



REPORT ON
THE DEVELOPMENT OF
VOCATIONAL EDUCATION
IN CHINA



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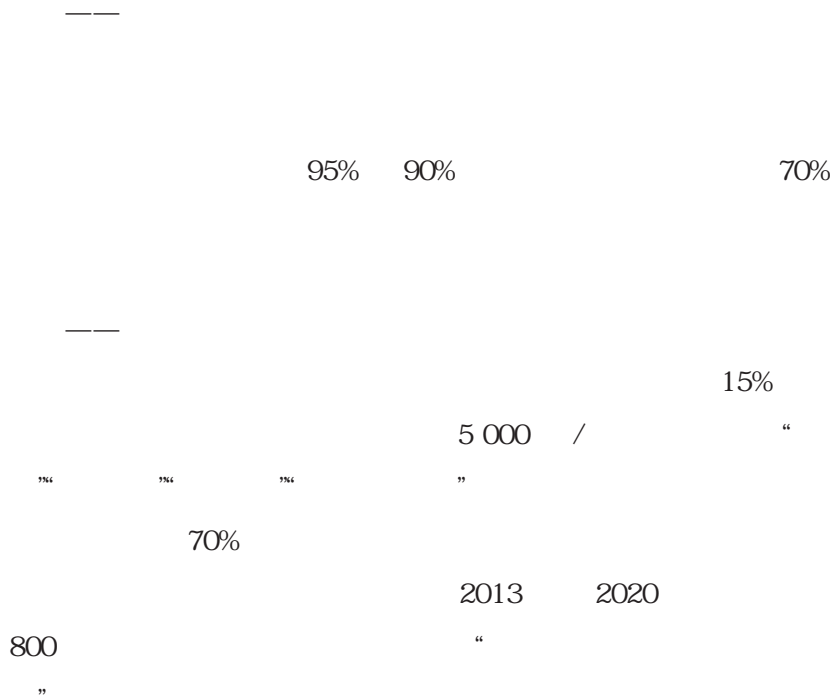
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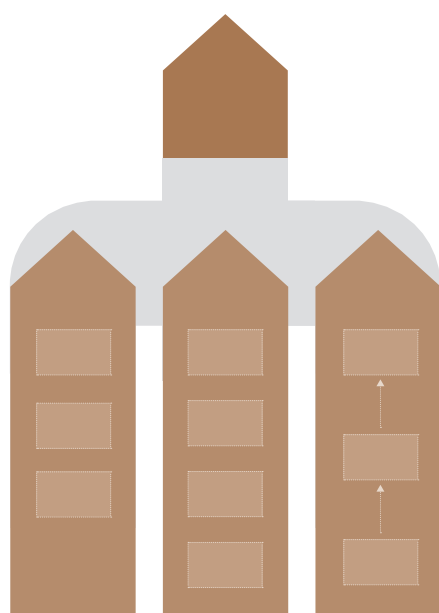
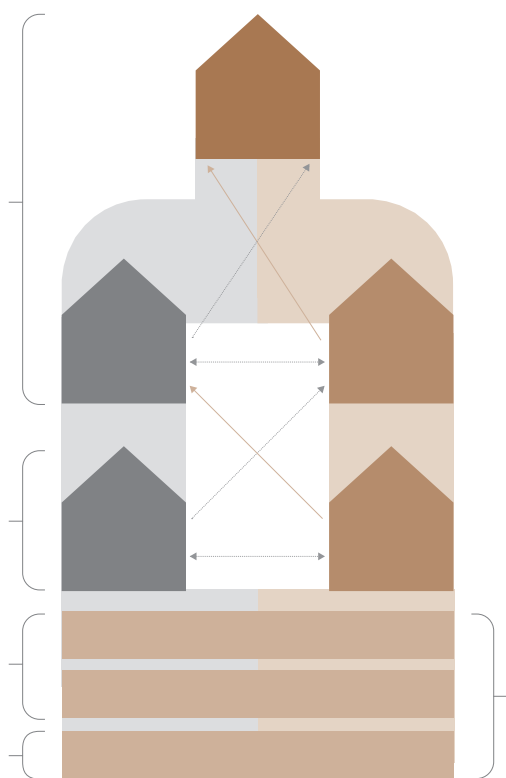
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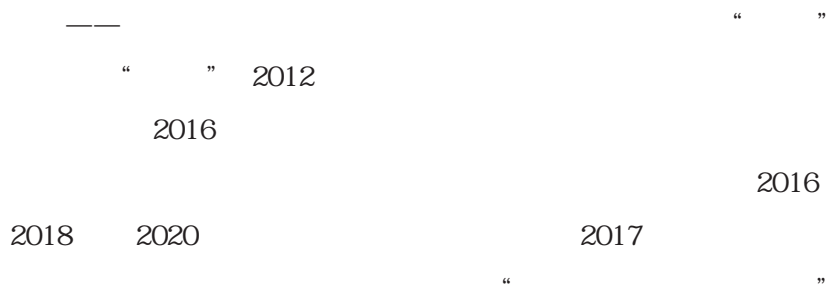
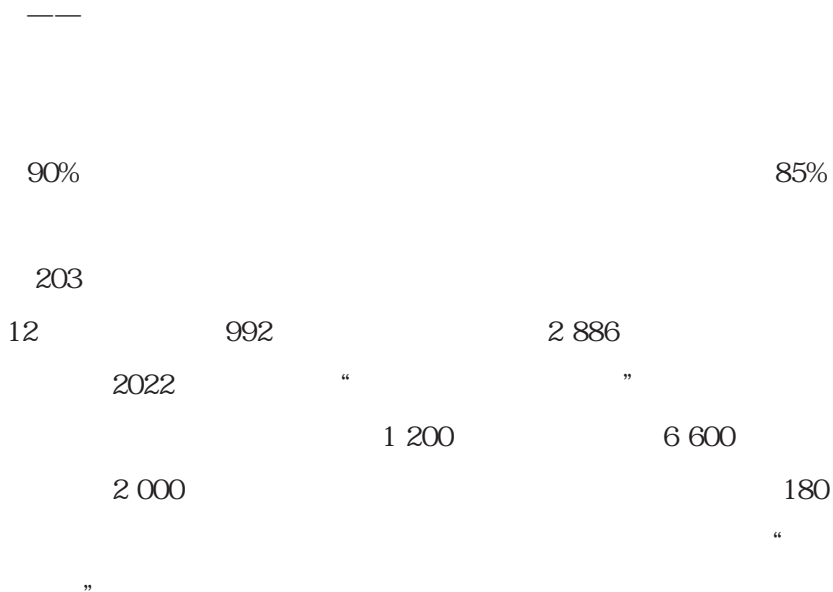
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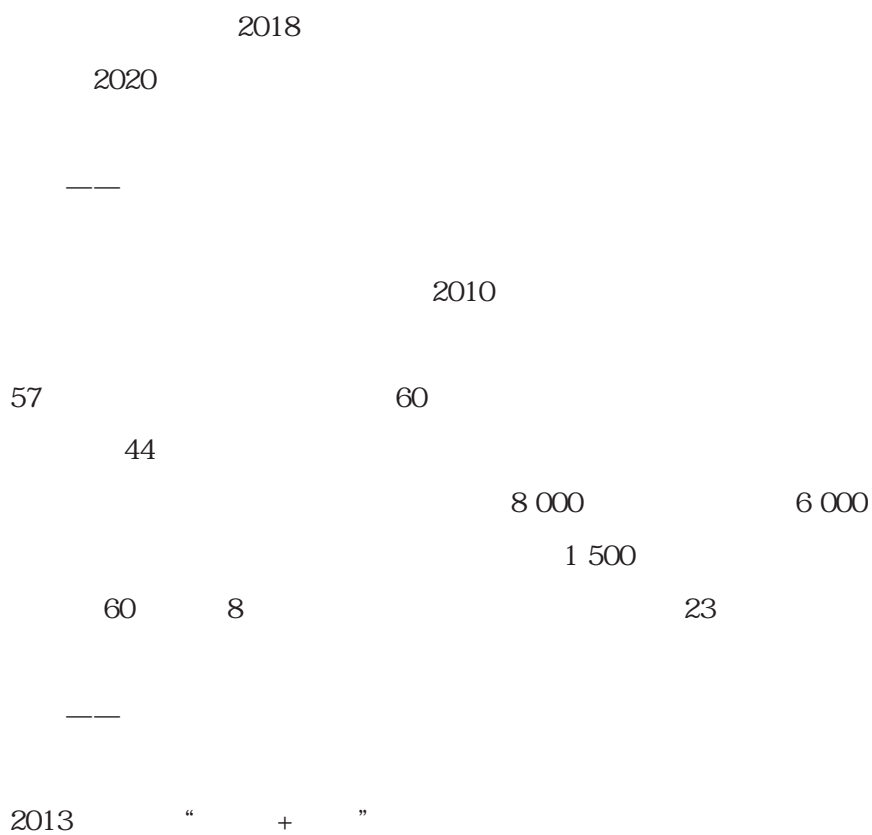
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Vocational education is part and parcel of the national education system and human resources development. To develop vocational education has become an important strategic option for countries in the world in response to economic, social, environmental, employment and population challenges, among others.

