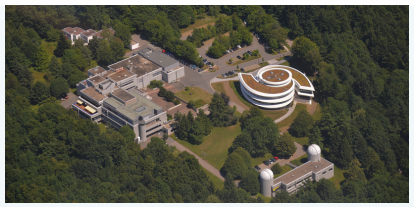
Felix Hormuth, MPIA Heidelberg

To SAP and back

2 June 2015 @ MPA Garching
MPA Career Seminar

About me



- **Once had a proper job (Rettungsassistent)**
- **Went to IT (Sysadmin / MySQL / PHP)**

- **Upgraded astronomy from hobby to job: Physics in Heidelberg 2001-**
- **At MPIA from 2004-2010, again 2012-**
  - **Diploma in 2007 (AstraLux instrument & pipeline for Calar Alto)**
  - **PhD student from 2007-2010, unfinished**
  - **Technical astronomer at Calar Alto in 2008/2009**

- **Developer @ SAP 2010-2012**

My way to SAP

- ***Why to SAP?***
  - **Stuck in the PhD without end in sight / running out of funding**
    → Need for a change
  - **Applied for ~10 different jobs, two at SAP**
  - **Would have preferred a job in engineering actually…**

Think twice before just continuing your diploma / master topic as a PhD!

Apply in advance: at least 3 months, or better before!

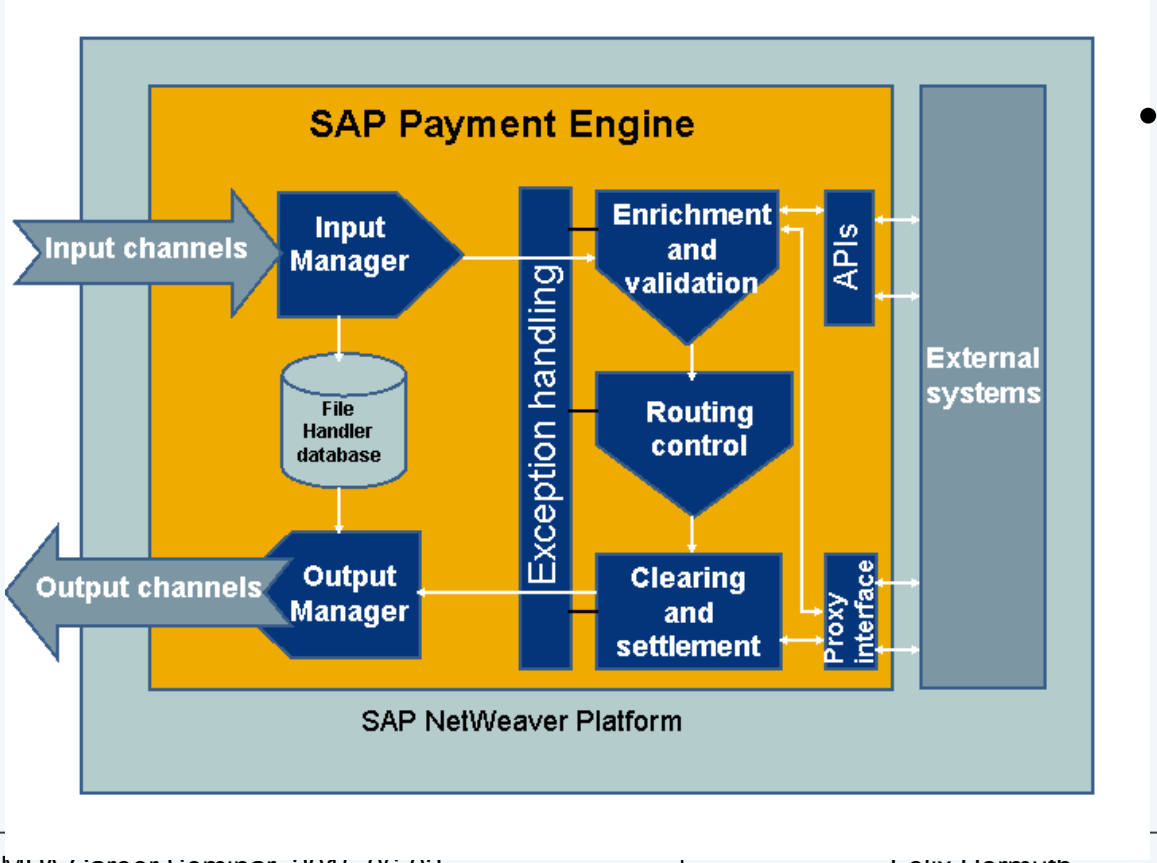
- **The job:**
  - **Maintain and develop SAP's Payment Engine**

