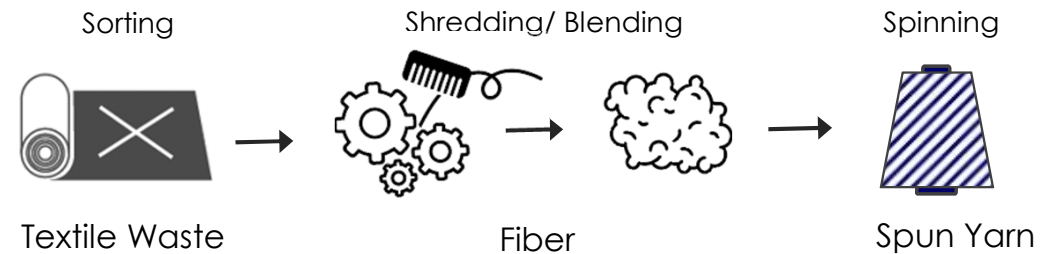
Poly/ CD poly
 Poly/ Tencel
 Antipilling
 EM2

發揮永續價值 · creating VALUE through MIXING





FENC® r-Text Series MORPHLON®



Key Features:

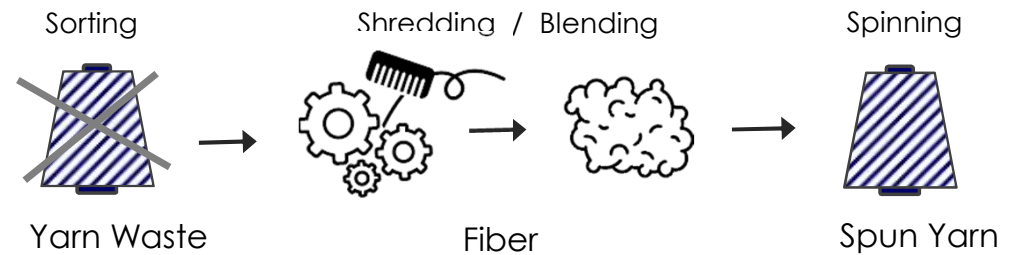
- Pre-consumer fabric waste re-processing
- Mechanical shredding process
- GRS certified/ 100% PET content
- Colored yarn/ reduce need for piece dye

Available Specs:

- 20s- 30s Cotton/ MORPHLON® 80/20 Siro Compact
- 20s- 40s Recycle poly/ MORPHLON® 80/20 Siro Compact



FENC® r-TEX Series Recycle Cotton



Key Features:

- Pre- consumer yarn waste re-processing
- Mechanical shredding process
- Prevents use of pesticides, herbicides & fertilizers
- GRS certified/ 100% cotton content

Recommended Yarns:

- 10s- 20s Recycle cotton 100% for OE
- 20s- 30s Recycle cotton 30% for Ring

FENC® rTex Series Denim Recycle

Key Features:

- Recycled from yarns/ fabrics/ garments
- Mechanical shredding process
- 100% cotton content
- Removes the need for piece dye
- GRS & RCS certified

Recommended Yarns:

- 7s- 20s Denim recycle 30%- 50% blend for OE
- 20s- 30s Denim recycle 30%- 50% blend for Ring



FENC EM2

Cotton like fiber

Key Features:

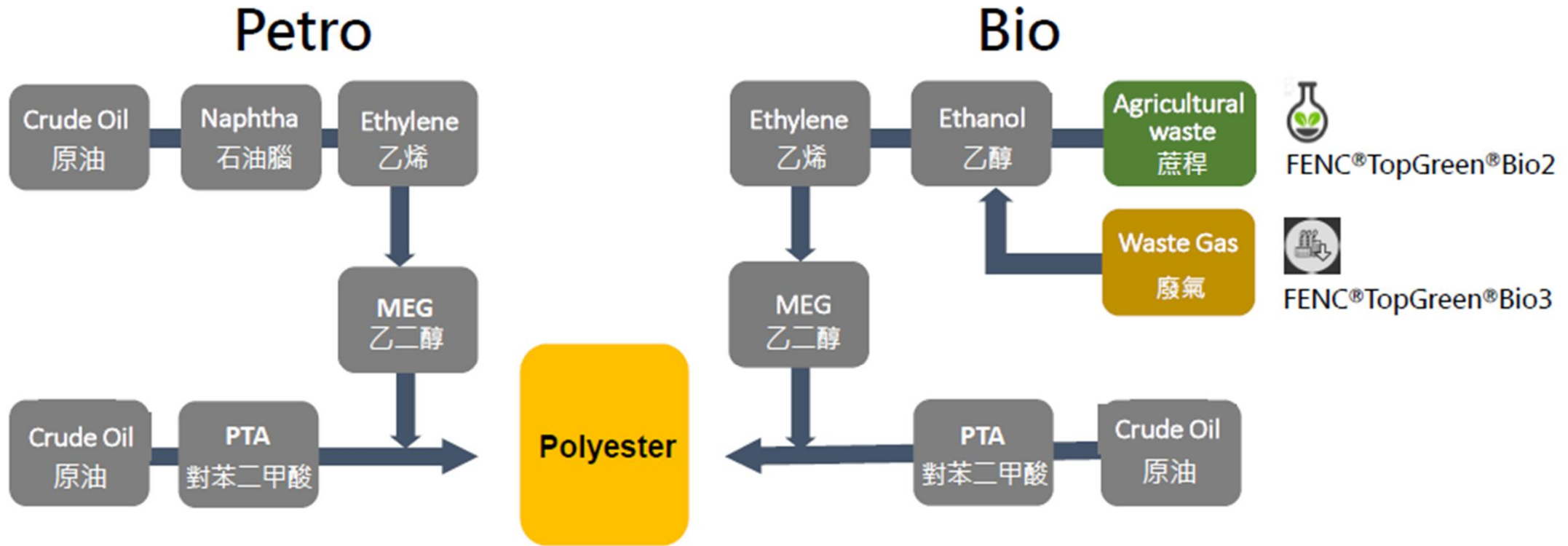
- FENC R&D invention
- Functional comfort
 - Hydrophilic/ soft hand feel
 - Quick dry/ good wicking
- Easy dye at low temperature
 - Carbon reduction
 - Cost saving
- 100% recyclable PET content

