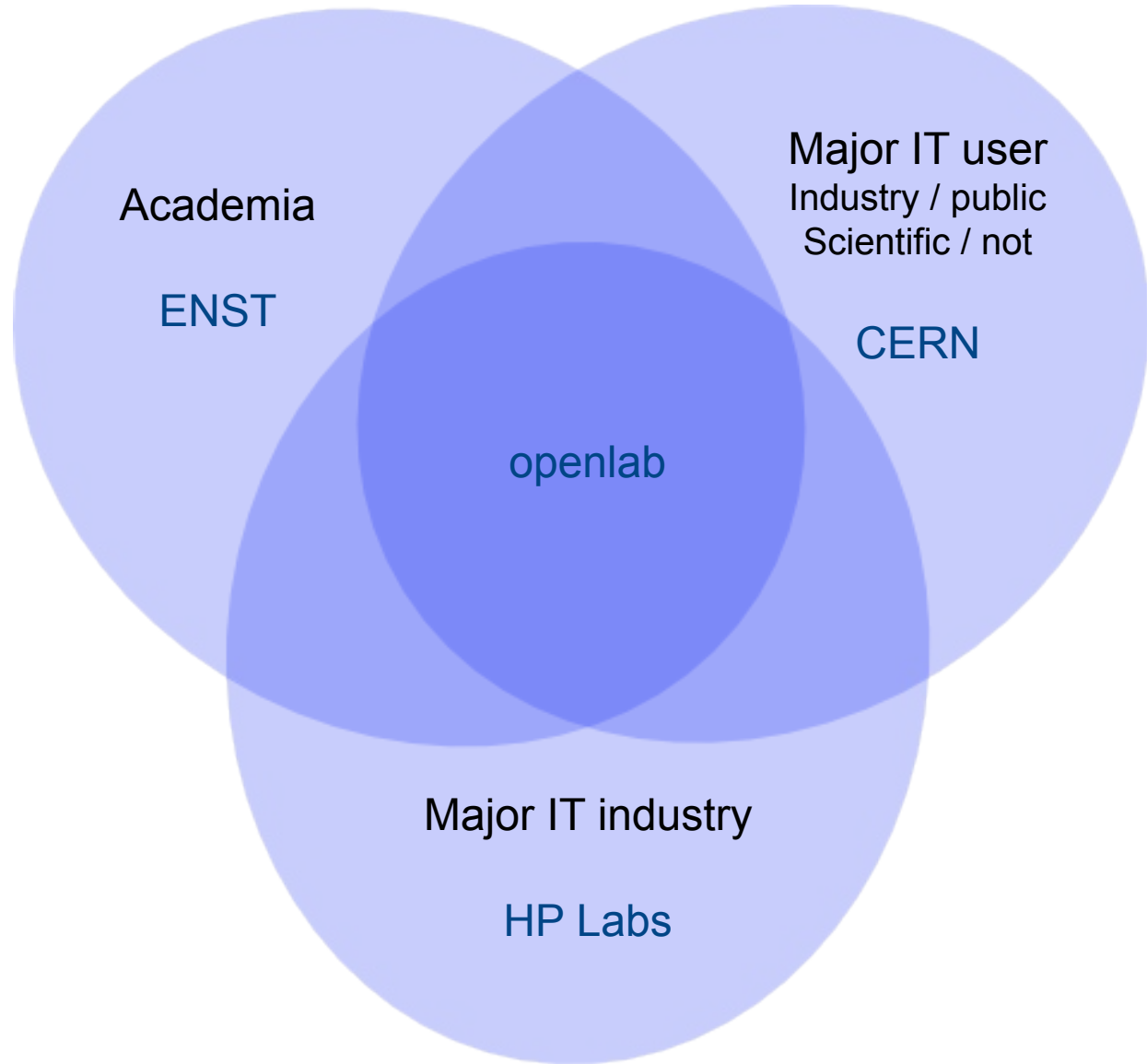# A PhD with openlab

openlab Board of Sponsors
