



国家铁路局

National Railway Administration of the People's Republic of China

Chinese Railways on Fast Track

快速发展的中国铁路

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September 3, 2019

Preface 前言

Chinese railways have seen a rapid development in recent years and accumulated rich experience in high-speed railways (HSR), upgradation of existing lines and heavy-haul railways. **Ranking among the world's top rank, China's railway network length runs the second in the world, and HSR mileage the first.**

近年来，中国铁路快速发展，在高速铁路、既有线提速改造、重载铁路等方面积累了丰富的丰富经验，**已跻身世界先进行列，路网规模位居世界第二，高铁里程位居世界第一，成为带动世界铁路发展的重要力量。**



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一、中国铁路发展成就

I Achievements

As of end of 2018, China had an operating railway network of **131,000km**, over **29,000km** of which was HSR. A complete technical system of **HSR construction, upgradation of existing lines and heavy-haul railway transportation** has formed. The transport volume and turnover in 2018 are as follow:

	Transport Volume	Turnover
Passenger	3.37 billion (person)	1414.658 billion (person-km)
Freight	4.022 billion (ton)	2882.055 billion (ton-km)

2018年底，中国铁路营业里程**13.1万公里**，高铁营业里程突破**2.9万公里**，已经形成了**高速铁路建设、既有线提速改造和铁路重载运输**等完整的技术体系。2018年完成旅客发送量达到33.7亿人次，旅客周转量14146.58亿人公里。2018年中国铁路完成货物发送量40.22亿吨，货运周转量28820.55亿吨公里。

一、中国铁路发展成就

I Achievements

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中国铁路发展成就

Achievements

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高速铁路建设

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重载铁路运输

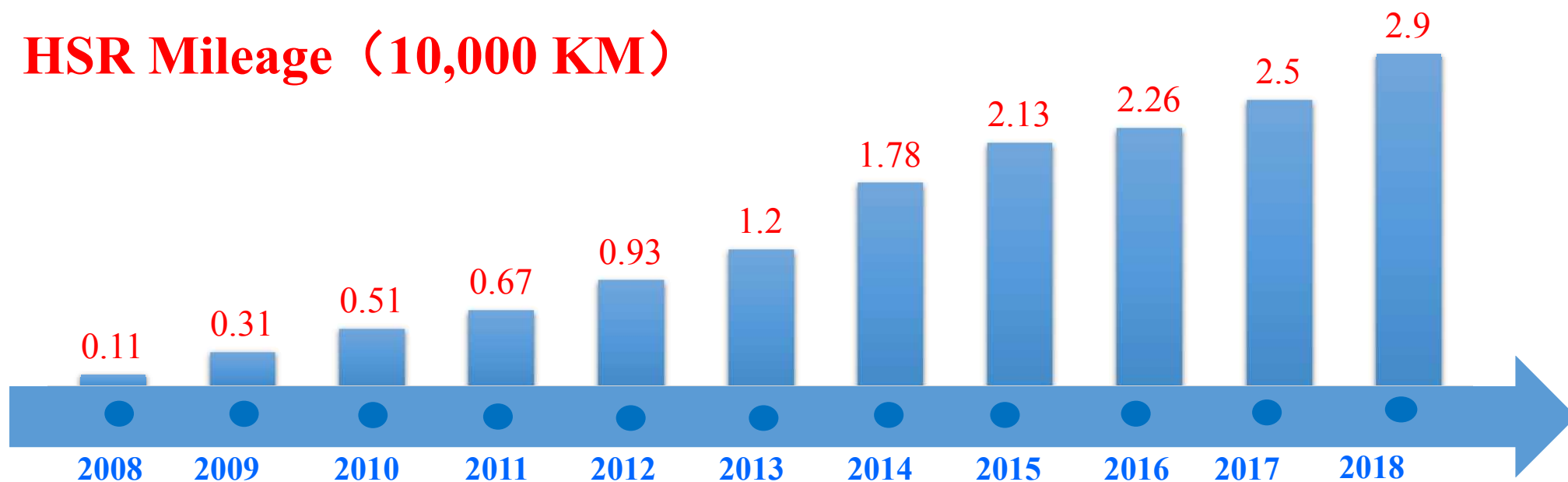
Heavy-Haul Railway Transportation

(一) 高速铁路建设 (i) HSR Construction

China has completed construction of **more than 70** HSRs in the past ten years, including Beijing-Shanghai HSR, Beijing-Guangzhou HSR, Harbin-Dalian HSR, Zhengzhou-Xi'an HSR, Lanzhou-Xinjiang HSR and Shanghai-Kunming HSR, and the operating mileage of HSRs is still increasing at a rate of **over 2,500km** per year.

