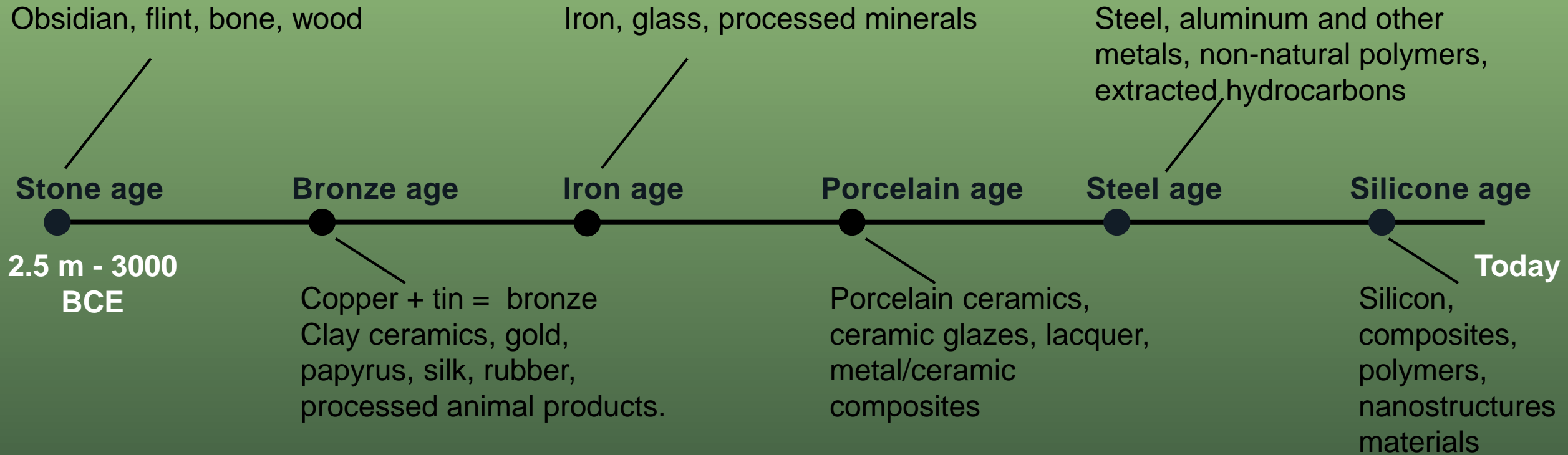


Human progress can be measured in terms of materials





\$41B* is spent each year in pursuit of new materials

But we still haven't achieved a fraction
of the potential that exists in nature

Resilin is a great example

This is the super performing protein that **enables insects to jump 100x their height**, equivalent to a human jumping to the top of the statue of liberty



While we are aware of this naturally occurring super-material, we have yet to benefit from it

Small scale

Where scientists can replicate resilin, they have been able to do so only in a lab setting, with large scale production infeasible

Cost prohibitive

Due to production techniques, resilin has been extremely expensive to manufacture, making it prohibitive for commercial applications

Use difficulties

The resilin that has been produced until now has not been applicable to commercial applications as it does not bind with all materials

**What if we were able to unlock the potential
of the most elastic material in existence?**



SMART Resilin



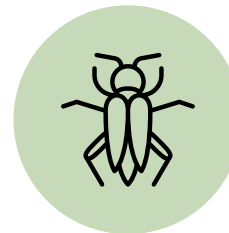
Smart Resilin is the first to bring resilin at scale, providing access to this super-performing material for a countless number of applications



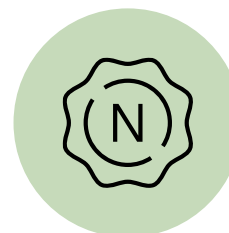
Inspired by Nature

We produce Resilin protein, the most elastic rubber on earth. You can stretch it, compress it, and it doesn't lose almost any energy to the environment. Resilin can be integrated into wide products replacing rubber, plastic and nylon and improving overall mechanical properties.

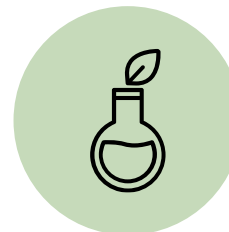
We develop green and healthier products using bio-based materials, produced and used with full respect to the environment.