Vocational education in China has a long history. The time-honored apprenticeship in China used to take the form of passing skills from father to son, or from master to apprentice based on contracts or sectors. As early as the mid-1990s, to seek self-strength and prosperity in China, a group of people of vision created the Fujian Shipbuilding Academy, which marked the formal start of modern vocational education in China. Vocational education has always been closely linked with the destiny of the country and the nation and the happiness of the family, shouldering the historic responsibility of delivering wellbeing to the people through

fully,

outstanding contribution to supporting the transformation and upgrading of the national industrial structure, improving Chinese manufacturing and services, and safeguarding people's livelihood.

Through explorations and practice over the years, China has come up with a paradigm for the development of modern vocational education with distinctive features. It has been proven that to cater to the needs of economic and social development and industrial restructuring and to promote industry-education integration and school-enterprise collaboration constitute a driving force for the high-quality development of vocational education. To strike root in Chinese soil and apply it to national conditions to serve regional industrial development is what makes vocational education more adaptable. For vocational education to make a greater social contribution and win greater recognition, the fundamental means is to fulfill the primary task of cultivating virtues in the person, bring forth high-caliber technical personnel with both virtue and practical skills dedicated to lifelong learning, promote the seamless transition between the education chain, talent chain and the industrial chain and innovation chain, and facilitate employment and entrepreneurship.

“The ocean is vast because it embraces all rivers.” The vigor and vitality of vocational education worldwide would not be possible without the mutual learning of different countries with their unique concepts and experiences. Amid the trend of economic globalization, no country can pursue the development of vocational education with its doors closed. Only through exchanges and dialogues can there be shared progress and breakthroughs. China stands ready to not only learn from advanced practices and experience of vocational development in other countries, but also share its experience with other countries. With more openness

and a sense of responsibility, we will make greater contributions to the high-quality development of modern vocational education and the building of a community with a shared future for mankind.

This report is hereby released with the purpose of giving an account of the achievements in the development of vocational development in China, sharing the new measures and practices, and sending out the invitation for cooperation.

Shared Development

I	Supporting High-Quality Economic Development	59
II	Promoting Coordinated Social Development	61
III	Serving High-Quality Education System	63
IV	Promoting International Exchanges and Cooperation	65

Consolidating the Foundation

I	Define the Type of Vocational Education	69
II	Improving the Modern Vocational Education System	71
III	Enriching the Content of Vocational Education	74
IV	Building a Governance System of Multi-Player Coordination	77
V	Increasing Input into Vocational Education	81

Stay Grounded and Striving for Innovation

I	Adhering to Government Guidance and Multi-Player Operation	87
II	Cultivating Virtues and Attaching Equal Importance to Virtues and Skills	89
III	Adhering to Integration of Industries with Education in School-Enterprise Partnerships	90
IV	Stressing Practice-Oriented and Capabilities	92
V	Facing the Market and Promoting Employment	94
VI	Serving Each Individual Based on Specific Conditions	95

Openness and Sharing

I	Building New Consensus on the Future Development of Vocational Education	99
II	Expanding the Circle of Friends for International Vocational Education Cooperation	101
III	Building a Grand System for Human Skills Development through Cooperation	103

106

A great transformation in the history of human development, modernization is a process of promoting economic growth, revolution of thinking, institutional innovation and social transformation, with industrialization at its core. Chinese-style modernization is the modernization in a country with several thousand years of agricultural civilization and a massive population that covers multi-dimensions including economic, social, cultural and educational aspects, among others. Vocational education in China has been developed in sync with the modernization drive, with a role of serving economic development, improving people' s livelihood, optimizing the education system, and enhancing international exchanges, thus making irreplaceable contributions in the process of China' s modernization which faces the world.

China is accelerating its efforts for economic restructuring and industrial upgrading for a development path that is more efficient, equitable, sustainable and secure of higher quality. As the type of education that is most closely related to industries and serving the economy, vocational education has been playing an important role in human resources supply and productivity translation.

---Continuously providing the dividends of human resources for industries and the economy. Following closely the industrial chain, market signals, cutting-edge technologies and livelihood needs to adapt to economic restructuring and industrial transformation, vocational education in China now boasts over 1300 majors and over 120,000 major

qualification points, covering various sectors of the national economy. Over the past decade, vocational education has cultivated 61 million high-quality and highly-skilled personnel for various sectors. In sectors such as modern manufacturing, emerging industries of strategic importance and the modern service sector, over 70% of newly added labor forces at the frontline are graduates from vocational schools, thus releasing the population dividends, translating advanced technologies and equipment into real productivity, and providing fundamental guarantee and human resources for the strong vitality and smooth functioning of the industrial chain and supply chain in China.

---Providing leading force for accelerated development of the digital economy. With the IT application and smart transformation of industries, vocational education in China has followed closely cutting-edge digital technologies, kept the design of majors up-to-date, created a number of emerging majors, and improved the digital literacy of the students. Traditional majors have been upgraded, with majors fully digitalized from name to content so as to prepare students for the digital transformation. Efforts have been made to optimize major set-ups on 5G, artificial intelligence, big data, cloud computing, and the internet of things, with the focus on cultivating high-caliber professionals related to internet application technologies, and big data technologies and application to expand the supply of human resources with a high degree of digital literacy. Certificates of vocational skills in big data analysis and application, the maintenance and application of cloud-computing platforms, etc. have been developed and incorporated into the whole process of education and training in vocational schools. Joint training has been carried out between vocational schools and leading digital companies such as Huawei

and Tencent to cultivate a large number of professionals with high digital skills to serve the goals of digitalizing industries and developing the digital economy.

