

Helios Existence
Matters.

COMPANY PRESENTATION

SEPTEMBER 2025

Top Innovator by



Affiliate member of

worldsteel
ASSOCIATION

Supplier at First Suppliers Hub by



First Movers
Coalition

ORIGIN

Established in 2018 to produce Oxygen on the Moon

Developing technologies to enable the separation of oxygen from lunar minerals in extreme environments, where zero emissions are not an option but a necessity. Currently backed by DARPA

From the Moon to the Steel Industry

Derived from its space technology, Helios developed a novel process to produce iron from iron ore, requiring less energy and cost while emitting only oxygen



THE STEEL INDUSTRY

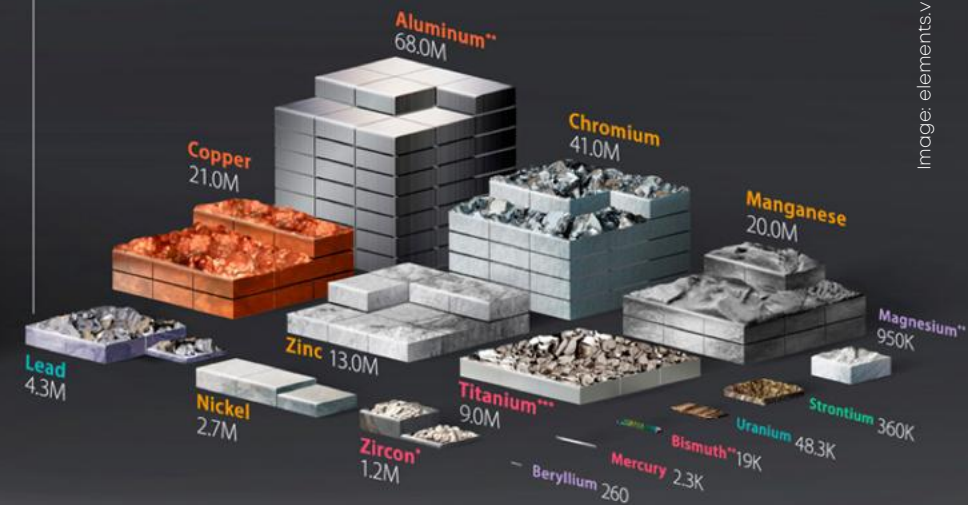
Annually:

- 1.8 billion tons of Steel
- USD 1.6 trillion
- 5% CAGR
- 2.6 Gt CO₂
(~8%-10% of global GHG emissions)



INDUSTRIAL METALS

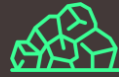
181,579,892 tonnes



THE STEEL INDUSTRY PREDICAMENT

Current steel manufacturing prefers high grade ore (>60% iron)

For future green technologies, high grade ore is a requirement



There are no high-grade ores naturally left on earth



Currently, there are no ready to deploy green solutions at scale



The world demand steel makers to stop polluting



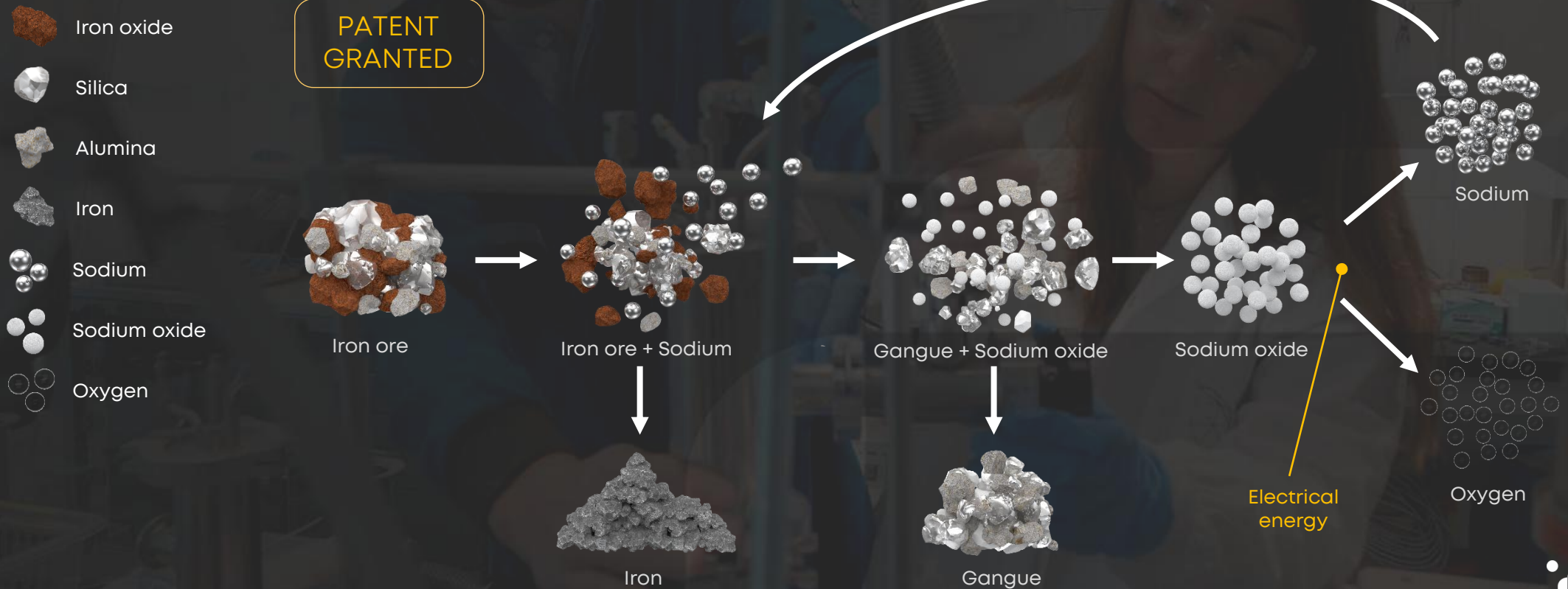
All future green solutions erodes the steel manufactures profit margins

