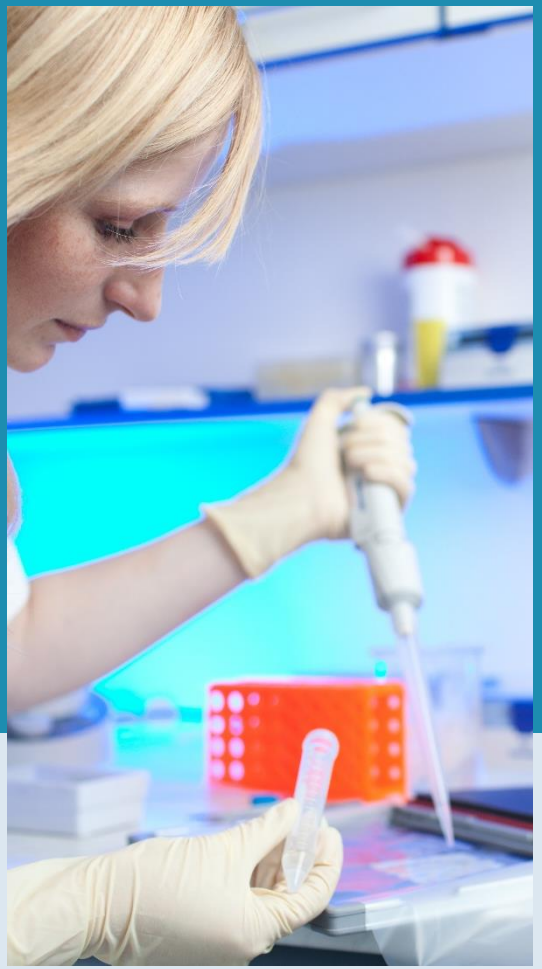
KU LEUVEN
RESEARCH & DEVELOPMENT

KU Leuven Research & Development



Advancing the impact of research

KU Leuven: Three core tasks

- Academic education
- Scientific research
- Service to the community = knowledge and technology transfer
  - to society
  - to industry

KU Leuven: History

- 1425
  - Foundation Katholieke Universiteit Leuven
    - Two core tasks: education and later also research
- 1968
  - Split up into:
    - Dutch-speaking KU Leuven in Leuven
    - French-speaking U.C.L. in Louvain-la-Neuve
- 1972
  - Foundation KU Leuven Research & Development (LRD)
    - One of the first university technology transfer offices in the EU
    - Third core task: social services / valorisation of research results

KU Leuven: General info

- KU Leuven
  - 58,254 students (2018-2019), of whom 17.7% international students
  - 10,761 FTE employees (2018)
    - 1,260 professors and 5,903 researchers
    - 3,598 administrative & technical staff
- Leuven University Hospitals
  - 2,000 beds
  - 8,167 FTE employees (2018)
- 5 university college clusters
  - 53,390 students (2018-2019)

KU Leuven: General info

- Research expenses: 476 million euro (2018)
- ‘Complete’ university: 16 faculties
- Humanities, Science & Technology, Biomedical Sciences

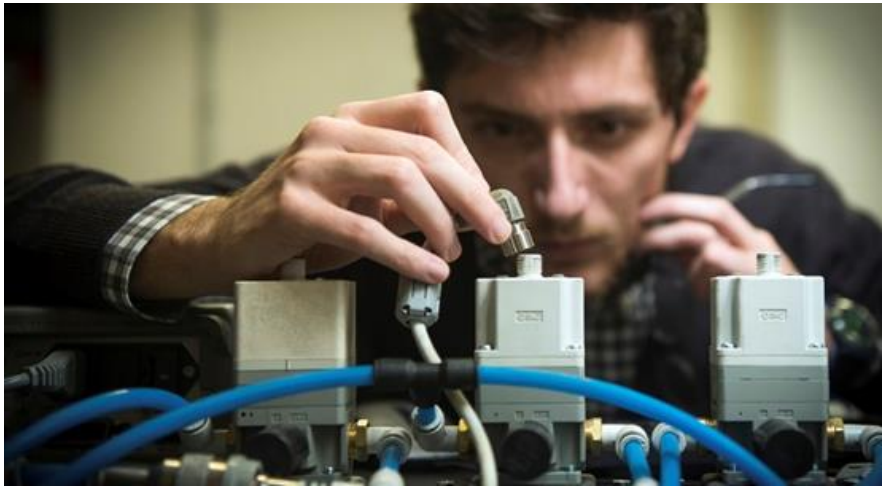
Europe’s most innovative university

- Reuters ranks KU Leuven as Europe's most innovative university in its top 100 of innovative European universities (in 2016, 2017, 2018 and 2019).
- The Reuters study is based on
  - Number of publications
  - Patent applications (number, granted patents, global coverage, …)
  - Number of citations of patents and publications (in patents and publications)
  - …