---Providing service for“ green technology” transformation of the ecological economy. China is accelerating low-carbon initiatives in various areas to preserve a sound ecological environment for the whole industrial chain. Vocational education has been involved in green skill development. Adding new majors such as green and low-carbon technologies and smart equipment and technologies for environmental protection, the supply of professionals skilled in green and low-carbon technologies has been expanded through vocational education. The concept of green and low-carbon technologies has been incorporated into the system of standards for vocational education. Green technology skills have been included in the National Vocational Students Skills Competition. Green elements and concepts have been integrated into the whole process of vocational education. China has strengthened cooperation with international organizations on the development of green technologies. Through the APEC Project“ HRD 01 2014 A Systematic Design of Green Skills Development in TVET” , the concepts of green, environmentally-friendly, and sustainable development have been brought into the vocational education and training system.

As an important means of increasing social mobility, preventing the stagnation of strata, and maintaining social vitality, vocational education has played an important role in satisfying people’ s needs for the

diversified development and promoting coordinated social development.

---Providing a passway to diversified development of the person. Guided by a grand education concept featuring openness, inclusiveness and integration, China has established a modern vocational education system that adapts to diversified development needs of the person and serves lifelong learning requirements with an integrated and holistic design, that provides opportunities for students of various characters, interests, and talents at different stages of learning so that everyone can make the best of their lives with bright prospects for education and career development. Every year around 300,000 ex-servicemen, to-be-employed workers, rural migrant workers and a new type of vocational farmers receive vocational education in China. The National Vocational Students Skills Competition is held for years on a roll to provide a stage for vocational students to show their talents and realize the values of their lives.

---Providing steps for high-quality employment. Following a market-oriented approach to serve development and promote employment, vocational education has followed industrial development closely. Training has been increasingly adapted to job prescriptions. The employment rate of vocational school graduates has been maintained at a high level, with that of secondary vocational schools and higher vocational schools surpassing 95% and 90% respectively. The major-to-job matching rate has been hovering steadily at over 70%. Vocational school graduates have occupied high-end industries and industrial high-ends. The income of higher vocational school graduates after half a year in employment is markedly higher than the average disposable income of urban residents.

---Providing a means to narrowing the wealth gap. Efforts have

been devoted to the development of vocational education targeting agriculture and the rural area. A quality system of resources for rural vocational education and training has been up and running. Over 5000 people per day among the new-type of professional farmers have received training by 15% of higher vocational schools, cultivating a large number of “rural experts”, “rural creators”, and “leaders in becoming rich” and effectively serving the system of modern rural industries. Over 70% of vocational students come from the rural area. Through vocational education, they have meaningfully promoted a new type of urbanization, constituting a thriving force for poverty reduction and rural revitalization. From 2013 to the end of 2020, a total number of over 8 million families have benefited from vocational education.“ One person in vocational education means one person in employment and one household out of poverty” . Vocational education has proven to be the most effective way to prevent poverty from passing down from one generation to the next. Vocational school graduates have become an important source of the middle-income group and an important force for rural revitalization.

A high-quality educational system is the intrinsic requirement of educational modernization. As a type of education that is equally important as general education, vocational education is an important and vibrant part of building a high-quality educational system.

---An important aspect for optimizing the educational structure. With the further deepening of the new round of scientific and technological revolution and industrial transformation, countries have paid

unprecedented attention to the coordinated layout of the whole industrial chain, with greater efforts for coordinated cultivation of R&D personnel, engineers, technicians, and professionals with varied skills. In recent years, China has taken vocational education as an important link to pursue major breakthroughs in optimizing the educational structure and carrying out comprehensive educational reforms, with improved quality, greater adaptability, and expanded scales. Vocational education has occupied half of the educational system in China in dynamic adaptability to the new economy, new technologies, new business forms and new occupations.

---A sure path to educational equality. China has always followed a people-centered approach. Vocational education has been taken as an important means to quality and balanced development of education in China for the goal that all the 1.4 billion population can have equal access to quality education. To ensure that everyone can have access to vocational education, the Chinese government has established a vocational education system that covers tuition exemption, subsidies, scholarships, student aid and student loans. For secondary vocational education, tuition exemption and aid have covered over 90% and 40% of students respectively, and those for higher vocational education nearly 30% and 25% respectively. Vocational education has made education and technological training of diversified forms available to people with disabilities or living in hardships, thus playing an important role in promoting coordinated development of vocational education, general education, special education, and continuing education.

“ A delicious soup is made by combining different ingredients.” China’ s vocational education faces the world, draws strength from both the East and the West, and continuously enhances itself through“ bringing in” and“ going global” . As an important part of international economic, technological, and cultural exchanges and cooperation, it helps build an open economic system.

---Facilitating international production capacity cooperation. With the“ going global” of Chinese businesses and products, to serve Belt and Road cooperation, China’ s vocational education has established stable relations with over 70 countries and international organizations. With the joint establishment of 20“ Luban Workshops” in 19 countries and regions, and the launch of featured cooperation projects of“ Chinese language plus vocational education” in over 40 countries and regions, a large number of local technical personnel and professionals have been cultivated who have a mastering of Chinese, and who are familiar with traditional Chinese culture and much needed by local Chinese businesses. Large numbers of vocational school teachers have travelled overseas to pass vocational skills and experience to local youth face-to-face, helping Belt and Road partners in cultivating technical professionals in their countries to propel their industrialization process.

---Promoting technological and cultural exchanges. China has actively participated in the World Vocational College Skills Competition to seek excellence through competition. Since joining the World Skills Organization in 2010, it has participated in five sessions of the World Vocational College Skills Competition and won a total number of 36 gold

medals, 29 silver medals, and 20 bronze medals. The events it participates and the size of the Chinese delegation have been expanding on a continuous basis. Facing Europe, a “China-Europe ‘dual system vocational education’ platform” has been created integrating industry with education. China has strengthened vocational education cooperation with competent companies in relevant areas in Germany, France, and Switzerland. It has established the C-CEEVEIL: China-Central Eastern Europe Vocational Education International League, a platform for cooperation with vocational schools of Central and Eastern European Countries. Facing Africa, the “China-Africa TVET Cooperation Program” has been launched and the “China-Africa TVET Cooperation Consortium” established, which have further strengthened contacts and exchanges with vocational schools in Africa. Facing Southeast Asia, the “China-ASEAN 100+100 Institutional Cooperation Flagship Programs” has been implemented, with 80 feature cooperation projects already identified. In 2022, China hosted the BRICS TVET Cooperation Alliance Conference, established the BRICS TVET Cooperation Alliance, and held BRICS Vocational Skills Competition,

Since 2012, the Chinese government has put vocational education on the same bar with general education. With continuously increasing policy supplies, innovations in institutional design, and accelerated development of a modern vocational education system, a modern governance system of vocational education with diversified providers has taken shape. China's vocational education has transformed from referring to general education to a relatively independent type of education, entering into a new stage of improving quality, seeking excellence and increasing added values.

