The 2017 Letter to Stakeholders (Year-end)

Welcome to the 2017 (year-end) letter to stakeholders of the Professorship of Open Source Software at the Friedrich-Alexander-University Erlangen-Nürnberg! (Download as PDF.)

Highlights

In 2017, we continued our successful work from prior years, focussing on existing projects. Revenues kept growing at about 20% CAGR and we got a new top-tier research journal paper published. We finally acquired our first DFG grant and welcomed Andreas Bauer as a new member to the team. Welcome, Andi!

1. Research

The timeframe for the research section of this letter is the 2017 calendar year.

In 2017, we continued our existing research projects. Our main project areas are open source, inner source, open data, distributed knowledge collaboration, and requirements engineering. The inner source project area got a boost through a new DFG grant for research work on inner source management accounting.

Our main industry partners in research are *Siemens Digital Factory*, *Siemens Healthineers*, *Continental Corporation*, as well as a large German company that would like to go unnamed. Our main academic partners are *University of Lübeck*, *University of Regensburg*, *University of Oldenburg* as well as *Peking University* and *Multimedia University* (Malaysia). We also collaborate with non-profit organizations like the *Gesellschaft für Internationale Zusammenarbeit* (GIZ) and the *openKONSEQUENZ* consortium that we helped create.

Due to our general interest in agile methods and continuous delivery processes, we not only co-chaired the continuous software engineering workshop at the German software engineering conference, but also co-founded the Gesellschaft für Informatik (GI) working group on microservices and continuous delivery. We hosted the second meeting of the working group in Nuremberg at the facilities of SUSE, one of our industry partners.

1.1 Research areas and projects

In the **open source research area**, we kept working on our handbook of open source governance and compliance in the **software supply chain**. We are also looking at how to identify well-working open source

projects from data, that is, the information that can publicly be gathered on the web.

In the **inner source research area**, we continued our work on a handbook for governing inner source programs and projects as well tooling to measure and manage such programs and projects. More interest is gathering speed in the domain of **transfer pricing** applied to software engineering and inner source.

Open source and inner source are our two major research areas, staffed with multiple people each, and growing. We are working now on consolidating this work under the larger umbrella of **economic assessment and management of software products**.

Our work on **high-quality requirements engineering** is continuing with the QDAcity-RE method for traceable (to stakeholder statements) domain modeling (and eventually requirements specifications). The underlying QDAcity software is also used in teaching and shall be a key part of further research projects.

The Sweble project on **distributed knowledge management** (Github for wikis) is nearing the completion of its first major iteration and we are working on turning it into a start-up, once the leading Ph.D. student, Hannes Dohrn, has finished his dissertation. (Cheers and hurry up, Hannes!)

The JValue Open Data Service (ODS) project is gaining some speed again thanks to the BMWi-funded NetzDatenStrom (NDS) project started in late 2016. NDS focusses on heterogeneous open data integration for energy distribution networks. We view the JValue ODS as a main tool for companies to create an open data ecosystem and enable their partner network to generate business value for customers and the company.

Readers can learn more on our research projects overview page.

1.2 Research publications

Last year, we announced a top-tier journal research paper surveying inner source; the actual publication took place in February 2017 only:

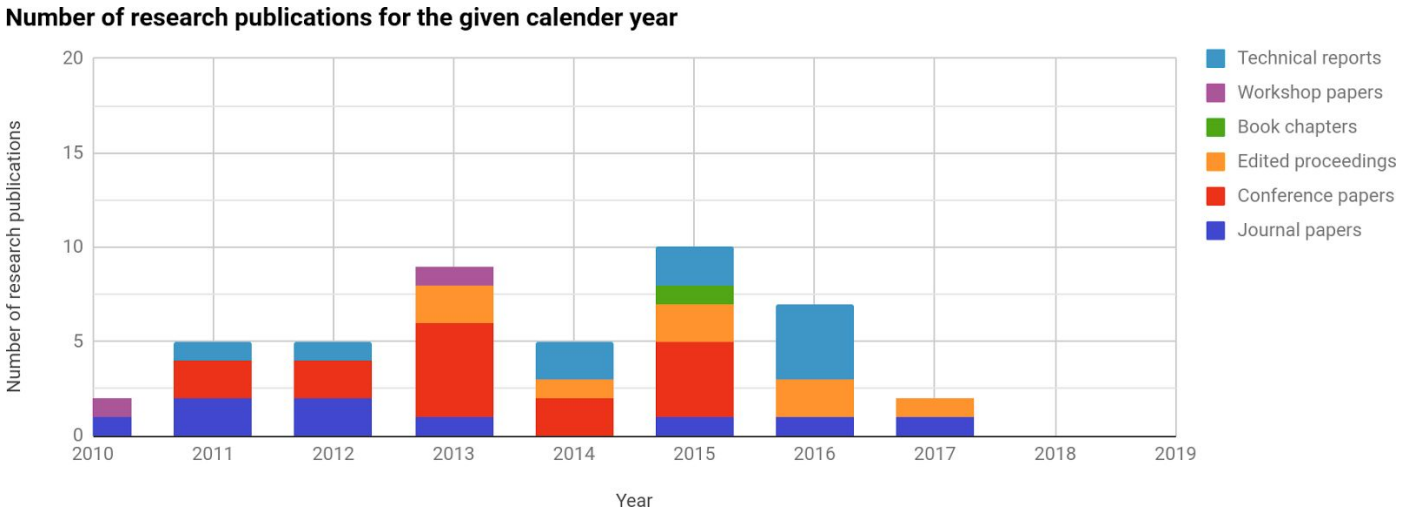
- Maximilian Capraro, Dirk Riehle: Inner Source Definition, Benefits, and Challenges. ACM Comput. Surv. 49(4): 67:1-67:36 (2017)

This paper represents the first cornerstone of Maximilian Capraro's dissertation on inner source management accounting.

Similarly, a new top-tier journal research paper has been accepted for publication and been put online, but is awaiting final issue and page number assignment:

- Andreas Kaufmann, Dirk Riehle: The QDAcity-RE method for structural domain modeling using qualitative data analysis. Requirements Engineering, Springer Verlag.

This paper represents the first cornerstone of Andreas Kaufmann's dissertation on high-quality requirements engineering.



In general, publication output was disappointing, though, with no clear reason why. Several papers are in the pipeline so we hope to improve in the coming years. Readers should note that we don't intend to publish for its own sake, but mostly want to be known for high-quality top-tier research journal articles.

1.3 Research collaborations

We continued our collaboration with *Prof. Minghui Zhou* of Peking University, who came to visit us during our research retreat in July 2017. She brought a colleague and by way of presenting our work to them and ourselves we received valuable feedback.

We also started a research project with *Prof. Ian Chai* of MMU (Malaysia) on increasing the effectiveness of reading, writing, and using handbooks of design patterns. Software support will be developed for the Sweble software of distributed knowledge projects, here, handbooks.

The transfer pricing work on inner source and open source is clearly interdisciplinary, so we established a collaboration with with *Andreas Brunnbauer* of GIZ and *Prof. Roland Ismer* of FAU on the taxation aspects of transfer pricing in inner source.

1.4 Other research work

Prof. Riehle is now the chair of the newly reconstituted steering committee of the OpenSym conference series. In 2017, we held a successful instance of the conference in Galway, Ireland. General chair was Prof. Lorraine Morgan of Lero, and program chairs were Profs. Claudia Müller-Birn of FU Berlin and Benjamin Mako-Hill of University of Washington.

In addition, we performed the obligatory (to researchers) reviewing services for research journals and conferences (e.g. IEEE TSE and ACM TOSEM) as well as grant giving agencies like the DFG.