短短10余年时间，中国高速铁路实现了从无到有、从追赶者到引领者的跨越，已建成京沪、京广、哈大、郑西、兰新、沪昆等**70余条**高速铁路，运营里程以年均**超过2500公里**的速度增长。

HSR Mileage (10,000 KM)



(一) 高速铁路建设 (i) HSR Construction

China's HSR network covers **80%** of cities with a population of over **1 million** and **72%** of cities with over **500 thousand** and is accessible by **29** capital cities.

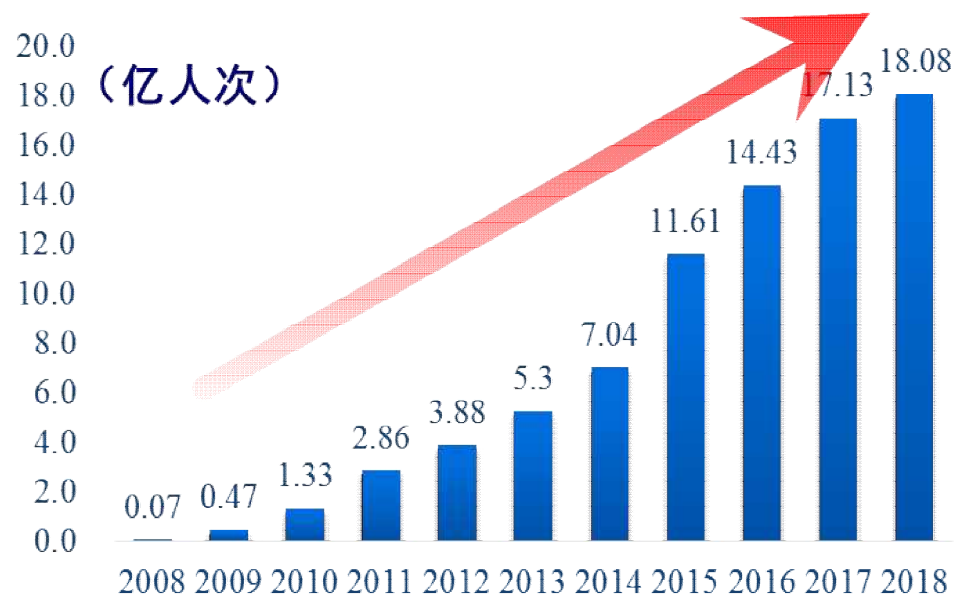
中国高速铁路网已基本形成，已覆盖**80%**的**100万**以上人口城市和**72%**的**50万**以上人口城市，通达**29**个省会城市。

中国高速铁路网络示意图

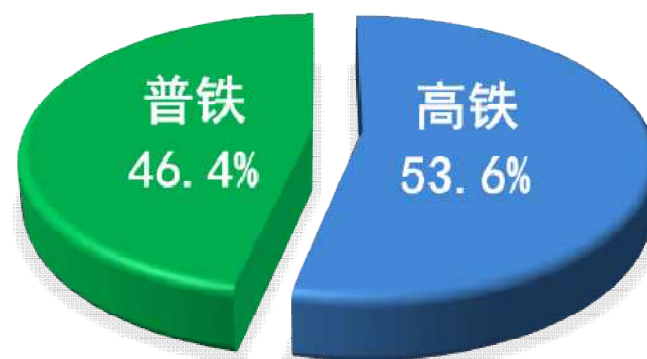


(一) 高速铁路建设 (i) HSR Construction

高铁客运量不断攀升



高铁发送量占比 (2018年度)



