PRECIOUS METAL STRAIGHT TO THE POINT

Smart metal coating technology from Berlin

Investor Presentation, October 2024

Challenges in surface metallization

“with PVD, precious metal ends up everywhere – 30-60% is wasted”

“vacuum chambers drive Capex, suck power, and limit scaling”

“plating is an environmental mess – people are longing for alternatives”

“atomic layer deposition – yeah, precise but too slow”

The solution is …

Ambient Rapid Metallization (ARM)

The world's first

METAL AIRBRUSH

ATMO COAT

- **Single-step:** instantaneous plasma conversion to pure metal
- **Material efficient:** Directed deposition with ~ 95% metal efficiency
- **Simple:** No vacuum, no chambers, save 60-70% Capex over PVD
- **Versatile:** On flat, porous, and many other substrate types
- **Scalable and fast:** sheet-by-sheet and R2R with centimeters per second
- **Green:** minimal power consumption and no toxic waste


ATMO
COAT
ATMOcoat’s technology is set to be the dominant metal coating method for many industrial applications.

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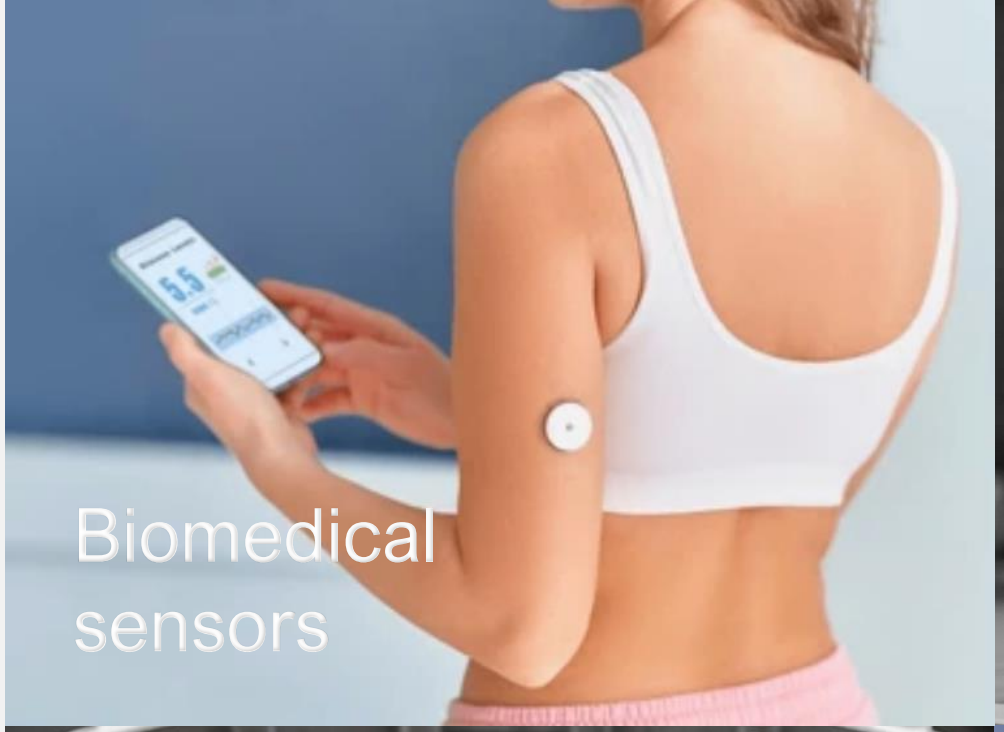
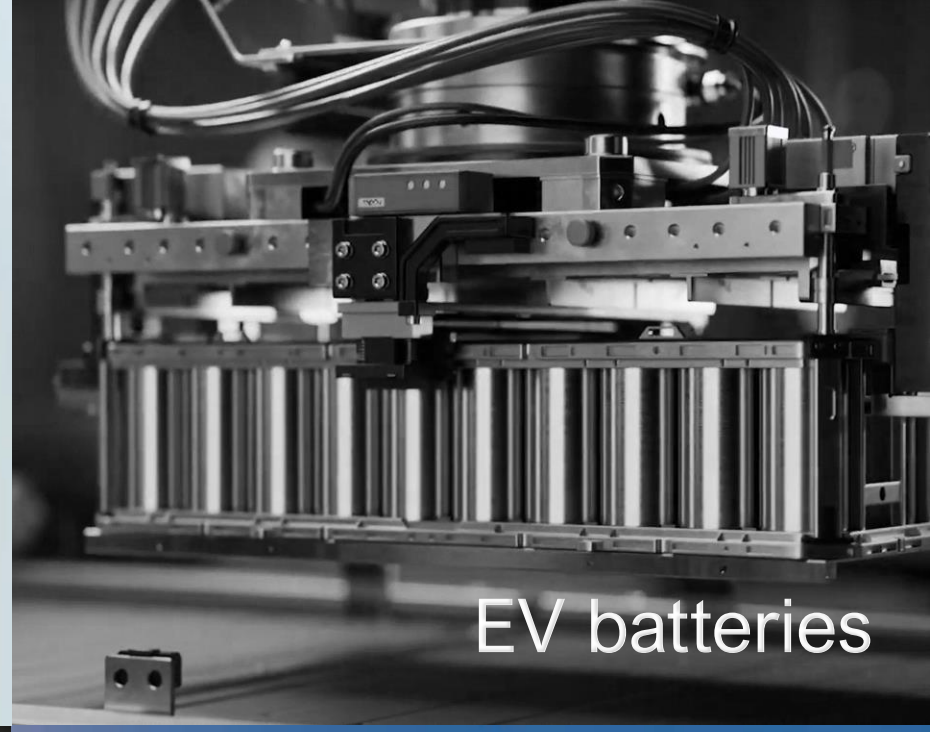
Many possible application areas – H2 electrolysis is primary entry market





