

# Strategies for the Coming 10 Years of Global Electronics Manufacturing

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*Supply Chain and Environmental Consulting  
for the Technology Industry since 1987*

# About TFI

Future

1987

1992

1997

2002

2007

2011

TFI starts

Contract Manufacturing from a Global Perspective

Quarterly Forum: Electronics Mfg. & Supply Chain

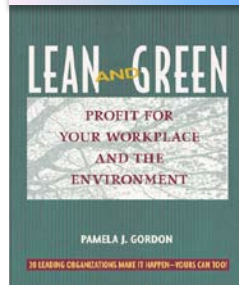
Keynotes, White Papers, Workshops,



Business Intelligence Programs for OEMs, CMs, and Suppliers

Wrote book

TFI Environment consulting practice  
High-ROI Environmental Roadmaps



Trained >1,000 design engineers in DfE



5 consultants

10 consultants

International expansion

20 consultants globally

# To succeed in the *Changing* and **Interconnected World**

## Electronics executives need 4 new strategies:

- 1. Supply chain assuredness**  
Protect against counterfeits, material shortages, & environmental concerns
- 2. Communicate more effectively to an increasingly global industry**  
Leverage social media, establishing far-flung and creative business partnerships, and de-emphasizing traditional marketing channels
- 3. Regional strategy manufacturing**  
Realize that prioritizing “cheap labor” above all else is getting too risky, expensive, inflexible, and averse to meeting corporate sustainability goals
- 4. De-materialization of physical products**  
For all of the above reasons





