WORLD TRADE CENTRE®
TALLINN

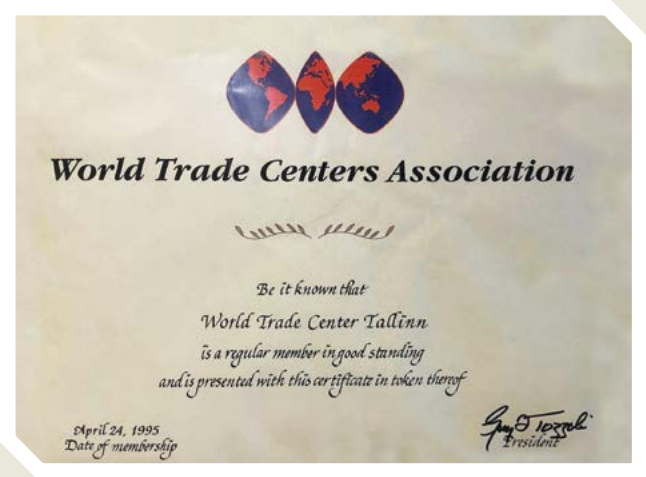
WTC Tallinn Ltd
planned renovation

WTC TALLINN is located in the city centre, between the Old Town, the airport and the port, which serves 12–13 million passengers per year.

WTC Tallinn is the largest privately owned and privately operated office spaces offering company in the Nordic-Baltic region.

WTC Tallinn recently celebrated its 30th year of successful operations.

Forming of
THE WTC TALLINN LTD
in 15.04.1994



Starting date of the WTC Tallinn Development Project is known very precicely – 15th of April 1994. That day formed for that purpose and leaded by **Dr. Mehis Pilv** Investment Company RET Development Group LTD bought on the public auction the pancropthed Tallinn Radielectronic Plant (RET) big Industrial Quarter in the Tallinn City Centre.

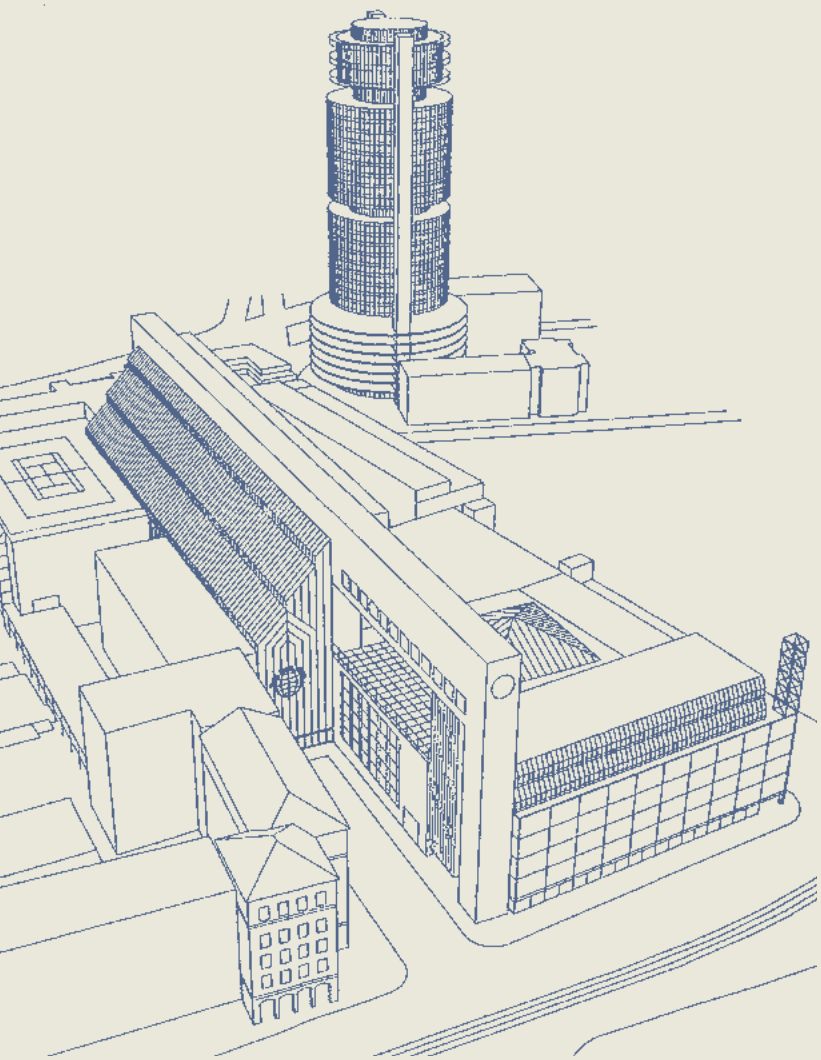
Taking care of the highly attractive location in the Tallinn City Centre, his buildings, properties and the infrastructure, this big Industrial Quarter was decided to convert to the big International Business Quarter and to apply for it the brand name "World Trade Center Tallinn". One of the most prominent Estonian Architects Mr. Raine Karp made the shown here the first arhitectual version of this planned to be developed Tallinn Big International Business Quarter and the Application Documents for getting the Tallinn World Trade Center brand name were sent to the World Trade Centers Association (WTCA) HQ in New York.