In 2014, the State Council of China convened the National Conference on Vocational Education. Six ministries including the Ministry of Education released the“ Plan on the Establishment of a Modern Vocational Education System (2014-2020)” , which laid out the goal of establishing by 2020 a modern vocational education system with Chinese characteristics and world standards that meets the needs of development, integrates industry with education, sees a seamless transition from secondary to higher vocational education, connects vocational education with general education, and reflects the concept of life-long learning. T e Ministry of Education launched the“ Action Plan for the Innovative Development of Higher Vocational Education (2015-2018)” and the “ Action Plan for Improving the Management Level of Vocational Schools (2015-2018)” , which kindled the enthusiasm for vocational schools to improve the quality of their education.

In 2019, the State Council released the“ Plan on the Implementation of Vocational Education Reforms” , stating that“ vocational education

is a different type of education from general education and assumes an equally important position” . The document laid out the supporting pillars for institutional reforms of vocational education in China, and made available a number of substantial policy dividends. In 2020, nine ministries including the Ministry of Education released the “ Action Plan for Improving the Quality of Vocational Education (2020-2023)” , which further consolidated the working mechanism of macro state management, provincial-level coordination and guarantee, and independent implementation by schools. A total number of 4562 vocational schools from 31 provinces and the Xinjiang Production and Construction Corps signed up, with a total pledged investment of 307.5 billion RMB yuan. In 2021, the General Office of the CPC Central Committee, and the General Office of the State Council released the “ Opinions on High-Quality Development of Modern Vocational Education” , which had a systematic review of China’ s experiences of vocational education reforms and further consolidated the features of vocational education from the three perspectives of defining the type of vocational education, vertical integration of vocational education at various levels and horizontal integration of different types of education.

On May 1st, 2022, the revised “ Law of the People’ s Republic of China on Vocational Education” entered into implementation, stipulating that “ vocational education is a type of education that is equally important as general education, which is part and parcel of the national education system and human resources development, and which constitutes an important means of cultivating diversified talents, passing down technical skills, and promoting employment and entrepreneurship. T is marked that the system of modern vocational education has entered into a new stage

of law-based development and that the “type” of vocational education has got legal safeguards.

Over the past decade, vocational education reforms have gone into greater depth, with explorations made on setting up a “college entrance system for vocational education” , and implementing a separated admission system of “cultural quality plus vocational skills” . The process of vocational education with its features has been further standardized, with specific requirements on the goals of education, curriculum design, credit hours, teaching and practice, graduation requirements, etc., thus providing fundamental benchmarks for the cultivation and quality assessment of technical professionals. A mechanism for internship management has been established, with clearly-defined content and boundaries, and targeted measures on internship management of vocational schools. Undergraduate vocational education has been incorporated into the existing Bachelor’ s Degree system, highlighting the features of vocational education in the authorization and conferring of the Bachelor’ s Degree. From top design to institutions and standards, a whole set of vocational education system with Chinese characteristics has been established covering student admission to graduation and future job prospects.

In recent years, China’ s vocational education has actively adapted to the needs of socio-economic development, given equal importance to school education and vocational training, promoted horizontal integration of vocational education with general education and accelerated the building

of a modern vocational education system that serves life-long learning of the people (Chart 1). Vocational education covers the stages of vocational enlightenment education, secondary vocational education, and higher vocational education. Vocational training covers various types including skills training, pre-job training, re-employment training, and staff training, among others. Based on the standards of vocational skills, vocational training falls into the categories of primary, secondary, and higher vocational training and other adaptive training. Enterprises, schools and social organizations can also provide vocational training.

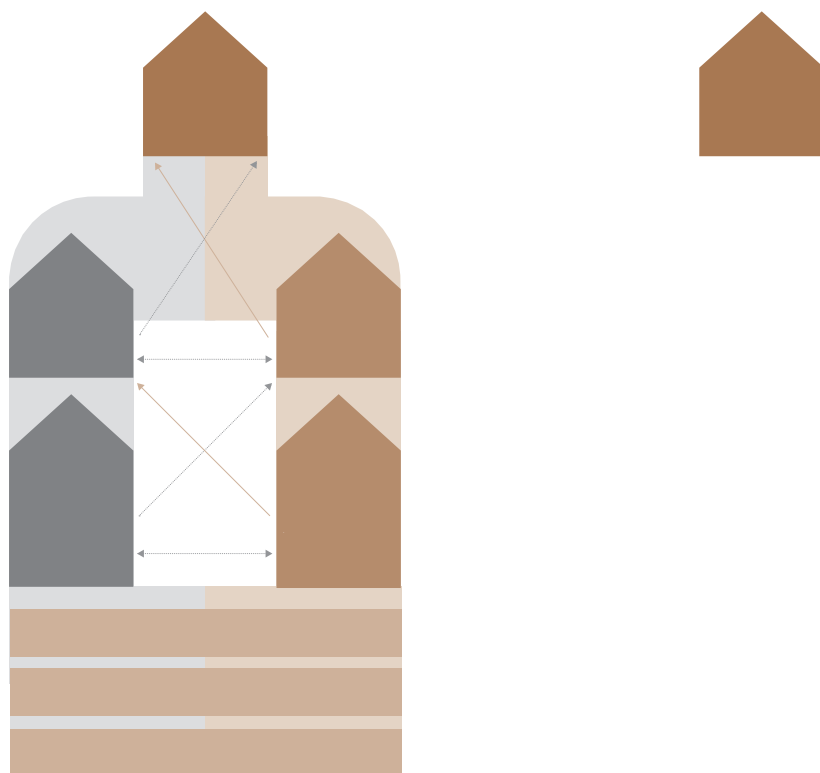


Chart 1 Modern Vocational Education System

Vocational enlightenment education is carried out during primary education. Currently over 4500 secondary and higher vocational schools have supported primary and middle schools in carrying out labor education and practice as well as career enlightenment education. Nearly 110,000 primary and middle schools have been involved, with the participation of over 15 million students every year.

Secondary vocational education is provided by general secondary schools, secondary schools for adults, higher vocational schools and technical schools, which mainly admit junior middle school graduates or people with corresponding educational backgrounds. The term of education is mostly three years. In 2021, there were altogether 7294 secondary vocational schools in China (not including technical schools), with an admission of 4.8899 million and 13.1181 million on-campus students, accounting for 35.08% and 33.49% of total admission and on-campus students of senior middle school education respectively. Graduates of secondary vocational schools can continue to receive a junior college education, undergraduate education and post-graduate education.

Higher vocational education includes junior college education, undergraduate education and beyond. It mainly admits graduates of secondary vocational schools, general senior high schools and those with corresponding educational backgrounds. The term of education is generally three years for junior colleges and four years for colleges. In 2021, there were altogether 1518 higher vocational schools (including 32 vocational colleges), with an admission of 5.5672 million and 16.0303 million on-campus students. The number of vocational undergraduate and junior college students and on-campus students accounted for 55.60% and 45.85% of the total undergraduate admissions and on-campus

students respectively.

In 2019, China began to launch the “ Action Plan for Improving Vocational Skills”. By 2021, over 50 million vocational skills training with government subsidies had been carried out. In 2019, the Chinese government established a special account of 100 billion RMB yuan for coordinating overall efforts to improve vocational skills from the surplus of the unemployment insurance fund. By far over 10,000 vocational schools nationwide have carried out hundreds of millions of training of various kinds. Among those providing training services for new-type of professional farmers, the annual training by 141 higher vocational schools has exceeded 5000 people per day, and that for 86 schools has surpassed 10,000 people per day.