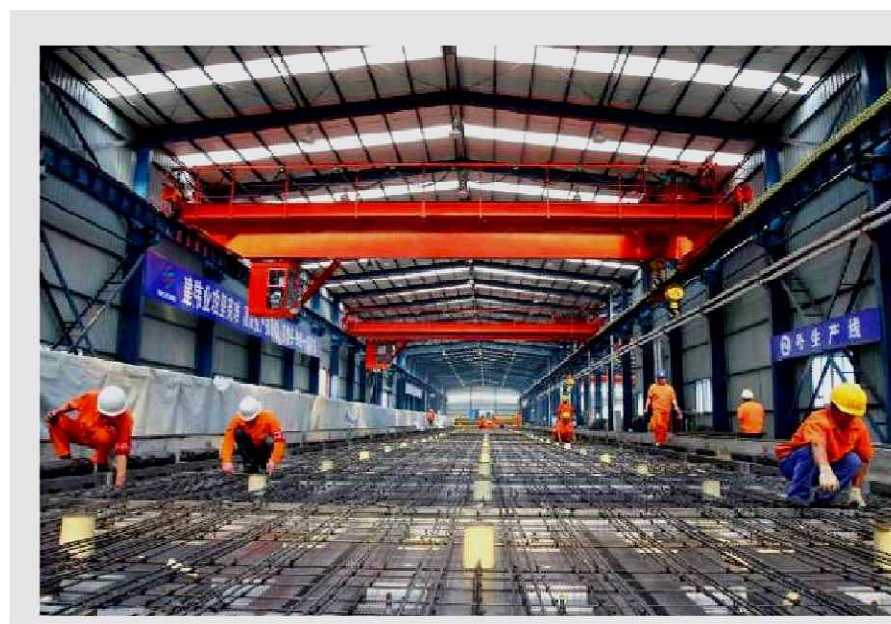
As of June 30, 2019, China's high-speed EMUs operated has transported an accumulative total of **over 10 billion** passengers, with the highest single-day transport volume exceeding **8.5 million** and daily transport volume being **4.7 million**, and more than **5,700** high-speed EMUs has been operated, 70% of the total of passenger trains operated.

截至2019年上半年，中国高铁动车组累计发送旅客已**突破100亿**人次，单日最高发送突破**850万**人次，日均运送旅客**470万**人次。全路开行高铁动车组超过**5700列**，占旅客列车总数70%以上。

(一) 高速铁路建设 (i) HSR Construction

Development of China's HSRs has brought about a continuously increasing passenger transport volume, improved enterprises' business conditions, pushed ahead with the surging of tertiary industry, e.g. tourism and driven the growth of related industries including metallurgy, building materials, electronics and mechanical manufacturing, thus bringing good **economic benefits**.

中国高铁的发展带动了客运量持续递增,改善了企业经营状况,推动了旅游业等第三产业的迅猛发展,拉动了冶金、建材、电子、机械制造等相关产业发展,实现了良好的**经济效益**。



(一) 高速铁路建设 (i) HSR Construction

Development of China's HSRs has also shortened the space-time distance, brought visible “one-city effect”, added more convenience and comfort to people's journey, created a large number of job opportunities and promoted coordinated regional economic development, thus bringing good **social benefits**.

中国高铁的发展同时缩短了时空距离，带来了显著的“同城效应”，营造了方便、快捷、舒适的乘车环境，创造了大量就业机会，促进了区域经济协调发展。取得了良好的**社会效益**。



(一) 高速铁路建设 (i) HSR Construction

HSR Technical System with Chinese Characteristics

中国高速铁路技术体系



中国高速铁路在工程建设、高速动车组、列车运行控制、牵引供电、运营管理、安全监控和系统集成等7大方面形成了具有中国特色的高速铁路技术体系。

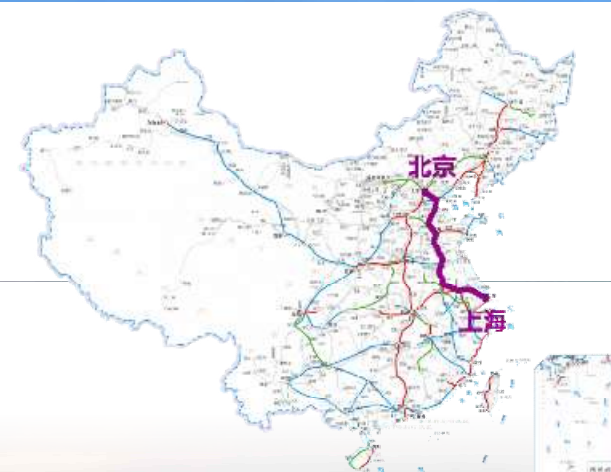
(一) 高速铁路建设 (i) HSR Construction

Beijing-Shanghai HSR (Jinghu HSR)

Opened on June 30, 2011, the 1318km Jinghu HSR won the outstanding prize of the State Science and Technology Progress Award in January, 2016 and reached a commercial operation speed of 350km/h in September, 2017.

京沪高速铁路

2011年6月30日开通，全长1318公里；2016年1月，荣获国家科技进步奖特等奖；2017年9月，实现350km/h商业运行。



(一) 高速铁路建设 (i) HSR Construction

Harbin-Dalian HSR (Hada HSR)

Opened in December 1, 2012, the 921km Hada HSR is a railway built in **extremely frigid area** and it can stand the lowest temperature of **-40 °C** and the highest temperature difference of **80 °C**.

