An industry perspective on the UK hydrogen and fuel cells landscape

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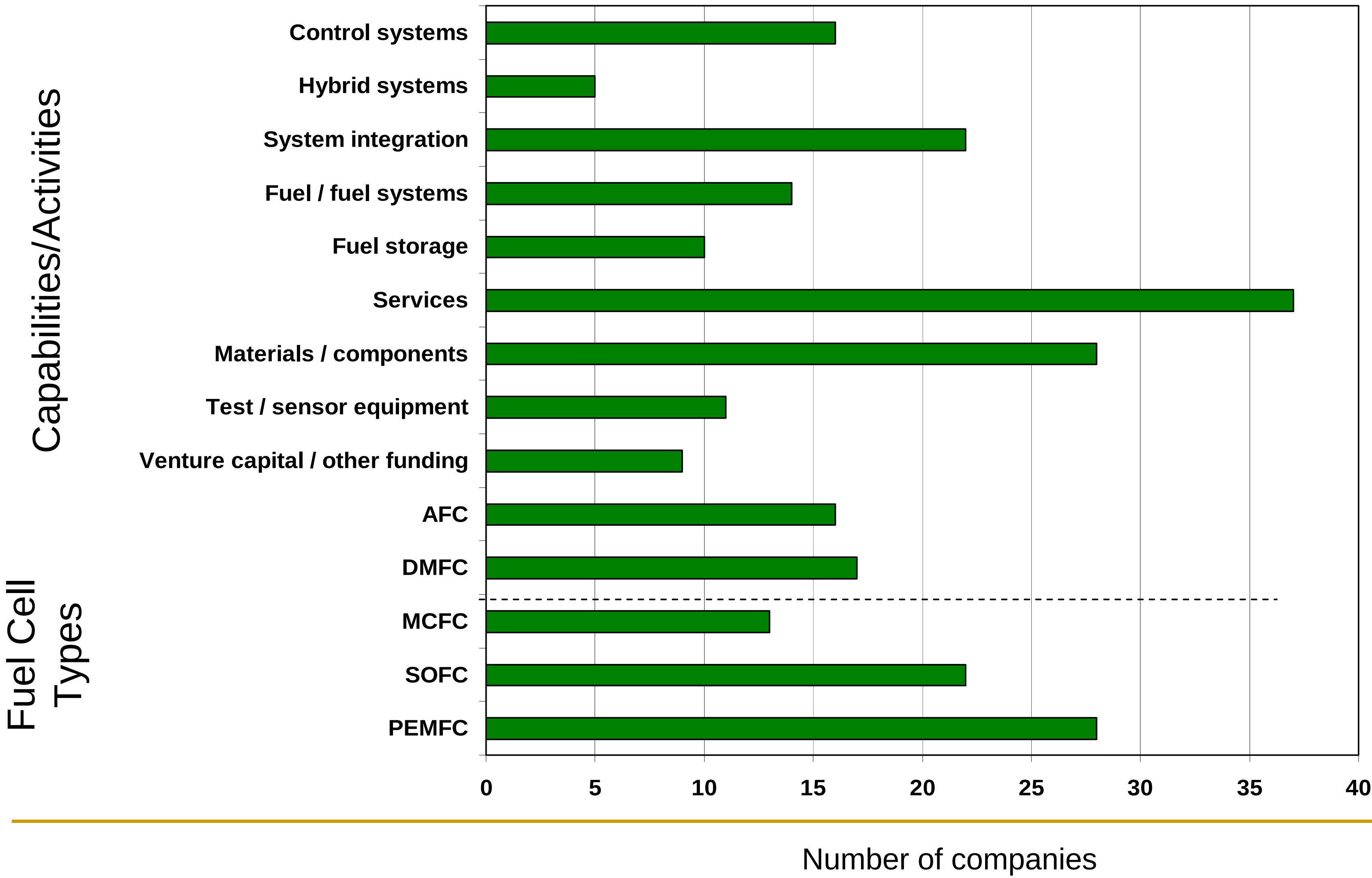
Presentation overview

- Status of the UK hydrogen and fuel cell community
- Some recent UK developments
- Challenges and opportunities

UK industry (1)

- Over 100 UK companies are contributing to the creation of the global hydrogen and fuel cell industry
- 2nd largest group in Europe behind Germany but quite different mix of players and a different context
- Increasing recognition of the City of London as a key source of investment for hydrogen and fuel cell companies – 7 now listed on AIM with combined market cap of over £500m