It may be OK to say you want out of science to have more security

- **The team:**
  - **Good mix (Physics / math / IT), 8 p.**
  - **Boss and his boss ex-physicists**

The SAP Payment Engine

- **Interface between banks for money transfers**
- **Transaction safe, reliable, lots of error-handling**
- **High load on database / parallel / locking mechanisms**
- **What goes in needs to come out, because if not…**
- **A bit like an astronomical data pipeline**



- **The tasks:**
  - **Debug & TEST!**
  - **Implement SEPA**
  - **New formats**
  - **New customers**
  - **New processes (Recall, refund…)**
  - **On-call duty**

Work at SAP: PROs

- **The obvious:**
  - **The salary**
  - **The permanent position…**
  - **Develop things that are used by almost everyone!**

- **Personal opinion:**
  - **Short times from problem to solution & feedback**
  - **No scientific paper writing…**
  - **Learning a lot about something completely unscientific yet challenging**
  - **Learn how things work below the surface**
  - **Fun + useful: learn how to work with databases**

Work at SAP: CONs

- **For scientists in general:**
  - **Pressure from customers & management**
  - **No time for scientific approach to a problem**
  - **Less freedom what/when/how to do the work**

- **For me in particular – and why I left:**
  - **Missing observing & telescopes & hardware**
  - **Sometimes not enough time to think things to the end before a solution is needed**

In short: if you can live without a lab, then SAP is certainly a good choice!

Depending on the team you'll be in good company!

Back into the family: why leave at all?

- **A job in science without the science part…:**
  - **Many diploma students / PhDs seem to be fed up with science and want to opt out at some point**
  - **Some (like me) have engineering knowledge**
  - **Why not try to stay in instrumentation???**

Most projects need people with broad expertise

Relatively good contracts

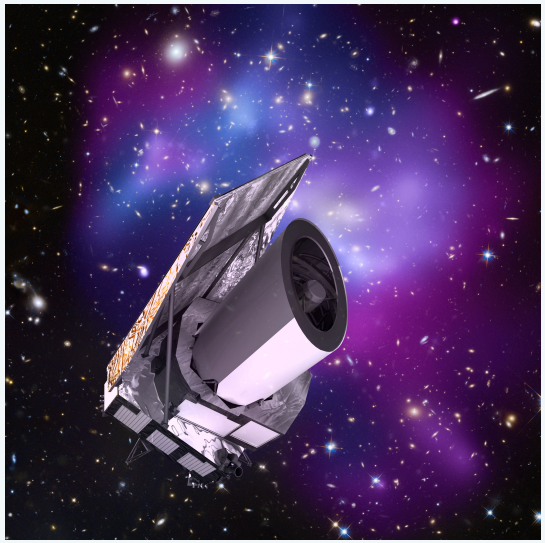
You'll pick up knowledge that is a ticket to industry

