



What do you need?

A collaborative approach to understanding OER requirements across all stakeholders

*Open Science FAIR
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Start bridging the gap between users, producers, infrastructure managers and policy makers to make their individual requirements and perspectives visible to decide on possible next steps for the institutions to turn Open Education into practice



Claudia Hackl

Center for Teaching and Learning, University of Vienna

- **Knowledge transfer** in the context of institutional anchoring of OER for the Austrian Higher Education Sector
- Focus: Identifying and exploiting **synergies** from Open Science and Open Education
- Projectmanagement **Open Education Austria Advanced**
- Part of the **Digital Teaching** Team of CTL, Uni Vienna
- Professional and academic background at the **interface of Computer Science, Didactics and Library & Information Studies**





Open Educational Resources (OER)

... are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions.

OER form part of ‘Open Solutions’, alongside Free and Open Source software (FOSS), Open Access (OA), Open Data (OD) and crowdsourcing platforms.

Definition - UNESCO (2023)

unesco.org/en/open-educational-resources



Open Educational Resources (OER)

Reuse - Content can be reused in its unaltered original format - the right to use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video)

Retain - Copies of content can be retained for personal archives or reference - the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage)

Revise - Content can be modified or altered to suit specific needs - the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language)

Remix - Content can be adapted with other similar content to create something new- the right to combine the original or revised content with other material to create something new (e.g., incorporate the content into a mashup)

Redistribute - Content can be shared with anyone else in its original or altered format - the right to share copies of the original content, your revisions, or your remixes with others (e.g., give a copy of the content to a friend)





Open Educational Resources (OER)



Attribution (BY)
Namensnennung des Urhebers / der Urheberin



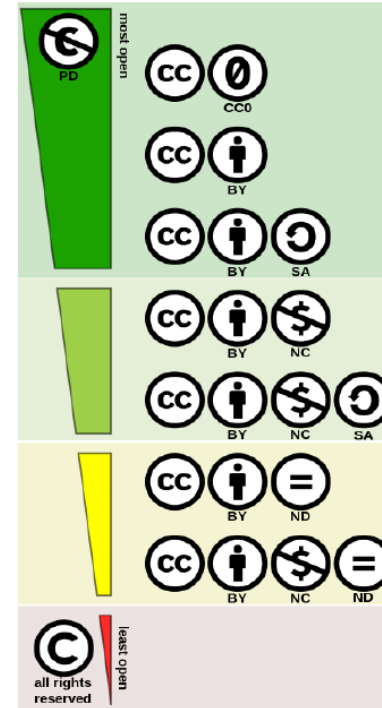
Share Alike (SA)
Das Werk muss unter gleichen Bedingungen weiter verbreitet werden.



Non-Commerical (NC)
Das Werk darf nicht für kommerzielle Zwecke genutzt werden.



No Derivatives (ND)
Das Werk darf nicht verändert werden.



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Open Education ◀▶ Open Science

Let's start the journey through the different perspectives ...

1. EU
2. Austria
3. University of Vienna



Open Education ◀▶ Open Science

SDG – Sustainable Development Goal Number 4

“Quality Education”

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

globalgoals.org





Open Education ◀▶ Open Science

SDG – Sustainable Development Goal Number 4 “Quality Education”

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

- *OER can promote and reinforce knowledge sharing and collaboration between stakeholders implementing the SDGs.*
- *OER can be used to increase access to learning for those living in unfavourable circumstances, and can also be used to address issues of cost, quality, and equity.*
- *OER are presently being actively used in all sectors of education including literacy, vocational, and adult education, as well as with immigrants and refugees (with prior learning assessment and recognition).*
- *OER can be instrumental in improving the quality of education through open curriculum development.*
- *OER are digital; the world economy is digital.*

globalgoals.org



8 ambitions of the EU's **open science** policy

- Open Data
- European Open Science Cloud (EOSC)
- New generation metrics
- Mutual learning exercise on open science - altmetrics and rewards
- Future of scholarly communication
- Rewards
- Research integrity & reproducibility of scientific results
- Education and skills
- Citizen science

[Open Science | European Commission \(europa.eu\)](https://europea.eu)

[Providing researchers with the skills and competencies they need to practise Open Science - Publications Office of the EU \(europa.eu\)](https://europea.eu)





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Educational skills

*All scientists in Europe should have the necessary skills and support to apply **open science** research routines and practices.*

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Digital transformation

*It is critical to ensure that researchers at all levels have access to professional development and the appropriate skills to **fully engage with Open Science**. This professional development must be tailored for all four research stages (R1 to R4), whereby middle and senior career researchers need to take leadership and act as catalysts to change the culture of doing research. This **change in mind-set** and culture, backed up with **modernising the higher education sector**, in turn, must be **supported** by universities/research institutions, funding agencies and underpinned by European, **regional and national policy**. (p. 5)*

[Open Science | European Commission \(europa.eu\)](https://europea.eu)

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Open Science/Education skills

*In order to **equip** researchers with the **appropriate skills to facilitate Open Science**, it is crucial to first **promote more awareness** of Open Science practices, particularly Open Access, Open Data, **Open Education**, Open Peer Review and Citizen Science. (p. 29)*

