

# Global Product Development

A Designer's Perspective

18 February 2014

Barry Waddilove C4D



# Home Product Design Global Clients



95% Export  
Home Appliance Focus

# Virtual Product Development



Barry's Office – Hertfordshire, UK



Marko's Office – Valenje, Slovenia



GE Headquarters – Kentucky, USA



Cisco Web Ex Software



# Global Projects have Winners & Losers

Euro vs US Dollar Affects Margin

EUR/USD Exchange Rate



2008 Global  
Recession

Right Product & Price



# Global Partners Benefit from Each Other



GE imagination at work

**gorenje**

# US Move Away From Outsourcing... ?

## US \$800 Million invested in Louisville, KY

Jeffrey Immelt CEO at GE

“Around 2008 we came to the conclusion that outsourcing was quickly becoming mostly outdated as a business model for GE Appliances...”

China is growing fast because it is investing in technology and has zero intention of letting up on manufacturing. We shouldn't be afraid of that; we should be inspired by the competition.”

Harvard Business Review – March 2012



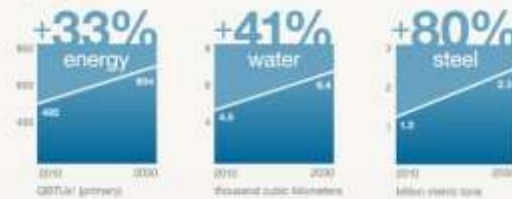


# Resource Efficiency?

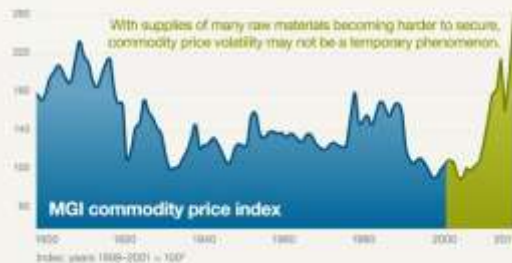
McKinsey Quarterly – Manufacturing Resource Productivity, June 2012

Economic growth in emerging markets is fueling **dramatic increases in demand for resources...**

Projected growth, 2010–2020

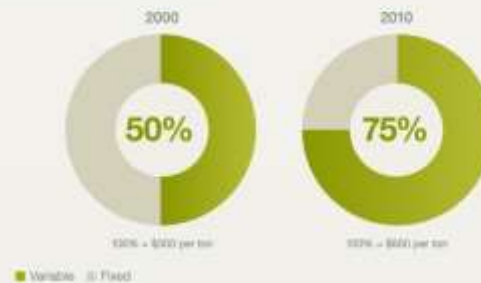


...which contribute to **higher and more volatile commodity prices.**



This means **higher variable costs**—for example, in a resource-intensive upstream industry, such as steel.

Change in share of variable cost for steel production  
Western steel company example

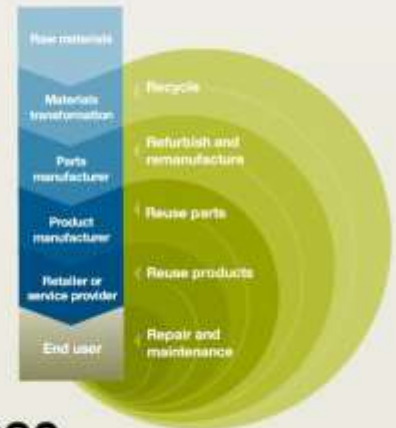


It also means **pressure on profits** for some industries.



Companies can respond by **improving resource productivity**—using fewer resources for each unit of output. Leaders in the field are exploring **circular operating models**.

