An Introduction to EcoMachines Incubator

Accelerating Advanced Engineering Startups

To: London Cleantech Cluster

ILIAN ILIEV (CEO)

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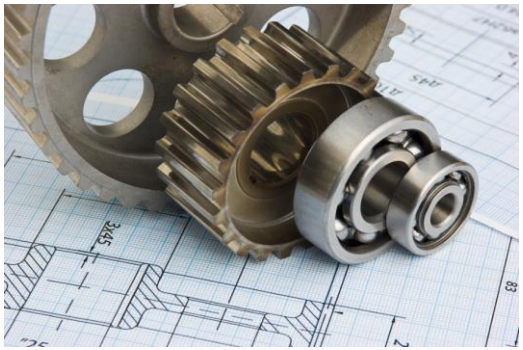
About EcoMachines Incubator

EcoMachines Incubator invests in and accelerates the growth of promising startups in high-value manufacturing and advanced engineering

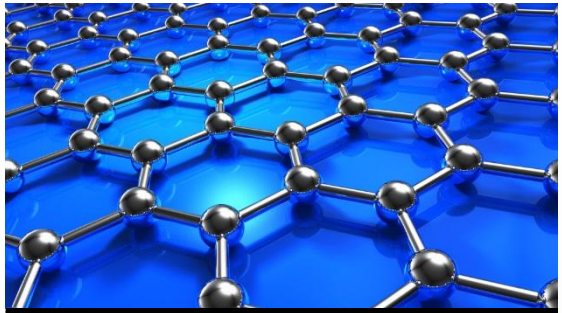


We support the London energy and cleantech cluster by:

- Addressing the funding gap for early-stage hardware companies
- Attracting to London exciting, high-growth companies
- Helping entrepreneurs scale their business – through funding, mentoring, networks
- Engaging with relevant London communities (architecture, engineering, smart cities, project finance...)

Sectors of Interest

Smart City

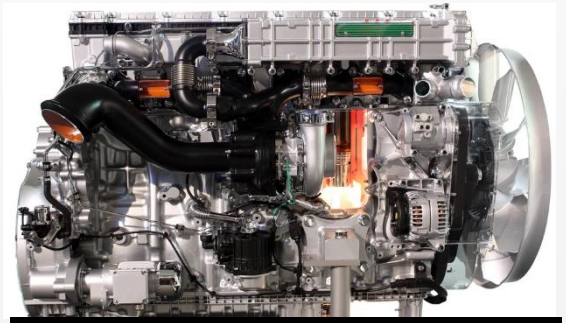


Materials

Power generation

Energy efficiency

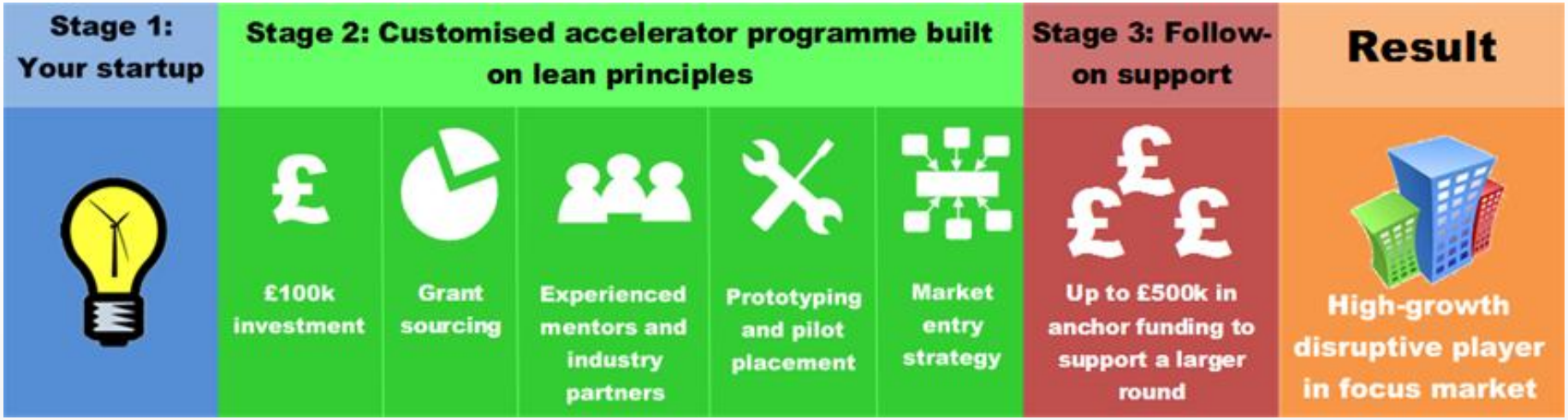
Water



Transport

EcoMachines Incubator's process

- We help entrepreneurs to **transform their business** from a startup with a proof-of-concept technology into a **high-growth, investable company**;
- Our **9-month Accelerator programme** *specifically designed* for hardware & advanced engineering startups;



