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Germany's Road towards Transnational Provision of Higher Education and its Footprint in China and Turkey

Susanne Kammüller, Wiebke Bachmann, Susanne Otte

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1. Abstract

The development of German activities in the transnational provision of higher education has been subject to specific national conditions, which also influence the prevailing modes of engagement chosen by German universities in Transnational Education (TNE) or International Programme and Provider Mobility (IPPM). The Working Paper begins with a discussion of terminology with reference to the conditions for German TNE-IPPM activity. The main motivations and drivers which have shaped the development and profile of Germany as a provider of TNE-IPPM are outlined, followed by an overview of the scope, geographical distribution and general profile of German TNE-IPPM provision. The paper discusses two aspects which feature prominently in the overall picture: The involvement of German higher education institutions (HEI) in the establishment and running of new universities abroad operating on German models of higher education, and the large share of universities of applied science (UAS) in the overall German TNE-IPPM activity. Concluding the paper, both aspects are further explored in two case studies of China and Turkey which address the German TNE-IPPM engagement in China and Turkey against the backdrop of these countries' strategies to develop and internationalise their higher education sectors.

2. Development and Profile of German TNE-IPPM

2.1 Terminology: Transnational Education as International Programme and Provider Mobility

For almost three decades, "transnational education" has been a topic of scholarly and political discourse on the international dimension of higher education. The term TNE has found entrance in institutional development plans, national strategies and policy papers as well as international declarations of intent for cooperation and joint policies. Given the visibility and prominence of the term, it seems only rational to assume that there exists a shared definition and understanding of what exactly transnational education is and which modes of international engagement in higher education are to be subsumed under the generic term. This assumption, however, is misleading. The search for an appropriate terminology to name, describe and analyse the new forms of international academic mobility arising since the 1990s has been a recurring topic in higher education research and discourse. Closely related to the issue of a lacking common terminology is the lack of comparable data on TNE-IPPM.¹ On the one hand, the generic term "transnational education" stands alongside several other terms like "crossborder (higher) education" (CBHE), "offshore (higher) education" or "borderless (higher) education" which are used in literature to cover a similar, but not always quite the same range of phenomena and in addition "have different meaning both within and across countries and

¹ See, for example, Knight 2006 and 2016 or Healey 2015, to name just some works dealing with the typology and terminology of TNE-IPPM.

between different national, regional and international organisations" (Knight and McNamara 2017, p. 6).

The situation even gains in complexity from the fact that numerous terms and definitions for different modes of activity are in use, some of them coined by academics for research purposes, some introduced by official bodies who adopt and use the terms they deem best suited to their working context and needs in fulfilling their tasks in overseeing, regulating or assuring the quality of higher education offers under their respective purview. However, the most commonly used generic terms, TNE and CBHE, share the implication that borders, whether political, linguistic, cultural or regulatory, do exist, and that these borders are crossed - which leaves the question of who or what does the crossing.

According to a frequently cited definition, TNE refers to all "types of higher education study programmes, or sets of courses of study, or educational services (including those of distance education) in which the learners are located in a country different from the one where the awarding institution is based" (Council of Europe 2002).

Discussing the phenomenon from the perspective of German higher education in a position paper, the German Academic Exchange Service (DAAD) has embraced a definition with a slightly shifted focus: "Transnational education (TNE) refers to universities, courses and individual study modules that are offered abroad essentially for students from the respective country or region, while the main academic responsibility lies with a university in another country. Academic responsibility first of all refers to contents (curricula), but typically embraces at least some of the following elements as well: German faculty, degrees awarded and quality assurance conducted by the German university" (DAAD 2014). This understanding of TNE-IPPM is complemented by a "Code of Conduct for German Higher Education Projects Abroad", jointly initiated and approved by the DAAD and the German Rectors' Conference (HRK) in 2013, which lays down a couple of qualitative and ethical minimum standards for German TNE-IPPM activities ranging from aspects of governance and quality standards to guaranteeing academic freedom and non-discriminatory access (DAAD and HRK 2014).

In contrast to the cited definition of the Lisbon Convention, the defining criterion adopted here is not primarily degree award – even though degree award is one of several features ascribed to TNE as possible, but not necessarily indispensable features - but academic responsibility for the contents and quality of study programmes delivered abroad. This understanding of TNE endorses inter-institutional forms of collaboration which, notwithstanding a high level of involvement, input and oversight by a foreign "providing" university (or universities), might lead to a degree that is not awarded by the "providing" university involved but by the local partner university at which the TNE programme is operated. As will be seen below, this shift of focus from degree award to academic responsibility reflects the surrounding conditions and predominant features of German TNE engagement.

The common ground between the two cited definitions of transnational (higher) education is the shared understanding that TNE essentially is about academic content, structures and institutions from one country moving across national borders to students in another country and, thus, needs to be distinguished from an understanding of international mobility which focuses on individual students who move from one country into another for their academic education. This seemingly simple, but fundamental differentiation lies at the bottom of the generic term "International Programme and Provider Mobility", adopted in this paper as TNE-IPPM, which has been proposed by Jane Knight and John McNamara (2017) along with a classification framework intended to enable the categorisation of different forms of activities in different contexts. The classification framework and recommendations are one of the results of several years of collaboration in jointly commissioned research of the DAAD and the British

Council. As a fundamental organising principle, the framework differentiates between academically “independent” or stand-alone activities, which operate under the academic responsibility for content, delivery and external quality assurance of a foreign HEI and lead to a degree of the foreign provider, and “collaborative” TNE-IPPM provision, in which a foreign sending HEI and a local hosting HEI work together on one or all of the above aspects and which involves several different models of degree award (Knight and McNamara 2017). As will be shown below, this distinction is of specific relevance to the TNE-IPPM activity of German HEI.

2.2 Overall Conditions and Major Players Influencing the Development

TNE-IPPM unfolded from the late 1980s onwards as a response to economic globalisation. A rising need for qualified labour and, hence, increasing unmet demand for higher education in emerging and developed economies coincided with decreasing public funds for higher education in some countries with highly developed higher education systems. In the wake of the global liberalisation of trade relations, higher education emerged as a tradeable good on a new international market. On the one hand, this led to a rapid increase in international student mobility. On the other hand, universities in major destination countries of international student mobility, notably Australia and the UK, were encouraged by their governments to find new revenue sources in order to balance shrinking state funding for higher education, and in addition to recruiting fee paying international students to their own campuses increasingly offered their university programmes and degrees abroad in franchise arrangements, twinning programmes, branch campuses or other forms of “off-shore” delivery.