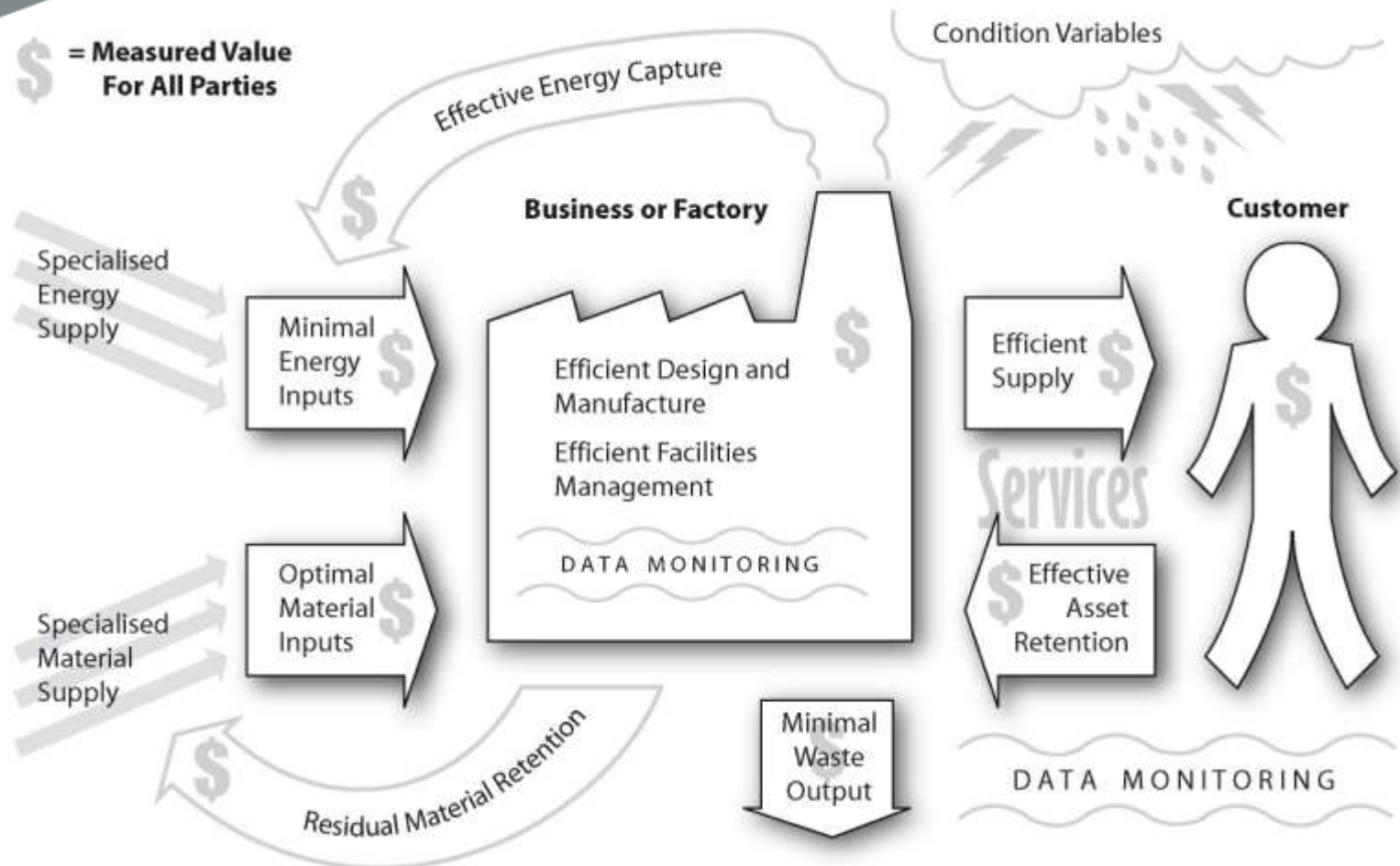
Value is created by looping products, components, and materials back into the value chain after they fulfil their utility over the life of a product.



**\$380 billion**

Potential annual net material cost-saving opportunity in the EU from adoption of 'circular' business practices<sup>1</sup>

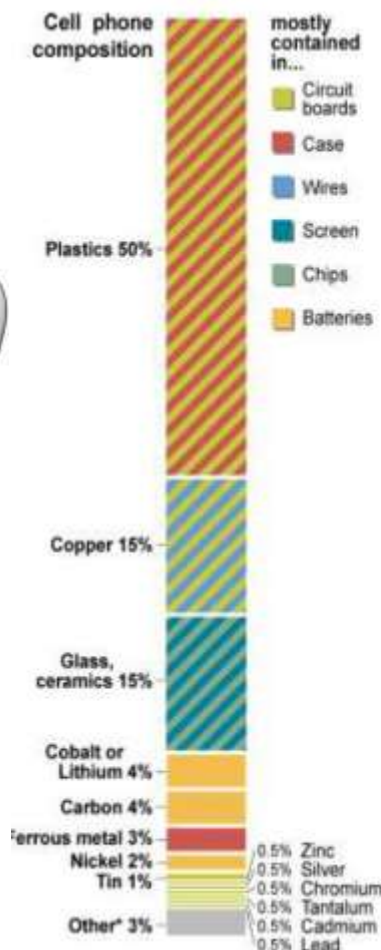
# Sustainable Business Value Model





# Mobile Phone Composition

Basel Convention, 2006; Lindholm (Nokia Report), 2003



## Roughly 40 different elements

H, Li, Be, C, N, O, F, Al, Si, S, Cl, K, Ca, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, As, Br, Sr, Y, Zr, Ru, Pd, Ag, Cd, In, Sn, Sb, Ba, Ta, W, Pt, Au, Hg, Pb, Bi, Nd.