EcoMachines provides:

- **seed funding of up to £100,000** helping startups access grant funding and other investment
- access to **a truly global industrial and investor network** – including in key emerging economies;
- intensive mentoring in **core business areas;**
- access to our partners' **specialised software, equipment and workshop facilities**

Selection Criteria

We are flexible in our expectations for the level of maturity of the business and technology. There are several broad selection criteria

Strong and committed team:
- Successful teams must contain a range of expertise
- Key team members must be working on the startup on a full-time basis
- Willingness to change business model... repeatedly!

Exciting technology or product:
- The technology should be at least at a proof-of-concept level
- We are interested in disruptive innovations, rather than incremental innovation
- Patents or patent pipeline

Market focus:
- We favour technologies or products with multiple possible market applications.
- We are interested in businesses that are scalable at reasonable capital cost

Credible exit scenarios:
- Can you demonstrate a credible exit scenario showing a) possible buyers of the company if you're successful and b) what the drivers of an acquisition would be?

Technology maturity and type:
- At least at Proof of Concept level (TRL 3+)
- Software and connectivity plays an increasingly important role in hardware innovation – so we'll look at software-enabled hardware too

Grant co-funding potential:
- We are particularly interested in companies that have been awarded or are awaiting results of a grant application
- Use our equity as leverage for more applications!

Management Team

Ilian Iliev
CEO and Founder

Oleg Evdokimenko
Founder Director

Alexei Krenke
Director

Oksana Hilinskaya
Investment Relations

Robert Snellgrove
Analyst

Peter Feulner
Leader of Technology, Innovation and Strategy at Ricardo Germany

Igor Turevsky
Ex-Global Sales and Busdev Director of Alstom Network Management

Laurence John
VC and investor; ex-CEO of Amadeus Capital's Seed Funds

Professor Nelson Philips
Chair in Strategy and Organisational Behaviour at the Imperial College Business School

Mentors

Mike Barlow

Former head of intellectual property at BP; Founder and owner of Fairoaks IP

Billy Boyle

Co-founder and President, Operations at Owlstone Nanotech

Robert Brady

Founder and Non-Executive Director of Brady plc

Peter Feulner

Leader of Technology, Innovation and Strategy at Ricardo Germany

Simon Hombersley

CEO of Puntios, which creates and finances technology spin-outs from industry.

Laurence John

VC and investor; ex-CEO of Amadeus Capital's Seed Funds

Mahdi Kazemzadeh

Energy Policy Advisor , Energy Technologies Institute (ETI)

Alan MacDougall

European Patent Attorney, Partner at Mathys & Squire

Hristo Mitchkovski

Director at Fidem Partners

Hugh Parnell

Chairman of Cambridge Cleantech

Sir Eric Peacock

Business change and growth leader

Professor Nelson Philips

Chair in Strategy and Organisational Behaviour at the Imperial College Business School