哈大高速铁路

2012年12月1日开通，全长921公里，抵御最低温度零下**40度**，最高温差**80度**，是在**高寒地区**修建的高速铁路。



(一) 高速铁路建设 (i) HSR Construction

Hainan Roundabout HSR

Built in a humid and warm subtropical area, the 653km roundabout HSR is composed of east section (opened on December 30, 2010) and west section (opened on December 30, 2015).

海南环岛高铁

海南环岛高铁由东西两段组成，东环高铁于2010年12月30日开通，西环高铁于2015年12月30日开通，全长653公里，是在潮湿温热的亚热带地区修建的高速铁路。



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中国铁路发展成就

Achievements

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高速铁路建设

HSR Construction

(二)

既有铁路提速

Speed-up of Existing Lines

(三)

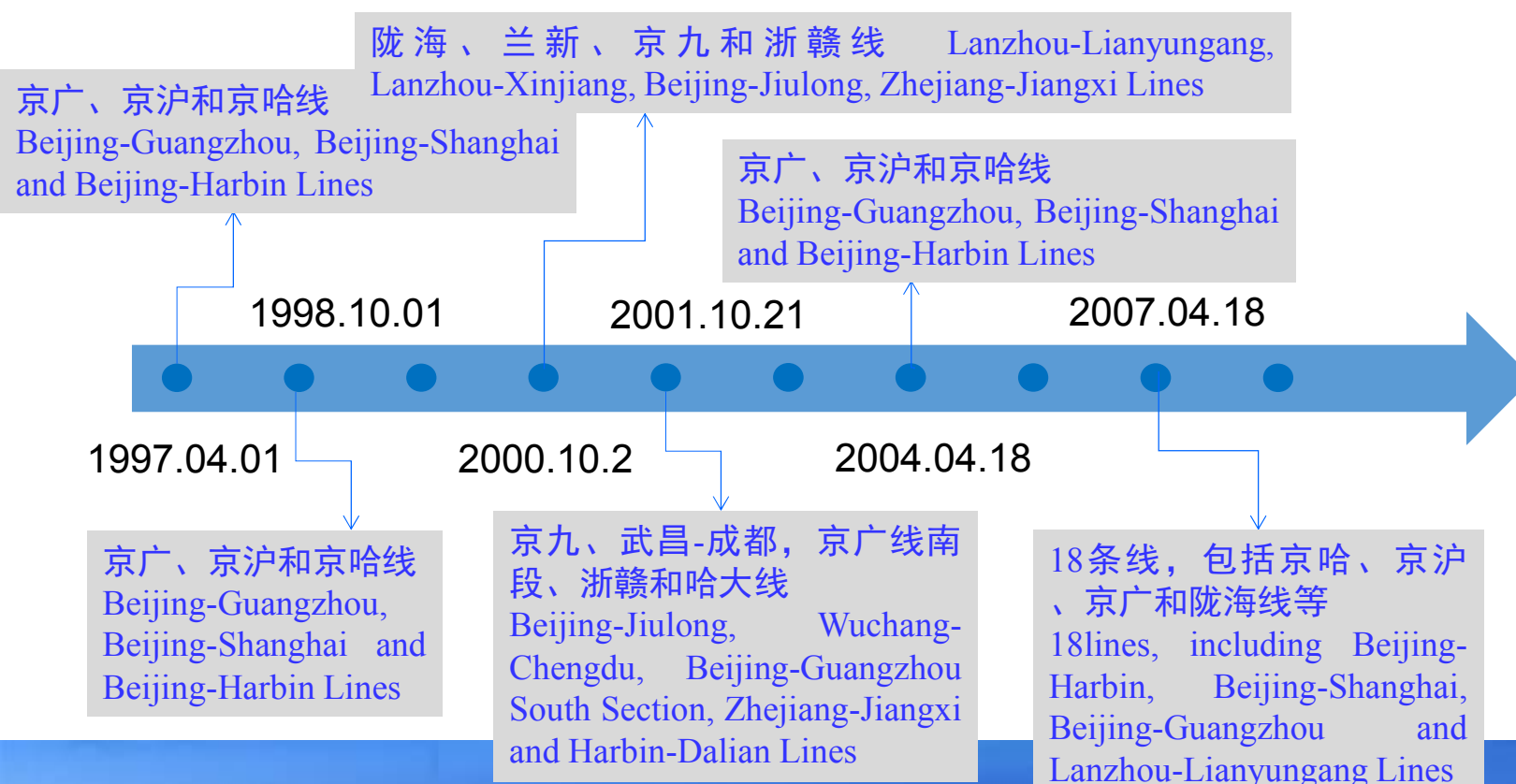
重载铁路运输

Heavy-Haul Railway Transportation

(二) 既有铁路提速 (ii) Speed-up of Existing Lines

Chinese railways have experienced **6** speed-ups from 1997 to 2007, as a result of which the operating speed of existing lines reached a maximum of **200km/h**.