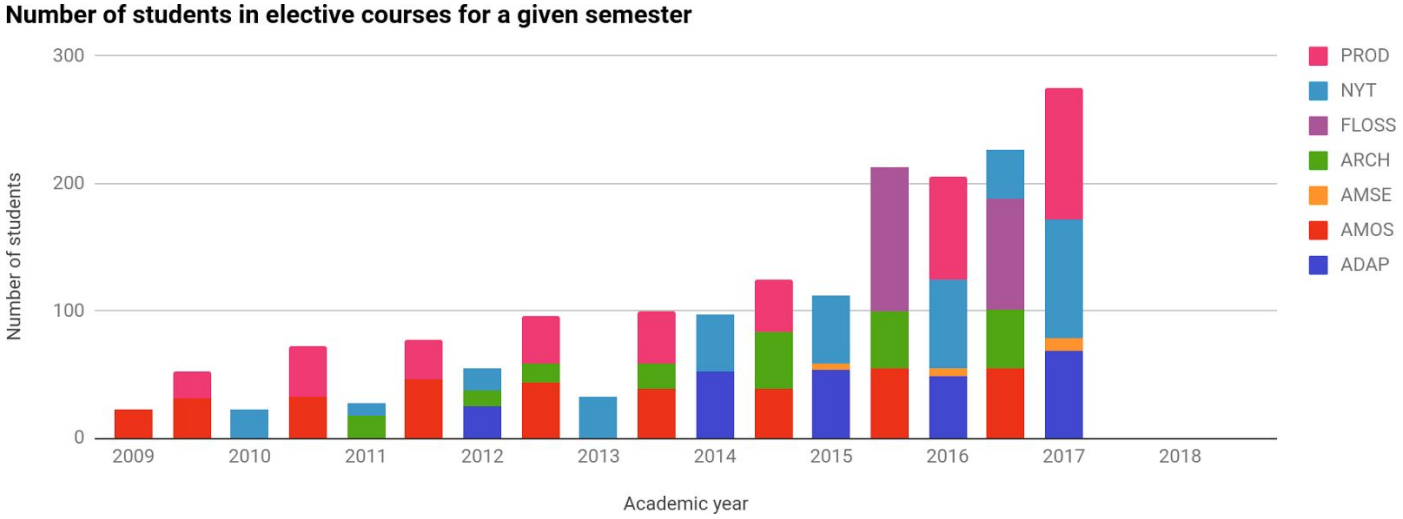
2. Teaching

The timeframe for the teaching section of this letter is the 2016/17 academic year, that is, the winter semester 2016/17 and the summer semester 2017. The winter semester 2017/18 will be covered in next year's letter.

2.1 Courses and student numbers

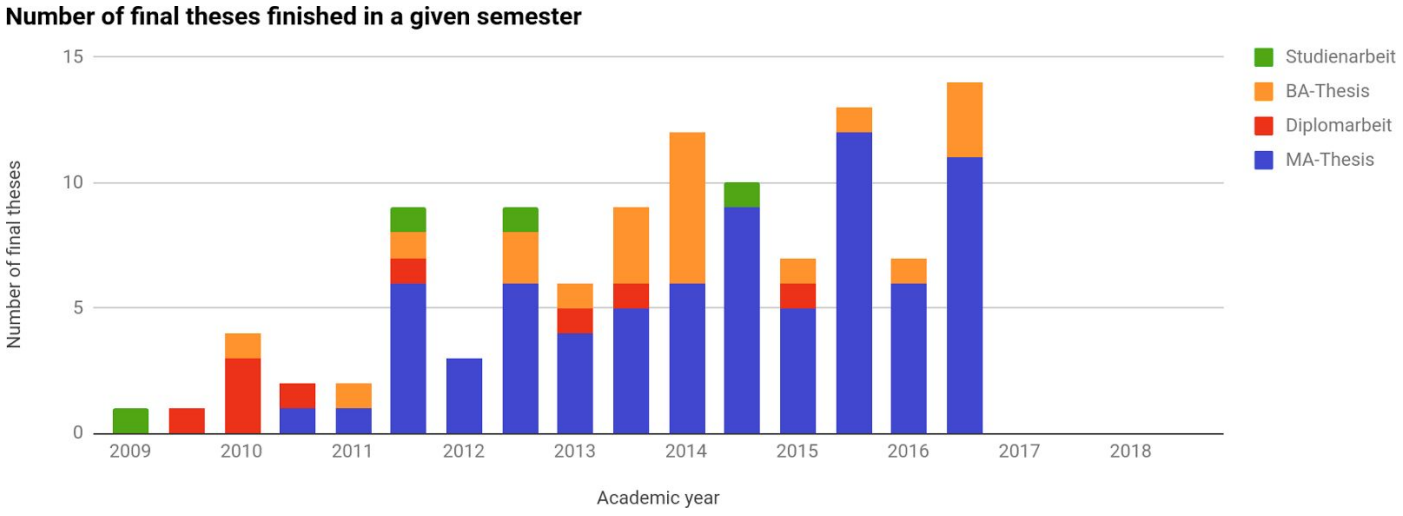
Student numbers kept increasing. We started offering Nailing your Thesis, our course on how to perform