[Open Science | European Commission \(europa.eu\)](https://europeancommission.europa.eu)

[Providing researchers with the skills and competencies they need to practise Open Science - Publications Office of the EU \(europa.eu\)](https://publicationsoffice.europa.eu)





Open Education ◀▶ Open Science

*The umbrella term **Open Science** commonly includes sub-concepts such as Open Access, Open Research Data, Open Methods, Open Evaluation, Open Infrastructure, Open educational resources (OER) and Citizen Science. (p. 4)*





Open Education ◀▶ Open Science

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*The aspect of **how knowledge is communicated** is also inseparably linked to an open society and an open science. The dissemination of knowledge is closely **linked** to the concept of Open Data.*

*With reference to the statements made under "Skills and Education" and in the light of the recent Sars Cov 2 pandemic, the **opening of learning resources** is of increased importance. (p. 16)*

bmbwf.gv.at





8 ambitions of Austria's **open science** policy

- Rewards and incentives (Rewards and incentives)
- Research indicators and next-generation metrics
- Future of scholarly communication
- European Open Science Cloud EOSC
- FAIR data
- Research integrity
- **Skills and education**
- Citizen science





8 ambitions of Austria's open science policy

- Rewards and incentives (Rewards and incentives)
- Research indicators and next-generation metrics
- Future of scholarly communication
- European Open Science Cloud EOSC
- FAIR data
- Research integrity
- **Skills and education**
- Citizen science

Skills and education

*All researchers in Europe should develop the skills necessary to apply **Open Science practices** and, where appropriate, receive support to do so.*





OER in the OS Policy Austria

- making learning materials created in Austria in whatever form publicly accessible and in open formats using established open data standards
- First step: link the relevant repositories
- make learning content available to the scientific community & make learning more flexible and adapt it to individual needs
- Forum New Media Austria (fnma) "Recommendations for the Integration of Open Educational Resources at Universities in Austria"





OER in the OS Policy Austria

- "Open Education Austria Advanced" is concerned with the implementation of a corresponding infrastructure
- Universities are called upon to
 - create infrastructures for storing OER
 - share them with others
- Staff working at universities should be encouraged to post their content and share it in open formats where possible and appropriate.





Digital transformation in the higher education sector

- Actively shaping digital change
- Improving the quality of higher education with better use of digital technologies
- Opening up and expand access to science and research
- Making workflows at universities more efficient and individually adaptable

Requirements of

- Digital teaching
- Open Education
- Open Science





Digital transformation in the higher education sector

Universität Wien	<ul style="list-style-type: none"> • Open Education Austria Advanced – OER-Gesamtpaket für österreichische Hochschulen • AT2OA² – Austrian Transition to Open Access Two • Digitize! Computational Social Sciences in der digitalen und sozialen Transformation • Teaching Digital Thinking – Strategien zur Konzeption, Vermittlung, Dynamisierung und nachhaltigen Implementierung
Universität Graz	<ul style="list-style-type: none"> • Digitale Transformation der österreichischen Geisteswissenschaften • Aufbau eines Forschungszentrums für Inklusive Bildung
Universität Innsbruck	<ul style="list-style-type: none"> • CodeAbility Austria – Digital unterstützte Programmierausbildung an österreichischen Universitäten
Medizinische Universität Wien	<ul style="list-style-type: none"> • Digital Skills, Knowledge & Communication für Studierende der Humanmedizin
Medizinische Universität Graz	<ul style="list-style-type: none"> • Mikroskop-basierte Lehre in der Medizin 2.0
Medizinische Universität Innsbruck	<ul style="list-style-type: none"> • Digitale Mikroskopie für die Studierenden der Humanmedizin/Zahnmedizin und Molekularen Medizin
Universität Salzburg	<ul style="list-style-type: none"> • Austrian Neuro Cloud • On Track – Aktiv Studieren durch die Verknüpfung Sozialer und Digitaler Welten
TU Wien	<ul style="list-style-type: none"> • RIS Synergy • Austrian DataLAB and Services • eInformatics@Austria • PASSt – Predictive Analytics Services für Studien-erfolgsmanagement • Digitale Landwirtschaft – Interuniversitäres PhD-Kolleg und digitale Versuchsfarmen
TU Graz	<ul style="list-style-type: none"> • iMooX – die MOOC-Plattform als Service für alle österreichischen Universitäten • Learning Analytics – Studierende im Fokus