Nick Rodgers

Founder Director at Productiv; Chairman at Oxford BioMedica

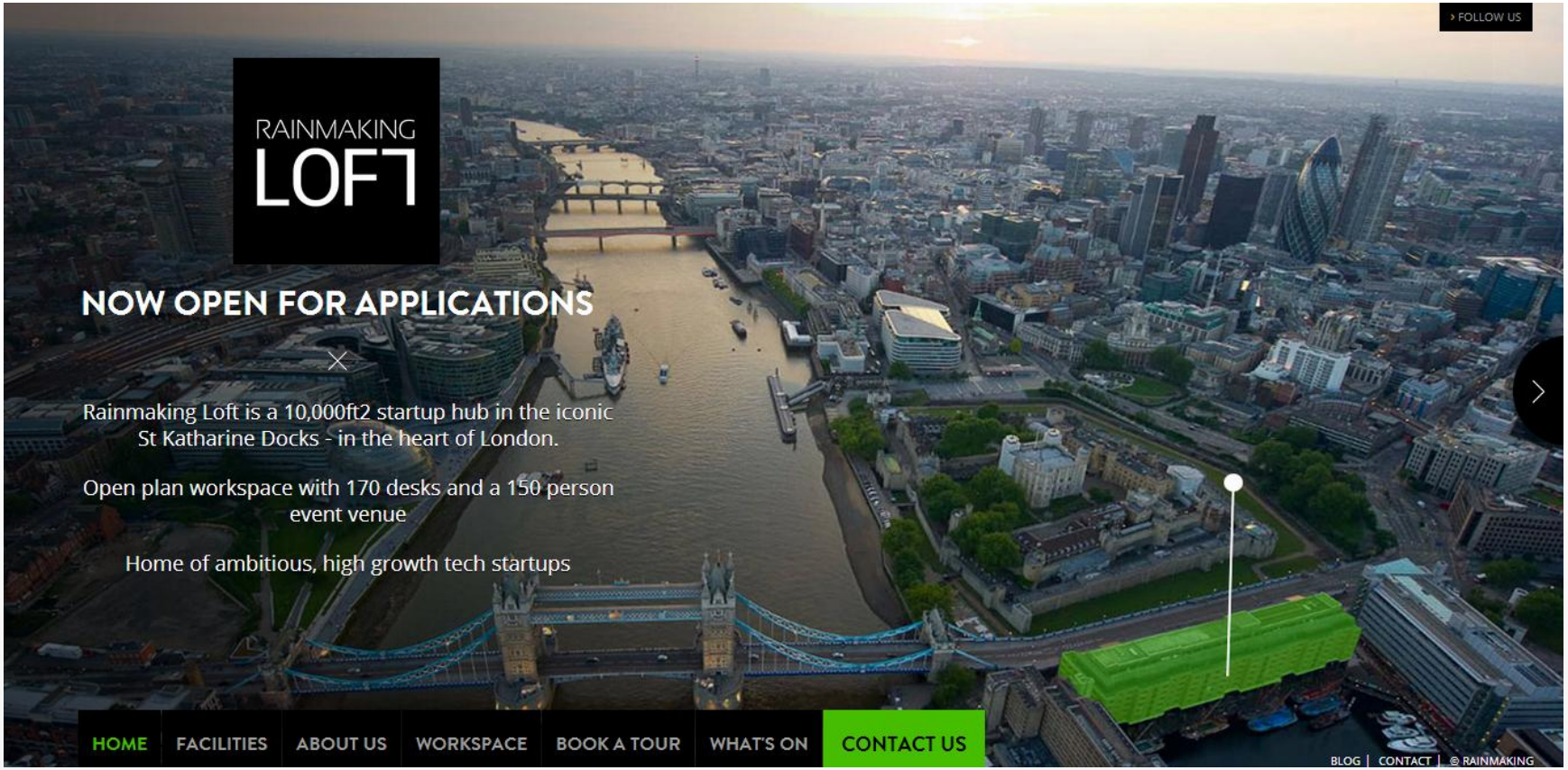
John Rowland

Managing Partner and Co-Founder of White Lake Strategic Advisory Group

Igor Turevsky

former Global Sales and Business Development Director of Alstom Network Management

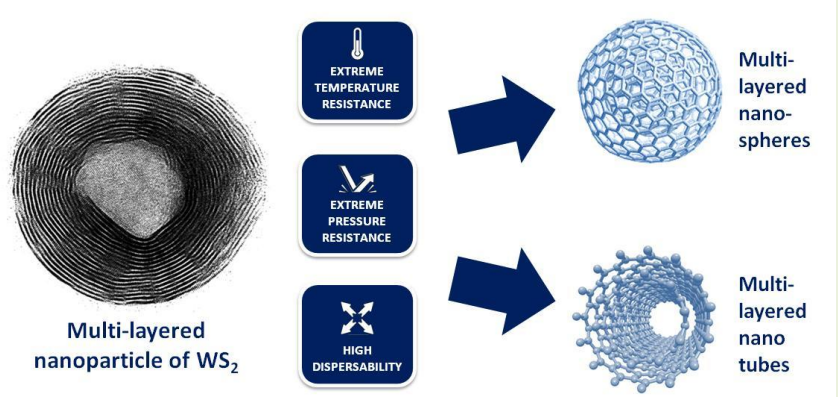
Operating out of Central London...



