Zentrale Informatik

20.08.2019, Thomas Sutter

CIO

University of Zurich

Founded in the year 1833

Switzerland's largest university
with the widest range of study courses
(faculties of Theology, Law, Business/Economics and Informatics, Medicine,
Vetsuisse, Arts and Social Sciences, Sciences (mathematics, physics,
chemistry, biology etc.)

12 Nobel Prizes

Top 50 to 80 in international rankings

26'000 students (2019)

680 Professors

9'500 employees (6'800 FTE)

Budget CHF 1'450 Mio. (Euro 1'340 Mio.)

2015 UZH started with benchmark

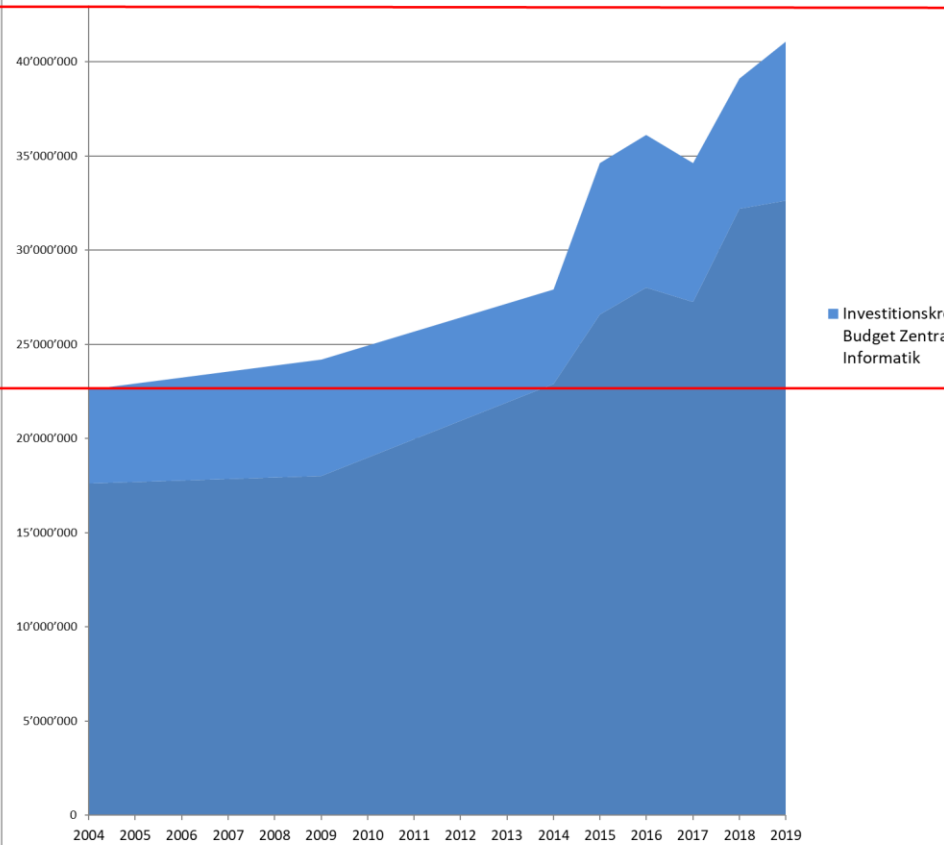Since 2016 other Swiss Universities take part as well

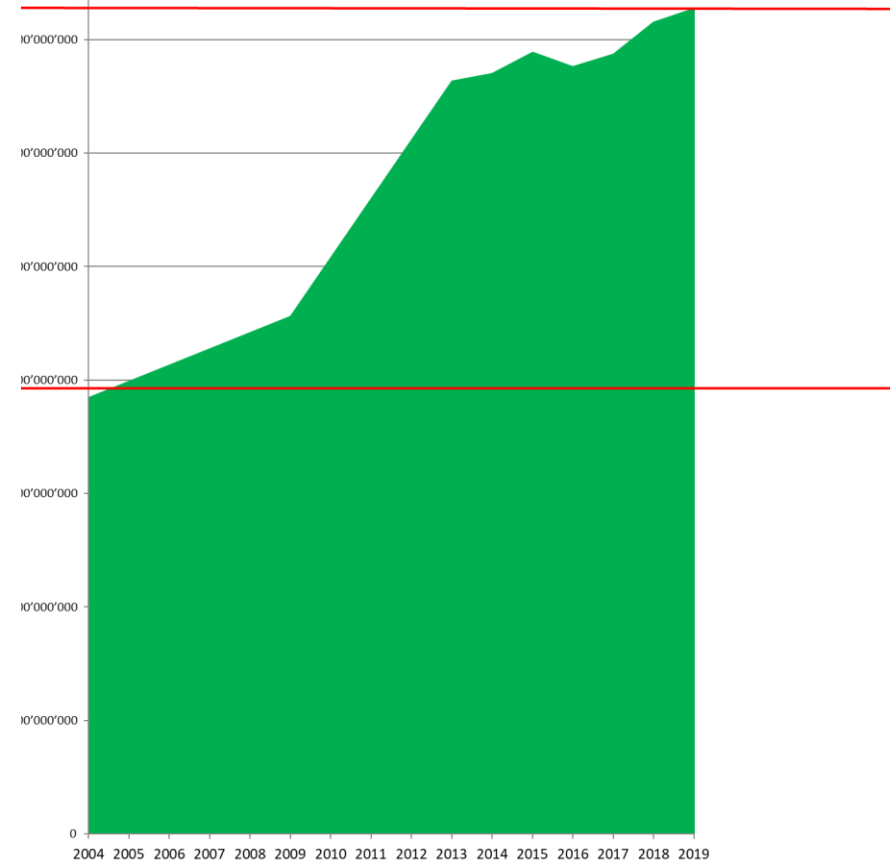There is a user group sharing experiences, questions etc.