In comparison to other major providing countries, Germany on first sight made a later entry on the scene of TNE-IPPM. The starting conditions for German HEI to engage as providers of TNE-IPPM study programmes were determined by a largely state-funded higher education system dominated by public institutions which offer tuition-free university education to German and international students, accompanied by limited possibilities to enter into commercial activities due to a lack of venture capital, a lack of entrepreneurial experience and – depending on differing higher education legislations of the German federal states or Bundesländer – varying degrees of legal restrictions to acting as commercial enterprises abroad. Confronted with the expansion of an international market for higher education in combination with an intensifying “global race-for-talent” and notwithstanding politically unquestioned state funding for higher education, German universities as well as the German government began to feel the need to participate and position themselves in the expanding international higher education market in order to stay in touch with international developments and safeguard the compatibility and reputation of Germany and its higher education and science system. To be able to establish their own study programmes and create constant presences abroad, however, German HEI needed financial support and political encouragement.

Around the turn of the millennium, a major impulse for the development of German TNE provision came from the Federal Government of Germany, more precisely the Federal Ministry of Education and Research (BMBF), in the context of a new national strategic move for the internationalisation of German universities. In 2001, a pilot call for applications for monies provided by the BMBF offered German universities seed funding for establishing their own study offers abroad. This first dedicated funding programme for TNE-IPPM, developed and managed by the DAAD, later on evolved into a regular funding scheme with annual application options and is to date the most important tool of systematic government support

for TNE-IPPM activities of German universities. Besides numerous other TNE-IPPM presences of German universities, the scheme enables the ongoing involvement of German HEI in several binational universities. From the beginning, the funding scheme has highlighted the creation of international presences of German universities on the basis of already existing inter-institutional or interpersonal collaborations of university staff in teaching or research.

Beginning a decade earlier, global political transformations, among them the end of the East-West block confrontation in Europe and the rise of China to new economic and political weight, fostered the creation of novel political, economic, scientific and cultural ties between countries. In combination with the increasing relevance of science and education for knowledge-based economies, international cooperation in education and science gained additional attention and importance as a tool of cultural diplomacy and development cooperation which became another decisive factor for the formation of TNE in Germany.

In response to stimuli given by the German government as part of its foreign cultural, education and science policy, mainly but not exclusively by the Federal Foreign Office, German universities from the 1990s onward took up international activities at partner universities abroad which in practice constitute collaborative forms of TNE-IPPM. With funding from the Federal Foreign Office, German universities have set up more than thirty degree programmes taught in German at partner universities in Eastern Europe, Russia and Central Asia, engage in running a German faculty for Engineering and Business Studies (FDIBA) at the Technical University Sofia and participate in the establishment of a German-speaking university (Andrássy Gyula University) in Hungary. Other major activities supported by the Federal Foreign Office include the involvement of a German university consortium at the German-Kazakh University and the establishment of a Sino-German University College, which offers master's degree programmes at Tongji University in Shanghai. The latter was later complemented by the establishment of a second joint college offering undergraduate programmes, the Sino-German College for Advanced Sciences, which will be discussed in more detail below.

Another governmental player, the Federal Ministry for Economic Cooperation and Development, also supports individual university projects with strong TNE-IPPM characteristics, the most notable example being the establishment of a new specialised university, the German-Mongolian Institute for Resources and Technology (GMIT), as a binational collaborative venture involving several technical universities from Germany.

The funds allocated by the German Federal Government to TNE are not assigned directly to the German universities but are made available through the DAAD. A member organisation of the German universities dedicated to the internationalisation of the German system of higher education and research, the DAAD defines funding policies and designs the conditions, criteria and procedures for the distribution and monitoring of government funds allocated to TNE under the DAAD's remit. Through its combined roles as intermediary agency and strategic advisor, the DAAD has been a major influencing factor for the evolution of the German TNE-IPPM profile and strategy.

German universities as autonomous entities utilise the government funds offered through the DAAD by designing project proposals for setting up TNE-IPPM presences based on their internationalisation strategies and interests. With little to no financial gains to be expected, the focus of interest for German HEI as TNE-IPPM providers is related to internationalisation: By establishing a constant presence abroad, German HEI aim to position themselves internationally, enhance their reputation, expand their networks for teaching and research, add to the international experience and intercultural competence of their staff through assignments to the TNE-IPPM location, increase student diversity at the home institution by

integrated study stays of students from the TNE-IPPM location in Germany and by post-grad students recruited from among their TNE-IPPM graduates, and also with the goal to opening up additional destinations of temporary study abroad stays for German students.

The engagement of German HEI in the provision of TNE-IPPM thus developed within the interplay of very different political, sectorial and institutional interests. Their combined impact has resulted in an approach to TNE-IPPM which favours partnerships and an alignment of interest of all parties involved and sees the added value of TNE-IPPM not in revenue generation for German HEI, but primarily in its effects for the internationalisation of higher education and research in Germany, and in its potential as a tool to reach broader political goals.

2.3 Statistical Overview of German TNE-IPPM provision

The exact scope of TNE-IPPM provision can only be estimated. Unlike national higher education statistics in Australia or the UK, the data collections on higher education of the German Federal and Länder statistic agencies do not include TNE-IPPM as separate entities.

A fairly comprehensive and to date the only regular collection of data on TNE-IPPM activities operated by German HEI is conducted by the DAAD through annual data requests to the German HEI which receive or previously received funding. As a consequence, the national data on German TNE-IPPM provision, which are annually updated and published in print and online at the website www.wissenschaftweltoffen.de, cannot be considered as covering the complete picture since they do not comprise any TNE-IPPM activities by German universities which were established without DAAD support. In light of the general conditions for German HEI to engage in TNE-IPPM outlined above, however, the level of activity without any DAAD involvement at some point in time is expected to be low. The results of rare quantitative research on TNE-IPPM in Germany so far corroborate this assumption. To cite a recent example, a survey on franchise and validation models in German higher education conducted as groundwork to the formulation of recommendations on their regulation and quality assurance by the German Council of Science and Humanities identified merely 20 degree courses franchised by German HEI to education providers outside the country with a total enrolment of 692 students in the winter semester of 2015/16 (Wissenschaftsrat 2017), against 261 TNE-IPPM programmes with 28,500 enrolled students reported in Wissenschaft weltoffen for the same period (DAAD and DZHW 2016). The research covered franchise and validation models including those with non-university partners, which are, in general, not sponsored by the DAAD. The data from Wissenschaft weltoffen 2019 presented below can therefore be assumed to present the statistically verified majority of overall activities. The exception is distant education delivered by German HEI to students in other countries, which is not covered by any of the available data collections. It should also be noted that the data on German TNE-IPPM presented below exclude the majority of the more than 742 (as of June 2018) double degree programmes with foreign HEI registered with the German Rectors' conference (DAAD, AvH and HRK 2019, p.108). These programmes, the clear majority of which are operated jointly by German HEI with university partners within the European Union and in the USA, are predominantly geared toward reciprocal student exchange and usually reflect a more balanced form of inter-institutional cooperation than the sending-hosting relationship that dominate even in collaborative forms of TNE-IPPM.

