* This is Celium®

POLYBION®

+23 Billion ft^2 / year

+ 80 Billion USD yearly

Global Leather & Pleather Production

* This is not Celium®

POLYBION®

Animal Leather & Plastic are Now Liabilities for Fashion and Luxury Brands

But there is currently no alternative...

CHANEL — Banned all exotic leather from their products

Banned fur.

adidas — Sold 1 million "Ultraboost" shoes made of ocean plastic in 2017 alone. Investing in innovative materials.

H&M — 35% of materials in 2017 were sustainably sourced or recycled. 100% objective for 2030.

STELLA McCARTNEY — Since 2013 has been using alter-nappa for shoes and bags.

patagonia — Already sources several recycled materials.

Not just a trend, a permanent industry shift is happening...

Reebok — Announced the first 100% plant based sports shoe.

Timberland — 2020 target of 100% recycled, organic or renewable materials in all footwear.

Investing already in innovative sustainable materials.

TESLA — Not using animal leather ever again.

BURBERRY — Banned fur.

VERSACE — Banned fur.

POLYBION®

Food Waste

40%

Globally 30-40% of food produced for consumption is wasted

21%

Food waste is a massive resource drain, using 21% of the world's fresh water

8%

Food waste generates 8% of global greenhouse emissions

3 RD

If food waste was measured as a country, it would rank third in the world for harmful emissions

But wait a sec….There is no waste in nature

Cattle

1

#1 deforestation cause world wide

14k L

It takes 14,000 L of water to produce 1 kilogram of usable leather

18%

18% of global greenhouse emissions come from this industry alone

1 BILLION

More than 1,000,000,000 animals are slaughtered each year

Animals are not raw material


POLYBION®
TWO problems, ONE solution....BIOLOGY

POLYBION®

We are turning agroindustrial **FOOD WASTE** into an organic high-end **LEATHER**-like material with a little help from **BIOLOGY**

POLYBION®

We have successfully developed a **BIOFABRICATION** process within a **CIRCULAR** production model and the result is this

POLYBION®

CELIUM®

by

POLYBION®

* This is Celium®

POLYBION®

High-performance **BIOFABRICATED** membrane

* This is Celium®

POLYBION®

UNIQUENESS on a **MASS** scale

* This is Celium®

POLYBION®

GROWN to WEAR

* This is Celium®

POLYBION®

ANIMAL free, **PLASTIC** free, **CARBON** neutral

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POLYBION®

Tanned, Dyed, Embossed, and Formed using the same processes as animal leather.
We have developed a REACH and EPA compliant **TANNING & FINISHING** process.
Meets regulatory standards in Europe (REACH) and the US (EPA).

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Performance

test	Celium®	PU	Calf Leather
Tensile Strength (Mpa)	15.79	4.8	19.61
Elongation (%)	17	18	40
Tear Strength (N)	37.7	25	49
Thickness (mm)	.8	1	1.5
Bally Flex (Cycles)	>150,000	100,000	>48,000
Bally Flex Wet (Cycles)	26,500	?	>18,000
Bally Flex Sweat (Cycles)	17,500	?	>18,000
Water Vapor (mg/cm2*h)	3.3	?	4

Celium® is REACH & EPA Compliant
Backing Material 100% Cotton

Tests performed by Ciatec.mx
https://www.ciatec.mx/

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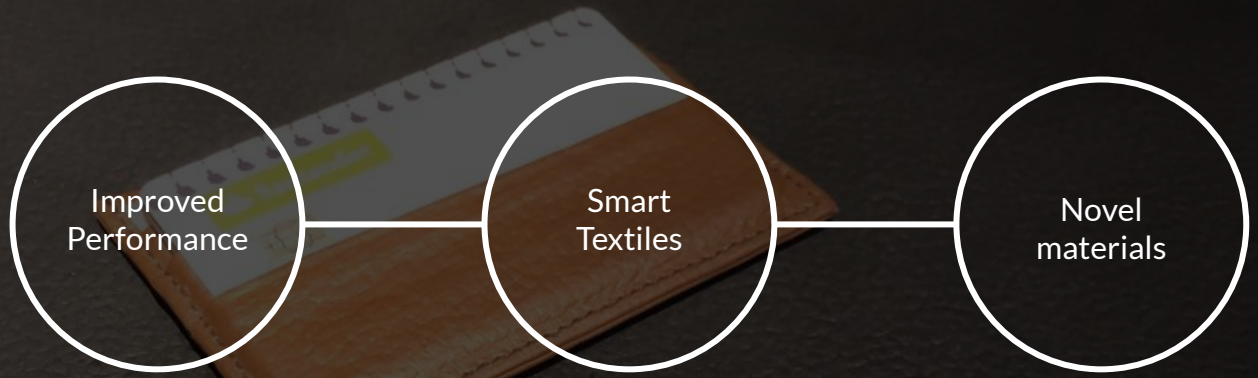
New Product Development



Celium® can be engineered with a composite interior enabling custom solutions

We can embed electronics into Celium® as it grows and enable new leather-like wearables

(GMO) metamaterials never seen before by mankind, yet organic and sustainable (Synthetic Biology)

Advanced Novel Biotextiles

* This is Celium®

POLYBION®

The future is not what it used to be

Have the courage to reimagine one of humanity's oldest materials!

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#BiologyAsTechnology