Reuters top 10: Europe’s most innovative universities
1. KU Leuven
2. University of Erlangen Nuremberg
3. Imperial College London
4. University of Cambridge
5. EPFL - Swiss Federal Institute of Technology Lausanne
6. University College London
7. Technical University of Munich
8. University of Manchester
9. University of Zurich
10. Swiss Federal Institute of Technology Zurich

KU Leuven Research & Development

- Founded in 1972
- Technology & knowledge transfer office of KU Leuven
- Bridge between university, industry and society
  - Supports researchers
  - Offers technologies to industry
- Budgetary and HR autonomy: ‘Business unit’



Mission

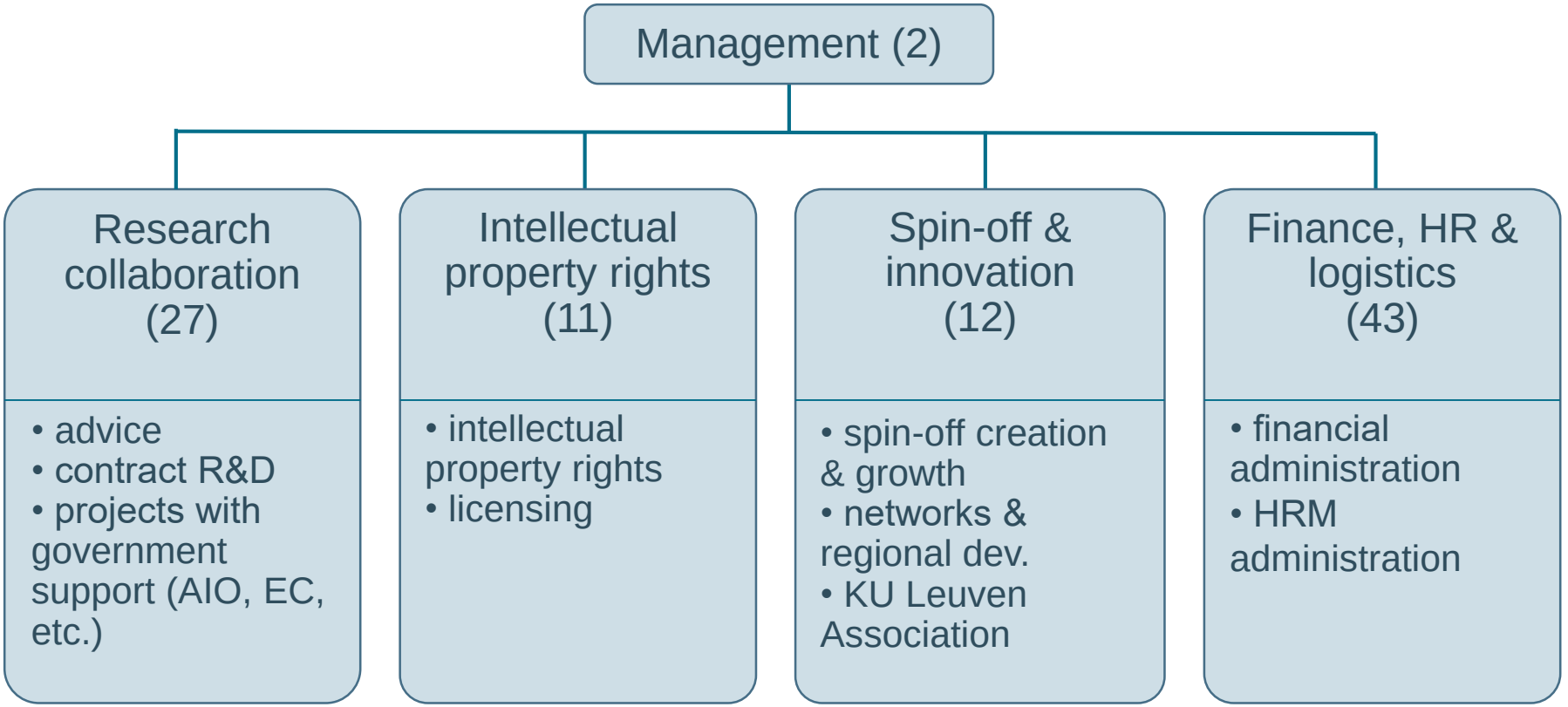
“Promoting and supporting knowledge and technology transfer between university and society”

Organisation

LRD consists of:

- Central multidisciplinary staff
  - Supports researchers in knowledge and technology transfer
- Research divisions
  - 2,046 researchers & 532 supporting staff
  - Virtual organisations in which researchers (from different faculties or departments) can group their technology transfer activities.