At the beginning of the academic year 2018/2019, German universities and binational universities and institutes with German involvement reported a total 33,000 enrolled students

in more than 280 degree programmes (DAAD and DZHW 2019). With regard to study fields, STEM subjects dominate the German TNE-IPPM study offer with 63 per cent of overall enrolment, with engineering holding the lion's share with 52 per cent of enrolled students in TNE-IPPM, followed by law, economic and social sciences with 30 per cent, and mathematics and natural sciences with 11 per cent (see Table 1).

Table 1: Students in German TNE-IPPM Programmes by Field, in 2019

| Field of study | absolute | in per cent |
|---|----------|-------------|
| Engineering | 17,528 | 53% |
| Law, economics and social sciences | 9,888 | 30% |
| Mathematics and natural sciences | 3,594 | 11% |
| Arts, sports, music | 1,470 | 4% |
| Languages and humanities | 458 | 1% |
| Human medicine | 7 | 0% |

Source: DAAD and DZHW 2019.

The overwhelming majority of 81 per cent of students in the recorded TNE-IPPM programmes study towards a first degree, that is, a bachelor's or comparable. 17 per cent are enrolled in master's level programmes (see Table 2).

Table 2: Students in German TNE-IPPM Programmes by Level of Targeted Degree in 2018/2019

| Level | 2018/19 | |
|-----------------------------------|----------|-------------|
| | absolute | in per cent |
| Bachelor's (or equivalent) | 27,032 | 82% |
| Master's (or equivalent) | 5,683 | 17% |
| PhD | 264 | 1% |
| Others | 208 | 1% |

Source: DAAD and DZHW 2019.

German HEI engage in TNE-IPPM activities at about 65 locations in 26 countries worldwide. In terms of regional distribution, the largest share of students with 61 per cent are enrolled in the Middle East and North Africa, followed by Asia with 20 per cent, Central and South-Eastern Europe with 11 per cent and Eastern Europe, Central Asia and the Southern Caucasus with 8 per cent. Small groups of less than 1 per cent of students are enrolled in German TNE-IPPM programmes in Latin America and Sub-Sahara Africa.

A comparison of the most important host countries and single locations of German TNE-IPPM in terms of student numbers (see Tables 3a and b) reveals very high numbers of students not only in countries, but also at particular locations, most notably in Cairo, Amman and Muscat. These three cities are the seat of the three largest binational universities with German participation at present. Further locations of binational university foundations in the Top Ten of cities with German TNE-IPPM activities are located in Ho Chi Minh City, Istanbul and Almaty. The five biggest institutions alone account for 67 per cent of registered TNE-IPPM students.

Table 3a: Student Enrolment in German TNE-IPPM: Top Ten Host Countries

| Location | 2018/19 | |
|-------------------------|----------|--------------------------------|
| | absolute | in per cent of total enrolment |
| Cairo | 12,935 | 39% |
| Amman | 4,339 | 13% |
| Muscat | 2,172 | 7% |
| Shanghai | 2,024 | 6% |
| Istanbul | 1,794 | 5% |
| Ho Chi Minh City | 1,386 | 4% |
| Qingdao | 1,000 | 3% |
| Singapore | 669 | 2% |
| Almaty | 633 | 2% |
| Bishkek | 630 | 2% |

Source: DAAD and DZHW 2019.

While the dominance of STEM fields may be interpreted to reflect the perceived strengths of the German higher education system and economy which attract students to choose a study programme with involvement of German HEI, the concentration of TNE-IPPM enrolment in certain places illustrates the significance of binational university founding in the context of German TNE-IPPM activities. This does not apply to China and the city of Shanghai, however. Instead, small to mid-sized activities with less than 500 students make China the third largest host country of German TNE-IPPM and bring Shanghai on fourth position among the locations with the highest numbers of enrolments.

2.4 Forms of Engagement: Collaboration and Binational Universities Prevailing Modes

Under the impact of the conditions and interests outlined above, the TNE-IPPM engagement of German HEI has developed a profile that is characterised by a dominance of collaborative forms. Examining the data of German TNE-IPPM provision in application of the Common TNE classification framework for IPPM (Knight and McNamara 2017), less than 8 per cent of the 283 recorded TNE-IPPM programmes fall under the category "independent provision". Of these, 13 programmes are operated at four branch campuses (of Technical University Munich in Singapore, Technical University Berlin in El Gouna, Egypt, Friedrich-Alexander University Erlangen-Nürnberg in Busan, Korea, and Heidelberg University in Santiago de Chile) and 8 programmes are delivered in some kind of franchise agreement. The overwhelming majority of 226 or almost 93 per cent registered degree programmes, however, belong to one of the two collaborative categories of TNE-IPPM. They are either "partnership programmes", that is, degree programmes offered in academic partnership with existing local host universities which integrate the programme into their course portfolio, or study programmes offered at one of the "joint" or binational universities, as they are usually called in Germany. The latter account for staggering 73 per cent of enrolment in the recorded TNE-IPPM activities of German HEI.

The generic term binational university refers to a group of HEI which have been established and are run in close cooperation with German universities with the aim to transfer German models of higher education into the seat countries' higher education systems. The existing binational universities in Egypt, Jordan, Oman, Vietnam, Kazakhstan, Indonesia, Mongolia and Turkey each have a history of their own, some owing their existence to the initiative of individual founders, others established on political initiative and intergovernmental agreements. The new-founded universities are independent, private or state-owned institutions which are fully integrated in the local higher education systems and fully governed by the national law of the seat country, in some cases – the Turkish German University discussed below among them - they operate on a special legal status. The main cost for infrastructure as well as basic operations and staffing are usually borne by the seat country, either by private investors or public funding, while the German side funds the involvement of German HEI and additional elements which reinforce a perceptible element of “Germanness” at the binational institution, like German language tuition or summer schools, study stays and work placements in Germany. The involvement of German HEI in these institutions is quite complex, takes different forms and may include responsibility for curricular design, quality assurance, capacity building of local teaching staff, delegation of teaching staff from Germany, and participation in the institutional boards and committees, among other things.

