

CHEM-LESS

COSMETICS WITH LESS CHEMICALS

KCL BIOHUB Webinar

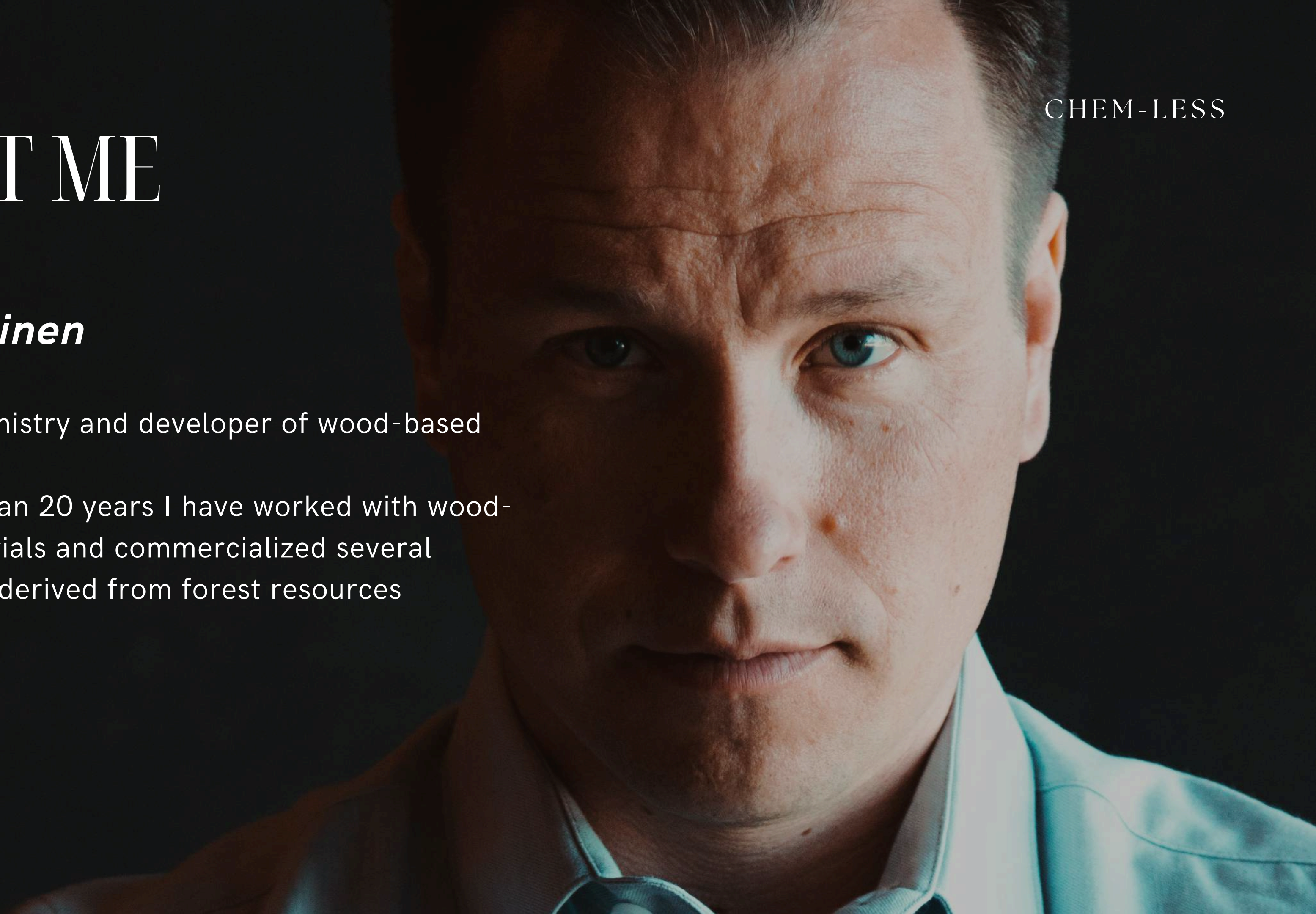
21st April 2026

ABOUT ME

CHEM-LESS

Petro Lahtinen

- PhD in Chemistry and developer of wood-based innovations.
- For more than 20 years I have worked with wood-based materials and commercialized several innovations derived from forest resources



LAVLIÉR

ABOUT US

A Finnish cosmetics startup with a mission to reduce chemical use in cosmetics industry.

Founded by serial entrepreneurs, designer Jenna Tikkanen and Dr. Petro Lahtinen, unique combination of creativity and chemistry backed up by proven track record in setting up high tech start-ups led to the birth of our venture.

- Established in 2023
- Joint venture with KCL Keskuslaboratorio Oy
- Owner of CHEM-LESS™ proprietary technology
- Supported by Business Finland



CHEM-LESS

€500B cosmetics market affect
almost every person on the planet
— so even small improvements
can have a global impact

The sustainability transition has already begun

The cosmetics industry is moving in the right direction.

Big cosmetics players are investing millions on ESG e.g.:

- packaging sustainability
- safer ingredients

But these improvements do not address one key question:

What is the overall footprint on the planet?