Our London location enables access to world leading universities, investors, corporate HQs, trade exhibitions, industry experts...
...proximity to other UK high-tech cluster...
...connectivity to EU, US and key emerging economies

Our investments thus far....

NIS NANOTECH INDUSTRIAL SOLUTIONS
ENGINEERING A STRONGER TOMORROW



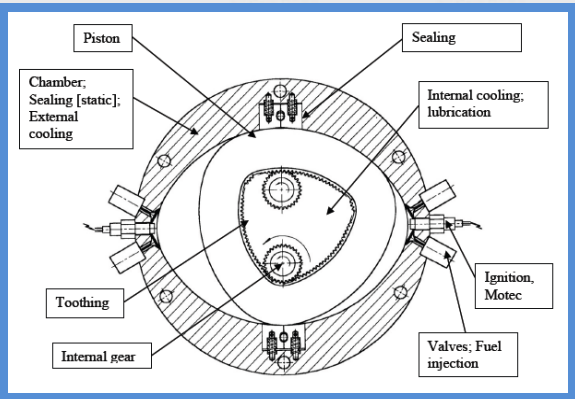
NIS:

Globally unique technology in the tribology/lubricants space

Based on technology from Weizmann Institute

Tungsten Disulfide fullerene particles. This enables a step-change in the performance of lubricant and grease additives.