Typically, several German HEI work together. By sharing the load, they reduce the strain on each institution's financial, administrative and academic capacity and jointly ensure a lasting and sustainable participation of the German side. The models for degree-awarding powers at binational universities vary, depending on their different contexts and histories. Some of the new institutions award exclusively their own degrees, in some cases with a German accreditation. At others, students earn a degree from one of the German partner universities, alone or in a double-degree arrangement with the binational institution. The most visible examples of German engagement and by far the largest in terms of student numbers, binational universities have become something like the flagship model for Germany's collaborative TNE-IPPM profile. One of them, the Turkish-German University, will be discussed in more detail below.

2.5 Universities of Applied Sciences in German TNE-IPPM

Universities of Applied Sciences (UAS) (in German: *Hochschulen für Angewandte Wissenschaften* or *Fachhochschulen*) were introduced in Germany as a second strand of university education from the late 1960s. The establishment of an alternative academic path followed the goal to complement classical, theory-oriented university education by an application-oriented, science-based form of higher education which especially in industry-related disciplines would educate a highly-qualified and skilled workforce. In the following decades, UAS have become an integral part of the higher education landscape in Germany, as well as in several neighbouring countries which later introduced their own forms of UAS. UAS degrees are aligned with the Bologna system and treated as fully coequal to other university degrees. Especially in the engineering fields but also in other disciplines like social work, management or public administration, UAS today provide for a sizeable portion of 34 per cent of all enrolments in university education in Germany.

The specific pedagogic model of UAS combines theoretical learning with a high level of practical application under real-life working conditions, including compulsory industry internships of several months as an admission requirement and as part of the study curriculum. The study programmes offered by UAS as well as their research activities are

closely aligned with industry needs. To ensure this nexus, the requirements for the appointment of professors at UAS include several years professional experience in the respective field outside university in addition to academic credentials and teaching experience.

Notwithstanding their success within their domestic context, UAS often face specific hurdles in terms of internationalisation for reasons connected with their particular pedagogic model, their often smaller size and their high degree of specialisation. In addition, UAS rely on close networks and industry engagement for the realisation of their pedagogic concept to ensure that their teaching and research constantly reflect and integrate the latest developments in industry. These in turn often come with and depend on strong regional bases. In classical cooperation models with university or industry partners in other countries, the specific traits of the applied academic teaching offered at UAS are often insufficiently known or understood. The specific strength of UAS on home ground thus might even stand in the way of creating international teaching and learning environments for UAS students and staff seeking to enhance their capabilities to work and interact with ease in globalised working environments.

The degree of internationalisation of UAS therefore does often not adequately reflect their well-established status and success as knowledge producers and educators of highly-qualified and employable staff within their economic surroundings. Hence, the internationalisation of the model itself by offering it across national borders through TNE-IPPM activities, which are expected to reflect back on the home campus, allures UAS as a possible solution to counter these inherent challenges.

At this point, the institutional interests of UAS as potential TNE providers merge with the interest of potential host countries. Confronted with growing gaps between the skills of university graduates from traditional higher education and economic needs, governments, employers and students in emerging as well as developed economies look into alternative concepts of higher education that focus on the application and utilisation of high-level academic knowledge and skills in the work context. The sustained economic success of German industry and equally sustained low unemployment rates among youth and young university graduates in Germany add to the attractiveness of the UAS model as a potentially valuable addition to the university systems of other countries.

As a result of these coinciding interests and needs, German UAS are more active in TNE-IPPM activities than the overall degree of internationalisation and their quantitative role in the higher education landscape of Germany might suggest. Annual statistical surveys on the internationality of German HEI show that UAS in all indicators reach lower levels of internationalisation than classical universities (cf. DAAD et al. 2019). Similarly, DAAD data on the participation of German HEI in funding programmes supporting institutional structures for internationality in the years 2010-2015, presented by the DAAD president to the annual conference of UAS chancellors in September 2015, display a disproportionately low participation of UAS (Wintermantel 2015). The notable exception is the funding programme for TNE: Among all projects supported within this scheme, 52 per cent were UAS-led in the years 2010-2015. The second largest of the binational universities with more than 4,000 students, the German Jordanian university in Amman, fully adopts the UAS model and in doing so is supported by a network of more than 100 German UAS. In China, UAS are responsible for the majority of German TNE-IPPM activity, which will be shown in the following paragraphs.

3. Applied Sciences in China: Model Transfer through TNE-IPPM

3.1 Expansion of Higher Education in China: A Balancing Act Between Quality, Quantity and Industry Demand

China looks back on three millennia of educational tradition, but modern, western-style universities have existed on Chinese soil only for little longer than one century, and during that short time the country saw several fundamental upheavals. The first universities were established from the last decade of the nineteenth century onwards. In the first half of the twentieth century, China saw a virtually uncontrolled growth of tertiary education with private and state-run, faith-based and secular institutions of varying type and quality existing in parallel. Despite first attempts to modernise and harmonise tertiary education between the end of the Qing dynasty and the beginning of the communist era (1911 – 1949), the Chinese higher education system never attained a level of unified development. The foundation of the People's Republic of China in 1949 and the establishment of a centralised state marked the beginning of centralisation in higher education, as well. The strong bonds that existed at the time between the Chinese and the Russian communist parties made Russia the first role model for Chinese higher education until the Cultural Revolution (1966-1976), when most universities were closed down and university life came to a virtual standstill.

After the death of Mao Zedong in 1976, the beginning of the reform period under Deng Xiaoping (1978ff) laid the foundation for the evolvement of China's present-day university system. Several higher education reforms under Deng and his successors since then have targeted universities as part of a greater effort to modernise the Chinese economy and society. China introduced new curricula and established a modern degree system, reinforced the national university entrance examination *gaokao* and introduced tuition fees. Universities were granted a certain degree of independence from the state, although the government still controls and heavily regulates the development of Chinese higher education.

Since the 1990s, China has massively expanded its higher education system and at the same time made increasing efforts to enhance the quality and international competitiveness of its HEI. Several strategic programmes and heavy investment paved the way into international rankings for the first Chinese elite universities. At present, the "Double Excellence Programme" introduced in 2017 continues this policy by supporting a small group of about 100 of China's more than 2,560 HEI with the aim to position them as leading universities in international rankings.

