CREDOXYS
MATERIAL INNOVATION

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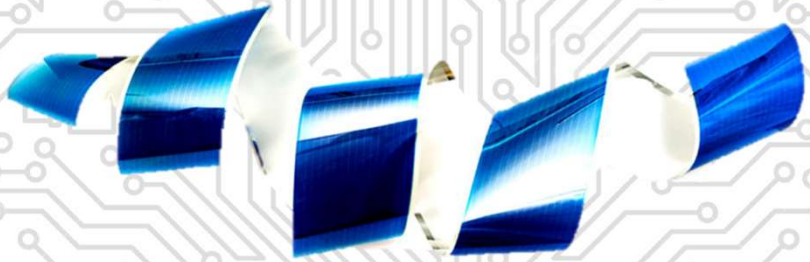
Next-Level Organic Redox Technology

April 2023

CREDOXYS Technology

ultrathin and **foldable**
OLED displays

REDOX-TECHNOLOGY
is at the heart of Organic Electronics
and Renewable Energy Storage



light-weight and **flexible**
organic solar cells

lithium-free and **endless**
materials for
redox flow batteries

Established Markets	Emerging Markets	Future Markets
Total OLED material market:	Organic photovoltaics material market based on Heliatek alone:	Large-scale energy storage for renewable energies
1.7 bn$ in 2022 **14%** CAGR	**45 m$** in 2025 **50%** CAGR	**Huge market potential**

CREDOXYS Roadmap for Redox-Active Materials

A strong expertise in functional molecule design and redox technology enables CREDOXYS to provide solutions for various established and future technologies.

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	Idea	Concept	Feasibility	Extended testing	Chem. dev Scale-Up	Mass production

OLED Display — Established Markets

p-Dopant — MTA w/ display panel maker signed

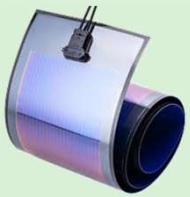
Others — R&D samples

First product(s)

Organic Photovoltaics & Sensing — Emerging Markets

p-Dopant — >200 k€ revenues w/ market leader (incl. pilot sample)