The RET Development Group WTC Tallinn Brand name Application was in WTCA HQ well accepted and the prepearing of the corresponding WTCA Membership decicion documentation was delecated to the Chairman of the Industrializing Nations Committee of the WTCA, **Mr. K.H. Wu** of WTC Taipei. In connection of defining the various local, related to the Applicant questions, Tallinn was visited by the appointed by the WTCA representatives – many times by the Regional Coordinator for Central and Eastern Europe of the Industrializing Nations Committee of the WTCA **Mr. Guenter Ehring**, Director of the WTC RUHR VALLEY.

With prepearing the WTC Tallinn WTCA Membership decision worked also **Mr. Matthew Kleinknecht** from the WTCA HQ and among others also Vice President and Secretary General of the WTCA **Mr. Tom Kearney**. The WTC Tallinn WTCA Membership Application was Supported by the WTCA Board Meetings, by 1995 WTCA Spring Meeting in Mexico and WTCA General Assembly in Beijing and the WTC Trade mark was granted to the WTC Tallinn on April 24, 1995.

Ambitious and innovative use by companys management the various competive advantages of this Big Private Tallinn WTC Quarter had made the WTC Tallinn Project from the very beginning selfsufficient and ecomically very profitable during all of the more then 30 years of its succesful operations.

Starting in 2025 the new full Reconstruction of the WTC Tallinn Business Quarter can also be characterized by using of many very ambitious and innovative newest technologies, from outstanding and flexible modern architectual solutions to the AI controlled best possible indoor climate for users. The buildings with best possible energy performance are engineered to be zero emission buildings (ZEB) and they will harvest renewable heating and cooling energy with geothermal heat pump with effective thermal storage in the ground.



Tallinn International Electronics and Trade Center

Architect **Raine Karp**
sketch project from 1994

Crucial for occupants comfort air conditioning and ventilation systems are silent operation, low velocities and high level of thermal comfort and Indoor Air Quality (IAQ), for that will be used a low-pressure ventilation ductwork of combined air conditioning and heat recovery demand-controlled ventilation system.

Very important are also many unic flexible architectual-constructoral technological solutions, which will be also described in more.

DETAILS

All those newest ambitious arhitectural – constructoral – technological solutions with using newest high efficiency AI software will be described more precicely in the next parts of this manual. Also is very important to underline, that thanks to very high efficiency of the technological solutions of many WTC Tallinn Quarter infrastructure systems, some services can be additionally to the clients of the own WTC Quarter be very profitable delivered also to the neighboring properties – for example central heat and cooling, electrical energy, parking places, connections to public transport et cetera.

Borders the harbor area

WTC Tallinn development team

WTC Tallinn's ambitious reconstruction project is ensured by the use of top professionals from various fields.

DR. MEHIS PILV

has a Ph.D. in Applied Computer Sciences, more than 20 publications on radio-electronics, applied cybernetics and international entrepreneurship and more than 10 inventions and patents.

Dr. Pilv is the founder of WTC Tallinn Ltd. He is also the founder GENECODE and is a significant investor and business developer.

He is a private owner of the World Trade Center, Tallinn and also has interests in many significant real estate projects.

https://genecode.com/team/mehis-pilv/

The globally ambitious architectural solution has been developed by Professor Andres Alver, who is the developer of the architectural solutions for many of the new developments in Tallinn. Such as the Rotermann Center, Krulli Quarter, Smuuli tee Quarter, and so on.

PROF. DR. ANDRES ALVER

has taught at the Estonian Academy of Arts (formerly ERKI) since 1985. Since 2006, he has been a full professor. He has worked as a visiting professor at the College of Architecture of the Virginia Polytechnic Institute (Alexandria, VA) and at the Faculty of Architecture of the private university RISEBA in Riga, and has been a visiting critic at the Department of Architecture of Umea University (Sweden) and the School of Design of Harvard University (Cambridge, MA). **www.ata.ee**

The construction of the WTC Tallinn quarter is being provided by Estonia's leading construction company MERKO.

