



DESCYCLE

Redefining how the world sources critical metals

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Exec summary

What we do



DEScycle transforms e-waste into a geo-secure, low-carbon supply of critical metals. No smelters, no billion-dollar capex, no high energy demand. Fixing a broken \$100bn market.

Why it matters



We enable nations and industries to reshore critical materials, slash carbon and toxic emissions, and meet surging demand from electrification, data, and energy transitions.

Why we win



The fastest most efficient metal recovery tech on the planet. Patented process, capital-light technology, flexible deployment model and a seasoned team with deep industry ties backed by Cisco and Mitsubishi.

Funding

- €5m EU grant award 2025
- £11m Series A raised 2024
- £4.85m Seed raised 2022
- £1m UK government grant 2022
- £1.5m DECycle funding 2018-21

Current Investors:



Traction & partners

E-waste Recycling Partners



Bloomberg UK's Top 25 start-ups



Hello Tomorrow Finalist 2024



UK Startup 100 Index



Amazon Sustainability Accelerator



A new class of chemistry for
a new metallurgical age

Our technology:
Low-impact low-energy metal recovery



Our Technology: An eco-friendly new class of chemistry

DES: A new class of chemistry in which metals behave differently

- DES are liquid salts that can be selectively tuned to dissolve and separate metals at low-temperatures at very high efficiencies.
- Platform technology to disrupt multiple billion-dollar verticals.

