

# SC

## Construction Hoists References worldwide II

**SCANCLIMBER®**  
by Tractel®

## SRV builds the tallest residential skyscraper in Helsinki

**Majakka is located in the Kalasatama district right on the Gulf of Finland. Scanclimber delivered a mid-speed twin cage construction hoist into this congested installation location in Kalasatama.**



The Kalasatama district is one of the most outstanding cityscapes in Helsinki. A complex of eight skyscrapers and a shopping mall are under construction in Kalasatama. One of the towers is called Majakka and it is Finland's highest skyscraper and also the second tallest building in the Nordic countries. The 35-storey building stands at a height of 134 meter. Thanks to its location, even the lower floors enjoy a stunning sea view. The Majakka tower has elevator access from REDI square and to Kalasatama metro station. Traffic at the Kalasatama district is very heavy, including 500 trains passing daily and the arterial Itäväylä road eastwards of Helsinki.

Scanclimber is proud to have played an important role in this large, complex and challenging construction project.

### Challenges

Building design changes after the 20th floor with an angled structure which increases the distance from the mast vertical axis as seen in the pictures above.

The hoist installation façade of the tower is very close to the road, making it challenging to operate at ground level.

The minimal ground space required an innovative solution to keep the personnel and material transportation process smoothly efficient.

The roadside location required additional safety measures due to the heavy traffic adjacent to the work site.

## The Project

Construction started in 2016. The project builder was a Finnish company, SRV Rakennus Oy. A mid-speed Scanclimber Wega SC2537-65H construction hoist was installed at this worksite to transport personnel, tools and material between the 35 floors.

## Solutions

After brainstorming and taking the challenges into account, Scanclimber's R&D team came up with a customized solution for this project.

In the upper part of the building, where building structure changes, long anchors (9.2 m) were designed from the 21st floor up. Long anchors made the hoist installation possible on the angled structure.

An SC2537-65H twin mid-speed hoist provided enough payload capacity and speed (54m/min) to make logistics flow in Kalasatama's congested space.

The hoist was delivered with intelligence and call memory. The intelligent hoist optimized the runs up and down because it remembered the calls from different floors, thus shortening hoist waiting times and increasing site productivity.

A twin cage hoist (two hoists on one mast) saved space on the tight Kalasatama worksite and ensured enough capacity for arriving materials. This decreased material congestion at ground level.

The arriving goods could be directly loaded from vehicles into either of the hoists with 2.6-meter-wide side doors. This again reduced the need to store the material at ground level and made the site logistics smoother.

The ground level station was isolated from the close proximity traffic with safety walls.

## Conclusion

Using Scanclimber mid-speed hoists enabled the builders to keep the project on schedule. Careful planning, schedule discipline and good site management gained SRV and Majakka "The Construction Site of the Year 2017" award by the Finnish construction industry journal "Rakennuslehti".

### Project Facts

Project Timelines	April 2017 - June 2019
Building Height	134 m
Max. Working Height	130 m
Number of Floors	35
Premise Type	Residential
Machines used (Construction Hoist)	1 x SC2537-65H twin 1 x SC2020FL-H48
Special features	Special long anchoring from 21st floor up
Rental Company/Main Con- structor	SRV Rakennus Oy



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## The Falcon hoists at Niittyhuippu construction project

**A special indoor solution for the vertical transportation of personnel was used in the construction of the Niittyhuippu building in Espoo, Finland. A construction hoist was installed within the small footprint of an elevator shaft.**



Niittyhuippu, set close to the Gulf of Finland shore, is the tallest residential building in Espoo. The building offers the inhabitants a spectacular view over southern Espoo, all the way to the Gulf of Finland. There are cafes and grocery stores on the lower floor, office space on two floors above them, and the rest on the apartments. The proximity of the sea affects many of the building's structural solutions, especially glass surfaces. The sea is almost always windy, and therefore the wind conditions have been taken into account in designing the structures of the tallest residential building in Espoo.

