

# Faraday Advance: working at the science/industry interface for mutual benefit

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[www.faraday-advance.net](http://www.faraday-advance.net)

# Faraday Partnerships

*.... partnership between industry & science base to strengthen technology development and exploitation ...*

- ◆ 24 Faraday Partnerships:
  - ◆ Core research underpinning product & processes
  - ◆ Two-way flow of technology & skilled people
  - ◆ More effective use of existing support
  - ◆ Industrially relevant training
- ◆ £2.1m by DTI/EPSRC over 3-5years
- ◆ Transition to self-supporting: sustainability

# Overview

- ◆ Faraday Partnerships & Faraday Advance
- ◆ Technology Translators
- ◆ Measuring success
- ◆ Barriers
- ◆ Sustainability
- ◆ Best practice
- ◆ Achievements & initiatives

# Faraday Advance

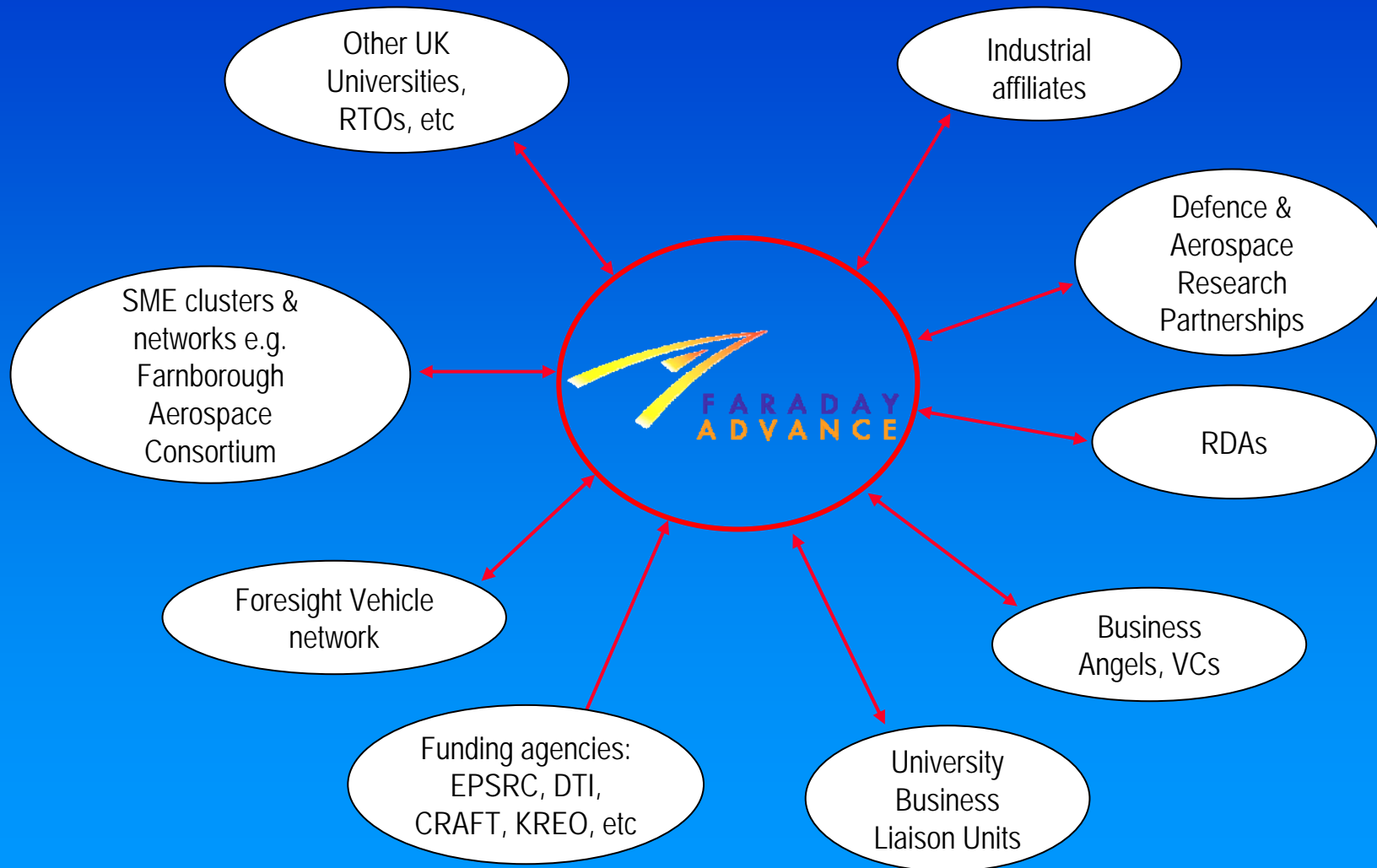
*... future lightweight and high temperature materials for low pollution, high efficiency transport ...*

- ◆ Oxford, Oxford Brookes and Cranfield Universities
- ◆ MIRA, The Oxford Trust and Business Link Solutions
- ◆ Over 50 industrial Participants

# Strategy

- ◆ Understand sector need
- ◆ Balance of response & leadership
- ◆ Balance of academic & industrial support
- ◆ Integrate existing activity
- ◆ Identify exploitable opportunities
- ◆ Engender entrepreneurial culture

# The wider networks



# Technology Translators

- ◆ Deliver the strategy and success
- ◆ Five TTs with Faraday Advance
  - ◆ 4 PhDs
  - ◆ All from industry
  - ◆ Mix of hard and soft skills: management, proposals, IP, etc
- ◆ Self-starters and self-managers
- ◆ Capable of tough love
- ◆ Motivated by a small number of high impact opportunities
- ◆ Tenacious and resourceful!