Where are we coming from?
Central IT budget vs UZH budget

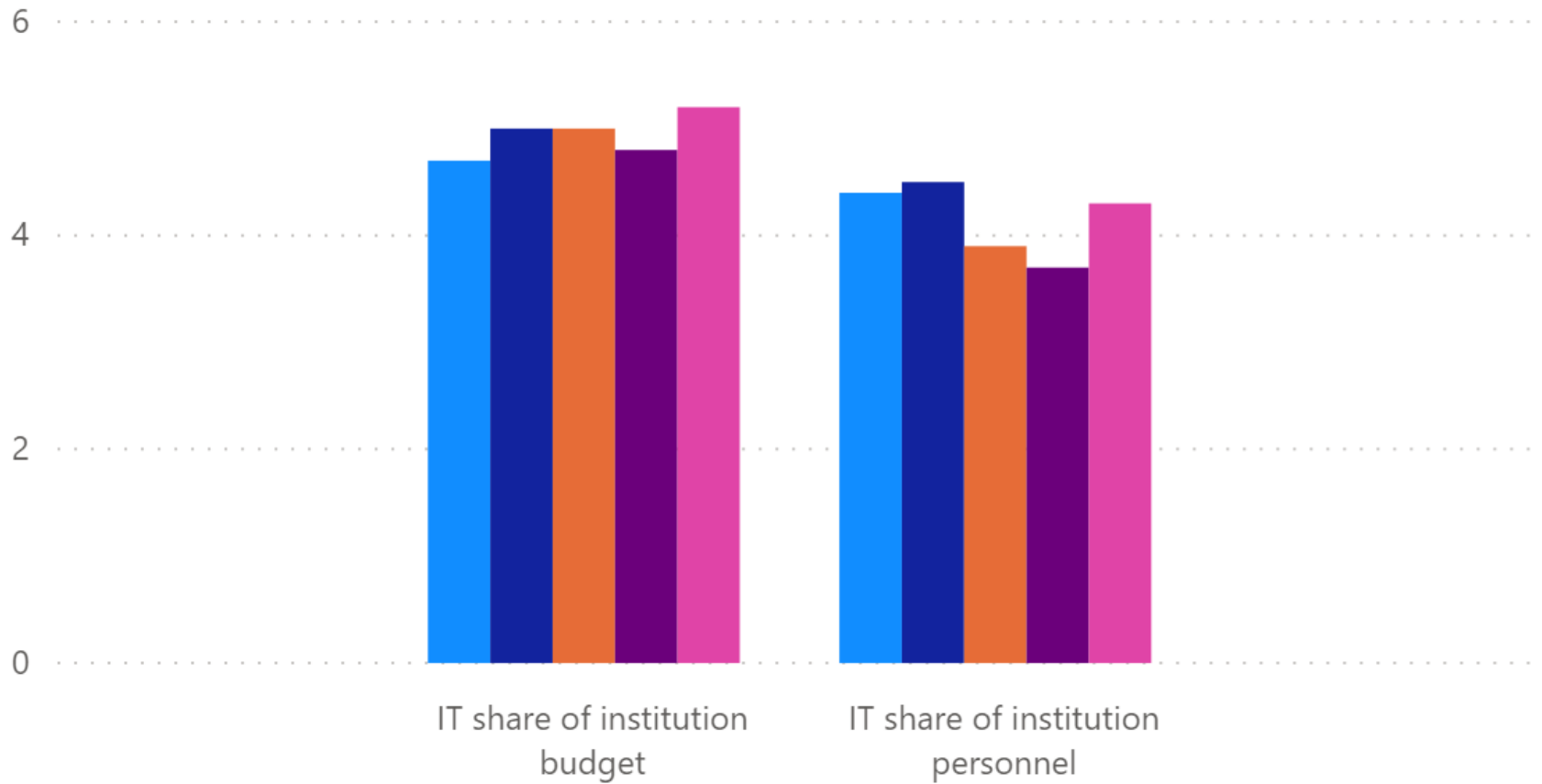Budget Zentrale Informatik (vor 2014 nicht alle Zahlen vorhanden)

Budget Gesamt UZH in CHF

Development of university numbers

IT share (%)

● BM 2015 ● BM 2016 ● BM 2017 ● BM 2018 ● BM 2019

Content

- How do we use the benchmark:
    - compare high level numbers
    - development of numbers over time are key
    - detect and understand special effects, and differences,
      (year to year, between universities etc.)
      → otherwiese benchmarks can be missleading
    - communication

- Disclaimer: allways consider 'special effects' with benchmarks – e.g.:
    - ERP without costs
    - IT departements with IT courses, multimedia support
    - decentralised IT numbers
    - special effects from one-time investments

- Development of university, Swiss and overall numbers

IT costs

IT costs (1000 CHF)	CH_UZH	CH_UZH last year
Centralized IT costs	42'750 k	45'163 k
IT costs in other central units	0 k	0 k
IT costs in academic units	33'360 k	23'609 k
Unspecified	0 k	0 k
Total IT costs	76'110 k	68'771 k

IT personnel (FTE)	CH_UZH	CH_UZH last year
Centralized IT personnel	151	147
IT personnel in other central units	0	0
IT personnel in academic units	140	101
Unspecified	0	0

IT share of institution budget	5.2 %	4.8 %

+39 FTE in 2019 «IT personnel in academic units»

→ no explanation from HR

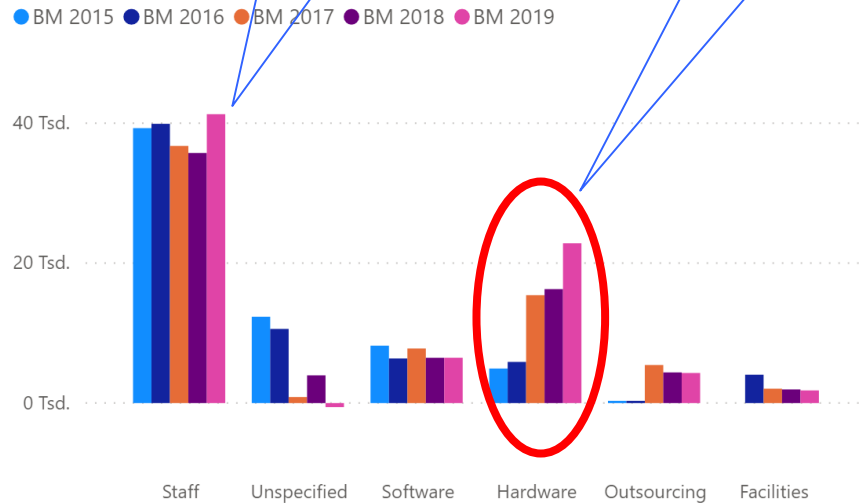→ plus CHF 5 Mio. decentral IT costs in 1 year with without explanation

