

Requirements, current status and recommendations on the Online Access Act (OZG) at German universities

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Herausforderungen bei der Umsetzung des Onlinezugangsgesetzes im Kontext der Digitalen Hochschulbildung

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We are pleased to present some results of our study on the requirements, current status and recommendations of the Online Access Act OZG in German higher education.

Please note that our study was already completed in September 2020 and published in December 2020. A lot has developed in the meantime. We have therefore updated our presentation and added three more national and international examples from Germany, the Netherlands and Estonia.

https://hochschulforumdigitalisierung.de/sites/default/files/dateien/HFD_AP_55_Onlinezugangsgesetz_Hochschulen.pdf

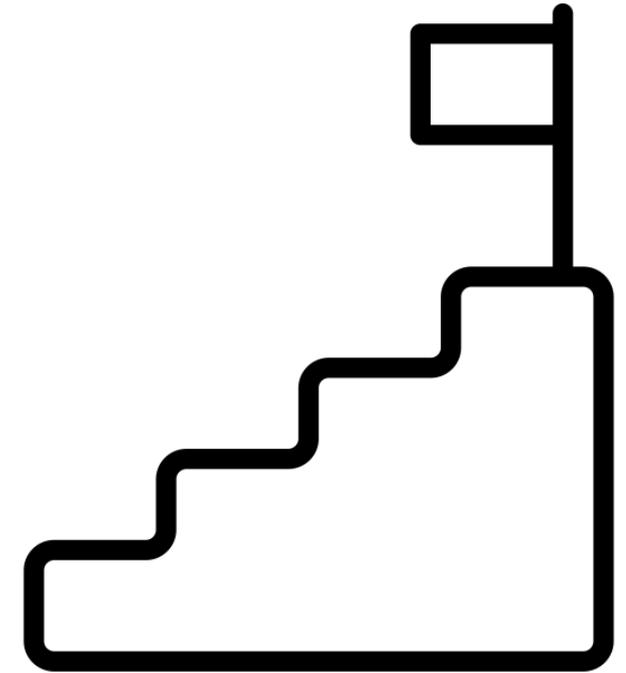


The German Online Access Act – implementation of the EU regulation Single Digital Gateway

The **German Online Access Act (OZG)** legally paves the way for the implementation of the EU regulation "Single Digital Gateway", which provides for digital availability of public services in the EU by January 2024. With this, the EU defines the standard for making public administration faster, more efficient, more user-friendly and consistently digital for citizens.

For the higher education sector, Germany has set up a coordinated implementation management for the so-called "**study life situation**" ("Lebenslage Studium"), although universities are not a focus of OZG. Beyond the OZG, there are model projects in which digitized formats of data exchange are being developed in the national and European context. In addition, universities have used digitized solutions for study-related services such as application, admission, enrolment and administration of study and examination processes for quite some time.

With an overarching we have shown the relationships between the various activities and at the same time outline what remains to be done to implement the OZG in German HEI.



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What is the requirement of the OZG or the IT Planning Council's specifications for the universities and what are the requirements for implementation?

Requirement of the OZG and the specifications sought from it by the IT Planning Council.