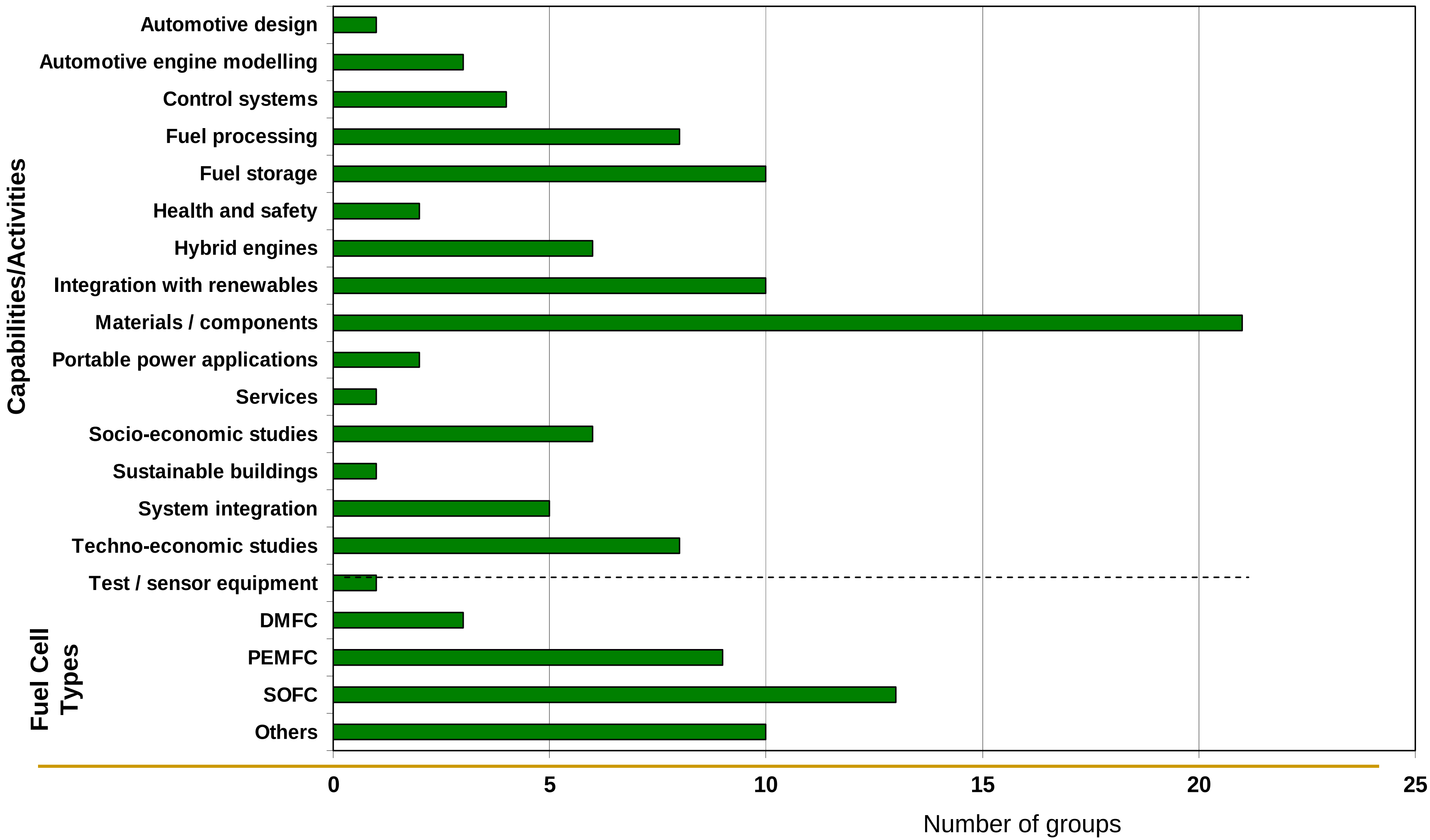
UK industry (2)



UK research community (1)

- The UK is home to a number of the world's top universities, - over 35 academic and contract research groups highly active in hydrogen and fuel cells research
- UK academic base exhibits high degree of collaboration and there are strong links with Germany, the USA, Canada, Japan and China
- Academic institutions work closely with industry and several of new companies are university spin-outs – but this is not the same modus operandi as, say, Japan

Status of the UK Research Community (2)