The increased financial support of just a relatively small group of universities has led to an imbalanced development. On the one hand there are the "leading universities" with a standard of education comparable to western universities, on the other hand there are numerous underfinanced institutions of questionable quality and with no reputation to speak of which release graduates with little chance of a successful professional career. As a result, a paradox situation can be observed on an annual basis. Although the country is in dire need of qualified employees, university graduates cannot find employment because their education has not sufficiently prepared them for the job market. At the same time, prospective students and their parents shun vocational training opportunities, which are widely considered inferior. Backed by a centuries-old Confucian educational tradition and reinforced by the wish to secure a better life for their offspring, the large majority of Chinese parents want a university education

for their usually only child. Official media reports state that about 90 per cent of university graduates do find a job but many experts doubt those reports (Goldberger 2017, p. 167). If Chinese pupils are not very successful in the *gaokao* examinations and fail to secure a place at one of the leading universities, the obvious alternative is available only to those two per cent of students (cf. DAAD 2017) whose parents can afford it: They send their children to study abroad, preferably in the "West". This small fraction of China's entire student population amounts to more than 860,000 individual students in 2016, making China by far the biggest source country of international student mobility (DAAD and DZHW 2019). For most Chinese students and for the country as a whole, however, studying abroad is not a viable solution to the quality and access issues of the higher education system in China.

The issues outlined above did not go unnoticed by the Chinese government and higher education experts. Initiated by the then prime minister Wen Jiabao in a New Year's address 2010, which voiced heavy criticism on the lack of diversity among Chinese HEI and missing applicability in higher education teaching programmes (among other things), the Chinese government after much public debate published a long-term plan for a fundamental reform of the Chinese education system covering all sectors from pre-school to higher education and vocational training in July 2010. In 2014, the Chinese State Council announced a new development strategy in the field of "Technical and Vocational Education and Training" (TVET) for the years 2014 – 2020. Regarding tertiary education, the strategy envisaged the creation of two columns in higher education: On the one hand the classic university education with bachelor, master and PhD, on the other hand a new type of vocational university. Institutions of both types are to award degrees of equal value and students are to be given an option to change freely between the two strands (Schmidt-Dörr 2015, p. 89 ff).

One possibility to ensure and to improve the quality of the national higher education system in general, and of the numerous institutions not capable of releasing graduates with competitive skills for the job market, is to look for competent and – this case – foreign partners.

Accordingly, the Chinese government from the 1990s onwards has encouraged partnerships with foreign universities. However, cooperation between foreign and Chinese universities has remained heavily regulated by the Chinese government, and foreign higher education providers are not allowed to offer their own degree programme without a Chinese partner.

Therefore, "the vast majority of joint institutes operate as institutions affiliated to the parent Chinese university, on which they are dependent financially, as well as being integrated into its governance and management structure" (QAA 2017, p. 11). Very quickly higher education providers from the UK took the lead with 275 approved joint degree programmes and institutes reported in 2017, amounting to 22 per cent of all "China-Foreign Cooperation in Running Schools (CFCRS)". The second and third positions were taken by the USA with 21 per cent and Australia with 12 per cent of all TNE partnerships in higher education (QAA 2017, p. 10 f). In July 2018, however, the Chinese government announced the termination (or expiry) of 234 TNE partnership programmes, among them 62 of 245 Sino-British TNE programmes and 44 of 149 partnership programmes established with Australian HEI (ICEF Monitor 2018). Of the seven German partnership programmes on the list of closures, most had already been terminated at the time or never started, and none of them belonged to the TNE programmes supported with government funds by the DAAD.

3.2 German TNE-IPPM in China

In comparison to the numbers of British, US-American and Australian TNE-IPPM co-operations in China, the share of German universities is relatively small, with 5 per cent of the approved TNE-IPPM programmes and joint institutes reported by QAA (2017). According to German data, however, China in terms of enrolment numbers takes the third positions of host countries for German TNE-IPPM (cf. Table 3). Among the German universities which are engaged in Sino-German cooperation projects, UAS form a particularly active group.

At present, 14 out of 23 German TNE-IPPM degree programmes in China covered by DAAD data are run by UAS in collaboration with Chinese HEI. The majority offer bachelor's degrees. A typical cooperation involves one, or more, degree programmes, mostly in engineering, leading to a double degree. The German side takes part of the teaching load in China with German flying faculty and integrated study stays of students in Germany for one or two terms. Initially established for Chinese students only, most of the programmes in the meantime have introduced study tracks for German students as well, mirroring the internationalisation interest of the German university partner.

Even before the push for reform in 2010, the Chinese government looked to German UAS with their application-orientated teaching and strong relations to industry as a potential role model to prepare or rather convert a part of its tertiary education sector for the "Fourth Industrial Revolution" and the huge demand for highly-qualified and talented skilled employees.

One of the most visible pioneering Sino-German TNE-IPPM collaborations for application-orientated higher education is the "Chinesisch-Deutsche Hochschule für Angewandte Wissenschaften (CDHAW) – Chinese-German University for Applied Sciences". Repeatedly listed as one of the three best Chinese-foreign university projects in Shanghai by the municipal government of the city, CDHAW was founded in 2004 as a pilot project on the joint initiative of the Chinese Ministry of Education (MoE) and the German Ministry of Education and Research (BMBF). Both sides agreed upon Tongji University in Shanghai as the host institution, a Chinese research university with strong traditional ties to Germany and German universities. Another argument for choosing Tongji was its location in the Yangtse delta region, where German industry has a strong presence and German companies have been interested in well-qualified and employable Chinese graduates as employees. At present, CDHAW offers four bilingual bachelor's programmes in engineering and industrial engineering, which are based on the curricula of programmes offered by German UAS in Germany. The programmes are ambitious, as Chinese students not only have to pursue their academic courses but are also required to learn German in preparation for the last year of their four-year study programme, which is spent at one of the German partner UAS as a precondition to qualify for a double degree. Since 2009, CDHAW has been opened for students from the German partner HEIs who can obtain a double degree, too. To date, more than 1,625 Chinese and 609 German students graduated from CDHAW. The success of CDHAW inspired the German partner universities engaged at CDHAW to establish a formal German University Consortium for International Cooperation (DHIK – Deutsches Hochschulkonsortium für Internationale Kooperation) in 2014. DHIK aims to initiate further projects modelled on the example of CDHAW and to enhance the internationalisation of its German member UAS. With 30 member HEI (as of July 2019), the DHIK to date has set up another TNE-IPPM project in Mexico. Engagements in other countries are under discussion.²

² For further information, see <https://www.dhik.org/>.