TU Graz	<ul style="list-style-type: none"> • Digital University Hub – Digitale Serviceplattform für praxiserprobte Methoden, Instrumente, technische Tools und die Dissemination für Transformationsvorhaben von Hochschulen • Digital Blueprint-Entwicklung einer konzeptionellen und technologischen Basis für die Digitalisierung des österreichischen Hochschulraums • AUT – Austrian University Toolkit – Entwicklung eines digitalen Baukastens aus IT-Tools und Applikationen für die Digitalisierung der Hochschulverwaltung • FAIR Data Austria
Montanuniversität Leoben	<ul style="list-style-type: none"> • TransIT – Digitale Transformation im Tief- und Tunnelbau
WU Wien	<ul style="list-style-type: none"> • Mobile First for Students • Virtual Learning Experience Space
Universität Linz	<ul style="list-style-type: none"> • MathSkillTest – Formative Math-Skill-Testing for Promoting MINT-Studies • TRANSFORM – Digitale und soziale Transformation mittels neuer Wege in Forschung und universitärer Bildung
Universität Klagenfurt	<ul style="list-style-type: none"> • DigiFit4All – Das personalisierte Curriculum im Bereich Digitaler Kompetenzen • AHESN Next
Universität für angewandte Kunst Wien	<ul style="list-style-type: none"> • Image+ Platform for Open Art Education
Universität Mozarteum Salzburg	<ul style="list-style-type: none"> • TRANSISTOR – Kunstgetriebene Innovation in digitaler Hochschulbildung, sozialer Transformation und Technologieentwicklung
Universität für künstlerische und industrielle Gestaltung Linz	<ul style="list-style-type: none"> • DigitalWerk
Akademie der bildenden Künste Wien	<ul style="list-style-type: none"> • Zur Vielfalt ermutigen: Entwicklung einer prozessorientierten, sozial inklusiven Informations- und Kommunikationsplattform für künstlerische Studien
Donau-Universität Krems	<ul style="list-style-type: none"> • Lehr- und Forschungsinfrastruktur für Digitale Künste an Hochschulen (LeFo)

Find out more here:
[bm:b | Publication-Shop \(bmbwf.gv.at\)](https://bmbwf.gv.at)



Open Education Austria Advanced

- Project of Austrian universities
- Joint development of solutions for Open Educational Resources (OER) in Austrian HE
- Under cooperation of
 - Teaching & Learning Centres
 - Central IT-services
 - University libraries
- Contribution to the free use of educational content from teaching
- Establishment of open practices analogous to research (Open Access, Open Data)





Open Education Austria Advanced – Project objectives

- **OERhub** as a central meta-search engine for OER from the higher education sector
- Creation of local **infrastructures** at the partner universities
- Freely accessible **qualification** offers for OER
- OER **certification** for universities & teachers
- OER **production** workflow & legal issues
- **Knowledge transfer** & dissemination between participating and interested universities

www.openeducation.at



Open Education Austria Advanced – International cooperation



Comprehensive anchoring of
OER in higher education
teaching in Germany

Network: Exchange on OER
from the German-speaking
higher education area,
infrastructure & metadata



TF Upskilling countries to
engage in EOSC

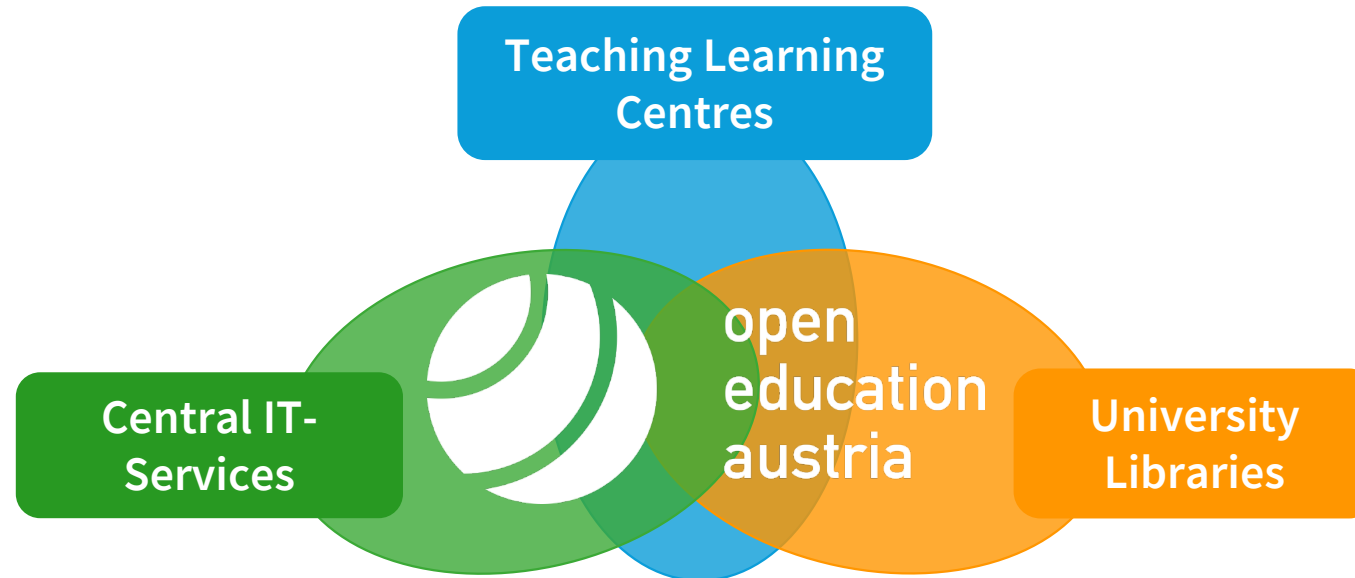
Current developments in open science
education, exchange on qualification initiatives

TF Infrastructure for quality
research software

Requirements for research software, quality
improvement, software as a relevant research
result, recognition for developers and
maintainers



Open Education Austria Advanced – Working at the crossroads ...



