

Case

## Securely moving oversized printer components by air – on time and with no room for error

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When a large 3D construction printer needs a lift, time is ticking, and a single handling mistake could cost months of delay and derail the budget – it's time to call in our heavy project logistics experts.

Our valued customer did just that.

The scope of the job involved the safe shipping of eighteen printer components to Doha, Qatar, for the largest 3D construction project in the world. Each printer part measured up to +10 metres in length and weighed 2.2-2.8 tons each.

The most effective solution to meet the tight timeframe and budget was a charter flight using a Boeing 747F nose loader, departing directly from [Billund Airport](#).



The Boeing 747 freighter being nose-loaded at Billund Airport, Denmark



**Our technology, consisting of multiple components, automates construction. Transporting such a system requires precision, expertise, and care. With SGL, we were in good hands – their team delivered on all three,' the customer says.**

All available experts were assigned to ensure success as we collaborated with the loading specialists at Cargo Handling Billund Airport, who would oversee the shipment. With nearly 100 years of combined logistics expertise, the team put their minds together, and several months of research, planning, and calculating load ability began.

When asked about their approach to solving such a prestigious, costly, and complex project, the team replied:



**We applied a 'nothing must go wrong'-attitude, entailing foreseeing and mitigating everything that could go wrong so that it wouldn't. We took no risks.**

The transport involved three critical steps: 1) Safe handling and goods collection, 2) Secure stacking, and 3) Successful unloading.

The expert team began by visiting the pickup locations throughout Denmark to understand the best practices for handling the odd-sized, heavy-weight goods. This included techniques for safely lifting the oversized printer components in preparation for the carriage. Subsequently, all the goods were efficiently and securely collected and stored behind locked gates prior to departure.

Secondly, the team developed a stacking solution to save the customer substantial costs and avoid splitting the shipment. This included Cargo Handling Billund Airport leveraging its loading expertise to build wooden frames around each component and designing special 20" pallets to ensure even weight distribution.

By carefully calculating the load capacity and deploying two high-loaders, all components were securely consolidated into the Boeing 747F, ready for lift-off.



Printer components securely loaded inside the Boeing 747F

Nicolai Krøyer, COO of Cargo Handling Billund Airport says:



**This wasn't just about handling cargo – it was about partnering to protect innovation**

But, securely loading the components was only half the job.

One misstep at unloading in Doha could cause the oversized cargo to tilt or topple – not an option. Therefore, two team members accompanied the cargo to ensure that everything would go according to plan at the final delivery. Again, success required two high-loaders operating in perfect sync. With the ground teams correctly positioned and fully aligned, the unloading was completed securely and on time.

The printer components would proceed on their final journey, where they are now part of the largest 3D construction project in the world.



The charter flight departing from Billund Airport en route to Doha

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