research, every semester now. Readers can learn more about our courses using our course overview.



2.2 Final student theses

The number of final theses written at our professorship increased slightly. Our teaching is not present in the Bachelor degree program (due to the Professorship arriving only after the last time the curriculum had been revised). As a consequence, we draw proportionally more Master students, who get to know us through our elective courses, than we draw Bachelor students.



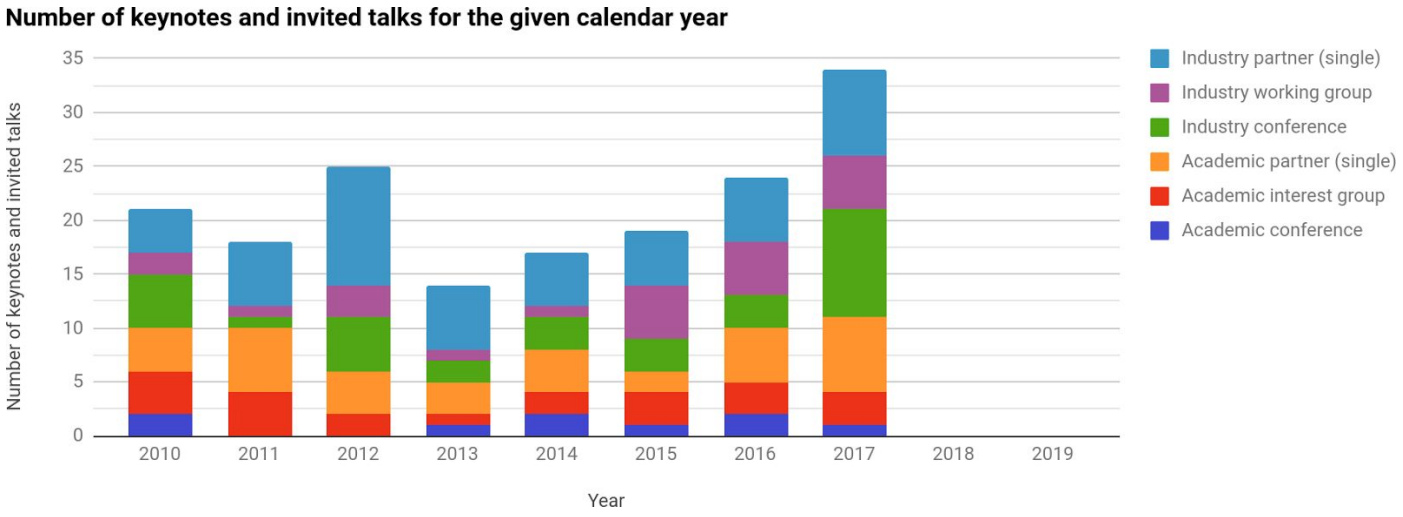
3. Industry

The timeframe for the industry section of this letter is the 2017 calendar year.

3.1 Engagement

Our flagship agile methods course, the AMOS Project, received even more industry interest than in prior years and was oversubscribed. Sadly, we could not satisfy all project requests by our industry partners. Only five projects of 6-8 students each could be staffed, and we are hard at work at reaching out to students to increase the participation in this course.

The interest in our work is at an all-time high and so Prof. Riehle held a record number of presentations to industry and academia.