### Challenges

The space available in the elevator shaft to install the vertical transportation system was only 2.2 m x 2.8 m. This very restrictive space for the hoist installation was challenging for two reasons:

- Firstly, the construction hoist with the mast assembly and anchorings had to fit inside 2.2 m x 2.8 m shaft.
- Secondly, erection and dismantling had to take place without causing any damage.

### The Project

SRV the main contractor a construction project of the 26-storey and 90 meters high apartment building Niittyhuippu used Falcon hoists to material and person transportation. Fully customized Scanclimber Falcon SC2032FL-H48 construction hoist was installed at this work site for personnel transportation in this project. For material transportation, a twin Scanclimber Falcon SC1432-H48 construction hoist was in operation on the outside wall of the building.

Solutions

Scanclimber supplied a slightly modified standard Falcon construction hoist. The customized solution included a Falcon SC2032FL-H48 hoist with cage length reduced from 3.2 m to 2.0 m. The shaft hoist was installed inside the building when it was built to a height of four floors. Then, the hoist height was increased as the building grew. While the number of floors increased, so did the hoist mast and landing doors – all the way to the top. Once the 26-floor-construction work inside was finished, the 90m hoist needed to be dismantled and lifted out from the inside. You can see the dismantling process by watching the video. The dismantling process was done by lifting call boxes, landing doors and masts in sets through the shaft hole in roof of the building. A tower crane at the construction site lifted these sets. The dismantling of the hoist had to be done safely and carefully. The shaft was very narrow, space was limited, and it was important to avoid collisions with the walls. Wooden frames with rollers on both ends were attached to the bottom and top of the hoist. The rollers kept the hoist and set distance to the shaft walls even and prevented collisions.



Conclusion

The Scanclimber shaft hoist solution assisted the construction process of Niittyhuippu by transporting personnel inside the building. This enabled the builders to keep the project aligned to planned schedule.

Project Facts	
Project Timelines	March 2015 - Oct. 2017
Building Height	90 m
Max. Working Height	90 m
Number of Floors	26
Premise Type	Residential
Machines used (Construction Hoist)	2 x SC2032FL-H48 1 x SC1432-H48
Special Features	Special shaft hoist with 2m cage length



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## A major construction project in Aviapolis

**Scanclimber Wega SC2037-H65 construction hoist was used for the vertical transportation of personnel and material on construction project in Aviapolis Vantaa, Finland.**



Aviapolis is Finland's largest workplace located in the center of Vantaa with a population of about 20,000. It is home to Finland's most important gateway to the world: Helsinki-Vantaa Airport. The airport is surrounded by five neighborhoods: Veromies, Viinikkala, Ylästö, Pakkala and Tammisto. Most of the inhabitants live in the diverse Pakkala and the private home area in Ylästö. They also have the highest proportion of families with children in all of Vantaa. Veromies is an evolving center for Aviapolis, with a growing center for housing, services and businesses.

### Challenges

The traffic hub location of Aviapolis has made it the fastest-growing business and employment centre in the Helsinki region. For this reason, construction of new office space has been dynamic, and Scanclimber has played its part in it. Aviabulevardi 2 is a project that consists of 8000 m<sup>2</sup> of modern office space. The building has 7 floors, each of 1200 m<sup>2</sup>. The building has all the usual amenities such as parking, cafes, restaurants, meeting and entertainment facilities. The hoist installation at this site was challenging for two reasons

- Loading and transporting large materials
- Stability in harsh weather conditions