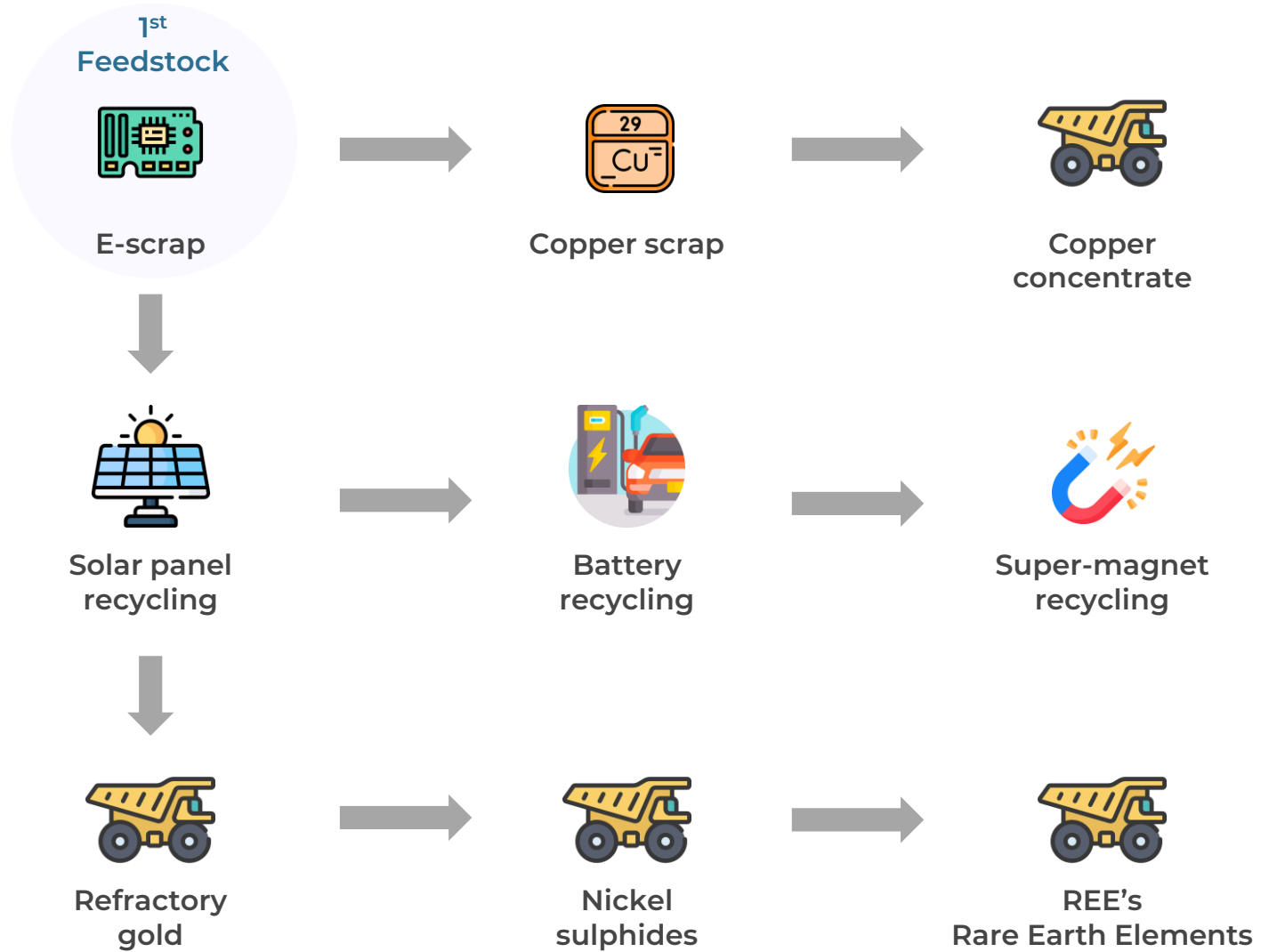
Metals recovered with DES Technology

H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba		Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra																
		La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
		Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	

 Energy transition metals  Precious metals  Other amenable metals



A multi-feedstock multi-metal platform





Our Technology: Applied DES chemistry

The advantages of DES Technology

Cleaner

No burning, no smelting, no direct emissions



Better

99% metal recovery¹ outperforming all incumbent tech

99%

Safer

Eco-friendly solvents recycled to minimize chemical waste



Cheaper

Low-energy, low-temperature, low-capex; a lower cost process



Recycling technology landscape

Incumbent Tech (Smelters) Pyrometallurgy

- ✓ **High** metal recovery
- ✓ **All grades** of e-scrap
- ✗ **High** energy consumption
- ✗ **High** capex process > **US\$bn's**
- ✗ **Highest** CO₂ production
- ✗ **Plastics** destroyed
- ✗ **Poor** payability model for recyclers

New Tech Hydrometallurgy

- ✗ **Variable** metal recovery
- ✗ **Only high-grade** e-scrap
- ✓ **Low** energy consumption
- ✓ **Low** capex process **US\$m's**
- ✗ **High** CO₂ production
- ✗ **Plastics** react with acids
- ✗ **Uses** dangerous acids or oxidisers
- ✗ **No** recyclability of solvents

Next Gen Tech Ionometallurgy

- ✓ **Very High** metal recovery (>99%)
- ✓ **All grades** of e-scrap
- ✓ **Low** energy consumption
- ✓ **Low** capex process **US\$m's**
- ✓ **Low** CO₂ production
- ✓ **Plastics** do not react with DES
- ✓ **No** dangerous acids or oxidisers
- ✓ **Full** recyclability of solvents

Global e-waste generation
will exceed **\$120bn p.a.**
by 2030

E-waste recycling:
Our beach head market

Beach head market: E-waste recycling

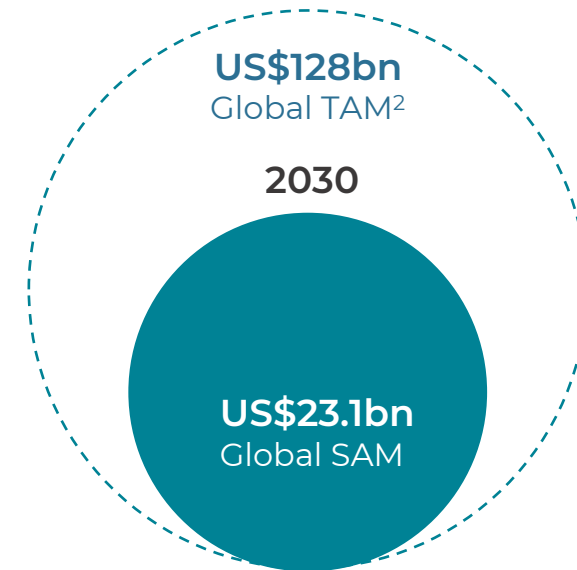
The ~~problem~~ urban mine in your pocket

As **demand for electronics soars** e-waste has become the world's fastest growing waste stream

The rate of growth of e-waste generation is outpacing the rate of growth in recycling capacity **by a factor of x5²**

Up to **80% of e-waste** is not recycled; due to **lack of economic incentivization** at local scale²

2032 target:
\$900m revenue¹
< 4% of global SAM



Our target e-waste feedstock is “e-scrap” such as printed circuits boards (PCBs) & servers where valuable metals are concentrated

