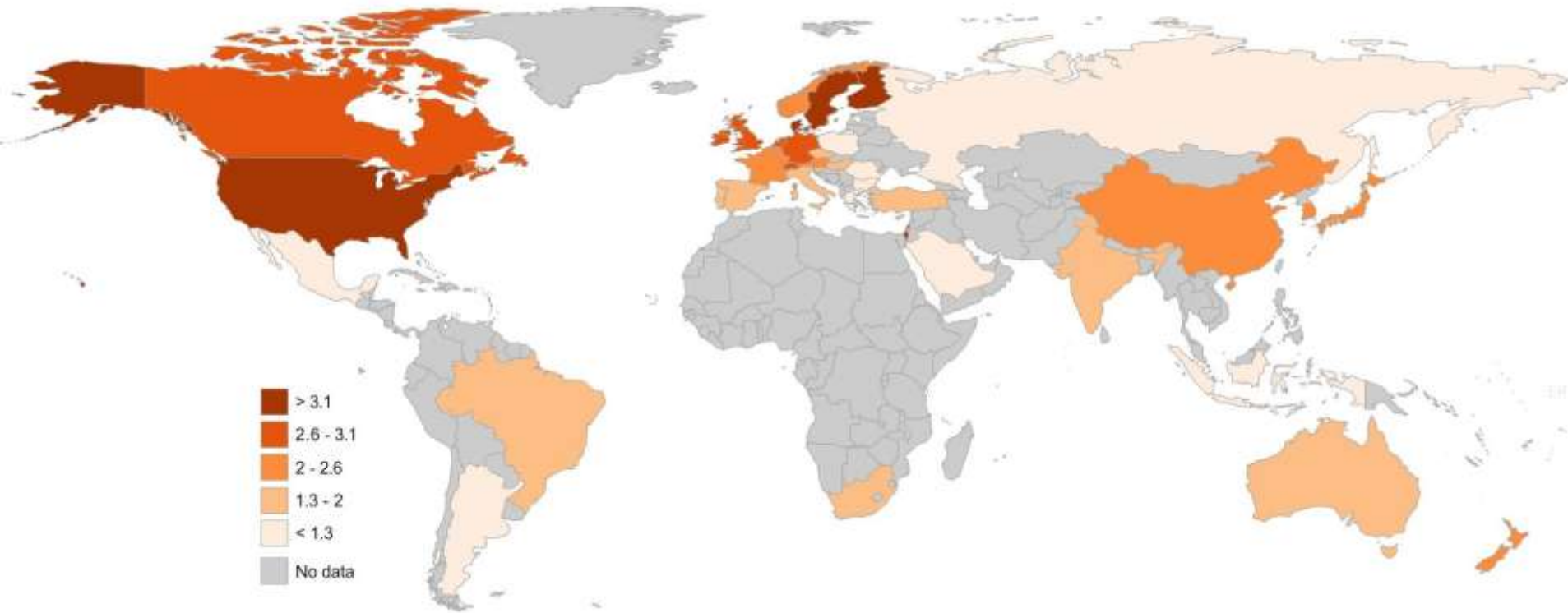


# Connecting Global Cleantech Innovation

**Richard Youngman**  
**Managing Director, Europe & Asia**

# There is a whole world of sustainable innovation to connect with



*2014 edition of the Global Cleantech Innovation Index - to be formally released in June 2014.*

# Cleantech Group connects corporations and investors with sustainable innovation: online, via i3 Connect

Welcome to  The definitive tool to find and connect with innovation.