IT-Benchmark: specific costs

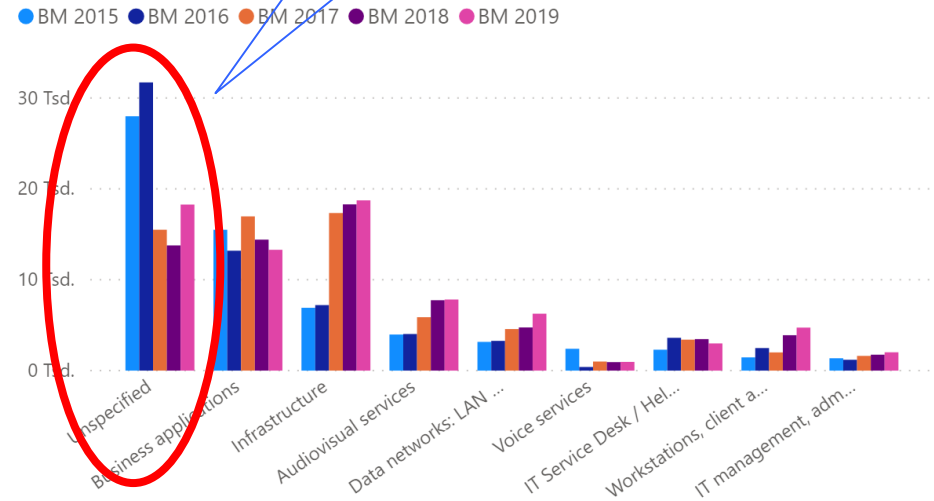**More central (real) and decentral (reason not known) staff**

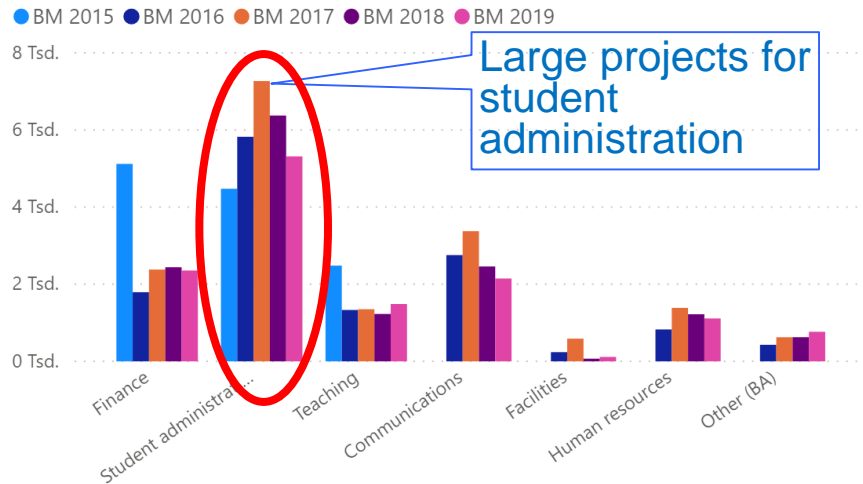**Growing central investments**

Better numbers over years of paricipating
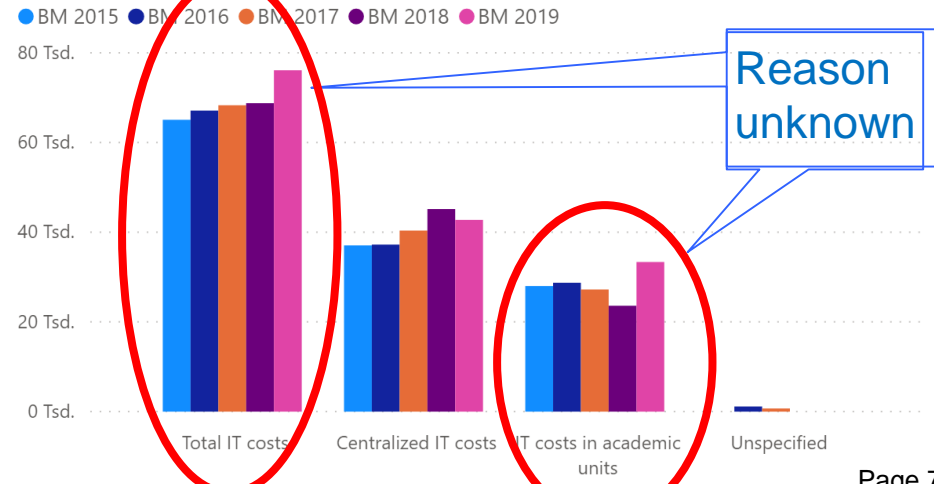
Costs by account (1000 CHF)

● BM 2015 ● BM 2016 ● BM 2017 ● BM 2018 ● BM 2019

Staff, Unspecified, Software, Hardware, Outsourcing, Facilities

Costs by service (1000 CHF)

● BM 2015 ● BM 2016 ● BM 2017 ● BM 2018 ● BM 2019

Unspecified, Business applications, Infrastructure, Audiovisual services, Data networks: LAN …, Voice services, IT Service Desk / Hel…, Workstations, client a…, IT management, adm…

Costs by business applications (1000 CHF)

● BM 2015 ● BM 2016 ● BM 2017 ● BM 2018 ● BM 2019

Large projects for student administration

Finance, Student administra…, Teaching, Communications, Facilities, Human resources, Other (BA)

IT costs (1000 CHF)