what we do

THE HELIOS CYCLE™

About the Helios Cycle

- Using sodium as a reducing agent, replacing coal or hydrogen
- Can process low grade ore (starting from 20% Fe)
- Energy required - 3.6MWh-4MWh per ton (at 250°C to 350°C)
- Applicable to other transition metals (e.g., copper, nickel, cobalt and more)



THE PRODUCT

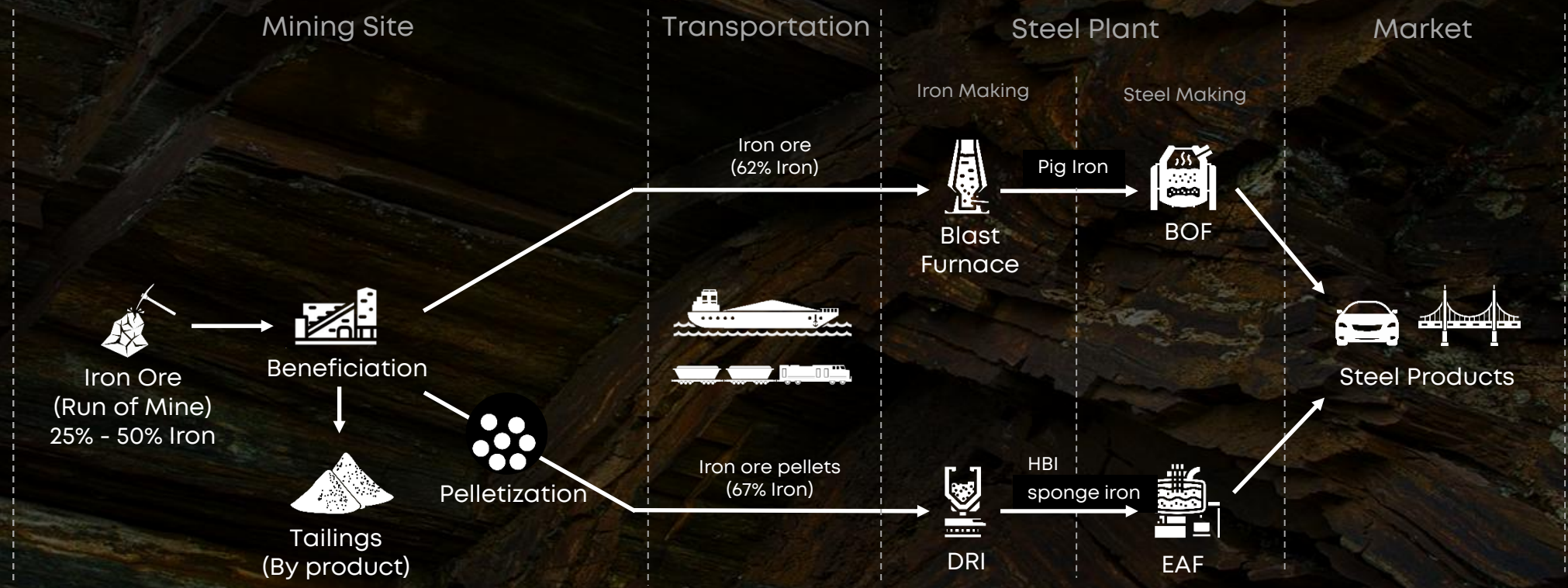


Helios Iron

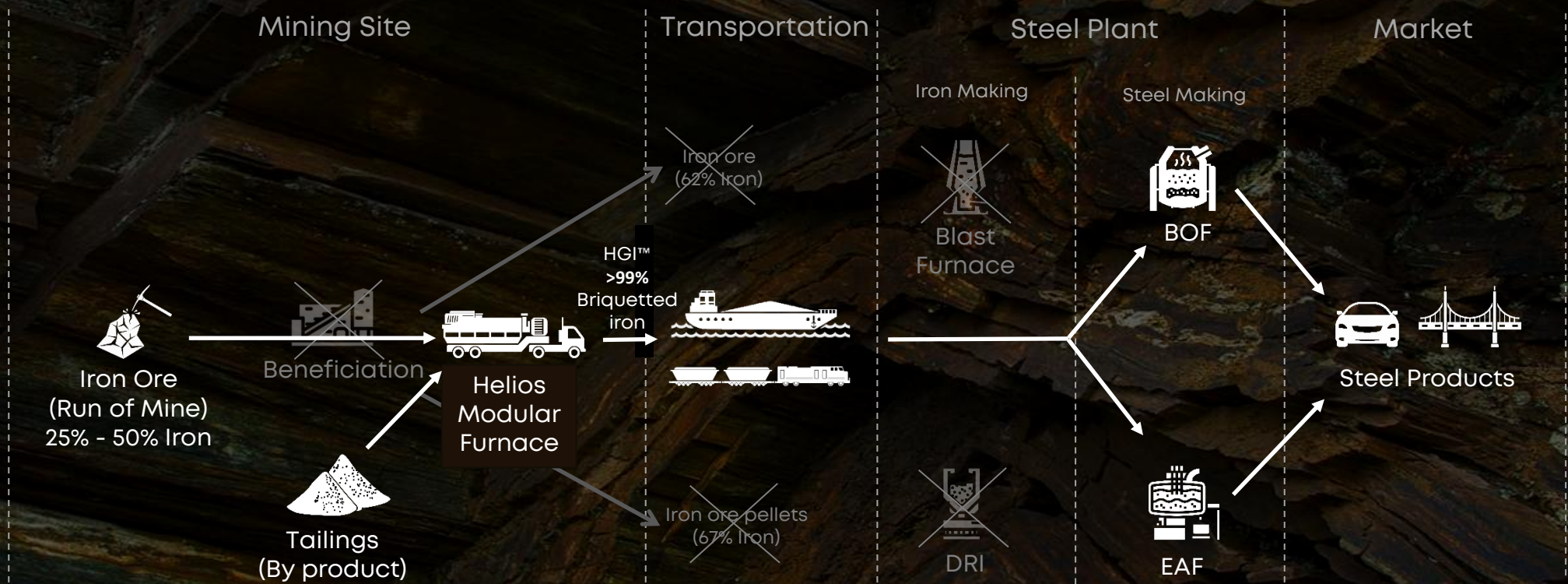


Briquetted iron, fully
compatible to EAF and
BF-BOF

STEEL PRODUCTION FLOW



STEEL PRODUCTION FLOW WITH HELIOS CYCLE™



TECHNOLOGICAL ADVANTAGES



Solves the low-grade ore problem

The Helios Cycle™ can be used with low-grade ores (20% Fe) and **tailings** which today are mostly unusable. This opens the market to cheaper ore which in turn reduces further the final cost of the iron that is being produced



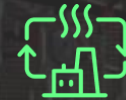
No hydrogen

Using hydrogen requires special infrastructure to be built near the plant. The production of green hydrogen dramatically increases the cost of steelmaking



No direct carbon emissions

The Helios Cycle™ emits only oxygen as a byproduct. If a renewable energy source is used, the whole process is 100% carbon emissions-free



Lower energy consumption

Current iron production methods are conducted at 1200°C to 2000°C. The Helios Cycle™ is conducted between 250°C to 350°C

COMMERCIAL ADVANTAGES



Modular furnaces

The Helios Cycle's fast kinetics allow for high production capacity in a smaller volume. This enables faster market penetration, using small and mobile furnaces



Proximity to mining sites

The mobile modular furnace approach allows for production near mines, so outgoing shipments are iron (vs. iron ore). This cuts shipping costs and emissions



Lower operational cost

Stronger unit economics due to overall lower energy consumption and lower ore grade requirements → less operational expenditure per ton of iron produced