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The rise of green hydrogen

- Low-emission hydrogen is key to make hard-to-electrify industrial sectors sustainable
- Green hydrogen is won from electrolysis: split water into hydrogen and oxying using renewable energy
- Proton Exchange Membrane electrolizers (PEM) optimal with fluctuating power sources
- Share of PEM ca. 40% today and expected to reach >50%
- PEM electrolizers contain several irreplaceable precious metal coatings

Source: IAE

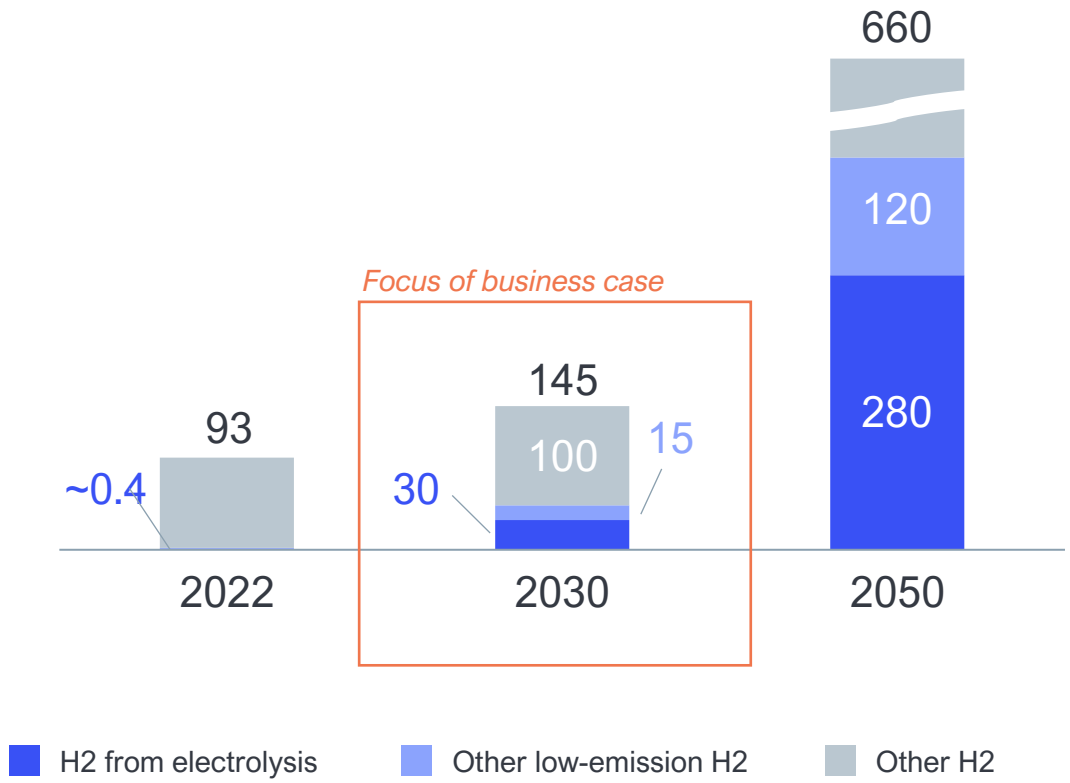
Steep demand for PEM electrolizer capacity