The renewable geothermal energy from the WTC Tallinn territory is provided by MAAKÜTE LTD (Geothermal heat energy).

The most important innovative solution for the reconstructed WTC is to power the new quarter with 100% renewable energy all year round.

The corresponding direction has been developed by Professor Jarek Kurnitski of Tallinn University of Technology and Professor Robert Kitt, Head of Utilitas.

PROF. DR. JAREK KURNITSKI

is Professor at Tallinn University of Technology, Estonia, and at Aalto University, Finland. He is internationally renowned for preparation of technical definitions for nearly zero energy buildings through many activities in REHVA and European standardisation. **www.etis.ee/CV/Jarek_Kurnitski/**

The ambitious architecture is complemented by one of Estonia's leading design offices, Disainikorp, with its innovative design solutions.

MA. KAREL KORP

Karel Korp is an Estonian designer, illustrator, book designer and painter.

Graduated from Tallinn University with a degree in art education and drawing. In 1997, he founded the advertising and design agency Disainikorp, which is one of the oldest operating design agencies in Estonia.

He has collaborated with the Bank of Estonia, the Financial Supervision Authority, the Chancellor of Justice, the Employers' Confederation, the Chamber of Commerce and Industry, the Estonian Cooperation Council, the World Trade Center Tallinn and many other institutions and companies. He has created trademarks and corporate graphics for internationally operating companies.

He has participated in dozens of exhibitions with his illustrations and paintings both in Estonia and elsewhere in the world.

From 2016 to the present, he has been the chairman of the Estonian Graphic Designers' Association and one of the owners of the illustration gallery TINT.

www.disainikorp.ee

Zero Emission Building and optimal Indoor Environmental Quality targets in WTC Tallinn

In addition to the striking and unique architectural design, the building's CO^2 footprint and its unique solution based on 100% renewable geothermal and solar energy should also be noted.

This is described in more detail on the following page.

WTC Tallinn Business Quarter with Zero Emission and optimal Indoor Environment office and living buildings

Certified to the highest level of LEED/ BREEAM/WELL should not only demonstrate modern architecture but also to offer best possible indoor climate for users. An optimal Indoor Environmental Quality (IEQ) is often overlooked in value engineering, but it deserves efforts for better user satisfaction, wellbeing and productivity. In WTCT this goes hand in hand with best possible energy performance as these buildings aim to be zero emission buildings (ZEB) and beyond before an official definition of ZEB even exists. There are the following three innovative elements to achieve ZEB and optimal IEQ targets in WTCT.

1.

WTCT buildings located in city centre will harvest renewable energy with semi deep boreholes and photovoltaic on-site electricity generation. Because of limited size of the building site a common borehole in Estonian soil conditions of 50 m will be replaced with much deeper one. Ongoing experimental drilling aims to reach about 600 m with three test boreholes which then will enable to conduct a thermal response test to provide design data for the entire borehole field. It is expected that boreholes with a geothermal heat pump will supply most of the heating and cooling of buildings and enable effective thermal storage in the ground. The rest of heating and cooling energy will be covered with effective district heating and cooling.

2.

To reduce heating and cooling loads, highly performing façade would be needed. As located in cold climate, facades with four pane glazing units are studied instead of common triple glazing. Four pane windows with clear low-emission glazing offer superior thermal insulation and solar protection at the same time while visible light transmittance can reach 60% that is well enough for facades having high window to wall ratios because of sea views and other architectural reasons. The drawback of four panel glazing are higher weight and a challenge for profile systems to have a space for more than 70 mm thick glazing units. Depending on energy prices such solution can be cost effective in the long run and WTCT wants to be a forerunner focusing to life cycle cost instead of investment cost.

3.

Air conditioning and ventilation systems are crucial for occupant's comfort. WTCT prefers silent operation, low velocities and systems operating on demand to provide high level of thermal comfort and Indoor Air Quality (IAQ). A low-pressure ventilation ductwork of combined air conditioning and heat recovery demand-controlled ventilation system will be used. This system sized for terminal unit pressure drop has lower velocities and static pressure in the ductwork than usually making it flexible and robust for demand control operation even with simple on-off type of dampers. WTCT aims to design one of the first air conditioning and ventilation systems in Estonia having IAQ regulation and monitoring that is one important feature of future ZEBs. Such design makes IEQ visible for users and benefits from utilising passive features but will take more space because of larger ducts. However, careful architectural design and high ceilings in WTCT turn this to be a reasonable solution maximising both energy and IEQ performance.

