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## Finance and the European Fuel Cell Industry f-cell Stuttgart 28 September 2004

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**Phil Doran**  
**Core Technology Ventures**  
[phil@coretecventures.com](mailto:phil@coretecventures.com)



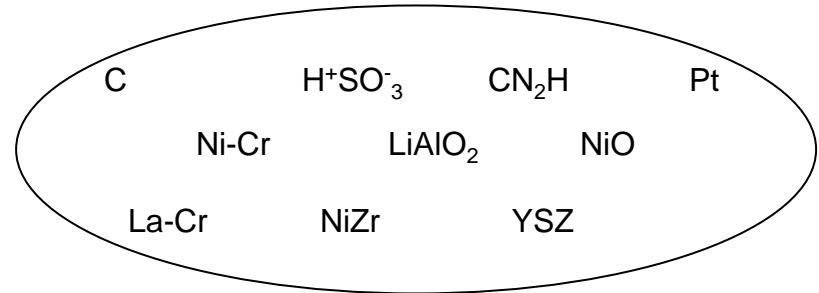
# Outline

- ❖ Industrial Structure:
  - Supply chain, Core Tec's view
  - Estimated distribution of European H2&FC developers
  
- ❖ Product Maps: Installed Capacity:
  - United States
  - Europe and Germany
  
- ❖ European Finance: Risk Capital and Research & Development
  - Access to capital remains a blot on the European landscape
  - EU Non-Nuclear RD&D funding dramatically falling as a percentage of total spend
  
- ❖ The Route to the Financial Market
  - The state of the technology determines each stage of the route, which has its own peculiarities
  - All roads eventually lead to an investment bank, which ultimately places the shares with unit trusts and pension and insurance companies
  