While CDHAW came into being in a top-down approach upon government initiative, the majority of German TNE-IPPM activities in China were designed and started by the universities involved. Since the beginning of systematic support, the DAAD granted seed funding for 13 different TNE-IPPM projects of German universities with Chinese partners, among them 9 cooperations set up by UAS. Meanwhile, the majority of funded projects operate independently from DAAD-support after their successful establishment.

One of the oldest Sino-German TNE-IPPM cooperative ventures based on institutional initiative is the "Shanghai Hamburg College" (SHC), a joint project started by the UAS Hamburg (HAW) and the University of Shanghai for Science & Technology (USST) in 1998 and funded by the DAAD from 2001 onwards. SHC offers bachelor's programmes with double degrees in mechanical and electrical engineering as well as economics/business administration, which are supplemented by compulsory German language training. About one third of the teaching in Shanghai is delivered by German professors in the German language. The curriculum includes one practical semester which Chinese students usually spend at a German company.

Other examples of successfully established permanent presences of German UAS in China include Technische Hochschule Lübeck, which offers several bachelor's programmes with East China University of Technology (ECUST) in Shanghai and Zhejiang University of Science and Technology in Hangzhou, and Osnabrück UAS, which partnered with the Shanghai Institute of Foreign Trade and Anhui University in Hefei.

The experiences gained in these Sino-German collaborations triggered off additional needs for substantiated academic discussion between the Chinese and German partners about the advancement of this new type of application-orientated higher education in China, and the development of the UAS model in Germany, which has been channelled in two major platforms. One is the "Chinesisch-Deutsches Forum für Anwendungsorientierte Hochschulausbildung" (CDAH), established with the participation of Technische Hochschule Lübeck in Hangzhou in September 2007, which offers a forum for dialogue to HEI focusing on the cultivation of application-orientated talent in China and Germany. CDAH currently counts 57 Chinese and German UAS as members.³

The second platform was started by Hefei University, one of the first Chinese HEI which used the German UAS example as a model for institutional reform, together with Osnabrück UAS. Supported both by the Ministry of Science and Culture of Lower Saxony and the Ministry of Education of Anhui province, the two partners established an annual Sino-German symposium on application-orientated higher education. The 11th symposium was held in Hefei in October 2017 with more than 500 delegates from more than 167 HEI, industry and politics.

3.3 Perspectives

The future of Sino-German cooperation in TNE-IPPM is not easy to predict. The interest of German universities – especially UAS – to collaborate with Chinese institutions in joint study programmes still exists, but the surrounding conditions are changing.

During the last years, the transformation process of establishing application-orientated Chinese HEI was pushed forward with incredible speed. About 600 Chinese universities are to be transformed into this new type of institutions. German support for the transformation is

³ According to CDAH website, accessed 16 August 2019. <http://www.cdah-forum.com/en/cdah-members.asp>.

strongly wanted by the Chinese side. China also looks to industry as a strong and permanent partner with an inherent interest in the development of new curricula. The statutory framework for this transformation, however, still needs to be set up.

After almost two decades with ever increasing numbers of young Chinese who go abroad for their academic training, the Chinese government tries to reduce western influence on Chinese students in China, especially on the bachelor level, by keeping them at home. There are ongoing discussions about the transformation of all bachelor's programmes run with Western partners into a "4 plus 0"-model. This implies that foreign faculty would still be welcome in China, but study stays of Chinese students at the partner universities abroad, which are an important component of German TNE-IPPM, would no longer be allowed. If this new regulation of Sino-foreign academic cooperation came into force, German-Chinese study programmes will probably no longer be an attractive form of international engagement for many German universities.

4. The Turkish German University: An Example of TNE-IPPM as Science Diplomacy

4.1 Internationalisation of Higher Education in Turkey

International cooperation in higher education has developed in Turkey especially over the past fifteen years and with restrictions concerning the kind and extent of encouraged or permitted activities as foreign higher education providers are not allowed to operate independently. Instead, there are examples for an integration of foreign models into the public Turkish higher education system: Robert College, the only historical foreign HEI in Turkey founded by an US-American investor in the 19th century, was transformed into a Turkish state university under the name of Bogazici University in 1971. Galatasaray University, a francophone HEI founded on the basis of a Turkish-French bilateral agreement, was established as a state-run university under Turkish law in 1992.⁴ The reluctance of Turkey to allow foreign higher education provision also shows in low enrolment numbers reported by the major providing countries. In contrast to the strong TNE-IPPM presence of UK institutions elsewhere with more than 700,000 students enrolled in degree-level British TNE-IPPM in 2015/16, the number of enrolments in Turkey reported for the same year was only 295 and included a majority of 255 students in "distance, flexible and distributed learning" (Universities UK International 2018, p. 43f). According to Australian government data, Australian HEI in 2017 reported a total number of merely 51 "offshore enrolments" in Turkey (Australian Government - Department of Education). British or Australian overseas campuses do not exist in Turkey.

The beginnings of conscious higher education internationalisation in Turkey are related to the collapse of the Soviet Union and communism in eastern Europe in the early 1990s. Turkey became increasingly active on the international education market and gradually opened its academic sector for foreign students. Informed by an overall political strategy which aimed at securing Turkey's place as an influential regional power, Turkey first targeted mainly regions which had belonged to the former Ottoman Empire, the Turkic countries and countries with a predominantly Muslim population in the Balkans, the Caucasus, Central Asia, the Middle East

⁴ In this context it is worth mentioning that there are several Turkish universities which offer higher education programmes taught in languages other than Turkish. The majority are English-taught programmes, often delivered by a considerable number of foreign, English speaking teaching staff. Other languages used as medium of instruction include French, German and Arabic.

and North Africa. In addition to recruiting students to Turkey, the Turkish government also began to pursue an active foreign education policy, opening schools and also two "joint universities"(Turkish: *ortak üniversite*) abroad, in Kazakhstan (Ahmet Yasevi Turkish-Kazakh University, 1991) and Kyrgyzstan (Turkish-Kyrgyz Manas University, 1995).

The key authority for higher education in Turkey is the Council of Higher Education (YÖK). The council is composed of representatives from the Council of Ministers, from universities and of delegates appointed by the Turkish president, with each group taking one third of seats. An additional seat is reserved for a representative of the Turkish general staff. YÖK decides on student numbers, curricula and university budgets, confirms staff appointments and approves new study programmes.