China’ s vocational education has moved from the expansion of scale to quality improvement and institutional optimization, with notable progress in standard setting, faculty building, school-enterprise coordination and IT-based digital practice.

---Establishing a national standard system for vocational education, which integrates majors, teaching, curriculum, internship and on-spot training. A catalogue of majors has been compiled which integrates secondary vocational education, higher vocational education and vocational undergraduate education in response to the emergence of new technologies, new business forms and new occupations. Standards have been published for 230 majors in secondary vocational education, 347 majors in higher vocational education, 51 on-spot training sites of

vocational schools, 136 internship positions and 9 special equipment and apparatus operations. 497 standards have been published for occupational skills identification, together with training standards for over 60,000 sectors and 42 categories of enterprise training.

---Building a “double-qualified” faculty. The “Program on Improving the Quality of Vocational School Teachers” has been launched. A four-tiered training system has been up and running where the state provides guidance with overall implementation coordination at the provincial level and distinctive studies at individual schools, guaranteed by cities and townships. Since 2012, the central finance has had a total input of 5.3 billion RMB yuan, with a matching fund of 4.3 billion RMB yuan at the provincial level. Over 1.1 million vocational school teachers have participated in national or provincial-level training. In 2019, four ministries including the Ministry of Education listed 102 enterprises as the bases of practice for vocational school teachers. A total number of 537 projects on teachers’ training and practice have been published in two batches on the National Smart Vocational Education Platform, which has served more than 20,000 teachers including national-level outstanding teams for teaching innovations. In 2019, the pilot work on the establishment of teaching innovation teams in vocational schools was launched. 364 such teams have been established in two batches, which led to the creation of over 500 provincial-level outstanding teams for teaching innovation, and over 1600 such teams at the school level. The model of module-based teaching through the sound coordination of teachers has gradually taken shape. Team capacity has thus been comprehensively enhanced. From 2012 to 2021, the number of full-time teachers in vocational schools increased from 1.11 million to 1.29 million,

an increase of 17%. The percentage of “double-qualified” teachers accounted for over 50% of teachers in vocational schools.

---Building a mechanism where both the enterprises and schools are major players in vocational education. Over the past decade, policies of various types have put enterprise-school collaboration high on the agenda, which supports vocational schools and enterprises in conducting cooperation through various means such as order-based training, modern apprenticeship, industrial colleges, and group-sponsored training and education. By 2021, around 1500 vocational education groups had been established, with the participation of over 30,000 enterprises and nearly 70% of vocational schools. Over 3000 industry-education integrated enterprises had been cultivated. Pilot work has been carried out for 21 cities featuring the integration of industry with education. Enterprises of the integrated type are entitled to preferential financial, fiscal, land and taxation policies such as tax reduction based on added educational values. Vocational schools and enterprises have jointly established 24,900 on-spot training bases, an increase of 8.6% YoY. During the 13th Five-Year-Plan period, 558 modern apprenticeship sites were laid out throughout the country, covering 501 vocational schools and over 1000 major qualification sites, and benefiting over 100,000 students. Pilot work was carried out in 22 provinces for a new type of apprenticeship, with the participation of 158 enterprises, cultivating nearly 20,000 staff under the new apprenticeship model, among whom 3670 turned into formally employed staff.

---Promoting digitalization of vocational education. In recent years, China has vigorously promoted IT application in vocational education, with notable progress made in the building of information infrastructure,

the development of digital educational resources, as well as human resources training and management system application, thus accelerating the digitalization process. Over 90% of vocational schools have made available smooth and fully functional campus internet. Over 85% of vocational schools have met the digital campus standard. A number of online-course platforms have been set up. 203 national-level teaching resources databanks have been established, covering 992 premium open classes of 12 disciplines such as the liberal art, engineering, agriculture and medicine available on the internet and 2886 premium national-level shared classes. In 2022, China implemented the “Strategic Action Plan for Education Digitalization”. The National Smart Vocational Education Platform was formally launched online, which has pooled together 1200 databanks, 6600 online premium classes, and over 2000 video open classes, with users in every province of the country and over 180 countries and regions. As the result, with the support of digital technologies, students could continue their education during school closures.

The principles of education governance featuring the separation of management, operation, and evaluation have been established by Chinese government, which have clearly defined the relations of power and responsibility between governments, schools and society, and improved the ecology for vocational education. A systematic, scientific, and fully-functioning system has been set up, with clearly-defined boundaries and active roles of multi-players.

---Enhancing the role of overall coordination and management by the government. Reforms have been deepened to transform government functions from“ overall management” to“ supervision and guidance” . In 2012, the“ Regulation on Education Supervision and Guidance” was released, which clearly defined the role of government as supervision and guidance in the area of education. In 2016, the“ Interim Regulations on the Evaluation on the Operating Capabilities of Secondary Vocational Schools” and“ Interim Regulations on the Evaluation of Higher Vocational Schools’ Capabilities to Meet Social Development Needs” were released. Three rounds of school evaluation were carried out in 2016, 2018, and 2020. In 2017, the“ Regulations on the Evaluation of Fulfillment of Responsibilities in Education by Provincial-Level People’ s Government” was released, making“ accelerating the development of modern vocational education” an important part of the evaluation. Starting from 2018, evaluation has been carried out every year to see to it that people’ s governments at the provincial level fulfill their responsibilities concerning education. In 2020, the“ Opinions on Reforms of Education Supervision and Guidance Systems and Mechanisms in the New Era” was published, which established the education evaluation and monitoring mechanism with the overall management of education supervision authorities and multi-player participation.

---Emphasizing sector-wise self-discipline and active participation. Attention has been given to give full play to sector-wise guidance and the major role of enterprises in the operation of vocational schools. Information on industrial planning and human resources requirements has been released on a regular basis, guiding schools to follow market demand and the employment situation closely and dynamically readjust

the catalogue of majors. In 2010, work started on the establishment of the Steering Committees for Vocational Education for Various Sectors Nationwide (hereinafter referred to as the Steering Committees). After five rounds of adjustments and changes of terms, there are currently 57 Steering Committees for various sectors, which have altogether published 60 guiding reports on future human resources requirements and major set-up forecasts. 44 Steering Committees have led the efforts to formulate teaching standards for vocational education. Over the past five years, with the guidance of the Steering Committees in various sectors, enterprises and vocational schools have worked together in developing over 8000 courses, and compiling over 6000 textbooks. Enterprises of various sectors have contributed over 150 billion RMB yuan worth of training equipment and facilities and over 6 billion RMB yuan of construction costs. Over 80,000 enterprise staff have worked part-time at vocational schools. Over 230,000 vocational school teachers have had on-site practice in enterprises.

---Improving autonomous capabilities of school operators. Great autonomy has been given to vocational schools in their school operation. Efforts have been rolled out to guide a modern school system based on charters to stimulate the vitality and initiative of schools. In 2013, explorations started on an exam and admission system of "knowledge plus skills", to improve the various means of exams and admissions such as admission based on grades of college-entrance exams, independent tests, comprehensive assessment, skills tests, seamless transition from secondary vocational school to higher vocational school, and test-free admissions. A system of exams and admissions with Chinese characteristics featuring overall management of provincial-level government, independent choice of

students, diversified school admission, and effective social supervision has been established. A mechanism of record-keeping of the major set-up of higher vocational schools has been established. Higher vocational schools have the autonomy to set any major on the guiding catalogue. Starting from 2015, work began to roll out on the diagnosis and improvement of vocational school education to further improve the self-guarantee system for education quality and effective operation, and see to it that vocational schools shoulder the primary responsibilities for education quality.

