Nazir Peroz & Daniel Tippmann

Development of IT Structures
for Afghanistan

**Engagement of the
Center for international and intercultural Communication (ZiiK)
of TU Berlin
2001 – 2021**

The strategic objectives of the Center for international and intercultural Communication (ZiiK) of the TU Berlin in the area of Information Technology (IT) structures for higher education in Afghanistan include training of IT experts and academic education of computer scientists. Furthermore, they focus on creating IT infrastructures like IT centers and both campus and faculty networks as well as on modernizing the administration and improving IT security.

From 2001 until 2021, many of these objectives have been reached and the foundation for a stable and sustainable IT supply system for higher education in Afghanistan has been laid.

This documentation gives a particular overview of the projects that have been implemented in the past 20 years.

In cooperation with:

Ministry of Higher Education in Kabul and
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Contents

Preface

For more than 19 years, Afghanistan is in the spotlight of public interest of the international community. Since, the country is target of numerous military and civil activities and commitment, in order to reach stability, peace, economic development, and good governance. However, the public perception in Germany and in Afghanistan itself unfortunately is dominated by negative images and information. Very few people know about the numerous positive projects and achievements like those of the Center for international and intercultural Communication (ZiiK) of TU Berlin. With great success, these laid the foundation for the development of Information Technology (IT) and computer science in the country. IT and computer science have a tremendous impact on societal development; it can increase economic and academic performance, create new market segments and fields of work, help modernize the public administration and create more transparent structures. It also stimulates the dialogue between traditional and modern camps within the Afghan society.

Historic chance

After September 11th, 2001, a new hope awoke in me as a native Afghan, university lecturer, and head of the ZiiK of TU Berlin, to help Afghanistan catch up with global developments through the employment of IT and modern means of communication.

In December 2001, I organized a culture and dialogue week about Afghanistan at TU Berlin in cooperation with the Heinrich Böll Foundation. As a result, a representative of the Afghan Ministry of Higher Education was invited to TU Berlin soon thereafter, to learn about the current education situation in Afghanistan. The Heinrich Böll Foundation then funded a conference about "modern education for the resonstruction of Afghanistan" on February 16th and 17th, 2002. We

also invited the former president of Kabul University, Prof. Akbar Popal, to this event.

In March 2002, I had the historic opportunity to take part in the first fact-finding mission of the DAAD and the German Federal Foreign Office to Afghanistan, as a representative of TU Berlin. It was my great wish to quickly connect the Afghan universities to the international community using my expert knowledge. I have since been committed with heart and soul to the establishment of effective and sustainable IT structures in the country.

Strengths of our commitment

We were the first in the field of IT and computer science

Based on our fact-finding mission, we developed an IT Strategy Plan for Afghanistan. Germany was one of the first countries to lay the foundation for IT and computer science at the Afghan universities. In 2003, we established the first IT center at Kabul University. Further IT centers followed at the Universities of Herat (2009), Nangarhar (2011), Balkh (2012), and Qandahar (2014). More than 30,000 university members from all over Afghanistan have since been educated at these IT centers. Also, PC workshops, computer science libraries, and PC labs have been set up. With the establishment of the IT Competence Center Afghanistan (ITCC Afghanistan) in 2016, a platform for research and and development of innovative ideas has been created, serving as a bridge between science and the industry. Furthermore, more than 20 international IT conferences have been organized in Afghanistan and in Germany, and Alumin programs have been organized.

In order to secure the education in the field of IT and computer science at the Afghan universities in a demand-driven and sustainable way, a computer science Master's program for Afghan university lecturers has been established at TU Berlin in 2007. In total, 125 participants took part in this program so far.

We are following a demand-driven approach

Besides the creation of IT infrastructures and modernizing the public administration, one of my main goals for our projects always was the establishment of a demand-driven computer science Master's program for Afghan lecturers. In 2008, the first generation of students began their studies at TU Berlin, and during this program, they not only studied IT and computer science, but also analyzed

Afghanistan in order to develop sustainable and demand-driven concepts under consideration of the country's cultural, economic and infrastructural situation. Such a concept is unique in the traditional study courses throughout Germany. Within the scope of their Master's theses, the students develop and implement concrete IT projects, which are major contributions to the development of the IT landscape in Afghanistan, like e.g. development of IT infrastructures at the universities and public authorities, fostering economic development, supporting e-government, IT security, etc.

We are following sustainable principles

With our projects, we aim at enabling local people to create and further develop their own IT structures, and also at conveying professional and didactic knowledge. The participants of our Master's program are signed up to return back home to Afghanistan after their graduation, in order to establish IT structures at their home institutions. This approach is and has always been the foundation of our IT Strategy Plan for Afghanistan, and our Master's program is proof for the sustainability of this Strategy Plan. Each of our Master's graduates teaches 60 to 80 computer science students at their home university every semester. In addition to that, the participants of our program are also being introduced and made familiar with German culture during their time at TU Berlin, which supports the cultivation of the more than 100 years of German-Afghan relationship.

We have created trust

Through our frequent appearances in Afghanistan in the past 18 years, the organization of internaional IT conferences, IT exhibitions, summer and winter academies, Alumni programs, etc. in both Afghanistan and in Germany, and through transparent information exchange, we earned the trust of our Afghan partners, and valuable contacts could be established. The team of the ZiiK of TU Berlin is familiar with local cultures and languages, and not depending on a local team. Political decisions are always critically reviewed. Compared to Germany's entire commitment in Afghanistan, we made great achievements with relatively small funds, and made effective improvements of the IT situation in the country. There is very little bureaucratic overhead, and thus great cost efficiency.

Our projects enjoy excellent reputation

With our projects and measures, we were able to improve the IT situation and create perspective and job opportunities for the young generation in

Afghanistan. Our projects receive great recognition from our Afghan partners, universities, ministries, the government, and our students. State president Dr. Ghani regularly mentions the successful engagement of the ZiiK of TU Berlin in the field of IT and computer science, recently so during our 15. IT Conference in December 2019 in Kabul, in presence of the German Ambassador Mr. Prügel. He highlighted that the Master's graduates from TU Berlin are modernizing the IT structures of the Afghan administration. Prior to that, Dr. Ghani just stressed the particular importance of the activities of TU Berlin for the IT education in Afghanistan to Germany's Minister of Defense, Mrs. Kramp-Karrenbauer[I], during a press conference. During a meeting of the International Military Center on April 16th 2021, Dr. Ghani thanked TU Berlin again for educating 125 MSc graduates[II].

Since a long time already, our projects are considered flagship projects of the German commitment, and have been praised as best-practice projects by the German Federal Foreign Office.

I   https://www.youtube.com/watch?v=mWR0eVdpRas
II   https://www.youtube.com/watch?v=By62tsBxCsg

Acknowledgment

Minister of Higher Education in Afghanistan from 2008 until 2010
- Dr. Mohammad Saber,
  President of Nangarhar University from 2008 until 2014
- Prof. Hazrat Mir Totakhil,
  President of Qandahar University from 2008 until today
- Prof. Mir Osman Barez Hosseini,
  President of Herat University from 2009 until 2013
- Mr. Sarwar Danish,
  Minister of Higher Education in Afghanistan from 2010 until 2012
- Prof. Mokamel Alokozai,
  President of Balkh University from 2010 until today
- Prof. Ezatullah Amed,
  President of Kabul Polytechnic University from 2010 until 2016
- Prof. Amanullah Hamidzai,
  President of Kabul Education University from 2010 until 2016
- Prof. Obaidullah Obaid,
  Minister of Higher Education in Afghanistan from 2012 until 2014
- Prof. Osman Babury,
  Acting Minister of Higher Education from 2014 until 2015
- Dr. Abdul Zaher Mohtasebzadah (†),
  President of Herat University from 2013 until 2015
- Prof. Habibullah Habib,
  President of Kabul University from 2012 until 2015
- Dr. Mohammad Taher Enayat,
  President of Nangarhar University from 2014 until 2015
- Prof. Mir Ahmad Hamid,
  President of Kunar University from 2015 until today
- Dr. Farida Momand,
  Minister of Higher Education in Afghanistan from 2015 until 2017
- Prof. Mohammad Sayeed Kakar,
  President of Kabul Polytechnic University from 2016 until 2020
- Prof. Dr. Abdullah Faiz,
  President of Herat University from 2015 until today
- Prof. Hamidullah Farooqi,
  President of Kabul University from 2015 until 2020
- Dr. Latif Roshan,
  Minister of Higher Education in Afghanistan in 2018
- Dr. Khwaja Omary,
  Minister of Higher Education in Afghanistan from 2018 until 2020

- Dr. Abass Baseer,
  Minister of Higher Education in Afghanistan since 2020
- Dr. Osman Babury,
  President of Kabul University since 2020

I would also like to thank all further presidents of the Afghan universities, deans of computer science faculties and the Master's graduates from TU Berlin.

Furthermore, my thanks go to Mr. Hamid Sidig, former Ambassador of the Islamic Republic of Afghanistan in Berlin, and Prof. Dr. Ali Ahmad Jalali, Ambassador of the Islamic Republic of Afghanistan in Berlin. I would like to make particular note of Mr. Abed Nadjib, Former Minister Counsellor of the Embassy of the Islamic Republic of Afghanistan in Berlin, and Mrs. Frozan Nawabi, first Secretary of the Embassy of the Islamic Republic of Afghanistan in Berlin. They all have made a considerable contribution to the implementation of all our projects in Germany and Afghanistan.

For a successful coordination and management, further support at the TU Berlin was necessary. Without it, it would have been impossible to realize the projects on site in Afghanistan. For this, I would like to thank the management of TU Berlin and the Faculty of Electrical Engineering and Computer Sciences, especially Prof. Christan Thomsen, President of TU Berlin, Prof. Hans-Ulrich Heiß, Vice President of TU Berlin, Prof. Sebastian Möller, former Dean of the Faculty of Electrical Engineering and Computer Science and Prof. Uwe Nestmann at the Faculty of Electrical Engineering and Computer Science.

I would like to express my special thanks to my wife and children who have strongly supported me during the past twenty years of my work in Afghanistan.

The conception and implementation of all projects is due to the invaluable work and dedication of all team members of the ZiiK of the TU Berlin. Without their tireless commitment and cordiality, the concepts could have never been put into practice. May this report inspire you to contribute to and conceptually support the development of Afghanistan in a demand-oriented way.

Nazir Peroz

1. Introduction

Shortly after September 11th and the Bonn Agreement in November 2001, the ZiiK of TU Berlin started its commitment in Afghanistan with a number of projects, and the team of the ZiiK of TU Berlin, under the leadership of Dr. Nazir Peroz, is actively contributing to the establishment of academic structures in the field of IT and computer science, including the development of an IT Strategy for the country. During the development of this IT Strategy, the team always had the improvement of the IT situation in the entire country in mind, therefore, the results of the projects can been seen everywhere in the country, from North to South, and fromWest to East. Further details about the particular IT projects in the Afghan provinces can be found in chapter 3.

The ZiiK of TU Berlin can draw a thoroughly positive balance of its contribution to IT and computer science in Afghanistan. During its more than 20 years of commitment, crucial improvements have been achieved in the country, by helping to modernize its academic structures and foster scientific research. Main goal is, and has always been, to support Afghanistan with the creation of reliable and independent academic structures in the field of IT and computer science.

Structure of this book

Following the preface and introduction, chapter 2 describes the contribution of the ZiiK of TU Berlin to the development of the field of IT and computer science in Afghanistan. Chapter 3 provides an overview of the activities in the various Afghan provinces, followed by particular, nationwide projects in the chapters 4–10. Chapters 11 and 12 present strategic concepts for Afghanistan, chapter 13 lists honors and awards, and chapter 14 provides an outlook.

The appendix is a collection of pictures documenting the entire period of the ZiiK projects in Afghanistan.

2. Contribution of the ZiiK of TU Berlin in the field of IT and computer science in Afghanistan

Germany's commitment for the creation of academic structures in Afghanistan was embedded into the "Stability Pact Afghanistan" which was initiated after the Petersberg Conference in Bonn in 2001. Within this scope, DAAD was commissioned to organize the projects in Afghanistan with yearly funding by the Federal Foreign Office.