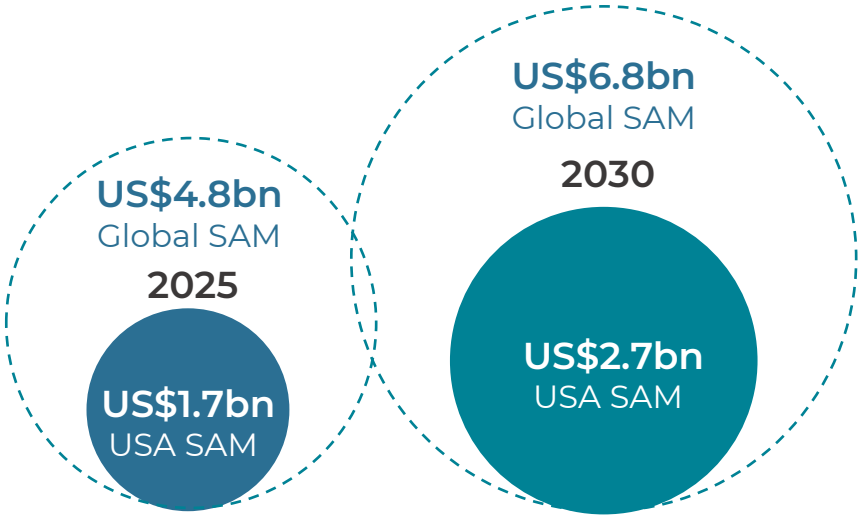
1 – Annualised Revenue generated from metal sales from DEScycle owned and co-owned plants.

2 - UNEP Global E-waste Monitor; TAM – Global e-waste generated; SAM – Global PCBs & servers collected

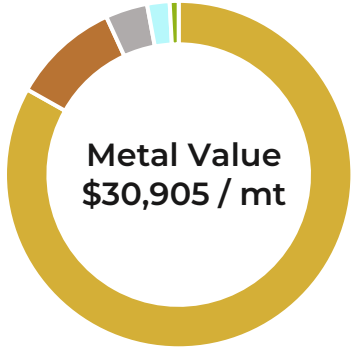


Market Opportunity: Data Centers

Market Size: Data Center Recycling¹



Non-AI/ML Server Board – Value Per Tonne²



Gold	\$25,697
Copper	\$3,094
Silver	\$1,210
Palladium	\$647
Tin	\$257

1 – US International Trade Commission; 2 – Assays of e-scrap components; consensus long-term metal prices



We need to change how we recycle

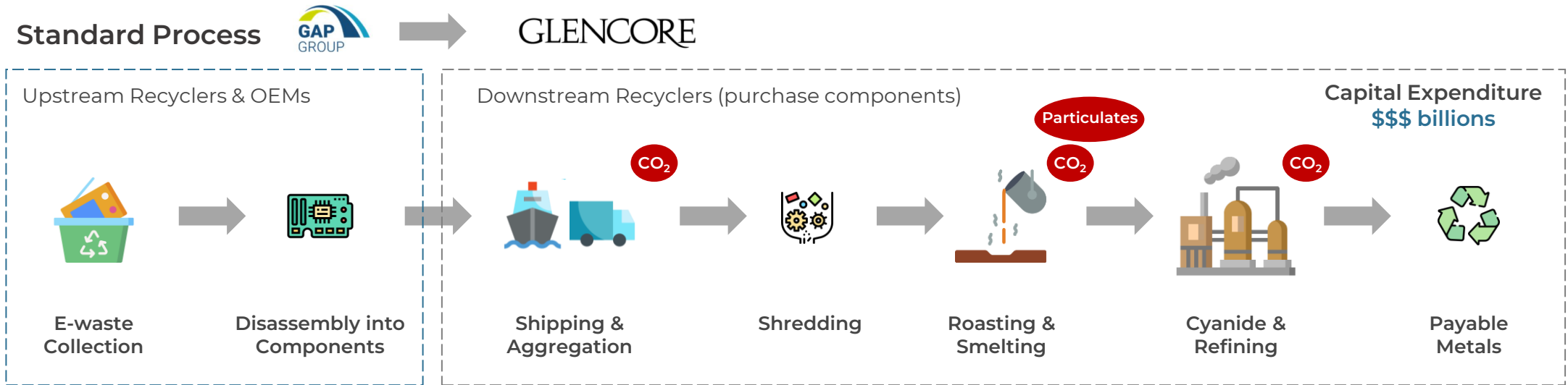
Best-in-class today

- Metals are currently recycled through the smelting process.
- Smelting burns the metals and plastics in e-waste at over 1,000°C; uses [vast amounts of energy](#) and [emits harmful metal particulates](#); a process damaging to both [planetary and human-health](#).
- Smelters need economies of scale; costing billions of dollars to build.

