



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



# Sustainable Mobility

How can we adapt internationalisation of higher education and science to the goals of climate protection?

**January 2021**





## SUMMARY

In many ways, 2020 marked a drastic and defining moment for international academic mobility. Over the course of several months, the Covid-19 pandemic brought international mobility to almost a standstill. 2020 also saw the dramatic effects of climate change, long predicated by members of the scientific and civil sector, suddenly capture public attention with unprecedented clarity. Against this backdrop, we must rethink how we operate and take action with greater urgency than ever.

The DAAD accepts this challenge. With this working paper on “Sustainable Mobility” we aim to address a central aspect of internationalisation and actively seek dialogue with our partners and stakeholders. Our goal is two-fold. First, we wish to consistently orientate our internal mobility-related operations to the goals of sustainability, for example with respect to business trips and event management. Second, this issue will have meaningful consequences for our funding programmes. Therefore, we wish to develop our portfolio and engage in direct contact with our target groups and those who use our services to ensure that our programmes remain sustainable, target-group oriented and attractive in the coming years.

The following paper describes a path, along which the DAAD is already pressing ahead. It is targeted at internationally networked higher education institutions and internationally active researchers and talented young academics to provide a framework of orientation for future-oriented mobility. Most important, this working paper was intentionally written to serve as a contribution to current debates and offer points of reference for further related developments. In the face of persistent upheaval, it would be presumptuous of us to try to offer conclusive solutions. Therefore, we have chosen to formulate lines of orientation which can serve as the basis for further discussion. To a large extent, the shape and form of these will depend on their context and must be sufficiently flexible to do justice to widely varying interests and further processes of change. There cannot be a “one-size-fits-all” solution. Instead, we aspire to develop transparent criteria which take into account various demands and rather have a longer half-life than presume to be universal solutions.

In the following discussion, we shall:

- outline the present challenges caused by and related to the pandemic, climate crisis and geopolitical developments;
- describe the conflicting goals with regard to the activities of the DAAD and the internationalisation of the higher education sector and offer possible solutions to these;
- address how we can promote international mobility based on design principles.

“By design or by disaster” is a catchphrase popular among climatologists which expresses the need to actively shape humanity’s response to self-induced climate change or otherwise have disaster do it for us. In this sense, we propose adhering to the following principles:

- **Form follows function:** Whether physical mobility is necessary or whether it can be augmented or substituted by digital measures should be decided on the basis of the desired impact.
- **Design with the users:** International mobility should be shaped to reflect the diversity of the target groups and take their respective expectations and competence into account.
- **Leave no one behind:** To offer solutions which are not only climate-friendly but also inclusive and equitable, it is vitally important to address the needs of disadvantaged target groups.
- **Decarbonise mobility:** Practical approaches must be found to advance necessary mobility in a climate-friendly manner.
- **Focus on quality:** Sustainable solutions require instruments which guarantee that the desired impact can actually be achieved.

We consider the following to be a working paper and the basis for future decisions. In keeping with the DAAD’s guiding principle “Change by Exchange”, exchange will serve as the catalyst for sustainable change in this area as well.

# 1. Relevance and context

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## 1.1. Framework conditions of internationalisation: Upheavals and trends

- **Climate crisis as an existential challenge:** The indisputably negative consequences of conventional mobility – especially with respect to air travel – have presented the DAAD and its partners with calls to reorganise international mobility in a long-term, sustainable manner and thereby reduce the resulting CO2 emissions.
- **Urgent need for global solutions:** Now more than ever, international scientific collaboration is the key to addressing global challenges. Acknowledging this fact, the DAAD and its member universities are called upon to re-envision international exchange in an impactful and target-oriented way. Reducing international exchange and returning to “national agendas”, however, is not an option.
- **Digital revolution and technological innovation:** Digital (infra-)structures and formats, learning cultures and virtual methods of cooperation are undergoing rapid development and offering new chances for internationalisation and participation. But there are limits to these which still exist in terms of effectiveness and equal opportunity. Moreover, it would be wrong to assume that digital formats are inherently climate-friendlier than analogue formats.
- **Pandemic experience and vulnerability:** Restrictions in research, teaching and international mobility have resulted in accelerated digital transformation. At the same time, they have revealed the vulnerability in existing systems and modes of international cooperation and the limits of virtual formats. The pandemic has also shown us that we must urgently strengthen the resilience of these systems.
- **New paradigms in the higher education sector:** Around the world, we are seeing an increase in privatisation and commercialisation in research and teaching, as well as an accelerated pace of digitalisation of higher education activities. In view of these trends, we recognise the necessity of adjusting teaching and learning programmes to the demands of a new working world. Furthermore, there has been a dramatic increase in the number of students in many countries, and as universities open their doors to new target groups, inclusion and equal opportunity have become central issues.