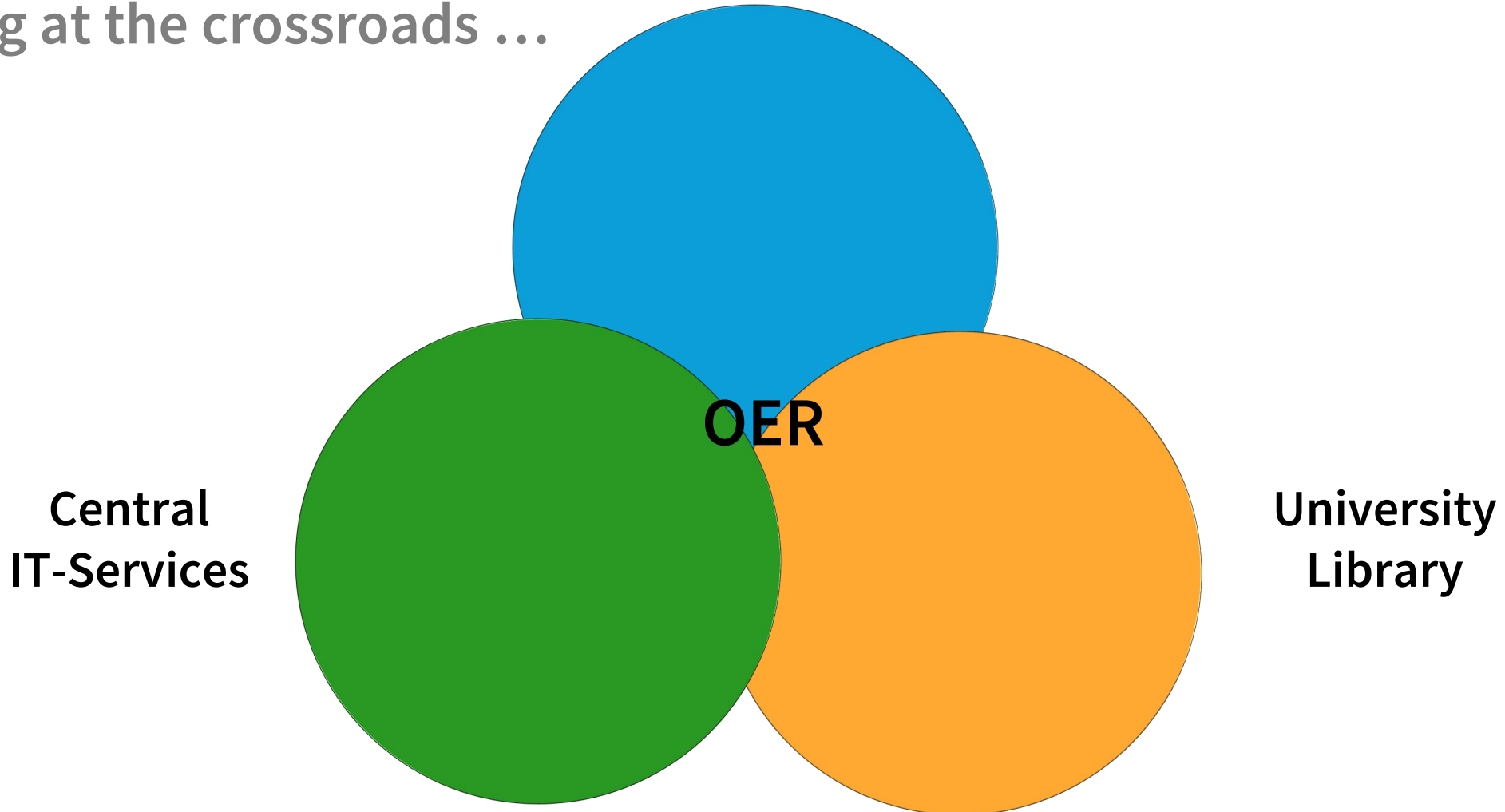
→ to establish open educational practices