In March and April 2002, DAAD organized two exploratory trips to Kabul. On the first of these, Dr. Nazir Peroz, head of the ZiiK of TU Berlin, participated as a representative of TU Berlin. These two trips swiftly brought evidence that almost nothing was left from the prospering academic landscape in Afghanistan of the 1970s. In particular, one fifth of Kabul's university lecturers had died during the war, and many more migrated to foreign countries. All equipment was stolen or destroyed, there was no electricity or water supply. The majority of the remaining lecturers didn't even have a Bachelor's degree and was on a very poor educational level – only six percent had a PhD. There was no literature and no facilities for practical excercises. Lecturers were limited to the presentation of outdated scripts, and certainly there was no scientific research.

After these exploratory trips, it was very soon decided, that, as a challenging first phase, a number of immediate measures were required for the establishment of acadmic institutions in Afghanistan. Further measures were to follow with professional emphases, and under the leadership of selected German universities:

- Chemistry (University of Würzburg)
- German as foreign language (University of Jena)
- Medical science and pharmacy (Universities of Freiburg and Marburg)
- Administrative sciences (UP Transfer GmbH Potsdam)
- Economic sciences (University of Bochum)
- Natural sciences (Universities of Bonn and Cologne)
- Information Technology and computer science (ZiiK of TU Berlin)

From the beginning, the commitment of the ZiiK of TU Berlin was based on the development of an IT Strategy Plan and a thorough evaluation of the current IT situation at the Afghan institutions, e.g. at Kabul Universitiy. In August 2002, a six-person computer scientist team under the leadership of Dr. Peroz traveled to Afghanistan for three weeks, in order to analyze the situation on the ground. The evaluation of the results made clear that there were major deficits in the fields of IT infrastructures, IT education, IT personnel, and management structures. IT

and computer science was new to the country. The term "Internet" was entirely unknown to university professors, lecturers and employees.

In 2003, the ZiiK of TU Berlin presented its IT Strategy for Afghanistan within the scope of an IT conference in Berlin to a wide audience including the Afghan Minister of Higher Education and the Minister of IT and Communication, representatives of the Education Ministry, seven presidents of Afghan universities, Afghanistan's women's representative, as well as representatives of the German Federal Foreign Office, DAAD, Heinrich Böll Foundation, and Konrad Adenauer Foundation. This IT Strategy was to secure sustainability and compatibility of the new modern technologies in Afghanistan, and had the following goals:

- Reliable power supply
- Creation of IT centers
- Interconnecting buildings on the university campus
- Interconnection the universities
- Creation of PC labs at the faculties
- Education and further training of university staff members
- Training of IT technicians and IT administrators at the universities
- Establishing computer science faculties at the universities
- Development of a consistent computer science curriculum for all Afghan universities
- Creation of computer science libraries
- Establishment of Master's and PhD programs
- Realization of Alumni programs
- Organization and realization of IT conferences and workshops

For its projects, Dr. Peroz, head of the ZiiK of TU Berlin, was commissioned by DAAD for the development, implementation, and coordination of the measures of the IT Strategy Plan, and received funding from the German Federal Foreign Office and support from DAAD. A few IT projects of the ZiiK of TU Berlin were directly funded by the Federal Foreign Office, the Heinrich Böll Foundation, GIZ, and the World Bank. Later, these goals were incorporated into the IT strategy of the Afghan Ministry of Higher Education (MoHE), and its newly established IT Department took over the coordination of these international projects.

More information about particular IT measures can be found in the following chapters.

3 Overview of the IT measures of the ZiiK of TU Berlin

3.1 Kabul

Kabul City is the capital of Afghanistan and of Kabul Province. It is the largest city of the country with approx. 4,3 million inhabitants and the economic, cultural and academic center of Afghanistan.

Kabul is over 3,500 years old, and thus among the oldest permanently inhabited regions of the

- Ministry of Higher Education
- Kabul University
- Kabul Polytechnic University
- ITCC
- Kabul Education University
- Independent Administrative Reform and Civil Service Commission

world. Many empires have long fought over the valley for its strategic location along the trade routes of South and Central Asia. During the last civil war, 80% of the city have been destroyed.
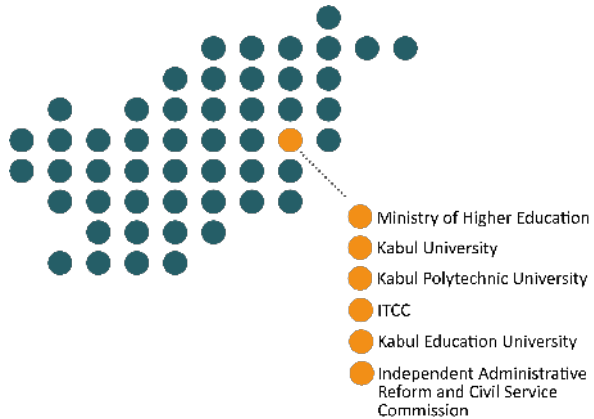
This chapter presents the activities of the ZiiK of the TU Berlin in Kabul since 2002 with the MoHE, Kabul University, Kabul Polytechnic University, ITCC Afghanistan, Kabul Education University, and the Independent Administrative Reform and Civil Service Commission. The first visible project here was the establishment of an IT center for Kabul University. This was to build the foundation of the IT supply system at the university and the whole university network throughout Afghanistan.

At this time, Afghanistan has been excluded from the global information society. With this project the ZiiK established a modern IT center on the campus of Kabul University in the middle of the destroyed city within only four months. This would not have been possible without the help of the German Bundeswehr, who organized the shipment of the hardware to Kabul, the Technisches Hilfswerk (THW, Federal Agency for Technical Relief) who renovated the premises and installed network and power cabling in cooperation with the ZiiK team, and the support of the MoHE and Kabul University.

The **Ministry of Higher Education** is the Government ministry that is in charge of regulating, expanding and developing Afghanistan's institutions of higher educa-

tion. It is responsible for the training of teachers and for establishing a national higher education curriculum as well as special education programs, in-service training, and promoting further education for university faculty members. It also develops partnerships with international universities, organizes seminars and conferences, ensures that residential accommodation is available for students and teachers of universities and provides expertise and training in accounting and management procedures and in computer literacy.

Kabul University is one of the major and oldest institutions of higher education in Afghanistan. It is located in the 3rd District of the capital Kabul. It was founded in 1931. Kabul University is attended by approximately 22,000 students, 43% of which are female. The mission of Kabul University is to mature and prosper as an internationally recognized institution of learning and research, a community of stakeholders committed to shared governance, and a centre of innovative thought and practice.

Kabul Polytechnic University is the main center of educating engineers in Kabul, Afghanistan. Founded on 13 October 1963 as Kabul Polytechnic Institute, it has faculties of construction, geology & mining, electro mechanics, computer science, water eesource & environmental engineering, transportation engineering, chemical technology, geomatics & cadastral, as well as a community college.

Kabul Education University is a public universiry in Kabul, Afghanistan. It originally served as the Teachers Training Centre in the 1990s, awarding bachelor's degrees to its students in fellowship with UNESCO. During the presidency of Burhanuddin Rabbanit, it developed into the Institute of Pedagogy and was given the status of higher education institute. It was given an official charter as a University in 2003.

Since 2018, the ZiiK of the TU Berlin also maintains a fruitful cooperation with the **Independent Administrative Reform and Civil Service Commission** (IARCSC) in Kabul within the scope of the fifth generation of the Computer Science Master's program at TU Berlin.

Establishment and Operation of an IT Center at Kabul University

Timeframe: Since December 2002
Funded by: DAAD
In cooperation with: Kabul University
Facts and figures: 90 PCs, 2 servers, network equipment
power generators and voltage regulators
approx. 10.000 people trained so far
a national IT education center in Afghanistan since 2012

The IT Center Kabul (ITCK) was built at Kabul University as a foundation for a modern IT supply on the campus. It was designed and developed to provide central IT services for the university and included PC workspaces, network services and also trainings in IT and giving advice during IT-related projects. The technical concept was based on Open Source software. The ITCK was opened in March 2003.[I]

In May 2003, a team of the ZiiK started to train the ITCK staff at Kabul University. In 2006, the operation of the ITCK was handed over to the Afghan personnel. The ZiiK has continued to provide professional support via online communication and on location.

Internet connectivity was initially provided by a local provider. Since 2005, NATO has offered this service via satellite connection.

Today, the ITCK also provides Internet access to the university administration, the faculties and the whole campus. Moreover, it serves as IT competence center of the university and as national IT training center. It disseminates IT related knowledge and experience to further Afghan universities and other representatives from public institutions across the country.

In 2017 The ITCK has received a hardware update of 60 new workstations and three new severs from the ZiiK with funding of the DAAD.

I   For more information about the establishment of the ITCK, see: "Establishing IT Structures at Kabul University", N. Peroz 2008, IKO-Verlag

Establishment of a Computer Science Library at Kabul University

Timeframe: September 2004 – February 2005
Funded by: DAAD
In cooperation with: Kabul University
Facts and figures: 860 modern international standard books in the area of computer science

Before this project was implemented, the Afghan universities did not have libraries for computer science. In order to establish the first one at Kabul University, modern international standard books were purchased in Berlin and shipped to Kabul. Existing premises have been furnished with appropriate shelves and tables. All books have been cataloged with the help of Afghan students, and a lending system was installed.

In 2017 the library could extend the collection with 150 recent computer science books through a delivery from the ZiiK with funding of the DAAD.

Foundation and Support of an IT Department at the MoHE

Timeframe: Since November 2004
Funded by: DAAD
In cooperation with: MoHE
Facts and figures: Annual IT conferences, development of a strategy plan, education for IT advisors from the Afghan universities

The IT Department of the MoHE has been established to coordinate and supervise national and international IT projects in the area of higher education in Afghanistan. Its main task is to advise all Afghan universities and support them during the procurement of IT equipment, define curricula for different audiences and modernize the universities' administration.

The IT Department consists of three sections: IT infrastructure, IT education and IT management. The team of the ZiiK has been actively supporting all three sections of the MoHE since they have been founded.

Establishment of a PC Lab for the German Department at Kabul University

Timeframe: November 2004 – February 2005
Funded by: DAAD
In cooperation with: Kabul University
Facts and figures: 20 PCs, network equipment, software

At the request of Kabul University, a PC lab has been established at its German Department. It is to provide students and employees with PC workspaces and Internet access. Specialized software for learning German was procured and installed. The implementation was supported by Afghan team members from the ITCK.

Training for all IT Advisors from Afghan Universities

Timeframe: January – February 2007
Venue: Kabul
Funded by: DAAD
Facts and figures: 20 people trained

In timely connection to the annual IT conference in Afghanistan, educational programs for all MoHE affiliates and the IT advisors from all Afghan universities were performed at the MoHE. Particular IT needs and requirements were considered and specialized programs of further training were offered accordingly.

Establishment of a PC Workshop at Kabul University

Date: October 2007
Funded by: DAAD and German Federal Foreign Office
In cooperation with: Kabul University
Facts and figures: More than 1000 PCs, printers and other hardware repaired so far

A lot of old, retired or faulty computer hardware constantly piles up at Afghan universities without any further use. For this reason, a central PC workshop has been established at Kabul University with the aim to teach the staff how to repair this hardware, how to equip old computers with new components and how to restore them for further usage.

As a positive side effect, old computer parts can be recycled environmental-friendly, electronic waste can be reduced and re-usable components can be stored for future usage. The workshop staff gains further insight in all components of computer technology and their range of functions.

Since 2015 the PC Workshop has been funded by the German Federal Foreign Office within the scope of the project "Afghanistan Chancen". It has been restructured and is now cooperating with the faculty of computer science and the ITCK. This leads to a more sustainable usage of the hardware and also gives the opportunity for computer science students to be trained in assembling and repairing hardware.

