

Partnering with Industry

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Partnering with Industry

- Concepts
 - Business models
 - Partnerships as a business model
 - Golden rules of partnership
 - Funding support for partnership
 - Case studies



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Business Models

- In the most basic sense, a business model is the method of doing business by which a company can sustain itself - that is, generate revenue. The business model spells out how a company makes money by specifying where it is positioned in the value chain.



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Business Models

- The “Value Chain” is the chain of value-adding activities in a company:
 - Supply and logistics
 - Invention, Innovation, Research and Development
 - Production engineering, project management
 - Manufacturing
 - Sales and Marketing, Distribution
 - Human Resources, Finance
- The Value Chain decision concerns the focus of the company on one or more value-adding activities



Business Models

- Partnering including collaborative R&D
- Licence
- Skills transfer
- Spinout – next



CERN terminology for business models

- Precompetitive collaborative R&D (= partnering)
- Joint application-specific developments (= partnering)
- Exploitation (= licensing)
- Spinouts
- Services and consultancy
- Purchasing
- Standardisation
- Publications



Other terminology - e.g. web businesses

- Brokerage
- Advertising
- Infomediary
- Merchant
- Manufacturer (Direct)
- Affiliate
- Community
- Subscription
- Utility

Source: Michael Rappa, North Carolina State University



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What is a partnership?

- Pre-competitive
 - Pure R&D required before the technology can be used in targeted projects
- Application-specific
 - Technology sufficiently mature
 - Intellectual Property protection present (?)
 - Understanding of target market and application (?)
 - May involve supply chain



Benefits to CERN

- Interesting applications of technology
 - Develop suppliers
 - Spread technology to other applications
 - Possibility for multidisciplinary research (e.g. healthcare)
- Gain technical knowledge by working with industry
- Gains funding and retains staff
- Helps make the case for particle physics



Benefits to industry

- Leverage technology development
 - Access technologies developed with public funds
 - Develop new products and services
 - More cost-effective than “in-house” development
 - Benefit from working with academic partners



Issues for partnerships

- Timescale mismatches
- Technology immaturity
- Technology too specific to particle physics
- Market / profit potential too small
- Commercial and academic motives differ
- Resources available for working with companies



Issues for partnerships

- The “X” and “Y” models of collaborative partnerships.



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Golden rules of partnership

⇒ **Goals, People, Project, Resources**

- Shared technology requirements to support real industry and science **goals**
- **People** have interest and enthusiasm to work together, despite different modes of thought
- **Project** management and commitment to generate momentum
- Adequate **resources** and timescales for delivery



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Modes of partnership

- Fellowships – sponsor research at CERN
- Consultancy – skills transfer
- PIPSS – funding “win-win” collaborative partnerships
- Consortium projects – partner to gain technology
- Licensing – for CERN developed Intellectual Property
- Spinout formation – with Seed Fund support
- Enterprise Fellowships – developing entrepreneurship
- Business Plan Competition – seeding spinout formation



PIPSS

- PPARC's industrial programme support scheme
- Provides funding of up to £300k (700kCHF) to promote technology and skills development
- “Win-win” projects provide development of technology for CERN/PPARC Science and Industry
- Flexible over 1-3 years – over 80 awards so far
- Quarterly applications and fast turnaround



Contractual partnerships

- Partnerships don't always need PPARC/CERN funding
 - Opportunity nearer market
 - Company wants speedy results
 - Company wants control over Intellectual Property
- Find appropriate partners and negotiate agreement
- Be reasonable with Intellectual Property ownership



Workshops and KITE Club

- A series of workshops in technology areas of interest to industry and the PPARC community
- Future workshops highlighted in “Frontiers”
- Future UK events:
 - Homeland security 19.10.06
 - Dental imaging 31.10.06