Best-in-class tomorrow

- DEScycle believes that a circular economy cannot come at the cost of human-health and planetary-health.
- DEScycle recycles metals at low-temperatures (60 °C) in a low-energy process with zero scope 1 or metal particulate emissions.
- Enabling cheap localised recycling that incentivises recycling at local levels.

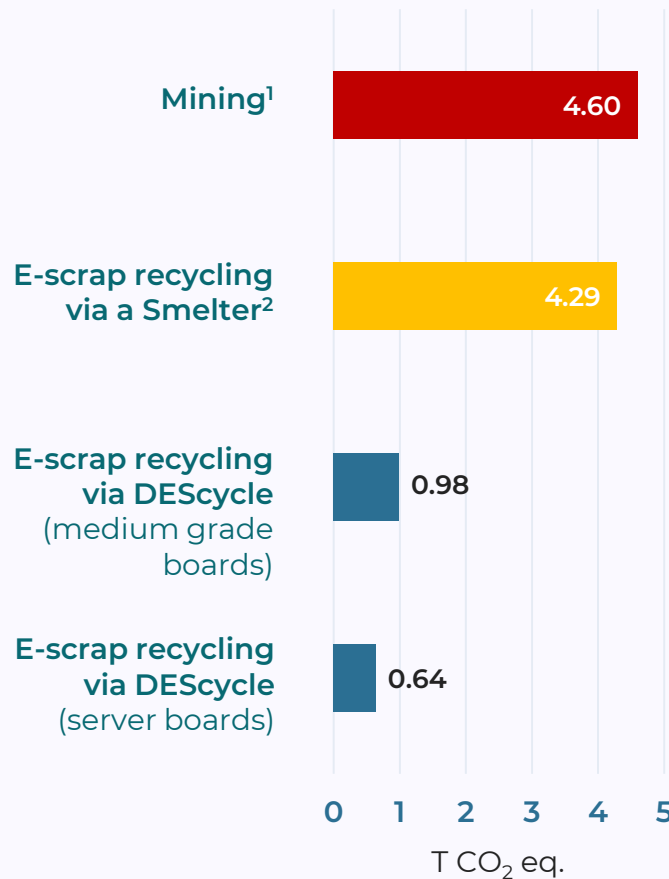
How we change recycling



- Scalable recycling technology
- Zero particulate emissions
- No transport of hazardous waste

Smelter replacement technology

CO₂ emissions per tonne of copper produced



Scope 3 emissions

A new metallurgical age

Heat & fire are no longer needed to produce & recycle metal. Makes the capex-heavy & energy-intensive process of smelting redundant.

Cheap, fast, domestic supply

- An order of magnitude cheaper to build than incumbent tech
- Operationally faster, metal dissolution complete in just 15 minutes
- Enables local metal recycling & production in geo-secure jurisdictions

First Recycling Plant



Demo plant live 2026

- Demo facility at Wilton, Teesside
- 50 tpa throughput capacity
- Various type of e-scrap feed
- Recycling trials demonstrate tech to market

1 – International Energy Agency (IEA);

2 – [Harvard Business Review - Boliden Smelter](#) (HBR); 3- Internal scope 3 life cycle analysis

