

Sublime Systems

Series B



Many industries have experienced radical technological leaps that enable better quality products



Steel

Blas Furnace to EAF, DRI



Construction

High rises



Agriculture

Robotics



Software

From word processors to artificial intelligence



Automaking

Manual -> Robotics



Electronics

Analog to digital

Life in 1924

Ordinary Portland Cement was a breakthrough for 1924



Invented by Joseph Aspdin

A.D. 182

Aspdin's Improvements in the

My method of making a cement waterworks, cisterns, or any other; which I call Portland cement) is limestone, such as that generally u take it from the roads after it is cannot procure a sufficient quantity limestone itself, and I cause the pue may be, to be calcined. I then ta

may be, to be exceeded. Under the control of the co

In witness whereof, I, the said Joseph Aspdin, have hereunto set my 20 hand and seal, this Fifteenth day of December, in the year of our Lord One thousand eight hundred and twenty-four.

JOSEPH (Ls.) ASPDIN.

Named "Portland" because it resembled Portland stone, a high-quality building material used in England



Made by grinding clinker and mixing it with gypsum, then heating it in a kiln



Used in concrete, mortar, and stucco, making it a foundational material for infrastructure









But cement production hasn't fundamentally changed for 200 years / has missed out on recent technology leaps in energy production, electrochemistry, etc

Loreum Ipsum

The process is inefficient and dirty



Wasteful



Wastes energy



Wastes resources (half of limestone goes into air as pollution.



Kiln is heated to temps hotter than an active volcano.



Loreum Ipsum

The product – Ordinary Portland Cement – has fundamentally issues because of how it's made

Dirty





Health impacts

- Asthma lung tissue damage
- Cardiovascular disease
- And more...

Inconsistent



Combustion based production infuses ash, soot, limestone impurities

Durability Issues



Excess lime and chemical make up of OPC make it susceptible to sulfate attack, carbonation, reduced strength and over time

Pollutants

- Nox
- Sox
- Carbon monoxide
- Particulate matter
- Lead
- Mercury



Sub-heading

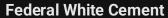
Sublime Breakthrough: a better cement ... Cleaning up the production cleans up the product

Sublime Cement

- Durable alkali-silica reaction, sulfate attack, chloride permeability, and rebar corrosion
- More consistent / less cement can be used in concrete
- Has inherently premium qualities; lower density, lighter color

Sublime Cement is V2 and V1





L: 91.93 A: -1.00 B: 4.69



rt | |

L: 78.94 A: -0.68 B: 4.6<u>6</u>

V2



V3

L: 74.12 A: -0.52 B: 6.17



OPC

L: 55.51 A: 0.48 B: 10.82