# Issue #1: Supply-Chain Riskier than Ever

**Shortages**

**Natural disasters**

**Supplier  
shutdowns for  
illegal activity**

**Conflict Minerals**

**Supplier financial  
failure**

**Counterfeits**

**Rare earths**

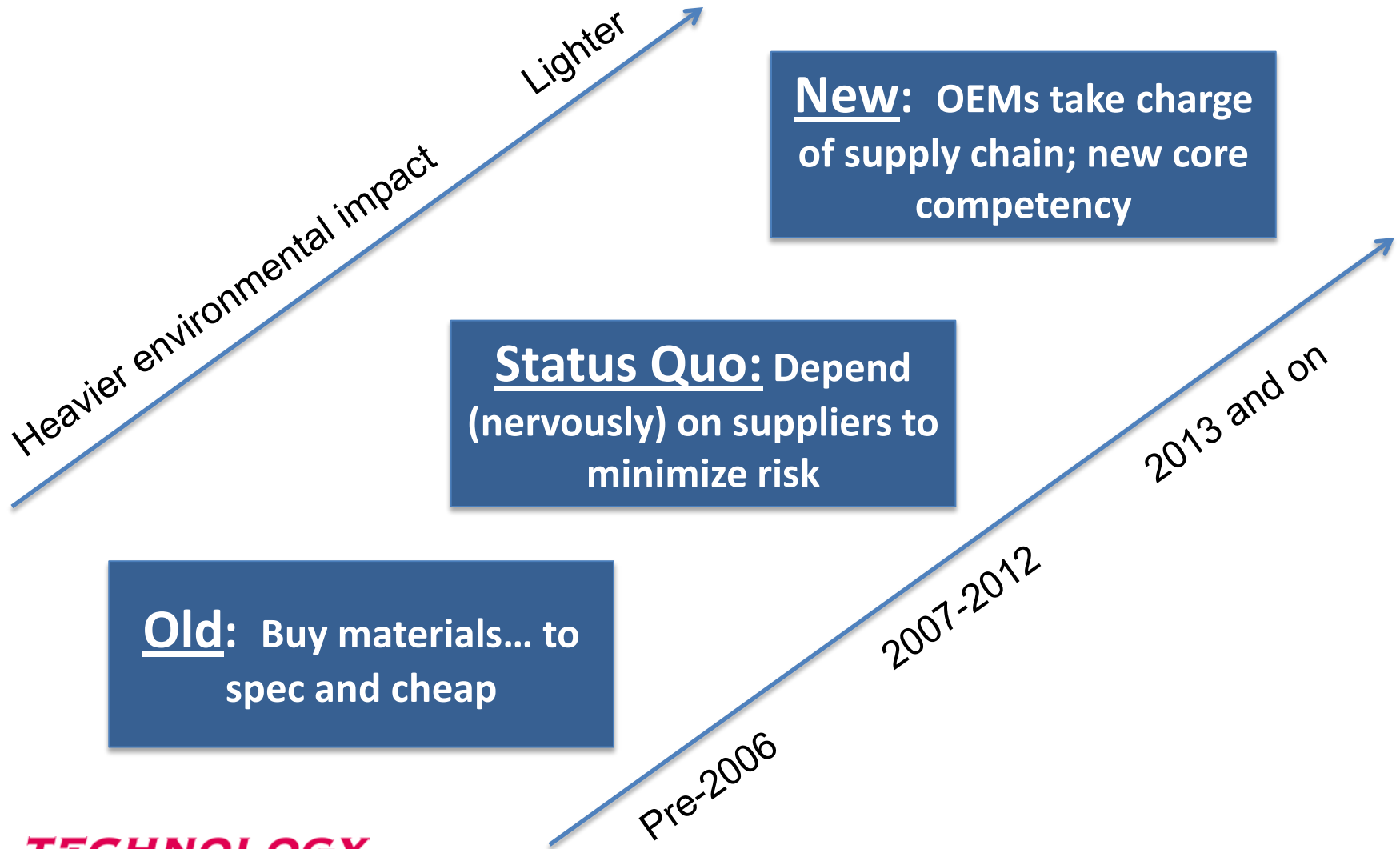
**Off-yields**

**Factory catastrophes**

**Worker-protection  
infractions**

**Restricted materials**

# Strategy #1: Supply-Chain Assuredness