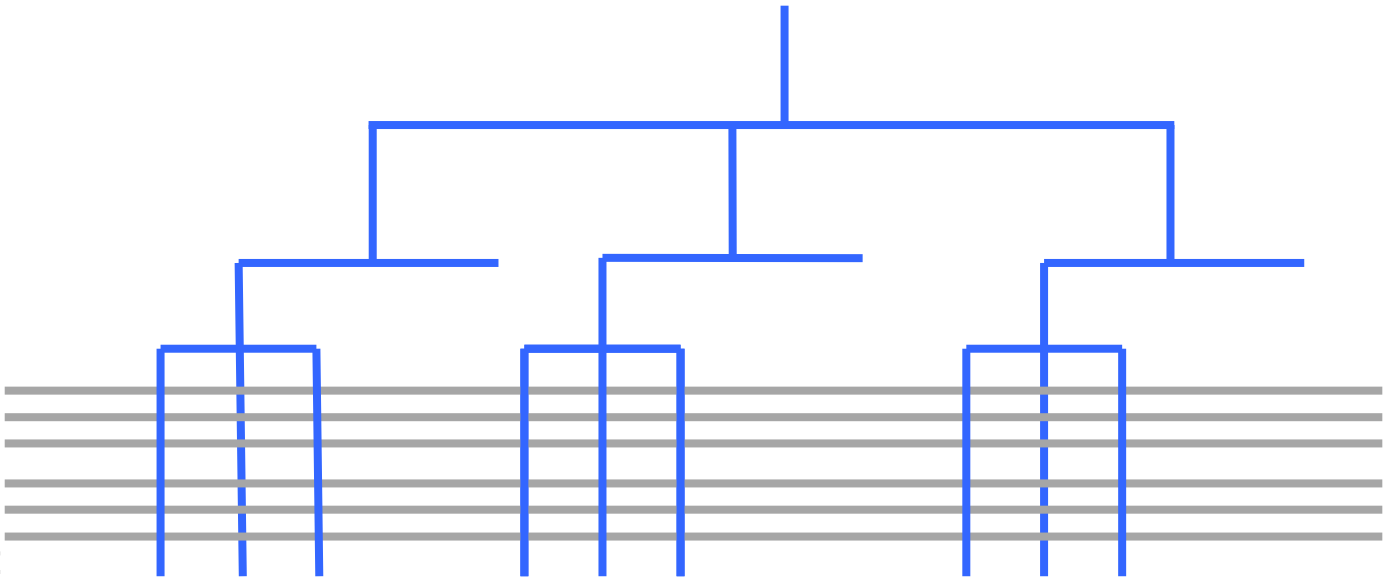
Central multidisciplinary staff



- Close interaction and collaboration between different units
- Regional and international networking

LRD research divisions & projects

Faculties, departments, research groups:
quality in research and educational activities



LRD divisions/projects:
Contract and budgetary autonomy and flexibility incentives

What do we do?

- Manage research collaborations
- Protect and exploit intellectual property
- Set up spin-off companies
- Provide incubation instruments & seed financing
- Create high-tech ecosystem