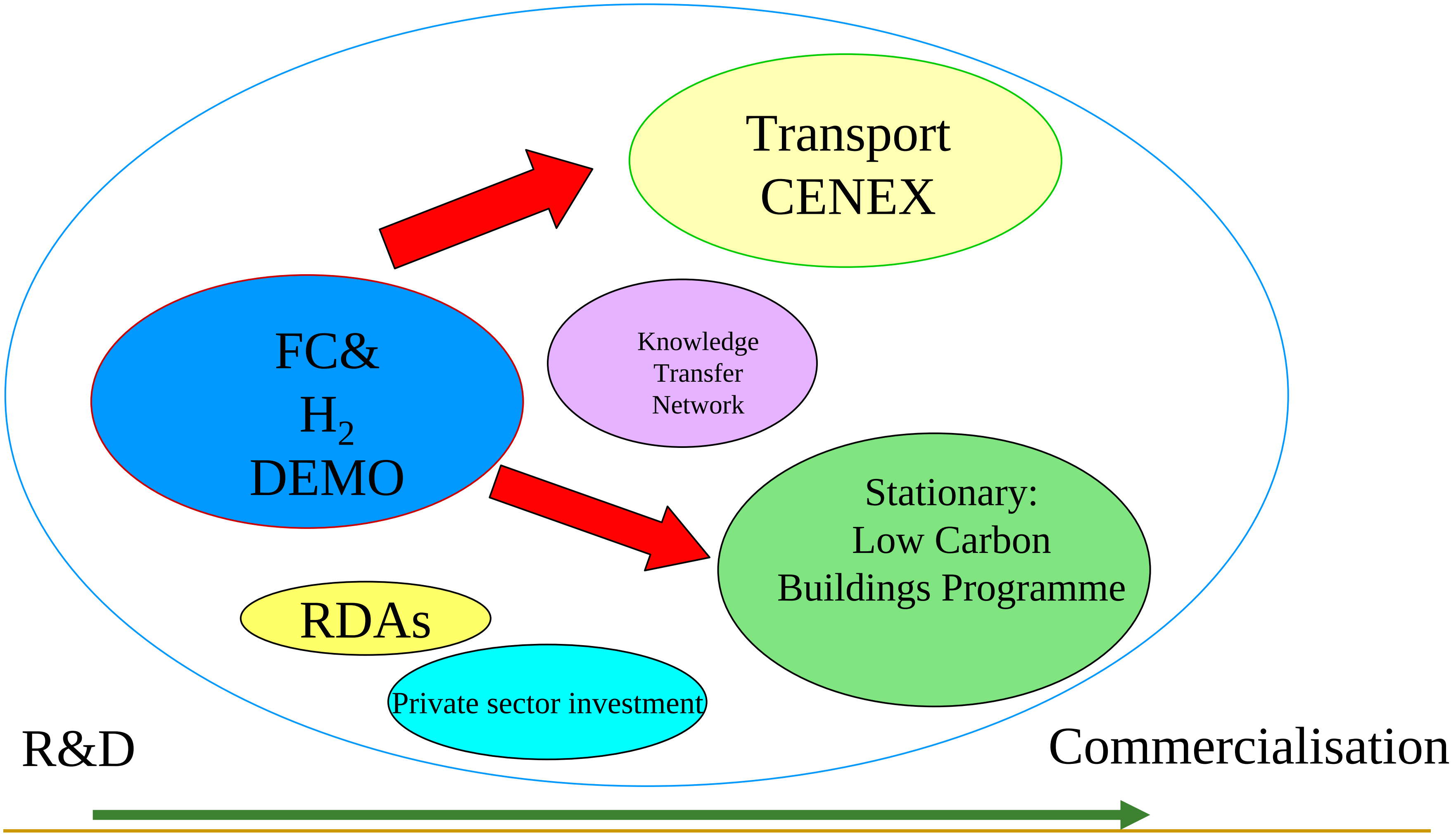
International engagement

- UK companies have extensive international links, with customers, development partners and investors
- Many UK players derive the majority of their income from overseas or are themselves part of non-UK based groups
- So particularly for large companies, apparently limited levels of engagement in a particular country can belie deep involvement internationally
- Conversely, the UK has a strong SME sector in this area and smaller companies can be too resource constrained, or perhaps too action orientated, to be able support many international initiatives
- UK expertise is supporting development of international codes and standards

Recent UK developments (1)

- **Funding for Demonstration activity** - government has recently launched a £15 million pound programme for fuel cell and hydrogen demonstration projects
- **UK Fuel Cell Development and Deployment Roadmap** – with input from the full range of UK stakeholders, this roadmap identifies actions and strategies needed for the UK to overcome the challenges it faces around the development and deployment of fuel cells
- **Regional activity** - increasing interest and activity at the regional level:
  - Fuel Cell Application Facility on Teesside: including various demonstration activities
  - Scottish Hydrogen and Fuel Cell Association: providing a voice for fuel cell community in Scotland and supporting projects such as PURE (Unst)
  - London Hydrogen Partnership: current deployment of 70 vehicles
  - Wales: development of hydrogen cluster in South Wales
- **Formation of Fuel Cells UK and more recently UKHA**

Recent UK developments (2)



Challenges

- Demand-side risk remains high (perhaps too high)
- Most technical and economic progress can only happen after significant market development
- Regulations and incentives need sufficient “teeth”

Opportunities

- Consumer preference is beginning to shift
- Policy makers probably over-estimate the cost of action
- Hydrogen and fuel cells can begin to make a significant contribution to more sustainable energy
- Focus on today and the “experience curve” will deliver the future

Thank you for your attention

And my sincere thanks to Celia Greaves of Fuel Cells UK and Karen Hall of the UKHA for their help in drafting this presentation