## The Project:

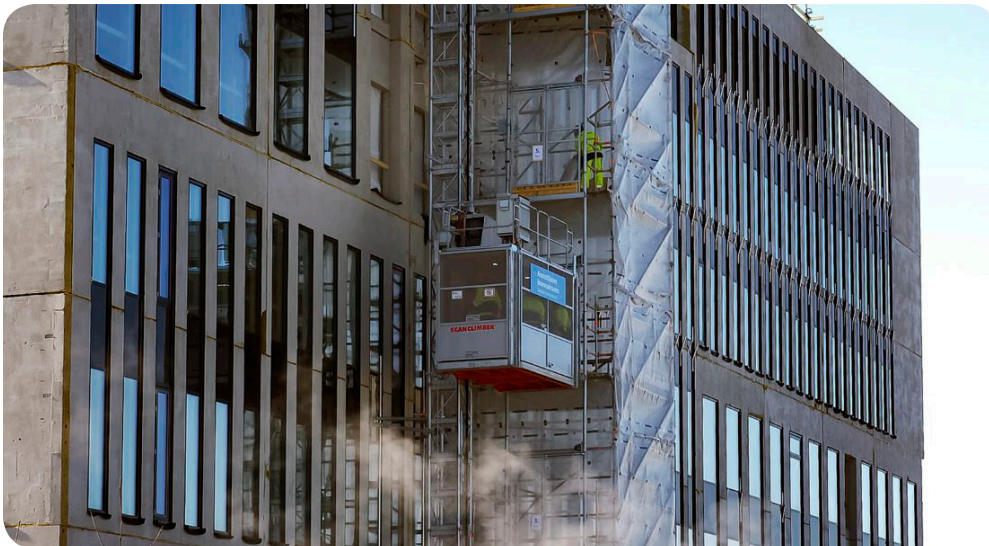
The construction of Aviabulevardi 2 began in the summer of 2017. The project's main contractor was the Sweden-based construction company, Skanska. The construction hoists were provided by its subsidiary Skanska Rakennuskone. One Scanclimber Wega SC2037-H65 construction hoist was installed at this construction site and it was used for the vertical transportation of personnel and material.

## Solutions

A SC2037-65H hoist provided enough payload capacity to make logistics smooth in Aviapolis construction site.

The large goods could be directly loaded into the hoists with a front and a 2.6-meter-wide side door. This resulted in efficient transportation of the materials and the personnel to the different floors of the building.

The Wega hoist was productive and reliable despite of the extreme winter conditions of Finland.



## Conclusion

The hoists at Aviapolis were used for both transportation of material and personnel. Stability of Wega hoist in extreme winter conditions enabled the builders to keep the project aligned to the planned schedule. Construction of Aviabulevardi 2 began in the summer of 2017 and was completed by the end of 2018.

### Project Facts

Project Timelines	Summer 2017 - Dec 2018
Building Height	30 m
Max. Working Height	30m
Number of Floors	7
Premise Type	Commercial
Machines used (Construction Hoist)	1 x SC2037-65H
Special features	



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## Building the HVB-Tower in Munich

The HVB-Tower is one of the most remarkable construction sites in Munich at the moment. What makes it remarkable is not just the height of the administrative building of the Hypo-Vereinsbank, which stands tall at 114 m, but also its architectural design. According to the plans made, the high-rise building completed by the end of 2015 and the lower North building by 2018. SCANCLIMBER transport platforms and hoists are in operation to transport goods and people at the work site for the next few years.



It is easy to look to the future when you have the HVB Tower in mind. Just like 35 years ago, it still looks futuristic today and, in its uniqueness, will probably continue to lead the way in 35 years. Depending on the weather, the façade shimmers silver, white or blue through its aluminum skin and even in golden and red shades in the morning and evening. The extroverted shape with its extraordinary structure and the unique statics and support structure give the HVB Tower its future-oriented aesthetics, which did not follow the architectural fashions and the zeitgeist, but also influenced it. At the HVB Tower, abstract concepts such as tradition, sustainability and future orientation not only become tangible, but can also be understood in the truest sense of the word.

### Challenges

HVB Tower is mushroom shaped. The tall building stands on a narrower foot which is 21 meters high. The shape of the building placed a special requirement for the mast anchoring of the hoist. From the ground level there were 23 meters of empty space above, before the first available anchoring could be placed



The Project:

The HVB tower project included a 114 meters high tower renovations. The Wega construction hoist was installed at this work site for personnel and material transportation in this project.