- ❖ Conclusions

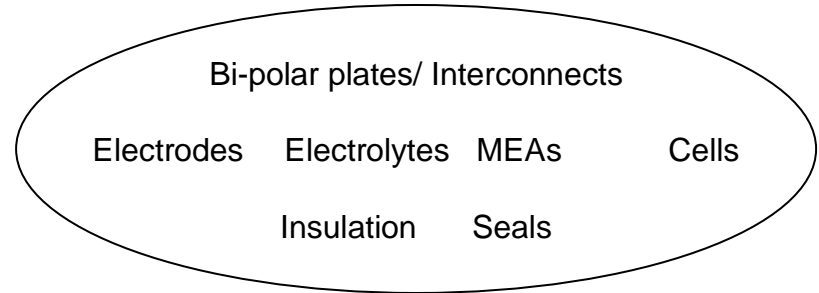


# A Supply Chain

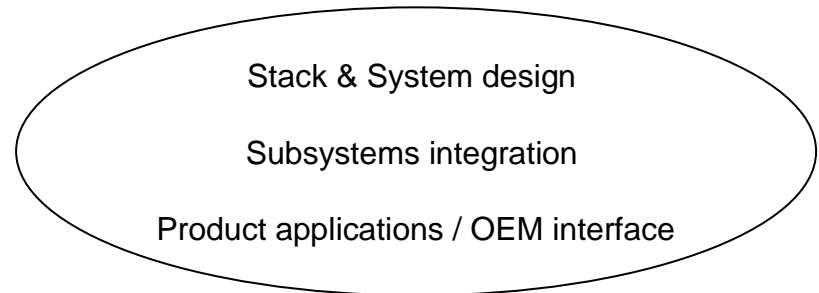
If basic materials  
form the letters



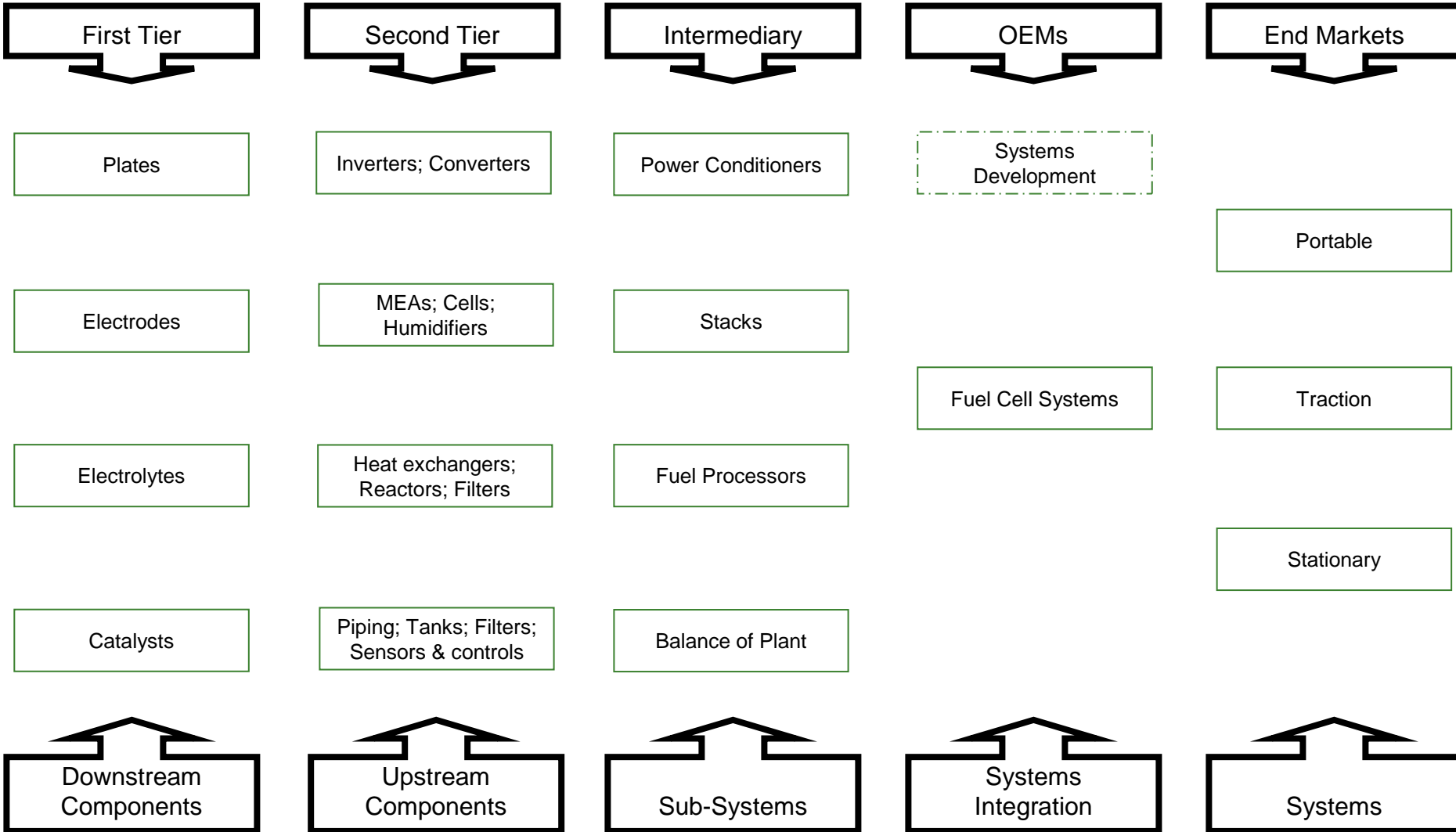
And components  
form the words



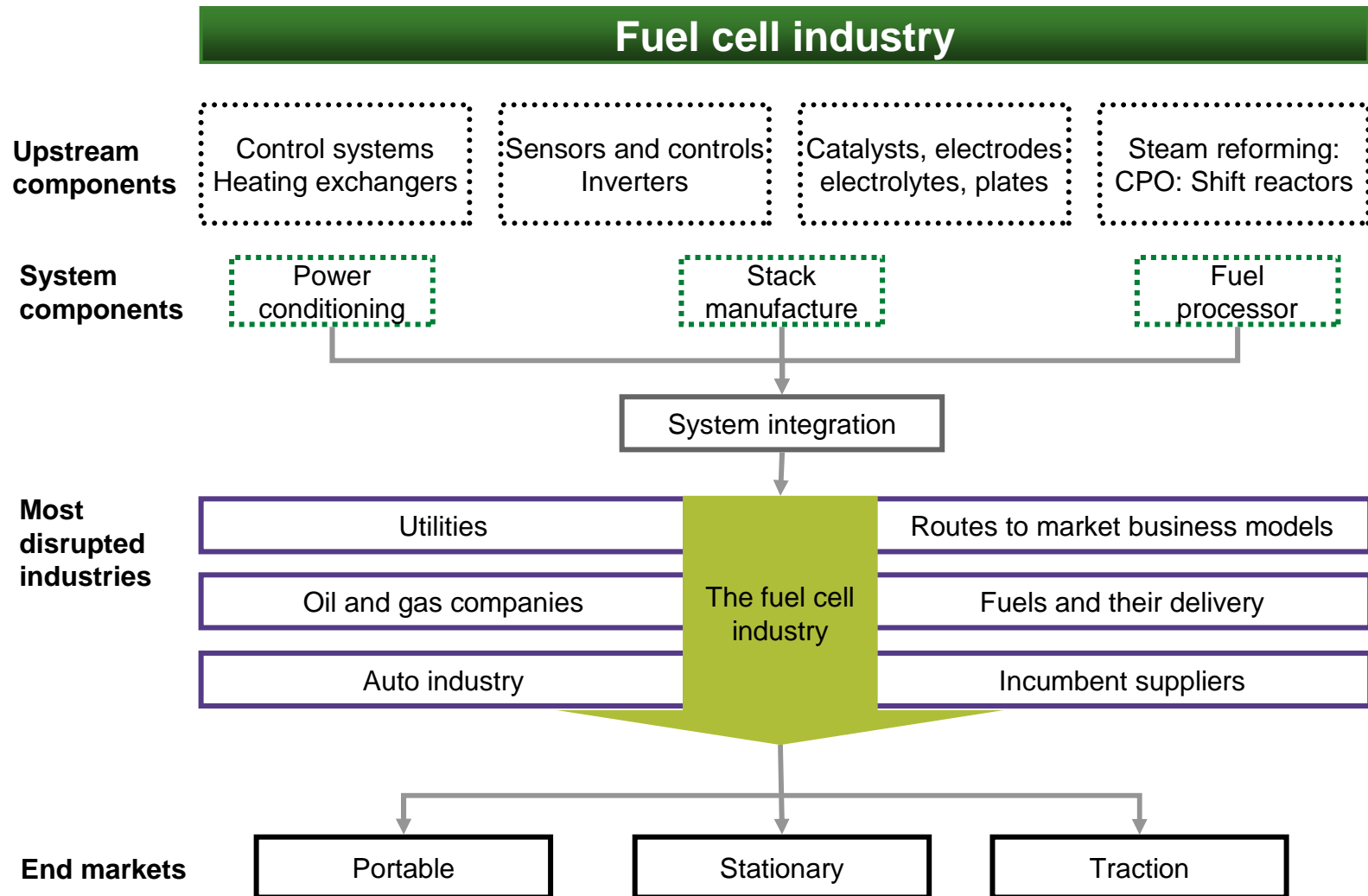
Then systems developers  
write the text



