



ZKI Working Group for Strategy and Organisation

## Results of the ZKI Top Trends Survey of the ZKI Strategy and Organisation Working Group for 2023

Malte Dreyer, Humboldt University, Berlin – [dreyer@hu-berlin.de](mailto:dreyer@hu-berlin.de)



# Humboldt-Universität zu Berlin



Photo: Matthias Heyde



# Campus Mitte

A campus rich in tradition and home to humanities, social sciences, economics, law and theology in Berlin's historic centre







# Campus Nord

Life sciences on the historic site of  
the former veterinary school





# Campus Adlershof

Natural sciences and mathematics in  
Germany's leading Technology Park  
Adlershof

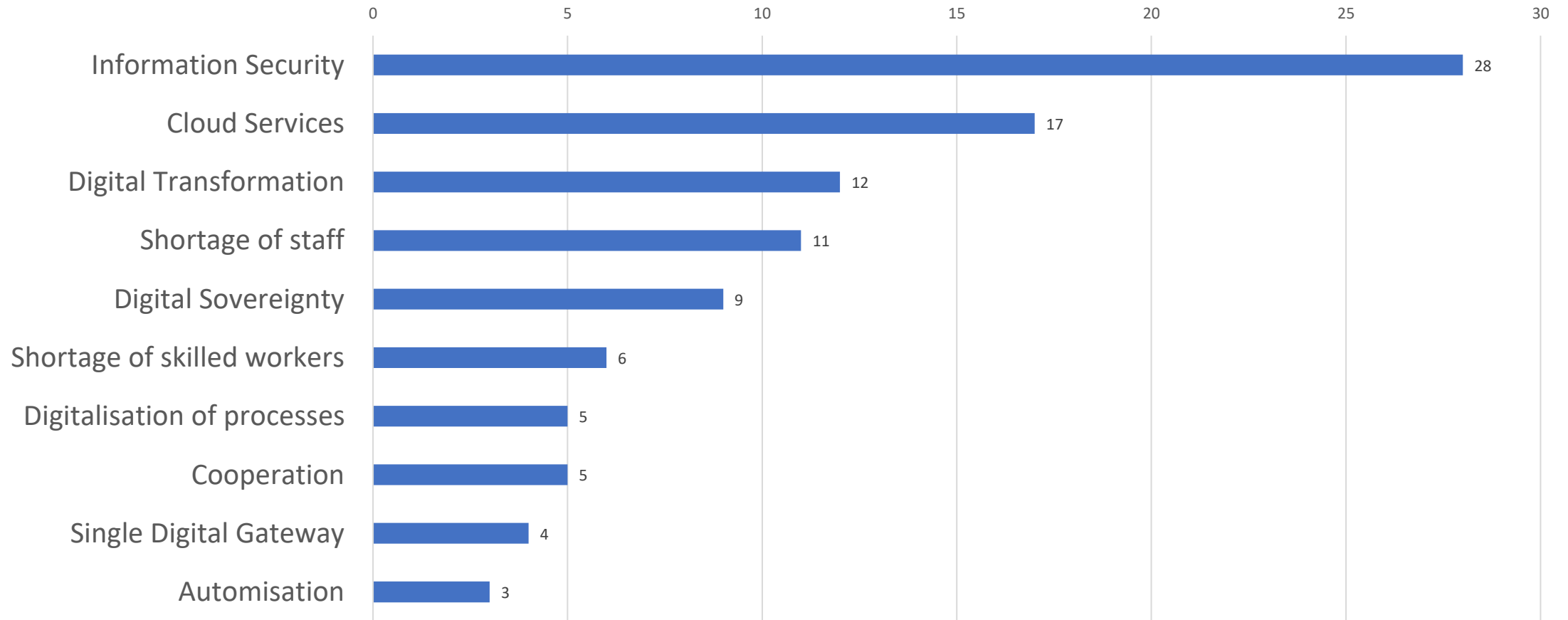
# Activities of the ZKI Working Group since 2020

- Top Trends Survey Focus Topics
  - 2020: Effects of digitalization
  - 2021: Effects of the pandemic
  - 2022: Cloud, digital sovereignty, new work
  - 2023: Energy crisis
- BigBlueButton
  - Community building and crowd funding to increase software maturity
- Software Tools at Universities
  - Initial Survey 2021
  - Complete report 2022 – 19 Categories
- Information Security
  - Workshops on information security: „At some point it happens to everyone”
  - How to prepare for incidents beyond process maturity?
- Whiteboard solutions for digital teaching and learning
- Surveys about tools for contact tracing in universities
- Survey about the IT budget and staff ratio at universities