Solutions

For the high-rise part, a twin cage Scanclimber hoist SC2032-48 was erected with a loading capacity of 2000 kg per cage. The hoists are equipped with automatic hydraulic loading ramps. The ramps are lowered automatically when the hoist reaches the landing level, securing safe and smooth access to and from the hoist. The hoist is used to transport goods and men for the renovation of the tower and the refurbishment of the skyscraper’s facade and roofs through 2015.

Due to stability of the mast, it was possible to reach freestanding at this height, and have the first anchoring at a height of 23 meters. The total installation height of the hoist is 100 m.



Conclusion

Using Scanclimber hoist used for the renovation and refurbishment of the tower. It enabled the builders to keep the project aligned to the planned schedule.

Project Facts	
Project Timelines	2015 - 2018
Building Height	114 m
Max. Working Height	100 m
Premise Type	Commercial
Machines used (Construction Hoist)	1 x SC2032-48
Special features	Special Anchoring



## The construction of Belarus' first nuclear facility

**Scanclimber Oy is successfully serving in the construction of cooling towers for Belarus' first nuclear power plant at Ostrovets, Grodno region. The project includes two 170 m cooling towers. Once completed, it will hold the record for construction hoists at such height ever installed in Belarus.**



A nuclear power plant was planned for Belarus since the 1980's but a series of events like Chernobyl nuclear disaster, etc. put the development plan on hold till late 2007. Finally in mid-2008, the plan for the nuclear power plant was officially approved and started. After a thorough feasibility study, the first concrete was poured on 6th November, 2013. Construction for the second unit started eight months later with construction of each unit expected to take about five years. The approved plan for the nuclear power plant included two units with total capacity of up to 2 400 MW of electricity.

### Challenges

The planned structure of the nuclear power plant consisted of two units and each unit would be equipped with a Scanclimber hoist. The hoists will be able to reach the towers' maximum height of 170 metres. The project faced certain challenges concerning the installation of the hoists on the site.

The maximum height on which hoist installation was needed was not easy to achieve as the hoist was erected in a curved configuration. In addition, the anchoring for the mast was a challenging task because the mast height increases as the concrete forming work progresses upwards.

There are dominant western winds at the site which could potentially make the hoist unstable at such a height and promote the risk of accident.

The combination of these obstacles made the project quite challenging. Considering all such factors, the Scanclimber SC2032F-65 was chosen from the available fleet for assisting the construction.



## The Project:

The Belarus's first nuclear facility project included two 170 meters high cooling towers construction. Scanclimber Wega construction hoists were installed for each tower at this work site for personnel and material transportation in this project.

## Solutions

In order to install the hoist along the tower, a special inclined base was built for the hoist so that it could travel along the tower at the required angle. Another interesting feature of this project is the special anchoring. The anchoring distance changes as the hoist ascends, in order to provide a smooth transition and to overcome the steep angle changes.



## Conclusion

The Scanclimber shaft hoist solution assisted the construction process of cooling towers for Belarus's first nuclear power plant by transporting personnel and material. This enabled the builders to keep the project aligned to planned schedule.

Project Facts	
Project Timelines	2013 - 2020 (expected)
Building Height	170m
Max. Working Height	170 m
Premise Type	Industrial
Machines used (Construction Hoist)	1 x SC2032F-65 (each tower)
Special features	Angled erection, special anchoring



## Hoists aid shipbuilding at Meyer shipyard, Turku

**Scanclimber hoists played an important role in building the giant luxury cruiseliner, Mein Schiff 5, at Meyer shipyard in Turku. Meyer Turku is one of the leading shipyards in Europe, and part of German-based Meyer Werft. Meyer Turku specializes in building cruise ships and other passenger vessels. It has a long history in shipbuilding, dating back to 1737, when the yard in Turku started. Mayer Werf has built more**



The construction of Mein Schiff 5 started in November, 2014 and was completed on June 21st, 2016. Mein Schiff 5 is a huge luxury passenger liner: 295 meters long, almost 36 meters wide and has 15 decks. With its 28,000 kW diesel engines, Mein Schiff 5 can cruise at 21.7 knots. There are 1267 passenger cabins, 13 restaurants and the same number of bars and lounges. Mein Schiff 5 made its maiden voyage on June 26th, 2016. 11 days ahead of schedule.