- Demand for low-emission hydrogen to increase multifold until 2030 and beyond
- Relevant shares will continue to come from “grey” sources and carbon capturing technologies
- 30 Mt per year is conservative estimate for H2 from electrolysis by 2030
- Assuming a 50% share of PEM electrolysis, new capacity of >100 GW required by 2030
- Equivalent to PEM-EL with 2.6 km² active cell area to be installed by 2030 (TAM)

Source: IAE (various reports), Statista, FCI Aachen, Fraunhofer UMSICHT; ATMOcoat calculation validated by INVENSITY GmbH

Global annual hydrogen demand

in Mt, by type of H2 source



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Several indispensable precious meatal coatings in PEM-EL

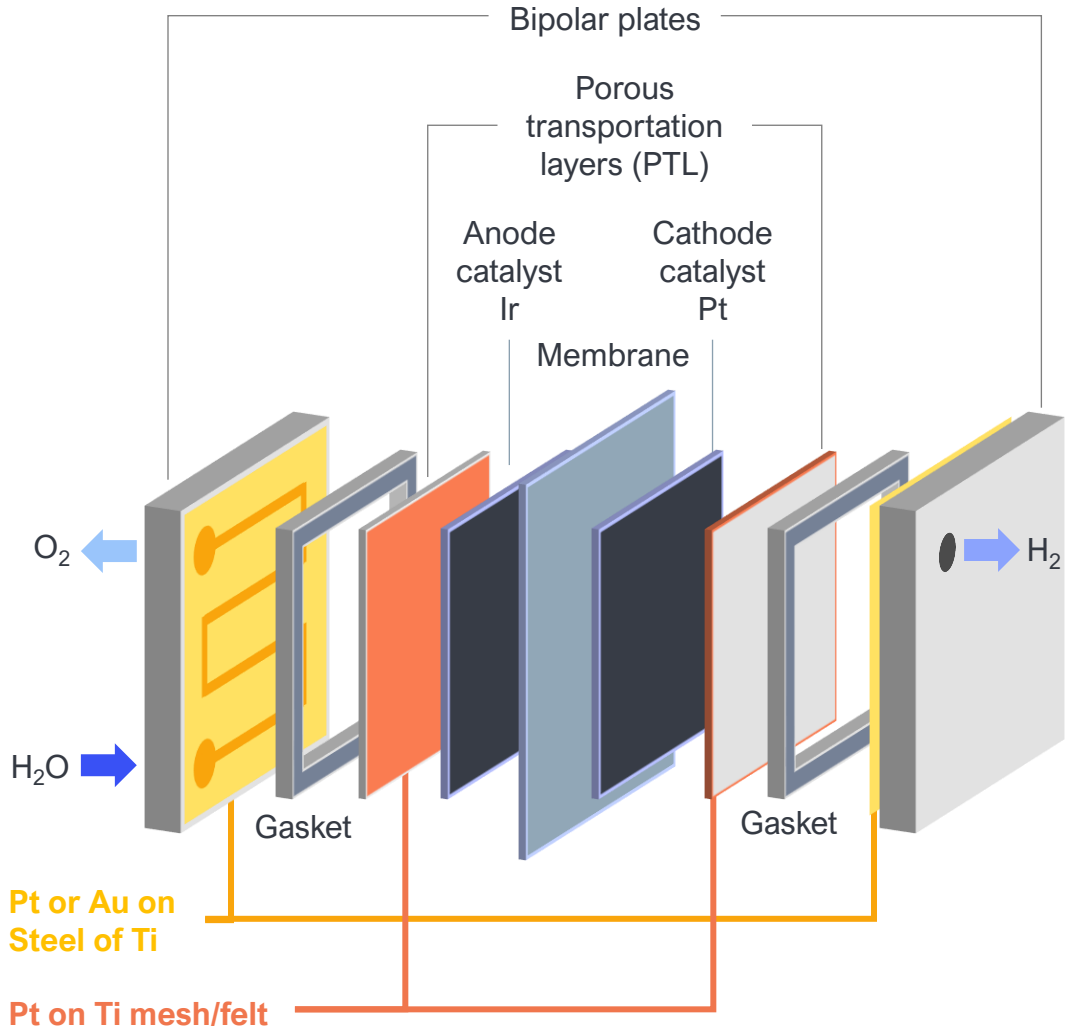
Porous Transport Layers (PTLs)

