University Spin-offs

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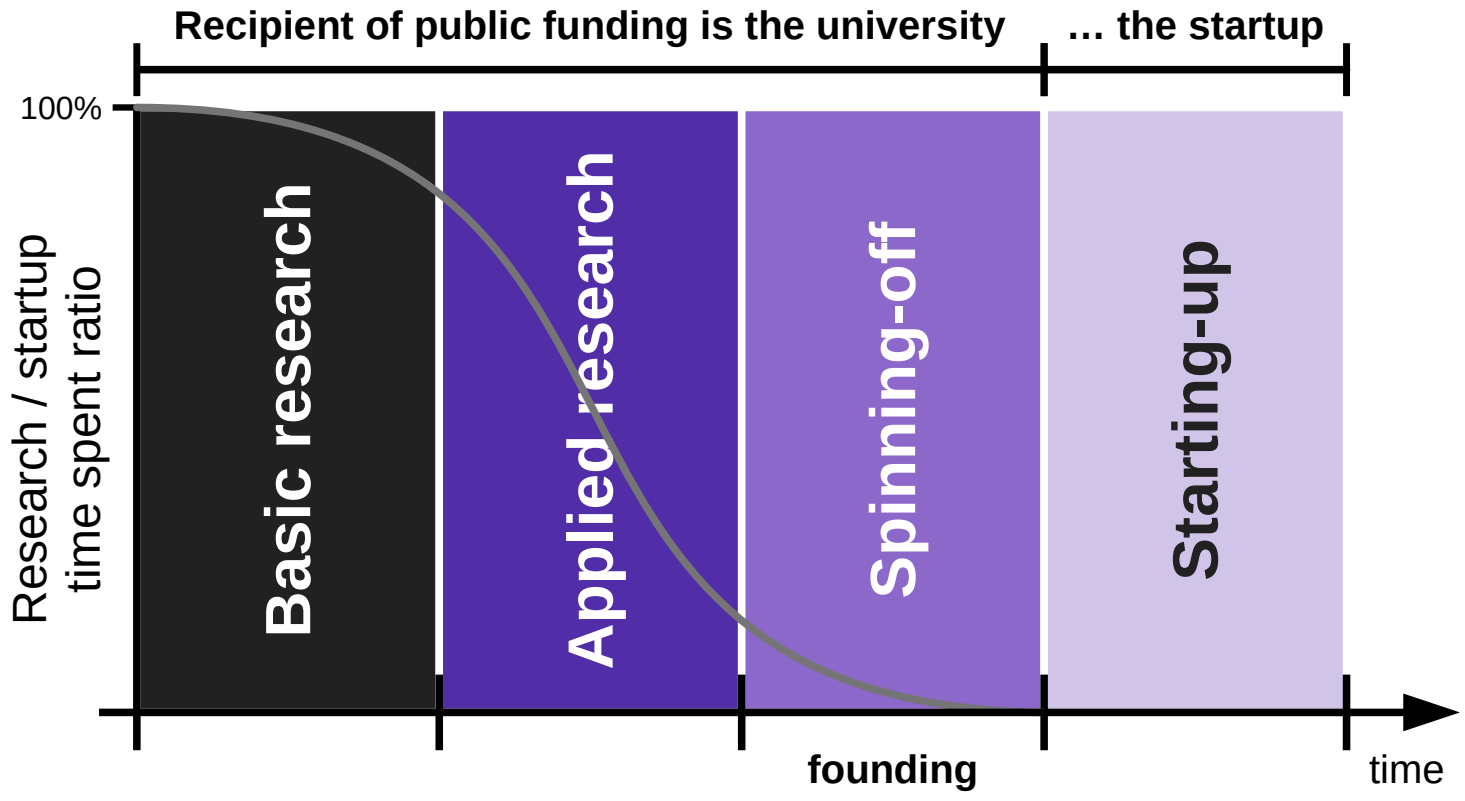
COSS D03

Agenda

1. Phases and public funding
2. The applied research phase
3. The spinning-off phase
4. IP rights management
5. The role of the university

1. Phases and Public Funding

Overview of Phases and Funding Recipients



Forms of Public Project Funding

- Public grants [1]
  - Grants to university
    - Basic research funding
    - Applied research funding
    - Innovation / startup funding
  - Grants to startup
    - Direct startup funding
    - Pre-competitive research
- Contract research [2]

