



## Public Sector Research Establishments

# Spin-outs – a PSRE perspective

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## Commercialization at STFC - summary

- **Spin-outs**
  - 8 spin-out companies in last 4 years, around £20M investment so far
  - Technologies based in physical sciences and engineering
  - Fields include medical diagnostics, security & industrial instrumentation
  - Latest spin-out is Orbital Optics Ltd, in field of low-cost space cameras
  - Expect to add 2 or 3 spin-out companies per year
- **IP & licensing**
  - 61 patent families of which 56% are licensed or otherwise allocated
  - ~50% of patents involve detector technology
- **Sales**
  - Rapidly increasing activity selling access to expertise & facilities

## STFC spin-out: Orbital Optics Ltd

- 'Low cost' imaging satellite camera
- TopSat mission:
  - Camera - Rutherford Laboratory
  - Satellite – Surrey Satellites Ltd.
  - Mission – Qinetiq
- Company formed end 2005
- £0.5M initial investment
- MDA Corp. bought majority stake in March 2007
- A good partnership:
  - MDA has market access etc.
  - OOL has technology etc.



## PSRE spin-outs – all you need is....

- Business plan –
- Management team –
  - Relevant sector experience
  - Operational, technical, sales & financial experience
  - ‘Done it before’ small company experience
  - Previously made money for investors
- Defined products –
  - Well protected intellectual property
  - Tested against market requirements
  - Identified competitive advantage(s) – ‘10X’ rule
  - Clear understanding of how to access the market & deliver the product
- Finance –
  - Money to last >18 months
  - Supportive investors
- Market demand –
  - Sales (or other compelling evidence of market demand...)
  - A really big (and preferably expanding) market



## PSRE spin-outs – all you usually start with is.....

- An idea
- Some enthusiasm

..and a demonstrator would be good....

## PSRE spin-outs – key aspects

- **Plan**
- **People**
- **Money**
- **Products**
- **Location**
  
- **Aim to align objectives of:**
  - **PSRE**
  - **Inventors**
  - **Management**
  - **Investors**
  
- **Share holdings?**

## PSRE spin-outs – business plan

- You have to have one.....
- It's unlikely that the technical inventors are going to write it.
- Who is? Why would they do this? Can you find a suitable 'entrepreneur'?
- Some templates:
  - PUK/HMT: "Suggested Business Plan Contents for Commercial Opportunities Arising from High-Technology Areas of the Public Sector"
  - BVCA: "A Guide to Private Equity"
  - Harvard Business Review "How to Write a Great Business Plan" Jul/Aug '97



## PSRE spin-outs – defining products

- Why people will part with £££ for the product(s)?
- Worth investing time and energy into defining product(s)
- Examine the products critically in a team:
  - Involve people with insight into the market
  - Gather the evidence
  - Have robust discussions
  - Focus on well defined products

## PSRE spin-outs - licensed IP

- Generally have to license (not assign) – which is fine
- Scope of the licensed IP
  - Investors likely to want broad scope to allow flexibility
  - PSRE needs to ensure compatibility with existing & future work
- Exclusivity
  - Investors will want to maximize value of IP asset via exclusivity
  - PSRE needs to ensure compatibility with existing & future work
- Claw-back provisions
  - Investors generally have a strong dislike for most claw-back arrangements
  - PSRE probably needs to retain this right in case of insolvency
- Pipeline
  - Investors want to secure future access to improvements etc.
  - PSRE probably needs to restrict this to specific individuals and time period

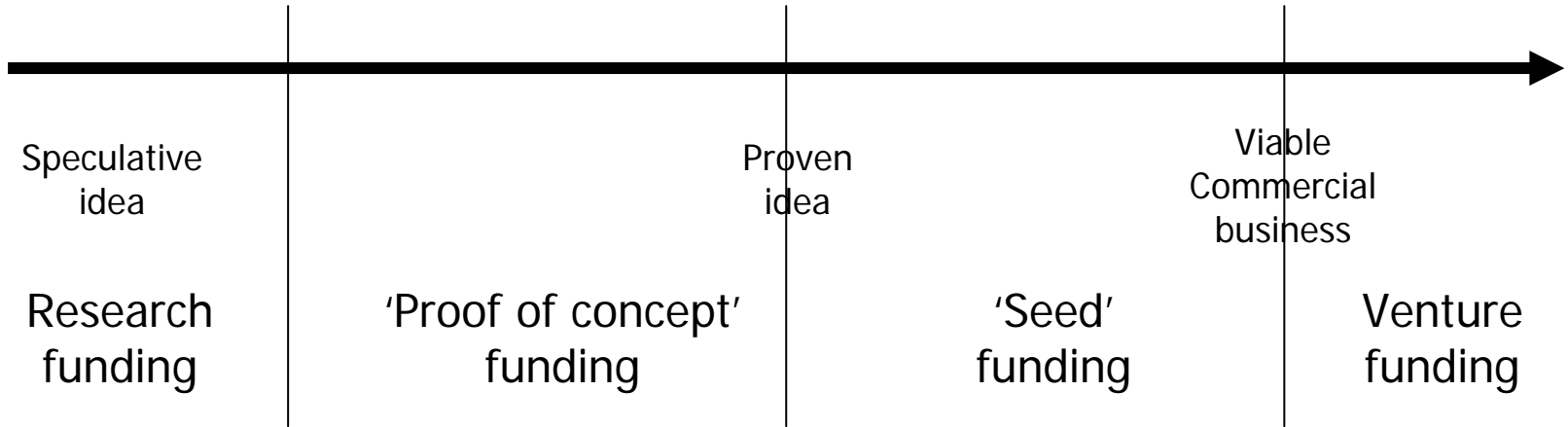
## PSRE spin-outs - investors

- Don't run out of money
- VCs aren't going to invest out of goodwill

### Other points about institutional investors:

- Will be more interested if other investors are too
- Rarely understand your business better than you do
- Should make rational decisions – but don't always
- Start with a range of funding options (assuming none are guaranteed)
- Invest in communicating with them

# PSRE spin-outs – funding sources



Angel investors  
Angel networks  
Public-sector funds



Specialist VCs  
Grants  
Revenue

## PSRE spin-outs - people

- STFC experience regarding technical inventors:
  - Generally don't want to leave PSRE
  - Close interaction between company and inventor highly beneficial
  - PSRE should have clear access mechanism – overtime? part-time?
- Companies need sector-experienced management:
  - Makes raising funding much less difficult
  - Generally need to have funding to attract
- 'Start-up' management:
  - Gets business going and secures initial funding
  - Need a succession plan
  - Be clear about the plan to all involved
- Board of directors:
  - Should be useful, relevant people
  - Not just shareholder representatives



## PSRE spin-outs – the location advantage

- Spin-out companies benefit from:
  - Initially a corner of an office while getting going – preferably free
  - Low-cost short-commitment accommodation
  - A route to growing space
  - Access to facilities (....on a commercial basis...)
  - Access to infrastructure
  - Proximity to inventors