---Building a social supervision system. The role of evaluation by various stakeholders has been brought into full play to guide the sound development of vocational education. By using third-party evaluation, quality evaluation of human resources cultivation is carried out on a regular basis. With the functions of monitoring and evaluation as well as forecast and pre-warning, the capacity for dynamic monitoring of education has been improved. Localities are encouraged to explore the establishment of a region-wide comprehensive education evaluation system based on big-data technologies, so as to further improve teaching quality monitoring. With attention to quality analysis and result feedback, the strengths and problems in the operation of vocational schools will be identified through all-dimensional targeted diagnosis. Starting from 2012, an annual report on the quality of higher vocational education has been published. Starting from 2016, an annual report on the quality of secondary vocational education has been published. The contents of the reports have been improved every year, with the quality awareness of vocational schools markedly increased.

Fiscal input into vocational education at various levels has been increased. The system of fiscal input has been improved based on school scale, the cost of training, and the quality of education. Social capital has been fully tapped to develop modern vocational education. Non-governmental players have been encouraged to join the forces in providing vocational education.

---Giving full play to the guiding role of public finance. Financial authorities at various levels have given priority to vocational education, with more educational expenditure on vocational education. During the 13th Five-Year-Plan period, a total of 2.4 trillion RMB yuan was put into vocational education in China, an annual increase of 7.8%, of which fiscal allocations on vocational education reached 1.84 trillion RMB yuan, an increase of 8.6%. The percentage of fiscal allocation on vocational education in overall vocational education input has been on the increase every year. The mechanism for fiscal allocation of vocational education per student has been continuously improved. The mechanism of fiscal allocation per student for secondary and higher vocational education has been established in every province of China. By the end of the 13th Five-Year-Plan period, the average fiscal allocation for secondary and higher vocational students had reached 16,000 RMB yuan. National student aid had covered more than 5.8 million secondary and higher vocational students. Total fiscal input reached around 11.9 billion RMB yuan, with the major beneficiaries being students from the 11 concentrated poor regions and students of registered poor households.

---Non-governmental players are encouraged to provide whole or

partial vocational education. SOEs (state-owned enterprises) and private capital have become important forces for vocational education. A total of 435 SOEs have set up institutions of vocational education, including 197 central enterprises and 238 local enterprises. There are currently 337 higher vocational schools operated by non-governmental forces, with 3.23 million on-campus students. There are 2.49 million on-campus students in non-governmental secondary vocational schools. Explorations have been made by Chinese government to carry out pilot work on sharing-holding reforms and mixed-ownership reforms of vocational education. For instance, Shandong province took the lead in publishing the “Guiding Opinions on Mixed-Ownership Vocational Schools (Interim)”, with clear stipulations on the forms of school operation, thresholds for school initiation, and management requirements. 47 vocational schools in the province have carried out mixed-ownership reforms, driving up over 10 billion RMB yuan of social capital input.

---Implementing projects with amplifying effects. Since 2006, the Chinese government has made a total input of over 500 billion RMB yuan in a series of major projects including the plan for national-level demonstration (backbone) higher vocational education institutes, the plan for demonstration secondary vocational schools for education reforms, the project to improve the capacity of higher vocational schools to provide professional services for the development of industries, and the program to meet operation standards for vocational schools. With such support, 199 national-level demonstration (backbone) higher vocational schools, 1000 demonstration secondary vocational schools for education reforms, 197 schools under the “program for high-level higher vocational schools and major set-up with Chinese characteristics”, and over 3000 on-spot

training bases have sprung up, which has greatly improved the conditions for vocational schools and guided the content-intensive development of vocational education in China.

Vocational education is part and parcel of the national education system and human resources development in China. Fully tapping into the institutional strength of socialism with Chinese characteristics, combining government guidance with market orientation and growing the economy with serving people's wellbeing, linking education with industries, a system for the development of modern vocational education has been established, and a Chinese model for the development of vocational education has taken shape, which has injected strong impetus for Chinese-style modernization.

With the development strategy of putting education front and center, China has put vocational education high on the agenda of economic and social development. Attaching great importance to vocational education and making good use of both the“ visible hand” of government and the“ invisible hand” of the market, a paradigm of diversified vocational education operation has taken shape with strong government pushing and deep participation of social forces.

---Emphasizing government guidance. The Chinese government has shouldered the important responsibility of developing vocational education, incorporating vocational education into overall plans for national socio-economic development in its overall efforts to promote employment and entrepreneurship, the transformation of development modes, industrial restructuring, and technological upgrading. Fiscal allocations have favored vocational education and public resources

have prioritized meeting the needs of vocational education and human resources development. The government has formulated development plans, policies and basic standards and rolled out a number of demonstration projects. A central leadership group on education has been set up at the national level, with the joint inter-ministerial mechanism of coordination on education established by the State Council, providing overall coordination on the development of vocational education in China. Educational and administrative authorities of the State Council are in charge of overall planning, comprehensive coordination, and macro management for vocational education. Other ministries of the State Council fulfill their defined functions concerning various aspects of vocational education. People's governments at the provincial, autonomous region and municipality levels are responsible for vocational education development within their jurisdictions. A mechanism of central government-local government coordination with the localities playing a major role has been improved. On the basis of macro-state management, the initiatives of localities have been fully respected to promote the development of vocational education in all respects.

---Encouraging diversified providers of vocational education. With a unified system of admission threshold, various non-governmental forces are supported to participate in vocational education on an equal footing through various means such as the input of capital, knowledge, technology, or management. Vocational schools by various stakeholders enjoy the same legal status. Vocational schools independently run by enterprises, or operated by enterprise groups or in mixed-ownerships have become important forms of vocational education. Relevant sector-wise a

of China, sector organizations, enterprises, and public institutions shoulder responsibilities for vocational education according to law with their participation, support or operation. Multi-stakeholder provision of vocational education has enriched the resources of vocational education, released market vitality, and increased the adaptability of vocational education.

What kind of people should we cultivate is the primary question for education. Vocational education in China has always adhered to the cultivation of virtues and combined the cultivation of virtues with the training of skills, with the purpose of cultivating high-quality technical professionals and prominent craftsmen.

---Combining the cultivation of virtues with the training of skills. Education will come to no avail without the cultivation of virtue. The fundamental purpose of education is to nurture virtuous people. The Chinese nation has always valued morality and good conduct, believing that "virtue is the most valued quality among all talents." The Chinese tradition of valuing virtue is inherent and reflected in vocational education, with its focus on the all-round development of students, integrating the core socialist values into the whole process of the cultivation of talents. Efforts have been made to press ahead with political and ideological education, with major-related courses and political courses reinforcing each other. Attention has been paid to combining fundamental knowledge with professional capabilities, theories with practice, and technical skills

with cultural quality, so as to ensure that students of vocational education can have a sound and all-round moral, intellectual, physical, and aesthetical grounding with a hard-working spirit.