Claim

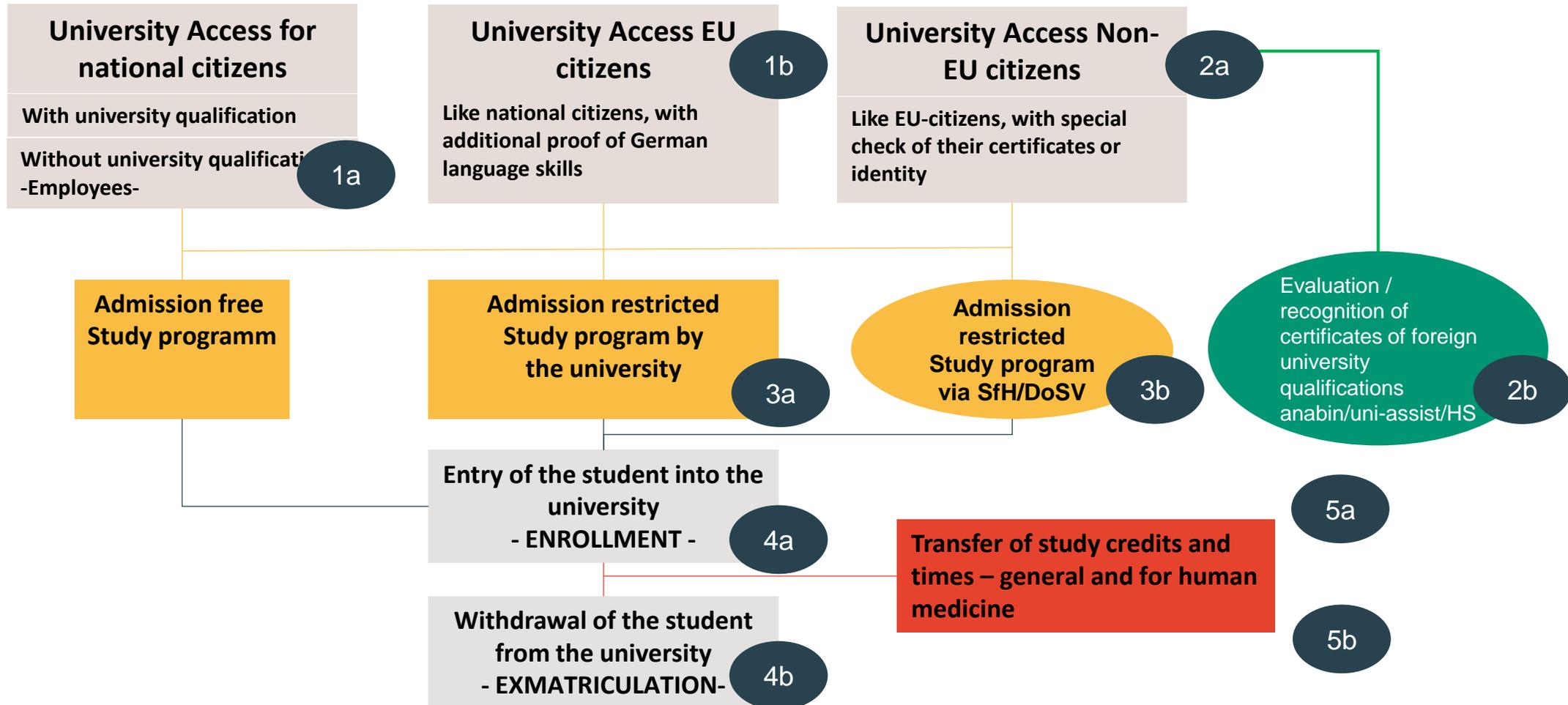
OZG implementation is **relevant and pertinent to the higher education landscape**. Even if legally assessed differently, the implementation impact is **largely undisputed**.

- Based on studies, the OZG/IT Planning Council defined administrative services and bundled them into life situations that must be offered to citizens digitally and without media discontinuity by 2022. The universities are the operative, implementing level for numerous services in the study life situation. Facets for increasing user-friendliness in the accessibility and use of the services are also regulated. Universities are required to offer their digital services in an optimized manner for users in accordance with the OZG catalogue. The OZG and the requirements based on it expect universities to be able to exchange, send, and receive notifications, certificates, and credentials digitally and to be able to integrate them into the portal network (including access to services via a nationwide user account).

Request to Implementation

Formal and technical requirements are set to enable this implementation. While the optimization of user-friendliness lies within the sovereignty of the universities, requirements are also placed on other actors, such as the provision of the state portals. These must first be met so that the universities can then fulfill their obligations, in this case, to connect to the portals.