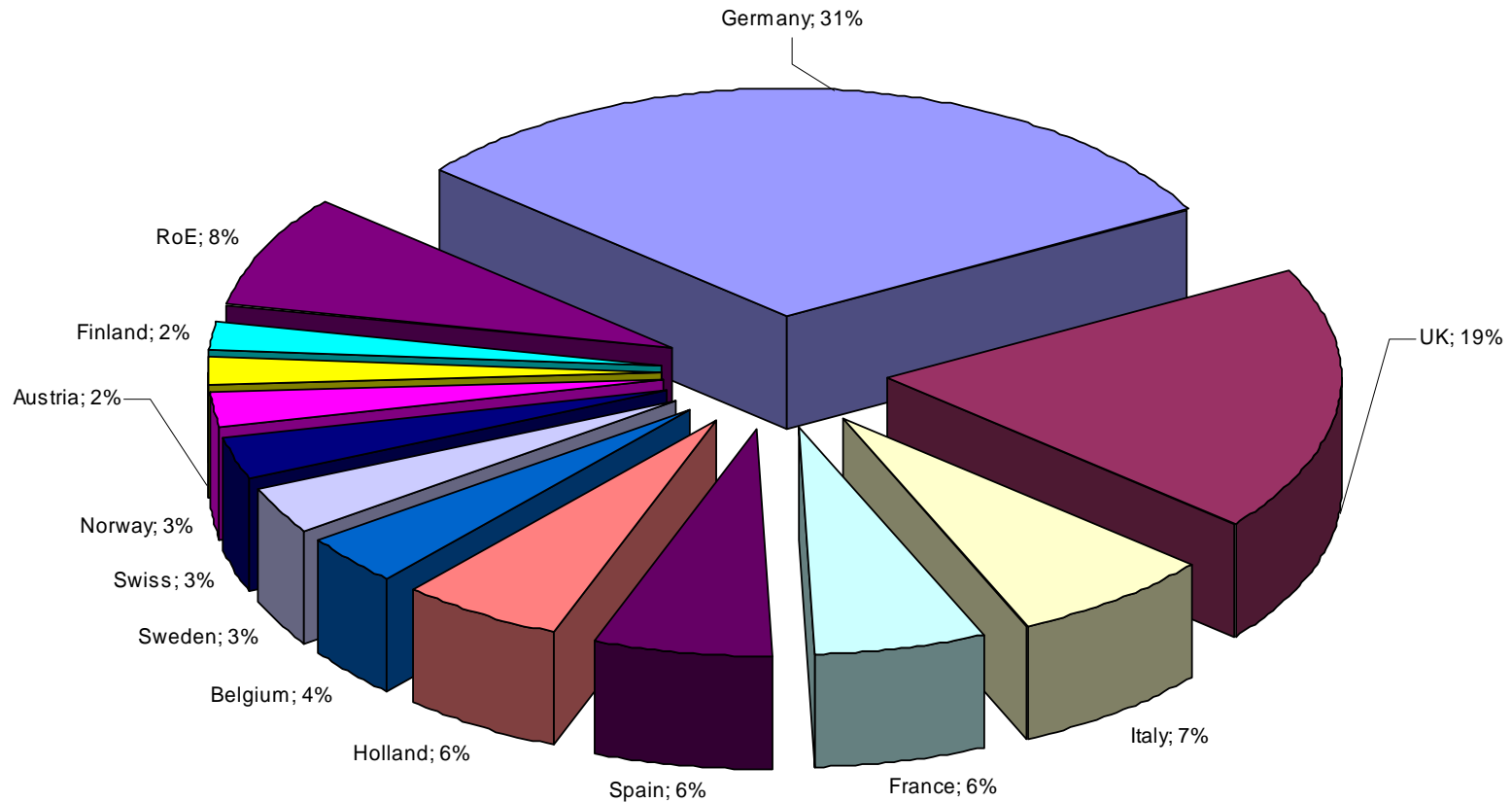
# Simplified Fuel Cell Supply Chain



# A Supply Chain Should Ultimately Lead to Product



# Distribution of the European H2&FC Industry: Sample data



\*Source: Core Technology Ventures LLP. Data, a subset of our database, refer to number of European entities developing fuel cell related hardware but excludes well-capitalised & quoted companies



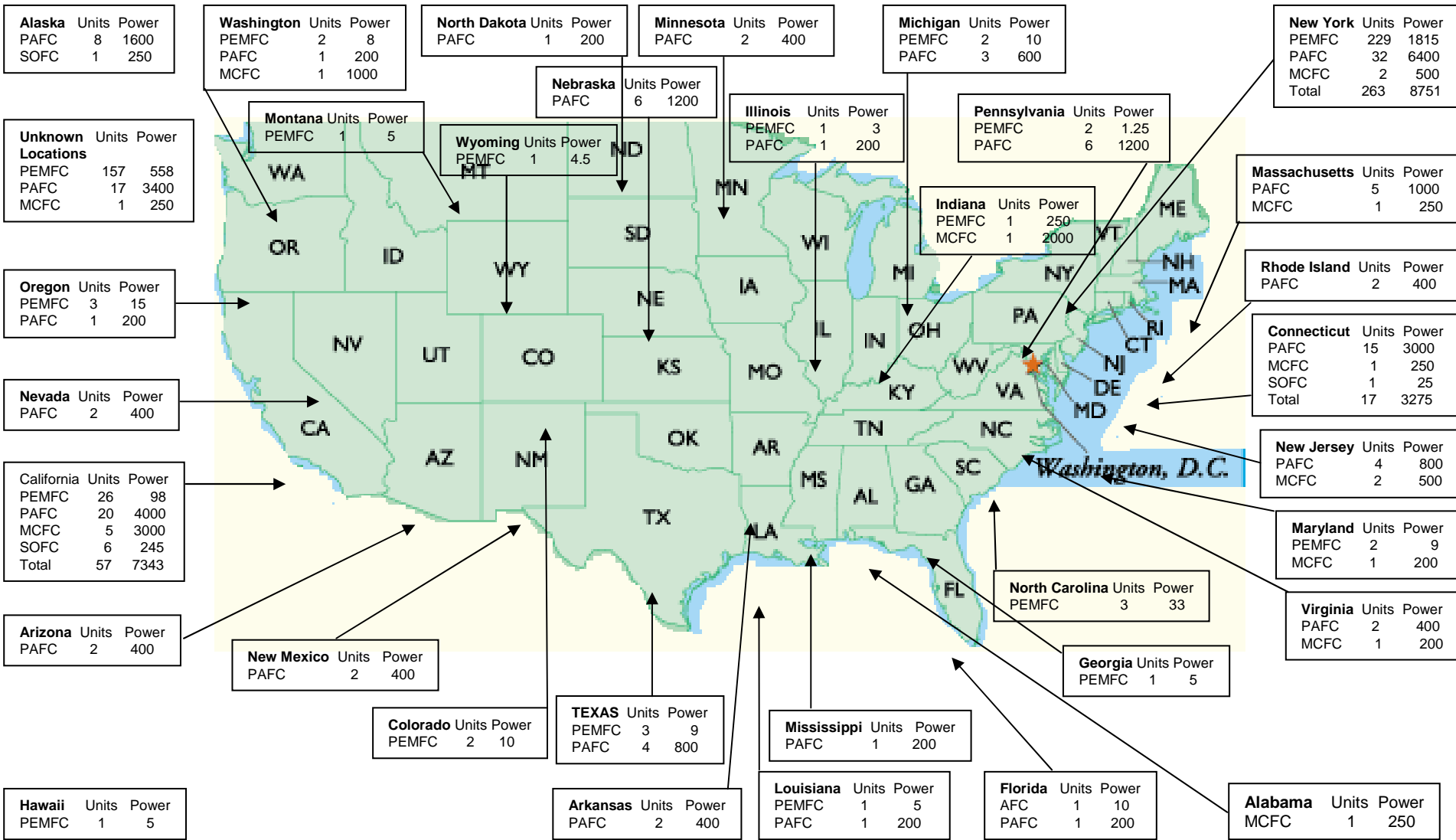
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# Stationary Fuel Cell Product: Installed Capacity

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# US Fuel Cell Demonstrations: 40MW Stationary