### Challenges

During the construction time a lot of material and personnel had to be transported up to the vessel's 15 decks for inside finishing work. A crane could do some of the work but it was slow and could not transport personnel vertically. The challenge in this case was to deploy vertical transportation outside the ship, so that it would not interfere with the tower crane movement alongside the vessel.

Finally the viable alternatives that the rental company, Cramo, offered to Mayer Turku were reduced to one: Scanclimber Wega construction hoists.

The construction hoists occupied very limited space on the site and provided an efficient way to transport material and personnel to and from the vessel. The landing levels for hoists were deployed in such a way that material transportation was possible to all 15 decks of the ship.



## The Project:

Scanclimber Wega construction hoists were used for building a luxury cruiseliner at the Meyer shipyard in Turku, Finland. Hoists transported material and personnel up to the vessel's 15 decks for inside finishing work.

Meyer shipyard used 4 Wega hoists, one twin cage SC2032F and two single cage SC1837 in the following manner.

- A twin SC2032F-65 hoist was installed to carry material and personnel to the center of the top deck.
- One single SC1837-65 was deployed at the bow end of the vessel.
- Another single SC1837-65 was deployed to cover the stern end of the vessel

## Solutions

The ground station for the SC1837 hoist differed from the standard version. The hoist was bolted on to a strong wooden foundation half a meter above ground level.

Additionally, the hoist was equipped with both a front door and an additional wider door on the side. This enabled optimal use of the hoist. More material could be transported to the vessel and back because the hoist was accessible from two sides.

The twin SC2032F hoist was mounted on a normal concrete ground foundation. The other single hoist SC1837-65 was also mounted on a ground station and was equipped with a front door and an additional back door.

The landing stations for both single SC1837's were on 6 levels, each covering all 15 decks, whereas the twin SC2032-65 hoist had only one landing station on top of the vessel.

## Conclusion

The Scanclimber well planned distribution of the hoists along the vessel assisted the ship building process by transporting personnel and material. This enabled the builders to keep the project aligned to planned schedule and resulted in timely completion.

### Project Facts

Project Timelines	Nov.2014 - July 2016
Building Height	30 m
Max. Working Height	30m
Number of Floors	7
Premise Type	Industrial
Machines used (Construction Hoist)	2x SC1837-65 2x SC2032F-65
Special features	Ground station for SC1837 with 2 func- tional cage doors



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## Wega hoists used to build Hyvinkää's new hospital in Finland

**HUS - The Hospital District of Helsinki and Uusimaa invested 63 million euros in a major Hyvinkää hospital expansion project.**



Hyvinkää Hospital is an on-call maternity hospital, offering many specialized medical services. The hospital has a combined emergency department that provides round-the-clock health centre emergency services for the city of Hyvinkää, and night emergency services for other municipalities in the area. Hyvinkää Hospital (Hyvinkään sairaala, HYS) is located 3 km Hyvinkää city centre. It is part of the Helsinki and Uusimaa Hospital District (HUS). Hyvinkää Hospital has 238 care places, employs 1165 people and serves five municipalities.

The hospital was built in 1975 and has since undergone several extensions. During the initial expansion phase, the number of intensive care units was increased from eight to fourteen. Next, the hospital received a new medicine and surgery department, followed by children and youth care department. As a result of this, the intensive care units for infants and children was moved to the youth care section of the hospital.