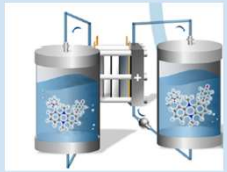
Others — R&D samples



Organic (Redox-Flow) Batteries — Future Markets

Anode — Under evaluation

Cathode — Under evaluation



Our Current Focus: Redox Dopants

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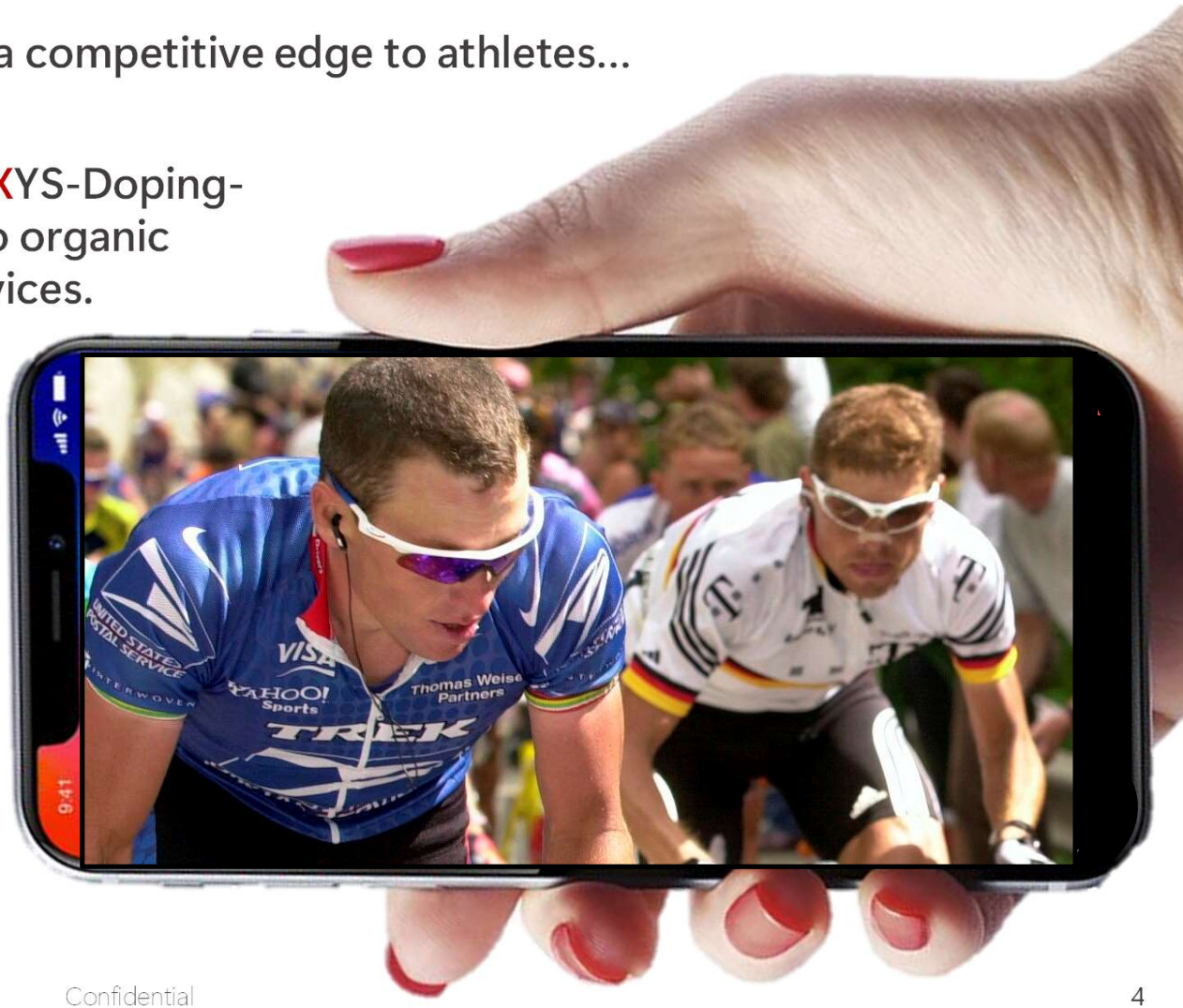
Over 600 Mio OLED smartphone displays with p-dopants were shipped in 2021.

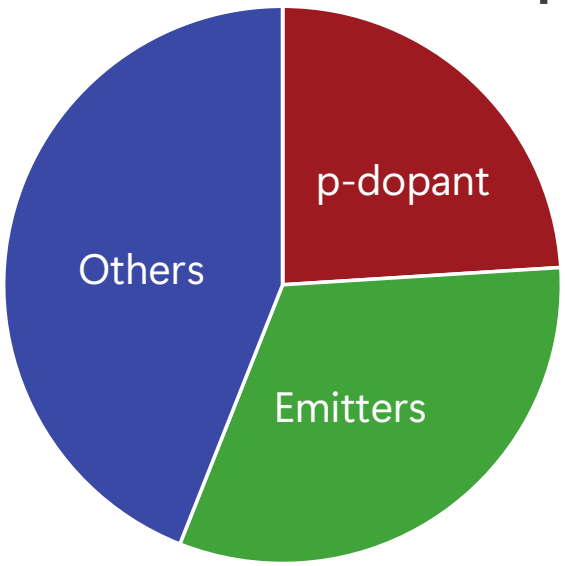
Doping gives a competitive edge to athletes...

...and CREDOXYS-Doping-Technology to organic electronic devices.