The examined performance areas studied were ordered along the student's journey and included sample processes in them were selected

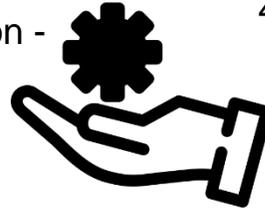


OZG implementation at universities is possible, but standardization and solutions free of media discontinuity are time-critical

Conditions for success and challenges

Conditions for success

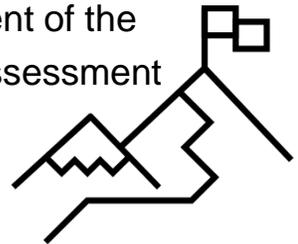
1. User accounts and other established, reusable forms of authentication - here, for example, cross-university IT systems like Dialogue-Oriented Service Procedure (DoSV) of the Foundation for University Admission (SfH) or the German Research Network (DFN) can play an important role as promoters.
2. The state of digitization in the universities, both nationally and internationally, is good. The existing solutions should be (subsequently) used for the implementation of the OZG.
3. Adapt/resolve requirements for administrative procedures (written form requirement) to enable digital verification/verification - universities will benefit significantly.



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Challenges

1. In the implementation of the OZG, the view of school and study (xBildung vs. xHochschule) offers clear challenges in the design of interfaces (university access, BAföG).
2. Exchange between universities in Germany is sometimes more difficult than EU-wide - student mobility in Germany high!
3. Strong individualization of the universities and various, often uninterrupted activities for OZG implementation - standardization are critical for success
4. No influence of the universities on the development of the interoperability of the state portals and/or legal assessment of administrative procedures



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Overall, the level of knowledge and involvement of universities must be improved. However, there are good preconditions for successful digitization

Summary – 1/2



- OZG implementation is relevant and pertinent to the higher education landscape. Although it is assessed differently from a legal point of view, its impact on implementation is largely undisputed. Nonetheless, there is little knowledge among universities about the implementation of the OZG, e.g. also in comparison to municipalities or other administrative levels.

- Because of:

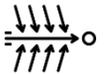
1. **few concrete requirements** for the universities so far

2. **Relatively little involvement** of the universities in the overall process of the digitization program or the activities surrounding the portal network by the responsible ministerial administrations.

3. the previous strong focus of university digitization **on research and teaching** as well as on internal processes within the framework of resource control and campus management, whereby these are strongly driven from within and less from outside.

4. Apart from general requirements such as interoperability with the portal network, there are no known concrete technical requirements. The latter are likely to be implemented primarily by providers of campus management systems. However, these also seem to be very little involved in the implementation of the OZG. The ELMO data standard provides orientation throughout the EU. Initiatives for data standardization in Germany are attempting to ensure compatibility with this standard.

- Few examples are known to indicate that digital signing, authentication, or authentication technologies are already in use.



Overall, the level of knowledge and involvement of universities must be improved. However, there are good preconditions for successful digitization

Summary – 2/2



- The **activities of the federal** states vary widely, in line with the implementation strategy of the Federal Digitization Program.
- There is uncertainty among the interviewees as to which **state legal requirements** (Higher Education Act, eGovernment Act) are needed to implement the OZG in the universities and which financial obligations regarding equipment can be derived from this.
- Universities that already offer very low-threshold services for authentication and work that is as free of media discontinuity as possible are taking a **self-assessed risk** in relation to state law. In some cases, it is unclear to the interviewees which regulation is responsible for the written form requirement in the service processes.
- Overall, the generally well advanced development of the inland digitization of the universities and the need for further networking in the international context mean that the general conditions for implementing the OZG **should be good**.



- The universities appear to already offer digitally all Leika services that are named in the study life situation and are **the direct responsibility of the universities**. Measured against the OZG maturity model, the degree of digitization can be rated as advanced level 2, and in individual cases or sub-processes already as level 3. To comprehensively achieve level 3, solutions for digital authentication must essentially be found and implemented.
- Dependence on cross-cutting issues and legal hurdles, such as data protection requirements, the written form requirement, or legally compliant formats for authentication and certification, are likely to be **challenging for an OZG-compliant implementation of digitization**.