IT Networking of all Facilities at Kabul University

Timeframe: March 2008 – February 2009
Funded by: DAAD
Facts and figures: Establishment of a campus-wide computer network

The goal of this project was to interconnect all facilities of Kabul University including faculties and administration offices. The installation of the fiber optic network cabling on campus below ground was done beforehand by NATO. All premises were equipped with modern network infrastructure by the ZiiK.

Establishment of an IT Training Center at the MoHE

Date: January 2009
Funded by: DAAD
In cooperation with: MoHE
Facts and figures: 35 PCs and server hardware, supplementary equipment, more than 200 people trained

The objective of this project was to offer special IT training programs to affiliates from the MoHE in Afghanistan and staff members from Afghan universities, e.g. heads of IT, IT advisors and others. This measure aimed to modernize both the administrative structures at the MoHE and the overall management capacities in the academic field. The IT training center provides measures to conduct video conferences.

Establishment of a PC Lab for the Faculty of Economics at Kabul University

Date: December 2010
Funded by: DAAD
In cooperation with: Kabul University
Facts and figures: 50 PCs, supplementary equipment

A modern PC lab with 50 PCs has been established for the Faculty of Economics at Kabul University. The shipment from TU Berlin also included server hardware, UPSs, projectors, a printer and spare parts. Support was provided by the team of the ITCK.

Establishment of a PC Lab and Extension of the Library at the Faculty of Computer Science at Kabul University

Date: December 2010
Funded by: DAAD
In cooperation with: Kabul University
Facts and figures: 60 PCs, server hardware, supplementary equipment
modern international standard books

The hardware including PCs, servers, UPSs, projectors and a number of spare parts was purchased in Berlin and shipped to Kabul. Necessary furniture was purchased on site, and an air conditioning system has been installed to protect the new equipment from heat and dust.

Within the scope of the relocation of the Computer Science Faculty to a different building, its library has been extended with further books.

Establishment of a Computer Science Library at Kabul Polytechnic University

Date: 2015
Funded by: DAAD
In cooperation with: Kabul Polytechnic University
Facts and figures: 390 modern international standard books in the area of computer science

In order to establish a computer science library at the Faculty of Computer Engineering and Informatics at Kabul Polytechnic University, modern international standard books were purchased in Berlin and shipped to Kabul. Existing rooms have been renovated and furnished with shelves and tables. All books have been cataloged with the help of Afghan students, and a lending system was installed.

In 2017, the library could extend the collection with 250 recent computer science books through a delivery from the ZiiK with funding of the DAAD.

IT Competence Center Afghanistan (ITCC Afghanistan)

Date: 2016
Funded by: DAAD
In cooperation with: Ministry of Higher Education
Facts and figures: Four IT Exhibitions, Supporting 80 student's IT projects, development of the HEMIS and AfgREN projects

The IT Competence center Afghanistan (ITCC Afghanistan) was established by the ZiiK of TU Berlin and has been opened in February 2016 by H.E. Prof. Momand, former Minister of Higher Education, Mr. Potzel, former German Ambassador to Kabul, and Dr. Peroz, former Head of the ZiiK at TU Berlin.

. It aims to offer a central platform to strengthen the cooperation between scientific and business institutions in the field of IT in Afghanistan. It does so by integrating IT-systems, supporting scientific research and promoting innovative student's projects.

By erecting the ITCC Afghanistan at the Ministry of Higher Education (MoHE), the ZiiK of TU Berlin aimed to resume it's previous work by offering a central platform to strengthen the cooperation between scientific and business institutions in the field of IT. Since its founding the ITCC hosts a network of IT experts and computer scientists and promotes technical and professional competences on a local and global scale. The ITCC Afghanistan is active in the following fields:

- Promoting and supporting scientific research in the area of IT and computer science

- Establishing cooperation of universities and computer science faculties with IT companies to introduce IT solutions to the growing markets
- Advocating the concerns of IT in public and building bridges to other disciplines
- Creating concepts for a high-quality education of junior scientific staff
- Contributing its professional expertise to debates of Afghanistan's society and politics
- Offering high-quality IT solutions to the Afghan administration and to the society

Between 2016 and 2020, yearly IT Exhibitions of student projects from 11 Universities were organized at the ITCC Afghanistan.

Since its opening, the team of the ITCC has programmed and implemented 12 software modules for the nation-wide Higher Education Management System (HEMIS). Furthermore, the ITCC Afghanistan is supporting the implementation of the Afghan Education Network (AfgREN) that connects the different institutions of Higher Education through a fiberglass connection.

The ITCC Afghanistan is also home to the IT security team that is advising the President of Afghanistan, H.E. Prof. Ashraf Ghani, in all questions of IT security. It is also responsible to implement the new National IT security Strategy Plan that has been handed over by Dr. Nazir Peroz to the Afghan Government in 2017.

Since 2016 the ITCC supervises the application projects of the TU Master's graduates. The graduates of the TU Berlin have already realized 23 projects with the support of the TU Berlin, the ITCC and with funding from the DAAD.

In addition to that, 80 IT application projects from advanced students from Kabul University and Kabul Polytechnic University have yet been organized and supervised by the ITCC, and academic research projects for 30 Afghan universities have been organized and supported.

To further strengthen its cooperations, agreements have been signed with Kabul University, Kabul Polytechnic University, and ATRA.

3.2 Herat

Herat is the third largest city of Afghanistan and the capital of Herat province. It has a population of about 556,000 and is linked with Qandahar and Mazar-e-Sharif via the ring road that stretches across the country. It is further linked to the city of Mashhad in Iran through the border town of Islam Qala.

The city has a number of historic sites, including the Herat Citadel and the Mosallah Complex. Much of the city has been spared from destructions that occurred in other cities of Afghanistan during the wars since 1978.

With more than 10,000 enrolled students at **Herat University**, Herat is one of the major centers of higher education in Afghanistan. Herat University is a public institute of higher education, and was inaugurated in 1988. Today, the university has 16 faculties and 71 departments, and around 33% of the enrolled students are female.

In April 2004, Dr. Peroz traveled to Herat on behalf of the DAAD for the first time and got in touch with the administration of Herat University. In August 2004, teams from the ZiiK and the ITCK traveled to Herat to analyze the IT situation. On request of the MoHE in Kabul, the TU Berlin sent a team to Herat University in November 2004 to provide trainings and education in computer science. There had been no computer science education previously at the university.

Analysis of the IT Situation at Herat University

Date: August 2004
Funded by: DAAD
In cooperation with: Herat University, Kabul University
Facts and figures: Talks with 9 faculties and the administration of Herat University

A team of the ZiiK and members of the ITCK traveled to Herat to evaluate the general IT situation at Herat University. Particular faculties were visited and the situation regarding PC facilities, Internet access, staff, administration etc. was analyzed.

On the foundation of these results, a concept has been developed for future projects in Herat.

Establishment of a PC Lab for the Faculty of Computer Science at Herat University

Timeframe: November 2004 – June 2005
Funded by: DAAD
In cooperation with: Herat University
Facts and figures: 40 PCs, servers, network equipment, power generator and voltage regulators

Within the scope of the support program for computer science education at Herat University, a modern PC lab has been created. Moreover, a faculty network has been established to provide Internet access and network services for all faculty members.

The necessary hardware was purchased in Germany, preconfigured at TU Berlin and then shipped to Herat. Afterwards, the ZiiK team set up the hardware at the CS Faculty in Herat. Since that time, the infrastructure can be used by both students and lecturers for their day-to-day tasks at the faculty.

Education of Computer Science Bachelor's Students at Herat University

Timeframe: November 2004 – March 2010
Funded by: DAAD, World Bank
In cooperation with: Herat University
Facts and figures: 450 students trained
establishment of a computer science faculty
development of a computer science curriculum

The team from ZiiK held lectures, seminars and tutorials for Bachelor's students. These were performed according to a curriculum which had been developed at TU Berlin for the particular situation and needs in Afghanistan. The team's activities also included support of the management and administration. Eventually, a computer science faculty was founded at Herat University in 2005.[I]

Subsequent teams were sent from TU Berlin to Herat in the following semesters until summer semester 2010. After the graduates of the first computer science Master's program at TU Berlin returned to Afghanistan in 2010, the Faculty of Computer Science was able to take over the education of the Bachelor's students with its own staff.

I   For more information, see "Establishing Academic Structures in Computer Science at Herat University", Mahr, Peroz et al., 2006, IKO Verlag

Establishment of a Computer Science Library at Herat University

Date: May 2005
Funded by: DAAD
In cooperation with: Herat University
Facts and figures: 860 modern international standard books in the area of computer science

With the aim of improving the academic situation in the area of computer science at Herat University, a computer science library has been established. Modern international standard books on computer science were purchased in Berlin and shipped to Herat. Already existing premises have been furnished with appropriate shelves and tables. All books have been cataloged with the help of Afghan students, and a lending system has been implemented.

In 2017 the library could extend the collection with 180 recent computer science books through a delivery from the ZiiK with funding of the DAAD.

Establishment of an IT Center at Herat University (ITCH)

Timeframe: November 2007 – January 2010
Funded by: World Bank
In cooperation with: Herat University
Facts and figures: 160 PCs, 4 servers, network equipment and voltage regulators

Based on the example of the IT Center in Kabul (ITCK), a modern IT center has been established at Herat University (ITCH). This IT center is the core of the IT supply at the university. It provides PC labs for university members, Internet access for all faculties and central network services for the whole campus. It also gives advice in all IT related issues of the university. The team of the ZiiK acquired and configured the hardware in Berlin and shipped it to Herat. During the setup phase at TU Berlin, a group of Afghan lecturers was trained on the equipment in order to be able to administrate and maintain the operation of the ITCH on their own in the future. The ITCH was opened in June 2010.

As a competence center, the ITCH provides teaching and education in the field of IT for all university members, the university administration and students. It also serves as a regional training center for neighboring provinces of Herat.

In 2017 The ITCH has received a hardware update of 60 new workstations and three new severs through funding of the DAAD.

Establishment of a PC Workshop at Herat University

Date: October 2011
Funded by: DAAD and German Federal Foreign Office
In cooperation with: Herat University
Facts and figures: over 500 PCs, printers and other hardware repaired

Based on the example of Kabul University, a central PC workshop has been established at Herat University. The aim was to teach the Afghan personnel how to repair and refurbish retired or faulty PC hardware, to equip old computers with new components and to restore them for further usage.

Since 2015 the PC Workshop is funded by the German Federal Foreign Office within the scope of the project "Afghanistan Chancen".

Since 2015 the PC Workshop has been funded by the German Federal Foreign Office within the scope of the project "Afghanistan Chancen". It has been restructured and is now cooperating with the faculty of computer science and the ITCH. This leads to a more sustainable usage of the hardware and also gives the opportunity for computer science students to be trained in assembling and repairing hardware.

3.3 Balkh

In the province of Balkh lies Mazar-e-Sharif, with a population between 577,500 – 693,000.

Mazar-e-Sharif, along with Herat, Jalalabad in the east and Qandahar in the south, makes Afghanistan an important strategic location in Asia. The city is also famous for its shrines as well and for its Muslim and Hellenistic archaeological sites.

Balkh University is a public university located in Mazar-i-Sharif, capital of Balkh Province. Established in 1986, the university has about 5,500 students and is the third-largest in Afghanistan after Kabul University and Nangarhar University. Faculties include medicine, engineering, economics, journalism, literature, law, science and computer science.

In 2005, a team of the ZiiK traveled to Mazar-e-Sharif to analyze the IT situation at the universities, to begin with the establishment of an IT Center at Balkh University and to begin with the development of an IT curriculum.

IT Administrator Training for Lecturers from Balkh University

Timeframe: June – November 2009
Venue: TU Berlin
Funded by: DAAD
Facts and figures: 7 people trained

A group of seven lecturers and employees from Balkh University was trained at TU Berlin for six months. The training focused on system and network administration of Linux-based environments. The objective was to prepare the participants for their future tasks as IT administrators at their home institutions, including the operation, maintenance and extension of the IT infrastructures.