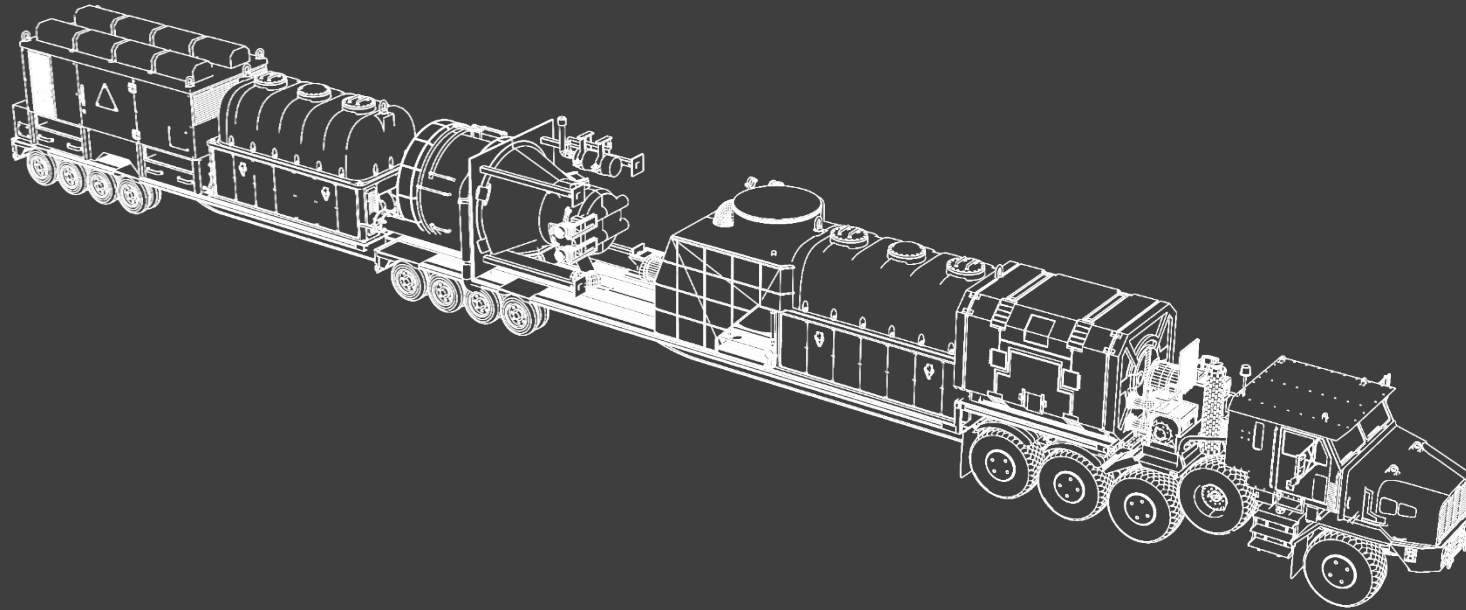
Safer than existing processes

The Helios cycle™ is safer than traditional methods that use hazardous carbon monoxide or hydrogen. Sodium as a reducing agent, is easier to handle and, despite its reactivity, reduces risks of fire, explosion, and toxic exposure, ensuring a safer production process

