

The tiger is preparing for the high jump

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Seoul – By 2016 at the latest the tallest building in the country, the Lotte World Tower, should be complete. The tower is to stretch 555 metres into the sky and according to the plans of the client (Lotte Group) should accommodate hotel rooms and offices on 123 floors. The group is happy to draw on the tried-and-tested technology and know-how and expertise of the traditional concrete pumping specialists Putzmeister.

Not only the city, but also the urban district in which the new formidable building is to be created, has long since become well-known across the borders. It is located in the heart of the business district Gangnam, which achieved worldwide fame with the hit from the South Korean rapper Psy. "Gangnam Style" describes the luxurious lifestyle typical of this district and the city of Seoul. The plan of the Lotte Group also fits this framework. The location of the skyscraper which is currently under construction already satisfies these high demands. Situated not far from the Han River beside the theme park Lotte World Adventure and Magic Island, it offers an unspoilt view of the idyllic Seokchon Lake.

The planning for the skyscraper dates back to 2005. But the initial concreting work for the foundations only began in 2012.

Many good reasons to enter a joint venture with Putzmeister

With the supply of stationary concrete pumps, stationary concrete spreaders and delivery lines, as well as the technical support provided by Putzmeister Concrete Pumps and the South Korean subsidiary, the construction machine manufacturer is an important partner for the delivery of concrete to dizzying heights. If good relations had not already developed between Putzmeister and the Lotte Group roughly nine years ago, the undisputed leading position in the local concrete pump market and the excellent testimonials would have been convincing arguments for a collaboration. Putzmeister also holds all market shares in the stationary concrete pump business of South Korea for the last 13 years.

The Lotte Group is thus using high-performance technology, which has already been tried and tested in many first-class building projects: In addition to extremely efficient stationary concrete pumps and flexible stationary concrete spreaders, the unique delivery line and mounting system which already demonstrated its reliability at the Burj Khalifa is used. Maintenance, repair and the supply of spare parts are all effected close to the construction site and are always guaranteed to be competent, fast and uncomplicated thanks to the local Putzmeister representative.

Local equipment

- Two concrete pumps, type BSA14000SHP-D (570kW), and three concrete placing booms, type MX 32-4, on Putzmeister's own tubular column system (RS 850) for concreting ceilings
- Two concrete pumps, type BSA14000HP-D (470kW), for concreting the core of the building
- Delivery lines and accessories: Three delivery lines from series ZX150/6 (11 mm wall thickness), total distance 1.8 km; two delivery lines from series ZX125/5.5 (wall thickness $t = 8.8$), each designed for 200 bar ($t = 8.8$), total distance 1.2 km; three slide gate valves, pressure-proof up to 250 bar of concrete pressure, and two slide gate valves for 200 bar, three vertical tubular mountings, on which the riser is supported. Possible temperature-related changes in length can be offset without any constraints.

The Lotte World Tower – a building made of steel, glass and concrete

123 floors from the ground floor up gives a total area of around 502,450 m², which is to be used for hotel rooms and offices. The American architecture firm Kohn Pedersen Fox, which has also already realised several skyscrapers in Asia and North America, created the exceptional design of this building and is responsible for the further planning. The skyscraper has a square floor plan, narrows towards the top and is rounded at the corners. A steel structure with glass panels should stretch 555 metres into the sky.

Stationary concrete pumps from Putzmeister will deliver approximately 86,415 m³ of concrete by the completion date. The compressive strength class of the concrete to be machined is between C60 and C 90 and decreases towards the top. The specialists at Putzmeister have gathered sufficient experience in such projects, for example during the construction of, to date, the world's tallest building, the 828-metre high Burj Khalifa in Dubai.

Seoul

Around 50 million people live in South Korea. Almost 10 million of these people live in the capital city Seoul. This explains the extremely high population density, which is significantly higher than that of Tokyo for example. In 1988 Seoul was the centre of attention when it played host to the summer Olympic Games. And also with the football World Cup in 2002, which South Korea organised together with Japan, the city with millions of inhabitants portrayed itself as a cosmopolitan and hospitable metropolis.

South Korea is one of Asia's so-called tiger economies. The high economic growth gave the country access to industrial nations in the West. The capital of the country is a driving force for the constant upward trend of the South Korean economy. The most important economic sectors – technology products and the automotive industry – are dominated by groups such as LG, Samsung, the Hyundai Motor Company and the Lotte Group. And all companies have their head office in Seoul. The Asian crisis in the 1990s also left its marks here and

painfully revealed the weak points of the South Korean economy. The country was able to recover quickly, however, and today is one of the most important economies in the world and is one of the G-20 nations.

About the Lotte Group

The South Korean Lotte Group is a multinational group. The company was founded in Tokyo in 1948 by Korean-born Shin Kyuk-ho.

After Japan and South Korea rebuilt diplomatic relations in 1965, Lotte Confectionery Co., Ltd. was founded in Seoul in 1967. The company gradually grew from a chewing gum manufacturer to a multinational conglomerate with roughly 56,000 employees in South Korea and around 4,000 employees in Japan.

Incidentally, the name "Lotte" is of German origin, and not Japanese or Korean. Shin Kyuk-Ho was an admirer of the works of Johann Wolfgang von Goethe, in particular the "The Sorrows of Young Werther". He called his company after the protagonist Charlotte ("Lotte" for short), who also played an important role in the real life of Goethe.

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Source: Putzmeister