Industry-Academia collaboration: a small tech company perspective (SIDN)

Giovane C. M. Moura
SIDN Labs and TU Delft

RIPE 93
Sofia, Bulgaria
2026-10-29





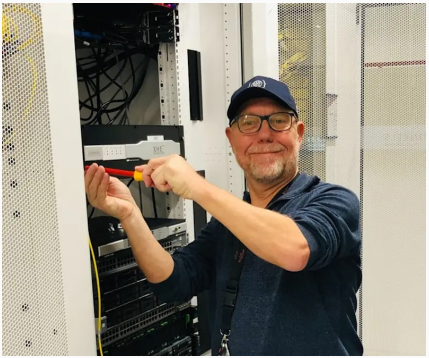
The problem: us vs them

Academics



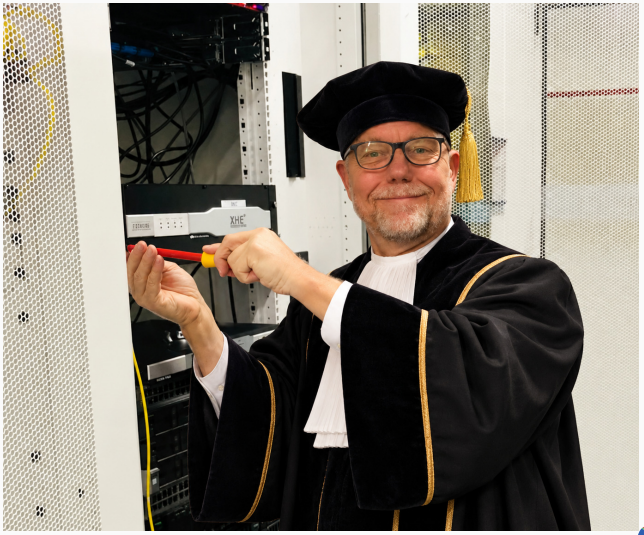
DIES Natalis @ Universiteit Leiden

Operators



Marco Davids, `time.nl` operator

The Solution



Background (`$whoami`)

- **Data Scientist @ SIDN**
  - 99 staff, 90 FTE
- **SIDN Labs**: 14 staff (10.5 FTE)
  - Dedicated research team
  - Mixed profile: engineers, DevOps, 4 PhDs
  - 6% of SIDN revenue goes to research
  - Not-for-profit
  - Support from the top
  - OPEN research
- **Assistant Professor @ TU Delft**
  - 0.2 FTE (secondment)
  - Cybersecurity Group, EWI Faculty
- **Ph.D. UTwente, 2013**

Our experience

Industry-Academia Open Research Collaboration: A Small Tech Company Perspective (SIDN)

Giovane C. M. Moura
SIDN Labs and TU Delft
The Netherlands
giovane.moura@sidn.nl

Ralph Koning
SIDN Labs and University of Amsterdam
The Netherlands
ralph.koning@sidn.nl

Moritz Müller
SIDN Labs and University of Twente
The Netherlands
moritz.muller@sidn.nl

Cristian Hesselman
SIDN Labs and University of Twente
The Netherlands
cristian.hesselman@sidn.nl

This article is an editorial note submitted to CCR. It has NOT been peer reviewed.
The authors take full responsibility for this article's technical content. Comments can be posted through CCR Online.

https://dl.acm.org/doi/abs/10.1145/3787927.3787931

Issues I see (personal opinion)

Academics:

- Often lack OPs knowledge
  - avg. student get 1 class about DNS;
  - Huge gap from concepts to running production anycast
- Do not know the data OPS have
  - and usually have no access
- Pressured to have publications
  - Not necessarily with OPs impact

Operators:

- Research not part of `$DAYJOB`
  - No incentives (unless they have a mandate)
- Do not have the skills often
  - They run the network
- Are intrested in the application
  - Not necessarity the method's details

The human element comes first

- A collaboration on paper doesn't guarantee results
- Pick staff **genuinely committed** to working together
- Incentives differ:
  - Academia → peer-reviewed publications
  - Industry → operational impact (papers secondary)
- Define deliverables up front to manage expectations

Model 1: Internships

- The **low-hanging fruit**: easiest to set up, 3–6 months
- Intern joins our staff; supervised by us + academic
- Needs: contract, data access (under NDA), cash + in-kind
- **Mutual benefit**
  - Us: work on problems we lack time/skills for
  - Students: real datasets, production data, work experience
- Low cost, benefits often exceed investment
- Caveat: no guarantees — keep off the critical path
- Several interns later became staff

Model 2: Data sharing

- Another easy entry point — but needs contracts + procedures
- Shared as aggregated / anonymized / snapshots
- **Case-by-case review** on every request:
  - Research & non-commercial use only
  - Must benefit SIDN, .nl, or society
  - Academic partners only; GDPR + ISO27001 compliant
- Example: daily .nl zone file to UTwente (OpenINTEL)
- Takeaway: easy way to enable academics' research questions

Model 3: Informal collaboration

- Our **most prevalent** model — staff work alongside academics
- No contracts, no NDAs, no data sharing needed
- Not continuous: organized around a shared deliverable (paper/prototype)
- Researchers join voluntarily, funded by own grants → highly motivated
- Examples: 4 IMC + 1 PAM papers (USC/ISI, UTwente); post-quantum DNSSEC
- **Mutual benefit**: our RFC9199 recommendations improved SIDN ops; tier-1 papers for academics
- Caveat: often lacks continuity and funding

Model 4: Secondment positions

- Staff work at a university **one day/week** (0.2 FTE)
- The only **continuous** form — fixes the continuity gap
- Seconded work stays aligned with SIDN Labs' goals
- IP clause: university owns IP, licenses it back to us (we focus on open output)
- Currently 3 colleagues: 1 UTwente, 1 TU Delft, 1 UvA
- Also enables **external PhDs** (e.g. DNSSEC thesis at UTwente)
- Most interactive & symbiotic model — physical proximity drives collaboration
- Output:
  - `https://ntpinfo.sidnlabs.nl` (TU Delft software project course)
  - `https://rssac002.sidnlabs.nl` (TU Delft software project course)

Why it's worth it: benefits both ways

For industry

- Draw value from **dark data**
- Scrutinize operator decisions (e.g. DNS TTL studies)
- Independent **policy review** (e.g. phishing across .nl/.be/.ie)
- Contribute to the **public good** (RFCs, open source)

For academia

- Access to **unique datasets**
- **Real-world problems** with direct impact
- **Domain experts** (297 RFCs / 2082 pages of DNS!)
- Funding & industry **networks** (RIPE, IETF, CENTR)

An idea for RIPE – maybe?

Foster collaboration by being the middle person

- TU Delft software project course
- OPs lists SW tools they like to have
- OPs commit to weekly meetings
- Students chooses project
- RIPE facilidates it
- Open licenses
- They present at RIPE meetings

Challenges

- It cannot affect student's courses
- OPs need to commit
- Someone needs to check