DEScycle Launch → Scale

Stage 1 – Launch

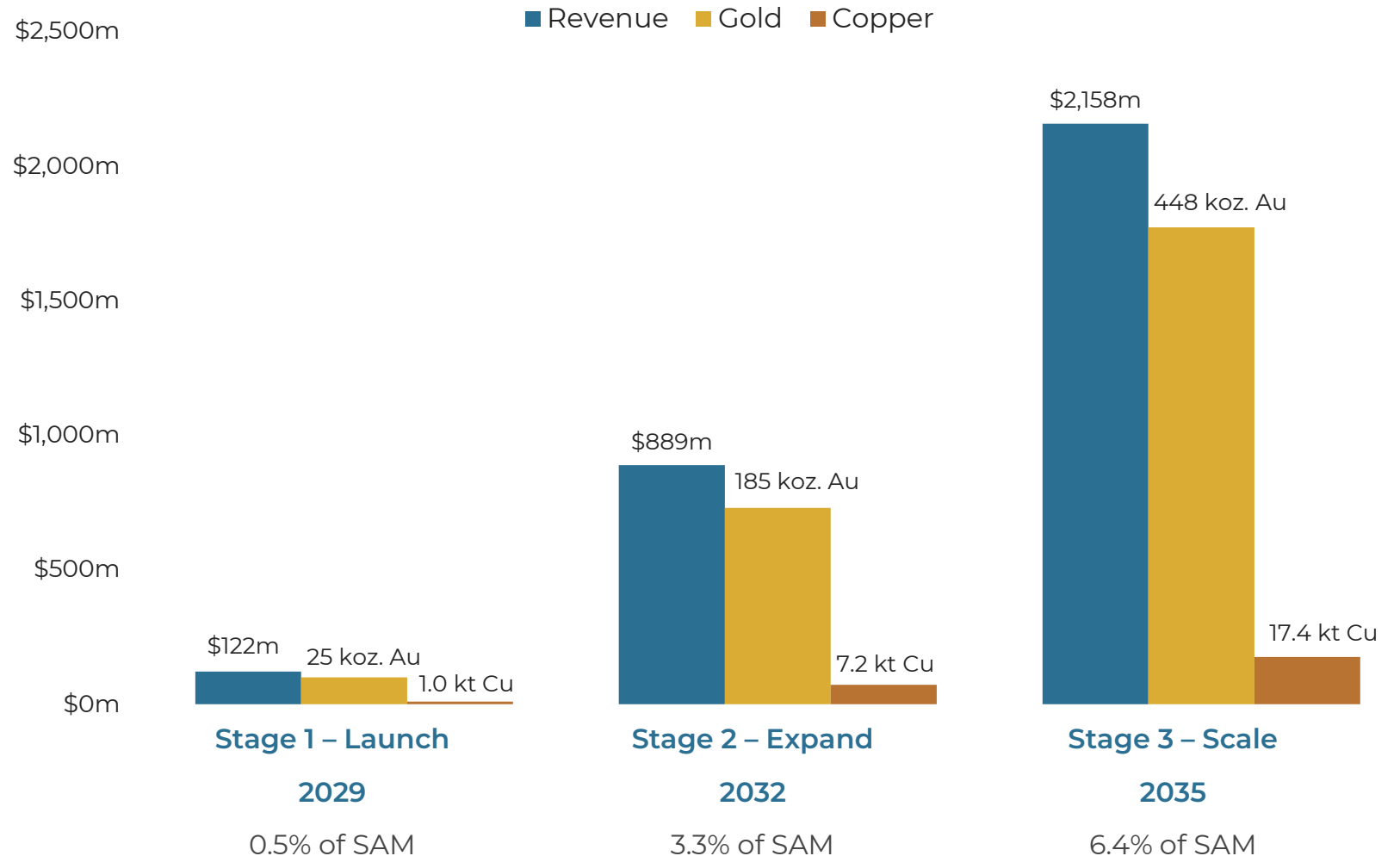
5,000 tpa total capacity
FOAK plant in UK

