

Fact sheet; Køge Nord Station, part of the Copenhagen – Køge – Ringsted railroad line

Client: Banedanmark, Køge Municipality and DSB (Danish State Railways)

Architects: Dissing+Weitling and COBE

Consulting engineer: COWI

Contractor: Bladt Industries

About Køge Nord Station

- Køge Nord Station is an important traffic hub for Greater Copenhagen at the juncture of the high-speed regional rail line, the urban-suburban S-train line and Køge Bugt motorway.
- The station is scheduled to run six trains an hour in each direction on the S-train line and three regional trains an hour in each direction.
- Every day, an average of 90,000 passengers are expected to pass through this juncture; about 8,000 of them are expected to use the station.
- The Køge Nord Station project includes a vision plan, a footbridge and a train station as well as parking and transit facilities and is a unique example of Danish architecture and engineering.
- Banedanmark is the client for the footbridge, Køge Municipality for the parking and transit facilities and DSB for train platform furnishings.
- Køge Nord Station was announced as an international project competition in the EU in 2014. Thirty-eight teams from Japan, the United States and seven EU countries submitted bids for the project, four of which subsequently pre-qualified.

About the footbridge

- The groundbreaking ceremony took place on 13 September 2016.
- The covered footbridge is 225 meters long and 9 meters wide.
- The total weight of the bridge, including elevators and escalators, is 1,000 metric tons.
- The bridge has a 180-degree panoramic view of the highway and the cultural landscape.
- It was installed in six sections, the heaviest section weighing 195 metric tons.
- The bridge construction is supported by seven concrete pillars placed outside the clearance gauges of the railroad and highway.
- The longest span over Køge Bugt highway measures 58 meters.
- The steel girder has an internal dehumidification system and two Tuned Mass Dampers. (TMD) for attenuating vibrations inside the two largest spans.
- The exterior cladding of the footbridge consists of 48,00 m² anodized aluminum panels.
- The bridge has 31 windows in the south-facing facade and just one in the north-facing façade.
- The project used 620 tons of steel and 920 m³ of concrete.
- The bridge can carry up to 1,800 persons at a time.
- The bridge is equipped with five elevators and five stairs in conjunction with escalators.
- The elliptic shape is designed to hug the underlying terrain with its varying requirements to clearance height above the S-train line, the highway and the high-speed rail line.