Establishment of a PC Lab at Balkh University

Timeframe: November – December 2009
Funded by: DAAD
In cooperation with: Balkh University
Facts and figures: 25 PCs, servers, network and supplementary equipment

After the IT administrator training for seven lecturers from Balkh University, a central PC lab for all university members has been established at Balkh University. With this lab, the trained lecturers were to apply their knowledge to extend the IT infrastructure at their university. It provides the opportunity to use PC workplaces with Internet access for lecturers and students alike. It includes a central server system which offers basic network services like user authentication, data storage, backup and Internet access.

Establishment of an IT Center at Balkh University (ITCB)

Timeframe: November 2010 – February 2013
Funded by: DAAD
In cooperation with: Balkh University, Kabul University
Facts and figures: 60 PCs, 6 servers, network and supplementary equipment; voltage regulator obtained in Mazar-e-Sharif

Based on the examples of the ITCK and the ITCH, a modern IT center has been established at Balkh University (ITCB). This IT center consists of 60 PC workstations, three servers, network equipment, UPSs etc. and is the core of the IT supply of the university. It provides PC labs for university members, Internet access to all faculties and central network services for the whole campus. It is also supposed to give advice in all IT related issues of the university. Moreover, the ITCB as competence center provides teaching and education in the field of IT for all university members, the university administration and students. It also serves as a regional training center also for neighbor provinces of Balkh.

The team of the ZiiK acquired and configured the hardware in Berlin and shipped it to Mazar-e-Sharif. During the setup phase at TU Berlin, a group of Afghan lecturers was trained on the equipment in order to be able to administrate and maintain the operation of the ITCB on their own in the future.

Team members from the ITCK were involved in the setting up of the ITCB and provided support and guidance.

The new IT Center of Balkh University was officially inaugurated by representatives of the MoHE, Balkh University, the DAAD and the ZiiK of the TU Berlin in May 2013.

In 2017 The ITCK has received a hardware update of 40 new workstations and two new severs from the ZiiK with funding of the DAAD.

IT Administrator Training for Staff Members from the Universities of Balkh and Nangarhar

Timeframe: November – December 2011
Venue: Balkh University
Funded by: DAAD
Facts and figures: 12 people trained

Employees from the Universities of Balkh and Nangarhar were trained in the field of system and network administration by the ZiiK team with support from ITCK employees. The training, which took place at Balkh University, was to prepare them for their future tasks as IT administrators of the IT Centers (ITCB, ITCN) at their universities.

Establishment of a PC Workshop at Balkh University

Date: October 2013
Funded by: DAAD and German Federal Foreign Office
In cooperation with: Balkh University
Facts and figures: More than 500 PCs, printers and other hardware repaired

Based on the example of Kabul University and Herat University, a central PC workshop has been established at Balkh University. The aim was to teach the Afghan personnel how to repair and refurbish retired or faulty PC hardware, equip old computers with new components and restore them for further usage.

Since 2015 the PC Workshop is funded by the German Federal Foreign Office within the scope of the project "Afghanistan Chancen".

Since 2015 the PC Workshop has been funded by the German Federal Foreign Office within the scope of the project "Afghanistan Chancen". It has been restructured and is now cooperating with the faculty of computer science and the ITCB. This leads to a more sustainable usage of the hardware and also gives the opportunity for computer science students to be trained in assembling and repairing hardware.

Establishment of a Computer Science Library at Balkh University

Date: 2012
Funded by: DAAD
In cooperation with: Balkh University
Facts and figures: 50 modern international standard books on computer science

With the aim of improving the academic situation in the area of computer science at Balkh University, a computer science library has been established. Modern international standard books on computer science were purchased in Berlin and shipped to Balkh. Already existing premises have been furnished with appropriate shelves and tables. All books have been cataloged with the help of Afghan students, and a lending system has been implemented.

In 2017 the library could extend the collection with 155 recent computer science books through a delivery from the ZiiK with funding of the DAAD.

3.4. Nangarhar

Nangarhar is a province in eastern Afghanistan. Located at the junction of the Kabul River and Kunar River near the Laghman valley, Jalalabad is the capital of this province. It is linked via highway with Kabul to the west.

Jalalabad is the second-largest city in eastern Afghanistan as well as the center of its social and business activity because of its border to Pakistan which is the main source of products to all Afghanistan. Major industries include paper-making, as well as agricultural products including oranges, rice and sugarcane. Jalalabad is one of the leading trading centers with neighboring Pakistan.

In 2010, a team of the ZiiK and members of the ITCK and ITCH traveled to Jalalabad to analyze the IT situation at the universities and to begin with the establishment of an IT Center at Nangarhar University as well as the development of an IT curriculum.

Nangarhar University is a government-funded higher education institution located in Jalalabad. It is the second largest university in Afghanistan with 13 colleges and around 15,000 students.

Nangarhar University was established in 1963 as a medical college. It was later merged with other local colleges to become a full-fledged university. It now houses faculties of agriculture, engineering, literature, political science, economics, public administration and policy, pedagogy, veterinary, and computer science. Nangarhar Medical Faculty (NMF) is the second largest medical school in Afghanistan.

Establishment of an IT Center at Nangarhar University (ITCN)

Timeframe: September 2010 – December 2011
Funded by: DAAD
In cooperation with: Nangarhar University, Kabul University
Facts and figures: 90 PCs, 3 servers, network and supplementary equipment, voltage regulator

Based on the examples of the ITCK in Kabul and the ITCH in Herat, a modern IT center has been established at Nangarhar University (ITCN). This IT center consists of 90 PC workstations, three servers, network equipment, UPSs etc. and is the core of the IT supply of the university. It provides PC labs for university members, Internet access for all faculties and central network services for the whole campus. It also gives advice in all IT related issues of the university. Moreover, the ITCN as competence center provides teaching and education in the field of IT for all university members, the university administration and students. It also serves as a regional training center for neighbor provinces of Nangarhar.

The team of the ZiiK acquired and configured the hardware in Berlin and shipped it to Jalalabad. During the setup phase at TU Berlin, a group of Afghan lecturers was trained on the equipment in order to be able to administrate and maintain the operation of the ITCN on their own in the future.

Team members from the ITCK were involved in the setting up of the ITCN and provided support and guidance.

The new IT Center of Nangarhar University was officially inaugurated by representatives of the MoHE, Nangarhar University and the ZiiK of the TU Berlin in December 2011.

3.5 Qandahar

Qandahar is the third largest city in Afghanistan, with a population of approx. 462,000. It is the capital of Qandahar Province and located in the south of the country. The Arghandab River runs along the west of the city.

Qandahar is a major trading center for sheep, wool, cotton, silk, felt, food grains, fresh and dried fruit and tobacco. It has an international airport and extensive road links with Lashkar Gah and Herat to the west, Ghazni and Kabul to the northeast, Tarinkot to the north, and Quetta in neighboring Balochistan to the south. The region around Qandahar is one of the oldest known human settlements.

Qandahar University is a government funded higher education institution and was established in 1990. It offers study courses in computer science, agriculture, medicine, engineering and education. It has more than 5000 students in seven faculties.

In 2012, a team of the ZiiK and members of the ITCK, ITCH and ITCN traveled to Qandahar to analyze the IT situation at the universities and to begin with the establishment of an IT center at Qandahar University as well as the development of an IT curriculum.

Establishment of an IT Center at Qandahar University (ITCQ)

Timeframe: November 2012 – December 2013
Funded by: DAAD
In cooperation with: Qandahar University, Kabul University
Facts and figures: 75 PCs, 4 servers, network and supplementary equipment, voltage regulator

Based on the examples of the ITCK in Kabul, the ITCH in Herat, the ITCN in Jalalabad and the ITCB in Mazar-e-Sharif, a modern IT center has been established at Qandahar University (ITCQ). This IT center consists of 75 PC workstations, four servers, network equipment, UPSs etc. and is the core of the IT supply of the university. It provides PC labs for university members, Internet access to all faculties and central network services for the whole campus. It is also supposed to give advice in all IT related issues of the university. Moreover, the ITCQ as competence center provides teaching and education in the field of IT for all university members, the university administration and students. It also serves as a regional training center for neighbor provinces of Qandahar.

The team of the ZiiK acquired and configured the hardware in Berlin and shipped it to Qandahar. During the setup phase at TU Berlin, a group of Afghan lecturers was trained on the equipment in order to be able to administrate and maintain the operation of the ITCQ on their own in the future.

Team members from the ITCK were involved in the setting up of the ITCQ and provided support and guidance.

The new IT Center of Qandahar University was officially inaugurated by a representative of H.E. President Karzai, representatives of the MoHE, the Governor of Qandahar Province, representatives from Qandahar University and the ZiiK of the TU Berlin in February 2014.

Establishment of a Computer Science Library at Qandahar University

Date: 2014
Funded by: DAAD
In cooperation with: Qandahar University
Facts and figures: 120 modern international standard books in the area of computer science

With the aim of improving the academic situation in the area of computer science at Qandahar University, a computer science library has been established. Modern international standard books on computer science were purchased in Berlin and shipped to Qandahar. Already existing premises have been furnished with appropriate shelves and tables. All books have been cataloged with the help of Afghan students, and a lending system has been implemented.

In 2017 the library could extend the collection with 180 recent computer science books through a delivery from the ZiiK with funding of the DAAD.

3.6 Khost

Khost is a province in the East of Afghanistan, bordering with the provinces of Wazirstan, Kurramm, and Pakistan. It was formerly a part of Paktia province, and the larger region around Khost is still called Loya Paktia ("larger Paktia").

Khost City is the capital of the province which has 546.800 inhabitants, mostly organized in tribes.

Shaikh Zayed University, also known as **Khost University** is a public university in the city of Khost. With its original name "Afghan University Peshawar", it was initially established in 2000 in Peshawar. It was shifted to Khost by special orders of the former Afghan President Hamid Karzai. The university was named after Shaikh Zayed, the first President of the United Arab Emirates, who sponsored the construction of its campus in Khost.

Shaikh Zayed University was officially registered in 2003. It has nine faculties and more than 3000 students, studying computer science, medicine, engineering, literature, journalism, sharia, politics, agriculture, education, economy, and management

Establishment of a Computer Science Library at Khost University

Date: 2016
Funded by: DAAD
In cooperation with: Khost Polytechnic University
Facts and figures: 100 modern international standard books in the area of computer science

A modern computer science library has been established at the Faculty of Computer Science at Khost University. Standard computer science literature was purchased in Berlin and shipped to Khost. Existing rooms have been renovated and furnished with shelves and tables. All books have been cataloged with the help of Afghan students, and a lending system was installed.

3.7 Kunar

Kunar is a province in the North-East of Afghanistan, and means "olive valley" in the Nooristani langues. There used to be olive trees in Kunar, and they are being planted again today.

Kunar has an area of 4942 m² and is close to the forested areas of the Hindukush. Neighboring provinces are Nooristan, Laghman, and Nangarhar.

Said Jamal Uddin-e-Afghani University is a governmental university in the city of Asadabad, capital of eastern Kunar Province. It was established in 2010.

The university was started offering admission in three faculties: education, theology and agriculture. Over the years it expanded its operation and currently has five faculties and 21 study programs, including economics and computer science.

Establishment of a Computer Science Library at Kunar University

Date: 2016
Funded by: DAAD
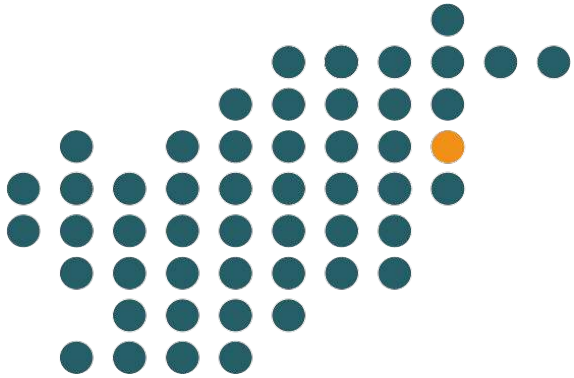**In cooperation with:** Kunar University
Facts and figures: 100 modern international standard books in the area of computer science

A modern computer science library has been established at the Faculty of Computer Science at Khost University. Standard computer science literature was purchased in Berlin and shipped to Khost. Existing rooms have been renovated and furnished with shelves and tables. All books have been cataloged with the help of Afghan students, and a lending system was installed.