Inspired by the flying and jumping abilities of insects



Core IP - Team lead by renowned Nanobiotechnologist *prof. Oded Shoseyov and Dr Liron Nesiel*



Protein produced in simple fermentation process
Eco-friendly

Technology



Harnessing Nature Power-Biomimicry

Resilin is the most elastic rubber on earth, it is what enables the amazing flight and jumping abilities of insects.

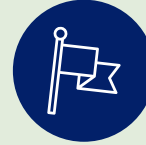
In order to exploit what nature has smartly generated, we decided to **combine the strongest material** produced by the plant kingdom **with the most elastic material** produced by the insect's kingdom: **nanocellulose with resilin**.



Cutting edge technology

How did we do it? **Using genetic engineering techniques**, we can extract the DNA that codes for resilin and clone it into bacterial cells to produce the resilin for us.

With **our patented technology**, we added a **cellulose binding domain** to the resilin coding sequence that act as a linker to **bind Resilin and Crystalline nanocellulose**.



Breakthrough

Currently there is no commercial production of Resilin in the world, putting **Smart Resilin at the forefront of innovation** as first to develop industrial scale production of Resilin.



Multiple applications

We, at Smart Resilin have identified the need to **generate "green" consumable products with unique mechanical properties**, on the basis of composite materials in which elasticity is a dominant feature.

Smart Resilin generate the IP of Resilin uses

We change the world of flexible materials

Polyurethanes, Spandex, Rubber, Polyvinyl, Plasticizers (phthalates, adipates and benzoates), Adhesives (Epoxy)

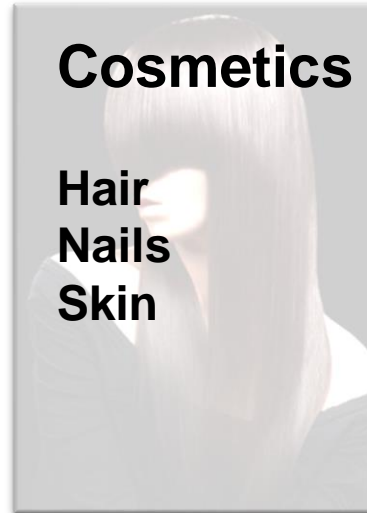


**Reconstituted
leather**



Adhesives

**Construction, Solar plates,
Automotive & Aerospace
industries.**



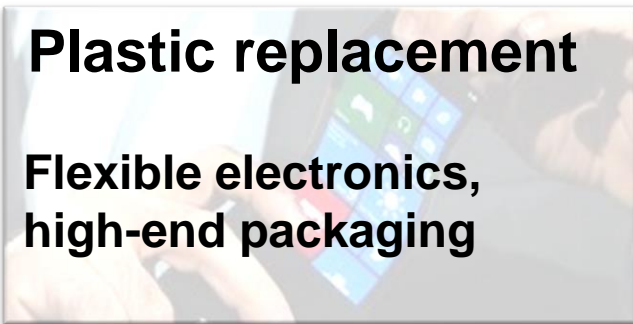
Cosmetics

**Hair
Nails
Skin**



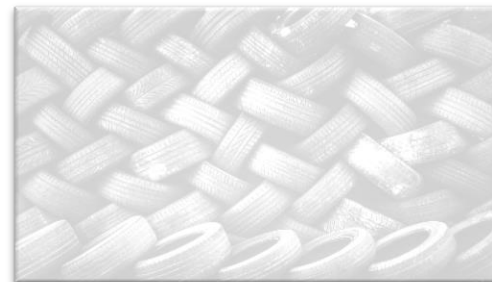
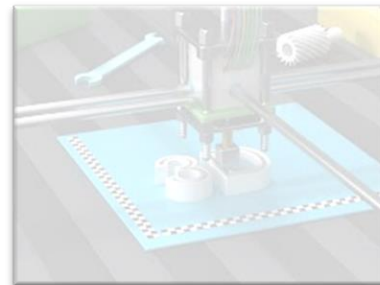
Sport