Examples of technology transfer

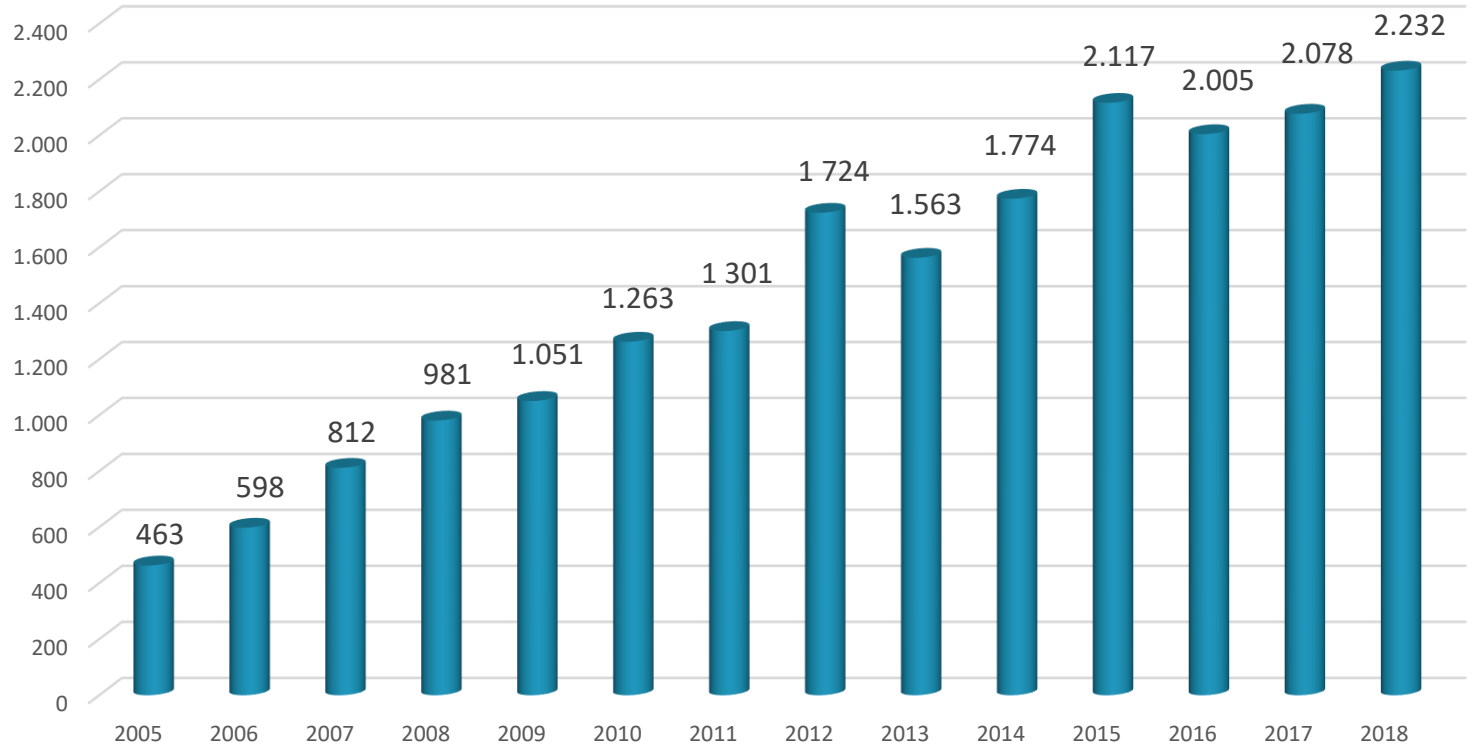
Research collaboration

- Oldest activity of LRD
- Research & services for companies or public organisations
- What do we do?
  - Create awareness and transfer knowledge
  - Provide advice
  - Negotiate contracts
  - Follow up on contracts
  - Manage research files financially
  - Offer administrative support
  - Prepare legal documents

Research collaboration: examples

Research collaboration

- 153 million euro income from research collaboration
- 2,232 new collaborative agreements (2018)



Research collaboration

Incentives for researchers:

- Who gets what? (after payment of costs)
  - 8.5% LRD and 8.5% KU Leuven
  - Remaining (and largest) part of net profit flows back to research division
  - Incentive: 50% of net profit can go to individuals (rarely used)
- What to do with reserves?
  - Expand research group
  - Invest in patents
  - Invest in spin-offs

Intellectual property

What do we do?

- Create awareness and transfer knowledge
- Assess the feasibility, patentability and market potential of an invention
- Determine a protection strategy
- Draft and file a patent application
- Follow up on patent procedures and costs
- Negotiate and draft NDAs, MTAs and license agreements
- Find industrial partners

Intellectual property: examples

Means to define and secure the rights on the results of intellectual labor:

- Patents: any technical invention
- Copyright: software
- Database protection act
- Design rights
- Trademarks

Intellectual property

- 650 active patent families in portfolio*
- 57 million euro license-income*

(* numbers 2018)

Intellectual property

Incentives for researchers:

- Who gets what? (after payment of costs)
  - Incentives for inventors
    - Net income < 5 million euro: 40%
    - Net income between 5 and 25 million euro: 30%
    - Net income between 25 and 50 million euro: 20%
    - Net income > 50 million euro: 10%