- Platinum-coated titanium mesh or felt (Pt-Ti) used on anode side for oxidization protection
- Pt-Ti also used on cathode side to prolong degradation while enhancing catalytic activity
- Target thicknesses of 20-50nm (0.04 – 0.1 mg/cm² loadings)

Bipolar Plates (BPPs)

- Platinum coated steel or titanium
- Can contain additional gold “sputters” on titanium
- Minimum-thickness closed layer targeted: ca. 20-40 nm

Today, **4 platinum or gold coatings** in each cell.
Additional coatings with **iridium** and **rhodium**.



ATMOcoat business model: three revenue streams

Licensing fees

- Technology licensing fee from PEM-EL component suppliers
- Technology installed at suppliers' production lines
- Charge of 20-40 EUR/m² achievable based on in-depth market analysis

80-85%
contribution share

Material sales

- Sale of proprietary ATMOS metallization liquids used for coating by ATMOcoat customers
- Moderate margin on precious metal content and cost of production

5-10%
contribution share

Table top devices

- Selling of ARM table top coating device for R&D and prototyping
- Expected price ~120 kEUR per device
- Ca. 20% contribution margin

5-10%
contribution share

Contribution share calculation assumes 150,000 m² p.a. licensed coating at 30 EUR/m²; the equivalent amount of ATMOS Pt liquid sold, and 15 ARM Table Top devices sold per annum.

Customer benefits from using ATMOcoat instead of PVD

50-70% savings on consumables
due to metal and power efficiency

4-7 million EUR CAPEX savings
per ca. 120.000 m² annual coating capacity

Predictable cost structure
Only two main components: metal liquid and licensing fee

Pay as you use
No capital tied up in precious metal PVD targets

Overall ca.
20 - 40% lower OPEX
(after ATMOcoat licensing fees)

Overall ca.
60 - 70% lower CAPEX

Target customers from two groups

1. Component suppliers and coating specialists

2. PEM-EL cell developers

Bekaert is a testing customer and **development partner** already

Fast-growing PEM electrolizer coatings market offers huge business potential for superior technology

Coating demand for PEM-EL until 2023 (TAM)

100 GW
new PEM capacity required until 2030

translates into
2.6 km²
active PEM-EL cell area

up to **10 km²** of coatings
(4 coatings per cell: GDL, PTL, both BPPs)

ATMOcoat coating area in 2030 (SAM & SOM)

.7 – 2.5 km²
expected annual global coating area (2027-2030)*

20 %
ATMOcoat target market share (primarily European and US suppliers)

510,000 m²
coated by ATMOcoat in 2030**

Willingness to pay and profit potential

ATMOcoat consumable cost
50-70%
less than PVD

Leaving potential for
20-40
EUR / m² licensing fee

10-20 mEUR
licensing revenue potential by 2030

plus potential from

biosensors, batteries, AM, iridium
in PEM-EL and **other applications**

* Assuming total required capacity to build-up weakly exponentially from 2025-2030 and on average two coatings per cell.
** Assuming on average two coatings per cell and ATMOcoat market share increasing from 0% to 20% by 2030.