● BM 2015 ● BM 2016 ● BM 2017 ● BM 2018 ● BM 2019

Reason unknown

Total IT costs, Centralized IT costs, IT costs in academic units, Unspecified

IT-Benchmark: developments over time

Central ITs share of institutional budgets
- UZH Central ITs
- BenchHEIT overall Central ITs
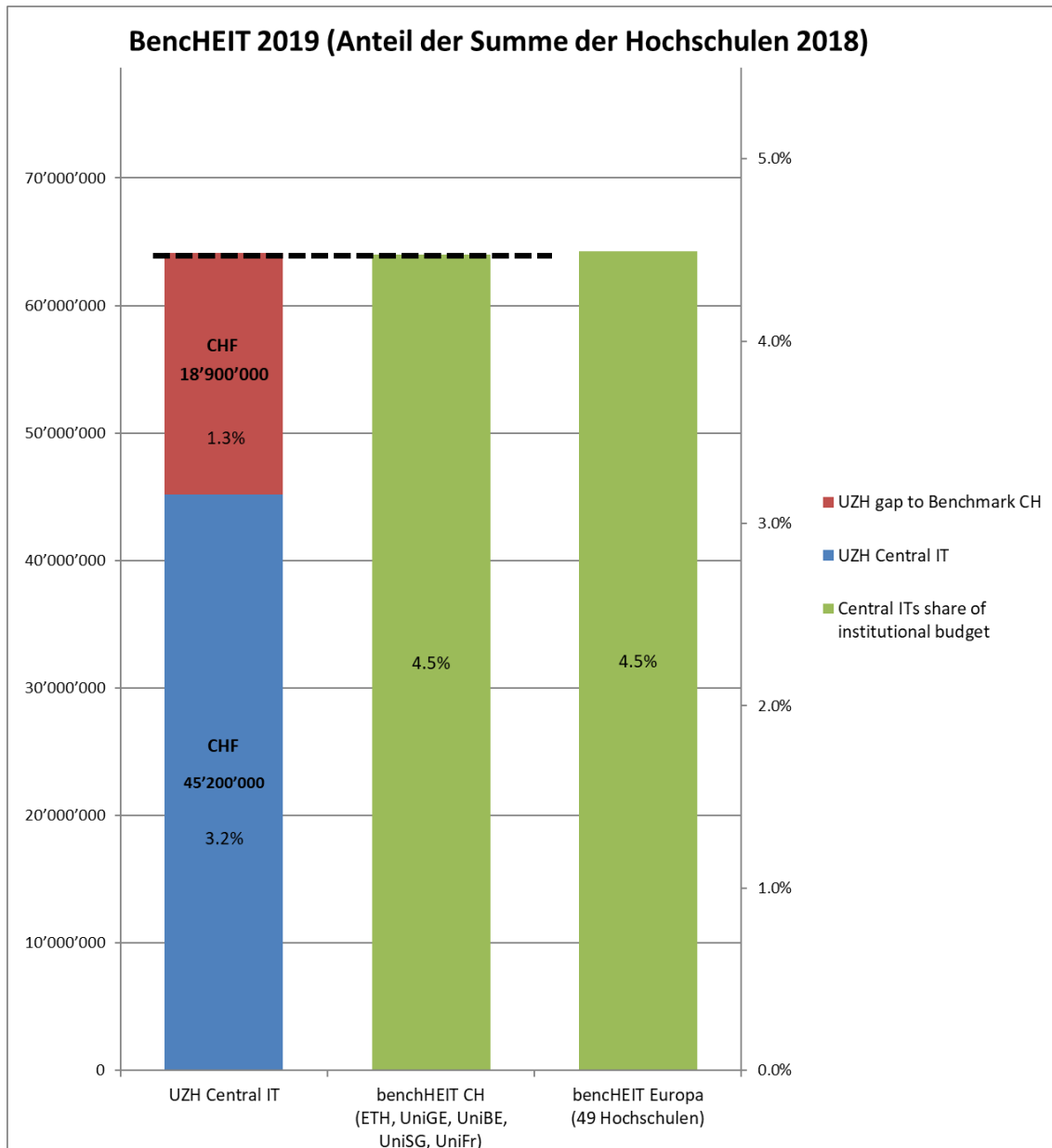- CH Central ITs
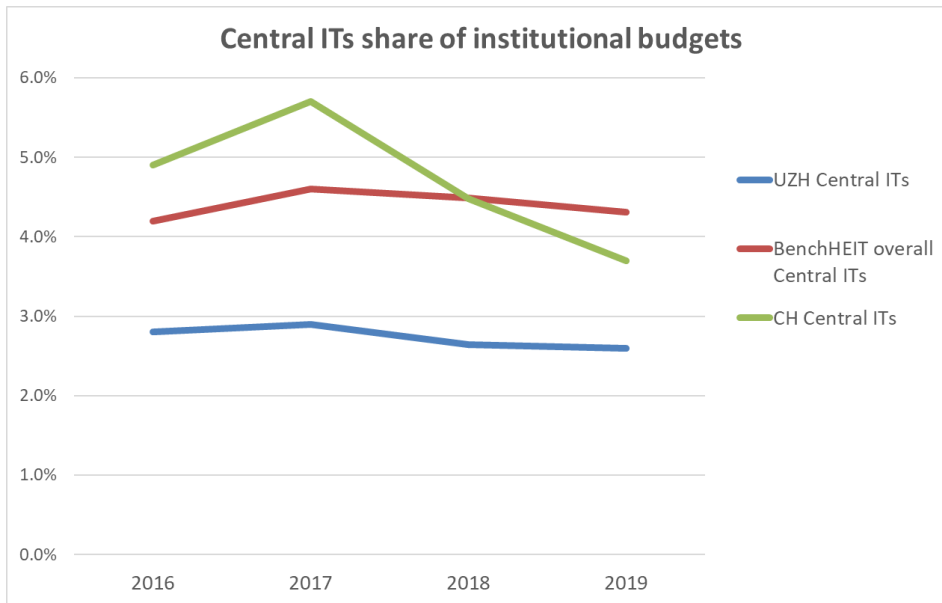
- changing particpants