ABB wants to connect to outstanding entrepreneurs with innovations in industrial robots, industrial efficiency, predictive maintenance, and cyber security. If this sounds like your company, apply before May 18th

[Apply!](#)



GDF Suez is looking to partner with innovators to create the city of tomorrow. If you have a new technology or service model related to sustainable mobility, connected cities, smart buildings, or efficient gas, electricity and data infrastructure solutions, apply before June 23rd

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GM Ventures wants to connect with outstanding entrepreneurs focused on advanced materials for vehicles, telematics, infotainment systems, and autonomous/semi-autonomous driving. If this sounds like your company, apply before June 23rd

[Apply!](#)

i3 is a data product that provides insights into companies, investors and markets across 18 sectors in resource innovation



# Cleantech Group connects corporations and investors with sustainable innovation: one-to-one, via Advisory Services

## Our clients

We work with industry leaders and emerging players seizing market share.

					
 <p>Cleantech Group is a key strategic partner for HP. We have used the Cleantech Forum to launch our solutions as well as bring together executives and thought-leaders in Oil &amp; Gas, Utilities, Energy Efficiency, and Sustainability. — Kash Kapadia, Worldwide Director, Energy, Utilities, Sustainability, HP</p>					
					
		 <p>i3 enables me to further vet companies we are considering for joint-development, licensing partnerships, or minority equity investments: the data on financing, management teams, and relationships is particularly useful. Helpful too are the sector-specific webinars and reports put out by Cleantech's research and advisory team. — Michael Mahoney, Ph.D. / Manager, North America, Saint-Gobain External Venturing</p>			
					

# Cleantech Group connects corporations and investors with sustainable innovation: offline, via Events



# The Next 10 Years: Some Ideas of What to Watch Out For



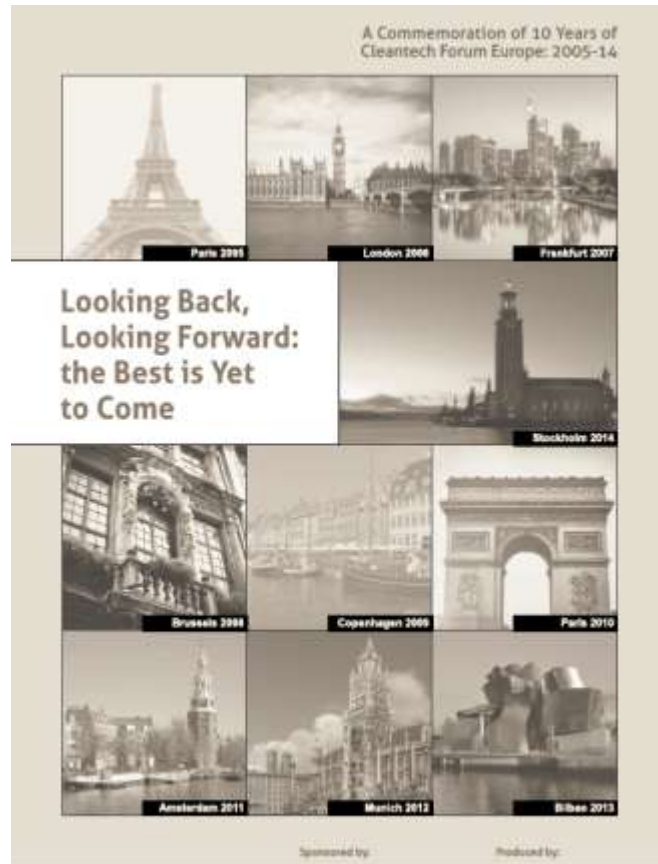
# Looking Back, Looking Forward: the Best is Yet to Come

## Nor is the Asian Story Just About China and Japan

We should also not leave you with the impression that it will be all about China and Japan. Korean industrials are clearly on the open innovation path, and they have been active acquirers of cleantech businesses. Equally, we have seen large corporations from India, Indonesia, and Malaysia active in the creation of relationships with western technology firms.