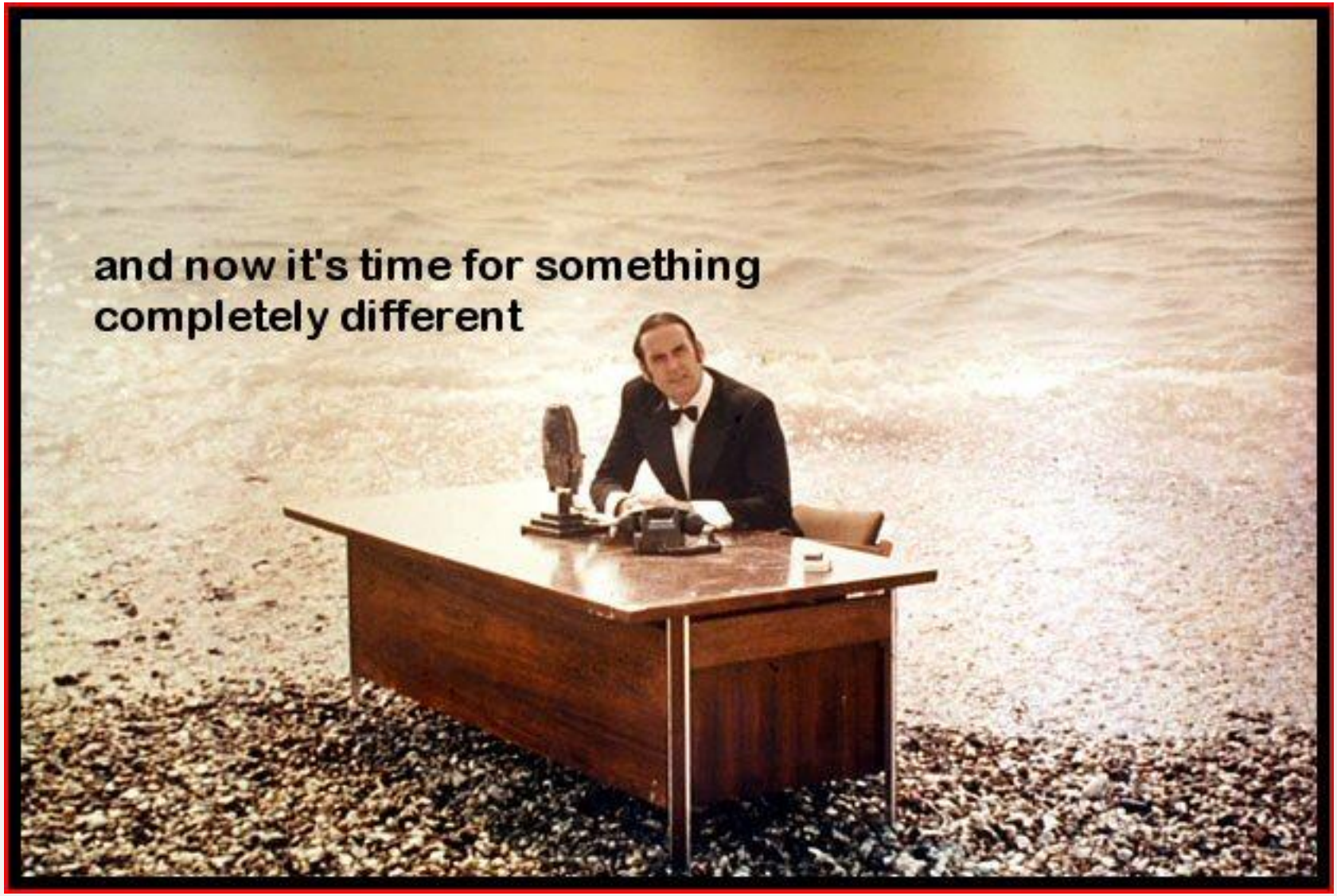
Rotary EcoMachines



Rotary EcoMachines:

Rotary EcoMachines is developing a family of innovative rotary combustion engines with a jumping axis geometry.

Its first product - EcoPulse - is a compact, light-weight and highly efficient engine aimed at the hybrid and electric car market as a range extender. .



Why the Accelerator approach

The Accelerator programme is a company's entry point into our Incubator

EcoMachines is the 1st hardware focused Accelerator in the UK. There are others in the Netherlands, Boston, San Francisco... Building on the success of the likes of Y-Combinator, TechStars, 500 Startups in the Web 2.0/Digital space

Common to all Accelerators is:

- a structured approach of equity investment + Accelerator programme
- Prepare the company for a follow-on/Series A funding round
- Key role of mentors and partners in accelerating growth
- Use of Lean-type strategy - change of business model is encouraged
- A 2-6 month period of intense focus on company, then followed by lower engagement

EcoMachines Incubator's Accelerator programme - USPs

- Focus on specific verticals
- Customize one-on-one Accelerator programme design
- Currently the largest in terms of level of funding
- Unique in providing an anchor funding of up to £500k
- Validated ability to syndicate £8mln+ round (e.g. NIS/ApNano)

The EcoMachines Approach 1

What is a startup for us?

A **startup is an organization formed to** search for a **repeatable and scalable business model** (2010, Steve Blank)

A **startup is a human institution** designed to **deliver a new product or service under conditions of extreme uncertainty**
(2010, Eric Ries)

A startup is most of all a business experiment

EcoMachines' Accelerator programme aims to:

Provide you with the resources and guidance to design and conduct the business experiment...

...in order to help you build a validated investment proposition...

...And get the funding required to scale your model

The EcoMachines approach 2

EcoMachines Incubator Ltd

What is the Lean Startup method ?

The Lean Startup approach has been tremendously influential as an entrepreneurial approach for Web/software companies...

....Which has seen the bulk of VC investment in recent years...

...So hardware companies should be curious!

The key principles of Lean Startup:

Startups can shorten their product development cycles by adopting a combination of business-hypothesis-driven experimentation, iterative product releases, and "validated learning".

This can help reduce the market risks and sidestep the need for large amounts of initial project funding and expensive product launches and failures

Source: Eric Ries, The Lean Startup; HBR (2013) ***"Why the Lean Start-Up Changes Everything"***

Key elements of Lean Startup :

- Minimum Viable Product
- Continuous deployment
- Split testing
- Actionable metrics
- Pivot

But... Is Lean Startup appropriate for Hardware?

The EcoMachines approach 2

Is Lean Startup applicable to hardware?

Hardware is ‘tricky’... And B2B is different from B2C

Here are some ideas on how Lean Startup translates into the hardware B2B space

Lean Startup – key elements	Hardware implications	Solutions
Minimum Viable Product	It takes more investment and time to build an MVP for hardware	•Virtual prototyping •Rapid prototyping & additive manufacturing •Scenario testing with clients •Industry partnerships •Low-cost prototyping
Continuous deployment	It takes more time and ££ to do iterations on hardware prototypes	
Split testing	Its more expensive to build hardware prototypes	
Actionable metrics	Different type of metrics for hardware and B2B	Use deep sector expertise to identify relevant metrics
Pivot	More expensive	Do market-product fit testing earlier on

Food for thought?

EcoMachines Incubator Ltd.

Rainmaking Loft, International House
1 St Katharine's Way, London, E1W 1UN
(m) +44 (0)77 863 73965
(t) +44 207 1939 041
(e) ilian.iliev@ecomachinesincubator.com
(w): www.ecomachinesincubator.com
@ilian_p_iliev
@EcoMachinesUK

Company Reg. Number 8357617