既有线提速是一项专业性和系统性的工程，中国在此领域取得了丰富的成果，1997年至2007年中国铁路先后开展**六次**大提速，使既有线的运行速度最高达到**200km/h**。



开通时速160公里特快列车
160km/h Express Train



开行动车组列车
EMU Train

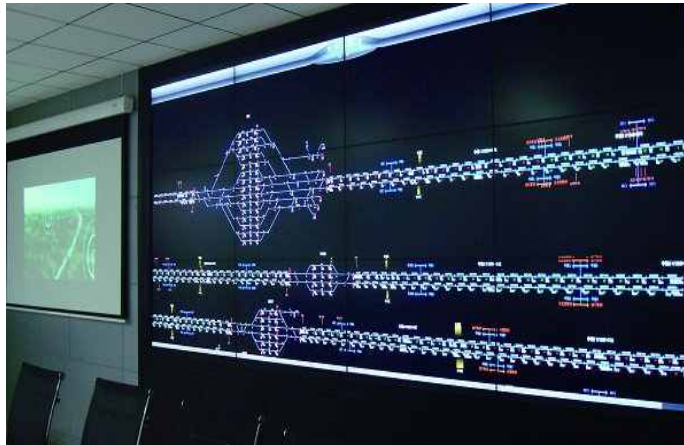


(二) 既有铁路提速 (ii) Speed-up of Existing Lines

Thanks to the 6 speed-ups, several benefits were achieved:

1. **Technical standards** of existing lines **promoted**;
2. Travel time between major cities **significantly shortened**;
3. A series of well-received brand trains emerged: (1) trains departing at dusk and arriving at dawn, (2) trains departing at dawn and arriving at dusk, (3) non-stop trains;
4. Technical equipment, production organization and transportation efficiency improved;
5. Management experience increased and talent teams cultivated.

经过六次提速改造，既有铁路的**技术标准得到提升**，主要城市间的旅行时间比原有最快客车旅行时间有**较大幅度压缩**，形成了在社会上深受好评的**夕发朝至、朝发夕归、一站直达**等一系列列车品牌。通过六次提速改造后，技术装备、生产组织、运输效率显著改善，积累了管理经验，培养了人才队伍。



(二) 既有铁路提速

(ii) Speed-up of Existing Lines

中国铁路通过六次大面积提速，已经从线路轨道改造、车站改造、线下工程改造、牵引供电改造、列车运行控制和机车车辆研制等方面形成了整套的既有铁路提速改造技术体系。

Speed-up and Upgradation Technology for Existing Lines

中国既有线提速改造技术



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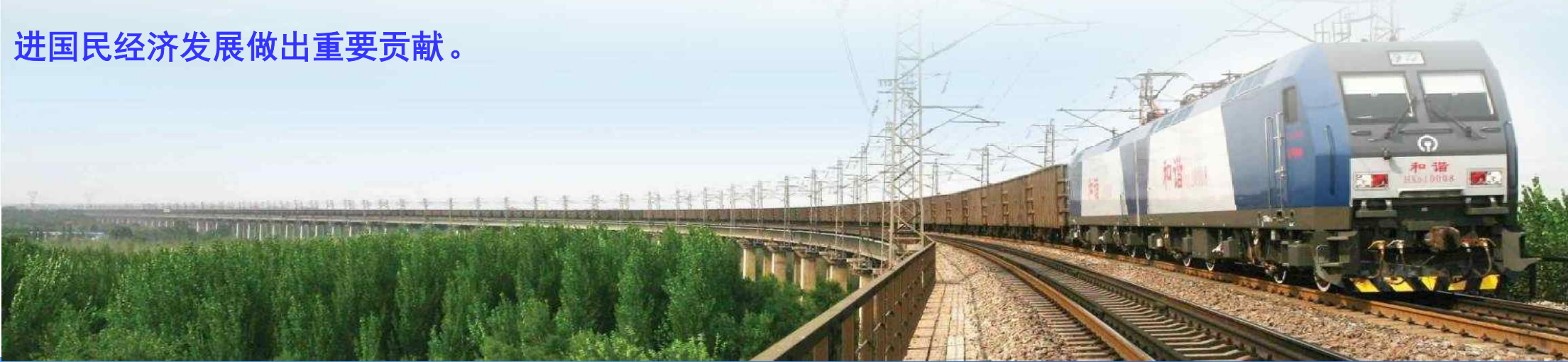
重载铁路运输