**Shoes, Sportwear, Helmets,
Impact gloves, Rackets,
Squash balls, Mouth guard**



Plastic replacement

**Flexible electronics,
high-end packaging**



Shock absorbers

**Construction, Automotive &
Aerospace industries,
Electronic devices**

Sustainable

- Biodegradable materials
- Toxic Free Environment
- Lower Production energy
- Replacement for rubber, plastic, nylon
- CO2 lower emission
- We are able to multiply our production zones, sourcing material locally and minimizing the need for transport

High performance materials

- Strength
- Elasticity

Our current solutions:

Cosmetic Formulation



Gel Beads



Adhesives



Water Soluble Sachet



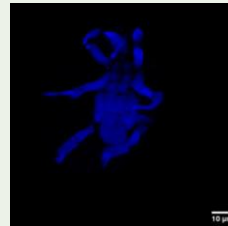
Films



Foams



3D printing inks



(for) Variety of applications



Athletic Footwear



Flexible Displays



Hair Straightening



Automotive Industry



Aerospace Industry



3D printing



Adhesives



Packaging



And more...

(and) Rapid market penetration

- Low to non-existent regulatory barriers
- Quick and immediate market penetration potential
- A strong desire to seek innovative technology

Growth Plan

Crawl

Develop hair-care products and fine-tune mass manufacturing process



Jump

Enter and grow within hair-care market, establishing strong revenue streams and reaching profitability



Fly

Enter into a wide-array of different industries via IP licensing agreements with major manufacturers



Possible applications



Athletic Footwear



Flexible Displays

Performance Shoe Soles



Available Today

Most effective products contain capsules made of thermoplastic polyurethane (TPU), spongy sole, stiff carbon-fiber plate, cushions, single density polyurethane foam, etc.

Loss of energy is still higher than desirable

Low wear resistance

Our solution

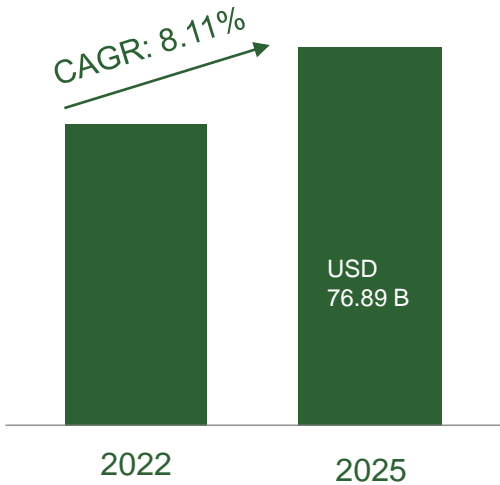
Generating capsules made of Resilin and PU (or other polymers) foams and integrate it into the sole area.

Integrates in existing production facilities.

Initial results showed an improvement of 133% in resilience when integrating resilin into PU foams

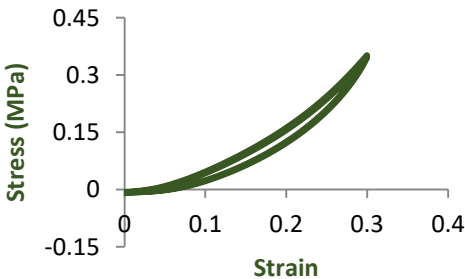
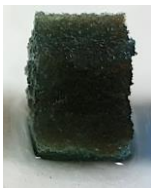


SMART
Resilin



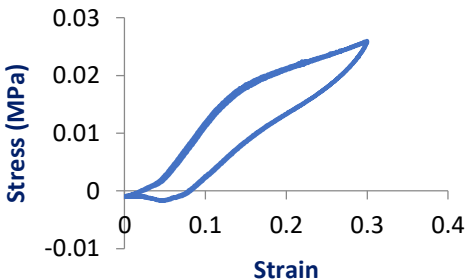
Source: Statista

Resilin-PU foam



80% Resilience
20% Hysteresis

PU foam



58% Resilience
42% Hysteresis

Flexible Displays



Available Today

Most effective film is polyimide.

Mechanical properties not as good as those of glass.

Films are too thick.

Crease often leaves mark.