April 2nd, 2009
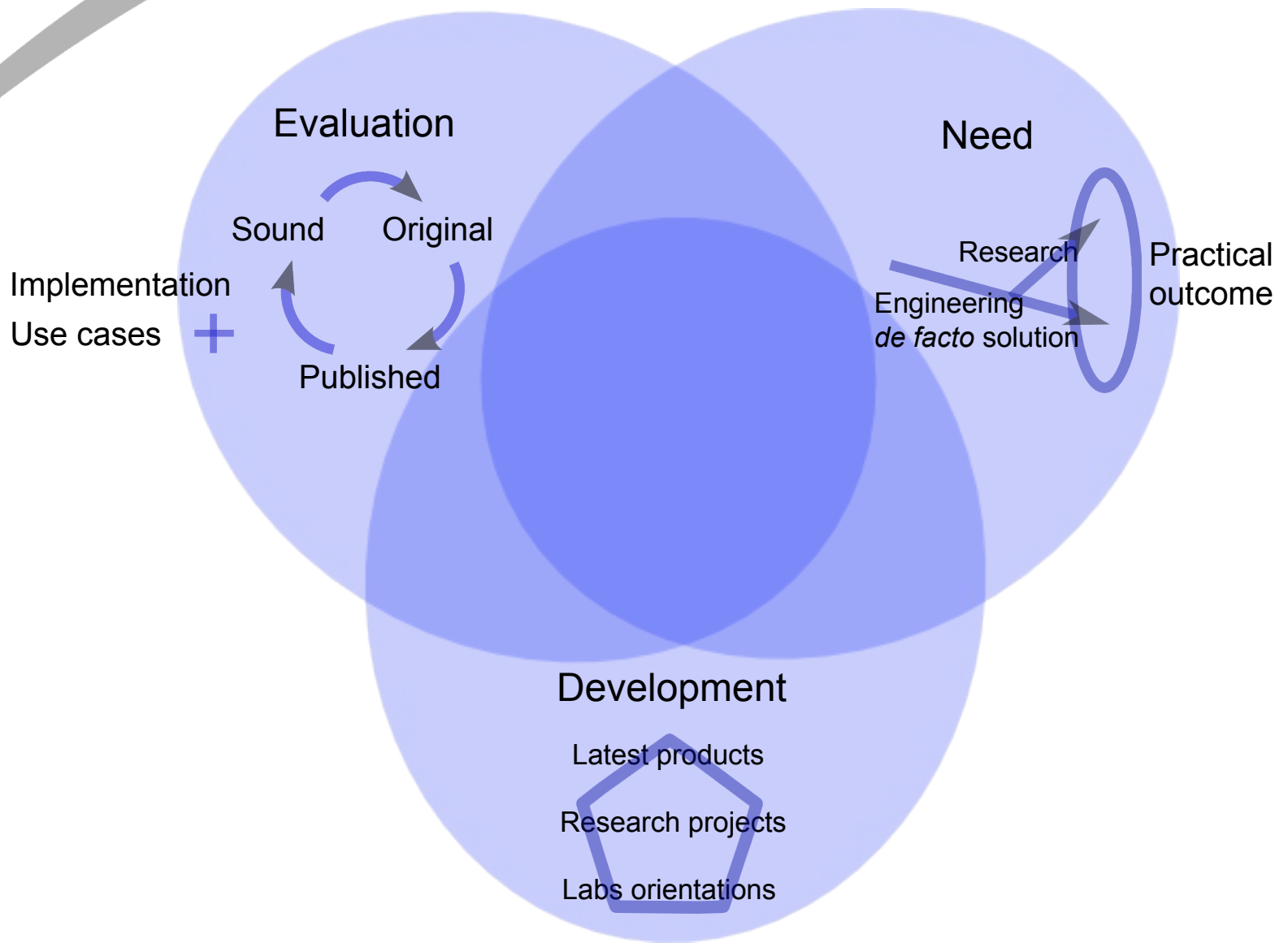
Xavier Gréhant

