

Dr. Chris Horn



# A smart economy: aspiration or reality?

#### Chris Horn Engineers Ireland

twitter@chrisjhorn

http://chrishornat.blogspot.com

### Some Stanford spinouts







**Synteni** 







### The importance of technology transfer

Fiscal 2008 Revenues in US\$000,000

	Operating Budget	Sponsored Research	%age Op. Budge t	Of which Gov. Research	Royalties	%age Op. Budget	Equity Disposals
Stanford	3,800	1,064	28%	87% (inc SLAC)	63	2%	2

## The importance of technology transfer (?)

Fiscal 2008 Revenues in US\$000,000

	Operating Budget	Sponsored Research	%age Op. Budge t	Of which Gov. Research	Royalties	%age Op. Budget	Equity Disposals
Stanford	3,800	1,064	28%	87% (inc SLAC)	63	2%	2
MIT	2,300	1,280	55%	85% (inc Lincoln Labs)	89	4%	4

## The importance of technology transfer (?)

Fiscal 2008 Revenues in US\$000,000

	Operating Budget	Sponsored Research	%age Op. Budge t	Of which Gov. Research	Royalties	%age Op. Budget	Equity Disposals
Stanford	3,800	1,064	28%	87% (inc SLAC)	63	2%	2
MIT	2,300	1,280	55%	85% (inc Lincoln Labs)	89	4%	4
TCD	414	105	25%	84%	0.186	0.05%	0

1.48US\$ to 1€

### Spinouts per 100M

#### **Cumulative 2006-2008**

	Research Income	Spinouts	Spinouts per 100M
Ireland	1,977	25	1.26
Cambridge	320	2	0.6
Oxford	263	7	2.7
Imperial London	294	11	3.7
MIT	896	20	2.2

c.f. Michael Hennigan, of Finfacts

### Spinouts per 100M

#### **Cumulative 2006-2008**

	Research Income	Spinouts	Spinouts per 100M
Ireland	1,977	25	1.26
Cambridge	320	2	0.6
Oxford	263	7	2.7
Imperial London	294	11	3.7
MIT	896	20	2.2
2009 Irish Target	700	26	3

### Vital Statistics in the Valley

#### 2008 Numbers

Population	About 2,500,000
<b>Employment Pool</b>	About 1,400,000
High Techology Employment	About 320,000
High Technology firms	About 5,500
(of which foreign owned)	about 400
Average jobs per Hi-Tech firm	Approx. 60
High-Tech R&D (federal/academic) employment	About 150,000
Business infrastructure employment	About 50,000
Ratio of indirect high-tech jobs	0.625 indirect jobs per 1 direct job

## Creating Jobs in Irish Smart Economy by spin-outs

Number of High-Tech spinouts	Say 100 (??)
Average number jobs per spinout	Say 100 (Silicon Valley is 60)
Ratio of indirect high-tech jobs	1:1 (Silicon Valley is 0.625:1)
Thus: Smart Economy Jobs	20,000

#### Role of Venture Capital in US

#### 1992-2001

- 10,530 Venture Backed Firms
- Of which 903 were academic spin-outs
- i.e Just 8% of all VC backed firms were university spin-outs

Burton Lee, Stanford University, At Inaugural Meeting Taoiseach's Innovation Taskforce

#### Smart Economy Firms

- If there were 100 Irish smart economy spin-outs from academia in next few years
- And this was 8% of Irish spin-outs
- Then there would be 1,150 smart economy start-ups in same time period
- And maybe 250,000 jobs in the sector...
- Do we believe we can do this ????....

### Conclusion: Need Inflection Point

#### Our current trajectory just doesn't do it:::

- Enterprise Ireland "Our goal is 26 high technology start-ups in 2009..."
- TCD-UCD Alliance "300 smart economy start-ups..."
- But need 1,000 or even more .....
- Where are all seasoned entrepreneurs, innovators, executives going to come from ?....

#### Why Start a Smart Company?

### NOT

- Because I have a cool invention...
- Because Dad told me to...
- Because I have an MBA....
- To pay for my current life style...
- Because Enterprise Ireland will give me grants...
- To create jobs..... (!!!!!!!!!!!!!!!!!!)

#### Why Start a Smart Company?



Industry leaders emerge by acquiring complementary firms...

### Cycle

Build a company to sell it

- If really successful, get rich
  - Then leverage industry contacts, <u>re-invest as an angel</u> and mentor the next generation
- If moderately successful, get moderately rich
  - And start your next start-up
- If fail, then learn, and try again

If my CEO did it, then I can do it too...

CEO & Team
gain experience &
ambition

## **Current Policy vs Smart Policy**

Job Creation	Wealth Creation
Scale Companies	Sell Companies
Long Term Sustainability (risking stagnation)	Re-cycle Human Talent and Fiscal Resources

### Why Exits are So Important

- Founders make money
- Investors make money
- Venture Capitalists are successful
- Management teams gain experience and re-cycle
- Managers motivated to try their own luck
- Global Champions emerge by acquiring complementary companies.....