- **Flexible and individualised academic paths:** Digital elements are expanding and fundamentally changing the “student journey” and campus life, e.g. via online courses with recognition of academic credit, expansion of digital service infrastructures for student exchange and transnational teaching, smart campuses, digitalised student admissions processes etc. This has gone hand-in-hand with new academic experiences and changing student expectations and made it necessary and possible to respond to the overarching processes of transformation mentioned above.
- **Crisis of multilateralism:** Multilateral organisations have faced strong headwinds around the world. Various nations have withdrawn from international agreements, ignored established norms and ventured ahead down nationalistic political paths. Populist authoritarian tendencies, which are increasingly encroaching on scientific freedom in certain regions of the world, combined with widespread scepticism toward science, have tested the validity and resilience of the basic values of a free and internationally connected scientific sector.

## 1.2. Rethinking internationalisation: Conflicting goals and potential solutions

### CONFLICTING GOALS

- Against the backdrop of the climate crisis, traditional instruments and formats of internationalisation have come under increasing pressure. At the same time, alternative (digital) formats have not yet been adequately assessed in terms of their efficacy and potential impact (equitable access, digital divide, carbon footprint, quality and sustainable impact, contextual reference).
- International collaboration in higher education and research is needed now more than ever to tackle the world’s existential challenges. At the same time, we are witnessing an erosion in multilateral norms and rules of

conduct which are putting the goals of internationalisation to the test.

- A holistic approach to education and the maxims of academic freedom are integral to our understanding of humanistic education and science, without which the freedom to travel, open borders, personal encounter, curiosity and the human right to education would be inconceivable. At the same time, there is increasing pressure to justify the use of resources and the impact such investment has on higher education and scientific cooperation.
- Last but not least, what we know about the most climate-friendly alternatives does not always align with the (legitimate) interests of various stakeholders, resulting in the need to arrive at numerous compromises.

### POTENTIAL SOLUTIONS

- The DAAD strives to adopt an open and constructive approach to the abovementioned conflicting goals and actively seeks dialogue with funding providers, higher education institutions and funding recipients to advance a joint learning and strategic process for achieving a sustainable form of internationalisation.
- The funding programmes of the DAAD significantly contribute to building necessary capacities and structures, promoting technical solutions for reducing CO2 emissions and adjusting to climate change.
- Even in times of climate crisis, physical mobility remains a central and necessary component of international cooperation. Such funding goals as intercultural learning, immersing oneself in different (academic) cultures, building political trust, cultivating international understanding and comprehensively shaping one’s personality are particularly attainable through personal “immersion” and first-hand experience of different cultures and lifestyles.
- International encounter creates a space where one can gain qualification, knowledge and experience, which offers a differentiated perspective on political systems, cultural

practices, lifestyles, values and norms – without normatively prescribing a direction or point of view.

- Internationalisation is more than physical mobility and can be supplemented and supported by “internationalisation at home” and collaborative formats in virtual space. Such measures can provide the experience of diversity and intercultural exchange on campus without long-distance travelling.

The following thoughts on how to make internationalisation of higher education and science more climate-friendly should always be regarded as snapshots. The fact is that digital formats and technical possibilities develop at lightning speed; strategic issues of international collaboration, internationalisation goals and partner-based networks will have to be discussed anew, adjusted to changing conditions and further differentiated going forward. Concepts of “mobility” will require continuous re-evaluation as stakeholders weigh the pros and cons of physical and virtual encounter. New teaching-learning arrangements will develop as student-centred measures and collaboration across space and time become more prevalent.

Against this backdrop, the DAAD does not want to enact any universal rules. Instead, it proposes understandable lines of orientation on the basis of which the DAAD, higher education institutions and funding recipients can make sound decisions with respect to their individual situations and their corresponding goals, target groups and technical possibilities.