- improvements of data

- 'special' effects like growing unviersities, one-time investments etc.
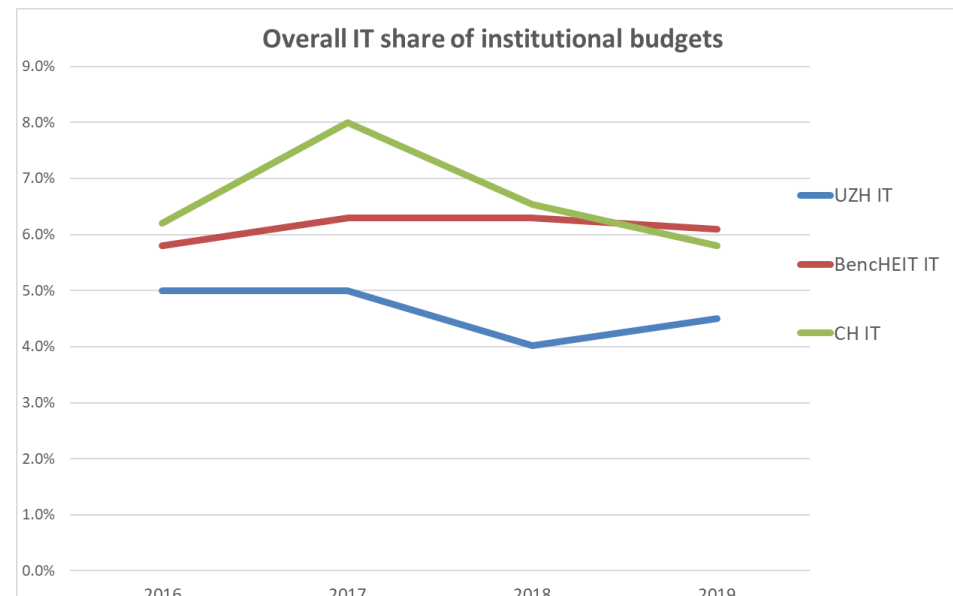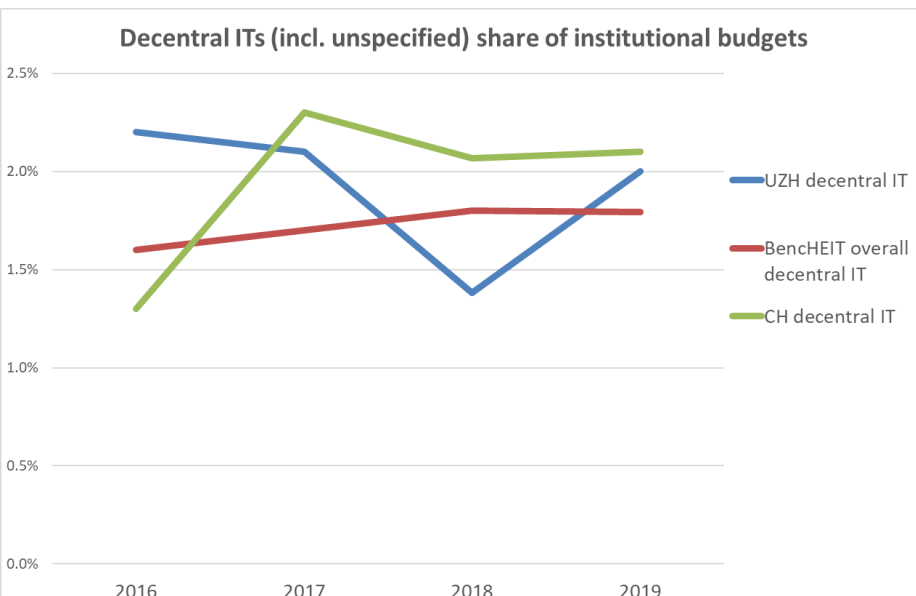
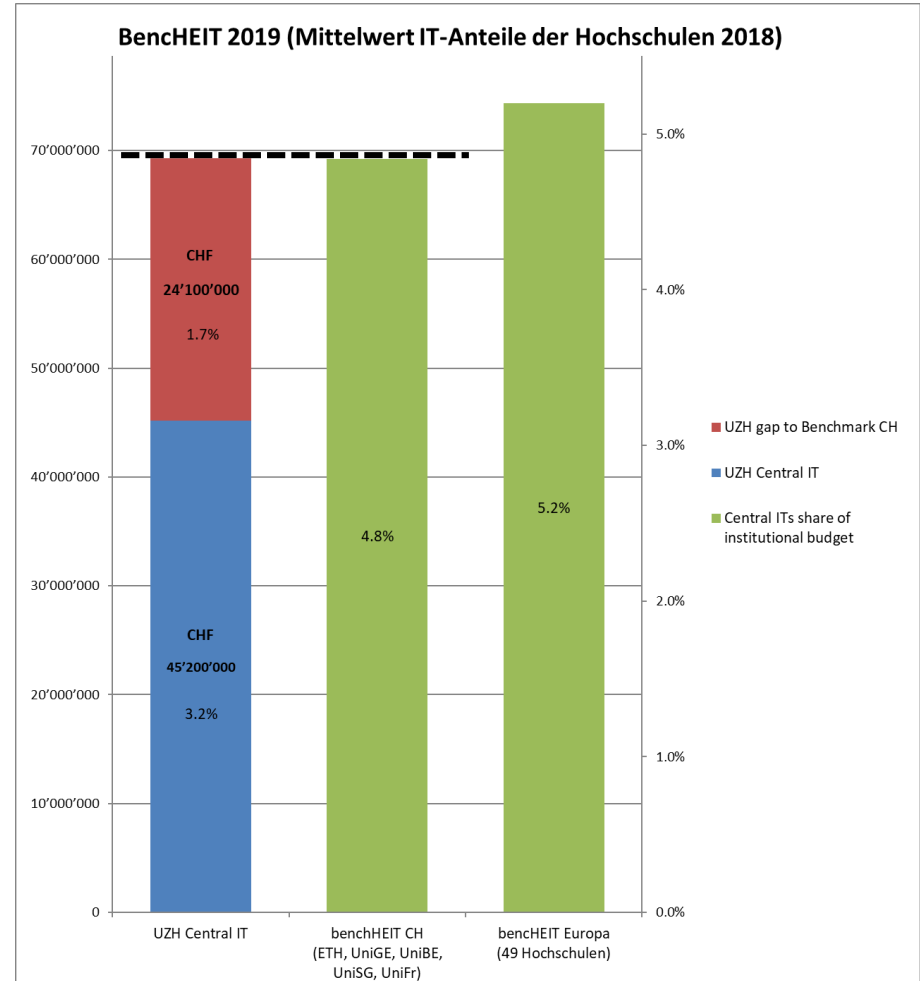Decentral ITs (incl. unspecified) share of institutional budgets
- UZH decentral IT
- BenchHEIT overall decentral IT
- CH decentral IT