[1] German: “Antragsforschung”
[2] German: “Auftragsforschung”

Phases with Example Funders and Programs

#	Phase	Funder	Program	# Persons	Amount [PM p. P.]
1	Basic research	DFG ERC	Sachbeihilfe Advanced Grant	1-3 (up to 6)	36
2	Applied research	BMBF BMWi	VIP+, START interaktiv Various	1-4	18-36
3	Spinning-off	BMWi	EXIST Forschungstransfer	3-4	18
4	Starting-up	BMWi	EXIST II	3-4	6
5	...	BMWi	KMU Innovativ	...	12-24

Phase / Maturity / Readiness Name Equivalencies

Phase	Maturity	Technology Readiness Level (EU)
Basic research	Research	TRL 1 (basic principles observed) TRL 2 (technology concept formulated) TRL 3 (experimental proof of concept)
Applied research	Validation	TRL 4 (technology validated in lab) TRL 5 (technology validated in relevant environment)
Spinning-off	Exploitation	TRL 6 (technology demonstrated in relevant environment)
Starting-up	Exploitation	TRL 7 (system prototype demonstration) TRL 8 (system complete and qualified)

2. The Applied Research Phase

The Applied Research Phase

- Takes place at the university
  - Follows the basic research phase
  - Funded through validation projects

Example Funding for Applied Research

- Funding source
  - Funder: BMBF
  - Program: START interaktiv
  - Content: 3-4 people up to 3 years
- Grant process
  - Requires team and innovation
  - Two-stage process
- Does not require incorporation

3. The Spinning-off Phase

The Spinning-off Phase

- Starts at university and transitions to startup
  - Follows the applied research phase
  - Turns the research project into a product

Steps for Spinning-off

- Acquire funding
- Found company
- Acquire IP rights
- Build out product
- Acquire funding

Example Funding for Spinning-off

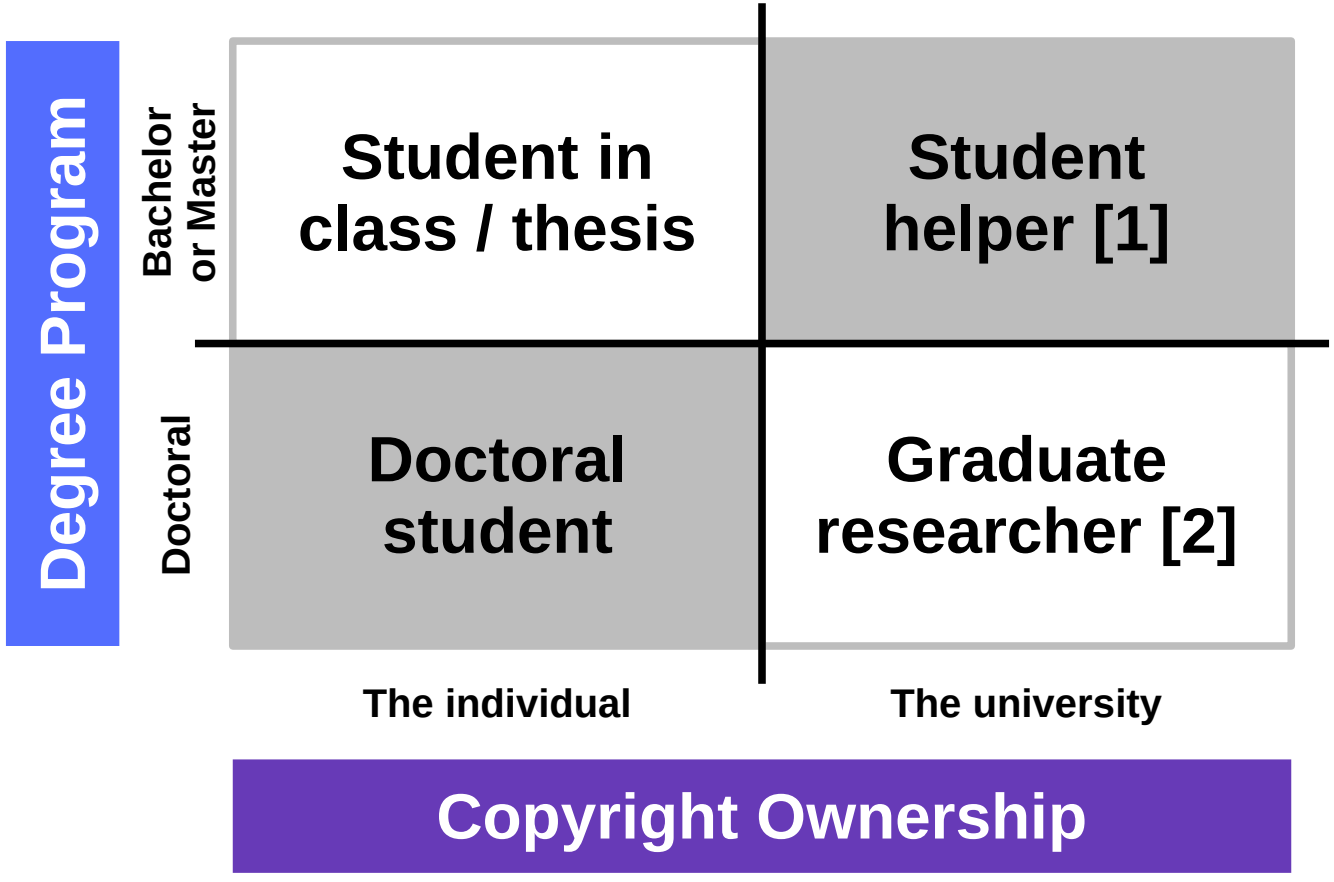
- Funding source
  - Sponsor: BMWi
  - Program: EXIST Forschungstransfer
  - Content: Four people for up to 18 months
- Grant process
  - Apply with team and business plan
  - Get invited to pitch to jury
- Requires incorporation

