TalTech is looking for a CEO and co-founder for a new potential startup

Preferred background of the CEO: business development in the field of materials commercialization.

CelluMotion

Plant-based advanced materials

Opportunity and conditions

TalTech annual budget for RD activites is 50M euros.

In order to take research to the market we need multifaceted great teams and therefore we are looking for a CEOs for science based tech startups.

What you get: equity in the company which is based on years of research. Cap Table will be decided together with research partners. TalTech will get equity in the founding stage in the range of 5-10% for exchange of IP.

What we expect from the cofounder:

- describe the best possible product market fit
- personal contribution (time and/or money)
- capability to attract funding (personal and/or investors/grants)

In order to apply for the cofounder position, finish the slides (feel free to add/modify slides) and return them to mirjam.kert@taltech.ee

In case current team members see you fit to be the potential CEO we will arrange a meeting and discuss potential co-founding possibility.

Questions: mirjam.kert@taltech.ee

PROBLEM:

Absence of bio-based functional coatings with tunable performance

There is a strong market need for protective and functional coatings or membranes, yet current solutions are mostly:

- Fossil-based
- Difficult to tailor permeability
- Environmentally persistent

SOLUTION:

CelluMotion provides:

- Hydrophobic, protective coatings or membranes
- Tunable permeability (e.g. moisture, gas, vapor)
- Based on cellulose and plant oils, not petrochemicals.

TAL TECH

PROBLEM:

Dependence on global, non-local raw materials

Many advanced materials rely on:

- Imported fossil feedstocks
- Complex, centralized production

SOLUTION:

CelluMotion addresses this by enabling:

- Local production (Estonia)
- From locally available cellulose and rapeseed oil
- Supporting supply-chain resilience and regional autonomy.

PROBLEM:

Slow and capital-intensive production of bio-based plastics

Traditional bio-based plastics often require:

- Multi-step chemical synthesis
- Large-scale centralized plants

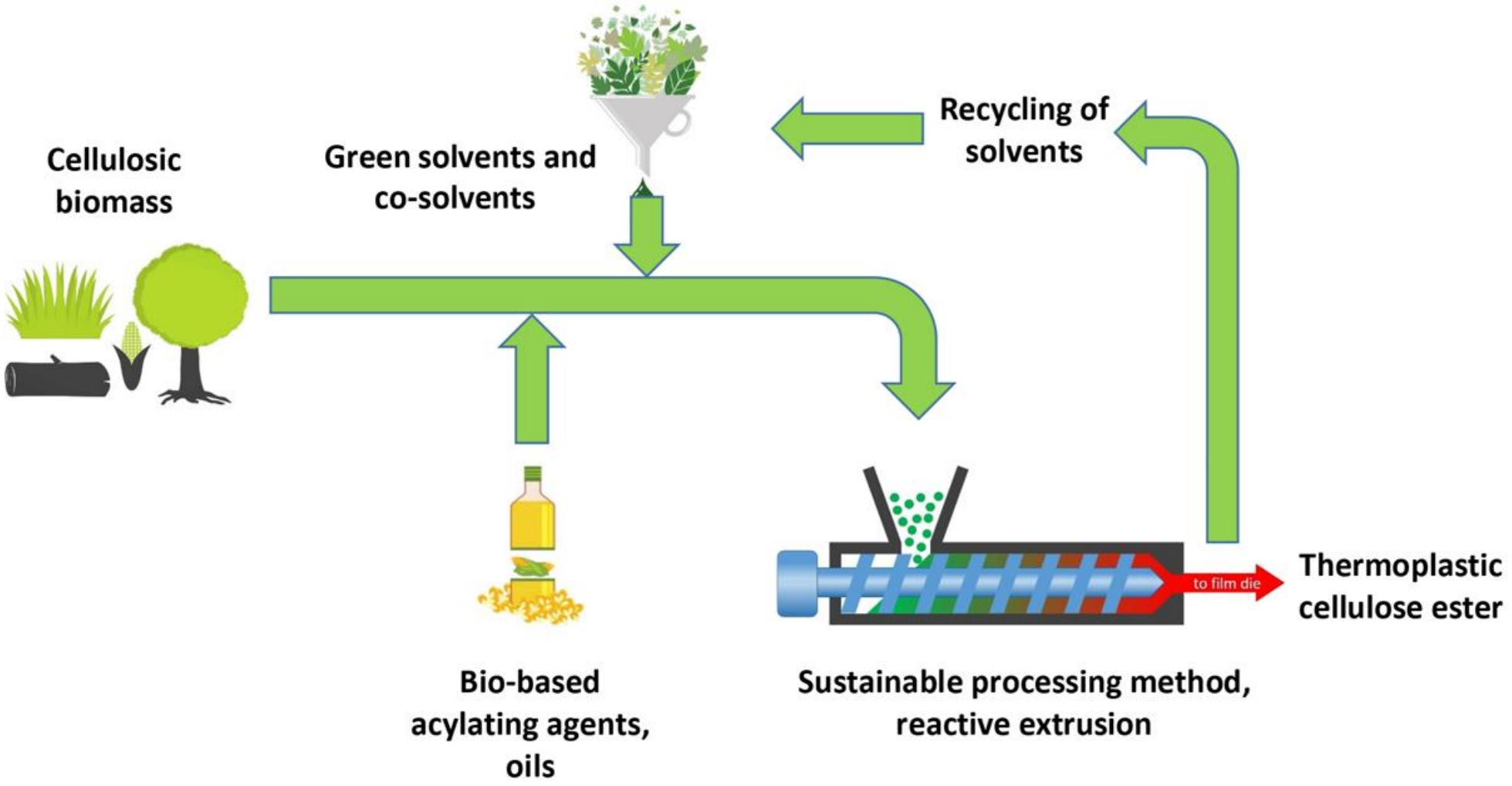
SOLUTION:

CelluMotion solves this through reactive extrusion, enabling:

- Faster production
- Small-scale or modular manufacturing
- Rapid iteration of material properties

TAL TECH

TECHNOLOGY


Cellulosic biomass
Green solvents and co-solvents
Recycling of solvents
to film die
Thermoplastic cellulose ester
Bio-based acylating agents, oils
Sustainable processing method, reactive extrusion

APPLICATION:
ON-GOING PROJECT

Space & Aerospace Applications: WOOD2SPACE, ESA De-Risc

Secondary space structures

- Lightweight panels, covers, and non-load-bearing structural elements using bio-based composite or coated materials.

Protective surface coatings

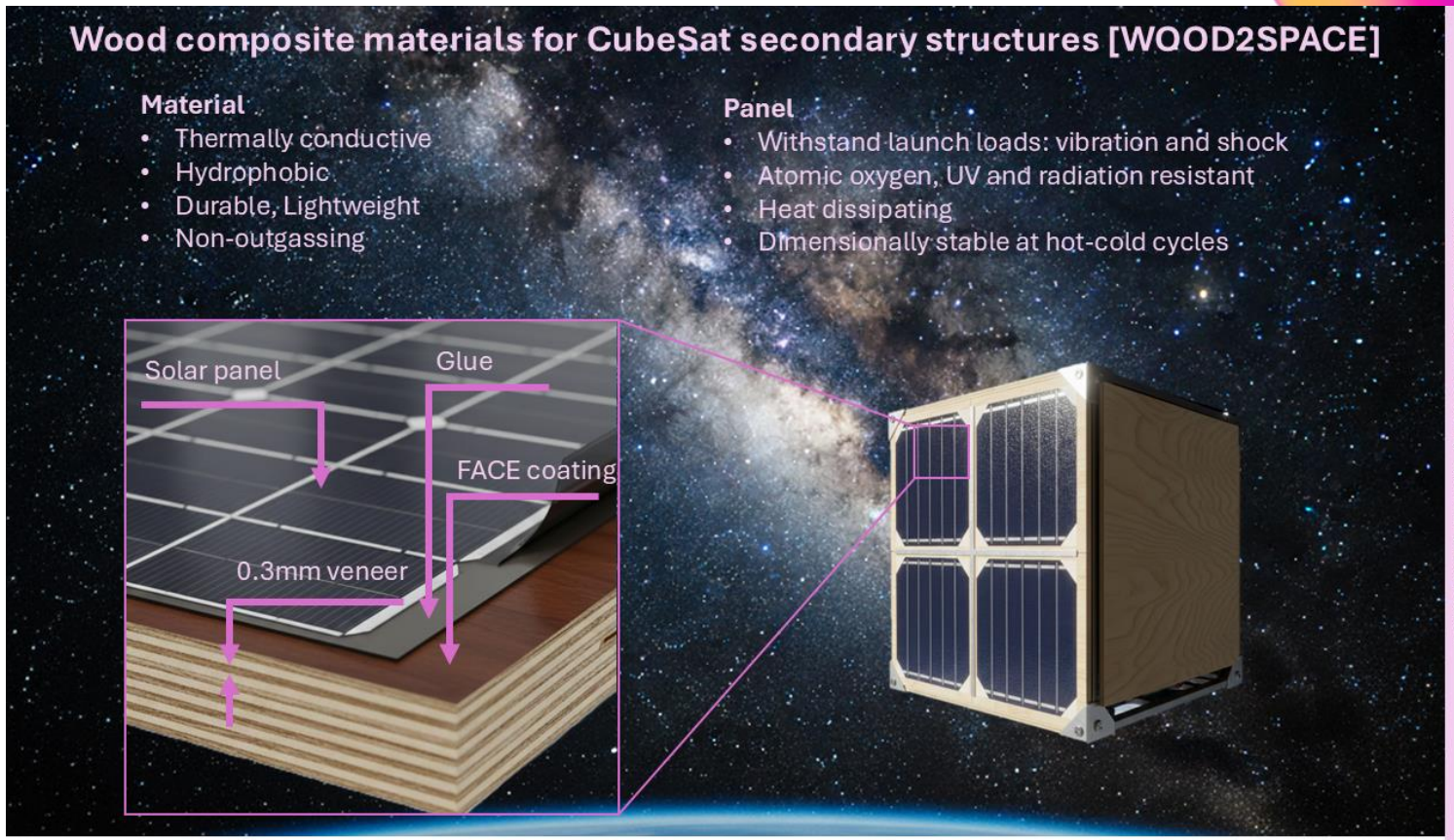
- Hydrophobic and protective layers for components exposed to space environment.