Recommended Yarns:

- 20s-50s EM2 100%
- 20s-50s EM2/ Tencel 60/40
- 20s-40s EM2/ Wool 80/20



PET PROCESS INTRODUCTION



FENC® TopGreen® Bio 2-PET

Made with agricultural waste



Key Features:

- Does NOT fight with food source
- 30% bio ethylene glycol content
- Identical performance as petrol-based polyester
- Can be traced by Carbon 14 content

Recommended Yarns:

- 20s- 40s Bio PET 100%
- 20s- 40s CVC Bio PET / Cotton 60/40
- 20s- 40s Bio PET/ rPET 50/50
- 20s- 40s Bio PET/ Tencel

FENC® TopGreen® Bio3-PET

Low Carbon Polyester powered by LanzaTech



Key Features:

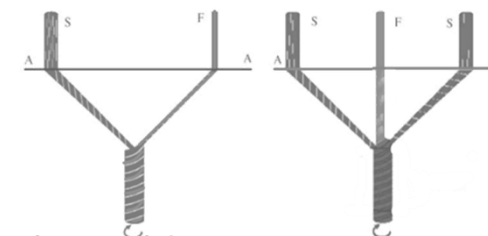
- 30% bio ethylene glycol content from waste gas
- Directly reduces carbon emissions
- Similar performance vs petrol-based polyester
- RSB bio material certification

Recommended Yarns:

- 20s- 40s Bio PET 100%
- 20s- 40s CVC Bio PET / Cotton 60/40
- 20s- 40s Bio PET/ rPET 50/50
- 20s- 40s Bio PET/ Tencel

Siro Filament

= Spun Yarn + Filament



Key Features:

- Combining the best of both worlds
- Spun yarn natural feel + Filament performance
- Can be custom- designed based on preference

Recommended Yarns:

- 30- 40s Siro Fila yarns
- Spun yarn options:
Cotton/ Poly/ Tencel/ Modal/ Naia
- Filament options:
PET/ Nylon/ T400



EASTMAN NAIA™ Acetate



SUPREME SOFTNESS



REDUCED PILLING



IMPROVED DRY RATE



GREAT FOR BLENDS

Key Features:

- Sustainable wood pulp (FSC® & PEFC™)
- Closed- loop production (low impact)
- Biodegradable/ composable (TÜV AUSTRIA)

Recommended Yarns:

- 20s- 40s Recycle Poly/ Naia 50/50 Siro Compact
- 20s- 40s Recycle Poly/ Naia 80/20 Compact
- 20s- 40s Tencel/ Naia 80/20 Compact



Flax- Linen

Key Features:

- 100% natural fiber & biodegradable
- Eco- friendly to grow (only 20% fertilizer & pesticide)
- Strong strength and durability
- Highly absorbent: 20% of its weight but still dry
- Moth resistant & anti- allergies

Recommended Yarns:

- 20s- 30s Cotton/ Linen 70/30 Compact
- 20S- 30s Recycle Poly/ Linen 60/40 Compact

Pineapple Fibers



Key Features:

- Recycled from pineapple leaves
- High cellulose content/ hygroscopic
- Sweat absorbent/ breathable fiber
- Natural antibacterial/ deodorization
- Perfect for blends

Recommended Yarns:

- 20s Pineapple / Cotton 20/80
- 30s Pineapple / Recycle poly 20/80
- 30s Pineapple / Tencel / Cotton 10/30/60



FENC® r-Text Series Recycle Nylon

Key Features:

- Nylon 6 content
- Recycled from production of nylon fibers & filament
- Excellent strength & abrasion resistance
- Wrinkle free with good elasticity
- Control Union GRS certified

Recommended Yarns:

- 20s- 60s Recycle Nylon/ Modal 30/70 Compact
- 20s- 50s Recycle Nylon/ Wool 70/30

An aerial photograph of a lush green landscape, likely a palm tree plantation. The left side of the image is dominated by a dense, dark green canopy of palm trees. A narrow, light-colored road or path runs vertically through the center-right of the image. A small, white car is visible on the road, moving away from the viewer. The right side of the image shows a more open area with scattered palm trees and other green vegetation.

**Our Vision
The Most Sustainable
Solution Provider Worldwide**

Thank You. 