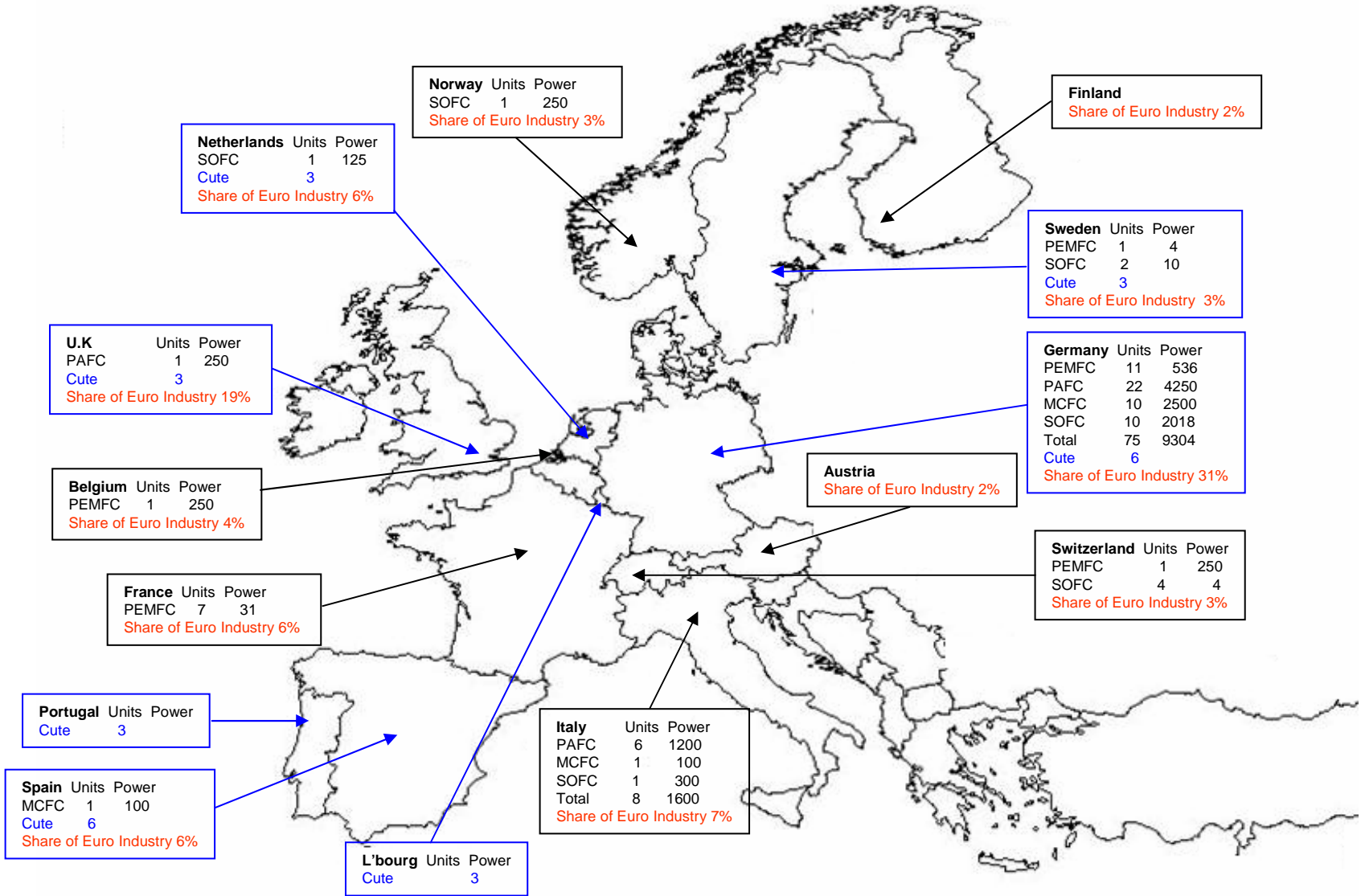


Note: Data refer to plant installed over the last 30 years and planned over the next 18 months





# European Map: 12MW Stationary, 27 Buses



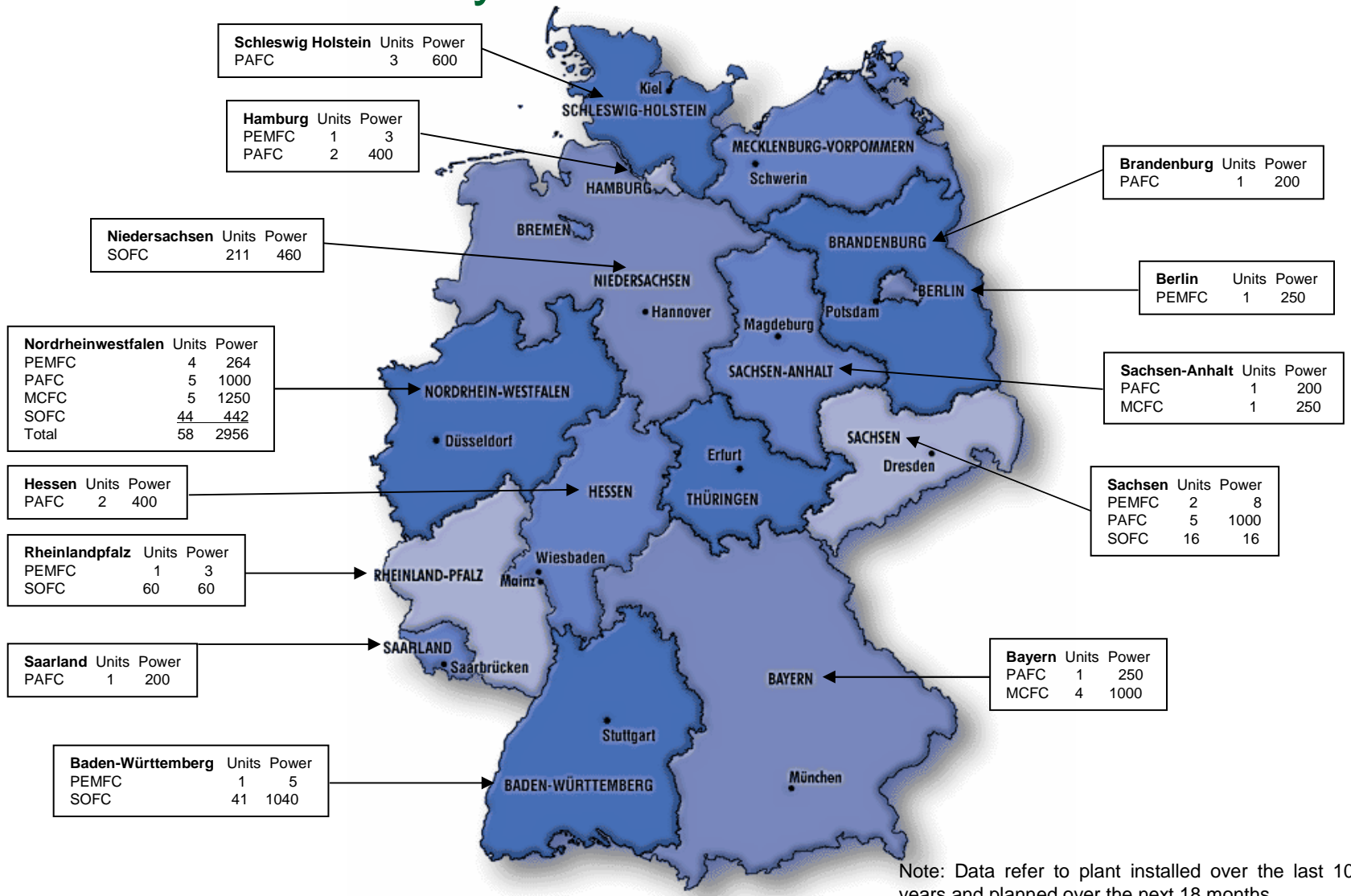
Note: Stationary data refer to plant installed over the last 10 years and planned over the next 18 months