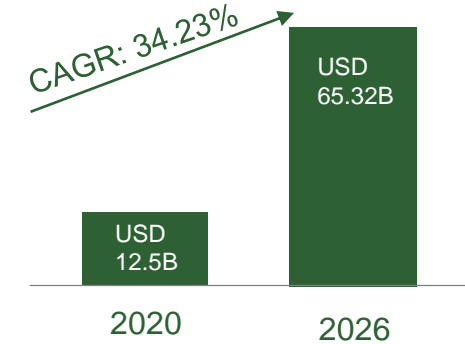
Our solution

Generating Resilin-CNC transparent films that can replace the PI used today in the flexible displays.

Resilin-CNC films are bio-based, have better strength, flexibility and lower production costs.



Flexible Displays Market



Source: Mordor Intelligence



Initial application



Hair Straightening

Hair Straightening



Available Today

Most effective products contain hazardous chemicals
e.g. **formaldehyde**

Process is expensive and preform only in the hairdressing salon

Our solution

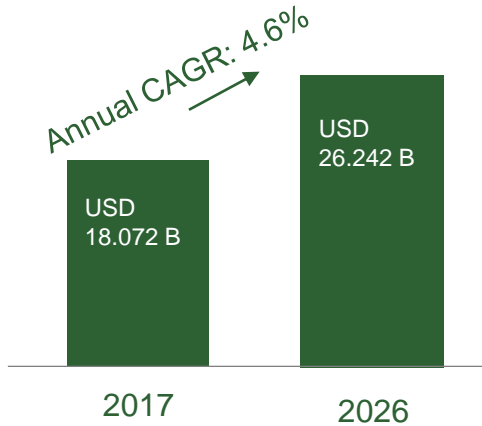
Using only natural, healthy materials that generate a protective coat that wraps the hair and keeps it straight.

Does not interfere with the structure of the hair and therefore **does not change its nature.**

Process is expected to be cheaper, home-use maintenance formula will enable preserving the results for a longer time (less returning to the hairdresser).

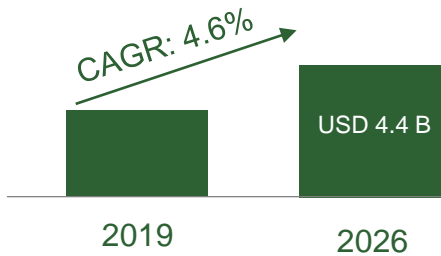
SMART
Resilin

Global professional hair care market



Source: Market research

Global professional hair straightening market



Source: Market research



Natural curly hair-
before treatment



After straightening



After 27 washes
with shampoo and
maintenance formula

Competitive landscape

| | Japanese | Keratin | Organic | Flat Iron | CNC-Resilin |
|----------------------------|----------|-------------|-------------|------------|-------------------|
| Costs | High | Medium-high | Medium-high | Low-Medium | Low-Medium |
| Hazardous chemicals | + | + | + | - | - |
| Hair damage | + | + | + | + | - |
| Reversible | NO | NO | NO | YES | YES |

Additional disadvantages of available products:

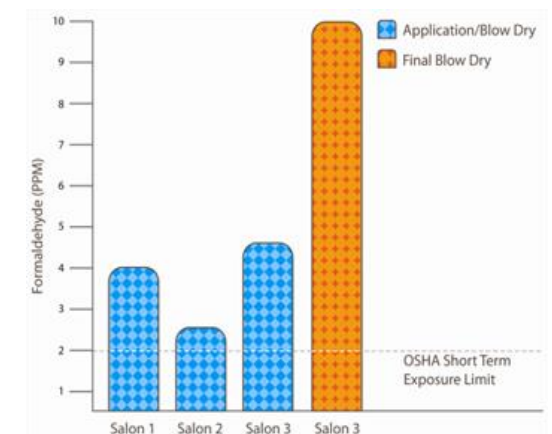
Use of high heat

Scalp burns

Chemicals distribution to the environment

Changes in the color of the hair

Formaldehyde emitted at the salon



POC feedback

“The RESILIN routine allows straightening of the hair swatch with **good cosmeticity and a better preservation of integrity than our bench treatment**”

“**Less damage than chemical treatment**; Hair integrity is preserved vs chemical benches”