Contents

- Places to do a PhD
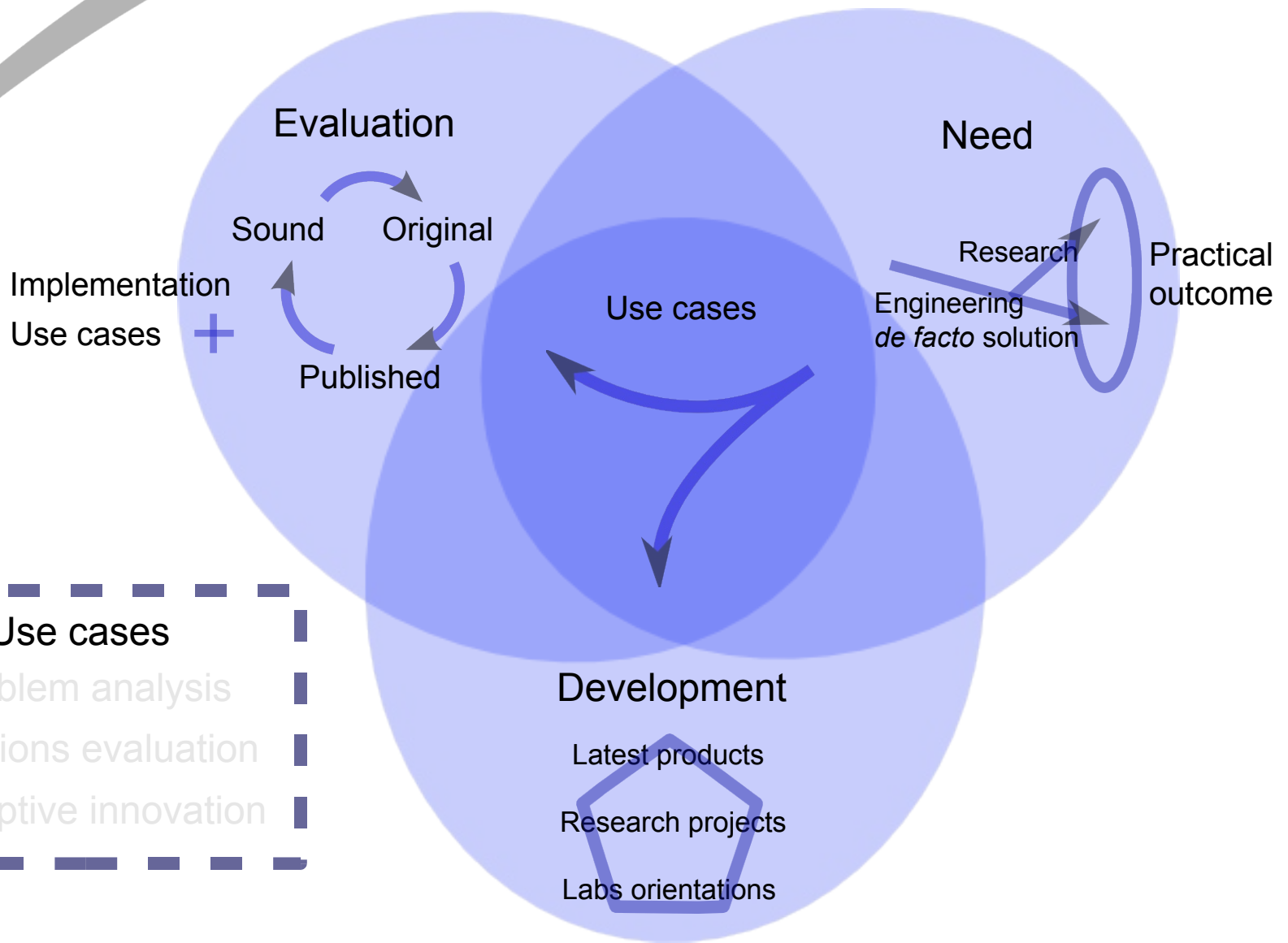- Forces
- Reputation
- Collaboration
- Knowledge
- Culture
- Assistance

Academia

ENST

Major IT user
Industry / public
Scientific / not

CERN

openlab

Major IT industry

HP Labs

Evaluation

Sound   Original

Published

Implementation

Use cases +

Need

Research

Engineering
de facto solution

Practical
outcome

Development

Latest products

Research projects

Labs orientations

Evaluation

Sound → Original

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Use cases +

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Practical
outcome
Engineering
de facto solution