### SIGNALS FROM

- In 2012, **LanzaTech** and **Petronas** announced that they will work together to accelerate the development and commercialization of technologies to produce sustainable chemicals from carbon dioxide (CO<sub>2</sub>) and natural gas.
- In 2012, **Intelligent Energy** and **Indian Oil** signed a Statement of Intent to initiate demonstration projects and to work together to develop the use of hydrogen in a range of fuel cell power systems in the Indian market. Intelligent Energy recently (April 2014) received \$63m of investment from GIC, Singapore's sovereign wealth fund.
- In March 2013, **Celanese** signed an agreement with Indonesian state-owned energy company **Pertamina** to jointly develop synthetic fuel ethanol projects in Indonesia using Celanese's proprietary TCX ethanol process technology.
- In August 2013 we saw Samsung acquire **Novaled** for \$350m for the future potential of its high-efficiency organic light-emitting diodes (OLED).



MAY 2014

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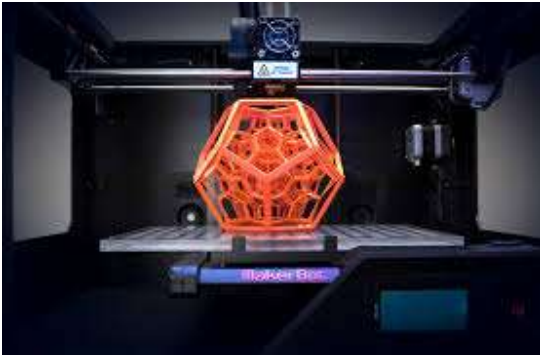


**VIEWPOINT: Can Elephants Learn to Dance with the Fleas?**

**Michael Ellis**, Partner & EVP, Advisory Services, Cleantech Group (CTG) provides some thoughts on reinvigorating corporate innovation for the next leg of the journey. (The analogy is inspired by ideas from Charles Handy's 2001 book, *The Elephant and The Flea*).

This thought-piece highlights some of the positive developments we have seen across the clean technology landscape over the last decade, including the rise of corporate external innovation. While there is much to be proud of, it would also be naive to pretend all is well, and that CEOs and other leaders are content with their corporate open innovation programs at present.

# Some technology areas to watch out for...



SIGNALS FROM 

ZENROBOTICS®  
liquid  
robotics

LUXEXCEL®  
we axxelerate your vision

 SYNTHETIC GENOMICS®



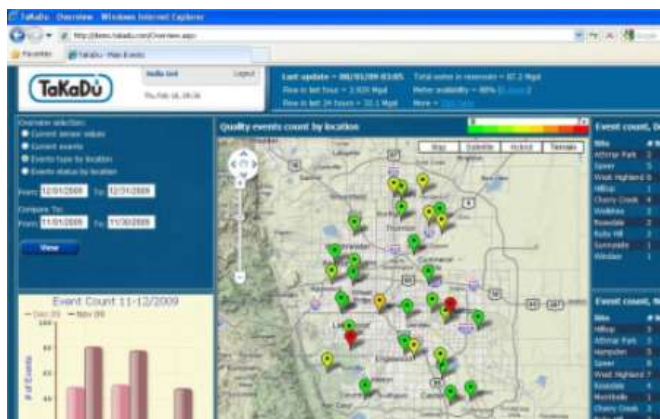
# The impact of Data and Connectivity is only going to accelerate and become yet more pervasive

## SIGNALS FROM



"With a trillion sensors embedded in the environment—all connected by computing systems, software, and services—it will be possible to hear the heartbeat of the Earth, impacting human interaction with the globe as profoundly as the Internet has revolutionized communication."

Peter Hartwell  
Senior Researcher, HP Labs



# An example of how many of those trends come together – in the oldest of industries

SIGNALS FROM 

**BLUE RIVER**  
T E C H N O L O G Y



## PRECISION LETTUCE THINNING

Blue River's first commercial technology, precision thinning, serves some of the largest lettuce growers in the country. What we do:

- **VISUALLY CHARACTERIZE** each plant
- Calculate which to "keep" to **OPTIMIZE YIELD**
- **DECIDE AND ACT PRECISELY** to eliminate the unwanted plants

All in rugged agricultural conditions, automatically, and in real time.

