

# China



**Name:** China Civil Engineering Society (CCES)

**Type of Structure:** Non profit, open association

**Number of Members:** Total number 44521 people, number of corporate members 1123 group members.

## ASSOCIATION ACTIVITIES DURING 2019 AND TO DATE

1. The 2019 world tunnel conference was held in Naples, Italy, from May 3 to 9. The Chinese society of civil engineering sent a delegation to attend the meeting. At this meeting, Ms. Yan Jinxiu was elected president of ITA.
2. The 2019 Metro Science and

Technology Forum and 40th anniversary meeting of tunnel and underground engineering branch of China Civil Engineering Society was held in Wuhan, September 27-28, 2019. More than 260 relevant academicians, experts, scholars, and leading figures attended.

3. The 5th construction management

and youth work Science and Technology Forum of tunnel and underground engineering branch of China Civil Engineering Society was held in Emei on October 12, 2019. Participants numbered more than 500, a new record over previous years.

4. The 18th cross strait tunnel and underground engineering academic and technical seminar was held in Chongqing on November 2-3. Participants numbered over 350, receiving more than 100 papers, 20 of which are recommended to be published in the Journal of Chongqing Jiaotong University (NATURAL SCIENCE EDITION).
5. The 19th academic exchange meeting of waterproof and Drainage Technology Forum of tunnel and

underground engineering branch of China Civil Engineering Society was held in Nanning. About 120 experts, engineering technicians and designers from all over the country attended.

6. The 10th National tunnel and underground space science and Technology Forum on operation safety, energy conservation and environmental protection was successfully held in Jinniu Hotel, Chengdu, Sichuan Province from November 30 to December 1, 2019.

**Publication: Modern Tunnelling Technology - Distribution: 2000 volumes/monthly WGs, WG5:**

1. Responsible for the research on risk management and control of the super long tunnel on the Sichuan Tibet Railway
2. Responsible for research on rock burst tendency and prediction control on the super long tunnel of the Sichuan Tibet Railway
3. Responsible for the convening of the fifth Youth Committee
4. Participating in the annual meeting of tunnels on both sides of the Taiwan Strait
5. Participating in the technical consultation on risk assessment of the super large straight tunnel in Zhuhai
6. Participating in the underwater project of super large cross section, super short span, super shallow buried and small spacing Technical consultation on design and construction of tunnel with mining method.

### CURRENT TUNNELLING ACTIVITIES

1. **Railway tunnel works:** By the end of 2019, the total number of railway tunnels in operation in China's mainland is 16128, with a total length of 18150km. In 2019, 1011 new railway tunnels and 1819km new mileage were added.
2. **Highway tunnel works:** By the end of 2018, there are 17738 highway tunnels, 17236.1km, an increase of 1509 and 1951km, including 1058 extra-long tunnels, 4706.6km, 4315 long tunnels and 7421.8km.
3. **Metro tunnel works:** As of June 30, 2019, the total scale of lines approved by the state has reached 10706km, 5643km of lines have been operated, and 5063km of urban rail transit are under construction in the mainland. The new operating mileage is 339.5km and 238 stations are added.

### FUTURE TUNNELLING ACTIVITIES

At present, the total length of railway tunnels listed in the construction plan in China is 16065km, including 843km on the Sichuan Tibet railway. At present, the longest railway tunnel in China is 32km, and there are 6 extra-long tunnels with a length of more than 30km. The annual growth of highway tunnels is about 8%, which should reach 2000km. According to the approved line, construction progress and the new round of line network approval, it is preliminarily predicted that 123 rail transit lines will be newly opened and operational in 2020-2021, with a total length of 2853.29km.

### EDUCATION ON TUNNELLING IN THE COUNTRY

1. Tongji University: Tunnel engineering
2. Tsinghua University: Tunnel engineering
3. Central South University: Tunnel engineering
4. Southwest Jiaotong University: Tunnel engineering

Gaoligongshan railway tunnel



### STATISTICS

#### 1. Length or volume excavated

- Railway tunnel works: In 2019, 1011 new railway tunnels and 1819km were added.
- Highway tunnel works: An increase of 1509 and 1951km. According to incomplete statistics, the total number of TBMs in China is nearly 3000.

#### 2. List of tunnels completed

Tunnel name	length (m)	line type	speed target value	single and double tunnels (km/h)	completion time
Qingyang tunnel	10 100	Ji-Qing high speed railway	350	single tunnel double line	2018-12
Beitaizi tunnel	10 130	Jing-Shen Line	350	single tunnel double line	2018-12
Liao-Xi tunnel	13 205	Beijing Shenyang Line	350	single tunnel double line	2018-12
Tianmushan tunnel	12 013	Hang-Huang Line	250	single tunnel double line	2017-07

#### 3. List of tunnels under construction

Tunnel name	length (m)	line type	speed target value	single and double tunnels (km/h)	commencement time
Gaoligongshan tunnel	34 538	Da-Rui line	140	single tunnel single line	2014-12
Xiaoxiangling tunnel	28 426	Cheng-du-Kunming expansion	160	single tunnel double line double	2016-06
Ping'an tunnel	28 426	Cheng-du-Lanzhou line	200	tunnel single line	2013-03