3.8 Faryab

Faryab is a province in the North of Afghanistan with Maymana as capitol.

In the 1980s and 90s, there were violent confrontations between different military leaders. Faryab was particularly important because the border of the areas of influence of Abdul Rashid Dostum and Ismail Khan runs through it.

Maymana's roots reach back into antiquity. Maymana castle can doubtlessly be dated back to the Iron Age, as ceramic shards from the Palelithic and the Bronze Age were found in the nearby cave of Bilkhiragh.

Maymana lies in the middle of irrigated agricultural land, and is trading center for Karakul sheep. In the 1970s, cotton and wool processing industry was flourishing. Today, it is trading center for leather products, silk, carpets, wheat, barley, melons, and grapes.

Faryab University was established in 1977 and is located in the suburban setting of the city of Maymana. Faryab University has around 1500 students and is a co-educational governmental higher education institution. It has faculties of literature and humanities, law, education, agriculture, economy, engineering and computer science.

4. Summer and Winter Academies

Timeframe: 2002 – 2009
Venue: TU Berlin
Funded by: DAAD
Facts and figures: 105 people educated

During numerous summer and winter academies in Germany, students, lecturers and staff members from Afghan universities and affiliates from the MoHE received basic trainings in computer science, system and network administration, IT security, organization and management etc. at TU Berlin. Another aim was to foster intercultural exchange and to create opportunities to experience and look into the cultural environment of Germany.

The duration of these summer and winter academies ranged from one to seven months.

5. Computer Science Master's Program for Afghan Lecturers

Master's Program for Afghan Lecturers in Computer Science at TU Berlin, Generations 1–5

Timeframe: 2007 – 2021
Venue: TU Berlin
Funded by: World Bank, German Federal Foreign Office, DAAD
In cooperation with: MoHE, Afghan Universities, IACSRS, Office of the First Lady of Afghanistan
Facts and figures: 125 people graduated, participants from 10 Afghan universities and various institutions (General Attorney's Office, Administrative Office of the President of the Islamic Republic of Afghanistan, Office of the First Lady of Afghanistan, Ministry of Transport, Deh Afghanistan Breshna Company, Kabul Medical University, Universities of Herat, Khost, Kunar, Faryab, Kabul, and ITCC Afghanistan)

A special computer science Master's program for Afghan lecturers has been established at TU Berlin. The objective of this program is to counter the lack of IT lecturers and IT experts at the Afghan universities and public institutions by educating and training future multipliers. Currently, the fourth generation of the program is studying at TU Berlin. The participants are selected upon nomination by their home universities during a selection process. This process is realized by team members of the ZiiK of the TU Berlin in cooperation with the MoHE and the participating universities, and it includes different exams in computer science, mathematics and English language as well as a personal interview. For each generation, The ZiiK team selects the best 25 from a list of candidates nominated by the participating institutions during a three-day selection test and interviews.

The Master's program is divided into two parts: The two first semesters of the program are designed as preparatory courses for all participants. These are followed by four semesters of actual Master's studies. Both the preparatory course as well as the first and the second semester of the Master's studies take place at TU Berlin. During the third semester, the participants hold lectures at their home universities and do field research in Afghanistan to prepare their Master's theses which they are supposed to write in the fourth semester back at TU Berlin. The topics are to be chosen according to the particular needs in the area of IT in Afghanistan.

Part of the project is a cultural program for the participants to facilitate cultural exchange and to learn about life in Germany and the history of the country.

So far, there have been participants from Kabul University, Kabul Polytechnic University, Kabul Education University and the Universities of Herat, Nangarhar, Qandahar, Balkh, Khost, Kunar and Faryab.

The first generation of this Master's program graduated from TU Berlin in 2010, and the second, third, fourth, and fifth generations in 2013, 2016, 2018, and 2021.

Graduation Event of the Computer Science Master's Program, 1st Generation

Date: March 2010
Venue: TU Berlin
Funded by: DAAD
In cooperation with: MoHE, World Bank
Facts and figures: 25 people graduated

To this event, representatives from the MoHE, the Afghan universities as well as the deans of the computer science faculties at Kabul Polytechnic University and Herat University were invited. The participants of the program presented their Master's theses.

Graduation Event of the Computer Science Master's Program, 2nd Generation

Date: September 2013
Venue: German Federal Foreign Office, TU Berlin
Funded by: DAAD
In cooperation with: MoHE, German Federal Foreign Office
Facts and figures: 25 people graduated

The event started with an opening ceremony at the German Federal Foreign Office which was followed by a two-day series of lectures at TU Berlin. Within this scope, the Afghan students presented their Master's theses to the invited guests. On the last day, a panel discussion took place about Afghanistan's IT strategy plan in the area of higher education and the future German-Afghan cooperation. Among the guests were high representatives from the German Federal Foreign Office, DAAD, the Deputy Minister of Higher Education in Kabul, the President of Kabul Polytechnic University, representatives from the Afghan Embassy in Berlin, German National Research and Education Network (DFN), TU Berlin and others.

Graduation Event of the Computer Science Master's Program, 3rd Generation

Date: October 2016
Venue: German Federal Foreign Office, TU Berlin
Funded by: DAAD
In cooperation with: MoHE, German Federal Foreign Office
Facts and figures: 25 people graduated

The graduation event was divided in two parts:

The first part consisted of presentations of the Master's theses by the Afghan students during three days. On the first day, the President of Kabul Polytechnic University, the President of Herat University, Head of Department 604 Universities, Science and Research of the German Federal Foreign Office, the Ambassador of the Islamic Republic of Afghanistan, and the Head of the DAAD Government Liaison Office Berlin, participated in the opening event at TU Berlin. The focus of the Master's theses which were presented by the graduates lied on projects that deal with the development of sustainable and secure IT structures at Afghan universities and authorities.

The second part was a graduation ceremony at the German Federal Foreign Office with participation of H.E. the Minister of Higher Education Dr. Farida Momand.

Graduation Event of the Computer Science Master's Program, 4th Generation

Date: October 2018
Venue: German Federal Foreign Office, TU Berlin
Funded by: DAAD
In cooperation with: MoHE, German Federal Foreign Office
Facts and figures: 25 people graduated

In September 2018, the participants of the fourth generation of the Master's program handed in their master's thesis at TU Berlin. The TU Berlin invited all project partners and students for a graduation celebration. With their generation, further highly qualified and committed computer scientists became available to Kabul University, Kabul Polytechnic University, Kabul Education University, and the Universities of Herat, Balkh, Nangarhar, Qandahar, Khost, Faryab, and Kunar. A Master's colloquiumwith presentations of the Master's theses by the graduates, and a graduation celebration on September 25th which was held in the main building of TU Berlin with participation of H.E. Dr. Khwaja Omary, Minister of Higher Education of Afghanistan, Prof. Kakar, President of Kabul Polytechnic University, Dr. Faiz, President of Herat University, Prof. Miakhil, President of Nangarhar University, representatives of the HEDP of World Bank, and Mr. Ariyaee, Acting Ambassador of the Islamic Republic of Afghanistan. Further participants were representatives of the German Federal Foreign Office and DAAD, as well as Vice President and professors of TU Berlin.

Graduation Event of the Computer Science Master's Program, 5th Generation

Date: January 2021
Venue: TU Berlin
Funded by: Federal Foreign Office
In cooperation with: MoHE, IACSRS, German Federal Foreign Office
Facts and figures: 25 people graduated

In December 2020, the participants of the fifth generation of the Master's program handed in their master's theses at TU Berlin. The defenses of the 25 student's theses, as well as the graduation event had initially been planned for September 2020, however due to the COVID-19 pandemic, both events had to be postponed to January 2021.

The event was opened by H.E. Rula Ghani, First Lady of Afghanistan. Among the speakers were Prof. Dr. Hans-Ulrich Heiß, Vice President of TU Berlin, Prof. Dr. Abass Basir, Minister for Higher Education in Afghanistan, Mr. Nader Nadery, Chairman of the Independent Commission for Administrative Reform and Public Service, Mr. Yama Yari, Ambassador of the Embassy of the Islamic Republic of Afghanistan in Berlin, and Mr. Markus Potzel, special representative for Afghanistan and Pakistan of the German Foreign Office.

Support Program for Implementing Master's Theses in the Field of Computer Science

Timeframe: September – December 2010 (1st generation)
September – December 2013 (2nd generation)
September – December 2016 (3rd generation)
Funded by: DAAD
In cooperation with: German Federal Foreign Office, MoHE
Facts and figures: more than 60 projects supported

The participants of the first and second computer science Master's program for Afghan lecturers, who graduated in March 2010, September 2013 and October 2016 from TU Berlin, were supported financially in order to implement their Master's thesis topics in Afghanistan. With this support program, they were given the chance to further develop and ultimately realize their thesis concepts, and thus to help improve and extend the IT structures in Afghanistan.

The topics addressed included the development of IT strategies as well as information and accounting systems for the administration, planning of IT centers, online library systems, dormitory and hospital management systems, campus network planning, quality assurance and accreditation concepts, a scholarship database system etc.

6. PhD Program for Afghan Computer Science Lecturers

Timeframe: October 2013 – today
Venue: TU Berlin
Funded by: DAAD
Facts and figures: 6 people supported

Two Master's graduates, who are employees of Kabul University, have been invited as PhD candidates in computer science to TU Berlin and offered a scholarship by the DAAD. Two more candidates from Herat University, who participated in the computer science Master's program, returned to TU Berlin in October 2014 in order to prepare their PhD studies. Another two PhD candidates from the Universities of Kabul and Herat started their research in March 2017.

After their graduation and return to Afghanistan, these PhDs will begin with the development of Master's study courses at the Afghan universities.

7. Alumni Program for Graduates of the Computer Science Master's Program for Afghan Lecturers

Timeframe: 2012; 2014; 2015; 2016; 2017
Venue: TU Berlin
Funded by: DAAD
Facts and figures: 90 people supported

On an annual basis the ZiiK invites graduates from the Computer Science Master's Program for Afghan Lecturers to Berlin for an Alumni Program. The visits last between two and three weeks and have the objective to strengthen the partnership between the ZiiK and its former students as well as to exchange and debate the experiences, achievements and challenges at their home universities. Every year the Alumni are also accompanied by high ranking representatives from the MoHE as well as by the head of the Alumni Program Mr. Azim Noorbakhsh.

The general objectives of the program are:

- exchange of experiences between graduates of the different generation of the computer science Master's program at TU Berlin
- exchange between the different computer science faculties and institutions in Afghanistan
- building up a network of computer scientists
- discussing the role of "IT society" in Afghanistan and activating the IT Board at the MoHE
- discussing future tasks of computer science Master's graduates in Afghanistan
- discussing the future roll of IT and computer science in Afghanistan

Topics:
- 2012: The role of an "IT society" in Afghanistan
- 2014: Conception of an online platform for alumni in the area of computer science
- 2015: A new MoHE IT-Strategy
- 2016: IT as key challenge for higher Education in Afghanistan
- 2017: The Role of IT in Administration

8. IT Administrator Training

IT Administrator Training for MoHE Staff Members

Timeframe: June – November 2009
Venue: TU Berlin
Funded by: DAAD
Facts and figures: 3 people from MoHE + 7 people from Balkh University

A group of three employees from the MoHE was trained together with seven administrators from Balkh University at TU Berlin for six months. The training focused on system and network administration of Linux-based environments. The objective was to prepare the participants for their future tasks as IT administrators at the MoHE and at Balkh University, including the operation, maintenance and extension of the IT infrastructures.

IT Administrator Training 2014

Timeframe: July – December 2014

Venue: TU Berlin

Funded by: DAAD

In cooperation with: MoHE, Afghan Universities

Facts and figures: 18 people supported

From July to December 2014, a group of 18 employees from the five IT centers set up by the ZiiK (ITCK, ITCH, ITCB, ITCN and ITCQ) and the MoHE have been invited to TU Berlin for an IT administrator training program. The goal of this program is to educate university employees in order to enable them to independently operate, maintain and expand the IT infrastructure at their home institutions.