[https://zenodo.org/search?q=keywords%3A\"ZKI\"](https://zenodo.org/search?q=keywords%3A\)

# Which top trends are particularly relevant for you? 2023



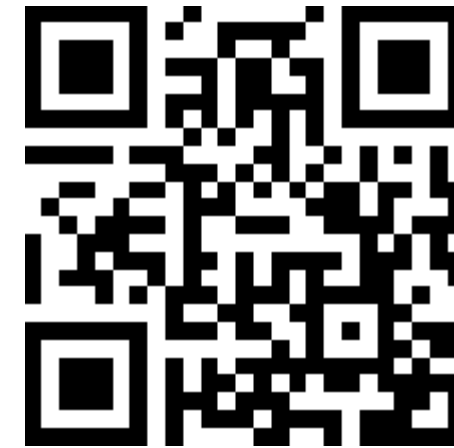
# Top Trends Changes 2018 to 2023

	Ranking in the relevant top trends					
Trend	2023	2022	2021	2020	2019	2018
Information Security	1	1	2	1	1	5
Digitalisation	2	5	3	3	1	1
Cloud Services	3	2	1	2	6	4
Research Data Management	-	-	10	7	3	2
Machine Learning	-	6	11	4	4	-
Cooperation	8	11	8	5	4	7
Shortage of staff	4	3	9	6	10	-
Virtualisation	-	-	-	9	-	9
Data Protection	-	7	4	-	3	-
Work from home	-	4	6	-	-	-
Digital Sovereignty	5	9	5	-	-	-



# Survey on Software Tools (2022)

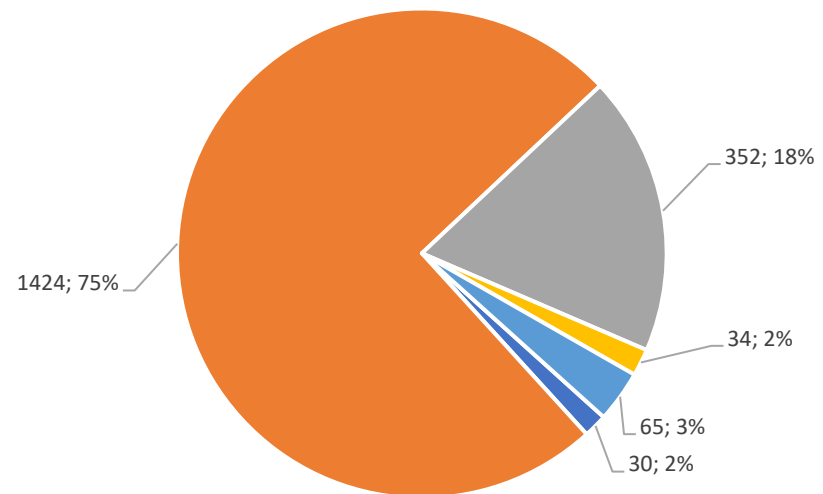
Kategorie	#1	#2	#3	#4	#5
Backup	Veeam	IBM Spectrum Protect	Bacula	CommVault	Dell EMC-Networker
Campus Management	HISinOne	HIS GX	CampusNet	SAP SLcM	CAMPUSonline
Chat / Instant Messaging	Microsoft Teams	RocketChat	Matrix	Cisco Webex	Mattermost
CMS - Content Management	Typo3	Wordpress	Drupal	Plone	FirstSpirit
DMS – Document Management	Codia d.3	Alfresco	DocuWare	Lib-IT Filero	ELO Digital Office
Research Information System	HISinOne-RES	Self developed	Clarivate Converis	Elsevier Pure	DSpace-CRIS
IT-Service-Management	i-doit	JIRA Service Management	KIX	TOPdesk	Matrix42
Calendar	Microsoft Exchange	SOGGo	Horde Framework	Microfocus Groupwise	CommuniGate
LMS - Learning Management System	Moodle	Ilias	Stud.IP	OLAT	OPAL
Mail	Microsoft Exchange	Dovecot	GroupWise	CommuniGate	Zimbra
Project Management	GitLab	Jira	Microsoft Project	OpenProject	Redmine
ERP	HIS	SAP	Mach	Self developed	GebMan
Sync and Share	NextCloud	OwnCloud	Seafile	Micro Focus Filr	Microsoft OneDrive
Ticket- and Incident Management	OTRS	KIX Professional	Znuny	JIRA	Zammad
Event Management	Indico	Converia	cobra EventManager	ConfTool	HIS LSF
Video Conferencing	Zoom	BigBlueButton	Microsoft Teams	Cisco WebEx	Jitsi
Video Management	OpenCast	Panopto	Vimp	MediaSite	Camtasia
Virtualization / IaaS	VMWare	Microsoft Hyper-V	Proxmox	OpenStack	Nutanix
Knowledge Management	Confluence	Microsoft SharePoint	Mediawiki	dokuwiki	Foswiki