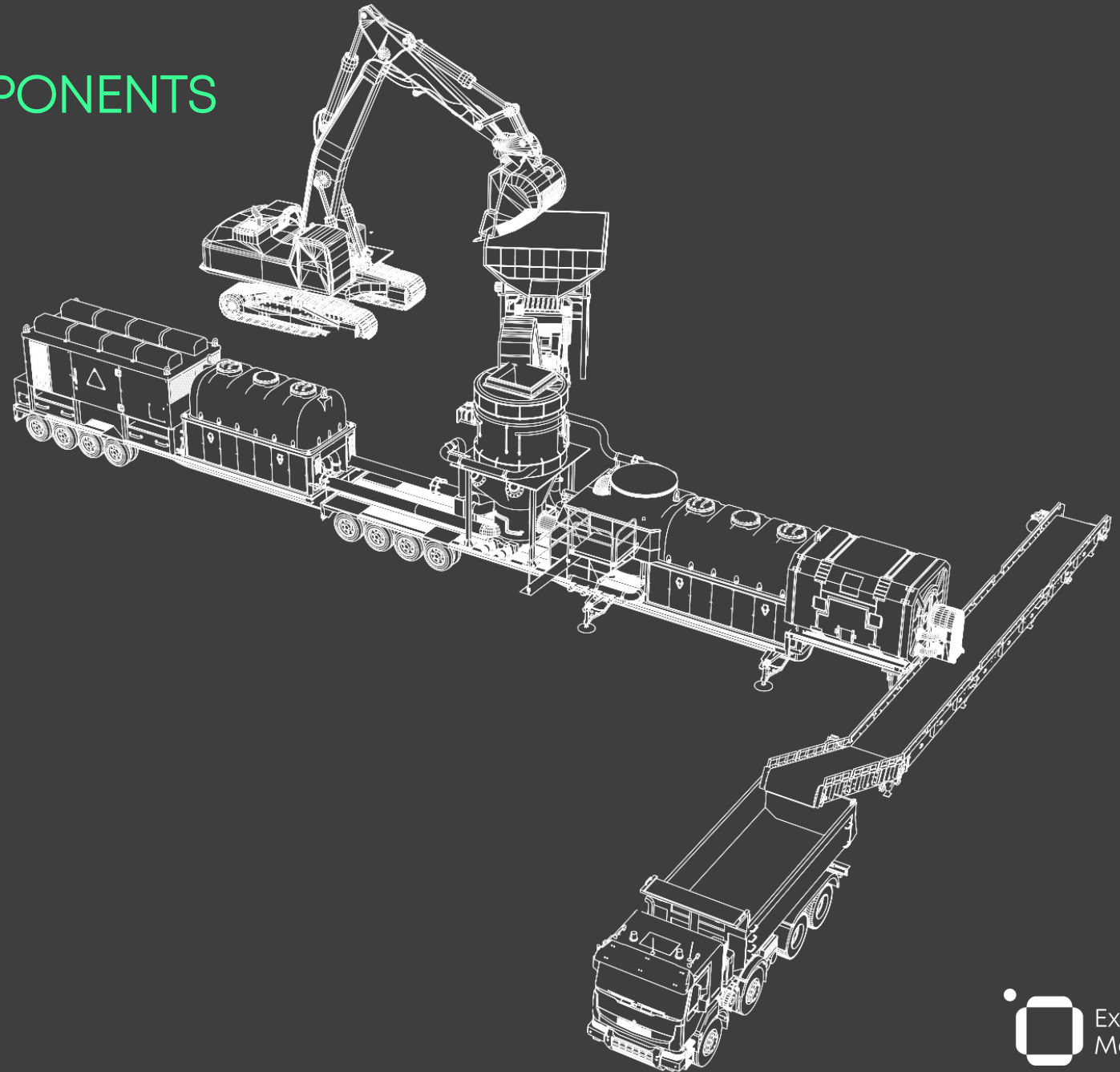
TODAY
Lab scale
20kg/day



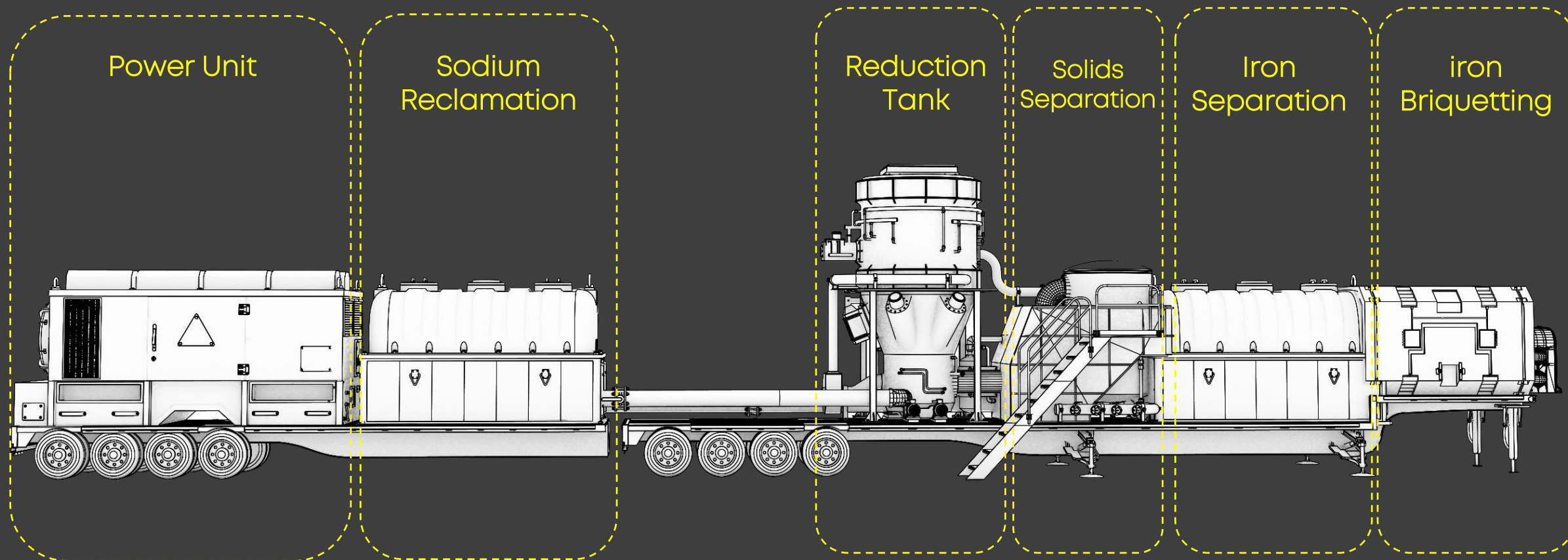
MODULAR FURNACE COMPONENTS



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MODULAR FURNACE COMPONENTS



2029
FOAK 50K t/year



2031

5 units - 250K t/year



2035

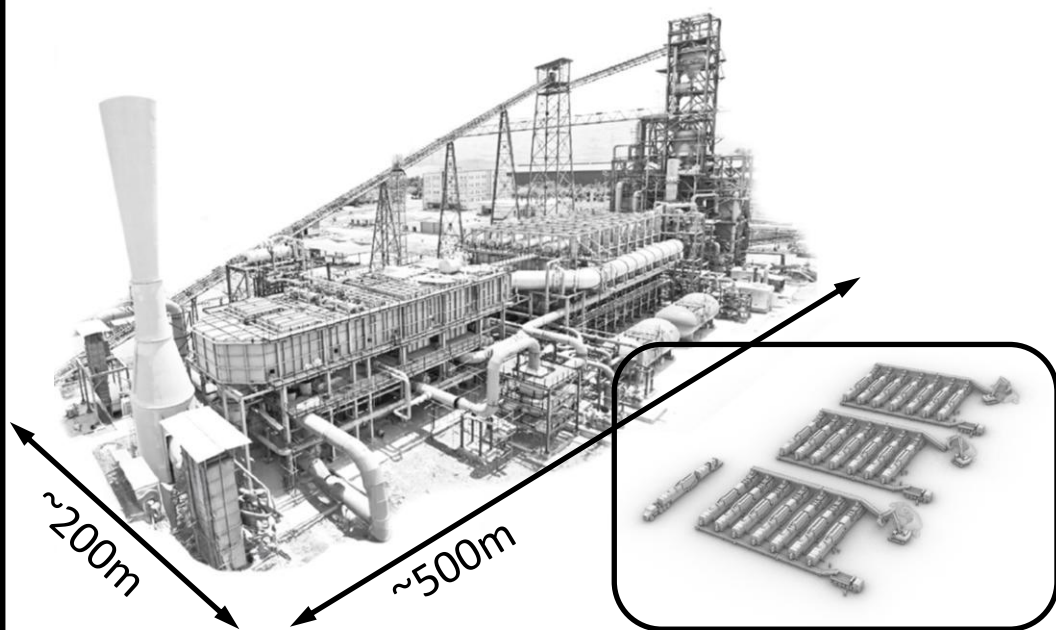
Gigafactory - 400 units/year



DRI Vs. MODULAR FURNACES

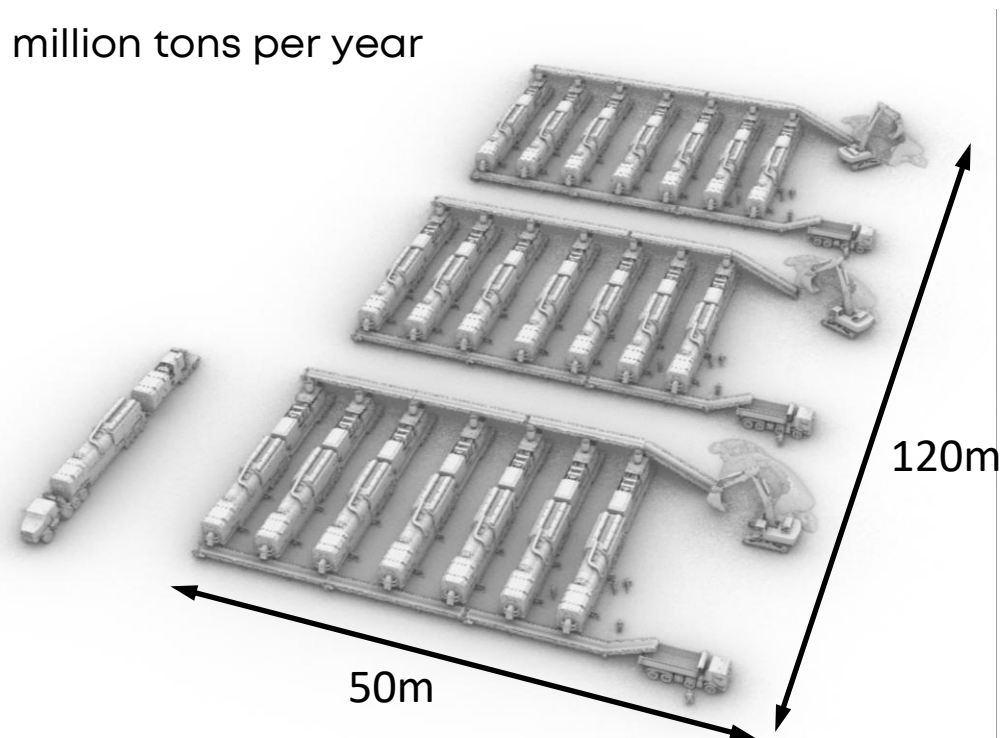
DRI Plant

1 million tons per year



20 modular furnaces