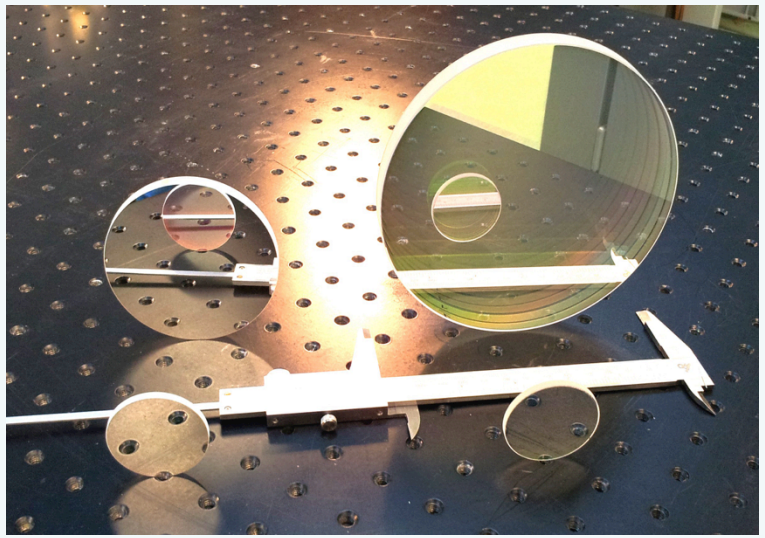
Electronics
Optics
Mechanics
Vacuum / Cryo
Software

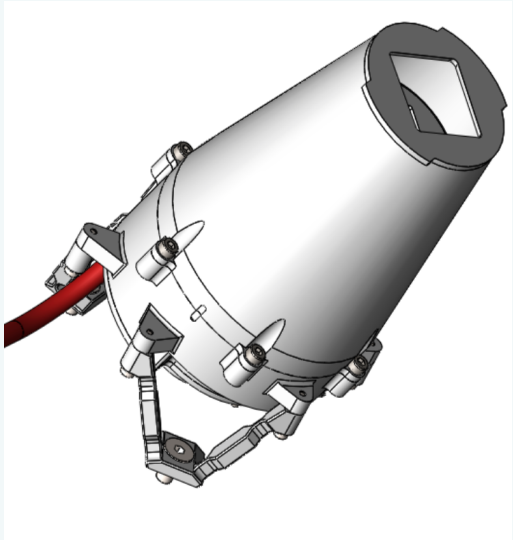
TvÖD 13+
3 years+
Long term projects, extension formality

My current job: Euclid @ MPIA

- **My job: MPIA's local project manager & engineer for the Euclid satellite / NISP instrument project**







- **Cosmology M-class mission, launch 2020+**
- **6.25 years sky survey in VIS and NIR**
- **MPIA: NIR filters and detector calibration source**
- **→ LEDs in space. Sounds easy, doesn't it?**