<https://zenodo.org/record/7194328>

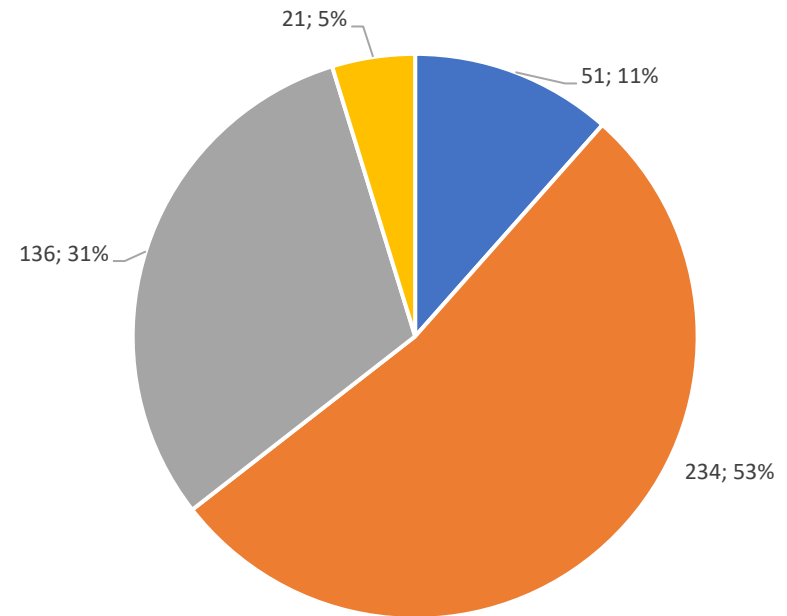
# Summaries

## Operation Models



- on-premises by service provide
- on-premises by us
- off-premises by service provider
- off-premises by us
- mixed operation model

## License Models



- Hybrid
- Commercial
- Open Source
- Self developed

# BBB Community Development

- Crowd-Funding – ~240.000€, 24 universities/partners
- A major advance in this regard is the renewal of the basic "Kurento" video conferencing components to a more powerful and future-proof "**mediasoup**" component. This is expected to make BBB increasingly usable for larger events. The **breakout room** features have been **significantly expanded**, and in addition to **selecting background blur** for privacy, it is now possible to select **preconfigured virtual backgrounds**. **Moodle integration** has also been done and features are available for more flexible **splitting of video views**, including for **sign language interpreters**, for example. The **recording** functions for events have been improved and there is a prototype integration of **video subtitles**. Furthermore, a process to **improve the UI** has been started. For version 2.6, one focus is the implementation of a very high quality new component for the whiteboard using the **TLDRAW** component. These features will significantly expand the application possibilities of BBB.

BBB World Dev Summit 2022, Berlin  
Participants from 11 countries



<https://zenodo.org/record/7624015>



# Prohibition of contracting and contract performance

- Detective Works:
  - **HTTP-Commander**
  - **Kaspersky**
  - **Agisoft**
  - **CommuniGateSystems**
  - **NGINX**
  - **EMS SQL Manager for PostgreSQL**
  - **7-Zip**
  - **Master PDF Editor**
  - **Telegram**
  - **Any.run**
  - **Matrix 42**
  - ...