mobile phone weighing 100 grams, contains

13.7 g of copper

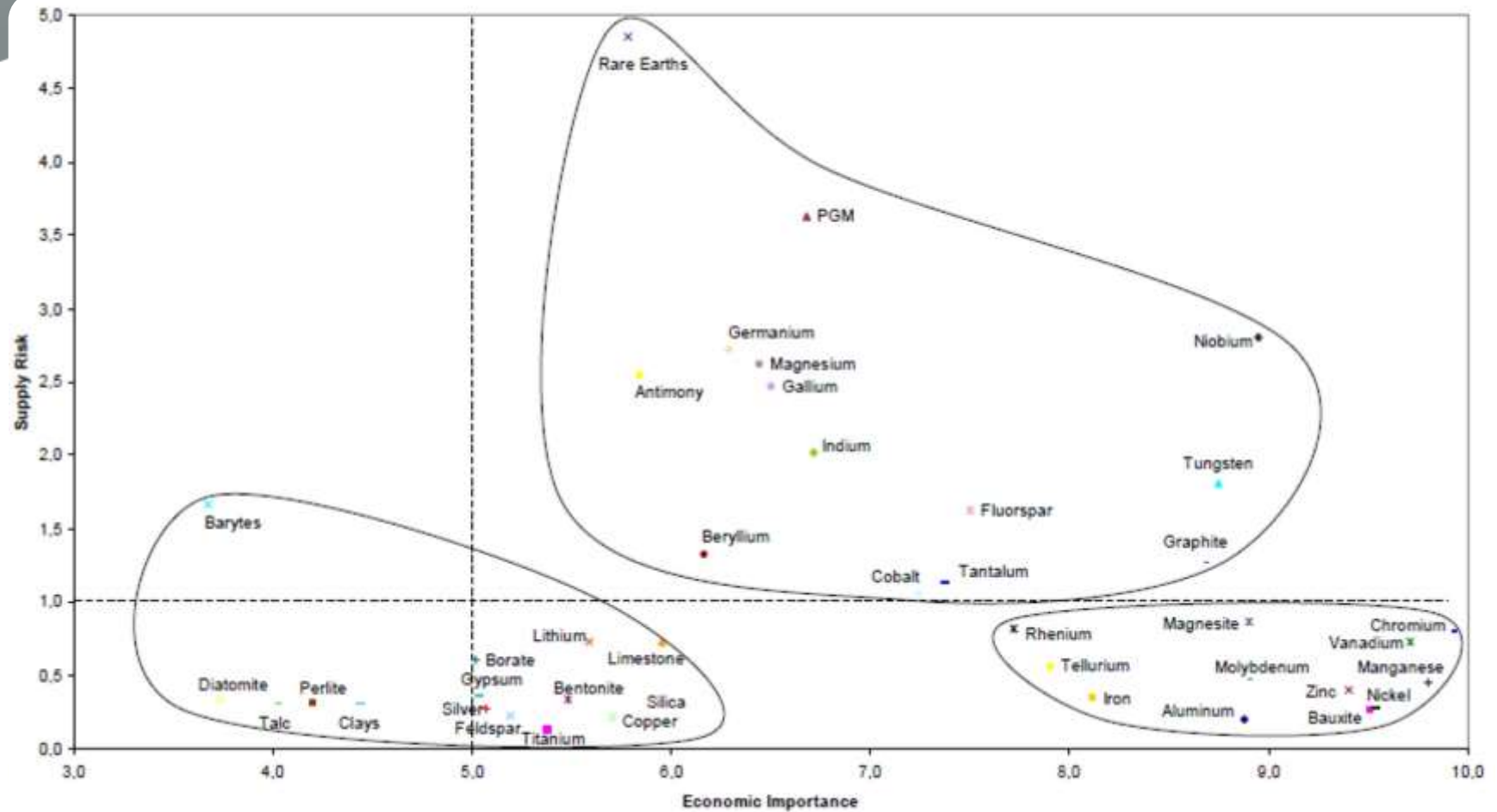
0.189 g of silver

0.028 g of gold

0.014 g of palladium

# EU Critical Raw Materials

European Commission - EU Critical Raw Materials, June 2010



# Schmidt-MacArthur Fellowship Video

[Schmidt MacArthur Video on You Tube](#)





# Thank You

## Global Product Development A Designer's Perspective

Barry Waddilove

Cranfield University C4D

[b.waddilove@cranfield.ac.uk](mailto:b.waddilove@cranfield.ac.uk)



[Schmidt MacArthur Video on You Tube](#)



@Barry\_Waddilove



[bwaddilove@btinternet.com](mailto:bwaddilove@btinternet.com)