Interior spacecraft components

- Low-outgassing coated surfaces for cabins, lockers, or equipment housings (after validation).

Technology demonstrators

- In-orbit testing of bio-based materials and coatings to validate durability, stability, and performance in space conditions.



Taltech, CelluMotion, Tallinn, Estonia.

MARKET OPPORTUNITY FOR SPACE APPLICATION [WOOD2SPACE]

Addressable Market (Baseline: 2023 launches)

- Satellite launches (2023):

~130 × 1U CubeSats

~180 × 3U CubeSats

~80 × 6U CubeSats

- Side-panel cost per 1U CubeSat (4 panels):

FR4-based PCB: €2,826

Aluminium-based PCB: €3,439

- Relative panel demand:

3U CubeSat ≈ 3.5× 1U

6U CubeSat ≈ 5.25× 1U

Total Addressable Market (PCBs for side panels only)

- FR4-based PCB TAM (2023): ≈ **€3.33 million**
- Aluminium-based PCB TAM (2023): ≈ **€4.06 million**

Even a conservative niche in CubeSat side-panel materials represents a multi-million-euro annual market—and a strong credibility platform for broader CelluMotion commercialization.

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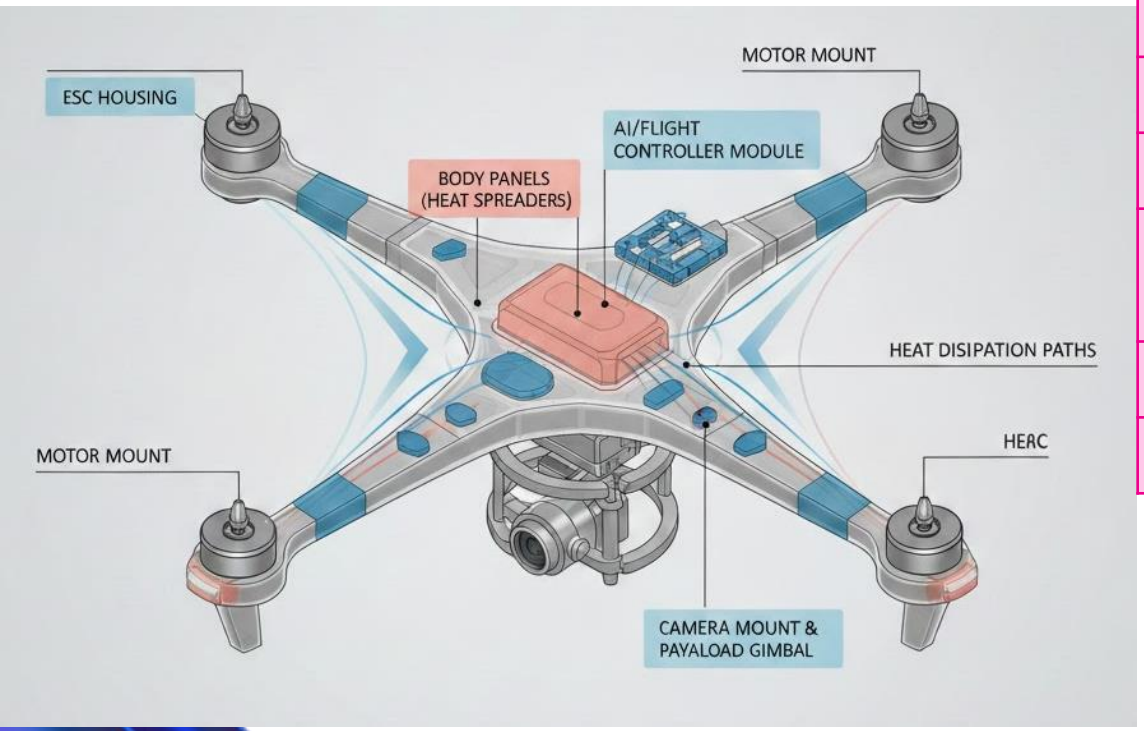
APPLICATION:

HEAT DISSIPATIVE BIO-PLASTICS/PROTECTIVE SURFACE COATINGS FOR DRONES

- Casings, wings, and other plastic parts, heat-dissipation coating
- Hydrophobic and protective layers for components



Drone Subsystem	Composite Role	Key Benefit
ESC housing	Heat spreader + enclosure	Lower hotspot temperature
Battery enclosure	Thermal buffer	Safety & lifespan
Body panels	Passive heat sink	Cooling
Camera mount	Thermal stabilizer	Image quality
AI module housing	Heat spreader	Prevent throttling
Wing skins	Solar + electronic heat dissipation	Endurance
Motor mounts	Secondary heat path	Reliability
Thermal inserts	Local heat spreading	Weight efficiency

TAL TECH

MARKET OPPORTUNITY FOR
HEAT DISSIPATIVE BIO-PLASTICS/PROTECTIVE SURFACE COATINGS FOR DRONES

Assumptions

Global drone shipments (all classes): ~15-20 million units/year

Commercial + industrial drones: ~3-5 million units/year

Defense & high-end UAVs: ~100k-300k units/year

Thermally functional composite per part: $2-$40, depending on application

This slide was prepared with help of ChatGPT TalTech EDU

Application	Typical Part Value (USD)	Addressable Units/Year	Estimated TAM (USD/year)
ESC housing	$3-8	6-10M ESCs	**$20-70M**
Battery enclosure	$8-25	2-4M drones	**$25-80M**
Body panels	$10-30	1-3M drones	**$20-90M**
Camera mount	$5-15	1-2M payload drones	**$10-30M**
AI module housing	$15-40	0.5-1.5M drones	**$15-50M**
Wing skins (fixed-wing UAVs)	$30-100	200k-500k UAVs	**$10-40M**
Motor mounts	$3-10	8-16M motors	**$25-100M**
Thermal inserts (modular)	$2-6	5-10M units	**$10-40M**

OTHER APPLICATIONS:

1. Protective & Functional Coatings

Hydrophobic protective coatings

Barrier coatings with tunable permeability (water vapor, gases, oils)

2. Membranes

Breathable membranes for construction materials, packaging, etc.

Controlled-permeability membranes for filtration, separation layers, agricultural applications, etc.

3. Packaging

Bio-based barrier coatings for dry and semi-dry goods packaging

4. Construction & Building Materials

Protective coatings for wood panels and boards

Moisture-regulating surface layers

Lightweight, coated cellulose-based panels

5. Automotive & Mobility (Non-structural)

Interior surface coatings

Low-VOC protective layers

6. Casings

Antistatic coatings for electronics

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CURRENT STATE

Commercializing TalTech IP:

A REACTIVE EXTRUSION LINE AND METHOD FOR MANUFACTURING THERMOPLASTICS FROM CELLULOSE

- Priority number: P202300008

CELLULOSE ACYL GLYCOLATES AND METHOD FOR PRODUCING SAME

- Priority number: EP24166644.5

On-going TemTa projects:

- TemTa: New biomaterials made by reactive extrusion from cellulose and by-products of vegetable oil production (Link)
- ESA De-Risk: Wood composite materials for CubeSat secondary structure(s) [WOOD2SPACE]

Team

Current Team

Illia Krasnou

Seniour researcher

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Viktoria Gudkova

Development manager

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Future potential team competencies and background

In addition to current team:

- Business development and sales in advanced materials
- Strong contacts base with market actors
- Technology transfer from pilot-line to industry scale

CELLUMOTION

XXXX XXXXXXX, potential CEO and CoFounder
LinkedIn: link

MARKET OPPORTUNITY (TAM, SAM, SOM)

INPUT BY POTENTIAL CEO

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COMMERCIALIZATION PLAN
FROM LAB TO PRODUCT

INPUT BY POTENTIAL CEO

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FINANCIAL PROJECTIONS:
PATH TO MAXIMIZE STARTUP VALUE

INPUT BY POTENTIAL CEO

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VISION FOR FUTURE TEAM

INPUT BY POTENTIAL CEO

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CONTRIBUTION

(TalTech will give options shares for the new co-founder, what is that you are willing to invest in terms of money, time and competencies and what are your expectations regarding option shares)

INPUT BY POTENTIAL CEO

- **I'm suitable to be the founding member ...**
- **My contribution can be (time, money, competencies, contacts etc)**
- **My expectations regarding option shares in startup founding stage is in the range of x-x%**