- Subject of sanctions in the field of public contracts and concessions under Article 5k Regulation (EU) 2022/576
- Contractor comes from Russia or has strong ties to Russia

# Help for Ukraine

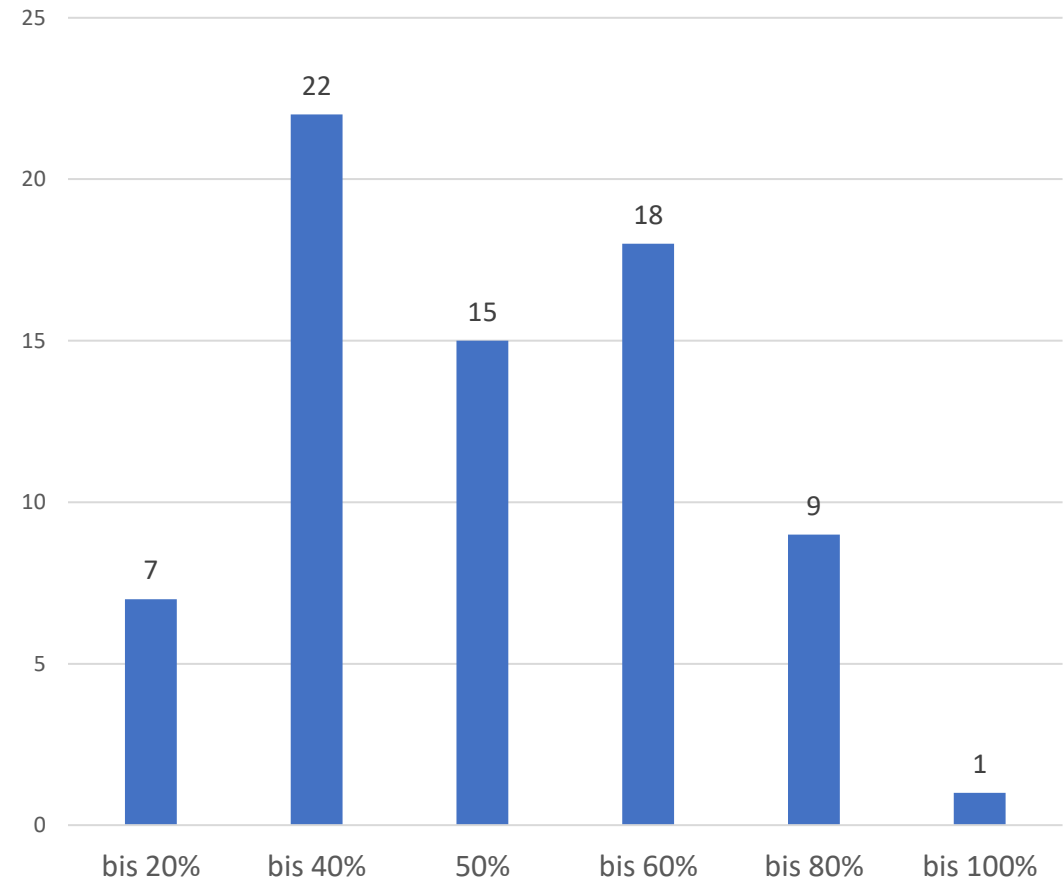
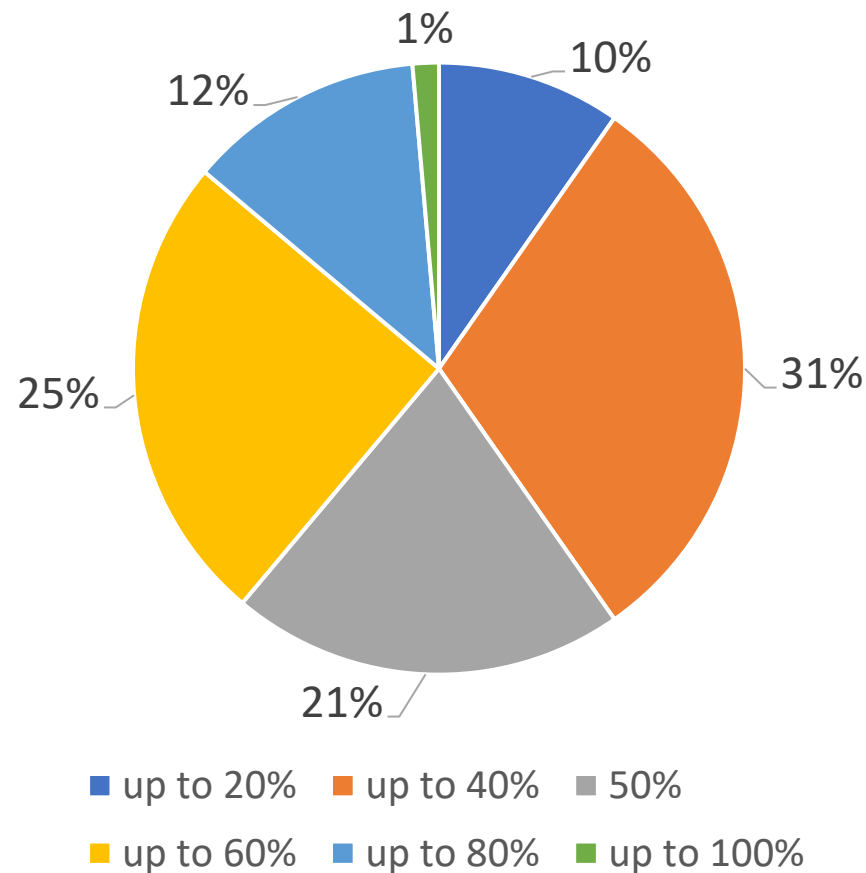
So, like the previous year, a computer-based entrance test will be conducted to enter the educational establishments. At the bachelor's (master's - for medicine) level of higher education in 2023, applicants will need to pass a National Multi-Subject Test (NMT), for admission to a master's degree - a Unified Entrance Exam (UEE), a Unified Professional Entrance Exam (UPEE). Because of the war, thousands of applicants from Ukraine are forced to stay abroad.