Overall IT share of institutional budgets
- UZH IT
- BenchHEIT IT
- CH IT

IT-Benchmark: Budget Central ITs to overall University

BencHEIT 2019 (Anteil der Summe der Hochschulen 2018)

Gap Zentrale Informatik zu Benchmark CH:
CHF 19 Mio. p.a.

Gap Zentrale Informatik zu Benchmark Europa:
CHF 19 Mio. p.a.

IT-Benchmark: Budget Central ITs to overall University

BencHEIT 2019 (Anteil der Summe der Hochschulen 2018)

- UZH gap to Benchmark CH
- UZH Central IT
- Central ITs share of institutional budget

UZH Central IT: CHF 18'900'000 (1.3%); CHF 45'200'000 (3.2%)
benchHEIT CH (ETH, UniGE, UniBE, UniSG, UniFr): 4.5%
bencHEIT Europa (49 Hochschulen): 4.5%

BencHEIT 2019 (Mittelwert IT-Anteile der Hochschulen 2018)

- UZH gap to Benchmark CH
- UZH Central IT
- Central ITs share of institutional budget

UZH Central IT: CHF 24'100'000 (1.7%); CHF 45'200'000 (3.2%)
benchHEIT CH (ETH, UniGE, UniBE, UniSG, UniFr): 4.8%
bencHEIT Europa (49 Hochschulen): 5.2%

Swiss effects
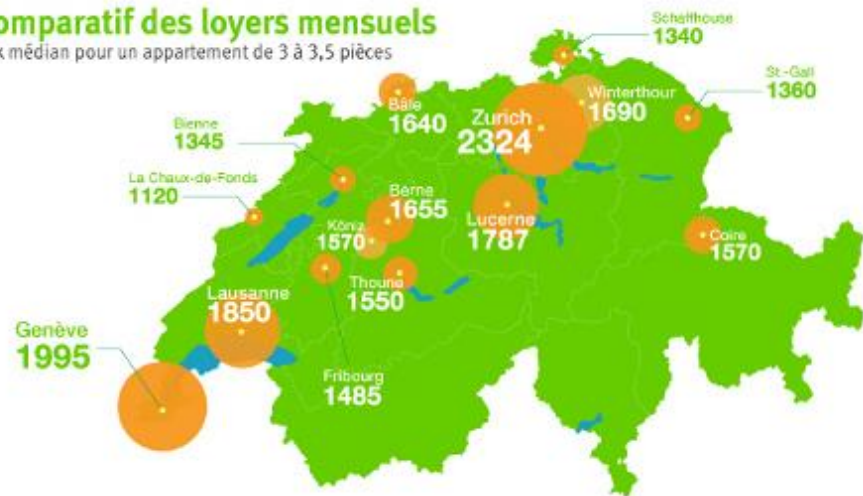

KINDERGARTENTEACHER STARTING BASE SALARY IN SWITZERLAND

EUR 65'000.-

Comparatif des loyers mensuels
Prix médian pour un appartement de 3 à 3,5 pièces

Schaffhouse 1340
St.-Gall 1360
Winterthour 1690
Bâle 1640
Zurich 2324
Bienne 1345
La Chaux-de-Fonds 1120
Berne 1655
Köniz 1570
Lucerne 1787
Coire 1570
Thoune 1550
Lausanne 1850
Genève 1995
Fribourg 1485

Swiss effects

- Cultural and legal effects: e.g.
  - price/cost level:
    absolute numbers cannot be compared with other countries due to different price/costs levels; only relative numbers usable
  - student FTE:
    not known in CH versus student headcounts (used in Switzerland)
  - VAT:
    no deduction, therefore part of relevant costs for university and IT; costs excluding VAT determinable
  - decentral culture:
    decentral IT costs large part of overall costs, but estimates very vague