Heavy-haul Railway Transportation

（三）重载铁路运输 (iii) Heavy-Haul Railway Transportation

Over the past 30 years of development, a **heavy-haul transportation network** featuring a reasonable combination and coordinated development of “density, weight and velocity” has initially formed, represented by railway lines specially for coal transportation including Datong-Qinhuangdao Railway and Shencheng-Huanghua Railway and busy main lines such as Beijing-Shanghai HSR and Beijing-Guangzhou HSR.

经过近30年来的发展，中国已初步形成了以大秦、朔黄煤炭运输专线和京沪、京广等繁忙干线为代表的**重载运输格局**，形成了“密度、重量、速度”合理组合、协调发展。对缓解运输能力紧张、促进国民经济发展做出重要贡献。



(三) 重载铁路运输 (iii) Heavy-Haul Railway Transportation

中国铁路已经形成了集牵引动力系统技术，重载车辆及关键部件技术，同步操纵控制无线通信技术，通信信号、牵引供电、线桥站场改造技术和运输组织技术为一体的**重载运输技术体系**。



(三) 重载铁路运输 (iii) Heavy-Haul Railway Transportation

Opened in December, 1992, the 652km **Datong-Qinhuangdao Railway** is China's first electrified double-line coal transportation railway, which mainly runs **20,000-ton** heavy-haul unit wagons. **30,000-ton** heavy-haul wagons were operated on trial in April, 2014. The total transport volume exceeded 450 million tons in 2014 and 2018, which makes Daqin Railway a heavy-haul line with the highest transport volume across the world.

大秦铁路1992年12月通车，全长652km，是中国第一条双线电气化运煤专线，以开行**2万吨**重载单元列车为主，2014年4月试验开行了**3万吨**重载列车。2014年和2018年运量超**4.50亿吨**，是世界**上年运量最大的重载铁路**。



(三) 重载铁路运输 (iii) Heavy-Haul Railway Transportation

China is keeping improving the technical level of heavy-haul transportation. Watang-Rizhao (Middle-South Shanxi Railway) Railway, with a design **axle load standard of 30 tons** has been built and opened. **Locomotives of 30 tons axle load and wagons** have been put into operation, with which China's heavy-haul transportation will entre into a new phase of development.

中国铁路正在继续提升重载运输的技术水平，按照**30吨轴重**标准设计的瓦日铁路（山西中南部铁路）已经建成通车，**30吨轴重机车、车辆已经投入运用**，中国铁路重载运输将进入一个新的发展阶段。



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中国铁路对外合作

International Cooperation

(一)

中国高铁优势

Advantages of China's HSR

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国际交流合作

International Exchanges and Cooperation

(一) 中国高铁优势

(i) Advantages of China's HSR

中国高铁五大优势

Advantages of China's HSR



核心技术体系

全面掌握了系统集成、列车控制、牵引供电、弓网关系、制动技术、轮轨关系、桥隧技术、无砟轨道等核心技术。



成套建造体系

全面具备了在各种复杂地质、地形及气候环境下修建高速铁路的成套技术。



产业制造体系

建成了高铁动车组主机、系统和部件生产基地，搭建了世界规模最大的自主化平台。



运维服务体系

丰富的管理经验、先进的运维技术、系统的解决方案确保了高铁安全运营。



人才支撑体系

搭建了专业一流的研发平台，培养和锻炼了一支技术精湛、素质过硬、专业齐全、拼搏奉献的人才队伍。

Core Technology System

Whole-Set Construction System

Industrial Manufacturing System

Operation and Maintenance Service System

Talents Supporting System

二、中国铁路对外合作 II International Cooperation

二

中国铁路对外合作

International Cooperation

(一)

中国高铁优势

Advantages of China's HSR

(二)