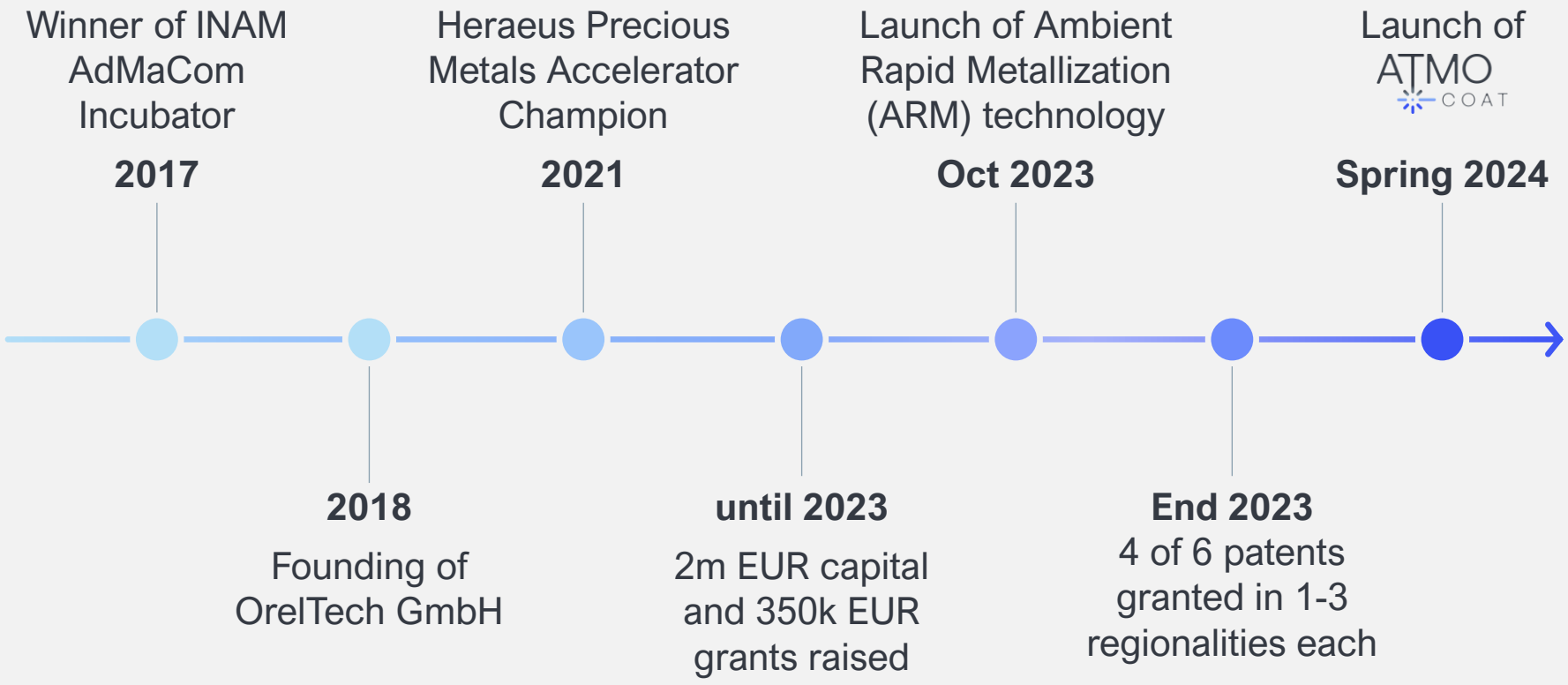
ATMOcoat's development path

ATMO COAT

is a marketing brand of

ORELTECH

powered by OrelTech's Ambient Rapid Metallization (ARM)



Financial roadmap in first target market: coatings for PEM hydrogen electrolizers

	2024	2025	by end 2027	by end 2030
	Market Probing	**Market Entry & Scaling Readiness**	**Mass Production & New Customers**	**Profitable Growth**
Milestones	– Cell testing of ATMOcoated porous transport layer (internal + 1 customer) – Gen1 table top metal airbrush (beta) in operation – Large-area scalability proven (TRL 5)	– Finalize technology validation with pioneer customer – +2 development partnerships for BPP/PTL – Full scaling readiness for large area coating (TRL 7) – New metals and new applications	– Mass production with pioneer customers (TRL 8) – At least 6 new PEM manufacturers in process validation – Gen2 metal airbrush in serial production – EBIT positive by end 2027	– Additional customers in mass production – Quantities rising from ca. 100.000 m² to 0.5 km² coating area p.a. – New applications in validation (iridium for PEM-EL, batteries, solar power, EMI shielding, etc.)
– **Contribution***	**130 kEUR**	**306 kEUR**	**2.0 mEUR** (2027)	**>10 mEUR** (2030)
– **Other income**	**240 kEUR**	**140 kEUR**		
– **EBIT**	**- 290 kEUR**	**- 800 kEUR**	**370 kEUR** (2027)	**>8 mEUR** (2030)
– **Scaling invest**	**140 kEUR**	**800 kEUR**	**1.2 mEUR** (2026+27)	
Funding	**500 kEUR Bridge** (closed)			

plus potential from

biosensors, batteries, additive manufacturing, other metals, etc.

