

# Korea



**Name:** Korean Tunnelling and Underground Space Association

**Type of structure:** Non-profit, open association

**Number of members:** 2747 members, 67 corporate members

- The Joint-Forum on Tunnel Safety and Future Technology  
KTA-Wonju Regional Office of Construction Management (MOLIT)  
: 2017.06.01, Wonju (200 domestic participants)
- 2017 KTA Tunnel Construction Policy Forum  
: 2017.11.02, Seoul (170 domestic participants)

**A total 11 Working Groups in KTA**

- Joint seminar: WG-tunnelling & Support and KICT, 2017.08.01, Seoul
- KTA-Annual WG Activity Reports: 11 WG activity reports
- KTA-Annual WG Technical Reports  
“Development of thin spray-on liner (TSL)”  
“Amendment to ventilation standard for road tunnel in Seoul”  
“Underground data centre considering EMP protection”  
“Investigation technology ahead of tunnel face in TBM tunnelling”  
“Design standard for small-size subsea tunnel”

**Publications:**

- “Tunnels and Underground Space in KOREA 2017” (in commemoration of 25th anniversary)
- Domestic technical journal “Tunnelling Technology” (6 issues in 2017)
- Quarterly magazine “Nature, Human Being and Tunnel”

Several activities, like Lectures and Presentations at engineering events were developed through 2017.

Young Members promoted 2 Lectures and 2 technical visits to industries and construction sites.

**CURRENT TUNNELLING ACTIVITIES**

**Wonju-Gangneung High-speed Railway Tunnel**

- Dia. 8.1m Slurry Shield TBM
- Main Infra for 2018 Winter Olympics in Pyeong Chang

**Boryung-Taeon Subsea Road Tunnel Construction**



Wonju-Gangneung High-speed Railway Tunnel

**ASSOCIATION ACTIVITIES DURING 2017 AND TO DATE**

Established in 1992 as a non-profit incorporated association, KTA is the tunnel-oriented national organization to comply with the international aims of ITA. Most of the KTA members are tunnel engineers, but not limited to the civil engineering field and recent expansion into the field of fire, disaster prevention and ventilation within tunnels, among others, are noteworthy.

**In 2017, KTA hosted several international and domestic conferences. The short list is as follows:**

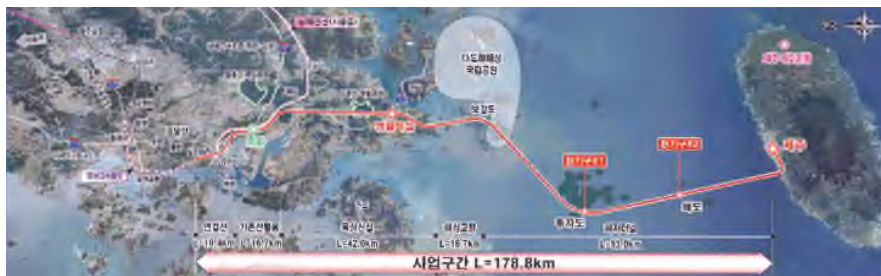
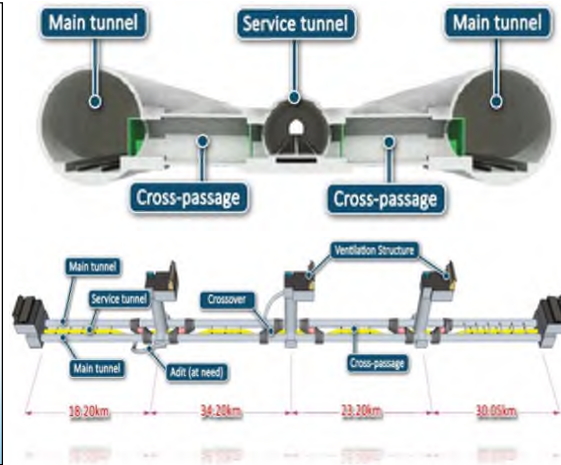
- International Conference on Tunnels and Underground Spaces (ICTUS17) endorsed by ITA  
: 2017.08.29~30, Ilsan Kintex (60 international/domestic participants)
- 2017 KTA General Assembly & Annual Conference  
: 2017.04.26, Seoul (170 domestic participants)



Boryung-Taeon Subsea Road Tunnel Construction



**Incheon (North Port) Subsea Road Tunnel Construction**



**Honam-Jeju Subsea Tunnel Project**

metropolitan area

- The 3rd connection way, after the previous two long-span marine bridges
- Consideration of transport security and weather accidents

**STATISTICS**

1. Length or volume excavated - % mechanized / % conventional during 2017:  
 Railroad tunnel: 99.4km  
 Road tunnel: 208.0km
2. Amount (USD or EUR) of tunnelling / underground space facilities awarded in 2017:  
 About US\$8.5bn
3. List of tunnels completed:  
 Wonju-Gangneung High-speed Railway Tunnel  
 Inje-Yangyang road tunnel  
 Incheon (North Port) Subsea Road Tunnel
4. List of tunnels under construction:  
 Boryung-Taeon Subsea Road Tunnel  
 Jinhae-Guyjae Main Gas Pipe Line Tunnel  
 Yulchon Thermoelectric Power Plant Tunnel  
 Gunjang Energy GE-3 PJT Subsea Tunnel

- NATM passing through highly fractured faults
- Undersea route length of 6.92km connecting Route 77
- Max. depth of 80m

**Incheon (North Port) Subsea Road Tunnel Construction**

- NATM tunnel
- Undersea route length of 5.46km part of 2nd beltway around Seoul

**FUTURE TUNNELLING ACTIVITIES**

**Honam-Jeju Subsea Tunnel Project**

- Connecting the Korean Peninsula and Jeju Island
- Total length of 167km (Undersea section of 73km)
- Project cost will be about \$15bn

**Youngjong Island 3rd Connection Way**

- Connecting Incheon hub airport and Seoul



**Youngjong Island 3rd Connection Way Project**