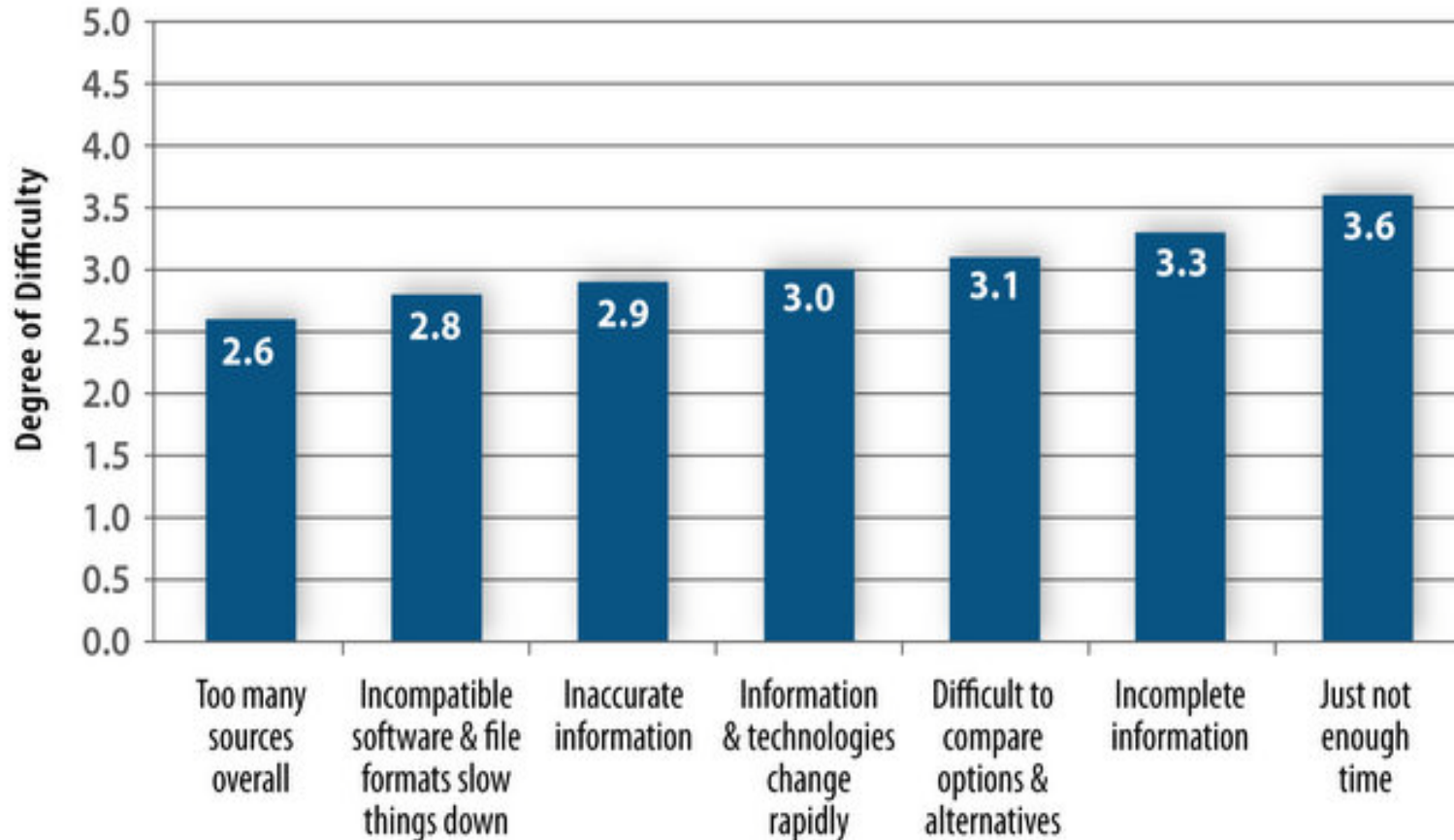


# Issue #2: Communicating to an Increasingly Global Industry

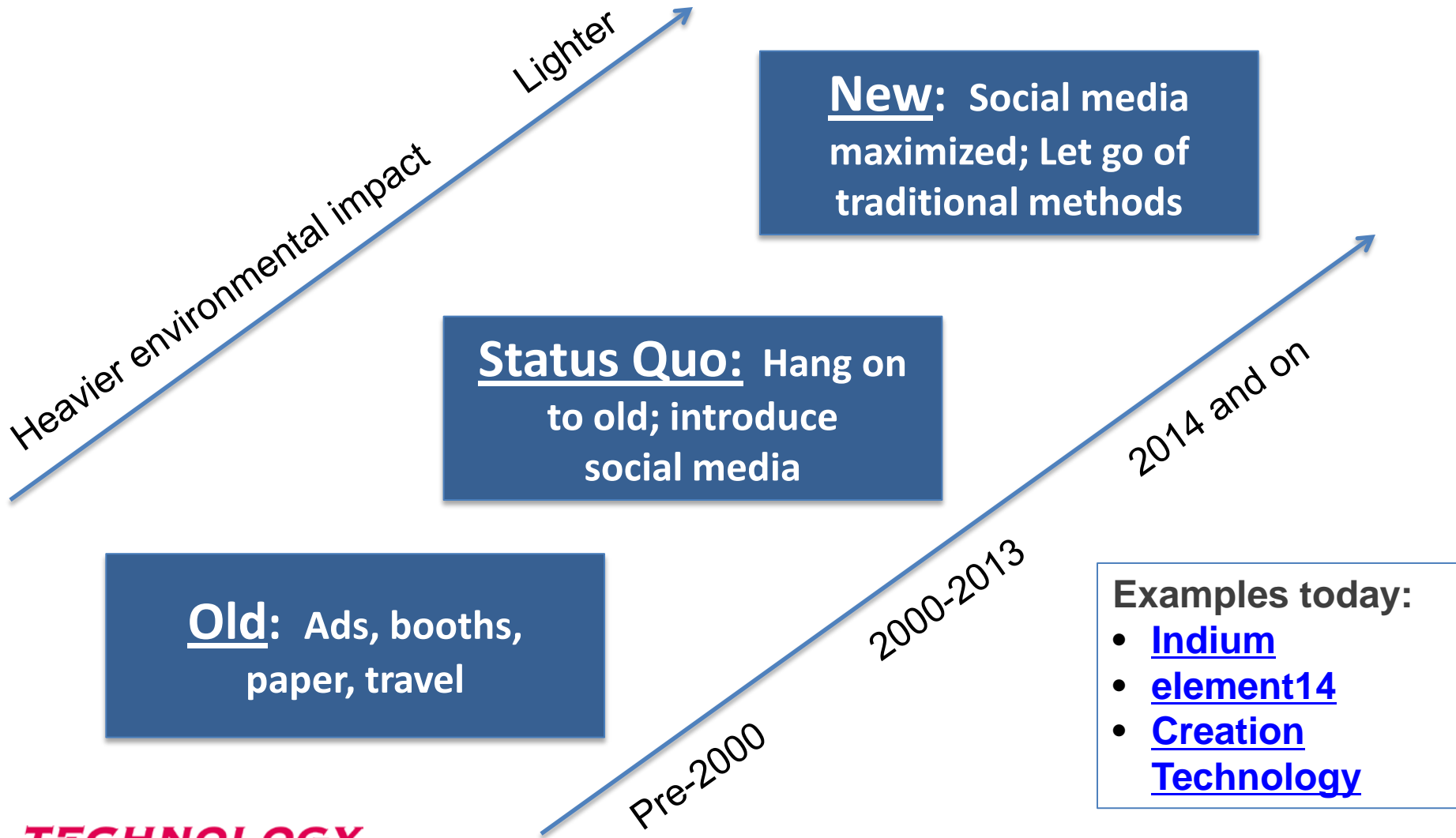
## Challenges in the Design Process

[TFI White Paper](#), Summer 2011, for element 14