1 million tons per year

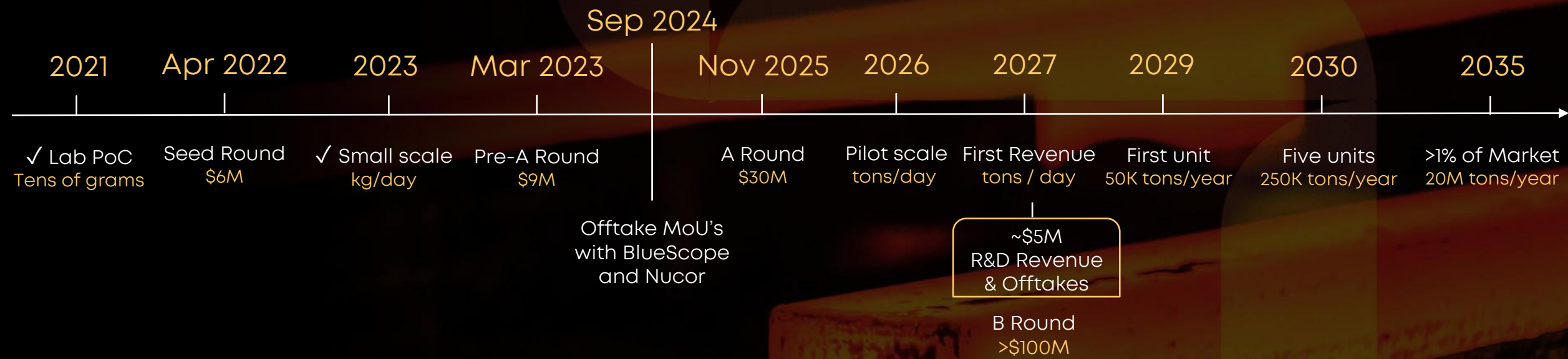


- **Fast installation: immediate modular installation Vs. 5-7 years**
- **Lower Capex per unit: \$20M per modular furnace Vs. ~\$1.5B per DRI**

TECHNOLOGY LANDSCAPE



ROADMAP



COMPANY STATUS

Company

- 32 employees, 5 PhDs, 50% women
- Located in Petah Tikva, Israel
- Member of World Steel Association
- Top Innovator by World Economic Forum
- Supplier at First Movers Coalition Supplier Hub
- Cohort member in the Third Derivative Program by the Rocky Mountain Institute

worldsteel
ASSOCIATION

WORLD
ECONOMIC
FORUM



First Movers
Coalition

THIRD ³
DERIVATIVE™

LEADERSHIP



Jonathan
Geifman
CEO



Bat-Chen
Herchkovich
COO/CBO



Meirav Horn
CFO



Dr. Linoam
Eliad
CTO



Dr. Yossef
Gofer
Chief Scientist



Dr. Hani Faran
VP R&D



Kelsey Ocasio-
Christian
US Lead



ADVISORY BOARD



Sir Mick Davis
Business Strategy
Government
Relations

Former CEO at
Xstrata (today's
Glencore)