Center for Teaching and Learning

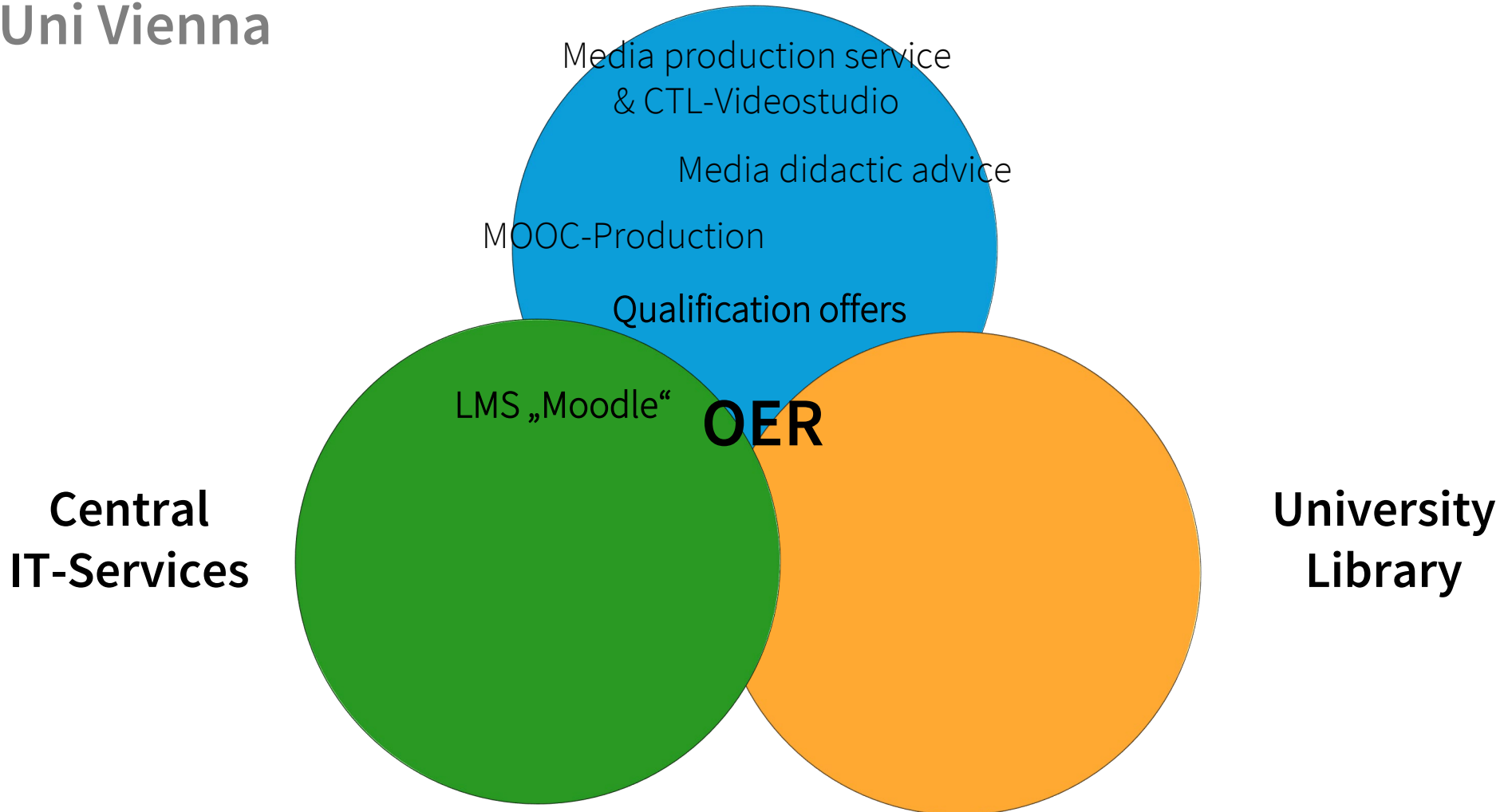
Working at the crossroads ...