Web survey of 290 design engineers; In-depth telephone interviews with 38 engineers



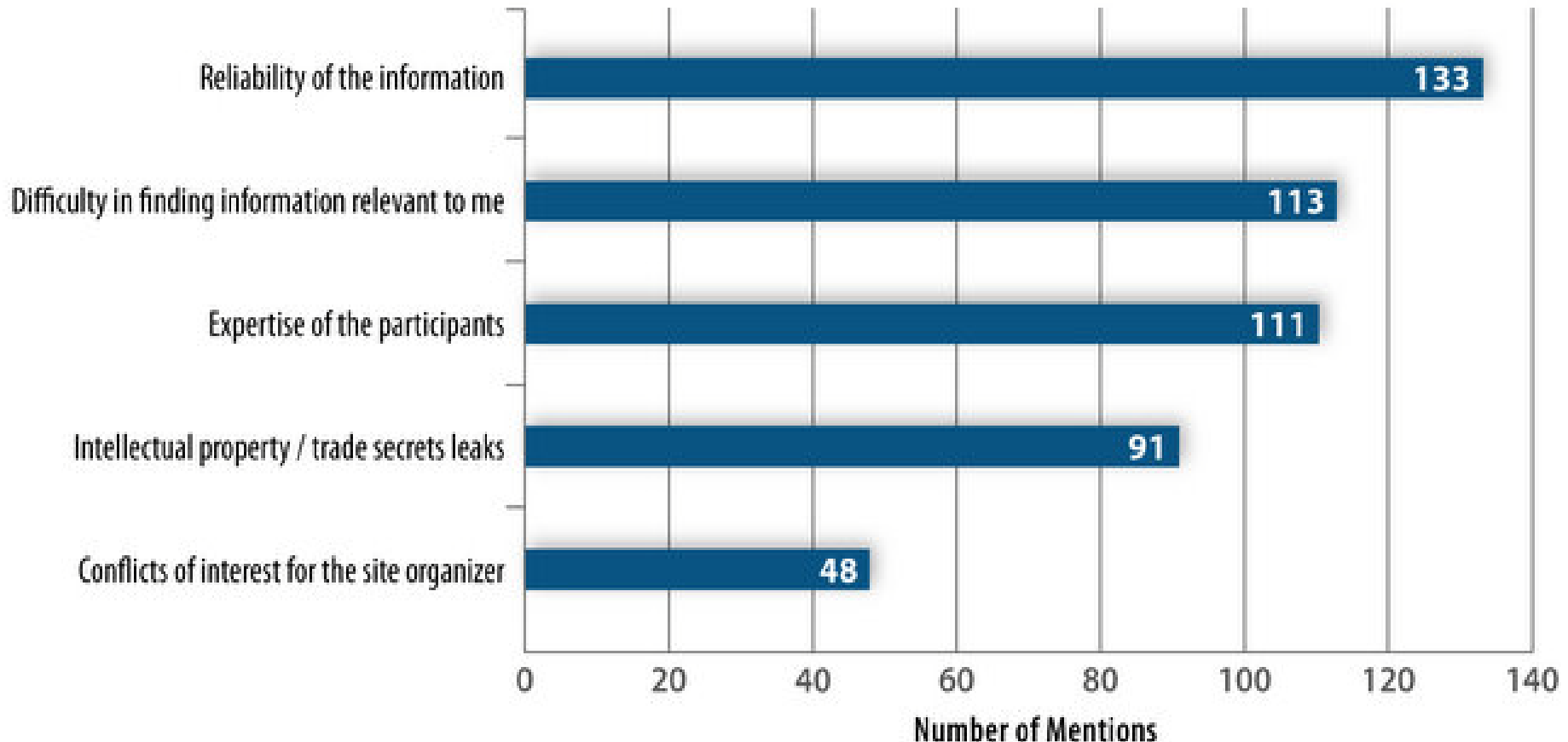
# Strategy #2: Global Strategy for Marketing and Partnerships