Sunny Shah
Financial Strategy

Former head of
Mining and Metals
EMEA at Goldman
Sachs



William Larson
Space Resources

Former head of In-
Situ Resource
Utilization at NASA



Kelsey Emms
Offtake Agreements
and Project Financing

Former VP Legal
Affairs – Project
Financing at H2 Green
Steel



Dr. Howard Pielet
Ironmaking

57 years
experience at
ArcelorMittal



Barry Perlmutter
Process scaleup

40 years
experience in
process scale up
and materials
separation



Dr. James Lattner
Process scaleup

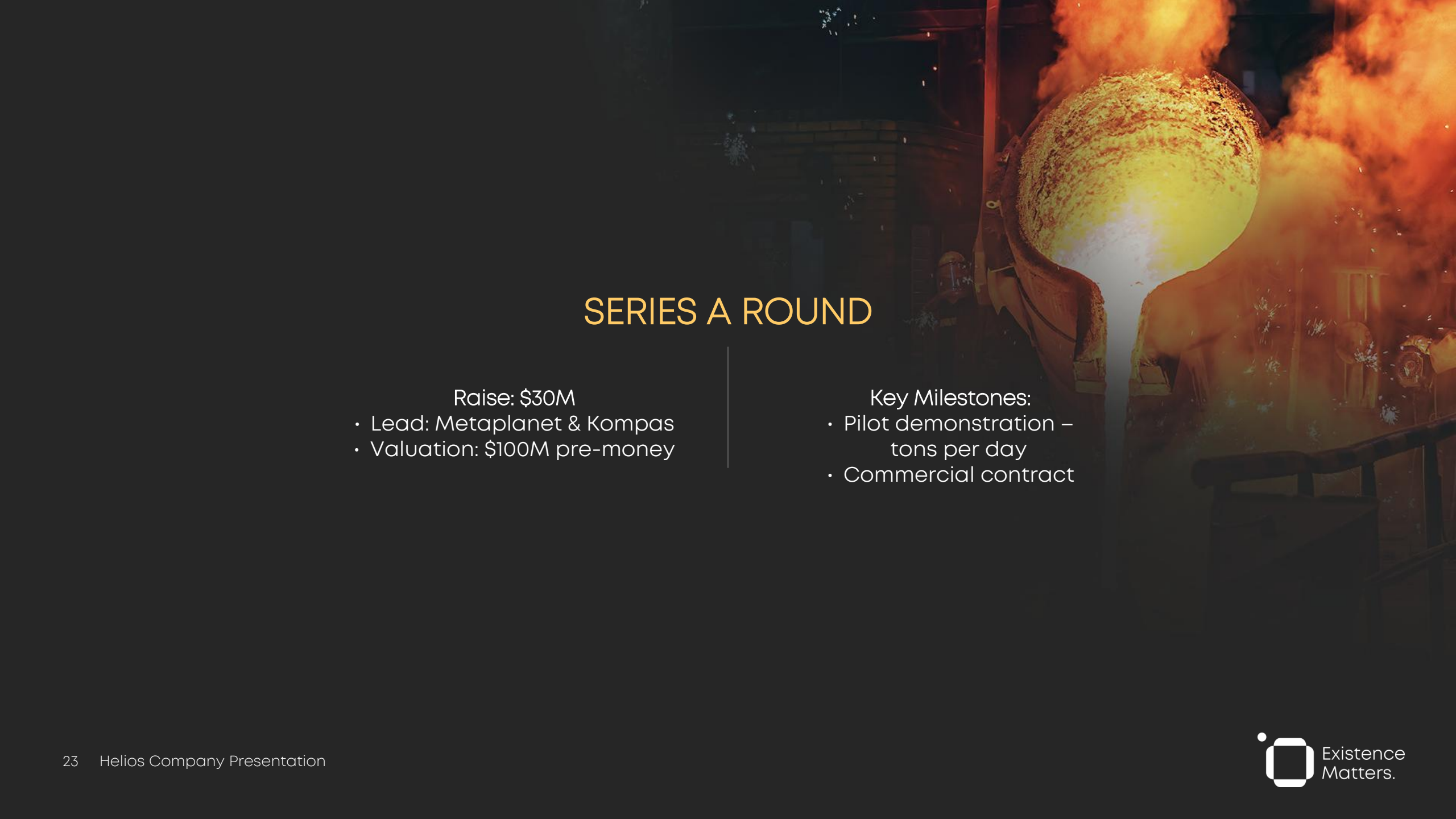
Former Chief
Engineer at
ExxonMobil
Chemicals



Jill Cooper
Steelmaking and
refractories

35 years experience
in steelmaking





SERIES A ROUND

Raise: \$30M

- Lead: Metaplanet & Kompas
- Valuation: \$100M pre-money

Key Milestones:

- Pilot demonstration – tons per day
- Commercial contract

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THANK YOU.
YOUR ATTENTION
MATTERS