    ➔ Incentive decreases depending on the net income

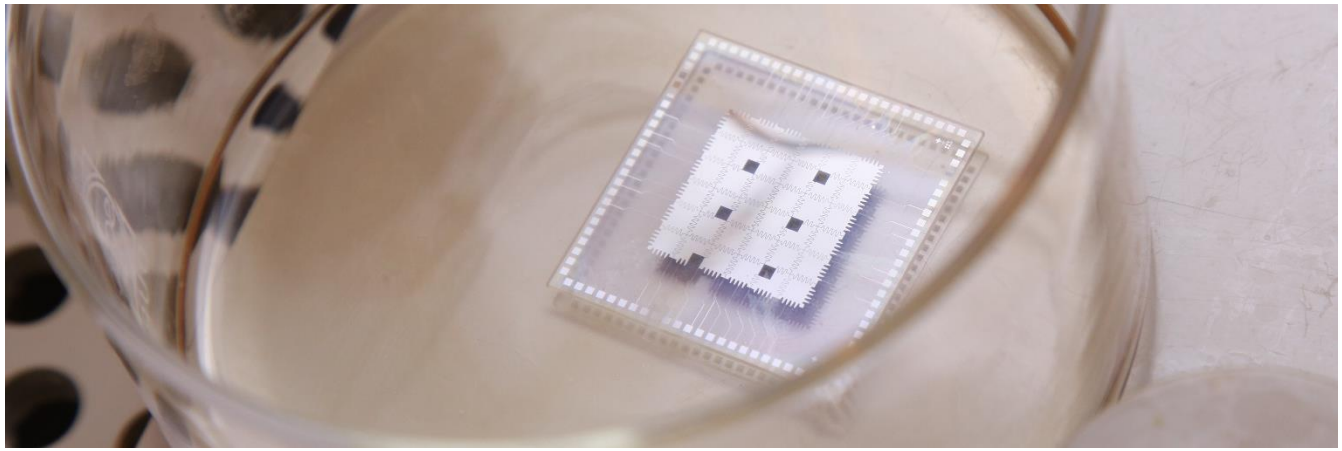
Spin-off companies

What do we do?

- Develop business plans
- Validate business models and the market
- Offer legal support
- Put together a competent team
- Find investors
- Find infrastructure
- Manage growth of spin-offs
- Promote entrepreneurship
- Stimulate regional development, networks and clusters

Spin-offs: key ingredients

- Balanced team
- Validated technology / product / service
- Freedom to operate & IPR strategy
- Validated market & revenue model
- Strong investment consortium