So much of the innovation will not be about the technology per se – but the “packaging”

SIGNALS FROM 



# The intersects are what to watch out for...between intense needs and leapfrog technologies




# The intersects are what to watch out for...between intense need and the potential for new business models



In Germany, utility revenues are spiraling down the rabbit hole. Will American power companies follow?

Stephen Lacey  
March 4, 2014

# The intersects are what to watch out for....for example, Oil & Gas and efficiency/sustainable technologies

SIGNALS FROM 

XACT™ Acoustic Telemetry Network  
Reduce Risk - Improve Efficiency



GlassPoint

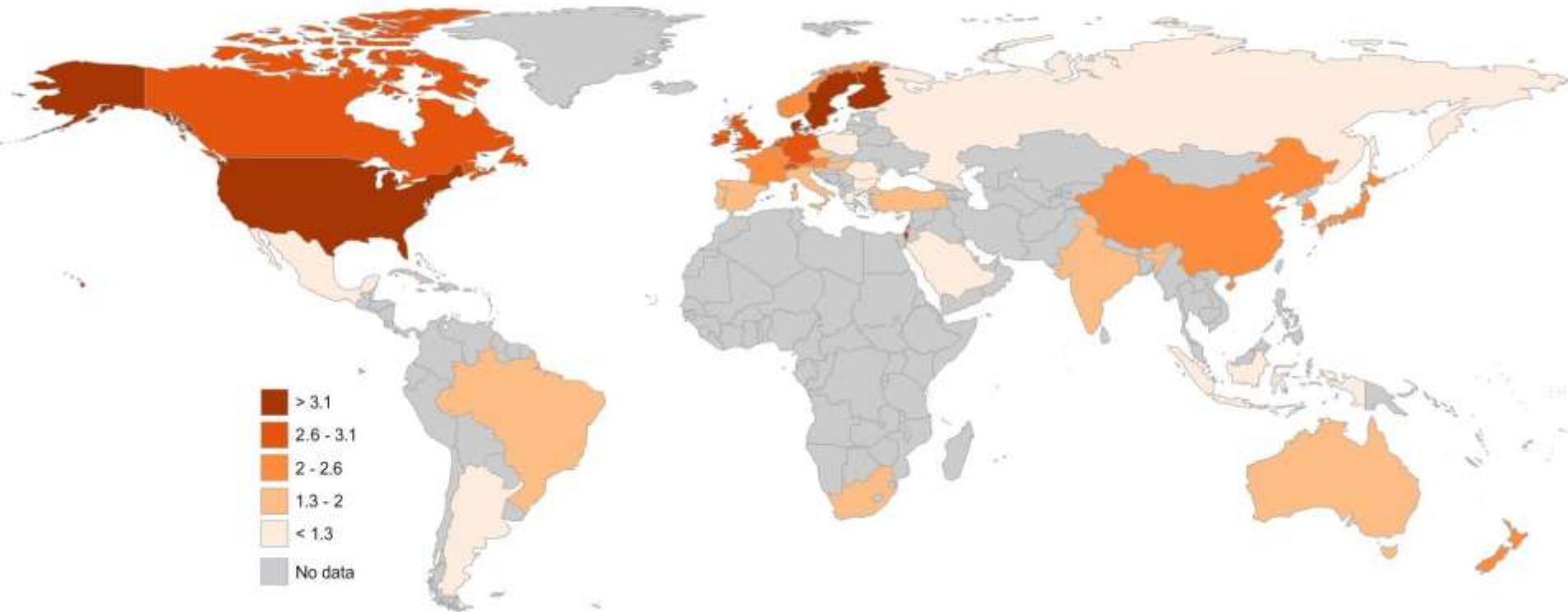


axine  
WATER TECHNOLOGIES