The tasks

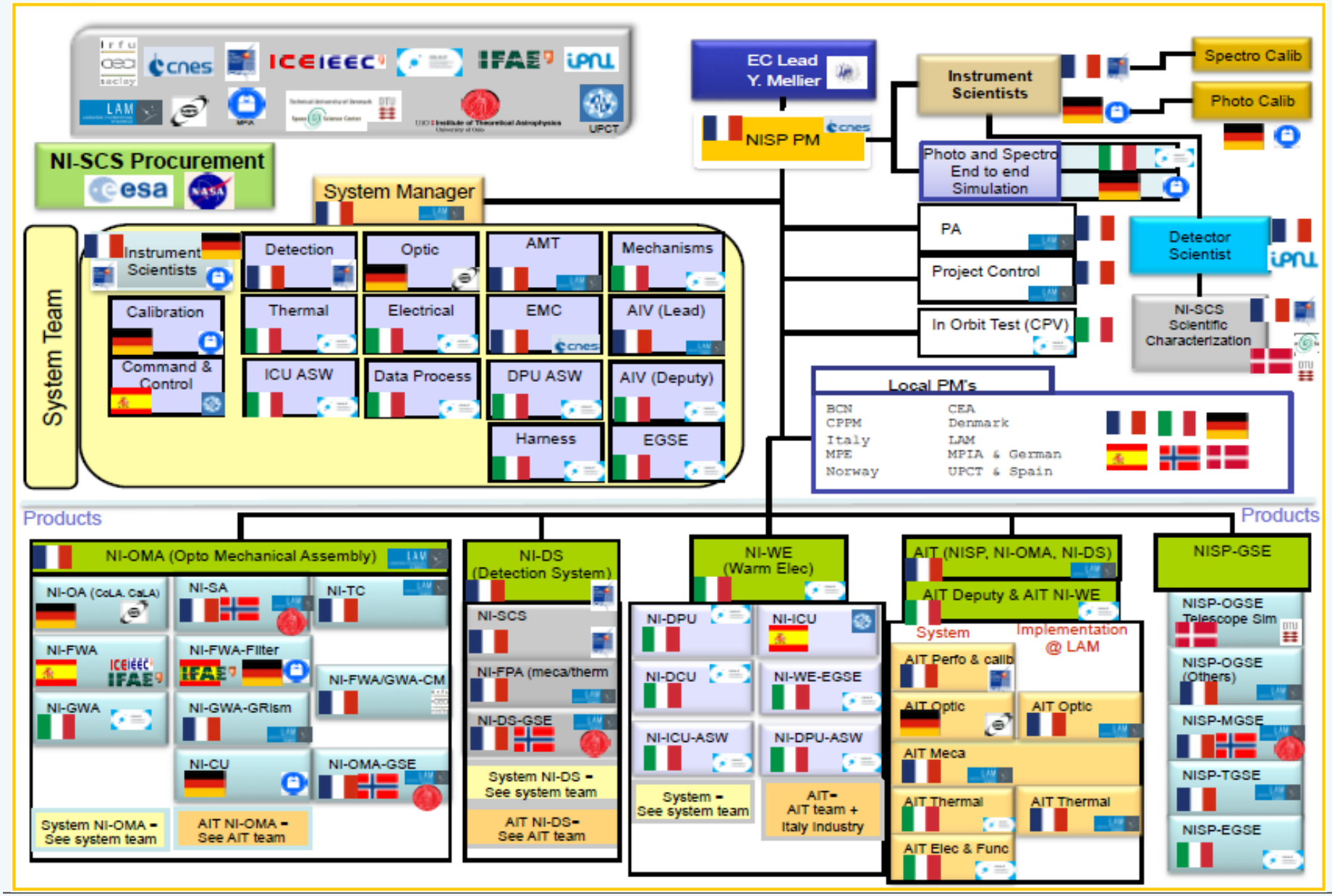
- **Interface to the industry partners – and babysitter**
- **Interface to the consortium = “the customer”**
- **→ Telecons, meetings & travel galore**

- **Own lab setups / Q&D measurements, long-term qualification procedures**

- **Contract negotiation & some controlling**
- **Negotiations within the consortium – who needs what when where and how good does it really need to be**

- **And then: its space…**

Life in a consortium



The CONs & Challenges

- **Large consortiums mean long & complex decision processes**
- **Politics…**

- **There are still customers: ESA, project partners**
- **There is still a schedule, but…**

- **You need to prioritise (sometimes also ignore stuff…)**
- **And sometimes it needs a little bit of fighting**
- **Difficult to manage other projects / science in parallel**

- **Babysitting industry & budget is neither easy nor fun…**

- **Space is space. Your lab is your lab.**

The PROs

- **Large consortiums: lots of contacts & interesting people, see how other teams do stuff**
- **Politics: interesting if not taken too seriously…**
- **Pragmatic approaches preferred over scientific ones – but the way to the solution still requires science!**
- **No specialisation, broad field of topics and problems.**
- **You'll see how the stuff that finally flies is really made!**
- **Instrumentation & space(!): long projects & contracts**
- **Good preparation for a job in industry – eventually.**

Summary

- ***SAP is fine for you if:***
  - **You're not into hardware**
  - **You want a permanent contract & security**
  - **You don't want to solve problems scientifically**

- ***Instrumentation / space is a choice if:***
  - **You can live with moderate contract lengths**
  - **You have some engineering experience and:**
  - **You are willing to expand your engineering expertise**
  - **You are willing to do some amount of management and tedious documentation tasks**