Spin-off companies: examples

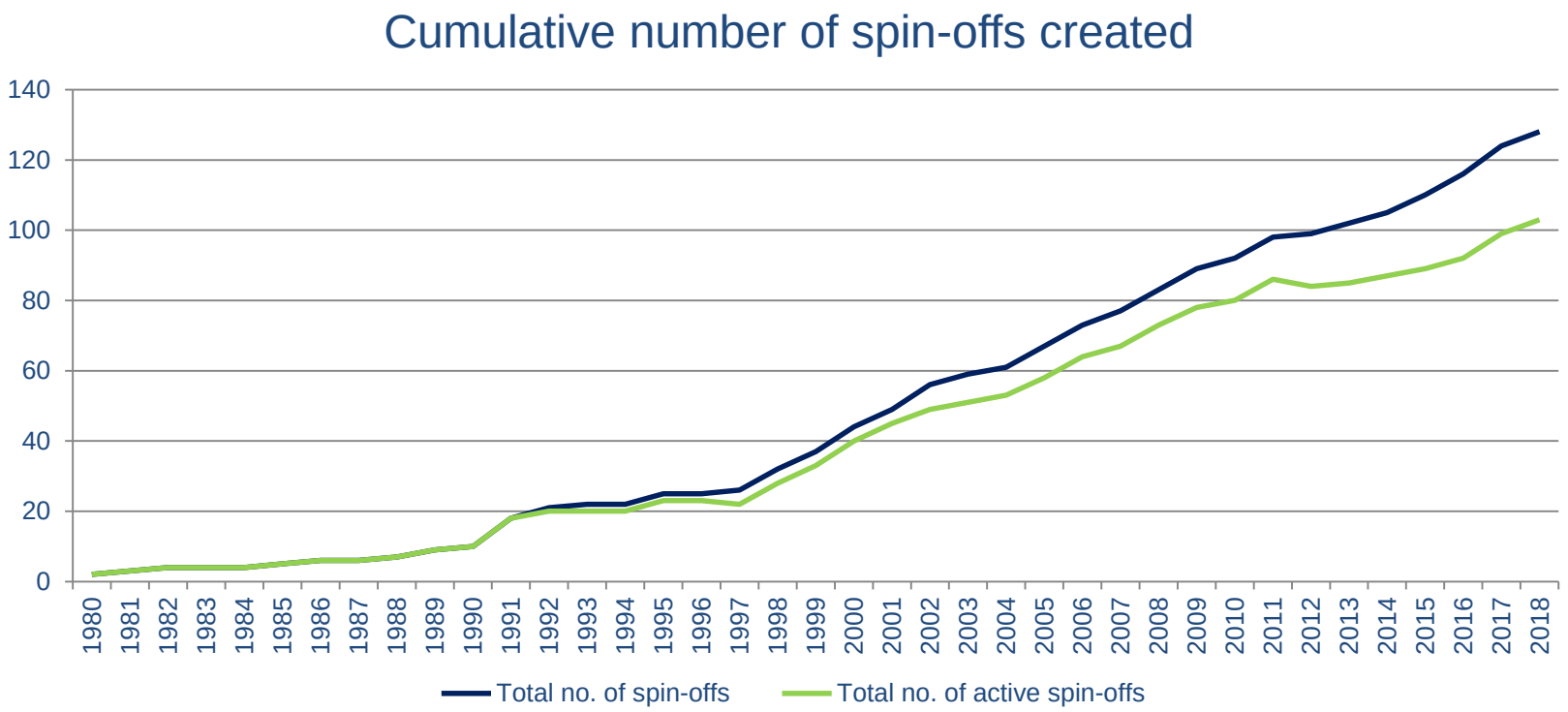
- Engineering & chip design

- Data mining & data analysis

- Biomedical

- Consultancy

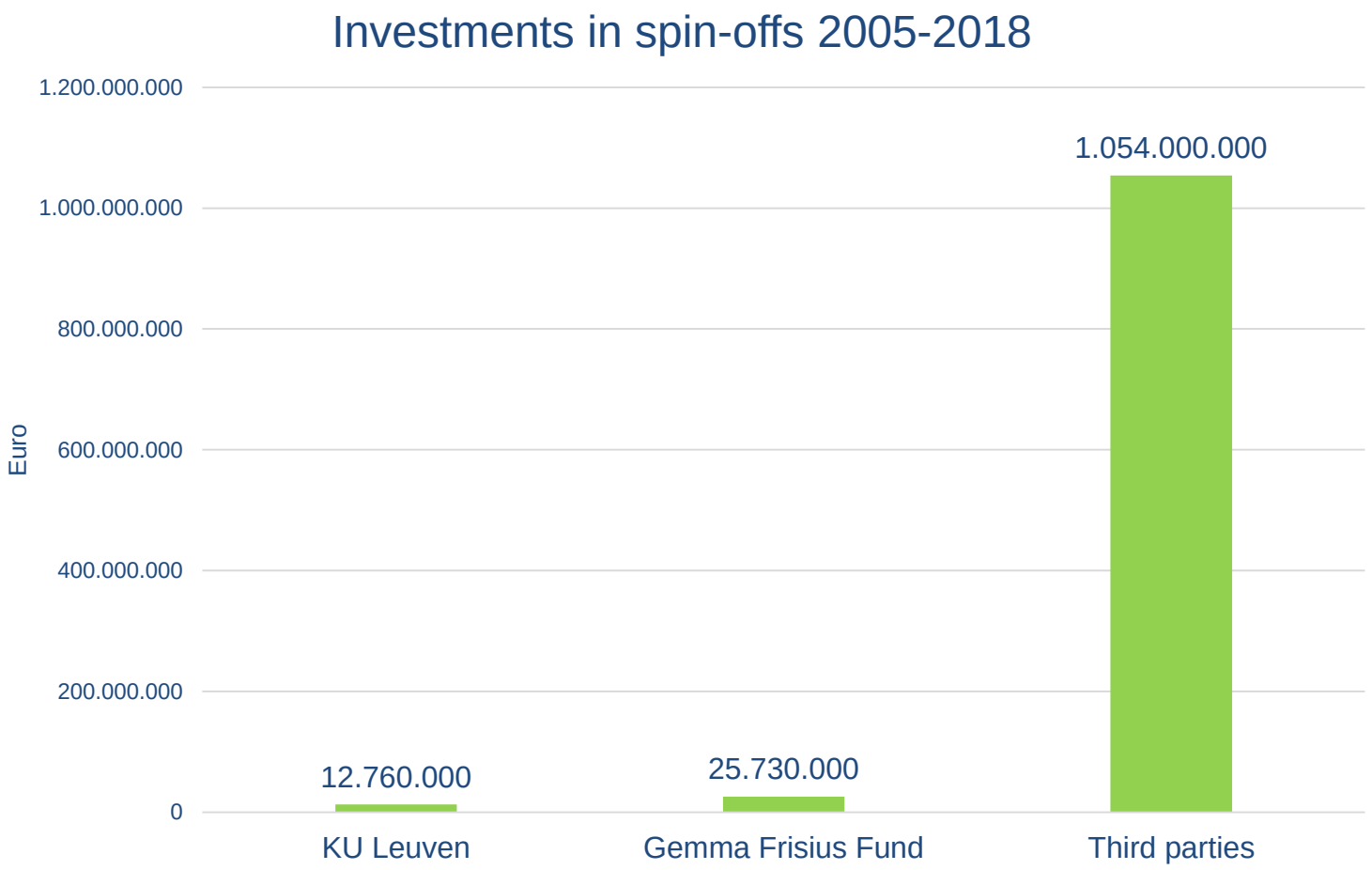
Spin-off companies



- 128 spin-off companies started, 103 still active; together +/- 6,700 employees*
- 7 successful flotations (IPOs)

(* numbers 2018)