---Stressing the integration of professional ethics with technical skills. Calling for great craftsmanship, focusing on future career development of vocational students, and in response to the intrinsic requirements of the society and enterprise on technical professionals, the state has raised the requirement of integrating the cultivation of professional ethics in curriculum development, standard-setting for teaching, and standardized definition of professional capabilities. As a result, a large number of students that are patriotic, professional, hardworking with moral integrity have been cultivated that have a sense of belonging and fulfillment in their profession and assume a right attitude to labor while mastering certain skills in a relentless pursuit for excellence, innovation, and craftsmanship.

China has taken it as an important industrial policy and education policy to integrate industry with education and to promote school-enterprise partnerships, reflecting it in every aspect of economic transformation and the whole process of human resources development in vocational education.

---Taking industry-education integration as a basic route to the development of vocational education. Governments at various levels have planned vocational education in sync with economic and social development, integrating the principle of education-first and talent-

first in various policies. Efforts have been made to coordinate vocational education with the scale, structure and levels of human resources development. Facing the needs of industries and regional development, the lay-out of vocational education resources has been optimized to accelerate structural readjustment for human resources development, which has facilitated the integrated development of education and industries. Guided by relevant state policies, taking the cities as the key links and various sectors as pillars, a number of pilot cities have been identified exemplifying in the integration of industries with education with the focus on enterprises. A group of leading sectors promoting industry-education integration have emerged. A myriad of enterprises leading in industry-education integration have stood out. Such efforts have promoted the seamless transition of the education chain and the talent chain with the industrial chain and the innovation chain.

---Taking school-enterprise cooperation as the basic means for running vocational schools. Relevant sector-wise organizations, enterprises, public institutions and vocational schools have established cooperation mechanisms in terms of admission and recruiting, human resources development planning, building contingents of faculties, major planning, curriculum design, textbook development, teaching design, teaching implementation, quality assessment, scientific research, technical services as well as the new platforms for translating scientific findings into tangible outcomes and for technological innovation, and the building of institutes for technical transfer and on-spot training bases. Matching major set-up with industrial demands, curriculum design with professional standards, the teaching process with the production process, enterprises have been deeply involved in the whole process of human resources

development. Enterprises are brought into schools and vice versa, with both jointly establishing training bases of a manufacturing nature. Sector-wise organizations have been involved in the formulation of major catalogues and professional standards, as well as consultative services of human resources demand forecasts and career development, which has brought the supply of human resources more tailored to market demands based on informed decision-making.

Practice is what sets vocational education apart from other forms of education. The laws governing the cultivation of technical personnel and professionals have been followed in China's vocational education with the five-pronged integration of industry, sector, enterprise, occupation and major. Innovative teaching models have emerged, and a large number of high-quality labor force have been cultivated that support the development of the country.

---Adhering to the core concept of combining theoretical knowledge with practical skills. China has adopted a teaching model of taking practice as the mainstay, and combining school education with practical skills and social practice. Schools and enterprises work in partnerships in formulating human resources training schemes. Curriculums are designed based on the needs of production and specific positions. Module-based systematic training systems have been developed, with practical teaching accounting for over 50% of total credit hours. Teaching models based on projects, case studies and the working processes are scaled up, with the purpose of learning while doing and doing while learning. The teaching

activities stress the integration of teaching, learning, and on-spot training so as to improve the practical capabilities of students.

---Establishing a dual system of “academic degree plus capability certificate”. In China it is imperative for workers to acquire necessary vocational education before employment or taking positions, supported by a system of academic degree, training certificate, professional qualifications certificate and vocational skills certificate. Academic degrees comprehensively reflect the quality of cultural education. Vocational skills certificates reflect the comprehensive capabilities needed for vocational activities and career development, promoting the alignment of teaching standards with professional standards. Vocational students are encouraged to acquire vocational skills certificates of various kinds on top of degrees to improve their employability and entrepreneurial skills.

---Adopting a system of apprenticeship with Chinese characteristics. The Chinese-style apprenticeship is based on in-depth cooperation between schools and enterprises, featuring the major relationship of masters guiding apprentices, mainly taking place in real workplaces. It is the primary model of cultivating technical personnel with schools and enterprises working in partnership. Apprenticeship is recommended for highly practical and technical majors. Through integrating school admission with factory recruitment, deepening the collaboration between

Through continuously optimizing the structure and layout of vocational education, China has upgraded the system for the cultivation of human resources, improved the employability and capability of students, and promoted full and high-quality employment of students.

---Matching major set-up with market demands. China has emphasized the role of effective adjustment of human resources supply based on job market changes. The majors of vocational schools have evolved with the dynamic development of industries. The set-up of majors in vocational education has followed the approach of overall planning, dynamic adjustment and autonomous decision-making. The catalogue of majors would undergo a large-scale overhaul every five years, with minor adjustments every year. In addition to undergraduate majors and state-controlled ones, vocational schools have the discretion to set up majors within the catalogue or apply for extra-catalogue majors.

---Matching the content of teaching with future employment positions. Vocational schools follow the new economy, new business forms and new occupations closely and include new technologies, new techniques, and new norms into teaching standards and curriculums in a timely fashion. Focusing on the direction of technological transformation and industrial upgrading, efforts have been made to clearly define talent cultivation standards and come up with scientific and strictly-followed human resources training schemes, so as to cultivate high-quality and highly-skilled talents that can meet the requirements of high-end industries and high-end needs of industries. Vocational schools have dovetailed training with the requirements of employment positions to

ensure their seamless transition in terms of technology spreading, poverty alleviation, training for labor transfer and social life education, with the purpose of promoting more adequate and higher-quality employment.

Vocational education is an important livelihood project, playing an irreplaceable role in improving the employability and entrepreneurship of students, social skills uplifting, and their lifelong development.

---Providing diversified services for age-appropriate youth and various other groups. Believing that education shall be based on individual needs and shall not be uniform, vocational education tries to provide students with equitable and suitable options, so that students of different characters, interests and potentials can all have the education they need. The door of vocational schools is open to everyone, not limited to age-appropriate students only. Junior and senior middle school graduates, farmers, rural migrant workers, ex-servicemen, staff already in employment, and the unemployed all have access to vocational education and training through flexible means in an environment where everyone can bring their potential into full play. Since 2019, higher vocational schools have expanded their enrollment for three consecutive years, with an expanded admission of 4.13 million, among whom 28% are not graduates directly from secondary education.

---Promoting the integration and mutual recognition of various types of education. Based on the national credit bank for vocational education, a system of recognition standards, credit standards and credit accumulation has been established that covers various types of education and training

including both school education and non-school education, formal learning and informal learning, adult education and vocational training. As a result, everyone can have a learning account that keeps a record of what has been learned and achieved, so that each learning experience can have social value and the achievements of learning are comparable, portable and linked with one other.

It is our vision to build platforms for exchanges and cooperation to share with the world the outcomes of vocational education reforms in China. China will unswervingly uphold opening up with an international vision and an open mind, and get deeply involved in the currents of reforms of vocational education worldwide. With active efforts to build platforms for international exchanges and committed to poverty reduction, job increase, and livelihood improvement, China will shoulder more responsibilities and obligations to the best of its ability and contribute Chinese solutions to global education governance and the fostering of a community with a shared future for mankind from the angle of education.

Guided by the concept of opening up featuring open cooperation, mutual benefit, innovation and sharing, China has sped up the digital transformation of vocational education, taken a green approach to human resources development and skills supply, and continuously made vocational education more adaptable.