No OLED-Display and no OPV Without p-Dopants

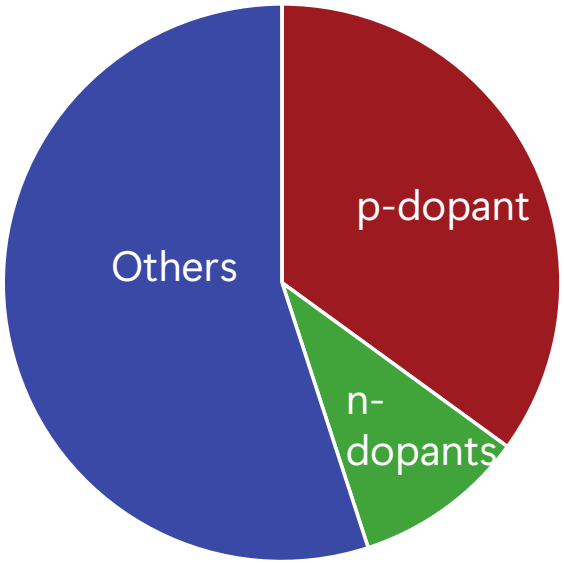
p-dopants make OLEDs and OPV work and are...



SAMSUNG

> 400.000 $/kg

...among the top 3 most expensive specialty chemicals on the market.



Heliatek
INDEPENDENT. GREEN. FUTURE.

Bill of materials OLED stack for smartphone display:
~25% due to p-dopant.

DSCC Quarterly AMOLED Materials Report Q2'21

Bill of materials for organic solar cells
~35% for p-dopant
~10% for n-dopant (also Novaled)

Unique Opportunity to Become Market Leader for Dopants

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OLED technologies

SAMSUNG BOE LG Display 华星光电 CSOT TIANMA Visionox 维信诺 MICROOLED INNOVATIVE AMOLED SOLUTIONS AeMagin OLEDWorks

novaled

Only **one supplier with one material**, which must serve all applications

Organic Photovoltaics & Sensors

Heliatek INDEPENDENT. GREEN. FUTURE. ubiquitous ENERGY SENORICS SAMSUNG

p-dopant market for OLED	2022	2026	2030	2023 – 2033
	220 m$*	380 m$**	636 m$**	3.5-4.5 bn$
p-dopant market in light harvesting technologies***	2024	2026	2030	2023 – 2033
	4-8 m$	8-16 m$	40-100 m$	0.5-0.75 bn$

*DSCC Quarterly AMOLED Materials Report Q2'22 via www.oled-info.com; **Assuming same market share for p-dopants, current market prices; *** Customer forecast

CREDOXYS' p-Dopant Technology

CDX dopants enable the next generation OLED and solar cells

- More freedom in stack design
- Brighter displays
- Longer device lifetime
- Longer battery lifetime

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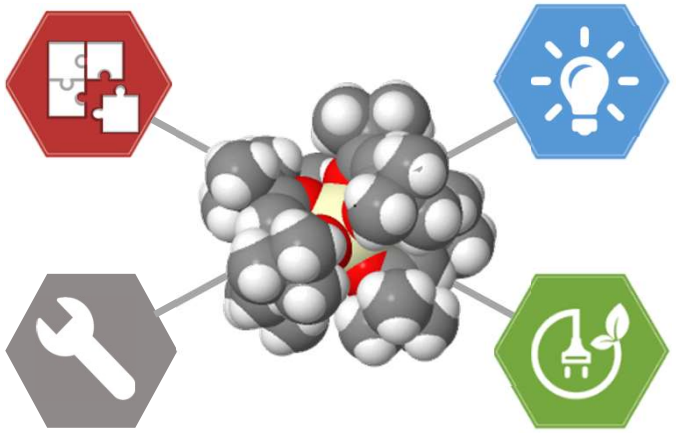
CREDOXYS superior USP