Use cases

Use cases
- Problem analysis
- Solutions evaluation
- Disruptive innovation

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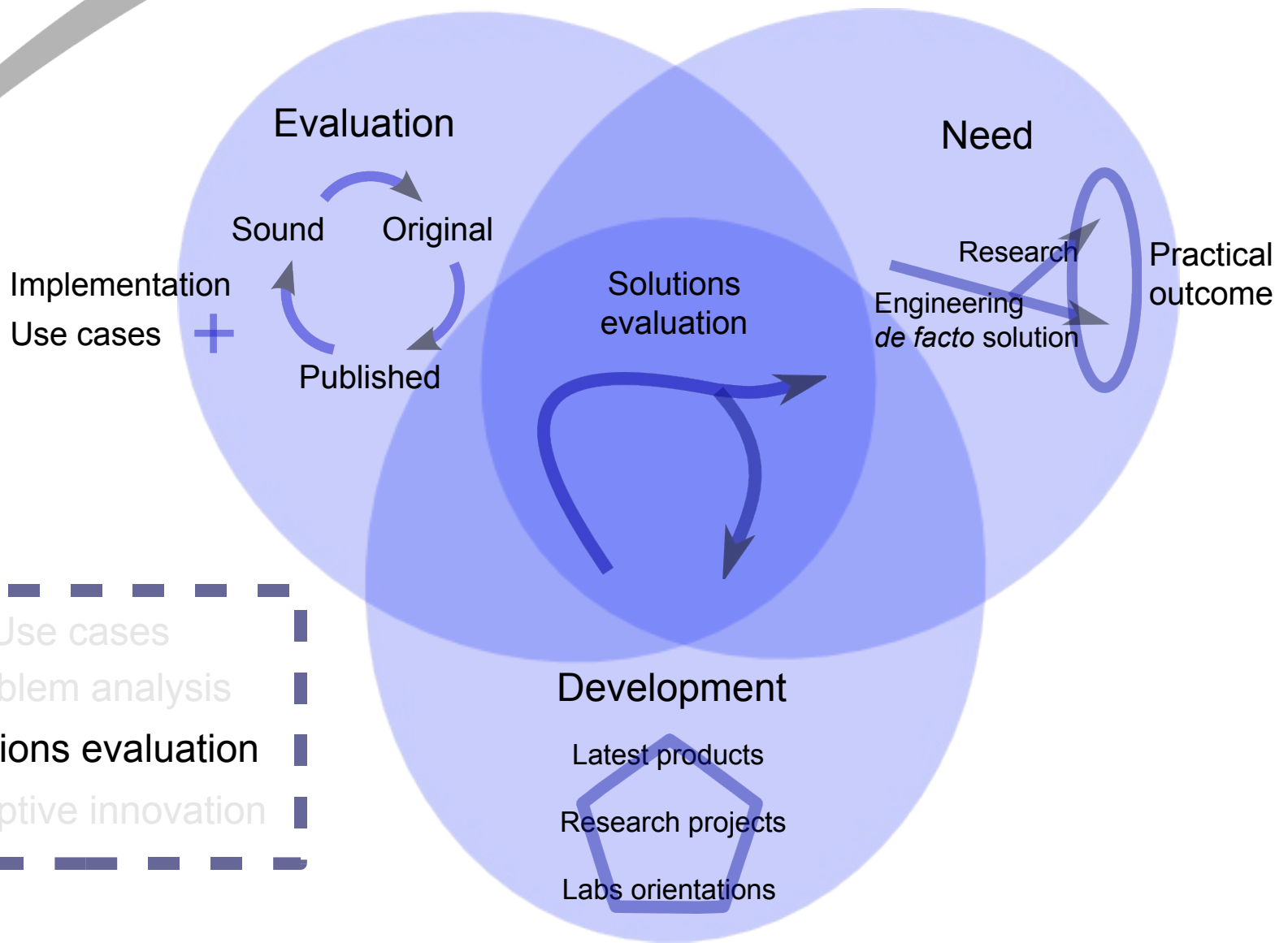
Use cases