Parda T1
(internal street) **2024 m²**

In the quarter, which has a total of 20,000 m2 of plot area and 100,000 m2 of building area, all buildings are accessible by car from various directions.

The street is also wide enough to allow access to the first-floor commercial buildings by commercial vehicle.

Public transport options are located in the immediate vicinity of the quarter, which directly connect the port and the airport.

◀ PORTO FRANCO

REIDI ROAD ▶

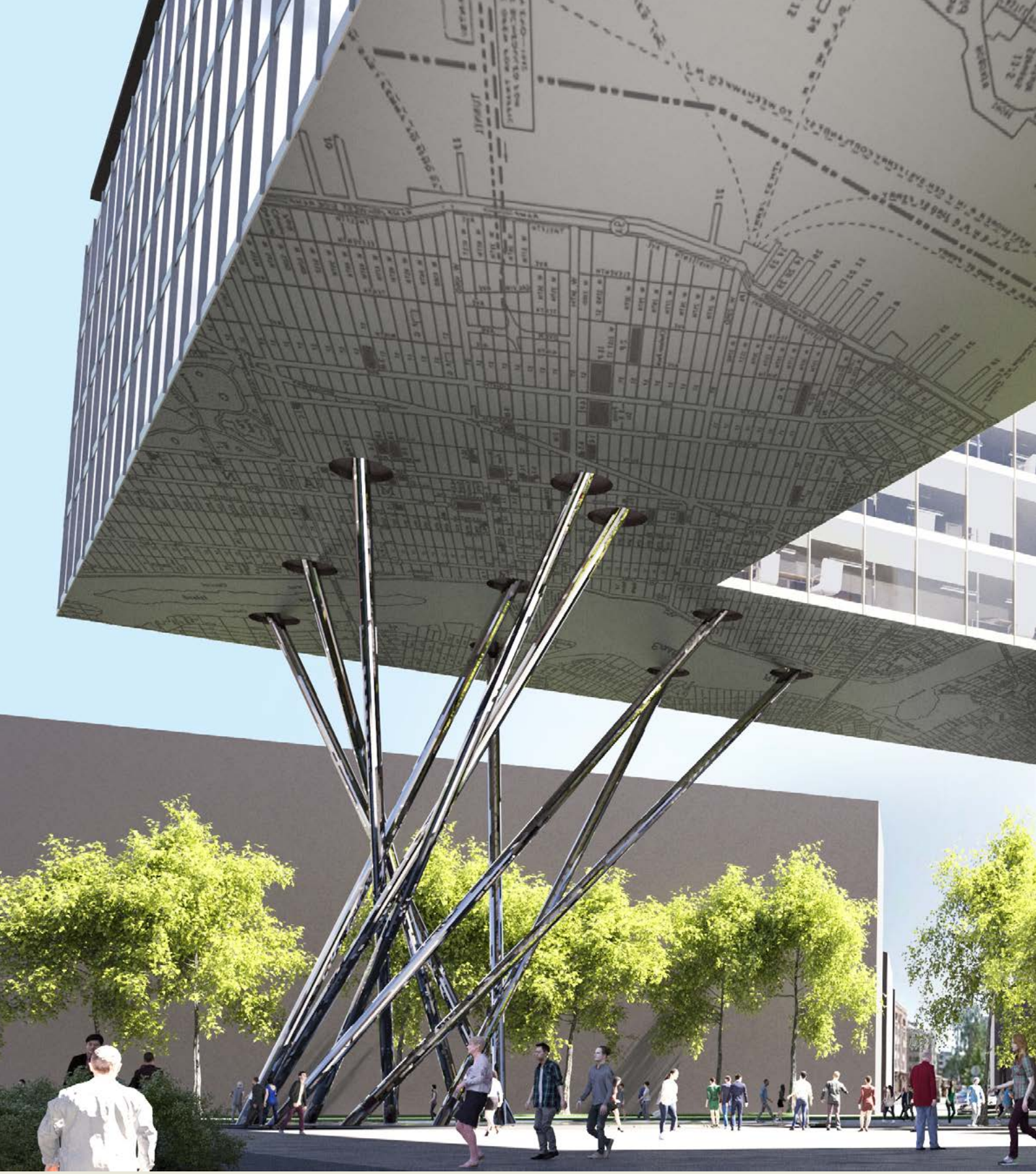
AHTRI STREET

Parda T1
(internal street) **2024 m²**

◀ ROTERMANN QUARTER

NARVA ROAD

Parda T1 (internal street)




WTC
TALLINN

WTC Tallinn quarter compared to the neighboring Rotermann business district

Tallinn's passenger port is around ½ a kilometer away, the city's main railway station is around 3 kilometers away, and Tallinn Airport is around 4 kilometers away.