Stage 2 – Expand

35,000 tpa total capacity
Enter Japanese market
Enter US market

Stage 3 – Scale

85,000 tpa total capacity
Scaling in US & UK
Expand into new territories



Annualised revenue and production figures post ramp-up period

Join our journey



Our management team



Ian Cockerill
Non-Exec Chairman

Extensive operational, project & leadership expertise

Executive & director roles at multiple blue-chip organisations

48-years' in resources & technology



Dr Leo Howden
CEO

3rd time founder

>\$3B transactions in natural resources banking

PhD Mechanical Engineering



Dr Rob Harris
CTO

Lead scientist & inventor of DES processes

World leader in DES research. Specialised in DES since their discovery in 2004

Author > 26 papers + 5 patents

PhD Chemistry



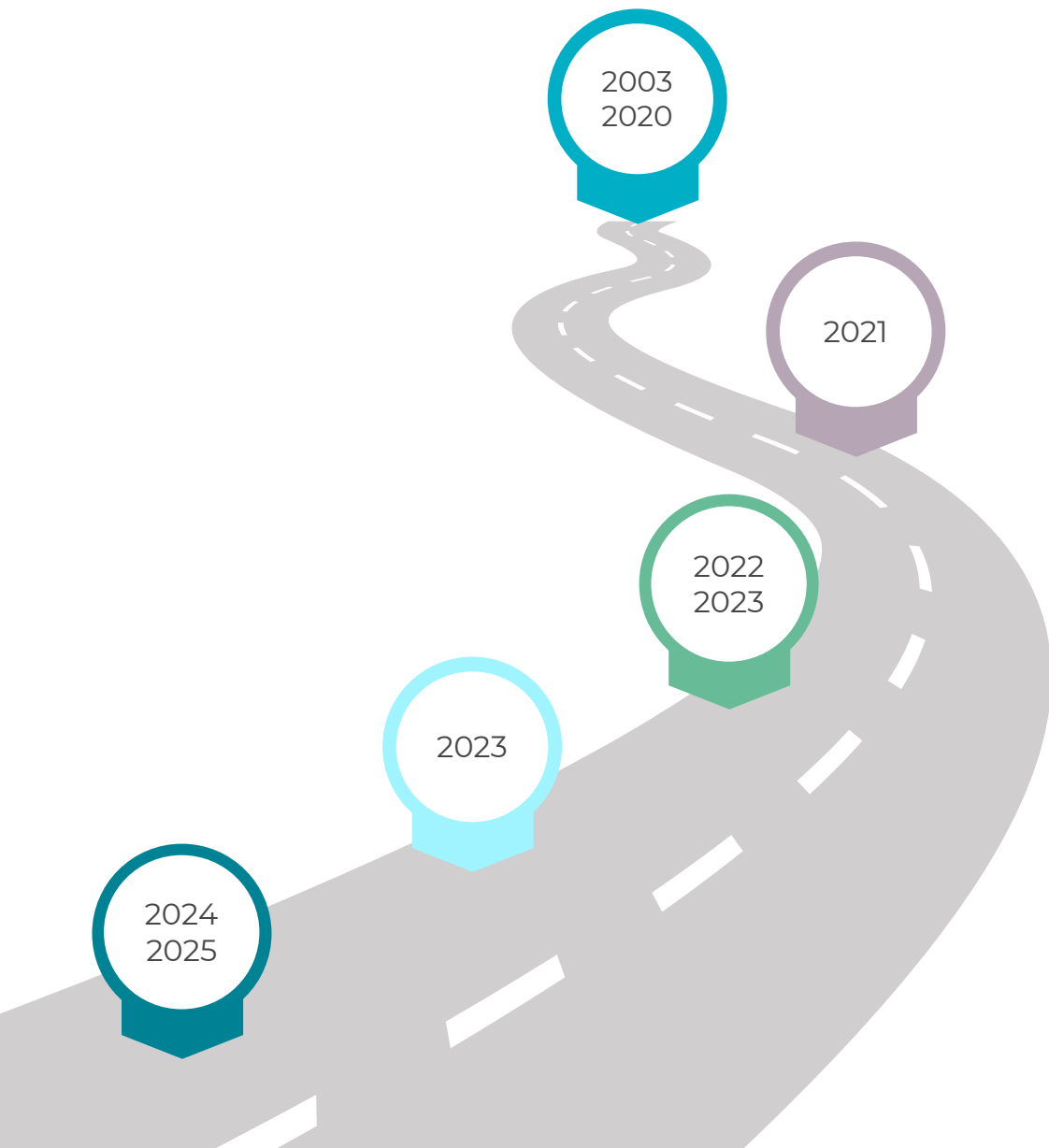
Fred White
CCO

Geologist & investor with hedge fund & impact investing background

>\$750m of investment structured & deployed

>\$190m capital raised

Our journey so far



18 years & \$20m of R+D

DES chemistry first discovered at the University of Leicester
Licensed DES chemistry IP & onboarded key academics

Invention & patenting of new technology - TRL 3

DEScycle creates DES technology using DES chemistry
Filing of DEScycle core patent

Seed round funding TRL 4-6 scale up

Scientifically de-risking all steps in the technology
Scale-up program delivered on-time and in-budget