Center for Teaching and Learning

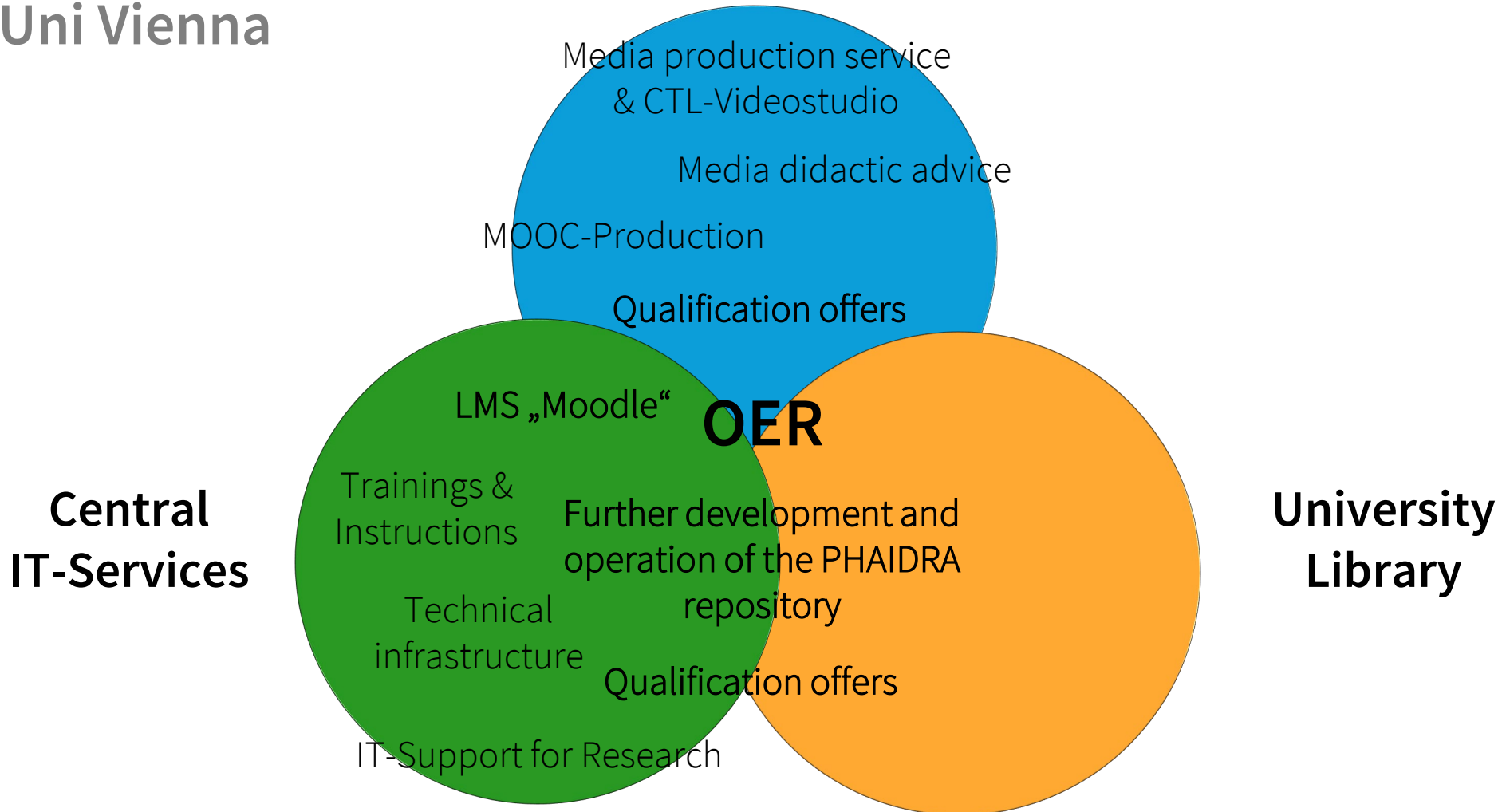
OER @ Uni Vienna





Center for Teaching and Learning

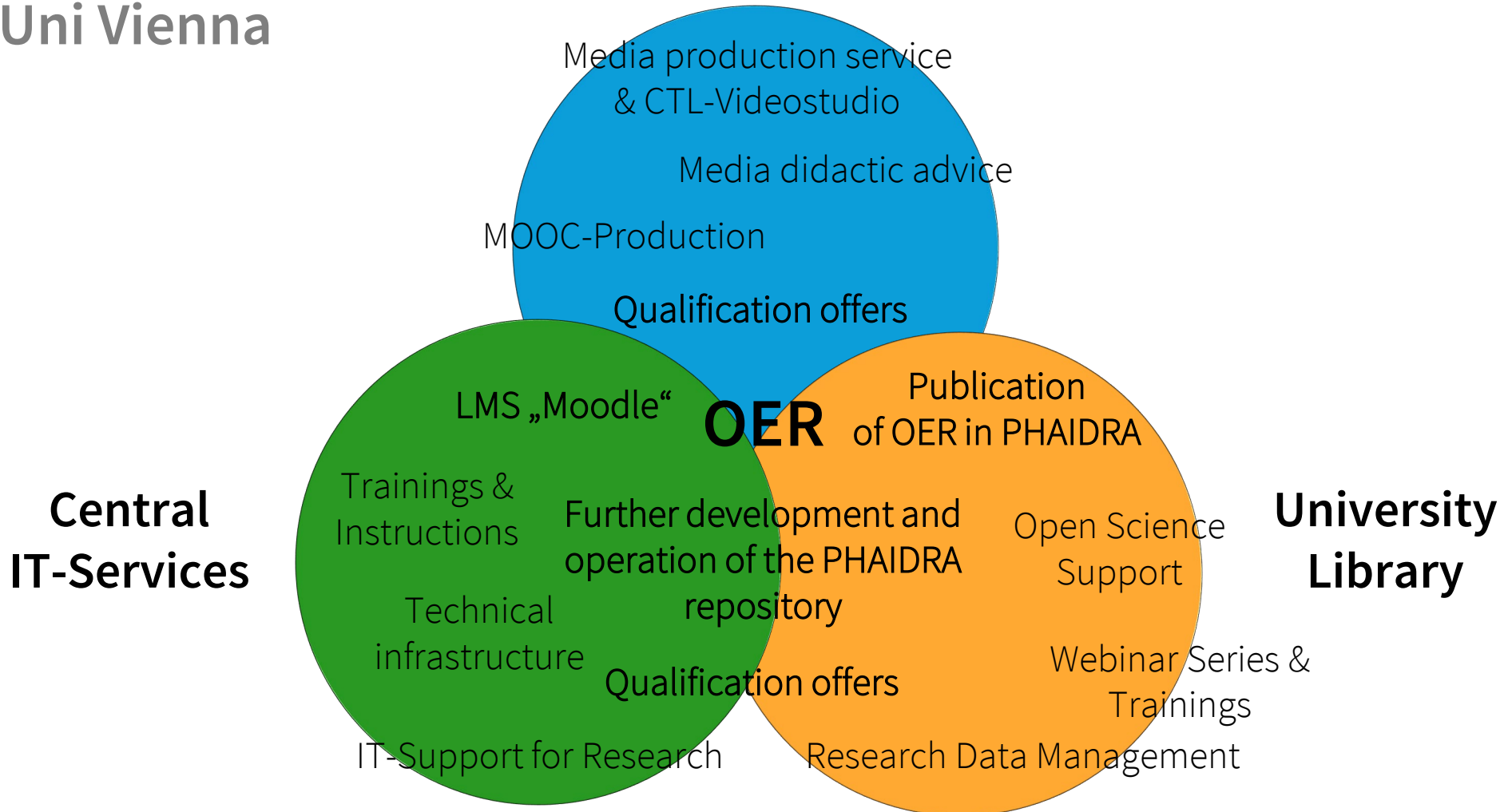
OER @ Uni Vienna





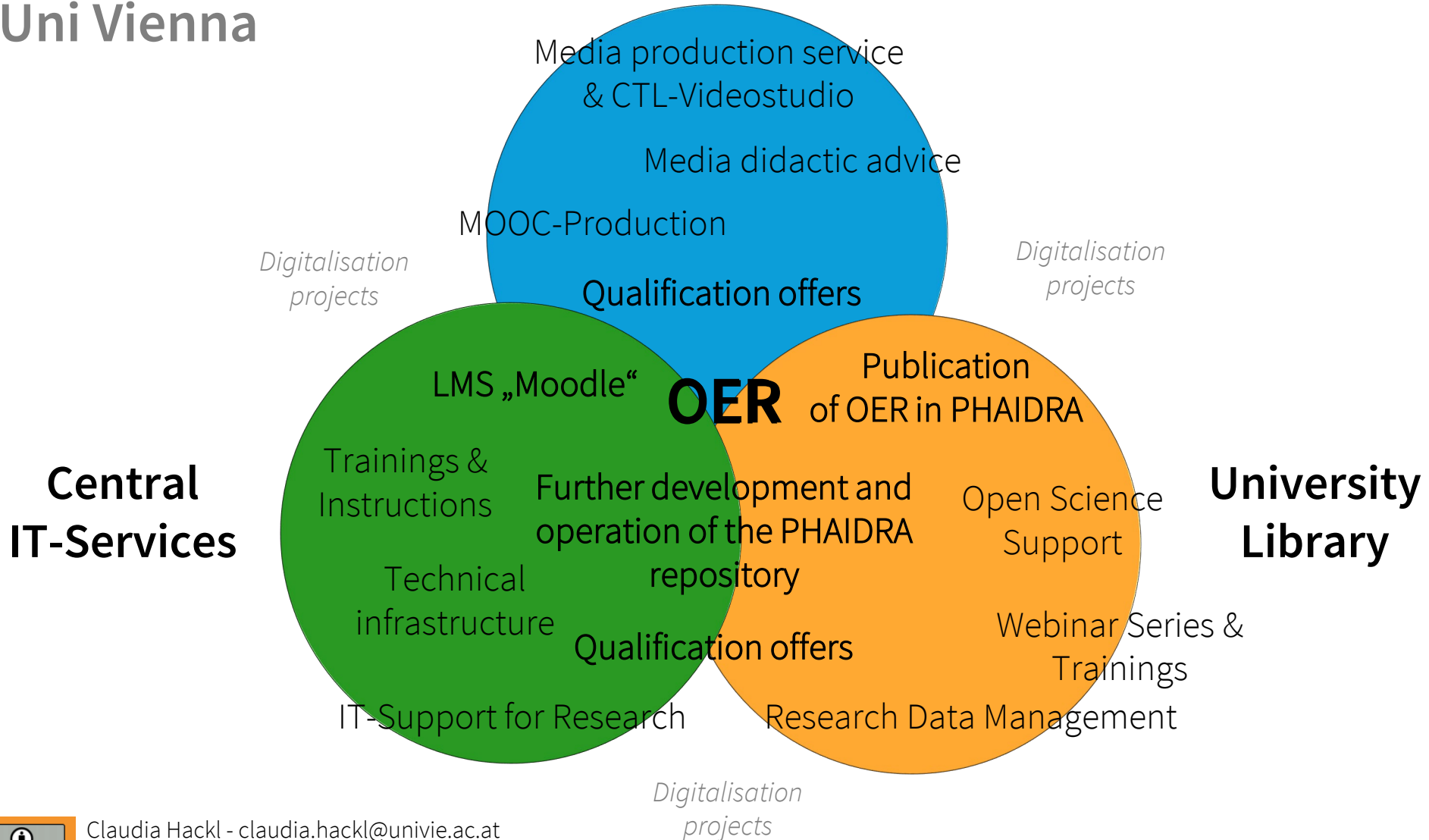
Center for Teaching and Learning

OER @ Uni Vienna



Center for Teaching and Learning

OER @ Uni Vienna





OER at the crossroads

E-Learning- Centres

Requirements

- sustainable anchoring of OER in mainstream education
- the further use and didactic development of free educational resources
- low-threshold content production
- Raising awareness of OER among teachers through internal university training programmes
- creating access to the OER produced
- Institutional OER policies