3.2 Startups

The Uni1 initiative aims to make it easy for companies to have small low-risk projects (like the AMOS Project) with universities by facilitating the match-making. Our second attempt at turning this into a reality was the 2016/17 startup Uni1. Sadly, in 2017, it was stopped at FAU, so Prof. Riehle is now looking for a new home for the initiative.

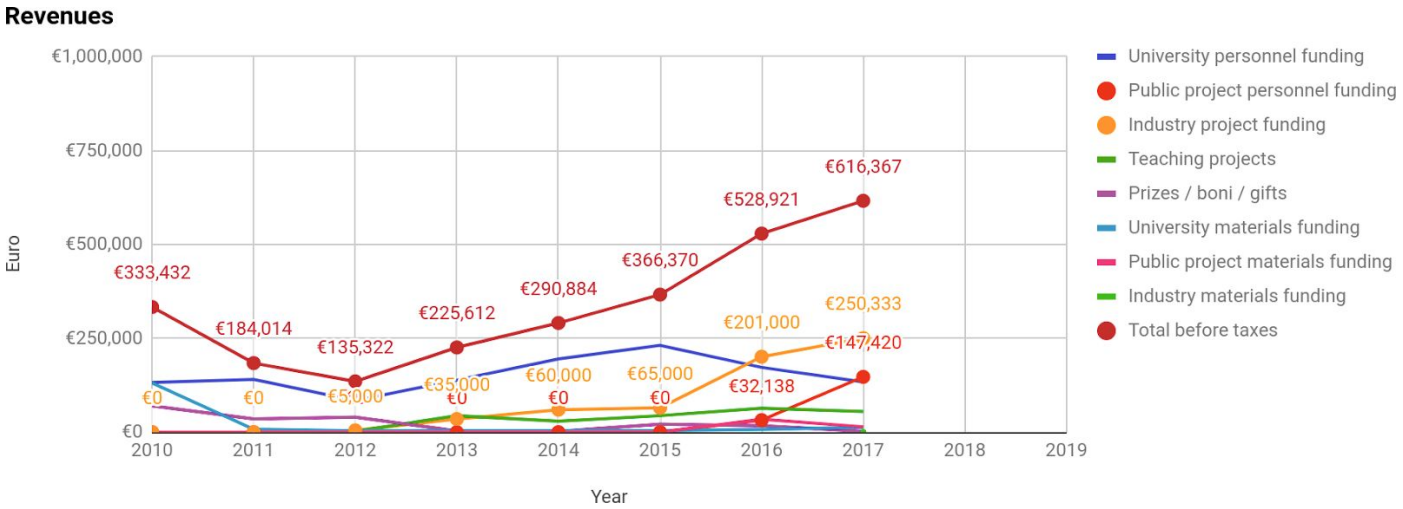
Our main startup focus now is the Sweble team and software of the same name. Sweble enables users and companies to collaborate using wikis (knowledge projects) in a distributed fashion. We sometimes call it “GitHub for wikis”. Using Sweble, everyone can have their own copy of a wiki and still stay in sync with work on the same wiki elsewhere.

4. Fund-raising

The timeframe for the fund-raising section of this letter is the 2017 calendar year.

2017 was another good year. Revenues kept growing. We don’t believe that we have reached the end of a growth phase yet but rather expect to keep expanding, with many grant proposals and industry projects in the making.

Our 2017 revenues were €616,366.50 with a tax rate of 18.45%. We therefore contributed €113,734.75 to university upkeep and operations (so-called overhead or “Gemeinkostenpauschale” and related).



Expenses (not shown) closely trailed revenues after taxes, leaving us with minimal profits to add to our

reserves. In future years, with a growing group, we may have to build up larger reserves to cope with the natural fluctuations in fund-raising and project acquisition.

5. Alumni

The number of alumni of our group kept growing in line with the number of students who finished their thesis with us in 2017. It now stands tall at 108 people.

Thank you!

What is left for us is to say thank you to all our partners and colleagues and to wish you all a happy holidays and a most successful and rewarding 2018!

For the Professorship of Open Source Software,

Prof. Dr. Dirk Riehle, Dec 2017.