* Business case for years 2025-2030 calculated as contribution margin without BOM. 2024 figure is revenue estimate pre variable cost.

Use of funds and funding sought

Technology development	— Gen2 table top coating device ready for small series sales (2025) — Large area coating scaling readiness (from TRL 5 to TRL 7 by 2026) — Process & machine engineering team (from 2 to 4 asap)
Production & lab capacity	— Metal liquid production infrastructure — Processes & QM certification — Expansion of R&D and production team (from 1 to 3 by 2027)
Customer service, outreach, other	— New ERP and expansion of technical sales and support team (from 1 to 2 by 2026) — Promotion & marketing budget — Better office infrastructure

Funding sought

until end Q1 2025

Scaling investment

1.6 mEUR

Run rate until end 2027

1.4 mEUR

Total

3.0 mEUR

* May be significantly less with cost sharing in joint development agreements with pioneer customers.

Meet the ATMOcoat leadership team

Klaus Mertens (CEO)

PhD Management & Economics
Oxford, London, Stanford GSB

- Ex strategy consultant in pharma, chemicals, real estate, banking, etc.
- Multi-year track record in operative management

- Setting strategic direction
- Leading BD & sales
- Managing finances and investor relations

Konstantin Livanov (CTO, Co-Founder)

PhD Chemistry & Materials
Weizmann Institute, Israel

- Multi-year technology and product development experience
- Mentor to several incubators, esp. on IP management

- Technology dev. & scaling
- Excellence in customer product development
- IP portfolio management

Natalia Zamoshchik (COO, Co-Founder)

PhD Chemistry & Materials
Weizmann Institute, Israel

- Various path-breaking inventions in advanced materials
- Long-term start-up experience

- Ensuring product-market fit
- Driving long-term innovation
- Leading operations & procurement

Technology protected by six patents each submitted in several regions

General patents

All except 6. submitted in US, EU, CN, KR

General patents to protect primary design of liquids, their chemistry and the process of metal layer formation

1. Process

A method and system for forming a patterned metal film on a substrate

Granted in US, CN, KR

2. Inks formulations

Composition for forming a patterned metal film on a substrate

Granted in US and KR

6. Ambient Rapid Metallization

Instant curing of aerosoled metal liquids using atmospheric plasma

Submitted in EU Jan 2024

Application patents

Submitted in US, EU, CN

Application patents on specific usages with more specific chemical formulation and process conditions