## 2. Guidelines for a responsible and target-oriented use of physical mobility

### 2.1. Form follows function: Focusing on goals and desired effects

- Mobility – like internationalisation – is not an end in itself but enables higher education institutions, funding recipients, the DAAD and its funding providers to achieve concrete cooperation and funding goals. These require various and at times complementary approaches and cooperative formats.
- Physical mobility is key to building trust, cultivating long-term relationships, experiencing cultural, political and scientific differences, conveying values and developing personal character. Consequently, it also plays an integral role, for example, in academic programmes which – aside from student exchange – provide participants with the experience of a common cultural sphere like Europe. The same applies to visits abroad without virtual alternatives (e.g. field studies, work in specialised laboratories or non-digitalised libraries/archives).
- Establishing academic networks is an important part of one's career development – especially for junior researchers. Actual visits abroad are crucial for enabling young academics to cultivate these important contacts and build trust.
- In cultural contexts in which in-person interaction is more highly valued than digital exchange, many cooperation goals can be difficult – if not impossible – to achieve through virtual formats alone.
- A visit to a partner country is often essential to gain practical professional and social experience in a real-world working environment. A stay abroad can also be key to achieving internationalisation goals, gaining access to labour markets and recruiting prospective employees.
- For established partnerships, digital formats are especially suited to promote broad participation (e.g. at conferences), collaboration at a purely professional level, as well as specifically building and exchanging knowledge and competence.
- Digital learning and virtual exchange are not merely a “substitute” for physical formats, they also offer added value when used properly. Internationalisation benefits from the intelligent combination of physical and virtual elements.

- It has become increasingly possible to gain and enhance knowledge and competence through digital means (fundamental expertise, specialised academic content, as well as future skills/global skills such as digital communication and language knowledge). In this case, however, it is important to consider the specific needs and conditions of the various subject areas.

**In dialogue with universities and partners, the DAAD will therefore ...**

... address new requirements and trends in line with its self-ascribed identity as a learning organisation and respond flexibly with innovative solutions in a needs-oriented manner at the interface of internationalisation and sustainability.

... implement virtual teaching and exchange formats in a targeted, user-oriented manner. These include digital conferences, special subject-based teaching units and modules which expand course offerings (digitalisation of the student journey), preparation and follow-up supervision of scholarship holders and projects.

... strengthen capacity-building as required to make it possible to forego types of mobility that are detrimental to the climate in the medium term.

... create new digital services, monitor their effects and offer incentives for choosing climate-friendlier alternatives.

... sensibly interconnect physical and virtual mobility through multilevel funding concepts and effective sequencing, and so doing, enhance their impact.

... continually adapt our funding guidelines to changing circumstances, e.g. by focusing funding measures on climate-friendly mobility, recognise digitalisation efforts as fundable expenditures and support digital (partial) study phases.

## 2.2. Design with the users: Considering the needs and interests of the target groups

- Programmes that promote the internationalisation of higher education and science tend to focus on different areas with varying target groups. Depending on their orientation, they might target students in bachelor's and master's programmes, students from academic or non-academic households, researchers of varying disciplines, or university management and administrative staff. In future, mobility programmes should be developed in such a way that reflects this diversity and takes the participants' manifold experiences, expectations, attitudes and skills into account.
- Students, academics and junior researchers continue to express interest in physical mobility for numerous personal and circumstantial reasons. As things presently stand, only a small percentage of the younger student generation regards purely digital programmes as an equivalent alternative to physical mobility.
- At the same time, there is heightened awareness of the need for climate-friendly mobility and growing interest in high-quality digital programmes. Students, researchers, and to an increasing degree, higher education institutions have pledged to adopt climate-friendly mobility concepts and expect corresponding framework conditions, or are actively establishing these themselves.
- International teaching and research collaborations are also undergoing steady transformation due to the challenges of mobility and the possibilities offered by new digital formats.
- Finally, we anticipate that the attitudes and demands of the target groups will change with the further development and practical application of digital services.

**In dialogue with universities and partners, the DAAD will therefore ...**

... continually monitor future mobility behaviour and patterns with respect to the coronavirus pandemic and sustainability goals, and adjust its programmes accordingly.

... take advantage of the surge in digitalisation and actively promote it through the development of new funding programmes.

... adopt new cooperation and exchange formats and develop corresponding innovative funding formats (blended mobility, virtual campus tours, self-assessments, studying as a virtual avatar etc.).

... systematically intensify dialogue with target groups and stakeholders, and incorporate aspects of sustainability and issues of digitalisation.

**In dialogue with universities and partners, the DAAD will therefore ...**

... consider the principles of inclusion, gender equality and equal opportunity when developing its funding instruments and remain cognizant of the technical requirements of the different target groups.