Spin-off companies



Spin-off companies

Incentives for researchers:

- Return through shares & warrants
  - Realise a financial gain on shares
- Valuation of intellectual property & knowledge depends on various factors:
  - Intellectual property and contracts brought in
  - Patent portfolio
  - Time-to-market
  - Team

Incubation & seed financing

Gemma Frisius Fund KU Leuven (GFF)

- Seed capital for spin-off companies
- GFF founded in 1997 & GFF II in 2002
  - At the end of 2009 GFF and GFF II merged into one single fund
- Partners:
  - KU Leuven (20% of capital)
  - KBC Bank (40%) and BNP Paribas Fortis Private Equity (40%)
- Combination of:
  - Knowledge and technology transfer expertise (university)
  - Financial expertise (financial partners)
- Not restricted to one technology domain
- 36.5 million euro invested in 56 spin-off companies

High-tech ecosystem

- Partners

- ELAt: Eindhoven - Leuven - Aachen triangle
  - Cross-border and interregional network
  - Stimulation of knowledge economy

High-tech ecosystem

- Horizontal networks

- Vertical networks: technology clusters

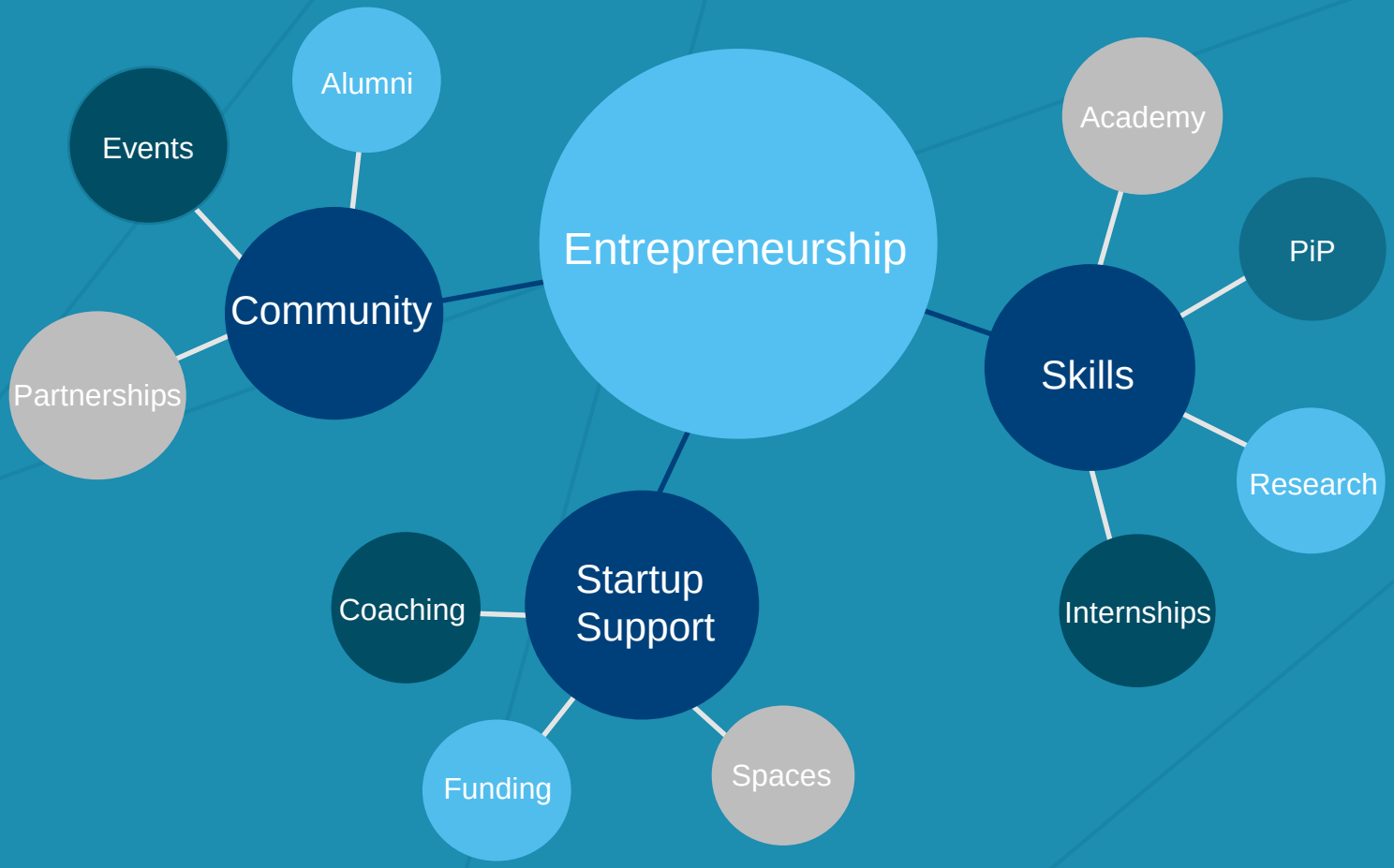
High-tech ecosystem

- Arenberg Science Park
- Haasrode Science Park
- Leuven Noord Science Park
- Leuven Bio-Incubator
- KU Leuven Innovation & Incubation Centre (I&I)