The training focuses on systems and network administration under a particular Linux-based system (Univention Corporate Server, UCS) which is to be rolled out at all five IT Centers. Such a unified system setup and a comprehensive education of administrators will allow consistent server infrastructures at the Afghan universities and a better exchange between the IT centers, improved interoperability as well as better support.

Furthermore, the IT centers are currently being developed into regional IT competence centers. Thus, another important aspect of the training is to prepare the participants for their future role as IT lecturers who can provide trainings for university members and also for neighboring provinces.

IT Administrator Training 2015

From June to November 2015, another group of 17 employees from the Afghan universities, the IT centers (ITCK, ITCH, ITCB, ITCN and ITCQ) and the MoHE traveled to TU Berlin for an IT administrator training program. As in the previous year, the participants received a targeted training in systems and network administration to enable them to operate, maintain and expand the IT infrastructure (IT centers) at their home institutions.

Further topics of the training were special courses in IT security and soft skills like organization and management as well as didactics and financial management.

Remote Admin Training

In the scope of the *Chancen Afghanistan* project, TU Berlin offers a remote IT administrator training at the IT Centers of the Afghan Universities. In 2016 and 2017, a total of 100 computer science students received a two-month intensive IT training focused on systems and network administration. This training has a focus on students from remote provinces in order to enable them to maintain IT infrastructures on their campuses.

The training is conducted by graduates of the computer science Master's program and of the administrator trainings at TU Berlin who passed on their acquired knowledge.

ITCK at Kabul University: 21 participants from 9 provinces
Kabul, Paktya, Bamyan, Ghazni, Panjshir, Khost, Parwan, Loger, Alberoni

ITCB at Balkh University: 21 participants from 8 Provinces
Balkh, Badakshan, Baghalan, Faryab, JawzJan, Kundoz, Samangan, Takhar

ITCH at Herat University: 20 participants from 4 provinces
Ghor, Badghis, Farah, Herat

ITCN at Nanghahar University: 15 participants from 3 provinces
Nangarhar, Kunar, Laghamn

ITCK at Kandahar University: 23 participants from 8 provinces
Qandahar, Uruzgan, Anastu, Benawa, MCIT, Mirwais Neka, Saba, Zabul

IT Admin Training for the new Afghan State Printing House (ASPH)

Timeframe: 2016 - today
Venue: TU Berlin / Kabul
Funded by: GIZ
Facts and figures: 10 people supported

Within the frame of the build up of a new Afghan State Printing House and in co-operation with the Afghan Ministry of Finance, the German Gesellschaft für Internationale Zusammenarbeit (GIZ) and the German Bundesdruckerei the ZiiK trains future IT staff members for the ASPH. The purpose of the new printing house is to strive for production of secure print products that match with international standards. Within this project the ZiiK is also developing the detailed IT concept and is offering general technical IT consultation. In 2018/19 the ZiiK will train 10 network admins in a 18 month program especially for the operation of the printing house IT.

9. Conferences, Workshops and Symposia

Cultural and Dialog Week:
The World Grows Together – Public Welfare, Justice, Solidarity

Date: December 10 – 14, 2001
Venue: TU Berlin
Funded by: Heinrich Böll Foundation, Berlin
In cooperation with: Friedrich Ebert Foundation, Berlin
Work group "Computer Science and Society" of the
Gesellschaft für Informatik e.V. (German Informatics Society), Bonn
Facts and figures: 150 participants

Within the scope of the culture and dialog week, topics like globalization, democratization processes, human rights, influences of technology on society, the Afghan wars and the media as well as the role of the Taliban were discussed. On the last day, the focus was laid on the topic of reconstructing the educational system in Afghanistan. All attending experts and guests agreed that education and training belong to the core components within the reconstruction process in Afghanistan. The discussion resulted in the following conclusions:

Afghanistan is in need of an educational concept that is elaborated in legal and political terms. The impact of two decades of war on the area of education is to be surveyed and analyzed, and all deficits to be eliminated by both ad hoc measures and long-term planned projects. Both approaches shall equally include women and men in Afghanistan, and the commitment of Afghans who live in exile shall be taken into account as well. The population's awareness for all problems resulting from the low literacy rate is to be sharpened.

It was also agreed to invite a representative from the MoHE to the next conference in February 2002.

Symposium: Digital Media – An Opportunity for Education in Afghanistan?

Date: February 16 – 17, 2002
Venue: TU Berlin
Funded by: Heinrich Böll Foundation, Berlin
In cooperation with: Work group "Computer Science and Society" of the Gesellschaft für Informatik e.V. (German Informatics Society), Bonn
International Office of the TU Berlin
Work group "Global Learning and International Cooperation" at TU Berlin
Facts and figures: 100 participants

Various aspects of reconstructing the educational system in Afghanistan were addressed in ten presentations and the following discussions. As a result, the participants of the symposium agreed on concrete planning schemes and the next steps. Prof. Akbar Popal, former President of Kabul University, attended the symposium as keynote speaker.

The topics of the discussions dealt with possible options regarding the educational situation in Afghanistan, how to assess them and how to develop supporting programs. The participants also talked about exchange programs for German and Afghan students as well as lecturers, organizing workshops in Germany and Afghanistan and specialized training programs for lecturers in cooperation with the universities.

Symposium: Afghanistan 2010 – Our Future, Our Vision

Date: July 12 – 17, 2002
Venue: Daimler-Chrysler AG, Berlin
Funded by: Daimler-Chrysler AG
Facts and figures: 30 participants

The Daimler-Chrysler AG invited twenty Afghans who lived in exile to this symposium. The aim was to bring together young students with Afghan background from various fields of expertise at German universities and let them present their ideas and visions concerning the reconstruction process in Afghanistan. Six work groups were formed in the following areas: economy, information technology and engineering, society and culture, agriculture, politics, and judiciaries.

Workshop: The State of Academic Education in Afghanistan – Accounts and Perspectives

Date: August 12, 2002
Venue: TU Berlin
Funded by: Konrad Adenauer Foundation, Berlin
Facts and figures: 50 participants

In this workshop, the current status of the academic structures at Afghan universities was compared to those at German universities to gather insights and to find out to what extent they could be applied to Afghan higher education institutions. Four areas were of prime importance:

- administration and organization
- teaching and research
- central services
- technical infrastructure

In addition, a discussion took place with Prof. Akbar Popal, former President of Kabul University, experts, representatives from different development aid organizations, and university professors. It mainly focused on the question how to establish sustainable academic structures, especially in Afghanistan. To allow further discussions on these topics with Afghan lecturers, the Konrad Adenauer Foundation in cooperation with the TU Berlin organized a subsequent conference in Kabul.

Symposium: Reconstructing Universities in Afghanistan

Date: August 28 – 29, 2002
Venue: Kabul
Funded by: Konrad Adenauer Foundation, Berlin
In cooperation with: Kabul University
Facts and figures: 100 participants

On behalf of the Konrad Adenauer Foundation, three representatives from the TU Berlin, Prof. Bernd Mahr, Dr. Janko Jochimsen and Dr. Thomas Kathöfer, traveled to Kabul to discuss the topics that had arisen during the workshop two weeks before at TU Berlin:

- administration and organization
- teaching and research
- central services

The discussion in Berlin had shown that academic structures in Afghanistan were in need of a reliable solution approach. Thus, Prof. Mahr drafted a concept and presented it to Dr. Fayez, the former Minister for Higher Education in Afghanistan.

Workshop: Experiences of Afghan Lecturers at Institutions of Higher Education

Date: October 11, 2002
Venue: TU Berlin
Funded by: DAAD
Facts and figures: 60 participants

Sixteen Afghan lecturers and administrative affiliates from the MoHE participated in the first winter academy at TU Berlin. With their help, a workshop was organized to discuss their impressions about Afghanistan and the experiences they had gathered during the winter academy. Soon, it became apparent that all participants regarded the liberation of Afghanistan as an opportunity for development. They were of the opinion that Afghanistan needed sustainable educational concepts and wished for a continuous support from Germany and the world community as well as a close cooperation between the mentioned parties and the responsible decision makers in Afghanistan.

Workshop: Implementing Information and Communication Technology in Developing Countries by the Example of Afghanistan

Date: October 18 – 20, 2002
Venue: University of Freiburg
Funded by: Gesellschaft für Informatik e.V. (German Informatics Society), DAAD
In cooperation with: Work group "Computer Science and Third World" of the Gesellschaft für Informatik e.V. (German Informatics Society), Bonn
Facts and figures: 200 participants

The former President of Kabul University, Prof. Akbar Popal, was invited to give the keynote speech at the annual FIfF meeting in Freiburg (Forum InformatikerInnen für Frieden und gesellschaftliche Verantwortung e.V., German Computer Scientists Forum for Peace and Social Responsibility). The arguments he presented in favor of a consistent IT concept were discussed in depth during the workshop, which was organized by the work group "Computer Science and Third World" of the Gesellschaft für Informatik e.V. Prof. Popal referred to a consistent IT concept as essential prerequisite for a secure and sustainable planning of the IT supply.

Conference: Basics for an Educational Strategy in Afghanistan

Date: June 20 – 22, 2003
Venue: TU Berlin
Funded by: DAAD
In cooperation with: Heinrich Böll Foundation, Berlin
Gesellschaft für Informatik e.V. (German Informatics Society), Bonn
Facts and figures: 150 participants

The conference focused on the topics of education and reconstruction of Afghanistan, prerequisites for an educational strategy, and reports from the universities of Afghanistan. Three ministers from Afghanistan as well as the presidents from eight universities took part. The participants agreed that long-term objectives and clear strategies were necessary to transfer skills and knowledge to the Afghan people in order to enable them to live an individual and social life. The educational development needed to take into account political and social subjects, the strengthening of women's education, and the creation of infrastructural prerequisites. It was also understood that existing functionalities should be used in Afghanistan for the employment of information technologies and for the rebuilding of academic structures by means of strategic education and management.

Afghanistan Week

Date: March 22 – 26, 2004
Venue: TU Berlin
Funded by: DAAD
In cooperation with: Heinrich Böll Foundation, Berlin
Afghan Embassy in Berlin
Facts and figures: 200 participants

High representatives from the Afghan government and Afghan universities, representatives from German governmental and non-governmental organizations as well as Afghans who lived in exile participated in this five-day event to discuss in detail the special issues of the reconstruction process in Afghanistan in the area of higher education.

The main topics were:

- education and further training
- security and agriculture
- economy and technology
- development and cooperation
- culture and society

Workshop: IT Strategy by the Example of Afghanistan

Date: September 29, 2004
Venue: University of Ulm
Funded by: Gesellschaft für Informatik e.V. (German Informatics Society), DAAD
In cooperation with: Work group "Computer Science and Third World" of the Gesellschaft für Informatik e.V. (German Informatics Society)
Facts and figures: 200 participants

Considering it the most important prerequisite for a sustainable and functioning IT supply at Afghan universities, this workshop dealt with the urgent need to develop a national IT strategy for Afghanistan. Among the invited guests were the heads of the IT Department at the Ministry of Communication and at the Ministry of Higher Education in Afghanistan as well as three representatives from other Afghan higher education institutions.

Workshop: IT Concept for the Ministry of Higher Education

Date: February 15 – 17, 2005
Venue: Kabul
Funded by: DAAD
In cooperation with: MoHE, German Embassy in Kabul
Facts and figures: 80 participants

This workshop was organized on the basis of the results of the workshop "IT Strategy by the Example of Afghanistan" during the annual meeting of the Gesellschaft für Informatik e.V. (German Informatics Society) on September 24, 2004. Together with representatives of Afghan universities and the MoHE the following fields of activities were discussed.

The MoHE and all universities in Afghanistan are in need of modern administrative structures including information and communication technologies. These shall supplement and replace the traditional and time-consuming procedures.

In addition, each university was asked to elect an IT representative who manages all needs and the IT supply. They should then discuss their plans and needs with the IT Department of the MoHE.