It is very important for them to be able to enter Ukrainian universities and continue their career path in our country. That is why the Ministry of Education and Science of Ukraine and the Ukrainian Center for Educational Quality Assessment are asking you to assist in the creation of temporary examination centers (TCs) on the basis of educational establishments / institutions of your country.

# New Work, Staff Shortage and changes in Culture



# What percentage of home office do you see in the future for your university's IT facility?



# Impact on Work Culture

## **Addressed**

- Investments into better work equipment (like for a studio at home)
- Flexible office spaces
- Best of both worlds: „Work from home“, „social exchange and meet people on-site“
- Use the digital space to smoothly integrate shorter meetings with higher meeting frequency and more people
- Projekt management methods and projekt management tools to have tasks and results transparent

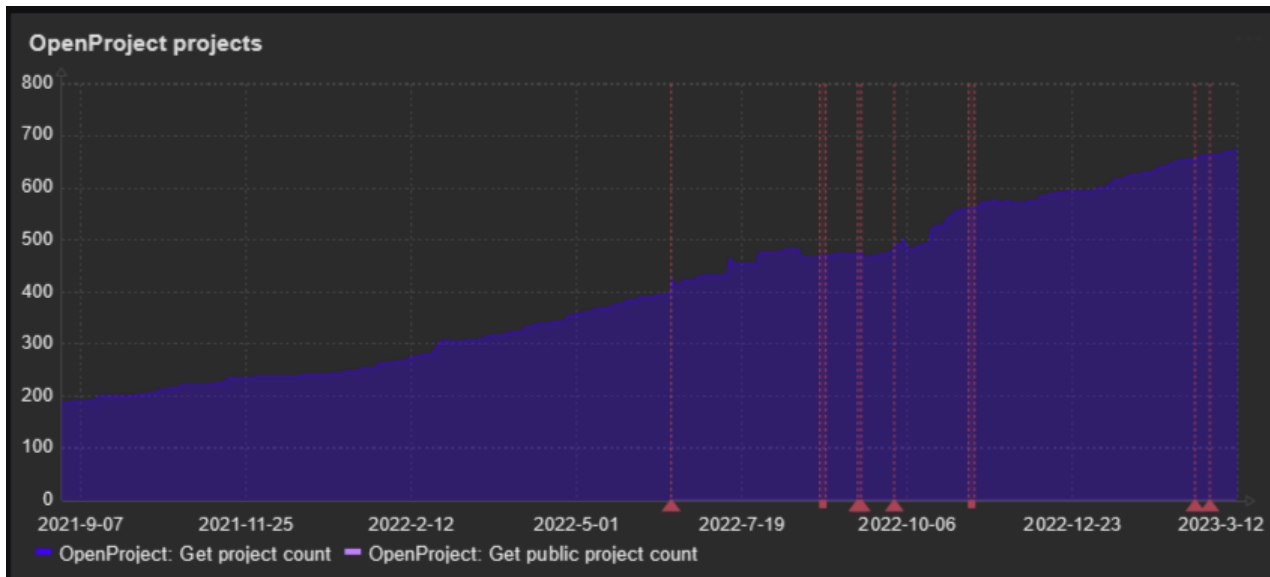
## **Not yet addressed / unsolved**

- Infrastructure quality compared to cosy home atmosphere and food/beverage quality at home
- „Dissolving boundaries“ in digital communication
- Adequate onboarding
- Higher complexity for management staff
- Address „work out of the silo“ structurally