Eunis Benchmark: Anteil IT Budget vs. World Ranking
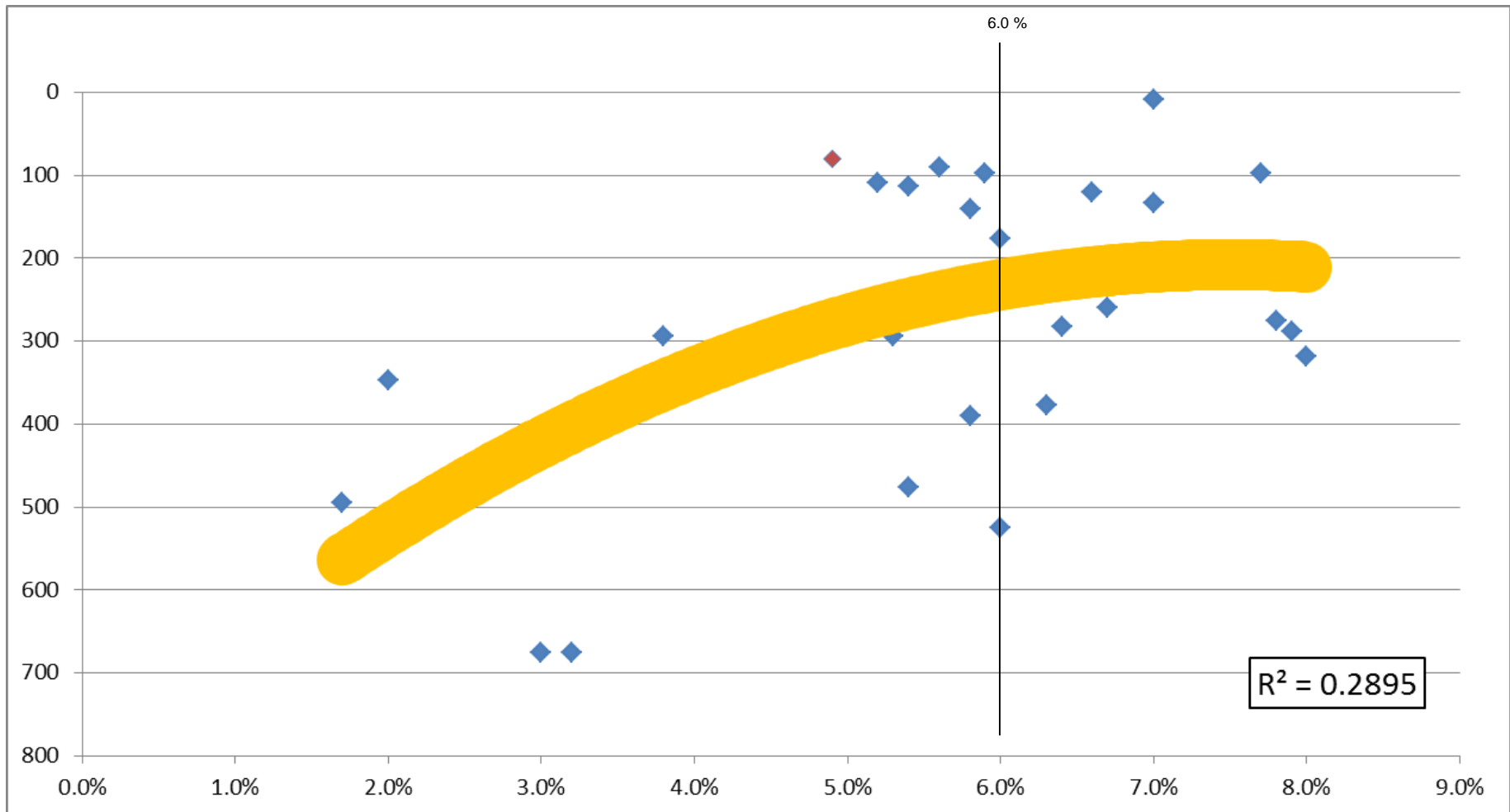
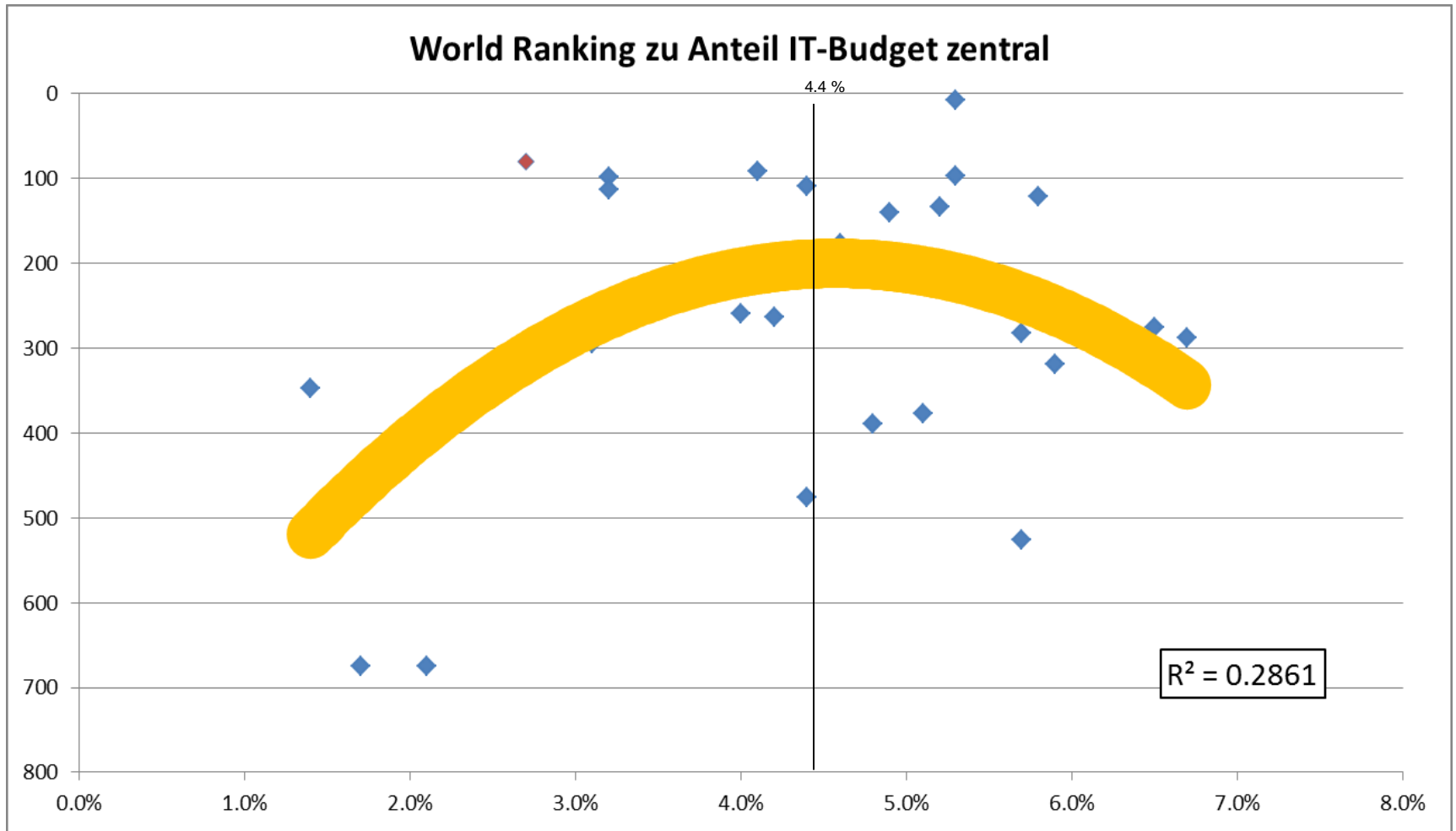2017, overall 57 Teilnehmer, Benchmark all IT budgets: 6.0%, UZH 5.0%