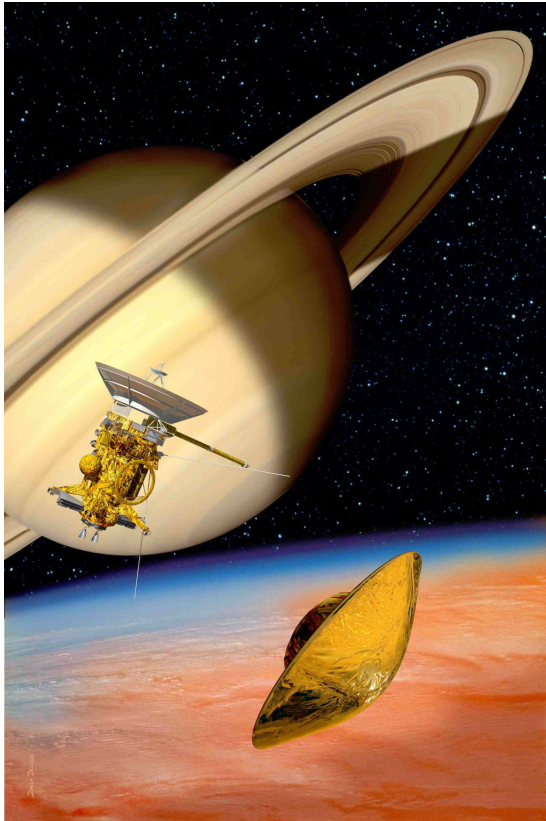


Partnering with Industry

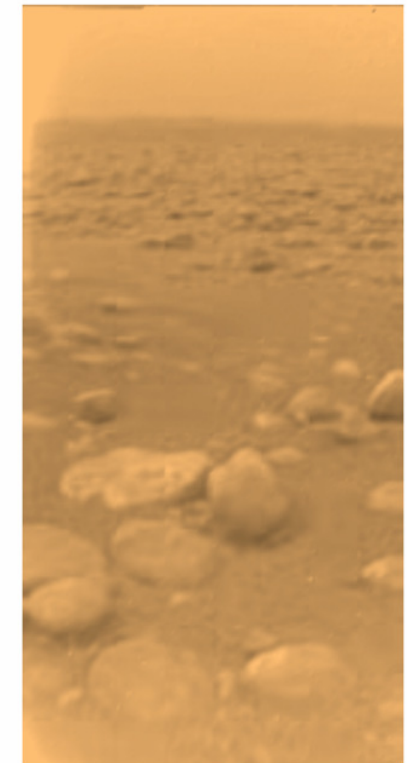
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The Logic for Logica of working in Space Science



- Worked carried out by Logica CMG on ESA Huygens mission to Titan led them to develop "Cortex", an industry best practice system for complex management projects. Project managers involved have gone on to lead a £100m NHS software contract and £80m MoD defence communications contract.



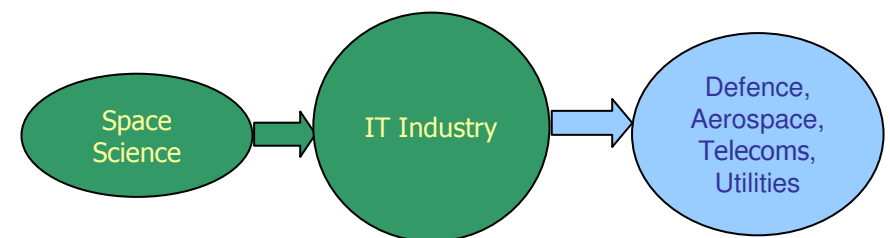
First image of the surface of Titan. ESA

The Logic for Logica of working in Space Science

- Logica is a major supplier to PPARC's space science programme through the European Space Agency
- This has demonstrable spin-off through direct IP and skills creation in the defence, aerospace, telecommunications and other sectors
- LogicaCMG software supports a third of the world's satellites
- LogicaCMG has (in 2004):
 - 21,000 employees (6,000 in the UK)
 - £1.7bn turnover



ESOC Mission Control. ESA



The Logic for Logica of working in Space Science

- Logica's expertise developed through science missions has helped its other business sectors:
 - Experience gained on PPARC-funded projects in flight dynamics software has led directly to at least €50m export contract wins
 - In satellite communications, the mission control system used by Eutelsat in Paris to control their fleet of 18 spacecraft is a development of Logica's work for ESA
 - The ESA Huygens project helped Logica to develop project management practices now known as 'Cortex' that represents industry best practice and is deployed on other complex projects.
 - A further spin out of Huygens was that one manager has gone on to lead the ~£100m NHS software project and a team leader is now managing an £80m MoD defence communications contract



Source: LogicaCMG, September 2005

Case Studies

- Astronomical optics for novel ophthalmoscopes
 - Partners spent a long time deciding on collaboration
 - Partnership includes company, astronomy group and clinical ophthalmology department
 - Project management every month
 - Clear technical goals and risk management
 - Company performed market assessment before committing resources



Case Studies

- Effect of cosmic radiation on aircraft crew
 - High-level endorsement from company
 - Collaboration involves several partners
 - Technical and commercial goals clear
- Partners now discussing commercialisation



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Thank you for listening

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