# Strategy #2: Global Strategy for Marketing and Partnerships

## Concerns with Online Forums, Blogs, and Engineering Communities

[TFI White Paper](#), Summer 2011, for element 14



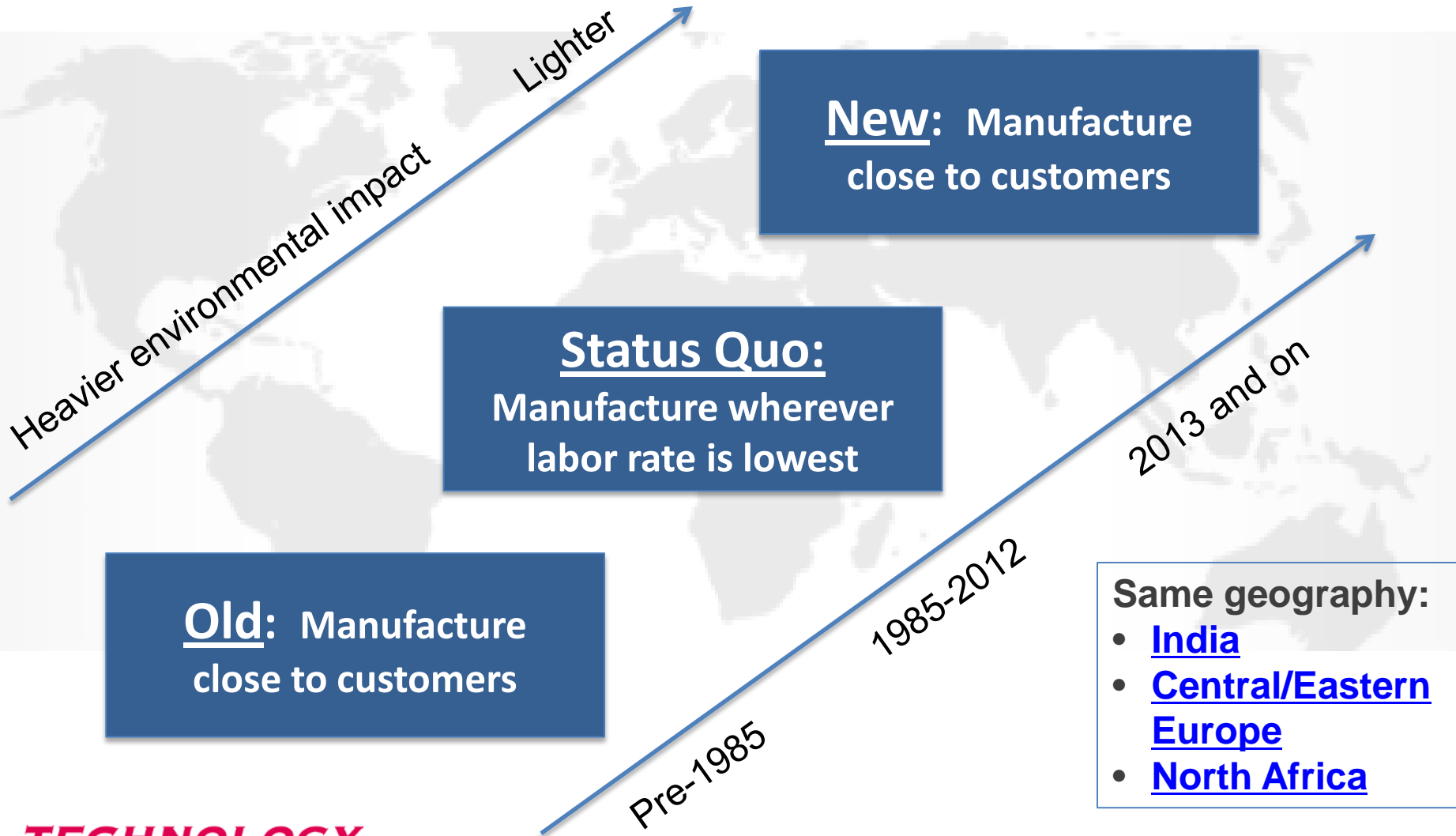
# Issue #3: Risks, Delays, Costs from Far-Flung Manufacturing

