

# THE FUTURE OF INDUSTRIAL HEATING

A platform technology improving foundational manufacturing processes

# Fossil-based heating is incompatible with the future 40% of manufacturing emissions come from process heating

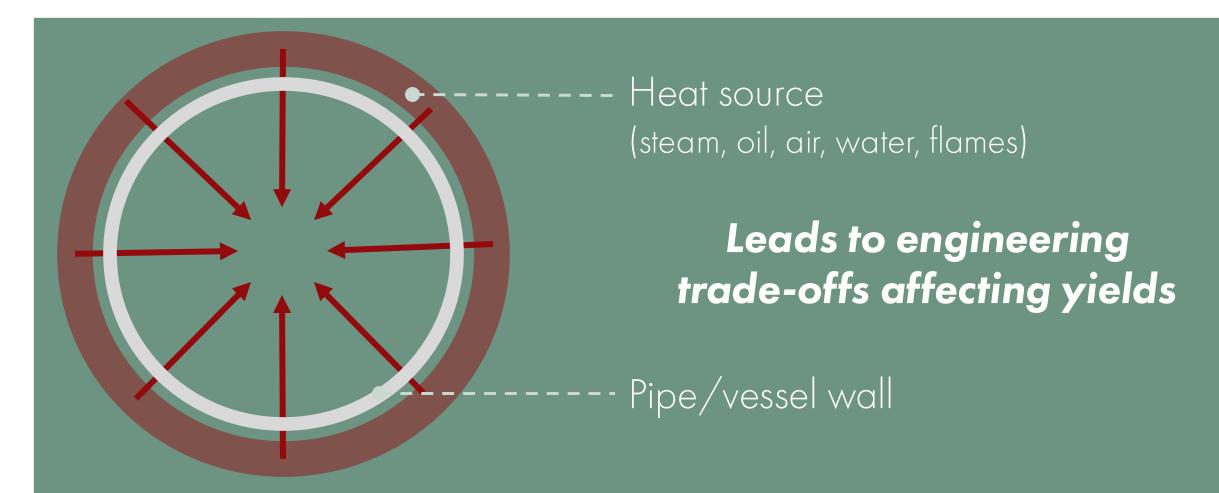
9% of global energy consumption

# **43 Gt** contribution to CO<sub>2</sub>e emissions through 2050

# \$13+ billion untapped productivity

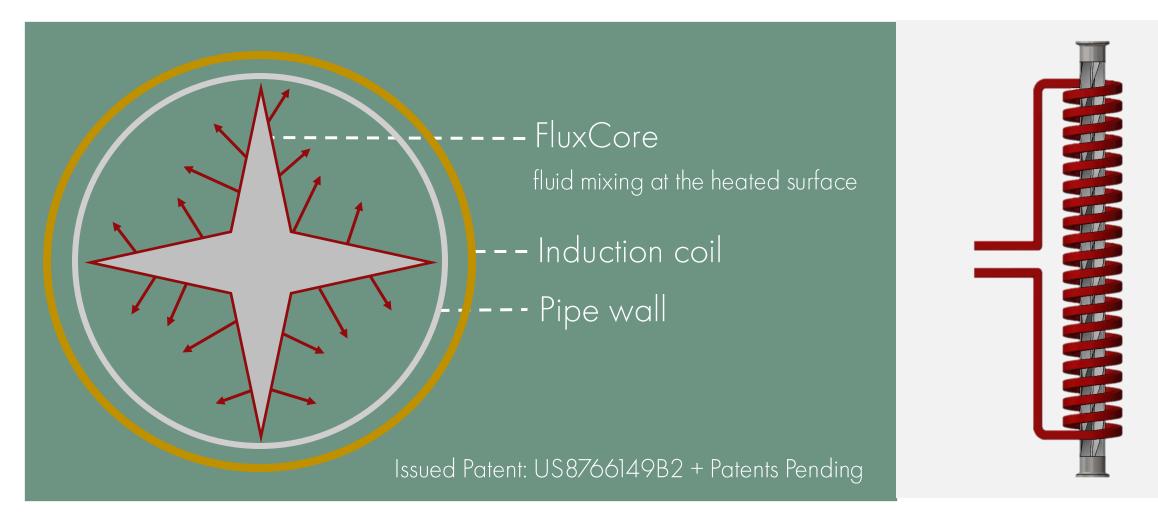


# Fossil-powered: overheat a hot wall to heat the fluid





# Solved with 'middle-out' heating





# High performance process heating

Food | Chemical | Fuel | Pharma | Pulp & Paper | Cement



#### IP developed with \$3M in NASA & USDA grants



## Traction

#### **Equipment Installations**









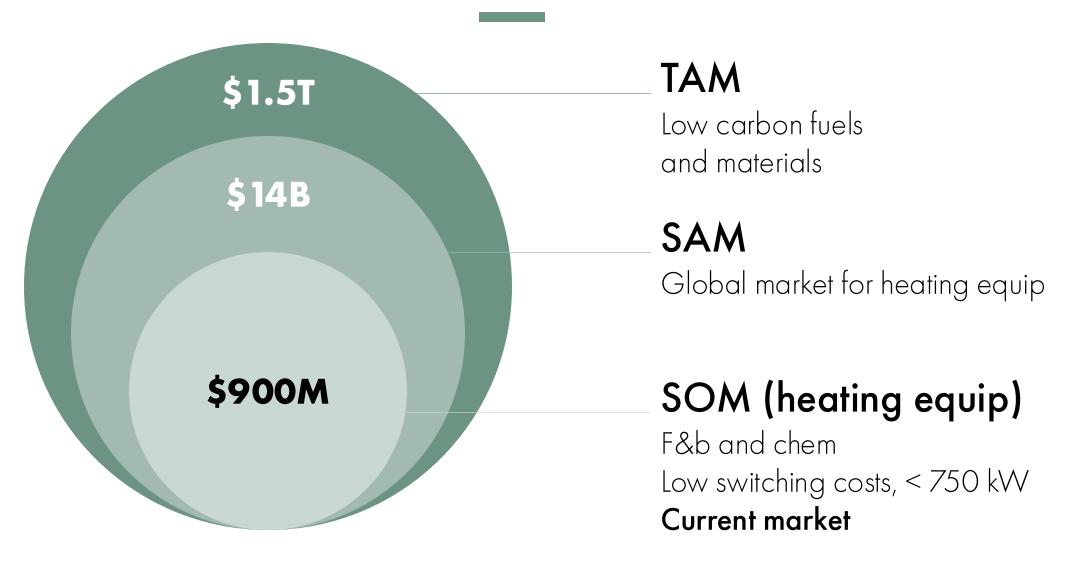
#### **Sales Partnerships**







## Large & foundational market





## Team



Francesco Aimone CEO Techstars founder



George Sadler, PhD

Chief Scientist 35+ years f&b, Purdue-Food Chemistry



#### Steven Giunta

Controls Engineer 8+ years experience Army Veteran



#### **Thomas Kenner**

Sr. Equipment Engineer

20+ years experience equipment design & maint



#### **Nishan Jain, PhD** CFD Modelling

10 years+ aerospace/DoD U Maryland-Engineering