### Challenges

The great design of this modern hospital expansion building was crafted by Arkkitehtistudio Kujala & Kolehmainen and Arkkitehdit Kontukoski. The main contractor for the project was PEAB. The sub-contractor responsible for the plastering work of the Hyvinkää Hospital expansion building is Vakka-Suomen Rappauspalvelu (=VSRP).

During the construction time a lot of material and personnel had to be transported up to the floors for interior finishing work.



## The Project:

The Municipality of Hyvinkää, Hospital District of Helsinki and Uusimaa (HUS) built a new hospital and parking house at the Hyvinkää Hospital site.

The expansion of Hyvinkää Hospital was contracted to PEAB Oy. The construction, valued at 31 million euros, is expected to be completed in August, 2018. The building rising next to the hospital will be used by for HUS's specialist healthcare and the city's primary health care center. The total size of the project is 27 156.5m<sup>2</sup> and the estimated total costs are projected at 63.9 million euros.

## Solutions

Two Wega H65 hoists were used at this work site for personnel and material transportation in this project. This enabled the smooth transportation of the goods and personnel to different floors of the building.



## Conclusion

The Scanclimber SC1837-65 hoist, with its load capacity of 1.8 tons and large dimensions of 3.7 m, provided the method for vertical transportation throughout the construction project of the hospital.

Project Facts	
Project Timelines	2015 - 2018
Building Height	
Max. Working Height	
Number of Floors	
Premise Type	Commercial
Machines used (Construction Hoist)	2x SC1837-65
Special features	interior materials transportation



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# Hoist Range We Offer Today

## Falcon H48

	SC1432-48	SC2032-48
Payload	1400 kg or 17 persons	2000 kg or 24 persons
Speed	36 m / min	36 m / min
Max. anchoring distance	12 m	9 m
Cage internal size L x W x H	3200 mm x 1390 mm x 2055 mm	
Max. lifting height, free standing	6 m	
Mast section: Height	1.5 m	
Weight, single / twin	80 kg / 91 kg	

## Wega 65H

	SC2032-65H	SC2037-65H	SC2532-65H	SC2537-65H	SC3232-65H	SC3237-65H
Payload	2000 kg or 24 persons	2000 kg or 25 persons	2500 kg or 24 persons	2500 kg or 27 persons	3200 kg or 24 persons	3200 kg or 27 persons
Cage internal length (mm)	3200	3700	3200	3700	3200	3700
Cage internal width x height (mm)	1510 x 2040	1510 x 2040	1510 x 2040	1510 x 2040	1510 x 2040	1510 x 2040
Speed options: 36 or 54 or 90 m/min	YES	YES	YES	YES	YES	YES
Max. anchoring distance *)	21 m					
Max. lifting height, free standing *)	19m	18m	16 m	15 m	16m	15m
Mast section: height	1.5 m					
Weight, single / twin	138 kg / 154 kg					

## Wega Wideline 65H-WL

Modular H65H-WL hoist Space	SC2742-H65H	SC2550-H65H	SC3037-H65H
Payload	2700 kg or 29 persons	2500 kg or 27 persons	3000 kg or 35 persons
Cage internal length (mm)	4200	5000	3700
Cage internal width x height (mm)	2010 x 2800	2010 x 2800	2010 x 2800
Speed Options: 36 or 54 or 70 m/min	YES	YES	YES
Max. anchoring distance *)	15 m		
Max. lifting height, free-standing *)	8 m		
Mast section: height	1.5 m		
Weight, single/twin	138 kg / 154 kg		

\*) Depends on ground station type, cage(single / twin), cage length, lifting capacity speed and foundation type

Scanclimber is the world's technology leader in mast climbing equipment for installations. The company has its corporate head office in Pirkkala, Finland, and manufacturing in Gniezno, Poland. The company employs more than 200 people worldwide. Scanclimber creates value for its customers with high quality, reliable and flexible vertical access solutions.

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