

Technology Transfer Mechanisms

- Formation of new technology-based companies from R&D organizations (e.g. spin-offs);
- Licensing patents, software and technical know-how, prototypes;
- Performing contract R&D for clients and transferring the results;
- Sharing information in interactive events (conferences, workshops, briefings, visits);
- Performing cooperative R&D;
- Forming R&D or technology transfer consortia;
- Providing technical assistance;
- Employing unique R&D facilities and capabilities;
- Activities which catalyse or facilitate any of the above.



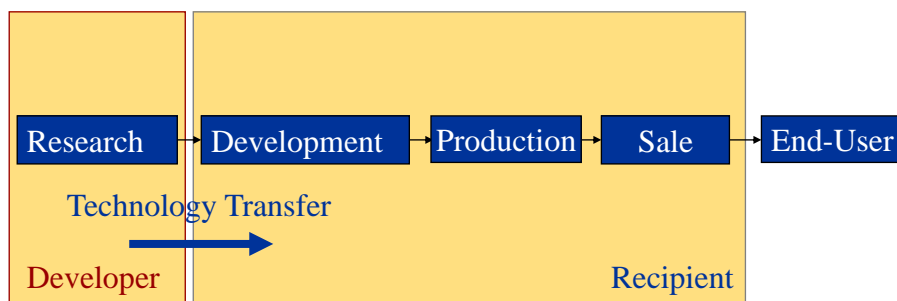
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Open Science Model

Services:

- To the developer: Partner Search, Funding
- To the recipient: Funding, Project generation, Management, BPR, Tech. Marketing
- To both: IPR/negotiation

**From research to technology transfer:
you can “achieve” innovation**



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Open Science Model

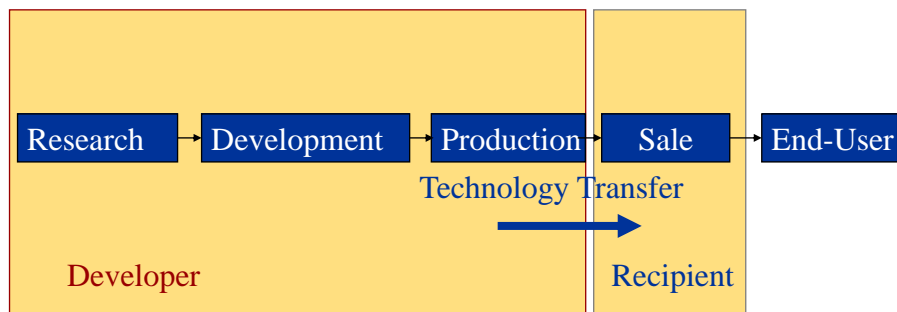
- Universities do not retain any IP rights (except citation)
- No need for IP management
- Little incentive to invest in applications (both by culture and lack of protection)
- No direct impact on regional economy
- Still the most widespread model in Europe

License Model

Services:

- To the developer: Partner Search
- To the recipient: Technology Marketing
- To both : IPR / negotiation

**From production to technology transfer:
you can “buy” innovation**



License Model

- PROs can claim ownership of inventions and other IPRs, but must diligently protect and seek licensees
- (Strategic) patenting important because reconciles publication with investment
- Requires professional IP management
- PROs can grant licenses
- Widespread in the USA since Bayh Dole Act (1980)
- Very successful in the US:
 - License revenues for PROs and investors
 - New products
 - New companies



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License Model

- Non uniform IP laws across Europe
- Patenting costs are prohibitive (5xUS)
- Ownership of results by PROs not (yet) recognised as best practice)
- Not enough uptake by European industry
- Most deals are with non-European licenses: does not support European economy



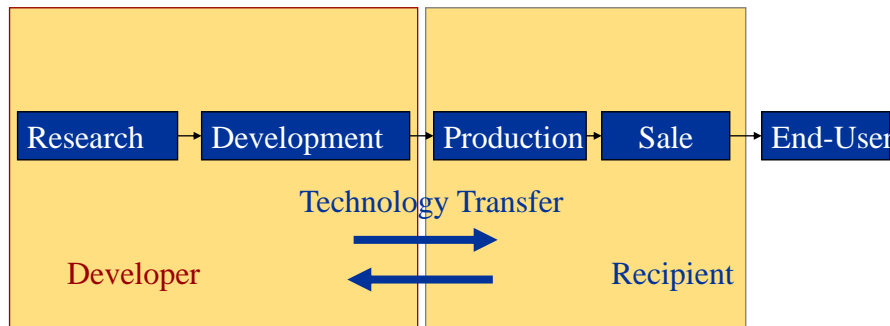
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Interaction Model

Services:

- To the developer: Partner Search, Funding, IPR
- To the recipient: Funding, BPR, Technology Marketing
- To both: IPR /negotiation