Startup Incorporation

- Needs to happen during the spinning-off phase
- At this stage, all IP is still owned by the university

4. IP Rights Management

Who Holds Which Rights?



[1] German: “Studentische / wissenschaftliche Hilfskraft”
[2] German: “Wissenschaftliche Mitarbeiter:in”

Graduate Researchers / Ph.D. Students

- In Ph.D. student role, they
  - Own the rights to what they do if
    - The professor gave them time off from project work
    - It falls within the scope of their dissertation topic
- In employee of the university role, they
  - Transfers the IP rights to the employer (the university)
  - German Urheberrecht stays with researcher, but is inconsequential

Professor

- In Germany, owns their work, even if paid

Bachelor and Master Students

- In student role, students
  - Own the rights to anything they do voluntarily and for free, including
    - Course work, final theses, volunteer (outside) work
- In party-to-a-contract role, students
  - Can transfer IP rights to university if compensated for it
    - Work-for-hire: Student job [1]
    - Work contract [2]

[1] German: “Arbeitsvertrag resp. Dienstvertrag”
[2] German: “Werkvertrag”

Ensuring a Clean Intellectual Property Situation

- Acquire IP rights in advance
  - Pay for work
    - Work-for-hire
    - Work contract
  - Contributor license agreement
- Acquire IP rights after the fact
  - Letter of forfeiture
  - Work contract
- Document no IP rights claimed
  - Confirmation letter

5. The Role of the University

Transfer of Intellectual Property

- For the startup to proceed, it needs to acquire the IP rights from the university
- **What the university can offer**
  - Exclusive rights to closed source
  - Non-exclusive rights to open source
  - Rights to other intellectual property
- **What the university may ask for**
  - Lump-sum payment (unlikely)
  - Incremental conditional payments
  - Share of founders' equity
- Commensurate with the (as assessed) value of the intellectual property

Valuation of Intellectual Property (to Transfer)

- Pricing strategies
  - By assumed value (using outside assessor)
  - By labor spent on it (replacement cost method)
  - By lines of relevant code (pricing by line of code)

Incremental Conditional Payments

- Structure total payment into sequence of payments
  - Dependent on external events (revenue, profits, acquisition)
  - Until total value is reached

Share of Founders' Equity

- The University may ask for founders' equity
  - A request for equity is possible, not always likely
    - Holding an equity stake requires attention, adds complexity
  - If it takes equity, it is still unlikely to play an active role
    - It may want a board seat though in the beginning
- No good formula for amount of equity
  - If only code, in the low single digits (2-5% of total equity)

Summary

1. Phases and public funding
2. The applied research phase
3. The spinning-off phase
4. IP rights management
5. The role of the university

Thank you! Questions?

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