Selected case studies show the interconnectedness of processes and actors for OZG implementation in the life situation of studies

The case studies show...

- a network of stakeholders is relevant and necessary for a successful implementation of the OZG
- universities must be measured against very advanced examples in a European comparison
- even high potentials still have a long way to go to successfully implement the OZG

For this presentation we have selected two case studies from our study and added two international examples to...

- show the context of the selected service areas on the actor level
- deal with the linkage and transitions of service areas
- show what is already realized on international level

German and international case studies and examples:

- University of Göttingen - enrolment without media discontinuity
- UNIT (Norway) - governance model for cross-university digitization
- Netherlands
- Estonia
- XHochschule



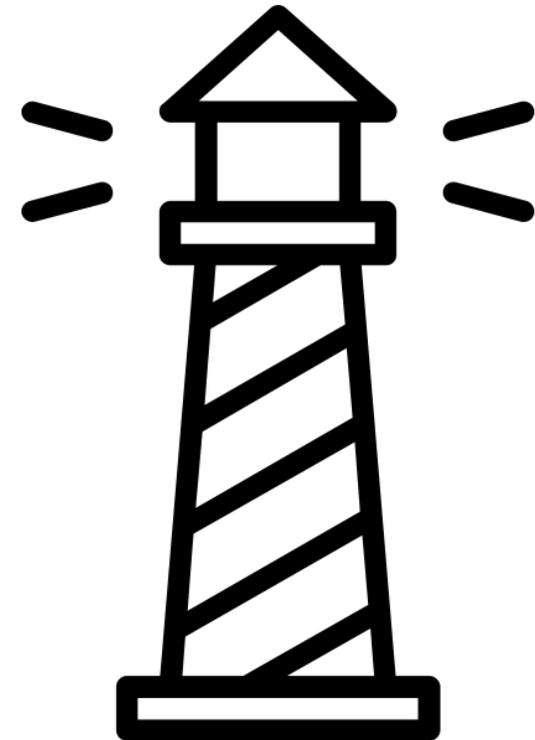
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The case studies examined show possible solutions

Case studies 1/2

University of Göttingen – Enrolment without media discontinuity

- **Description:** During enrolment, all supporting documents in the form of certificates or copies of IDs are uploaded to a web portal. This also applies to prospective international students.
- **Challenge:** The university considers an ex-ante check of the authenticity of proofs via upload to be (legally) dispensable. Spot checks and ex-post controls are sufficient. Machine readability of uploads and notices is currently not possible.
- **Success condition:** Provide clarity on paper requirement for authenticity check under current conditions.
- **Relevance:** high, as exemplary process of user-centeredness and OZG-compliant process design from the user's perspective.
- **Conclusion:** The assessment of the procedure for checking the authenticity of evidence practiced at University of Göttingen cannot be generalized and transferred to other universities without further ado. Nevertheless, the goal of OZG implementation should be a process of this kind.



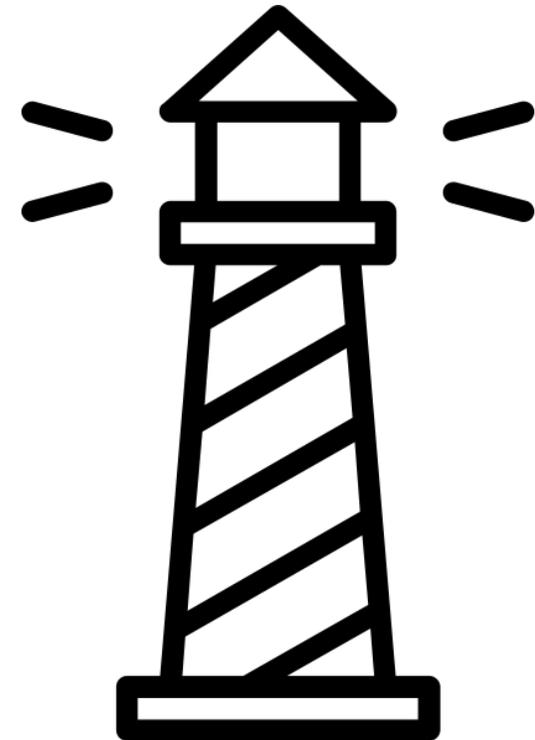
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The case studies examined show possible solutions