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Source: Share of EU Industry Core Technology Ventures LLP  
See slide 7 above

# German Stationary Fuel Cell Demonstrations:



Note: Data refer to plant installed over the last 10 years and planned over the next 18 months

German Total 9.3MW

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NRW Total: 3MW

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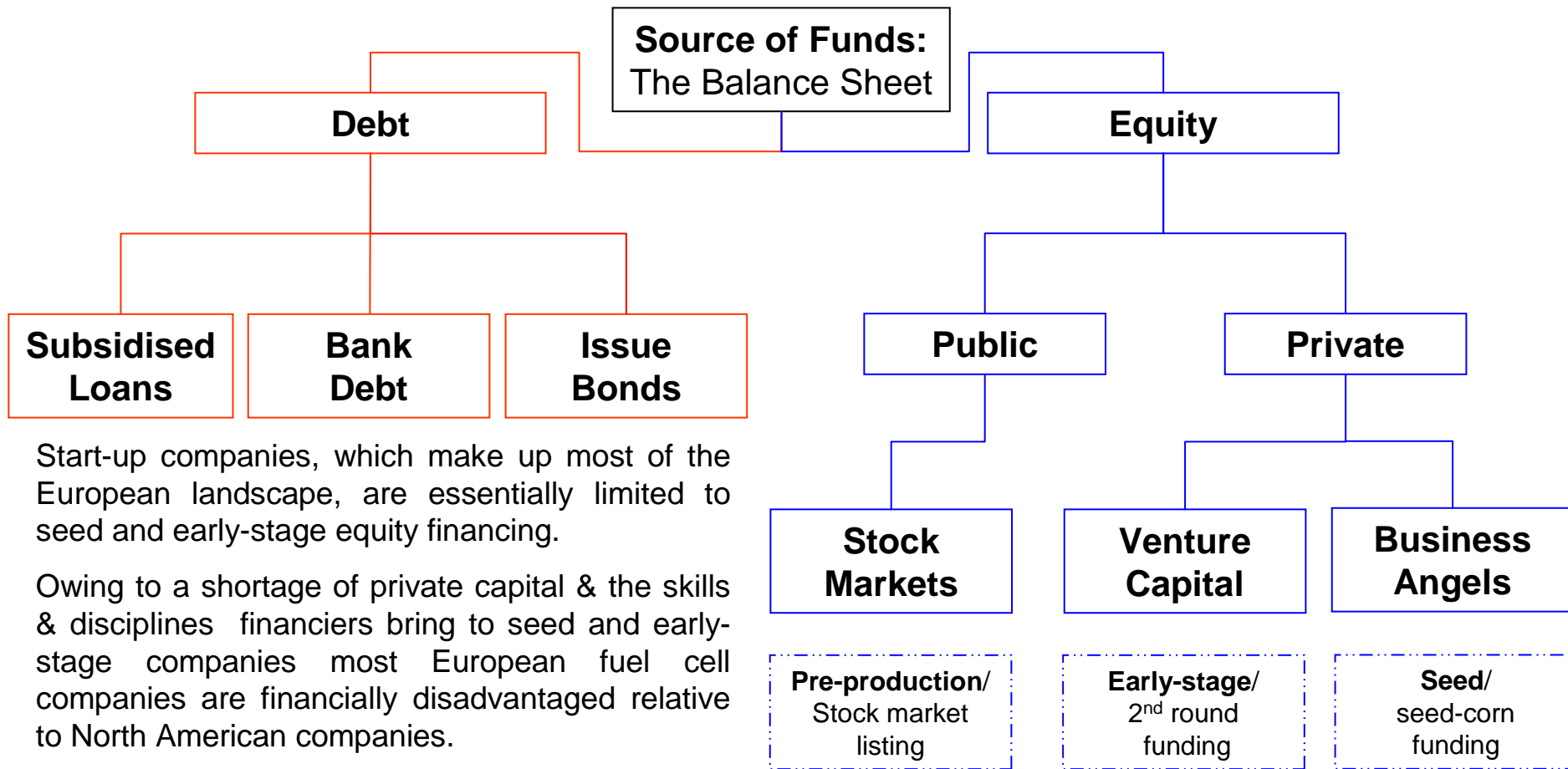
# European Finance

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**“Large increases in cost with questionable increase in performance can be tolerated only for race horses and fancy spouses.” Lord Kelvin (1824 – 1907)**



# Equity Finance: A blot on the European landscape



Start-up companies, which make up most of the European landscape, are essentially limited to seed and early-stage equity financing.