“Smart Resilin’s hair straightening formula showed **better results than our internal bench product**”

“Instant **straightening performance is good**”

“The hair swatch straightened with our bench product seems fluffy and frizzy. Smart Resilin’ maintenance formula has **an impressive effect on this aspect of the swatch**”

“**Coating seems resistant to many shampoos**”

Getting on the podium

Target partners



Success stories

Local game-changers in biofabrication



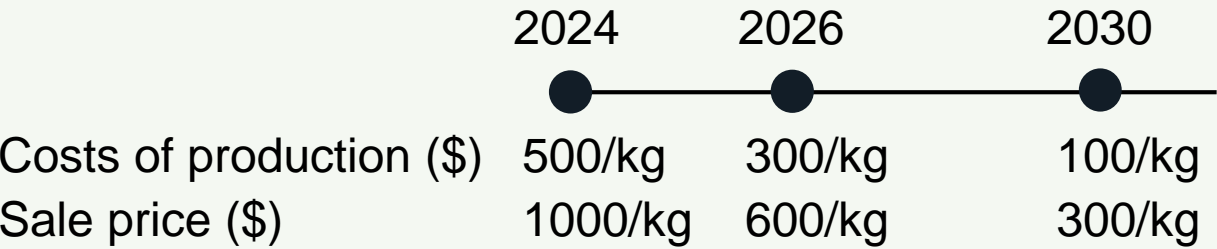
Global game-changers, unicorns:



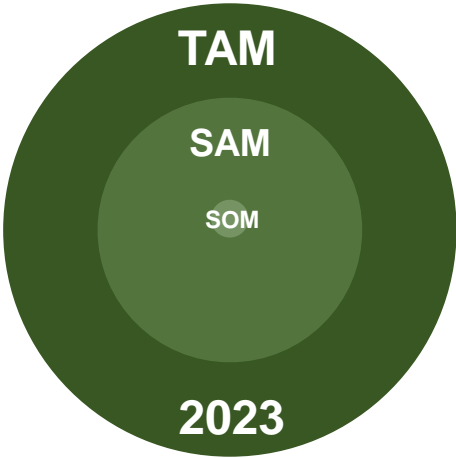


Economics

Resilin powder



Use cases market



- Hair straightening TAM is \$4.4B, the SOM is 0.026%
- Performance shoes TAM is \$65.78B, the SOM in 2025 is 0.016%
- Flexible displays TAM is \$29.7B

Projected financials

Revenues consist of:

- Sales of raw material
- Sales of the final product/ royalties from sales of final product

| | 1st year | 2nd year | 3rd year | 4th year | 5th year |
|---------------|------------|-----------|------------|------------|-------------|
| Total revenue | - | 1,800,000 | 11,600,000 | 54,580,000 | 108,940,000 |
| COGS | - | 302,028 | 972,280 | 3,528,500 | 6,748,100 |
| Gross profit | - | 1,497,972 | 10,627,720 | 51,051,500 | 102,191,900 |
| EBITDA | -727,200 | 745772 | 9,795,336 | 50,199,394 | 100,920,362 |
| CAPEX | 1,017,600 | 20,000 | 25,500 | 27,700 | 44,120 |
| FCF | -1,547,638 | 156,378 | 5,179,389 | 27,997,338 | 64,230,598 |



The Team



Dr. Liron Nesiel
CEO



Prof. Oded Shoseyov
Chief Scientist



Nili Tunis
CFO



Amir Rudich
R&D



Naama Tamo
R&D



Daniel Voignac
Business Development

Management

Operations



Shmil Sachar
Chairman



Miki Tunis



Chaim Shevarzbad

Board of Directors

The opportunity

High sales potential within 3 years

Companies in the field are already **valued at over \$1B**

Establishing a JV for **commercial resilin production (First in market!)**

Collaboration with leading global brands

ESG impact - ecological process that will lead to **decrease global pollution**

Solid **technology**

A strong **team**

**Join us in bringing Resilin as
a high-quality raw material
providing the planet with a
unique alternative to non-
degradable materials for a
cleaner environment.**

Thank you!

Liron Nesiel, PhD

liron@smartresilin.com

+972 50 791 7152

**SMART
Resilin**