# The intersects are what to watch out for...for example, in How We Move



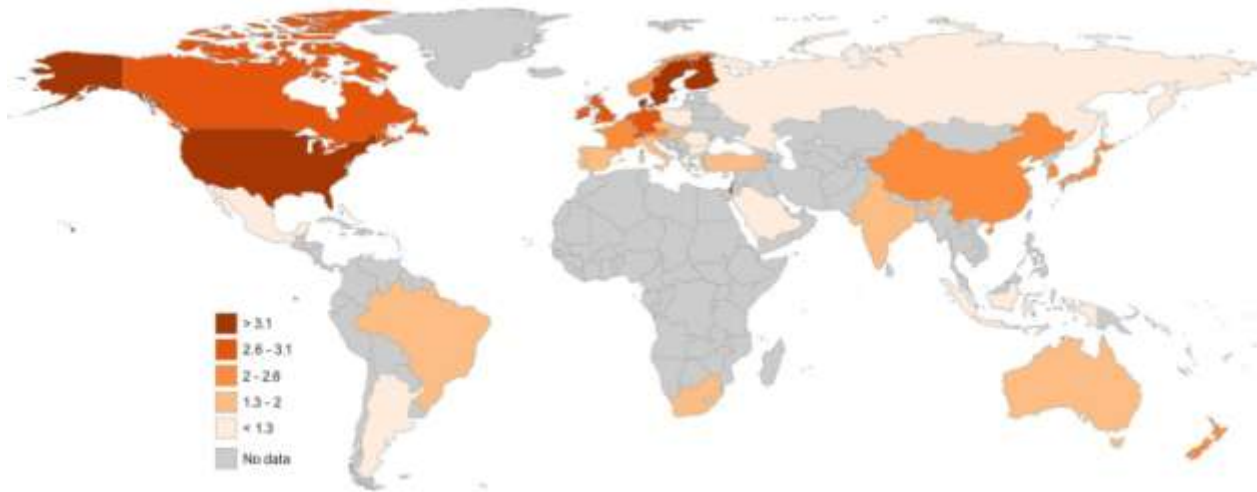
# There is a whole world of sustainable innovation for Italian companies to connect with



*2014 edition of the Global Cleantech Innovation Index - to be formally released in June 2014.*



# There is sustainable innovation in Italy for the world to connect with



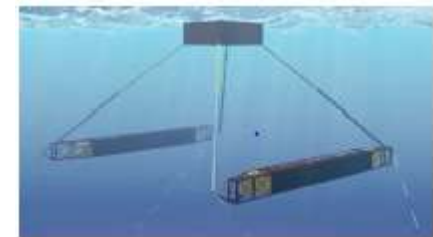
# Half the Italian Cleantech 10 could be thought of as industrial process innovations



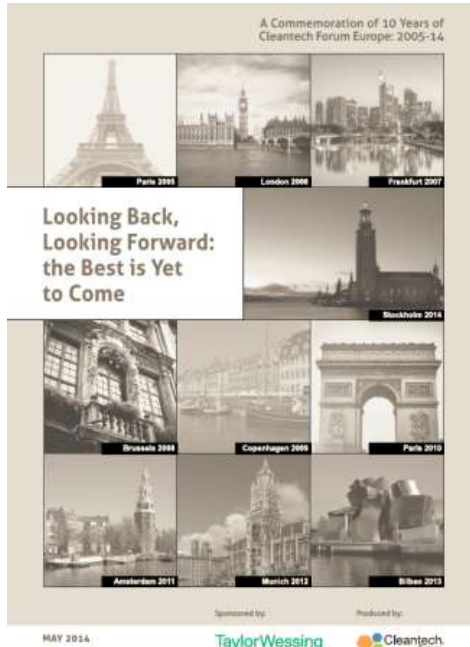
# Half the Italian Cleantech 10 could be thought of as innovations for our future energy systems



underground power



# Thank You for Listening!



Available for download at:  
<http://www.cleantech.com>



Make the case for Italy!  
[europe@cleantech.com](mailto:europe@cleantech.com)