... develop new funding formats which are tailored to the needs of target groups which have not yet benefited from digitalisation (low tech), as well as those target groups for whom digitalisation offers a special opportunity.

... take regional, social and cultural differences into account (learning cultures, access to individual formats, academic status etc.).

... ensure equitable access to physical mobility instruments and digital services by adhering to non-discriminatory, transparent selection criteria.

**2.3. Leave no one behind: Ensuring equal opportunity and tapping the comparative advantages of digital formats and in-person courses**

- Digitalisation is no guarantee for more participation or equitable education. The digital divide widens even further wherever network connections, access to terminal devices or the acquisition of digital competence assumes an exclusionary character.
- On the other hand, digital programmes can help expand access to higher education and science (locally, regionally and globally) and thus hold the potential of boosting participation by students and researchers in international exchange formats (keyword: “glass ceiling of internationalisation”).
- Digital services offer new perspectives on cooperation and education, especially to geographically anchored target groups such as students with children, employees, caregivers and mobility-restricted persons.

## 2.4. Decarbonise mobility: Making physical mobility climate-neutral

- The trend toward decarbonising mobility is one of the most important fields of action for achieving our climate goals. Universities are strongly contributing to this effort through education, research and knowledge transfer. They are also committed to implementing responsible mobility policies with regard to their own (international) activities.
- Greater awareness of sustainable mobility and a constructive attitude toward all stakeholders involved in internationalisation are important factors for changing mobility patterns in the long term.
- New regulatory frameworks broaden the scope of action for organisations, actors and programmes of internationalisation, and thereby promote mobility which is climate-conscious and environmentally friendly.
- Supporting certified climate-protection projects offers the chance to offset and compensate for unavoidable CO2 emissions.

### In dialogue with universities and partners, the DAAD will therefore ...

... create positive incentives for switching to climate- and environmentally friendly forms of mobility (advising, informing and sensitising the public to climate-friendly travel behaviour and the possibility of reducing one's carbon footprint, offering financial incentives, supporting alumni as "climate ambassadors" etc.).

... introduce and expand climate- and environmentally related pledges to assess travel by staff and scholarship holders (e.g. evaluating the necessity of travelling, better coordination of business trips, guidelines for using primarily climate- and environmentally friendly transportation and travel connections).

... offer digital alternatives for events and conference visits whenever possible and choose hybrid variants to enable participants to avoid climate-damaging air travel.

... consider conflicting goals when promoting international mobility, highlight the issue together with universities and other partners, and provide exceptions for hardship cases in recognition of the socially equitable dimension of sustainability.

... further expand efforts to monitor mobility data.

... work with our funding providers to develop possibilities to compensate for unavoidable CO2 emissions generated by trips by our staff and scholarship holders.

... submit regular reports in suitable formats justifying our climate actions to our stakeholders, committees and the public.

### 2.5. Focus on quality: Strengthening digital infrastructure and ensuring the quality of teaching and learning opportunities

- An appropriate digital infrastructure and an intuitive, responsive design based on users' interests are the key to ensuring the quality and success of digital teaching and learning processes.
- Learning analytics tools offer new possibilities for monitoring success and quality.
- Digital formats, however, present specific challenges. Particularly problematic are aspects of data protection and user safety – especially in authoritarian political contexts.
- While we can draw from extensive experience in analogue learning, digital teaching and learning formats are still in their infancy to some extent. Despite having made great strides in recent years, further research in learning success and learner activation is necessary.
- The forced digitalisation necessitated by the coronavirus pandemic produced some results which did not fully meet established quality standards or have not yet been conclusively assessed in terms of their quality and effectiveness.

#### In dialogue with universities and partners, the DAAD will therefore ...

... work to create and expand digital services and competence within the scope of our responsibility and support the necessary digital systems and infrastructures for their use in the contexts of internationalisation.

... (further) develop quality standards for international digital programmes and consider (data) security aspects in consultation with our stakeholders.

... use our experience in the area of higher education management and build on it by incorporating aspects of sustainability and digitalisation (smart campus etc.).

... promote experimentation with the collaborative and interactive approaches of “new learning” and “new teaching” (tandem teaching, virtual campus etc.).

... intensify our involvement in building capacity in the area of instructional design.

... consistently orientate our programmes to the internationally recognised “Principles for Digital Development”.

# Imprint

## Published by

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## Translation

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Published online as a digital publication  
in January 2021  
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