Problem analysis

Solutions evaluation

Disruptive innovation

Evaluation

Sound   Original

Implementation
Use cases   +

Published

Disruptive
Innovation
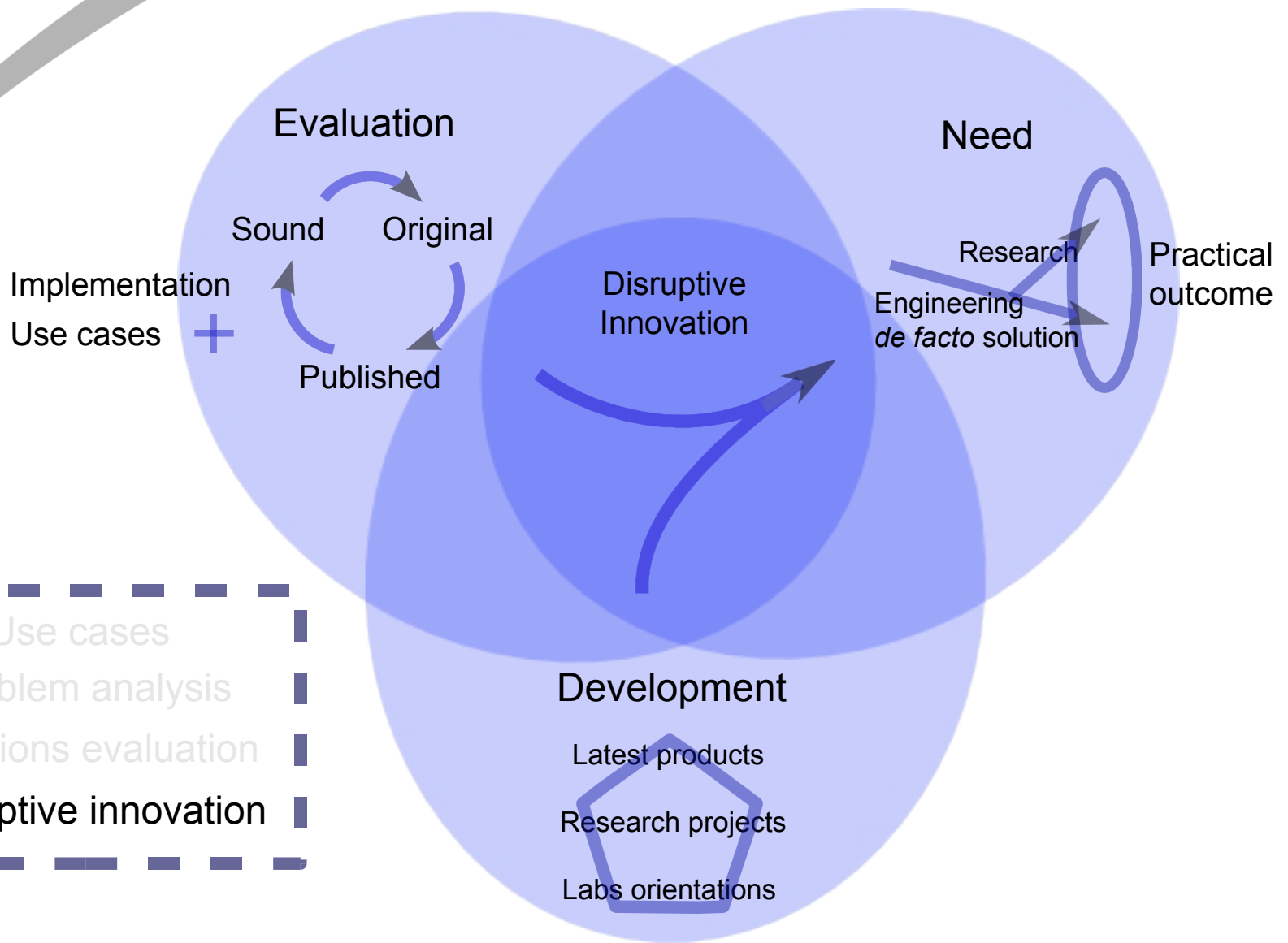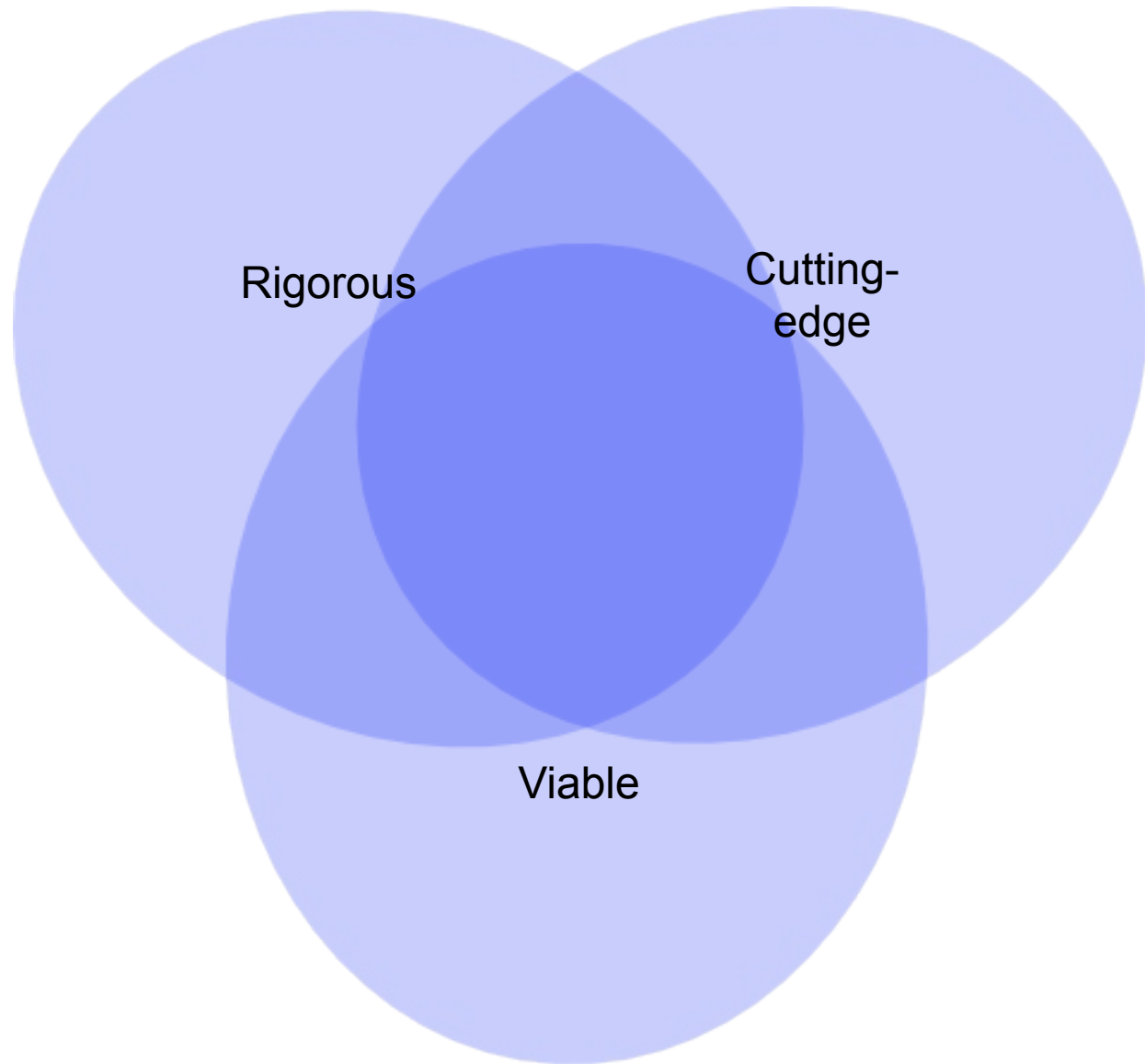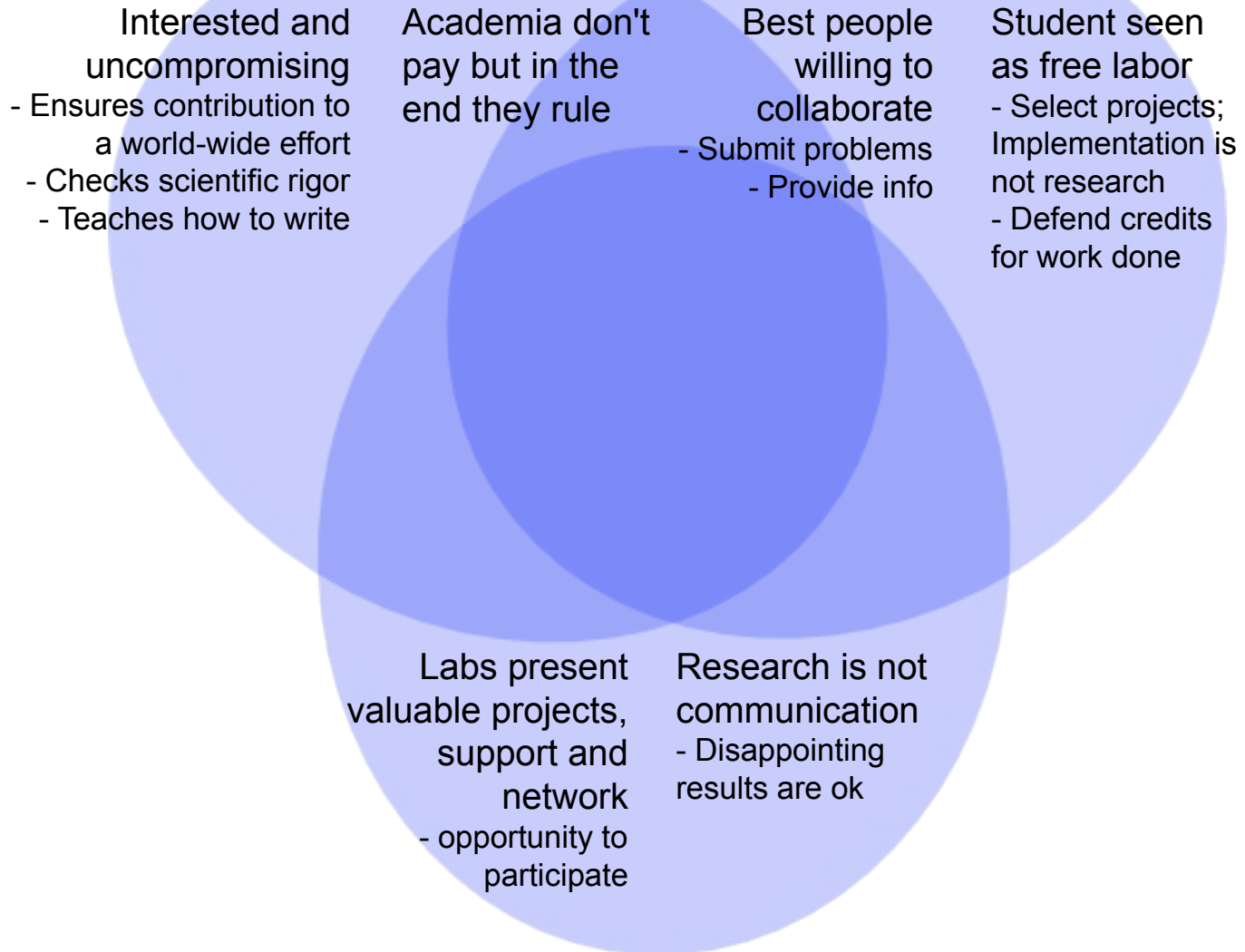
Need