Case studies 2/2

UNIT (Norwegen) – Governance model for digitalisation across universities

- **Description:** As a directorate/institution of the Norwegian Ministry of Education and Research, UNIT is both a steering and regulatory body for ICT issues in the context of higher education and research (especially data protection and IT security) and at the same time a provider of IT and CMS systems for higher education institutions. Of the 50 products in the portfolio, ~20 interact with students. With the exception of a few services, use of the products is voluntary for higher education institutions. UNIT is particularly well known as the leading developer of EMREX.
- **Challenge:** Because evidence outside Norway is more often paper-based, EMREX is less used by foreign students there. Within Norway, 100% of the data transfer of student records is done via EMREX.
- **Conditions for success:** Development of a certain degree of independence from the government, orientation toward the international market, development of services and eGovernment strategies, including establishment of associated governance structures. Financing models should be accepted by all stakeholders.
- **Relevance:** high, since UNIT demonstrates that, for example, EMREX enables a data-secure, fully digital exchange of valid student records that can be verified for authenticity.
- **Conclusion:** UNIT has succeeded in setting a Europe-wide standard by contributing to the development of EMREX. The development of comparable structures to UNIT is more challenging in Germany due to the heterogeneity and multitude of actors.



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International examples show possible solutions

Netherlands

- **Description:** The Netherlands already offers a holistic approach with which "digital solutions are available nationwide for all higher education institutions and the administrative process of student mobility" (IIT 2018). This includes not only the cross-university central administration with the institution DUO (Dienst Uitvoering Onderwijs) and the online platform Studielink, but also the linking of both with digital administration via the digital ID card DigID.
- DUO is responsible for the central registration of students and the administration of Dutch student financing, the development and provision of the platform "Studielink" and the maintenance of an online portal for diploma registers, on which school and university certificates acquired in the Netherlands can be retrieved via DigID. Last but not least, DUO was a key initiator of the Groningen Declaration on Digital Student Data, in the context of which the EMREX project can also be found.
- **Conclusion:** In the Netherlands, the objective of the "Once Only Principle" envisaged by the OZG has thus been largely realised for administrative procedures in the context of students' entry into higher education.

Estonia

- **Description:** Estonia has well-established digital services on a national platform. For Estonian students, this implies that the tasks students need to enter a higher education institution, namely the application procedure, the procedure for proving accommodation, registration at the registry office, Estonian ID card and bank account are available or linked in digital form. Information once requested by the citizen can be stored and reused by public administrations. Through the use of X-Road, information is exchanged between institutions, allowing faster and easier access to information and reducing the administrative burden.
- For European students coming to Estonia, the desired cross-border interoperability does not yet exist, as other states do not yet have a similar data exchange platform, compatible systems and digital services, and thus the required data cannot be digitally verified.
- **Conclusion:** Estonia hopes that the implementation of the SDG in the other European countries will bring it in-to line with its own standard and at the same time adopt this standard for all European students who want to study temporarily or permanently in Estonia.