The manufacturing has remained the same

Most cosmetics are still produced using processes that were developed decades ago.

Areas of concern:

- energy use
- ingredient renewability/availability
- end of life/biodegradability

CHEM-LESS™ REINVENTS HOW COSMETICS ARE MADE



Wood chips

Plant materials rich in cellulose can be used as starting material.



Pure cellulose

Cellulose is widely available and produced industrially at large scale.



CHEM-LESS™ hydrogel

Cellulose is converted into a nanoscale hydrogel that functions as a base material for cosmetic formulations.



Manufacturing

Cosmetic products are created by mixing active ingredients directly into the CHEM-LESS™ base.



End products

Low-chemical formulations such as personal hygiene, skin care & hair care products.

This enables:
fewer chemicals
lower energy consumption
simpler product formulations

CHEM-LESS

CHEM-LESS™

Using wood-based cellulose hydrogel as a product base simplifies formulations and reduces manufacturing energy.



Wood chips

Plant materials rich in cellulose can be used as starting material.



Pure cellulose

Cellulose is widely available and produced industrially at large scale.



CHEM-LESS™ hydrogel

Cellulose is converted into a nanoscale hydrogel that functions as a base material for cosmetic formulations.

Cosmetic products are created by mixing active ingredients directly into the CHEM-LESS™ base.

This simplifies manufacturing and reduces the need for many traditional chemical auxiliaries.



Personal hygiene

Low-chemical formulations such as shaving products, makeup removal, deodorants and hygiene products.



Skin care

Creams, serums, lotions, toners.



Hair care

Shampoos, conditioners and styling products.

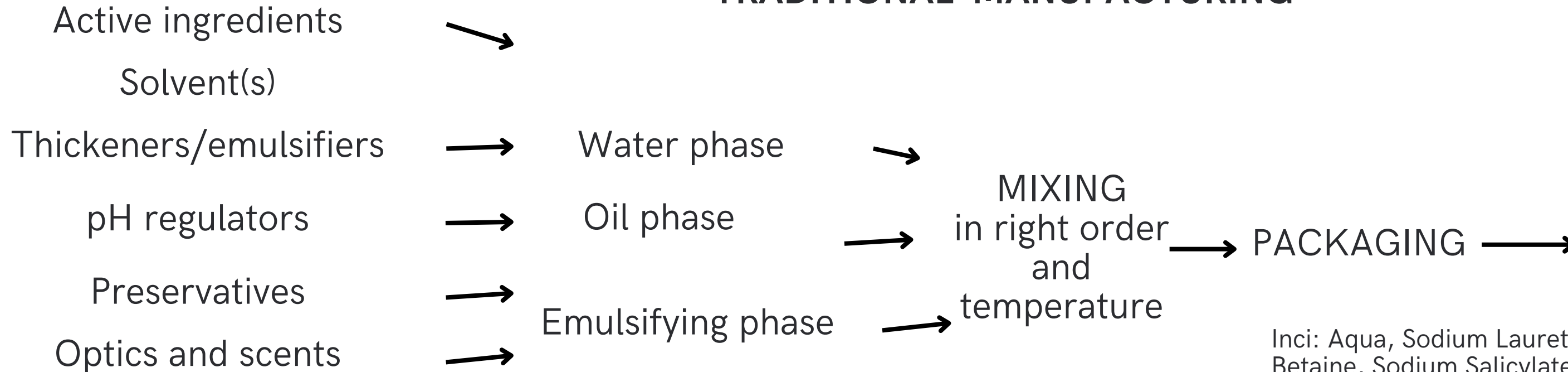
CHEM-LESS™ HOW IT WORKS EXAMPLE

CHEM-LESS™ MANUFACTURING



Inci: CHEMLESS, Sodium Laureth Sulfate, Cocaamidopropyl Betaine, Fragrance

TRADITIONAL MANUFACTURING



Inci: Aqua, Sodium Laureth Sulfate, Sodium Chloride, Cocamidopropyl Betaine, Sodium Salicylate, Glycerin, Sodium Benzoate, Parfum, Lauryl Hydroxysultaine, Citric Acid, Tetrasodium EDTA, PEG-150 Pentaerythryl Tetrastearate, PPG-2 Hydroxyethyl Cocamide, Hexyl Cinnamal, Limonene Ci 17200, Ci 42090

Where are we now?

Chem-less is now moving from idea to reality.

We have already been able to demonstrate that:
manufacturing requires less energy & products require fewer chemicals

In 2026

commercial production begins in collaboration with KCL Central Laboratory
and leading cosmetics manufacturers

The first products will reach the market this autumn.

A new era in cosmetics is beginning!

Why Wood?

**In Finland, wood is more than a natural resource —
it is a strategic opportunity.**

Wood is one of the very few raw materials in the world that exists
in sufficient quantities to replace fossil-based materials at scale.

Finland has:

- vast forest resources
- a strong forest industry
- world-class expertise in cellulose science

This makes wood a powerful foundation for next-generation economy.

CHEM-LESS

Thank you!

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