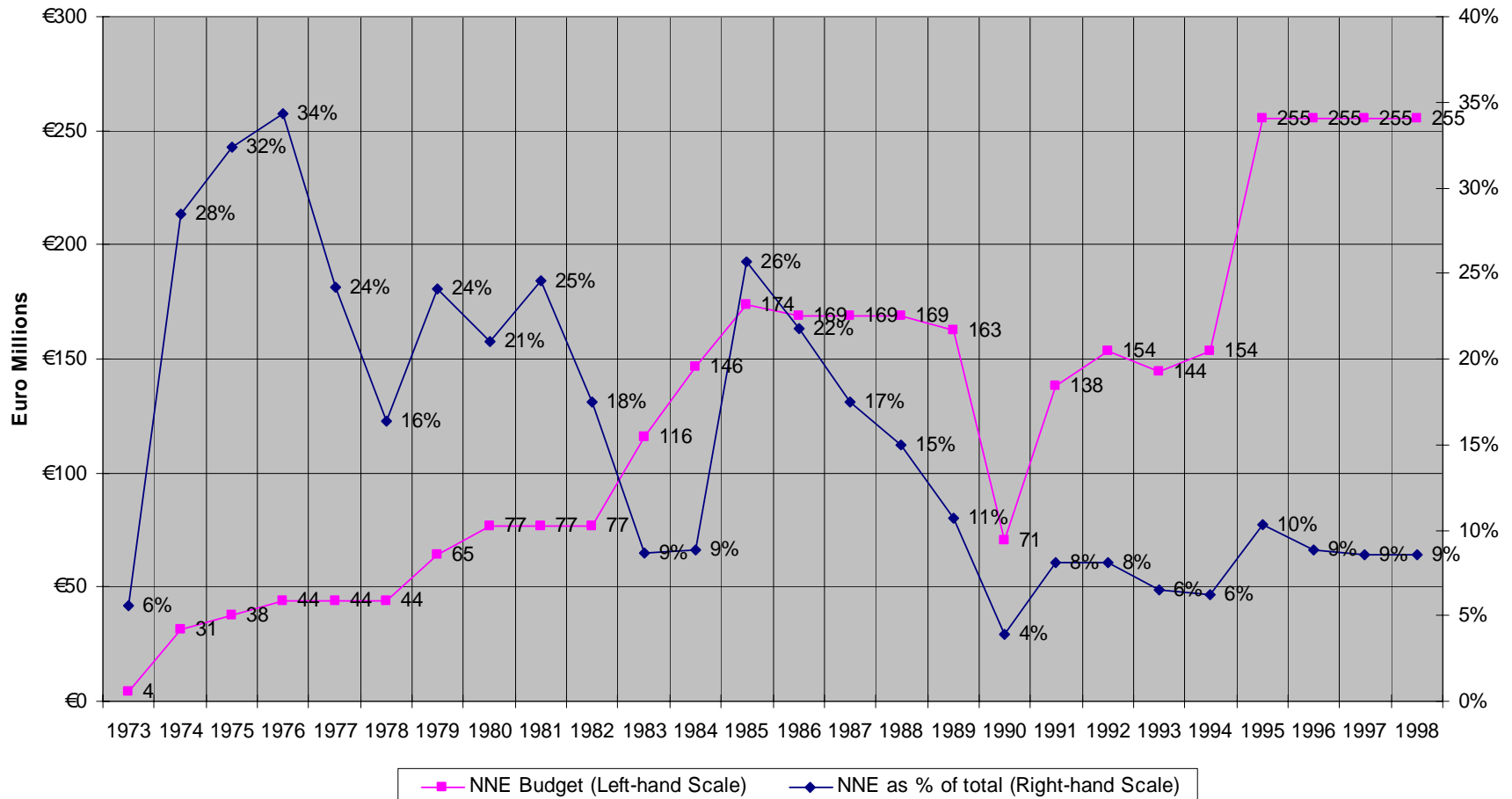
Owing to a shortage of private capital & the skills & disciplines financiers bring to seed and early-stage companies most European fuel cell companies are financially disadvantaged relative to North American companies.

This renders capital allowances and research grants inappropriate for many of Europe's seed and early-stage companies



# European R&D Support: No better

As a proportion of total EU research funding, NNE research funding is falling\*



Source:



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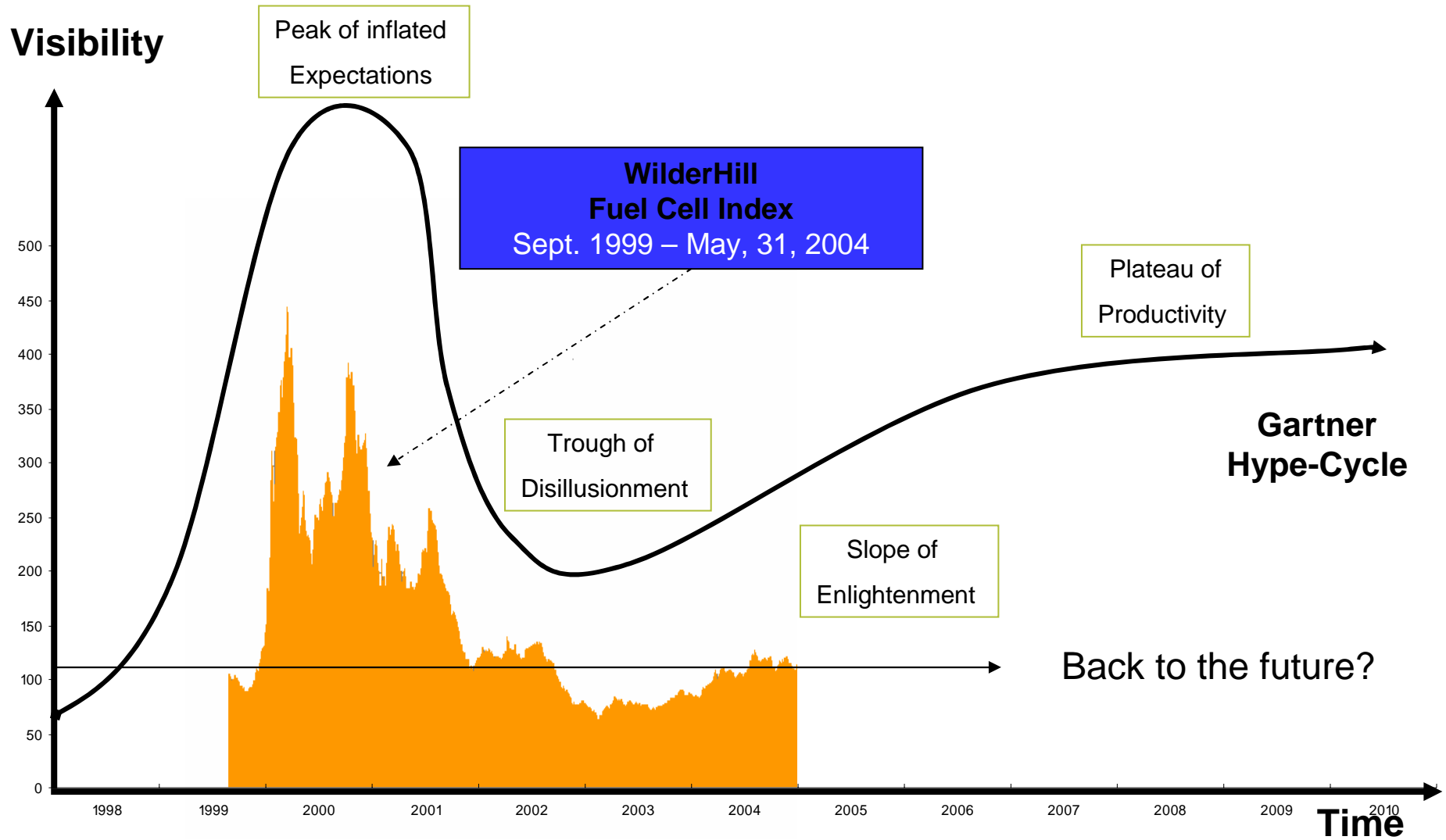
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# The Route to Market

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# North American Fuel Cell Stock Valuations:

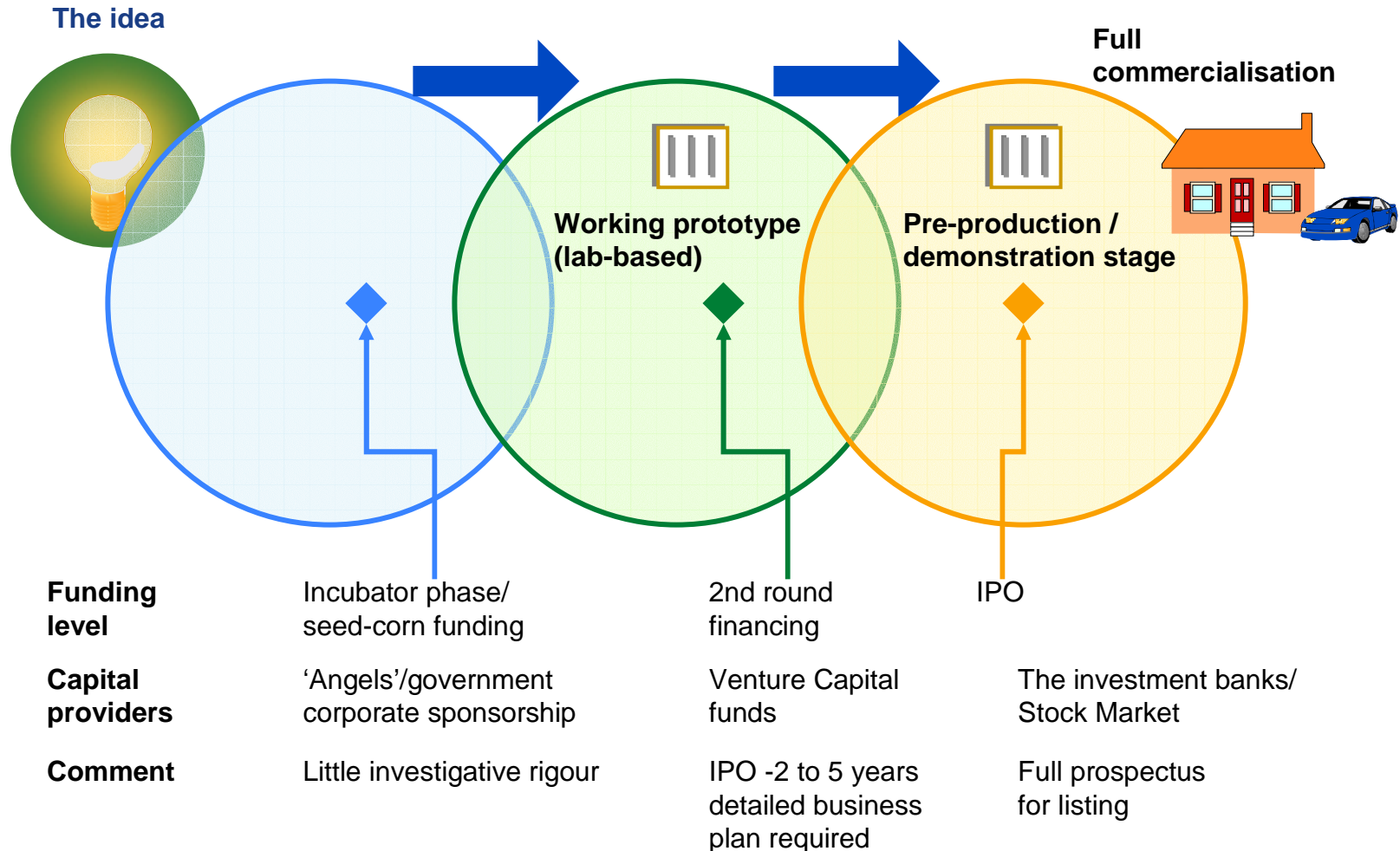


Technology  
Trigger



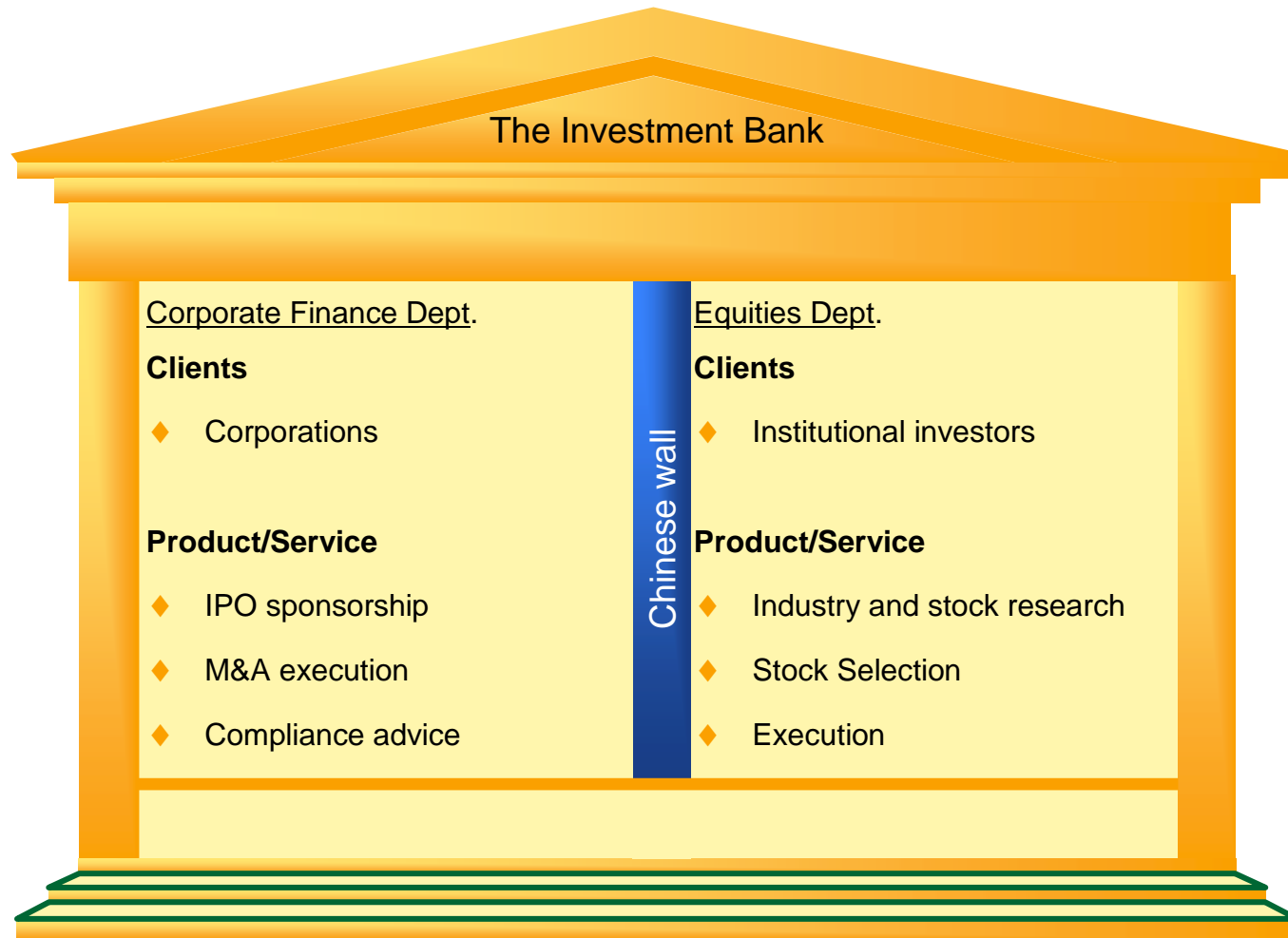
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# Traditional view of the funding route