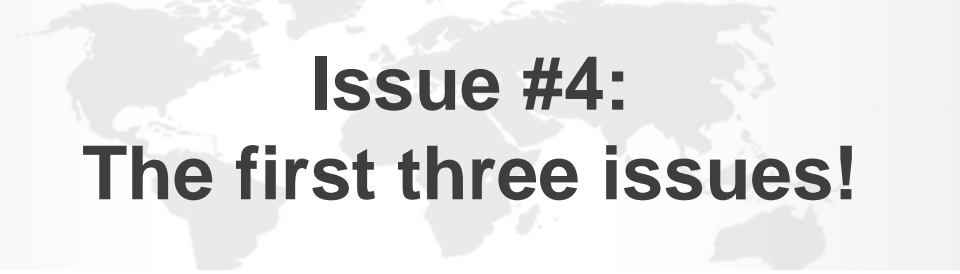
- Prioritizing “cheap labor” above all else is getting too risky, expensive, inflexible
- And it’s averse to meeting corporate sustainability goals



*Foxconn protesters, June 2010*

# Strategy #3: Regional manufacturing





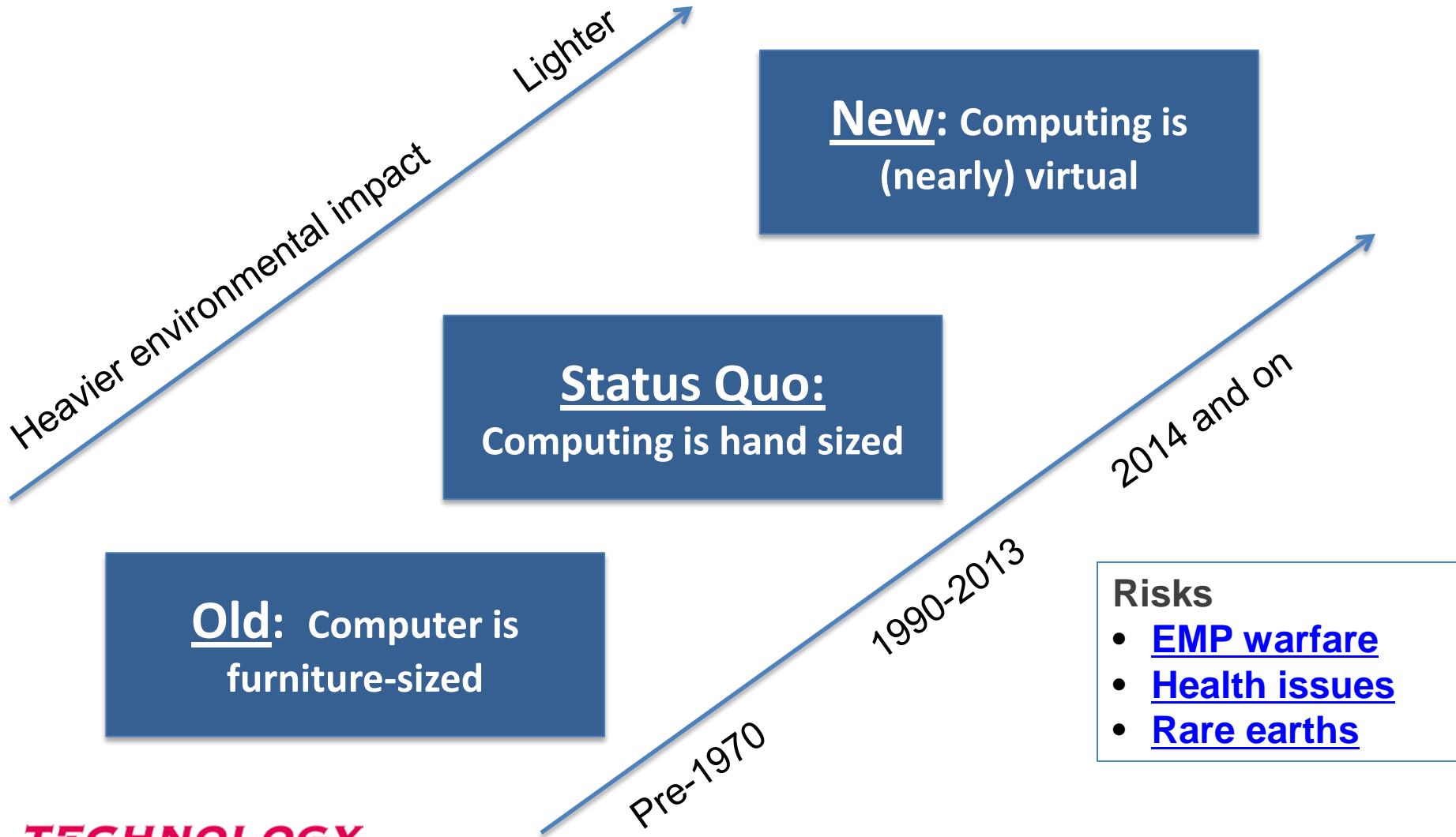
# Issue #4: The first three issues!

Issue	De-Materialization Helps...
<b>Supply-Chain Riskier than Ever</b>	Fewer materials to source; more time for assuredness
<b>Communicating to an Increasingly Global Industry</b>	Less hardware, more virtual functionality
<b>Risks, Delays, and Costs from Far-Flung Manufacturing</b>	Design for in-region upgrades; Deliver software to existing platforms