Conference: Academic Reconstruction in Afghanistan – Achievements and Perspectives

Date: July 1 – 3, 2005
Venue: TU Berlin
Funded by: DAAD
Facts and figures: 100 participants

After three years of reconstruction work in the Afghan academic sector, this conference aimed to draw interim results that would depict all achievements and show the possible options for continuing the reconstruction process with special attention to sustainability.

Among the participants were the Minister for Higher Education in Afghanistan, the Afghan Ambassador to Berlin and presidents from Afghan universities. The delegation from Afghanistan was briefed on the German contribution to the reconstruction process in Afghanistan. The overall objective of the discussion was to facilitate the dialog between all involved parties and to reassure the continuation of all reconstruction measures in mutual agreement. All participants agreed that international partnerships between universities were crucial to the further academic reconstruction in Afghanistan.

Conference: IT Infrastructure in Afghanistan

Date: July 24 – 26, 2005
Venue: Herat
Funded by: DAAD
In cooperation with: Herat University, MoHE
Facts and figures: 80 participants

In this workshop, representatives from Afghan universities, the MoHE and international guests talked about necessary measures to establish IT infrastructures at Afghan universities. The discussion included topics like power supply, Internet access, construction measures, IT centers, PC labs for the faculties, university-wide networks, and specialized libraries for computer science.

Workshop: IT Security

Date: November 8 – 10, 2005
Venue: Balkh
Funded by: DAAD
In cooperation with: Balkh University, MoHE
Facts and figures: 80 participants

Representatives from the most important universities in Afghanistan were invited to participate in this workshop in order to gather and exchange information about IT security issues in Afghanistan. Up until then, a general understanding of IT security issues and requirements had mostly been lacking in Afghanistan, although its relevance is of increasing importance which is due to the growing number of PCs and computer networks throughout the country. A special focus of the discussion lay on the implementation of Open Source solutions to increase IT security. Furthermore, it became clear that IT security needed to become part of the computer science curriculum. At the end of the workshop, CD ROMs with samples of Open Source software were distributed to all participants.

Workshop: Berlin Dialogue – A Bridge between Germany and Afghanistan

Date: February 10 – 11, 2007
Venue: TU Berlin
Funded by: DAAD
In cooperation with: Afghan Embassy in Berlin
Facts and figures: 50 participants

Within the scope of a winter academy, 18 Afghan students participated in an education program at the TU Berlin. The Afghan Embassy in Berlin and the ZiiK wanted them to meet with Afghan-German students from German universities to see whether both groups could collaborate in the future on their own. In the end, the participants decided to develop a platform that could help intensify the future cooperation.

Symposium: Sustainable and Secure IT Supply for the Area of Higher Education in Afghanistan

Date: August 28, 2008
Venue: TU Berlin
Funded by: DAAD
Facts and figures: 70 participants

Within the scope of this symposium, Prof. M. Osman Babury, Deputy Minister for Higher Education in Afghanistan, was invited to TU Berlin to make an overall assessment of the development of IT structures at Afghan universities from 2002 onwards. Prof. Babury pointed out that though progress could be clearly identified, still there were great deficits that needed to be addressed, especially with regard to power supply, Internet access and education of qualified and competent personnel. He added that a reliable and sustainable IT supply needed to be backed by a consistent IT strategy and its implementation.

DAN-Seminar: Afghanistan – Vision und Handlung
(Afghanistan – Vision and Action)
Date: November 25 – 27, 2011
Venue: Berlin-Steglitz
Funded by: German Federal Foreign Office, DAAD
In cooperation with: Afghan Embassy in Berlin, German-Afghan Network (DAN)
Facts and figures: 60 participants

Prior to the international Afghanistan conference in Bonn in 2011, 50 German-Afghan students, who had been invited by the ZiiK, and representatives from the German-Afghan Network discussed about the future of Afghanistan and developed concrete measures. The discussion was organized in separate workshops which covered the following six major areas:

1. politics and law
2. education and culture
3. economy
4. urban and regional planning, traffic, energy and environment
5. sciences, information and communication technology
6. public health

Representing the second generation of German-Afghan students, the young scientists agreed to actively contribute to the reconstruction of their country, acting as a bridge between Germany and Afghanistan.

Annual IT Conferences in Kabul

Since 2005, the IT Department of the MoHE has been organizing annual IT conferences in cooperation with the ZiiK of TU Berlin. These international conferences on "Information Technology for Higher Education in Afghanistan" take place every year at the MoHE in Kabul. With these conferences, the MoHE actively promotes the implementation of modern IT structures at Afghan universities.

Among the participants have been representatives from the Afghan government, including H.E. State President Dr. Ashraf Ghani, H.E. the First Lady of Afghanistan Mrs. Rula Ghani, as well as presidents and representatives from all public Afghan universities, deans of computer science faculties, representatives from donor organizations like the DAAD and World Bank, German universities and international GOs and NGOs as well as private companies from Afghanistan and other countries.

So far, the 15 conferences were held, with the following topics:

2005:   Information Technology for Higher Education in Afghanistan
2006:   IT Infrastructure for Higher Education in Afghanistan
2007:   Management and Coordination of IT Project in Afghanistan
2008:   National IT Strategy for Higher Education in Afghanistan
2009:   IT Security
2010:   Implementation of 24 Final Projects by Afghan Graduates in the Field of Computer Science
2011:   An Assessment of IT in Higher Education in Afghanistan and its Effects on Society
2012:   Current Situation and Perspectives
2013:   Innovation in Computer Science and Education
2014:   Development of IT Structures at the Afghan Universities
2015:   Improvement and Challenges
2016:   Cyber Security
2017:   Modernizing and Unifying Management Systems with IT Services
2018:   IT strategic plan for Afghanistan
2019:   Measures and Implementation of the Digital Strategy for Afghanistan

Pictures from various IT Conferences in Afghanistan

Annual IT Exhibition at ITCC Afghanistan in Kabul

Timeframe: Since 2016
Funded by: DAAD
In cooperation with: MoHE
Facts and figures: Four IT Exhibitions

Every year, shortly before the IT Conference at the MoHE, the ITCC Afghanistan organizes an exhibition of student's IT projects. From the many supported IT projects at ITCC Afghanistan, the most advanced and relevant are selected to be presented to the public. Two times, H.E. Rula Ghani, first Lady of Afghanistan, gave the honor to visit the exhibition and to talk to the students.

Part of the IT Exhibition is a competition, during which a jury of representatives from academia, the industry, and the government selects the best of the presented projects. These winner projects are awarded prizes.

Among the winners of the past years were projects like "Student Affairs Management System", "Lie Detector", "System to Aid Communication with the Deaf", "Shkolaa" (an e-commerce platform for local handicrafts), "SmartFire Control System", "Smart Helmet for Miners", "Pregnancy Assistant", "HR Management System", etc.

10. Management and Administration

Development of an Internet Portal for Afghan Experts

Timeframe: March – May, 2002

To support Afghan lecturers at institutions of higher education who have been abroad during the years of war and who were committed to supporting the reconstruction of the academic landscape in Afghanistan an Internet portal has been created. With this portal, active and interested parties could get in touch with each other.

This project was developed within the scope of the teaching course "Computer Science and Developing Countries" at the TU Berlin during summer term 2002. The platform was developed and technically implemented by the participating students. The system also aimed to support the DAAD in appointing short-term or long-term lecturers in Afghanistan.

Creation and Maintenance of Websites

Within the scope of the project "Developing Systems for Developing Countries" at the TU Berlin during winter term 2003/2004, a group of students developed web site technologies for the Afghan Embassy in Berlin and for the Afghan universities without any financial funding.

In September 2004, members from the Afghan Embassy, the MoHE, Kabul University, Kabul Polytechnic University and Herat University were invited to the TU Berlin. They were taught how to further develop and maintain these websites in a three-week intensive training.

www.afghanische-botschaft.de
www.mohe.gov.af

Development of an Online Platform for Entrance Exams

Timeframe: October 2006 – March 2007

Within the scope of the project "Developing Systems for Developing Countries", an online platform for entrance examinations at Afghan universities was developed at TU Berlin during winter semester 2006/07. The platform was to help replace the previous study application procedures in Afghanistan with a consistent and modern system and to provide administrative support during all phases of the application.

Development of an Online Library for Afghan Universities

Timeframe: October 2005 – March 2006

Within the scope of the project "Developing Systems for Developing Countries" at TU Berlin during winter semester 2005/2006, this platform was created with the aim to support teaching, research and education at the Afghan universities. It was to provide literature metadata and literature electronically via Internet to lecturers and students alike.

Development of an Online Coordination Platform for Afghan Administrations

Timeframe: October 2005 – March 2006

This platform was developed within the scope of the project "Developing Systems for Developing Countries" during winter semester 2005/06 at TU Berlin.

The objective was to create a more effective administration of IT projects and to register all existing and to-be-established infrastructure in the field of higher education.

Platform "SITiA" – Society for Information Technology in Afghanistan

This platform was developed within the project "Developing Systems for Developing Countries" at TU Berlin during winter term 2012/13.

The objective was to improve the coordination of IT projects in Afghanistan and to give advice for the Afghan government according to the model of the Gesellschaft für Informatik e.V. (German Informatics Society).

11. National IT Security Strategy Plan

Date: February – December 2017
Funded by: German Federal Foreign Office
In cooperation with: ITCC Afghanistan

A team of 14 persons, all graduates from the 3rd generation of the computer science Master's program, first initiated a check of the IT security situation at several Afghan Ministries. Based on the results, a national IT Security Strategy Plan was developed for the implementation of reliable management structures in form of an Authority for IT Security.

The 480 page IT Security Strategy Plan has officially been handed over to H.E. President Dr. Ghani and to his National Security Advisor Mr. Atmar in October 2017.

12. Development of IT concepts

The ZiiK of the TU Berlin has long-time experience in the area of computer science and developing countries. This expertise has proven very helpful when it came to drafting concepts with regard to the establishment of information technology in the area of higher education in Afghanistan.

A selection of concepts is listed below:

No.	Date	Title of Concept	Author
1	01/2002	Work Group "Information and Communication Technology for the Reconstruction of Afghanistan (AITA)"	Mahr/Peroz
2	01/2002	Concept for an Afghan Academy for Men and Women in Afghanistan	Mahr/Peroz
3	04/2002	Concept for an IT Center at Kabul University	Peroz
4	05/2002	Proposal for a Computer Science Curriculum at the Faculty for Computer Science at Kabul University	Peroz
5	01/2003	IT Strategy Plan for the Construction of Higher Education in Afghanistan	Mahr
6	06/2003	Strategy for Information Technology in Afghanistan	Peroz
7	09/2003	Proposal for a German-Afghan Society	Peroz
8	12/2004	Concept for the Future Development of the IT Center at Kabul University (ITCK)	Peroz
9	12/2004	IT Administration for the MoHE	Peroz
10	12/2004	IT Training for the IT Center at Kabul University	Peroz
11	07/2005	Proposal for the Development and Implementation of a Nationally Standardized Bachelor's Degree Program in Computing and Information	Mahr/Peroz

		Technology in Afghanistan	
12	11/2005	Strategy Proposal for a Nationwide Information Technology at Afghan Universities (HITS)	Peroz
13	12/2005	Proposal for a National IT Strategy (NITS) regarding Higher Education in Afghanistan	Peroz
14	02/2006	Framework for Information Technology at Herat University	Peroz
15	10/2007	Framework for Information Technology at Kabul University	Peroz
16	10/2007	Draft for the Constitution of an IT Board	Peroz
17	07/2008	National Strategic Plan for IT in Higher Education	Babury/Saay/Peroz
18	08/2008	Recommendations regarding the Development of IT in Teaching and Research in Kabul	Peroz
19	11/2008	Proposal for the Establishment of an IT Work Group at Kabul University	Peroz
20	2009	Framework for a Functional IT Supply in Higher Education in Afghanistan	Peroz
21	01/2009	Draft: Realizing IT Structures at Balkh University	Peroz
22	10/2009	Proposal for the Development and Implementation of a Bachelor's Degree Program in Computer Science at Herat University	Peroz
23	04/2010	Proposal for a Master's Program for Computer Science Lecturers	Peroz
24	01/2012	Foundation of an IT Society in Afghanistan	Peroz
25	10/2012	Proposal for Measures to Establish an Integrated IT Supply System within the Framework of the National IT Strategy Plan for Higher Education in Afghanistan	Babury/Peroz
26	03/2013	Proposal: Establishing a German-Afghan University in Afghanistan	Peroz