Research

Engineering
de facto solution

Practical
outcome

Use cases
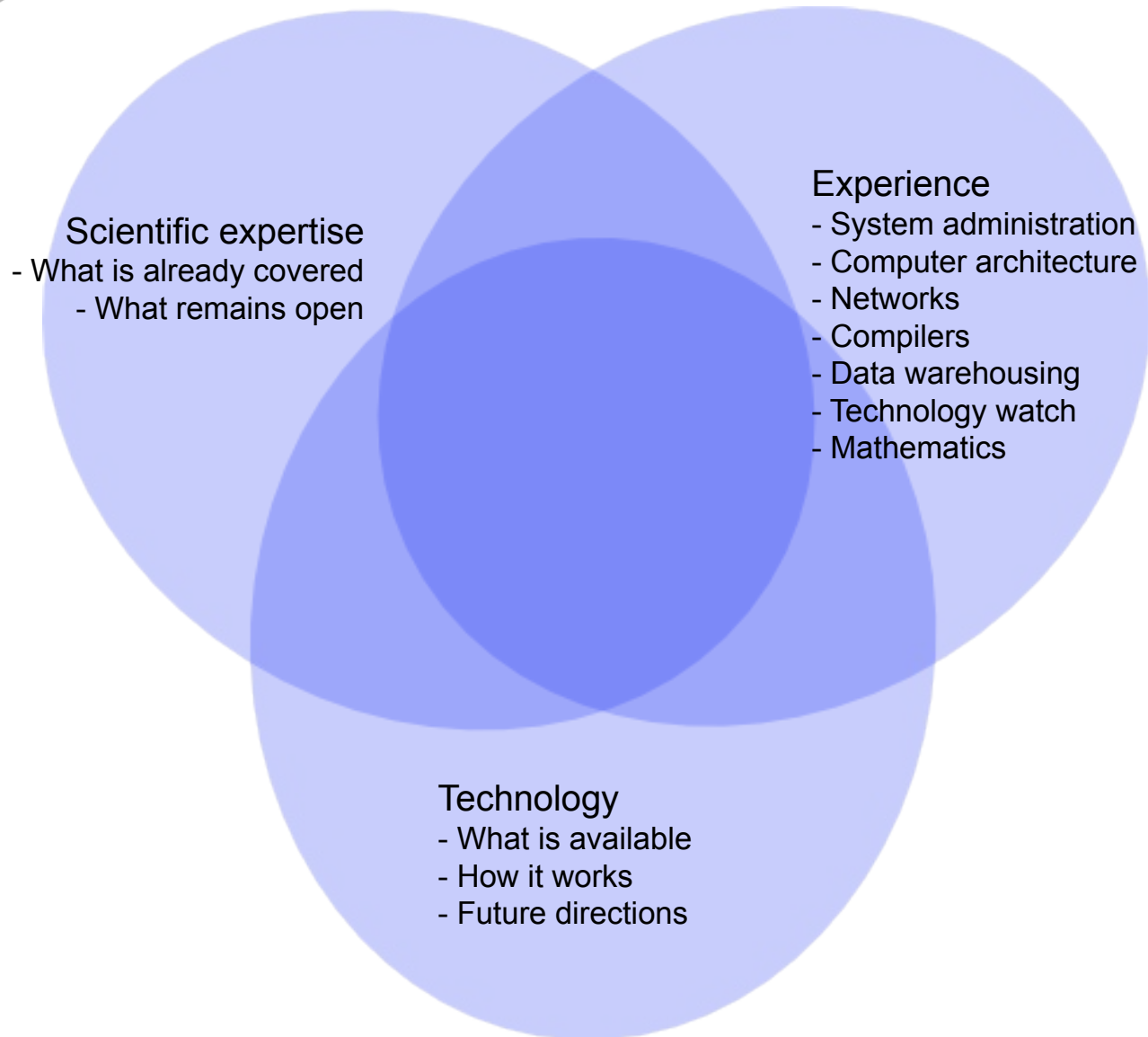Problem analysis
Solutions evaluation

Disruptive innovation

Development

Latest products

Research projects

Labs orientations

Rigorous

Cutting-edge

Viable

Interested and uncompromising
- Ensures contribution to a world-wide effort
- Checks scientific rigor
- Teaches how to write

Academia don't pay but in the end they rule

Best people willing to collaborate
- Submit problems
- Provide info

Student seen as free labor
- Select projects; Implementation is not research
- Defend credits for work done

Labs present valuable projects, support and network
- opportunity to participate

Research is not communication
- Disappointing results are ok

Scientific expertise
- What is already covered
- What remains open

Experience
- System administration
- Computer architecture
- Networks
- Compilers
- Data warehousing
- Technology watch
- Mathematics