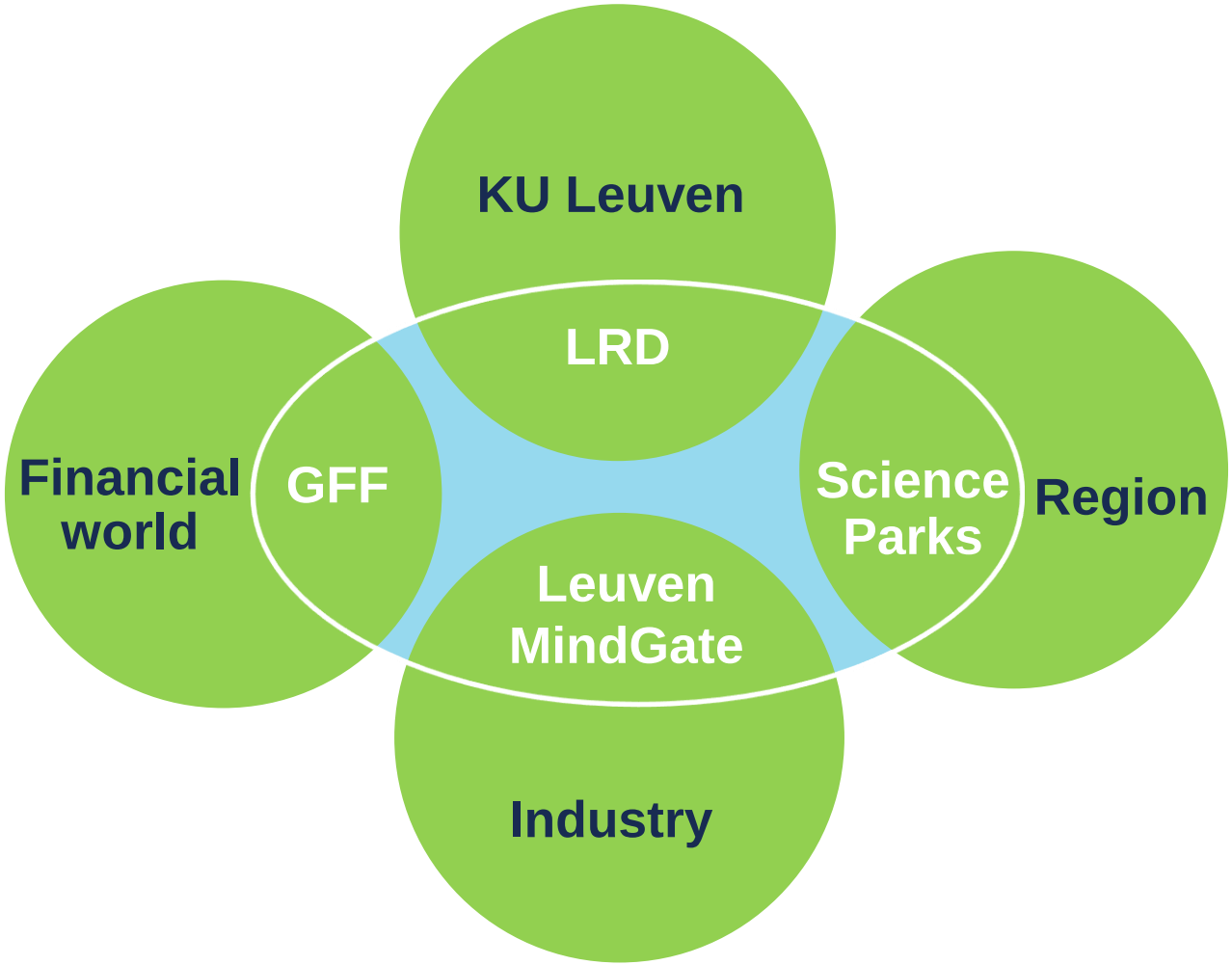
KU LEUVEN

Community for Innovation driven Entrepreneurship

KICK



Multilevel interaction



Success factors

- Critical mass of high quality research
- Multidisciplinary team & high value support
- Clear incentives to encourage researchers
- Favourable entrepreneurial climate within the university
- Legal context in Flanders
- Instruments and networks that further professionalise technology transfer support

Thank you

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