27	04/2013	Project Proposal: Training Vocational Teachers in IT in the Framework of a Community College Program in Afghanistan	Peroz
28	12/2013	Draft: Establishing an Afghanistan Research and Education Network (AfgREN)	Peroz
29	1/2014	Objectives, structure, tasks, specifications for the Establishing of Afghanistan Research & Education Network (AfgREN)	Peroz
30	3/2014	Proposal for sustainable and secure IT structures in Afghanistan	Peroz
31	4/2014	IT Strategy for the Digital Future of Afghanistan Project „Afghanistan Digital 2025"	Peroz
32	1/2015	Framework for an IT Council as central organizational body	Peroz
33	7/2015	Strategic Framework for the Employment of E-learning Projects in Afghanistan Challenges and Requirements.	Peroz
34	3/2016	National IT Strategy Plan for Higher Education in Afghanistan from 2016 until 2026	Peroz
35	2/2017	Proposal: Developing a National Strategic Plan for IT Security in Afghanistan	Peroz/Latif Rai
36	9/2017	Proposal: IT Security Strategic Plan for Afghanistan: Setting up an Authority for Security in Information Technology 9/2017	Peroz/Latif Rai
37	2019	IT concept for the new Afghan State Printing House, Kabul (ITCC)	Peroz/Heil
38	2/2019	Digital Strategy Afghanistan 2020	Peroz

13. Honors and Awards

Sayed Dschamal ad-Din Afghani Medal

On December 27, 2016 Dr. Nazir Peroz, has been awarded with the Sayed Dschamal ad-Din Afghani medal by H. E. Dr. Ashraf Ghani, President of the Republic of Afghanistan in Kabul.

With this award, he was honored for his activities in the development of academic structures in the field of information technology in Afghanistan, for which he has been indefatigably committed for over 15 years.

The ceremony took place in the presidential palace in Kabul, in the presence of H. E. the First Lady of Afghanistan, Mrs. Rula Ghani, H. E. the Afghan Minister of Higher Education, Prof. Farida Momand, her deputies, the presidents of Kabul's

three universities, representatives from parliament and many Afghan Master graduates of the TU Berlin.

This medal is the highest state award in the academic field in Afghanistan. Sayed Jamal ad-Din Afghani was one of the founders of the Islamic modernism, a political activist and theorist. He is regarded, among other things, as the forerunner of pan-Islamism, as a liberal reform theologian and modernist in the eighteenth century. He was a teacher of philosophy and well-known in Iran, India, Egypt, France and the UK.

14. Outlook

The ZiiK of TU Berlin is proud of its numerous achievements in Afghanistan. We managed to accelerate the process of general changes in the country and its society through IT education and the establishment of IT infrastructures. Thus, we contributed to the transition from tradition to modernity, even though we always had to defend our measures.

This change to modernity happened on mutiple layers: "Changing of individuals, families, society, and its institutions", and eventually, of the "system of values". This process is documented in the book "Establishing Academic Structures in Computer Science at Herat University" (IKO-Verlag; 2006, ISBN-13: 978-3889398321), and it highlights our philosophy and main goals we always followed with our projects of digitization and demand-oriented education.

However, after more than 19 years of commitment and engagement in Afghanistan in the field of IT and computer science, there still are numerous deficiencies at the Afghan universities and public institutions, mostly in the fields of IT infrastructures, IT education, research, and management structures. These deficiencies were always subject of discussion of the annual IT conferences. In 2019, we, together with the German Embassador Mr. Prügel, were able to discuss some of these issues in the ARG palace, following an invitation of H.E. State President Dr. Ashraf Ghani.

Currently, 79% of Afghanistan's public budget is depending on international donors. Implementing IT projects in an efficient and sustainable way, needs the support of national and international politics, as well as ongoing financial support, so that successful IT projects in the country do not have to be canceled due to a lack of funding.

Furthermore, it is crucial to integrate the development of IT and computer science in Afghanistan's public budget. It has to ensured that not only costs for hardware and software are covered, but also for operating costs like power supply, Internet connectivity, IT staff, buildings, etc. Modern technologies are under permanent development and subject to rapid change. Even maintaining "normal" usage of computer technology at IT Centers is causing ever increasing costs. Together with the international donor community, it is possible to support the country to develop its own and self-maintained structures, so that the country will be able to connect itself to the international knowledge and information society eventually.

Appendix: Pictures from Various Activities

DAAD-Delegation in Kabul, 2002

Computer Science Faculty Library, Herat, 2005

IT Education at ITCK, 2003

IT Administrator Education, ITCK, 2004

Server room at Computer Science Faculty, Herat, 2005

Setting up ITCK, 2002

Setting up ITCK's server room, 2003

Mrs. Marieluise Beck, B90/Grüne and Roya Mahboob,
CS Faculty Herat, 2007

IT lecturers for the ITCK, TU Berlin, 2002

Agreement signing between DAAD and MoHE, 2002

Team ITCK, 2006

ITCK, 2003

Representatives of MoHE, DAAD and TU Berlin, 2005

IT Conference, Kabul, 2011

Lecturers from TU Berlin, ITCK, 2004

Computer Science Department, Kabul University, 2002

Tom Königs, B90/Grüne, ITCK, 2007

Dr. Peroz and the President of Balkh University, 2012

President of Kabul University, Deputy Minister of Higher Education, 2015

Afghan landscape

IT Conference Kabul, 2010

Selection of participants for the CS Master's program, MoHE, 2010

Minister of Higher Education, IT Conference Kabul, 2012

Qandahar University

IT Conference Kabul, MoHE, 2014

PC Lab Computer Science Faculty, Herat University, 2007

Afghan mountain landscape

Master graduates, TU Berlin, 2012

President of Nangarhar University, 2007

Prof. Babury, Heinrich-Böll-Stiftung, 2008

IT Administrator training for Balkh University, TU Berlin, 2012

Setting up the ITCK, Kabul, 2003

Team from TU Berlin in Kabul, 2003

President of Kabul University, 2003

IT Administrator training for women, ITCK, 2004

President of Kabul University, Dr. Ashraf Ghani, Kabul, 2006

Representatives of MoHE, 2008

Rüdiger König, German Ambassador to Kabul, and DAAD
representatives, DAAD Guest House Kabul, 2011

IT Training for Herat University, TU
Berlin, 2010

Marieluise Beck, B90/Grüne, CS Faculty Herat, 2007

President of Qandahar Univer-
sity, 2012

President of Alberooni Univer-
sity, 2012

Airport Herat, 2012

CS Master's graduation, 1. generation, TU Berlin 2010

CS Master's graduation, 1. generation, TU Berlin 2010

CS Master's graduation, 1. generation, TU Berlin 2010

CS Master's graduation, 1. generation, TU Berlin 2010

CS Master's graduation, 2. generation, Federal Foreign Office Berlin, 2012

CS Master's graduation, 2. generation, Federal Foreign Office Berlin, 2012

CS Master's graduation, 2. generation, Federal Foreign Office Berlin, 2012

CS Master's graduation, 2. generation, Federal Foreign Office Berlin, 2012

Vice President of Qandahar University, Qandahar, 2014

Server room at Qandahar University, 2014

President of Balkh University, DAAD representative Mr. Hülshörster, 2012

CS lecturers, Balkh University, 2012

Members of ZiiK team, 2008

New construction, Balkh University campus, 2012

Minister of Higher Education Mr. Obaid, Deputy Ambassador of Germany, Kabul, 2012

President of Kabul University, Mr. Popal, Minister of Higher Education Mr. Fayez, Afghan Ambassador, President of TU Berlin, Prof. Kutzler, TU Berlin, 2003

Master's studens at TU Berlin, 1. generation, 2008

CS Master's graduation, 3. generation, Federal Foreign Office Berlin, Prof. Uwe Nestmann, TU Berlin, 2016

Afghan landscape

Ismail Khan, Governor of Herat Province, Prof. Mukhles, President of Herat University, 2004

Conference, TU Berlin, 2010

Afghan landscape

Qandahar Airport, 2014

Tomb of Said Jamaluddin, Kabul University Campus

CS Library of Kabul University,
Mrs. Dorothea Rüland, 2002

Internet connection for CS Faculty, Herat University, 2005

CS Master's graduation, 3. generation, TU Berlin, 2016

Mrs. Roya Mahboob, Herat, 2011

Street through the Afghan mountains

IT Conference Kabul, 2016

ITCB, 2014

President of Herat University, Herat, 2015

New constructon for CS Faculty, Herat University, 2021

Team from TU Berlin, CS Faculty, Herat University, 2005

Team from TU Berlin, near Herat, 2005

Afghan landscape

CS tutors, Herat University, 2005

Delegation: President of Qandahar University, Deputy Minister of Education, Kabul University, 2003

Qandahar University, 2011

Cable installation, CS Faculty, Herat University, 2005

10 year anniversary of CS Faculty Herat: Gouvernor of Herat Province, Representative of the German Embassy, Herat, 2014

10 year anniversary of CS Faculty Herat: Prof. Fayez, Minister of Higher Education, Herat, 2014

CS Faculty Team, Herat University, Herat, 2014

Minister of Higher Education, Mr. Obaid, TU Berlin 2012

Tomb and memorial near Herat

Afghan landscape

IT Conference, Kabul, 2010

IT Conference, Kabul, 2010

Minister of Higher Education, delegation from Afghan universities, TU Berlin 2012

Minister of Higher Education, delegation from Afghan universities, TU Berlin 2012

Tomb and memorial near Herat

Blue Mosque, Mazar-i-Sharif, 2013

IT Conference, Kabul, 2010

Conference, TU Berlin, 2008

Balkh Province / Mazar-i-Sharif

10 year anniversary of CS Faculty Herat, 2014

Conference, TU Berlin 2008

Alumni program, TU Berlin, 2011

Alumni program, Deputy Minister Prof. Babury, TU Berlin, 2011

Alumni program, TU Berlin, 2011

Alumni program, TU Berlin, 2011

Afghan landscape

President of Balkh University, 2014

Lecturers and students from Herat, TU Berlin, 2014

Alumni program, TU Berlin, 2012

Alumni program, TU Berlin, 2012

Alumni program, TU Berlin, 2012

Alumni program, TU Berlin, 2012

Alumni program 2016, Afghan Embassy in Berlin

Mrs. Roya Mahboob and her Robotics team, TU Berlin, 2017

CS Master's program, 3. generation, welcome at TU Berlin, 2014

PC Workshop, Herat University, 2012

Mr. Markus Potzel, ITCC Afghanistan, Kabul, 2017

IT Conference, MoHE, Kabul, 2015

CS Master's program graduation, 2. generation, Federal Foreign Office, 2012

Mrs. Roya Mahboob, representatives of the Federal Foreign Office, TU Berlin, 2017

IT Administrator Training, TU Berlin, 2008

CS Master's program graduation, 2. generation, Federal Foreign Office, 2012

Honor by the Faculty of Electrical Engineering and Computer Science of TU Berlin, 2015

CS Master's program graduation, 4. generation, Presidents of Kabul
Polytechnic University and Herat University, TU Berlin, 2018

IT Conference, State President Dr. Ashraf Ghani, Kabul, 2018

Agreement signing, Deputy Minister of Higher Education, TU Berlin 2017

Exhibition of IT projects, ITCC Afghanistan, 2017

Exhibition of IT projects, First Lady Mrs. Rula Ghani, ITCC Afghanistan, 2016

MoU signing, President of TU Berlin Prof. Thomsen, Minister of Higher Education Mrs. Mohmand, DAAD Secretary General Mrs. Rüland, TU Berlin, 2015

IT Administrator training, TU Berlin, 2008

CS Master's graduation, 1. generation, TU Berlin, 2010