#### Vital Statistics

- Track employment?
- Track State investment?
- Track number of start-ups?
- Track R&D Spend?
  - (HERD, BERD, CURD, WURD, WEIRD whatever..)

## Track Wealth Creation

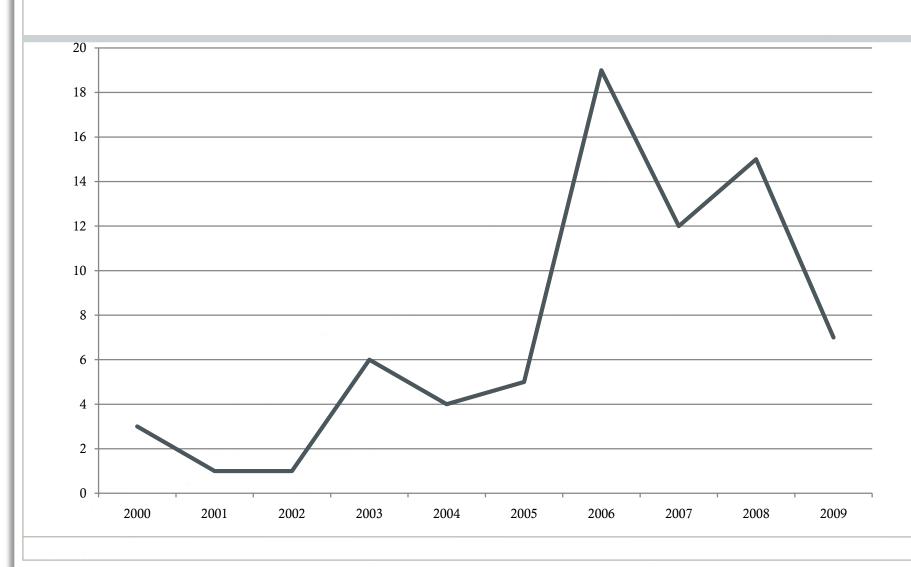
#### My Exit Research

#### 2000-2009

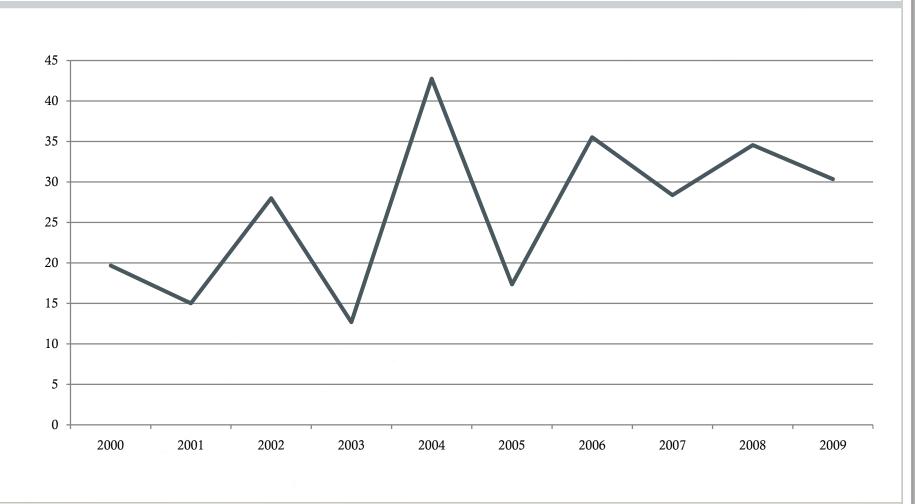
- 72 Irish exits
- Total wealth: 2,175Meuro
- Average 30Meuro per exit
- Average time to exit from founding: 10 years

Cf chrishornat.blogspot.com/2009/08/irish-technology-exits-2000-2009.html

### Irish Exits per Year



## Average Value of Irish Exits per Year



#### Basic Challenges

- Need many more start-ups per year
- Need to attract overseas innovators to add to our own
- Need to build companies to sell them
- increasing average exit value, each year
- And avoid companies which will be difficult to sell...
- Need to shorten the timescales to exit
- Position Ireland as THE place in Europe for Wealth Creation

#### Role of Government

- Be SMART
- Seek open platform plays in Ireland which
  - Disrupt a global industry
  - Accelerate innovation in Irish based company clusters
  - Are NOT "me too"...
  - Could be done by a JV as a well funded start-up and so possible fiscal return to the State via IPO...
  - Then do whatever basic and/or applied R&D that needs to be done to make it happen whatever it takes....

#### Summary

- Need some smart thinking
- Our current trajectory is woefully insufficient
- Need an inflection point in our execution
- Then one day several Irish founded global high technology champions will emerge
- ...supported by a vibrant dynamic high technology SME pool