# The Investment Bank's role



is in both Primary and Secondary



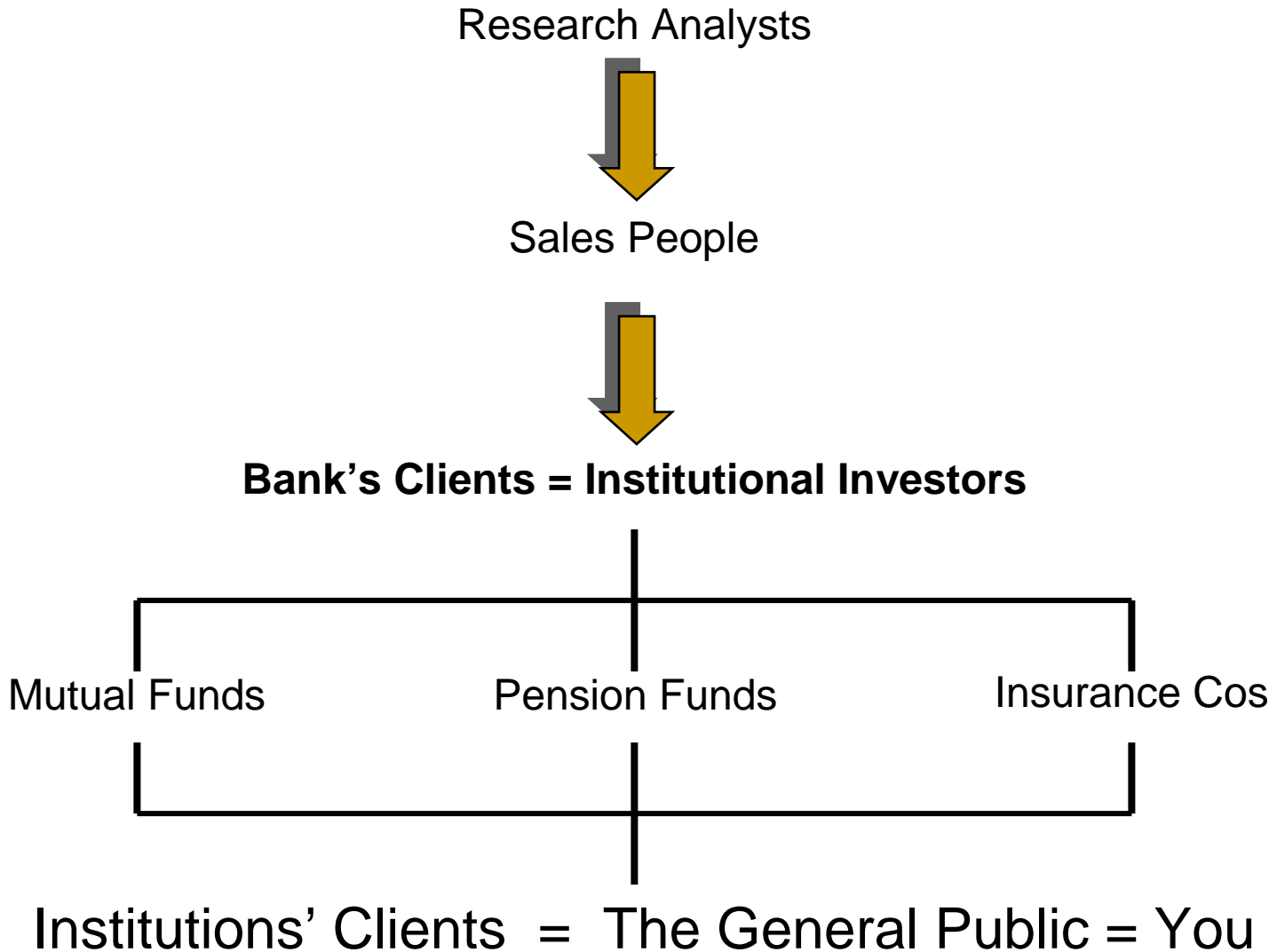
# First Contact: Corporate Finance, which if Satisfied...

- ❖ Will test the business plan
- ❖ Prepare management presentations
- ❖ Co-ordinate lawyers, accountants, PR advisors and tax experts
- ❖ Prepare listing particulars/prospectus

**An expensive process that can involve more than 20 professionals**



# But the Equity Department will sell the Shares



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## It is important to remember

- ❖ A public flotation is the last link in a long chain
- ❖ The bank is unlikely to invest directly; it is a facilitator
- ❖ It will sell the shares but should also protect the company
- ❖ Can you defend your business plan to yourself and others?
- ❖ Does the bank understand your underlying business?
- ❖ Above all be honest pick your advisors well and don't go too early



# Conclusions

- ❖ Europe is about to witness its first flotations of 'pure' fuel cell companies
  - As the structure of a global and European fuel cell industry is taking shape
  - With Germany and the UK dominating in terms of independent fuel cell 'entities'
  
- ❖ Product is in place, but cannot be described as commercial
  - In terms of installed plant the US is clearly ahead of Europe
  - Germany is clearly ahead within Europe, both in players and installed capacity
  - But within Germany it is led by the its States, principally by North Rhine Westphalia
  - The UK is a clear anomaly with a significant number of players and a clear absence of installed plant
  
- ❖ North American Fuel Cell company valuations are more realistic
  - Despite the pending fuel cell flotations, the European scene is still characterised by a crippling shortage of capital
  - The good news is that successful flotations followed by stable secondary market activity will encourage more venture capital activity
  - But the European fuel cell industry will only benefit from these flotations if it keeps its claims within the bounds of reality and makes genuine technical improvements
  - It may even lead to more solid government support for the industry, but don't bank on it
  
- ❖ The route to a market listing is long and difficult
  - It pays to understand the motivations of the finance industry, at each link in the chain
  - At the early stage, risking other people's money comes with a significant loss of independence
  - Flotation may look attractive but comes with considerable new pressures
  - Those with the greatest sense of financial & commercial realism have a greater chance of success, not necessarily those with the best technology