Around the turn of the millennium, several Turkish universities and YÖK began an open discourse on the internationalisation of higher education in Turkey. Subsequently, YÖK increasingly focussed on the development of an internationally competitive higher education system. Turkey implemented the Bologna requirements and joined ERASMUS in 2004. At the same time, YÖK began to support the establishment of international double and joint degree programmes, which so far has led to the initiation of more than 200 double or joint degree programmes at 56 Turkish universities (YÖK 2017, p. 26), the main partner countries being the USA (with 35 per cent of "joint diploma programmes"), UK (24 per cent), France and Germany (14 per cent each) (StudyinTurkey 2019).

The development of internationalisation was reinforced by several strategic policy papers. In 2005, the government announced plans to expand the higher education sector by raising the number of universities in all regions of Turkey. In the next three years 41 new public universities were established (Nguluma et al. 2019, p. 40).

In 2007, YÖK published a higher education strategy report. The report forecasted a rise in student numbers which would soon exceed existing capacity in Turkey and concluded that in view of the growing number of Turkish young people aspiring for higher education, the number of study programmes on offer would have to rise, as well. At the same time, the report acknowledged quality issues which impaired the international competitiveness of Turkish higher education, among them a general failure to meet international standards, university graduates' lacking foreign language skills, and a mismatch between the range of programmes offered and student as well as economic demand (Erguvan 2015, p. 228f.). The forecast turned out to be correct. Over the last years, between 60 to 70 per cent of applicants for university entry every year did not receive a study place. In 2018, only about 35 per cent of the 2,38 million prospective students who took the national higher education entry examination were admitted to university (ÖSYM 2018). And the number of applications continues to rise every year.

In 2013, the AKP government published a national political strategy titled "Vision 2023" (Turkey Vision 2023). With regard to its overall goal for Turkey to become one of the ten leading economies in the world, "Vision 2023" envisaged an expansion of the academic sector and declared a number of targets, among them a substantial enhancement in the number of higher education institutions in Turkey with a corresponding rise of academic teaching staff and the creation of additional study places.

A dedicated internationalisation strategy for the higher education sector was published by the Turkish government in 2017. Among other aims, the strategy proclaims as government targets a doubling of the numbers of international students and of international university staff, improvement of the potential of Turkish universities for international collaboration, and a rise in the number of international cooperation agreements in higher education with foreign

governments or other important international bodies. Further targets include an additional rise of the number of joint and double degree programmes from 202 in 2016 to 450 in 2021/22. (YÖK 2017, p. 52ff.) as well as a considerable increase of the number of vocational and degree programmes taught in foreign languages. The latter are planned to rise in leaps of 50 to 200 programmes per annum between 2017/18 and 2019/20 from around 1,600 to 2,500 on vocational and Bachelor's level, and from 1,100 to 1,500 programmes on Master's degree level (YÖK 2017, p. 61).

The development of the higher education sector in Turkey points into the direction indicated by the government strategies outlined above. In the last fifteen years, the number of HEI in Turkey has almost trebled, from around 70 institutions in 2005 to 201 in 2019, including 129 state-run and 72 private universities owned by foundations. The number of enrolled students has risen from about 2 million in 2003 (according to data from the UNESCO institute of statistics) to 7.7 million at present, while the number of international students at universities in Turkey has increased from 16,656 in 2000/2001 to 108,076 students in 2016/17 (StudyinTurkey 2019). The main source countries of international student mobility to Turkey are Syria, Azerbaijan, Turkmenistan, Iran and Afghanistan (YÖK 2017, p. 34).

4.2 Turkish-German relations

The Turkish-German University can be seen as a result of a long history of intensive Turkish-German relations influenced, among other aspects, by the pivotal role of Turkey as the bridge between south-eastern Europe and the Middle East. Germany has been Turkey's most important economic and trade partner for decades. More than 7000 German companies and enterprises are active in Istanbul and throughout Turkey, providing a fruitful ground for effective cooperation (Göbel 2019). In addition, more than three million inhabitants of Turkish background reside in Germany as a result of workers' migration to Germany since the 1960s. The German academic tradition and the German language enjoy popularity in Turkey. There are several well-known secondary schools in the main cities of Istanbul, Ankara and Izmir, some of them dating back to the nineteenth century, which use German as the language of instruction. The history of Turkish-German academic relations goes back to the final years of the Ottoman empire, when 20 German professors contributed to the development of Darülfünun, a new university dedicated to natural sciences in Istanbul. In the 1930s and 1940s, a large group of renowned scientists escaping from Nazi Germany found work at Turkish universities and subsequently made essential contributions to their academic fields in Turkey. German know-how has a high reputation in Turkey, and technical and engineering studies in particular have attracted Turkish students to Germany for decades. The scope of Turkish-German academic cooperation has grown considerably over the last years, owing much to the European Union's ERASMUS schemes for international student exchange. The German Rectors' Conference (HRK) registers 1,521 Turkish-German university co-operations in June 2019, most of them ERASMUS partnerships (cf. Hochschulrektorenkonferenz). Between 2004 and 2016, Germany was the most popular target country for Turkish ERASMUS students after Poland, while the largest group of ERASMUS students in Turkey were Germans.⁵

Apart from institutionalised student exchange, which among other forms of cooperation include a couple of German-Turkish double degree programmes that are largely geared

⁵ Between 2004 and 2016, 22,829 Turkish students spent their ERASMUS semester in Germany, while 14,483 students from Germany studied in Turkey with ERASMUS. Apart from that, Germany with 3.5 per cent has only a small share in the numbers of international students at universities in Turkey (YÖK 2017, p. 21 f, 35).

towards reciprocal student mobility, the DAAD supports two collaborative TNE-IPPM projects, namely a Master's programme in Social Sciences (GeTMA) offered by Humboldt University Berlin with the Middle East Technical University (METU) in Ankara, and a Master's programme International Material Flow Management (IMAT) offered by Trier University of Applied Sciences in cooperation with the Akdeniz University (AKD) in Antalya. Both programmes offer a German-Turkish double degree. The highly visible focus of German-Turkish cooperation in higher education, however, lies on another TNE-IPPM effort: The binational Turkish-German University (TGU) came into being as the result of converging interests in the national higher education policies of both sides, related in Germany to an overall internationalisation strategy for higher education, and in Turkey to the strategic targets depicted above.

4.3 The Turkish-German University (TGU)

The Turkish German University might be seen as pioneering in the fulfilment of strategic goals set by the current Turkish higher education policy. The establishment of a binational university in Turkey with the support of the German government, DAAD and German universities was a way to react to the rising demand for additional study places as well as the need to install degree programmes of a quality that meets international standards in the Turkish university sector. To reach these goals, Turkey was eager to build new capacity by using qualified input from abroad by cooperating with Germany as a technologically strong partner.