---Building consensus on and implementing the concept of digital vocational education, China has accelerated its digital transformation. Taking digitalization as a prioritized area of strategic importance for social fairness and fair employment, China has expanded the development and application of quality digital technologies and helped backward regions and vulnerable groups in digital capacity building. In the area of vocational education, China has pursued joint consultation and shared results, setting digital standards for vocational education through cooperation, developed

digital courses for vocational education, and promoted the sharing of quality resources of vocational education. China has worked with Belt and Road partner countries and regions in the application and availability of digital technologies, increased the supply of digital skills, and cultivated digital literacy as a core capability in vocational education. Following the development needs of the digital era, new models have been explored for the cultivation of digital industry talents.

---Responding to the development needs of the green economy and expanding the supply of talents with green skills. Green transformation of vocational education has been taken as a priority. Green development of vocational education has been incorporated into national plans, regional government policies and scope of responsibilities for institutes of vocational education. Great efforts have gone into the studies on the routes to the green development of vocational education, integrating it into courses, textbooks, teaching, evaluation, assessment and other related aspects. The planning of majors, training models and definition of talents pertaining to vocational education have been improved continuously, so as to provide strong human capital support for the development of the green economy. International cooperation projects on green skills development in vocational education have been implemented to build platforms for international collaboration to realize carbon peak, carbon neutrality, and green skills development.

---Facing each individual, serving each individual, and making vocational education more open and shared. Vocational education has responded to the individualized and diversified needs of the entire members of the society to participate in work and to integrate into social life, which has improved the circumstances for vulnerable groups such as

women, the unemployed, youth, and people with disabilities and increased social resilience. Focusing on the needs of life-long learning and career development of individuals, efforts have been made to strike a balance between transferrable and soft skills with professional skills, optimize the provision of policies and mechanisms and make new contributions to improving the wellbeing of people of all countries.

Friends of the same mind facilitate each other' s success. China will build more cooperation platforms, and create more cooperation channels to engage in practical exchanges and dialogues and promote the vigorous development of vocational education worldwide.

---Establishing cooperation mechanisms of mutual learning, joint consultation and shared results. China has led the efforts of the World Vocational and Technical Education Development Conference, gradually making it an institutionalized conference with international influence. Meanwhile, efforts have been continued on the World Vocational College Skills Competition, and the World Expo on the Integration of Vocational Education and Industry. The World TVET League was launched. Mechanisms galvanizing international cooperation on vocational education have been put in place to bring the benefits of vocational education reforms to the entire mankind. Vocational education has also been an important part of international cooperation mechanisms including the Forum on China-Africa Cooperation (FOCAC), China-ASEAN cooperation (10+1), and BRICS cooperation, with ever-expanding scope

of cooperation, which has facilitated mutual understanding, experience sharing and joint development.

---Implementing action plans for international production capacity cooperation through vocational education. China has expanded cooperation with Belt and Road partner countries, ASEAN members, countries along the Lancang-Mekong Rivers and African countries, focusing on the high-speed railway, telecommunications, smart manufacturing, aviation, shipping, and agricultural technologies. A framework of vocational education serving international production capacity cooperation has been put in place. The action plan for serving international production capacity cooperation has been implemented. The projection of vocational education resources has been optimized in an orderly fashion. Trials have been made for Chinese enterprises and vocational schools to run schools overseas, thus facilitating the synchronized “going global” of Chinese vocational education and Chinese enterprises. Priority has been given to the SGAVE project with Germany, the “Industry 4.0” Project of Sino-German Alliance of Enterprises and Education, the MOE-Swiss GF Intelligent Manufacturing Innovation Base Construction Project, the MOE-Swiss ABB Digital Transformation Project for Integration of Enterprises and Education, the SE Green and Low-Carbon Project for Integration of Enterprises and Education with France, and the China-Africa TVET Cooperation Program, which have gone a long way in forging international synergy to tackle common challenges of mankind, and providing systematic and high-quality Chinese vocational education plans for industry-vocational education integration, job creation, and poverty reduction and alleviation.

---Promoting multi-lateral dialogues on vocational education among

international organizations. China has warmly responded to the initiatives and events of international organizations including the International Labor Organization, UNESCO, World Bank and OECD to help countries in need to improve their standard of vocational education. China has called on more multi-lateral dialogues and greater coordination and communication and actively participated in vocational education oriented towards emerging industries, developing inclusive and open vocational education, and formulating skills development strategies, thus contributing Chinese solutions to issues of international interest such as industrial development, skills development and stabilizing employment.

The new round of technological revolution has raised brand new requirements and challenges for the quality structure and capability structure of human beings. China is prepared to work with countries around the world in joint consultation to build a system of human skills development.

---Building an upgraded version of Belt and Road vocational education cooperation. In the spirit of the“ Action Plan for Belt and Road Cooperation in Education” , China will continuously expand channels of international cooperation with Belt and Road partner countries and build ever broader platforms for international development and exchanges. The establishment of the Industry and Education Collaborative Innovation Center for Belt and Road Vocational Education has propelled exchanges and cooperation between enterprises and vocational schools of Belt

center, valuing capabilities and skills, integrating industry with education and being grounded in specific local conditions, China will continuously improve the distribution of “Luban Workshops” worldwide through joint research and joint development for shared benefits and win-win outcomes. The “Luban Workshop Construction Alliance” will be continuously improved. EPIPs (Engineering Practice Innovation Projects) featuring Chinese characteristics and a global vision will continue to be scaled up, based on the EPIP research centers already established in Thailand, Portugal, and Ethiopia. Vocational schools with the right conditions are encouraged to set up “Luban Workshops” overseas, bringing advanced teaching models and quality teaching equipment to overseas partners. Building on the existing teaching standards for international majors,

Education builds the foundation for the future. Technologies bring transformation to our lives. Vocational education enjoys bright prospects and can make great things happen in the process of human development.

Vocational education in China has made great achievements and opened a path of development with Chinese characteristics. However, compared with the needs for supporting high-quality development of the Chinese economy and people's ever-growing needs for a better life, vocational education in China still has to draw reference from the experience of vocational education development in countries around the world to relentlessly reform itself with innovation and increase its adaptability. On the new journey of building a modern socialist country in all respects, China will continue to feature vocational education prominently. Vocational education has been defined as a type of education, which will be mainly driven by digital transformation and will serve as an engine for guiding the future and driving social development.

As things stand, facing the severe challenges brought by the COVID-19 pandemic, global economic recovery is still lackluster. The “new normal” of the pandemic has forced changes in the industrial structure and people's ways of life. Vocational education has to play a bigger role in economic growth and people's livelihood while making changes to keep abreast with the trends. Opportunities shall be grasped for the development of vocational education to have a great reserve of strong technologies and abundant human resources through reforms in the approaches to education, operational modes, management mechanisms and guarantee mechanisms.

As a Chinese proverb reads, “The going may be tough when one walks alone, but it gets easier when people walk together.” Human

beings are living in a community with a shared future. Joint contribution, shared results, and win-win cooperation is the right prescription for solving development conundrums facing all countries. China stands ready to work with countries around the world to draw strength from one another without any reservation. Taking vocational education as a bridge to spread skills, disseminate cultures, and build friendships, China will make concerted efforts with all countries to create brighter prospects for mankind.