# Projekt management methods and projekt management tools to have tasks and results transparent

- **Top Trends 2023: What new management tasks are you currently working on?**

1. Project management methods
2. Recruitment
3. Digital sovereignty
4. Digitalization of processes
5. Digitalization strategy
6. IT security
7. Cooperation with universities
8. Establish more continuing professional development
9. Restructuring of data center structure

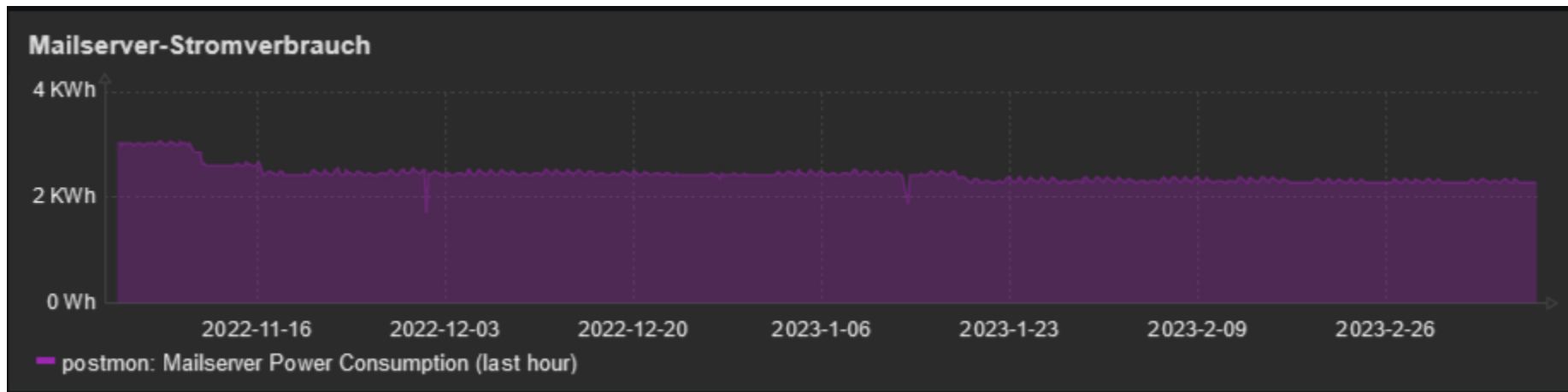




# Energy Crisis

# Example Aggregated Mail Infrastructure Power Consumption

- Down from 3.04 KWh to 2.32 KWh per hour
  - (~25%)
- ~0.5g carbon Footprint down to ~0.4g per Mail



# Energy crisis

## What measures have you taken in the context of the energy crisis?

1. Reduce heating
2. Shutting down devices automatically
3. Manual shutdown of systems that are not needed
4. Workplaces are optimised
5. Shutting down PC pools
6. None
7. Emergency manuals reviewed and expanded
8. Preparation of shutdown scenarios
9. Switching off WLAN access points
10. More centralisation
11. Modernisation of systems
12. Increased home office
13. More virtualisation
14. Reduced load cut-off
15. Raising awareness among employees and students
16. Review energy consumption IT

- Automation of the turn-on and turn-off of IT
- Energy Consumption as Research Meta Data for Workflows
- Register Data Analysis Workflows (DAW) and foster re-use

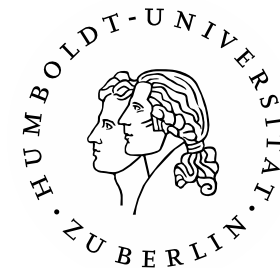
## **Which employee skills are becoming more important?**

1. Communication skills
2. Awareness of IT security
3. Project management skills
4. Process thinking
5. Awareness of data protection
6. Acting on one's own responsibility
7. Management of external partners
8. Cross-divisional collaboration
9. Cloud technologies
10. Flexibility
11. Methodological awareness
12. Software development
13. Ability to work in a team
14. Requirements management
15. IT architecture
16. Customer orientation
17. Contract design

## **Which employee skills are becoming less important?**

1. None
2. Work alone
3. Old skills
4. Hardware knowledge
5. Programming knowledge
6. In-depth knowledge in only one area





**Thanks**

**[dreyer@hu-berlin.de](mailto:dreyer@hu-berlin.de)**