After political consultations lasting several years, the Turkish and the German governments signed an agreement in 2008 on the establishment of a joint university as a public Turkish university governed by Turkish law (which actually had to be changed to make the joint project legally possible) as the first step to the admission of the first students of TGU in 2013. The memorandum of understanding and a subsequent statute, which determined the formal structure and proceedings, confirmed the binational character of the planned institution and ensured adherence to German quality standards. The declared mission of TGU is to combine the best of the Turkish and German academic tradition in teaching and research. To do so, TGU lays great store on developing its students' proficiency in the German language, on enabling its students to gather international experience and intercultural skills through study and research stays in Germany, and on integrating practical experience in its academic training through industry internships.

The collaborative aspect is of eminent importance to the project. The organisational structure of a Turkish public university at TGU is complemented by corresponding German positions on the level of university as well as faculty management. The decision-making process is directed through different joint committees and regular consultations between the ministries and the managing partners. On the German side, 37 German HEI (as of June 2019) are organised in a consortium (K-TDU) to support the establishment and development of the young university. Each of the five faculties at TGU - natural sciences, engineering, cultural and social studies, law, economics and administration studies – as well as the centre for foreign languages has one German "mentor" university from among the K-TDU members which is responsible for coordinating the contribution of the German partner institutions in terms of programme development, curricula, international networking, definition of appropriate research areas etc. The German HEI actively engaged at TGU as faculty coordinators or programme coordinators play a vital role in securing the academic quality of teaching and research at TGU and thus for the success and reputation of the new institution.

With regard to finance, the Turkish government is responsible for the infrastructure and Turkish staff of TGU. German investment is concentrated on curriculum development, German language teaching and scholarships for TGU students for study stays in Germany, in addition to measures for skills development and research stays in Germany for Turkish academic staff. The German budget for TGU, which is provided by the Federal Ministry of Education and Research and managed by the DAAD, is the highest German investments in an individual TNE-IPPM project so far.

The study programmes at TGU are to a large extent taught in German, with Turkish and English as further languages of instruction. Students are required to successfully complete a language preparation programme offered at TGU before starting their degree programme and to reach a level of proficiency corresponding to the language requirements for university admission in Germany. The German language programme is delivered by seventy qualified staff, among them more than thirty lecturers and language assistants from Germany, who account for more than half of the staff at the foreign language centre. The extensive German language training is considered an essential component of TGU's profile as a binational Turkish-German institution and prepares students for immersion into university life in Germany. Students and young researchers at TGU are offered a range of opportunities to spend part of their academic training in Germany, for example, with study trips to Germany integrated into the curricula of degree courses, scholarships for entire semesters in Germany or research stays. In Turkey, a constant contact with the German academic culture is ensured by flying faculty from the German partner HEIs who each semester take around thirty per cent of the teaching load at TGU.

Two further features underline the specifically German component of academic training at TGU. The first is the introduction of compulsory industry and laboratory internships as part of the curriculum which is a common feature of higher education in Germany meant to provide students with a better and deeper understanding of their subject as well as important networks for their future careers. Integrated practise modules of this kind are as yet uncommon at Turkish universities.

The other feature is an increasing institutionalisation of the Turkish-German binational trait through double degrees, which so far are in the process of being introduced in five Bachelor's and Master's programmes. Further programmes are to follow over the next years. In support of this aim, YÖK and DAAD jointly initiated a scholarship programme for high-potential Bachelor and Master candidates who are enabled to spend a semester or an entire year of their study in Germany as a prerequisite to obtain a double or joint degree of TGU and one of its German partner universities, which is expected to provide a better starting point for graduates' international careers.

Since the first intake in 2013, the number of students has increased from about 160 to 1,800 in the academic year 2018/19. TGU is expected to reach its planned size of about 5,000 study places in the next couple of years, which is not much in comparison to the often more than 70,000 students at other state-run Turkish universities. The small size underlines the high expectations of both the Turkish and the German side in the potential of the students to be educated at TGU and the quality of the academic training they are to receive.

The special concept of TGU attracts many Turkish students. Only a few years after its opening, TGU has already reached a high-ranking position in the Turkish university entry examinations. More than two million Turkish school leavers every year apply for admission to higher education by sitting the exam and receive a placement at their favoured university depending on their examination results. TGU can choose their students among the 5,000-100,000 candidates with the highest examination score, which illustrates the success of TGU

as well as the high reputation of the German academic system in Turkey. The high level of TGU students is expected to rise further when research facilities and staff of the campus are fully developed.

4.4 Perspectives

Generally speaking, the establishment of any binational university poses a complex challenge. The differences in the academic systems to be harmonised and bureaucratic obstacles to be overcome demand time for the development of the new institution, and the changes of political factors which might have an impact on the project are not always predictable.

Over the last years, TGU has turned out to be a stable bridge between Turkey and Germany and provided a platform for open discourse and exchange of positions even in times of difficult diplomatic relations. For its success and prestige gained, it even seems to have come to serve as a model for other binational projects in Turkey. In 2016, Turkey and Japan signed an agreement to found a Turkish-Japanese Scientific and Technological University (Güncelleme 2017). Recent plans include a Turkish-Russian university after the model of TGU (Güncelleme 2019).

As an example of a strategical approach to TNE-IPPM relying on cooperation and long-term partnership, TGU from the German perspective enhances the reputation of Germany as a centre of science and research and the international visibility of the German HEIs involved. As an additional asset, it attracts highly-qualified graduates as future international partners for German HEI as well as German companies.

Turkish students are attracted to TGU by the prestige of its degrees as well as the additional linguistic and intercultural skills and international experience to be obtained from studying at the binational institution, which are regarded as strong assets for a future career after graduation. TGU successfully launched itself in Turkey in its starting phase while offering mainly bachelor's degrees. The offer of a bilingual (or even trilingual) higher education, Turkish-German double degrees, a strong research focus and additional intensive cooperation with German and international industry are expected to add to the institution's special profile as a binational endeavour. TGU therefore has a high potential for developing into a major research institution in Turkey in the future and by its multiple links to Germany produce benefits for Turkey, Germany, and the involved German higher education institutions.

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Deutscher Akademischer Austauschdienst
German Academic Exchange Service
Kennedyallee 50, 53175 Bonn (Germany)
www.daad.de

Contact persons

Susanne Kammüller
kammuller@daad.de
Wiebke Bachmann
w.bachmann@daad.de
Susanne Otte
otte@daad.de

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