# High-speed beverage – 80% faster warm-up

# Bolt-on +8% total efficiency Image: State of the sta



# Electric industrial heating competition

	IFS	Atmos (Elec boilers)	C-Tech (Ohmic)	Malachite (Microwave)
Thermal efficiency		X		X
Energy cost			X	X
Versatility			X	X
Improved OEE		X	X	

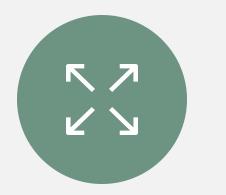


## GTM – Pilot Scale Solutions



**Pilot testing** 

- 1<sup>st</sup> step with enterprise customers
- Paid projects, cash flow



**Innovation Networks** 

- RAPID, EPIXC
- Foodbytes (Rabobank)
- Networking

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#### Testbeds

- Research partners' facilities, customer R&D centers
- Application development
- Drives top of funnel + IP



## Growth via production partnerships



- Pilot-scale outputs (30kW)
- Product = capex purchase
- OEM & licensing partners



Small-scale production w/ partners (Seed)

- Small commercial (300kW)
- Ag inputs supply chain
- Waste management

Scaled production w/ partners (Series A)

- Industrial scale (3mW)
- Toll processing
- CCUS / technical carbons





## Make decarbonizing profitable





# We can't reach tomorrow's goals with last century's tools

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