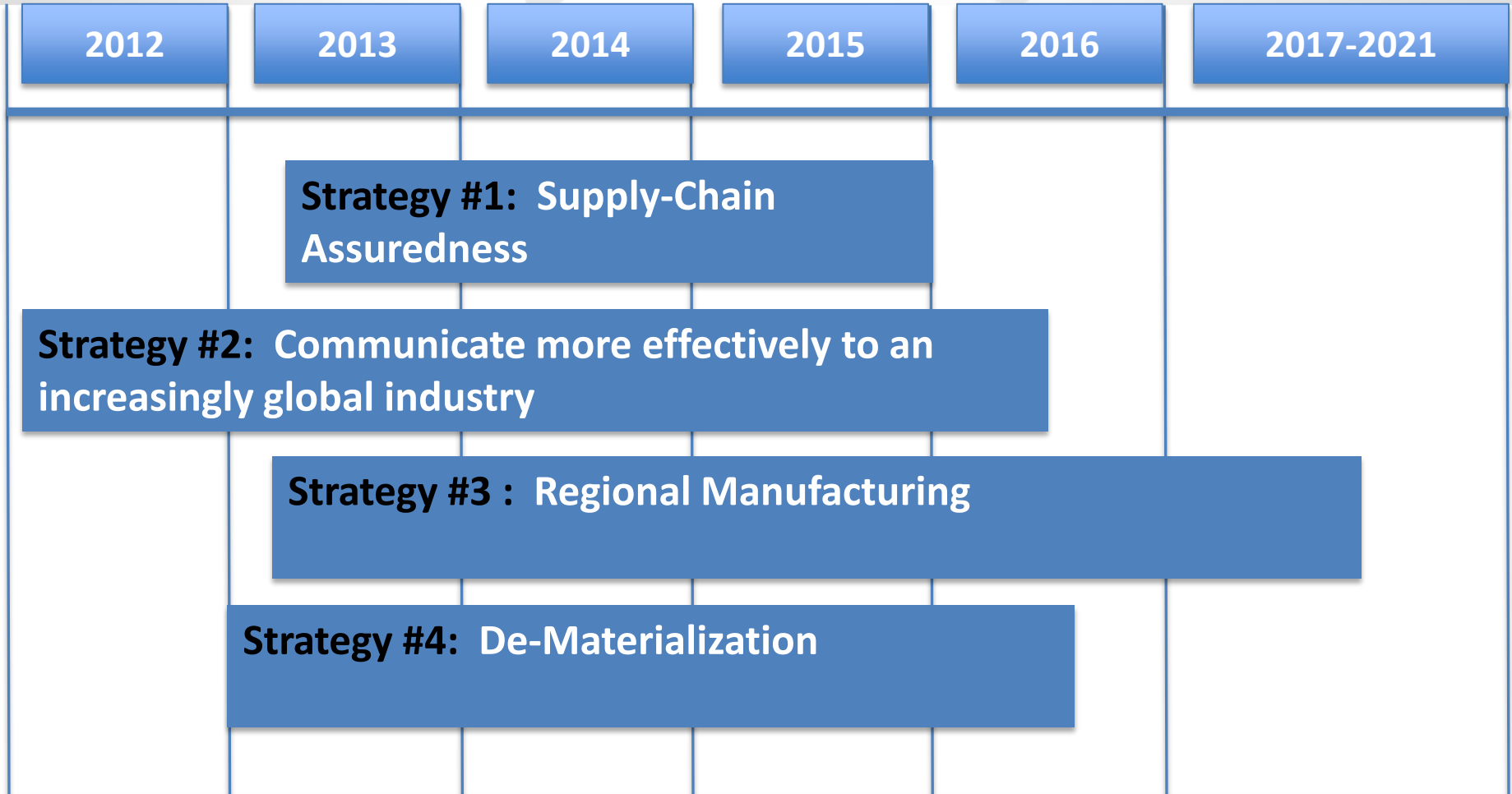
# **Strategy #4: De-materialization of physical products**



# Strategy #4: De-Materialization



# Plot the Four Strategies on Roadmap



**Thank you!**

## Resources

[FAQ on Electronics Manufacturing in India](#)

EMS Now, November 2011

[Certifications Lend Credibility to e-Waste Recycling Industry](#)

EWaste Journal, May 2011

[EMS and ODM Vital Roles in Customers' Sustainability Roadmaps](#)

Pamela Gordon's Keynote Address at May 2011 IERCE Conference

[Tsunami Highlights Danger to Supplies](#)

Financial Times Print Edition (Europe), April 2011

[Make Your Supply Chain Green – Or Else](#)

Electronics Design Strategy News, April 2011

[Environmental and CSR reporting in China Today: A Paradox](#)

Environmental Leader, March 2011

[Technology Forecasters Identifies Keys to Survival of small to mid-sized electronic manufacturers](#)

Investor Point, February 2011