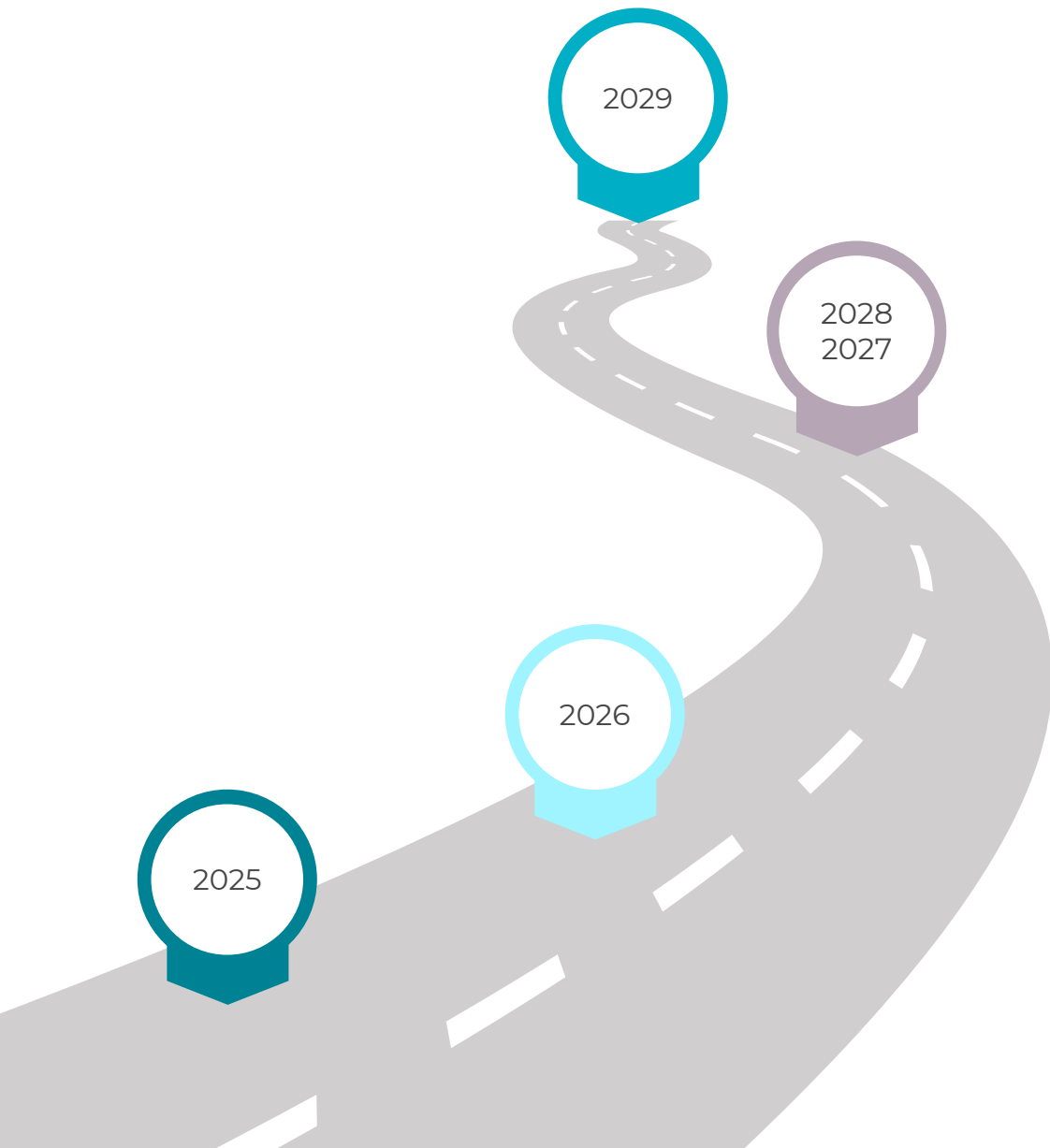
TRL 6 bench-pilot operational

Prototype operational with over 99% metal recovery rates

£11m Series A & €5m EU Grant secured

Funding secured for scaling to TRL 7 demo plant

The road ahead



Commercial operation - TRL 9

Commercial revenues commence

Commercial EPC

Engineering, Procurement and Construction for first commercial e-waste recycling plant

Series A milestones delivered

TRL 7 achieved, new TEA and LCA
Final stage-gate before commercial FID

TRL 7 demo plant

Demo plant construction starting Q4 2025 with commissioning in Q2 2026

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