# Measuring success

OUTPUT					
Research student associates	4	8	12	12	12
Post-doctoral associates	3	4	6	8	8
KTP associates	1	2	4	6	6
Active participants	15	25	35	40	45
% SME Participants	30	35	40	40	40
IP disclosures/patents filed	1	2	4	8	8
Spin-out company	0	0	1	0	1
Non-public research funds of total (%)	35	40	40	40	40
Phds awarded	N/A	N/A	4	8	12
No. Technology Translators (min)	2	3	3	3	3
No. peer reviewed papers	N/A	0.5/£100k	1.0/£100k	1.2/£100k	1.2/£100k
Trade publications	2	4	6	6	6
Effective IP policy			Descriptive		
Evidence of IP policy implementation			Check-list		
Impact on business		Case studies, quantified where possible			
No. projects linked with other FPs (%)	N/A	10	15	20	20
Effective dissemination activities			Descriptive		
Associates employed by industry	N/A	>50%	>50%	>50%	>50%
Internal Assessment		Steering committee (2pa); Quotec tool-kit			
Benchmarking against other Faradays		Inter-Faraday Meetings of similar FPs			

# Barriers

- ◆ Managing expectations
- ◆ Brokerage or delivery
- ◆ Credibility
- ◆ Too many discontinuities
- ◆ Securing academic engagement
  - ◆ Time
  - ◆ Stick versus carrot
  - ◆ Limited resource

# Sustainability

- ◆ 3 year “start-up” funds from DTI for infrastructure
- ◆ One-off ring-fenced research council funds
- ◆ Review by DTI after 2.7 years
- ◆ Further 3 year funds reducing by 70% in years 5 & 6
- ◆ Difficult to generate revenue by brokerage

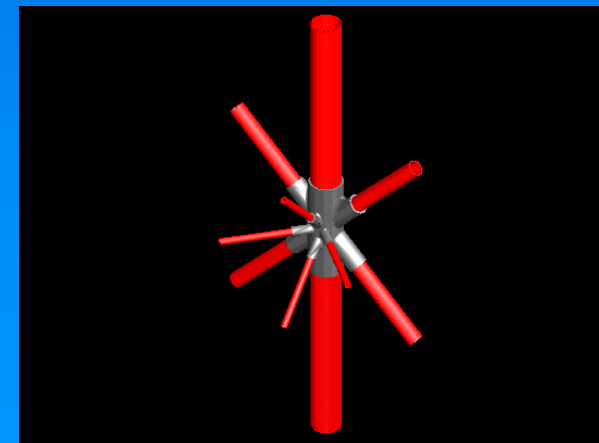
# Sustainability: income

- ◆ Technology audit
- ◆ Industrial short courses
- ◆ Consultancy
- ◆ Proposal writing
- ◆ Membership
- ◆ Abstracting service
- ◆ Workshops
- ◆ Conferences
- ◆ IP/Royalties
- ◆ Training
  
- ◆ Sector/technology road mapping
- ◆ Project management
- ◆ Delivery of regional and national innovation strategy
  - ◆ DTI
  - ◆ OST, HEFCE
  - ◆ RDAs
  - ◆ EU

# Best practice: node optimisation for truss structures



To establish the underpinning science and technological know-how to design, manufacture and test complex multi-material nodes and structures for application in airframe, space, advanced motor-sport and military applications.



# Best practice: node optimisation for truss structures

- ◆ Conceived project concept
- ◆ Assembled the consortium
- ◆ Identified funding source (DTI/CARAD)
- ◆ Prepared and won bid
- ◆ Negotiated collaboration agreement
- ◆ Project management service
- ◆ Patent applications
- ◆ Commercialisation plan

# Achievements & initiatives

- ◆ £6.5M of new RD&TT funds; £2.4M from industry; across 23 live “projects”
- ◆ Engineering Doctorate in High Performance Alloys
- ◆ Industrial Fellowship for Company A
- ◆ KTP for Company B
- ◆ 2 x DTI SMART awards
- ◆ 6 New Industrial EPSRC CASE awards
- ◆ 3 International Technology Service Missions
- ◆ On-line brochure of UK training opportunities

# Achievements & initiatives

- ◆ DRIVENet
  - ◆ Industrial network on materials re-use
- ◆ Future Truck
  - ◆ Student based vehicle modification competition
- ◆ SPRINTCar
  - ◆ University technology showcase
  - ◆ 'Best of British' industrial technology
  - ◆ University–industry collaboration
- ◆ Advance Awards
  - ◆ Discretionary funding for critical periods in product/process development

# Faraday Advance: summary

- ◆ Exposure to business need
- ◆ Multi-institutional RD&TT
- ◆ Diverse training activities
- ◆ Diverse funding sources
- ◆ Culture change and reducing the entry barrier
- ◆ Involvement and support continuum
- ◆ The Technology Translators



The  
Cambridge-MIT  
Institute

***RINET***

*UK Regional Innovation Network*

# Lesley Morris

## Design Council

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