OER at the crossroads

Central IT-
Services

Requirements

- Storage and archiving of data / OER
- Establishment of appropriate infrastructure for research and teaching repositories
- Centralized search for OER in the higher education space across individual systems with different search options & filters
- Suitable software for an OER repository fit?
- Integration into the institutional system landscape
- User-friendly input masks
- Open Source / Data ↔ Open Education



OER at the crossroads

University
Libraries

Requirements

- Ensuring the long-term archiving of OER
- Appropriate data formats
- Standards for metadata schemas (OER LOM)
- Controlled Vocabularies
- Linking services for research and teaching
- Open Education ↔ Open Access



OER from an „end user“ point of view

Teaching
faculty

Requirements

- low-threshold content production
- creating access to the OER produced
- the further use and didactic development of free educational resources
- internal university training programmes
- user-friendly production software
- FAQs or services for legal questions
- Media didactic consultations
- Institutional OER policies



OER from an „institutional“ point of view

University
management

Requirements

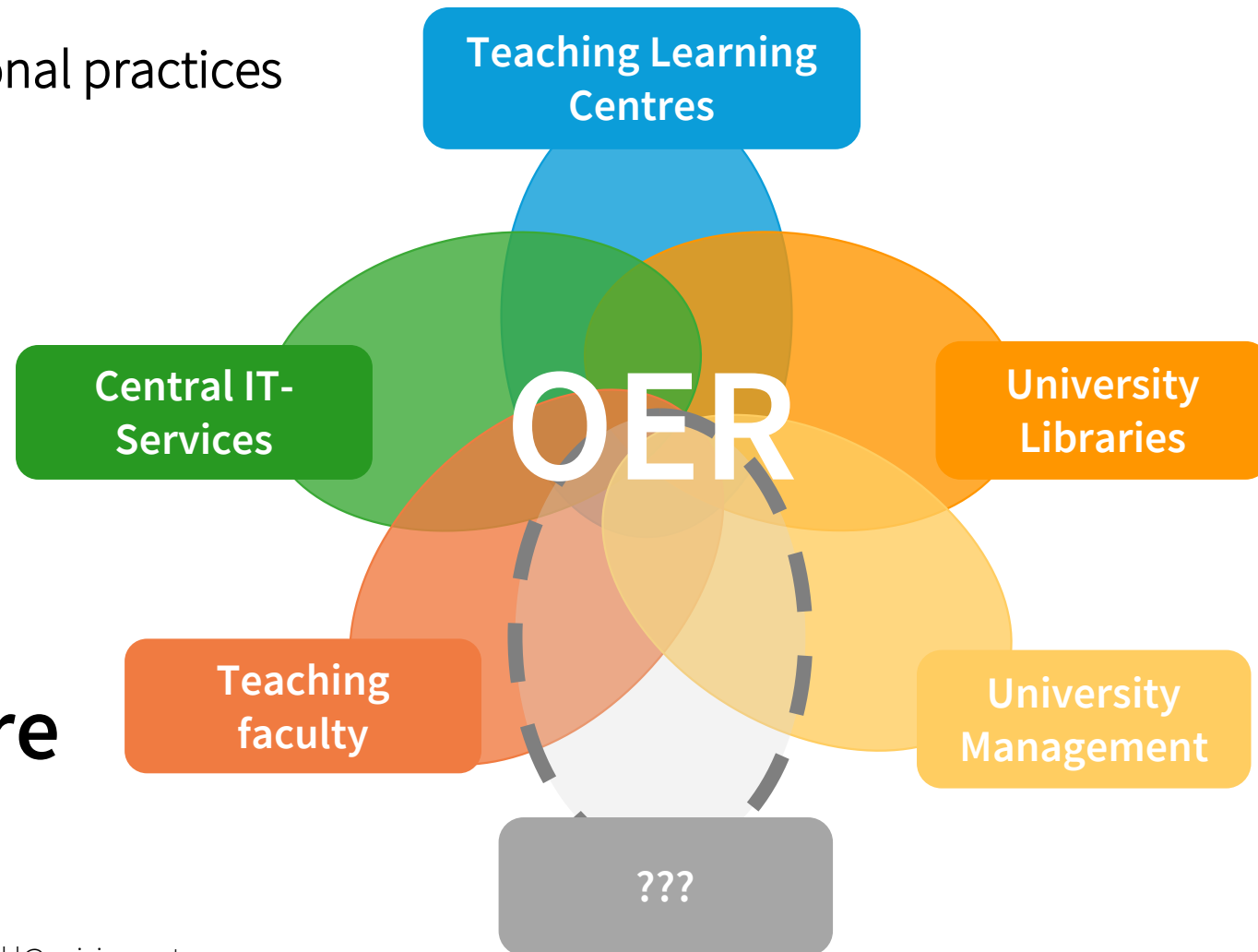
- Strategies: Demonstrate contribution of OER to achieving goals
- OER services: break down organizational barriers, promote cross-departmental cooperation
- Encourage OER, provide incentives
- Promote integration of OER of different granularity into teaching
- OER policies & infrastructure



What do you need?

→ to establish open educational practices

A collaborative approach to understanding OER requirements across all stakeholders



... and many more perspectives ...





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Thank you for your attention!
Looking forward to your feedback & questions

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