3. Sponges/Meshes

Metal active component formation in hybrid materials

4. Powders

Method for metal layer formation

Granted in US

5. Transparent Layers

Transparent conductive metal layers on various substrates

Granted in EU

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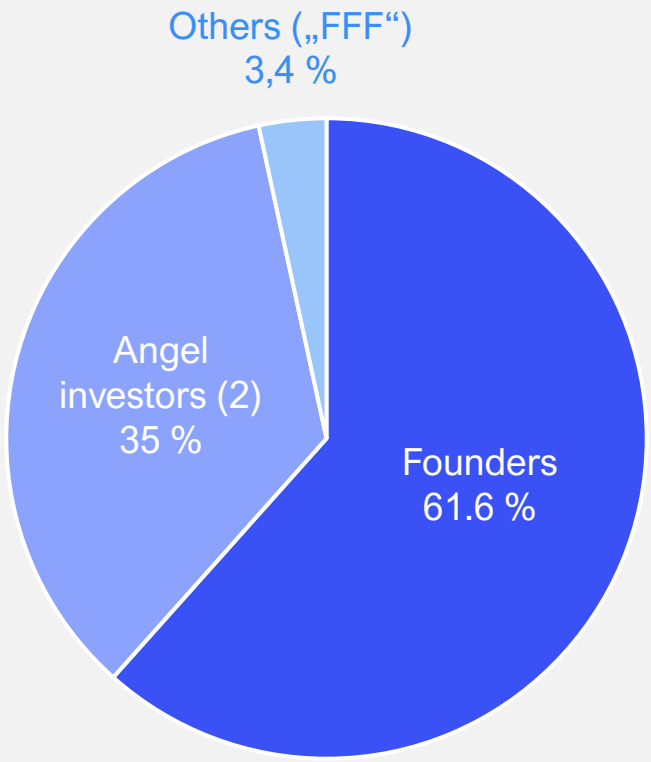
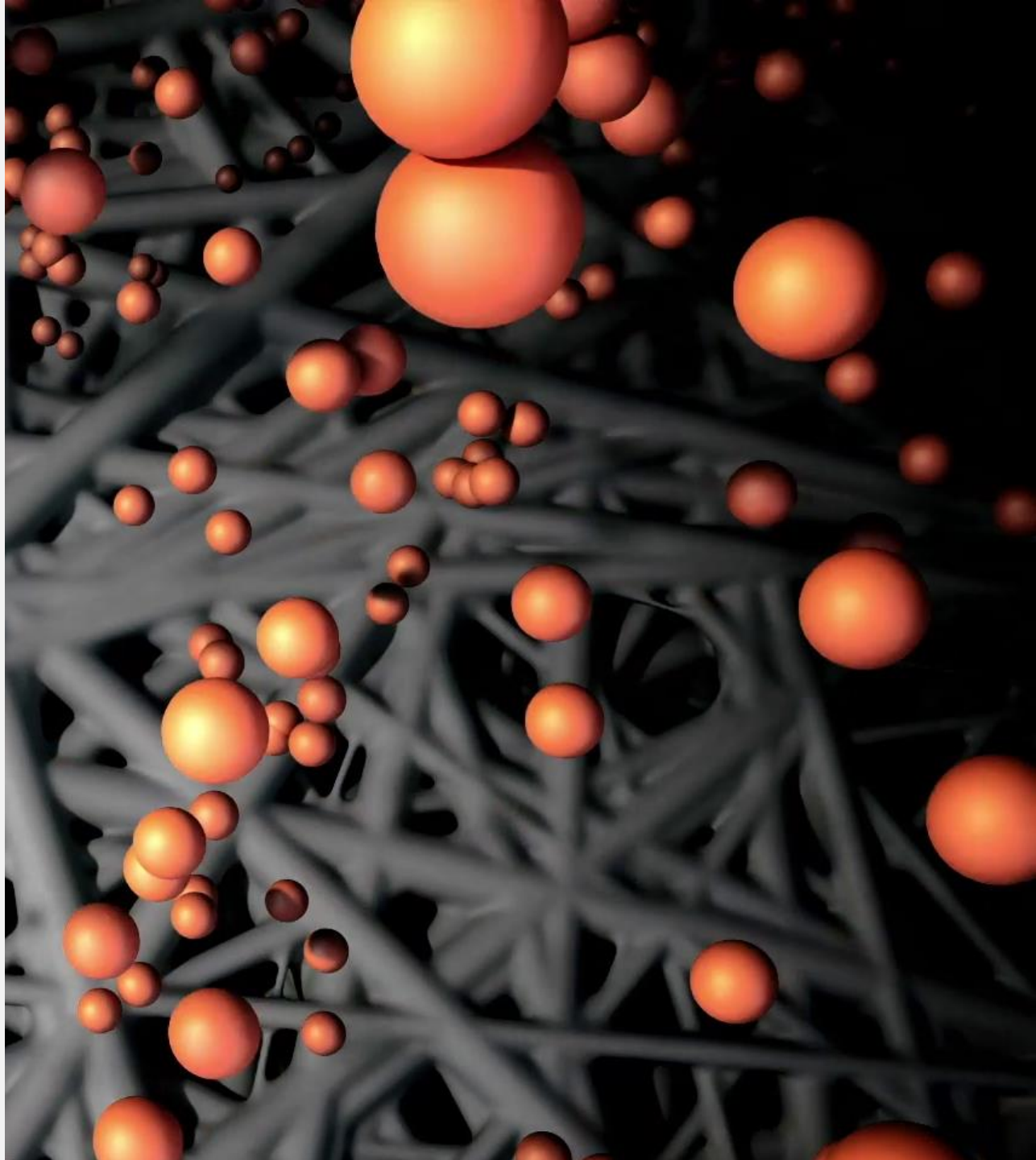
Cap table structure





Our partners

HTSB

innovation network for advanced materials

Hes·so VALAIS WALLIS

HUMBOLDT-UNIVERSITÄT ZU BERLIN

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Potential customers in technology testing, e.g.

Bekaert

EurA EnerMAC Network

CENTER FUEL CELL INDUSTRIALIZATION

RWTH AACHEN UNIVERSITY

HÜTTENES3

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ATMOcoat is powered by OrelTech's ARM technology.
For more information, visit https://oreltech.com/arm