国际交流合作

International Exchanges and Cooperation

(二) 国际交流合作

(ii) International Exchanges and Cooperation

丝绸之路经济带 Silk Road Economic Belt



海上丝绸之路 Maritime Silk Road

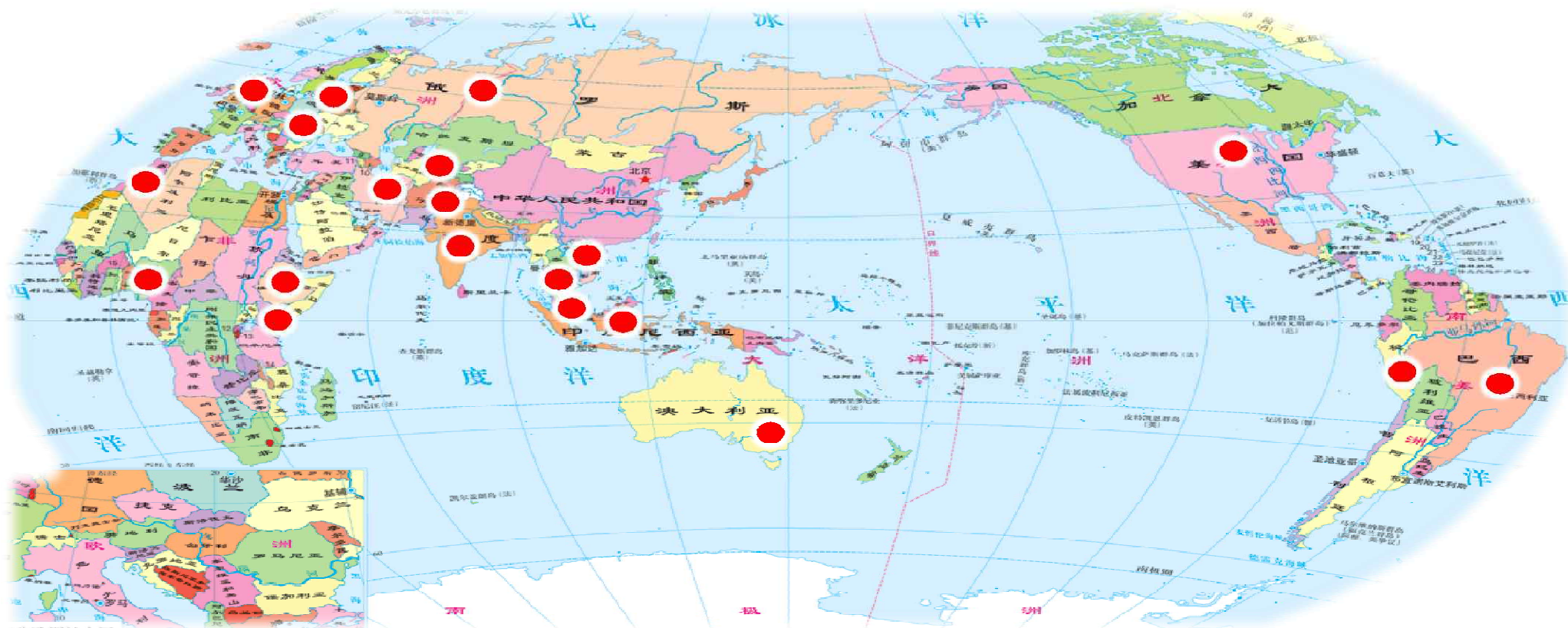


Connectivity is vital to advancing Belt and Road cooperation. We need to promote a global partnership of connectivity to achieve common development and prosperity. Infrastructure is the bedrock of connectivity, while the lack of infrastructure has held up the development of many countries. To this end, China will continue to work with other parties to build a connectivity network centering on economic corridors such as the New Eurasian Land Bridge, supplemented by major transportation routes like the China-Europe Railway Express and the New International Land-Sea Trade Corridor and information expressway, and reinforced by major railway, port and pipeline projects.

共建“一带一路”，关键是互联互通。我们应该构建全球互联互通伙伴关系，实现共同发展繁荣。基础设施是互联互通的基石，也是许多国家发展面临的瓶颈。中国将同各方继续努力，构建以新亚欧大陆桥等经济走廊为引领，以中欧班列、陆海新通道等大通道和信息高速路为骨架，以铁路、港口、管网等为依托的互联互通网络。

(二) 国际交流合作

(ii) International Exchanges and Cooperation



Sharing achievements of Chinese railways development with the world: a number of cooperation projects are well underway: Jakarta-Bandung HSR, Moscow-Kazan HSR, China-Thailand Railway, China-Laos Railway, China-Pakistan Railway, Hungary-Serbia Railway and Addis Ababa-Djibouti Railway.