Ready for established and emerging markets

Highly adaptable



Towards brighter blue OLEDs

Superior power

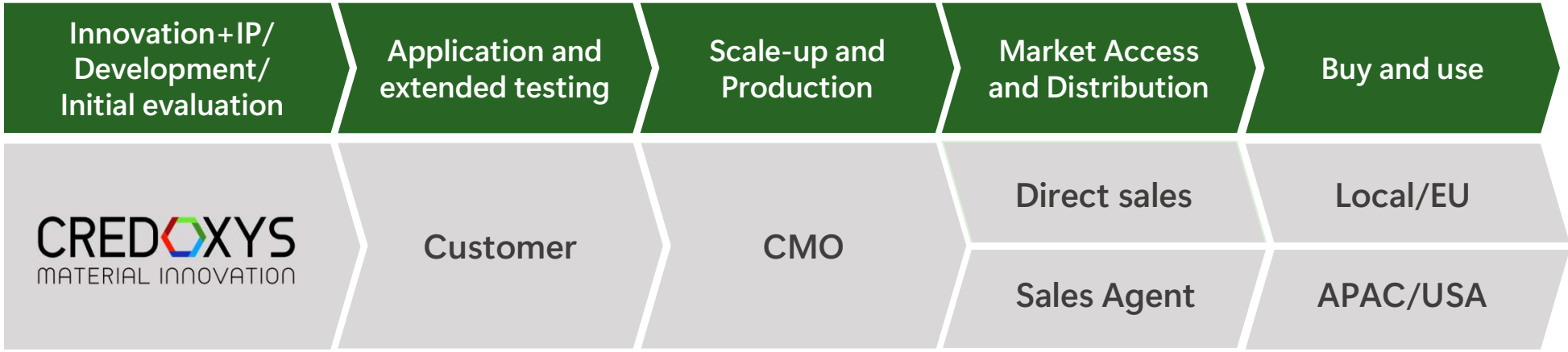
>100% longer OLED lifetime

6 Patent families* – filing in process
Full freedom to operate

*100% CREDOXYS owned

Fabless and Co-operative Business Model

- Revenues through material sales (B2B)
- Collaboration with contract manufacturer (CMO) allows for quick scale-up
- Fabless approach leads to low investment, high margins and early break-even



Company and Team

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Team

Sascha Dorok
Managing Director

>15 years experience in R&D of redox materials and specialty chemicals
>150 patents

Julia Stolz
Head of Physics

Expert for OLED and optoelectronics
> 6 years experience in semiconductor industry

Marcus Papmeyer
Head of Chemistry

Specialist route discovery and chemical process development for organic electronics materials

Léonard Eymann
Head of Laboratory

Extensive experience in synthesizing redox-active materials and dopants

Dina Huth
Head of Finance

>10 years deep-tech start-up experience skilled in M&A, financial modelling, IR

+ 7 more employees (6 in R&D)

Facilities

General

- EXIST Funding: 2021 – 2023
- GmbH Foundation: Jul 2021
- Seed-Financing: Dec 2021
- Investors: TGFS basic, TUDAG, BAs
- IP: 6 Patent families
- Revenues: ~250 k€

A Successful Incubator

The strong experience and network of our incubator paves the way to success.

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iapp TECHNISCHE UNIVERSITÄT DRESDEN

Dresden Integrated Center for Applied Physics and Photonic Materials

Prof. Karl Leo
- Renown pioneer in organic electronics
- Co-founder of 9 spin-offs
- BA and shareholder of CREDOXYS

1999	CREAPHYS MBRAUN GROUP	Part of MBRAUN Group (INDUS Holding AG) since 2016, Purification and vacuum deposition for OE
2001	novaled	Acquired by Samsung for 230 M€ in 2013, Dopant and transport materials for OE
2006	Heliatek INDEPENDENT. GREEN. FUTURE.	ca. 500 M€ investments secured. World-leader OPV, ready for mass production
2018	SENORICS	8 M€ pre-series A investment (FIDURA, TGFS, ZEISS), Novel organic sensors
2021	CREDOXYS MATERIAL INNOVATION	1.2 M€ SEED investment (TGFS, TUDAG, div. BAs, Founders), Organic Redox Technology for Electronics and Renewable Energies

Investment Roadmap

>100 M€ material revenue targeted within 4 years.

Series A financing needed Q3/2023.