28 Datenpunkte, Trendlinie polynomisch (Reihenfolge 2)

Bestimmheitsmass (r^2) = 29%

Quadrat des Pearsonschen Korrelationskoeffizenten: Gibt an, welcher Anteil der Varianz in beiden Variablen durch gemeinsame

Varianzquellen bestimmt wird. (http://www.methodenberatung.uzh.ch/de/datenanalyse/zusammenhaenge/korrelation.html)

World Ranking zu Anteil IT-Budget zentral

$R^2 = 0.2861$

2017 overall 57 Teilnehmer, Benchmark central IT budgets: 4.4%, UZH 2.7%
Trendlinie: 28 Datenpunkte, polynomisch (Reihenfolge 2), Durchschnitt 4.3%, max. 4.6%

Bestimmheitsmass (r^2) = 29%
Quadrat des Pearsonschen Korrelationskoeffizienten: Gibt an, welcher Anteil der Varianz in beiden Variablen durch gemeinsame
Varianzquellen bestimmt wird. ('methodenberatung.uzh.ch', http://www.methodenberatung.uzh.ch/de/datenanalyse/zusammenhaenge/korrelation.html)

Eunis Benchmark: World Ranking vs. IT Budget Anteil dezentral

World Ranking zu Anteil IT Budget dezentral

2017 overall 57 Teilnehmer, Benchmark decentral IT budgets: 1.6%, UZH 2.2%
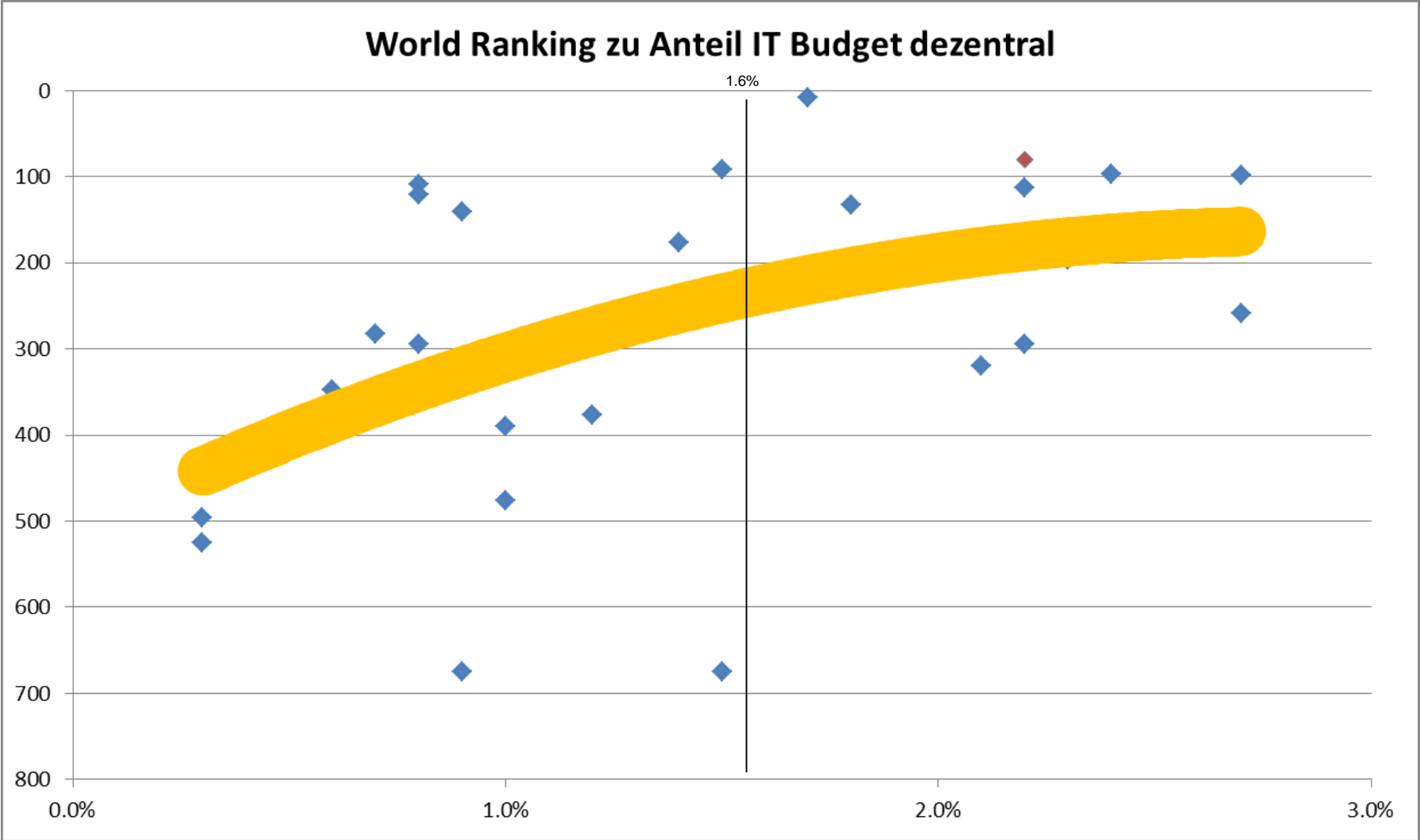
Thomas Sutter
Chief Information Officer
Universität Zürich
Stampfenbachstrasse 73
8006 Zürich

Mail: thomas.sutter@uzh.ch
Phone: +41 44 635 45 88
Mobile: +41 79 300 20 07