Technology
- What is available
- How it works
- Future directions

Teaching

Communities and conventions
- Conferences, journals
- Domain-specific communities
- Doctoral students community
- Reviews

Down-to-Earth
- Benefit / price

Team
- Broad areas of work
- Summer students

Sensitive to evolutions

Communication
- Synthetic
- Regular
- Result-oriented

Academic
training

Mentoring

Tools
- Computing power
- Admin rights and software
- Scientific software
- IEEE, ACM and libraries

Supervision
- Constant and dependable
- When needed
- Relevant and precise
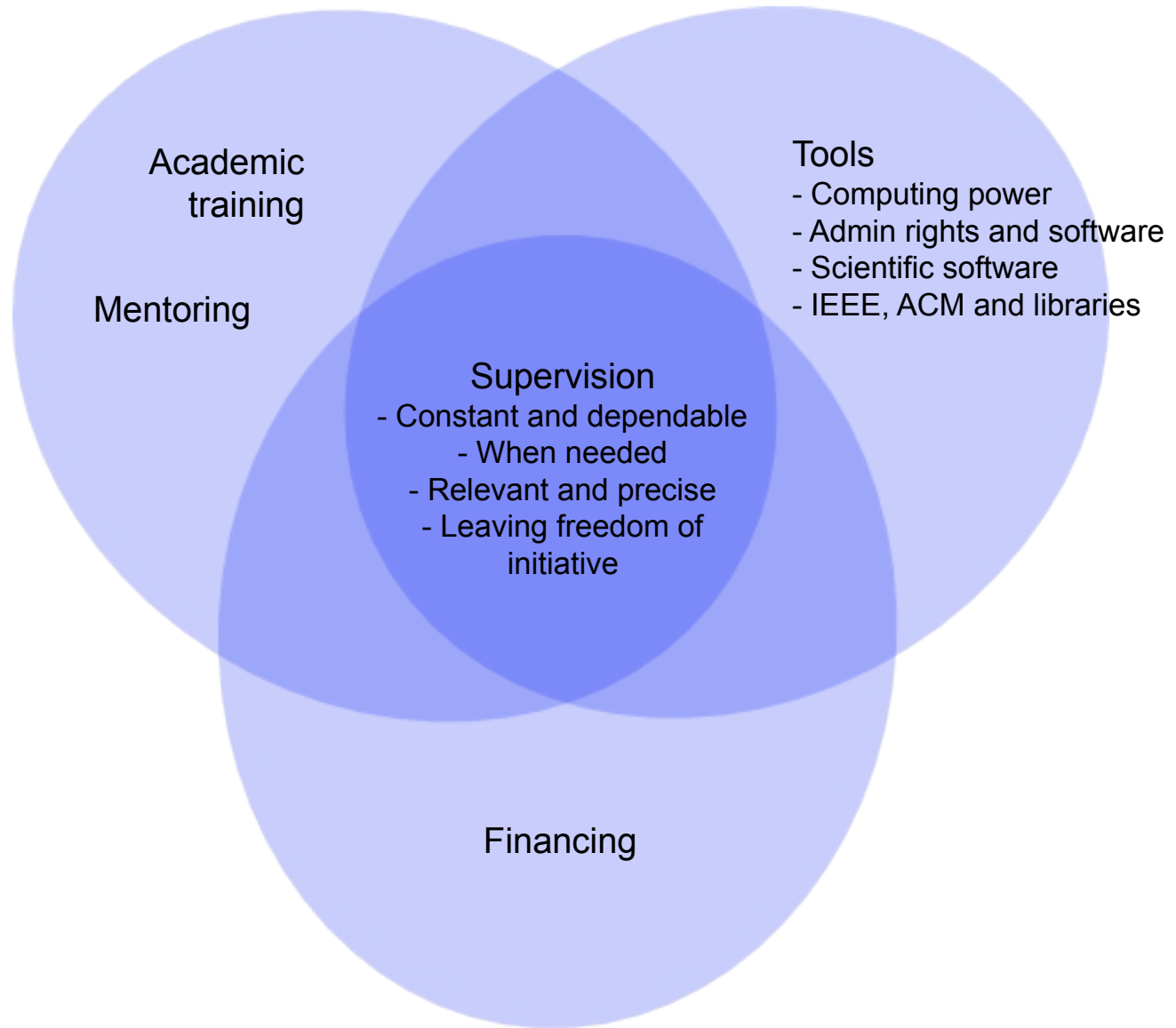- Leaving freedom of
initiative

Financing

- Freedom of initiative was a specific agreement, not a rule in openlab.

- Experience more valuable to me than expected diploma

- Among the lessons I learnt, I value most
  - "Stand on my own two feet"
  - Face and solve problems in broad areas

- Georges Charpak:
  "*CERN is a school of freedom*"