让世界共享中国铁路发展成果：在基础设施方面，雅万高铁、莫斯科喀山高铁、中泰铁路、中老铁路、中巴铁路、匈塞铁路、亚吉铁路等一大批合作项目顺利推进。

（二）国际交流合作

(ii) International Exchanges and Cooperation



中泰铁路
China-Thailand Railway



中老铁路
China-Laos Railway



土耳其安卡拉—伊斯坦布尔高速铁路
Ankara-Istanbul HSR in Turkey



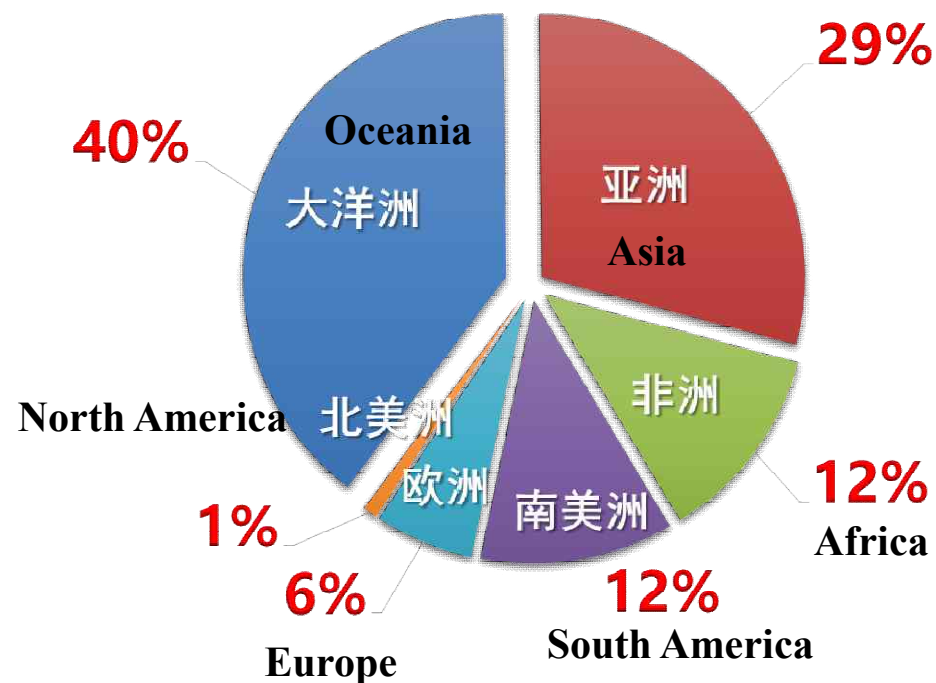
沙特阿拉伯麦加轻轨铁路
Mecca Metro Line in Saudi Arabia



马来西亚东部沿海铁路
Eastern Coastal Railway Line in Malaysia

(二) 国际交流合作

(ii) International Exchanges and Cooperation



Chinese locomotives and rolling stocks has been exported to 102 countries and regions, covering all the 6 continents and achieving a total sales volume of over 100 billion yuan.

在车辆装备方面，出口到了102个国家和地区，实现了六大洲全覆盖，累计销售额超过1000亿元。

（二）国际交流合作

(ii) International Exchanges and Cooperation

装备出口 Equipment Export



巴西里约“奥运地铁”
“Olympics Metro” in Rio, Brazil



美国波士顿地铁
Metro in Boston, America



出口澳大利亚双层客车
Double-Deck Bus in Australia



澳大利亚40吨轴重矿石车
40-ton Axle Load Mine Wagon in Australia



欧洲新型轻轨列车
New-Type Light Rail in Europe



出口伊拉克内燃动车组
DMU in Iraq

(二) 国际交流合作

(ii) International Exchanges and Cooperation



China-Europe Container Block Train has grown into a world-famous logistics brand with international competitiveness and good reputation, also an important platform for construction of “Belt and Road”. As of June 30, 2019, more than **15,000 trains** have been operated, reaching **53 cities of 16 countries** in Europe.

中欧班列已成为具有国际竞争力、信誉良好的世界著名物流品牌，成为“一带一路”建设的重要平台。截至2019年上半年，累计开行突破**15000列**，覆盖欧洲**16个国家53座城市**。



**China will follow the times' trends of peace, development,
cooperation for win-win results and share with the world**

China's railway achievements.

Wish GICC a full success! Thank you!

**中国将顺应和平、发展、合作、共赢的时代潮流，
敞开怀抱，与世界人民共享中国铁路发展成就。**

预祝全球基础设施合作会议圆满成功！

谢谢！