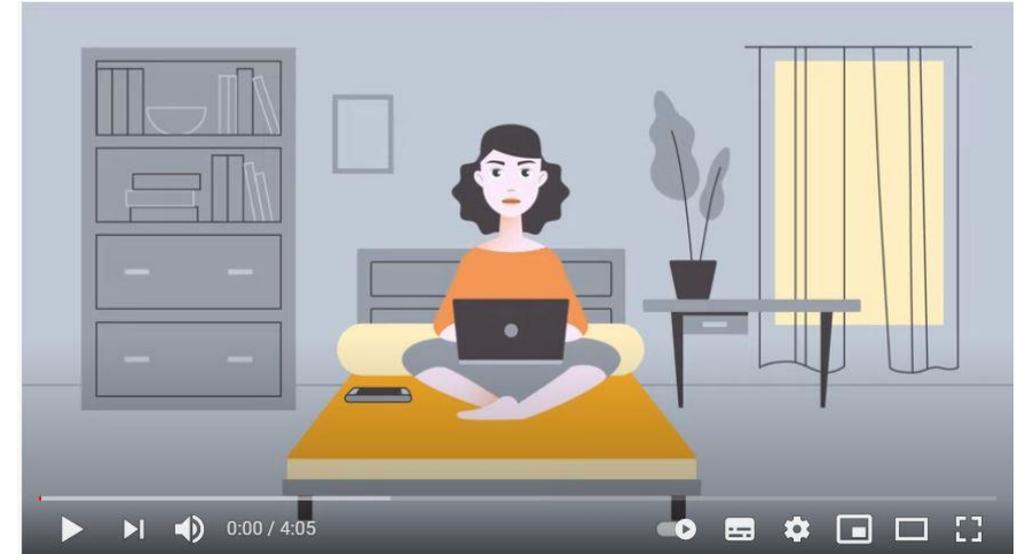
XHochschule is the data standard to exchange data between universities

XHochschule or XHEIE

There has been no digital standard for data exchange between universities in Germany. So usually students have to do the paperwork all by themselves although the data is already there. Verifying and checking documents in the students office is usually a huge pile of work.

By data standard XHochschule (translation XHEIE: XHigherEducationInstitutionExchange) data can be transmitted between and read by universities. Checking and verifying documents is much easier that way and can be organized automatically. The data transfer is initiated by the students or they distribute the original digital file. The processing of the requirement is provided iteratively in the form of a publicly accessible specification with PDF documentation and machine-processable files (XSD, XML).

XHochschule connects with international standards like ELMO/EMREX but also with national project and initiatives like XSchule (XSchool) and is embedded iwithin XBildung (XEducation), a comprehensive data exchange standard that considers the entire education system.



XHEIE / XHochschule.de - German XML data exchange between higher education institutions for SDG&OZG

XHochschule on YouTube:

<https://www.youtube.com/watch?v=RGzclgtpnWA>

We developed action fields on different levels

Federal level

Information and networking
Defining technical standards
Implementing European solutions
Project funding
Interlocking
OZG activities

Länder level

Promoting interoperability of the state portals
Holistic processes and reuse existing solutions
Involvement of CMS providers
E-government laws/ written form requirement
Data and IT security
Coordination among themselves

University level

Creating governance for implementation
Optimizing usability of websites and digital services
Integrating existing solutions
Working towards solutions on the market

Level of inter-university institutions

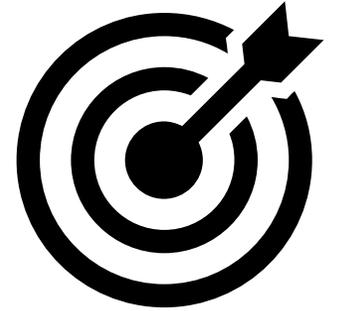
Optimizing usability of websites and digital services
Integrating existing solutions
Clarifying connection for platforms



Increasing strategic weight



Conclusion



The study certifies that digital administrative services for students at German HEIs can be described as far advanced.

However, with regard to networking purposes of HEIs, especially with state agencies, important legal, institutional and technical prerequisites are lacking to allow for implementing the solutions already developed in model projects as extensively as possible.

The study provides recommendations for action for decision-makers at federal and state level, universities and IT service providers and is important for a European discussion of the results because it shows the complex structure of the political multi-level system in the implementation of digitization for the higher education sector. At the same time, it makes clear that successful results can only be achieved through networking and involvement of all relevant levels and not through centralization alone.

Regarding the European dimension, on the one hand, the national legal prerequisites must be created to be able to implement the solutions developed so far at the level of national or European model projects across the board. On the other hand, the establishment of (also European) networking in the context of uniform data exchange formats must be based on the state of digitization already achieved in the respective national states.

Thank you for your attention

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