2.5 mEUR already secured

1.5 mEUR still needed

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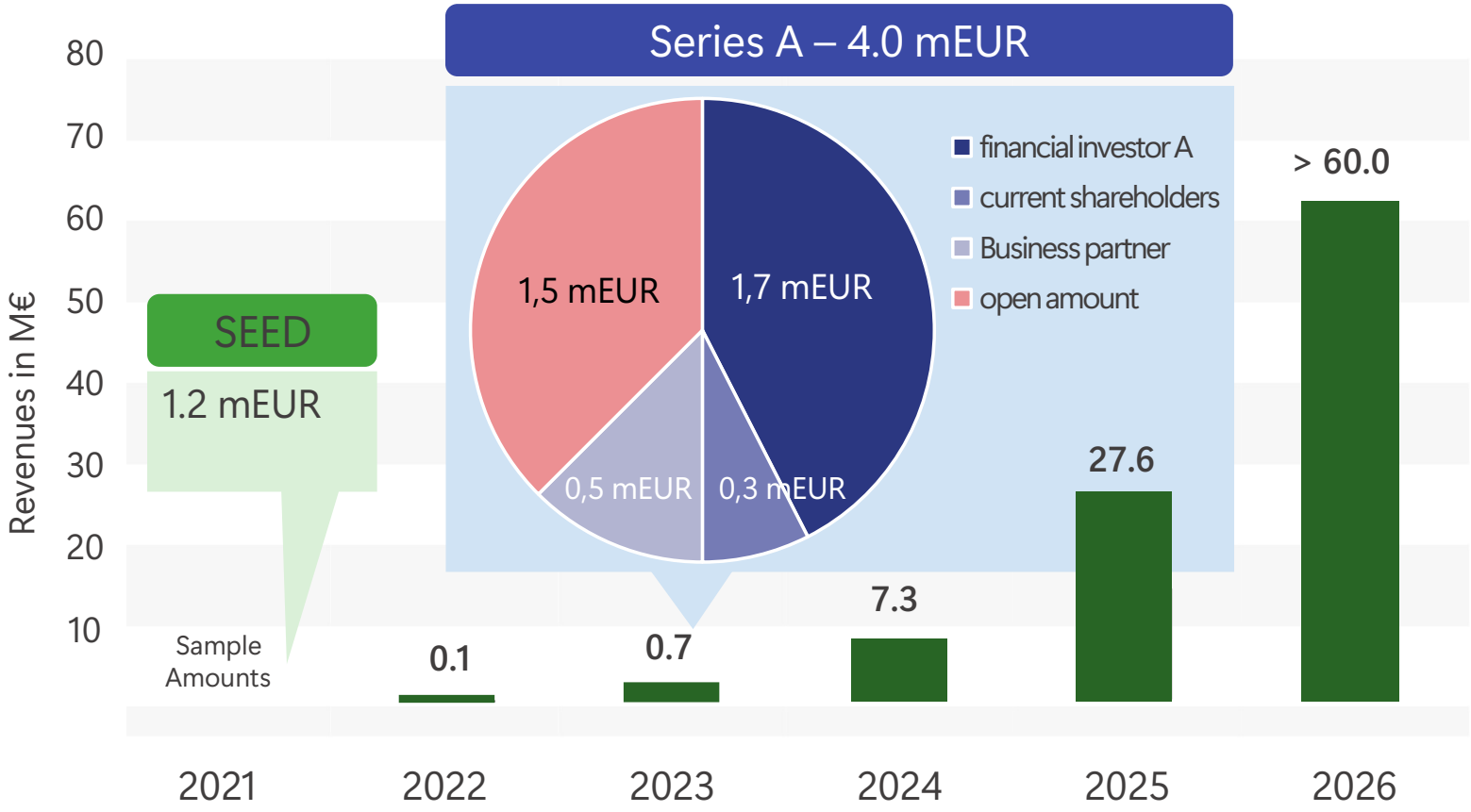
Financing Needs vs. Revenues until Break-Even in 2024



THANK YOU!

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Dresden Integrated Center
For Applied Physics and
Photonic Materials

We are a member of OES network.

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and Climate Action

on the basis of a decision
by the German Bundestag

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EUROPEAN UNION

Designing.
The Future.
Together.