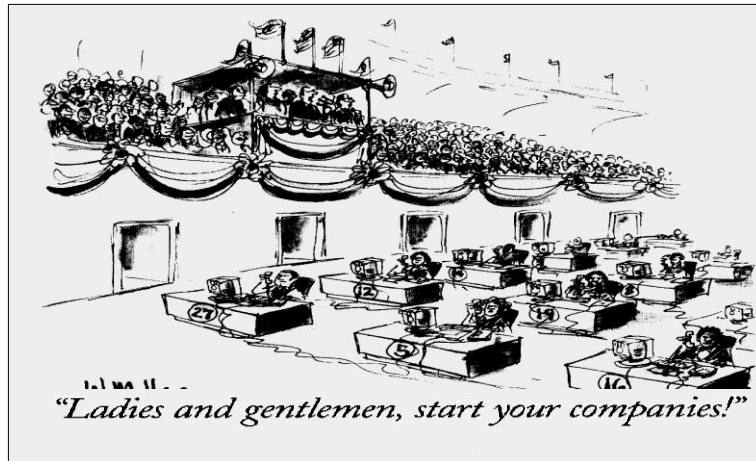
From development to technology transfer: you can “co-manufacture” innovation



Interaction Model

- Builds on the Licensing Model and IP
- Background technology & patent become tools to seed development
- Proof of principle is made in collaboration with industry
- Demonstration funded in part by public money (EU Framework programs)
- Foster innovation as interactive process; compatible with University mission if:
 - Contributes to science
 - University can capitalise on foreground
 - Fair share of returns
- Contributes to regional economy

Innovation . . . in business



Spin-off dynamics

**Spin-off evolution is not the survival
of the fittest (those that live by the
sword...)**

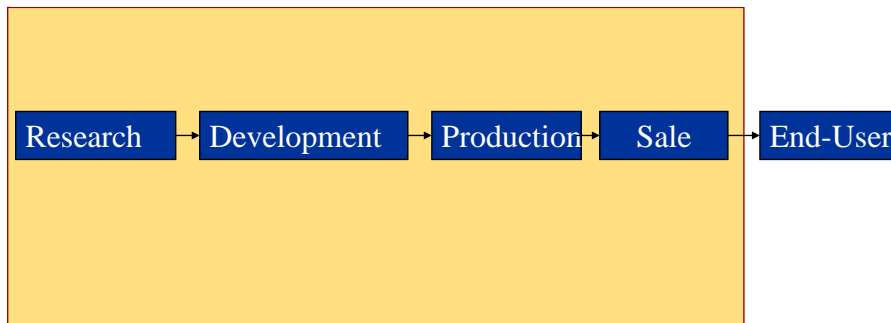
. . . but of those best able to adapt

Services:

Technology watch, Partner search, IPR, BPR,
Business Plan, Technology Marketing, Financing, VC
and Seed Capital

Spin-out Model

From research to technology transfer:
you can “do” innovations



Spin-out Model

- Builds on the Licensing Model
- Background technology used as platform to develop new business concepts
- Proof of principle by the researchers themselves
- Development housed in company structure funded by seed capital and virtual capital
- Only alternative when no industry partner in sight
- Contributes to regional development
- Contributes to rejuvenating economy
- Slow process: more than 10 years for mature companies

Putting Spin-offs to work

The washing Machine spin-off case/1



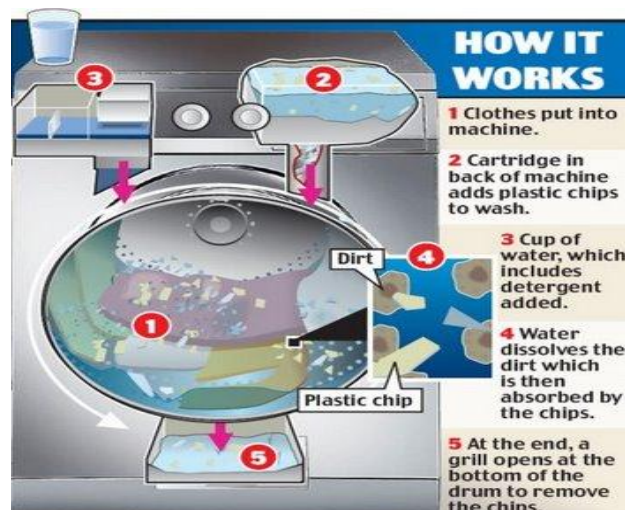
- Waterless machines. Only one cup of water and plastic chips lasting 100 washes (Leeds University spin-off).
- Xeros received £500,000, or nearly \$1 million, in funding from its partner, IP Group. The new machines would use less than 2 percent of the water and energy of a conventional washing machine.



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Putting Spin-offs to work

The washing Machine spin-off case/2



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Putting Spin-offs to work

The washing Machine spin-off case/3



- Plastic chips are used to remove dirt and stains from clothes, leaving them dry and reducing energy consumption as there is no need to use a dryer after the washing cycle.
- A typical washing machine uses about 35 kilograms of water for every kilogram of clothes, in addition to the power needed to heat the water and dry the clothes.



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Putting Spin-offs to work

The washing Machine spin-off case/4



Exercise/ Questions:

- *What are the risks?*
- *Would you invest in this venture?*
- *20' case reading*
- *Work-Group discussion 20'*
- *Results presentation and conclusions 35'*



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