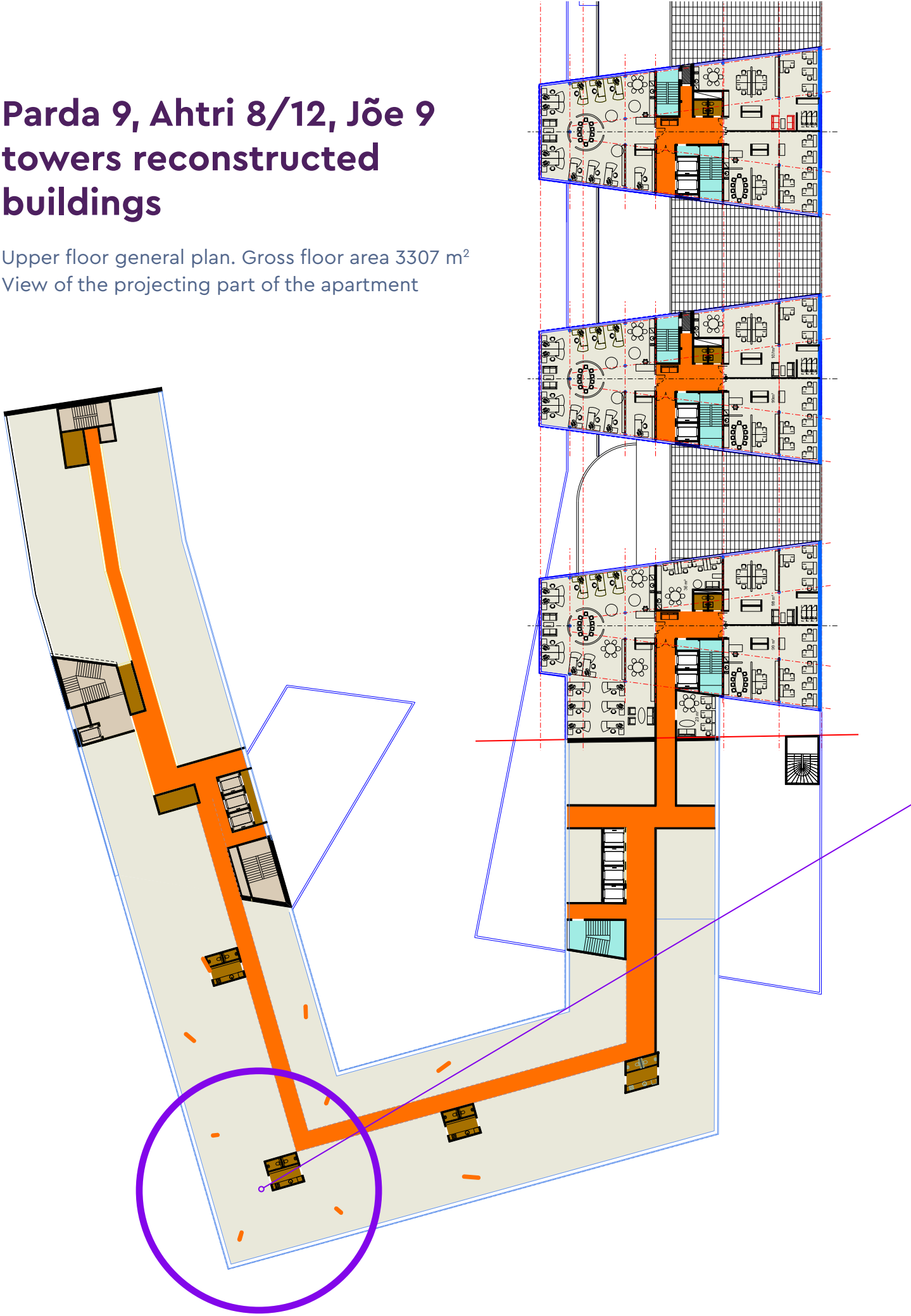
Town Hall Square in the Old Town is around 2 kilometers away.

Starting from this summer, you will be able to take the tram from the harbour directly to the main entrance of the WTC.

View from Tallinn Town Hall Square

Parda 9, Ahtri 8/12, Jõe 9 towers reconstructed buildings

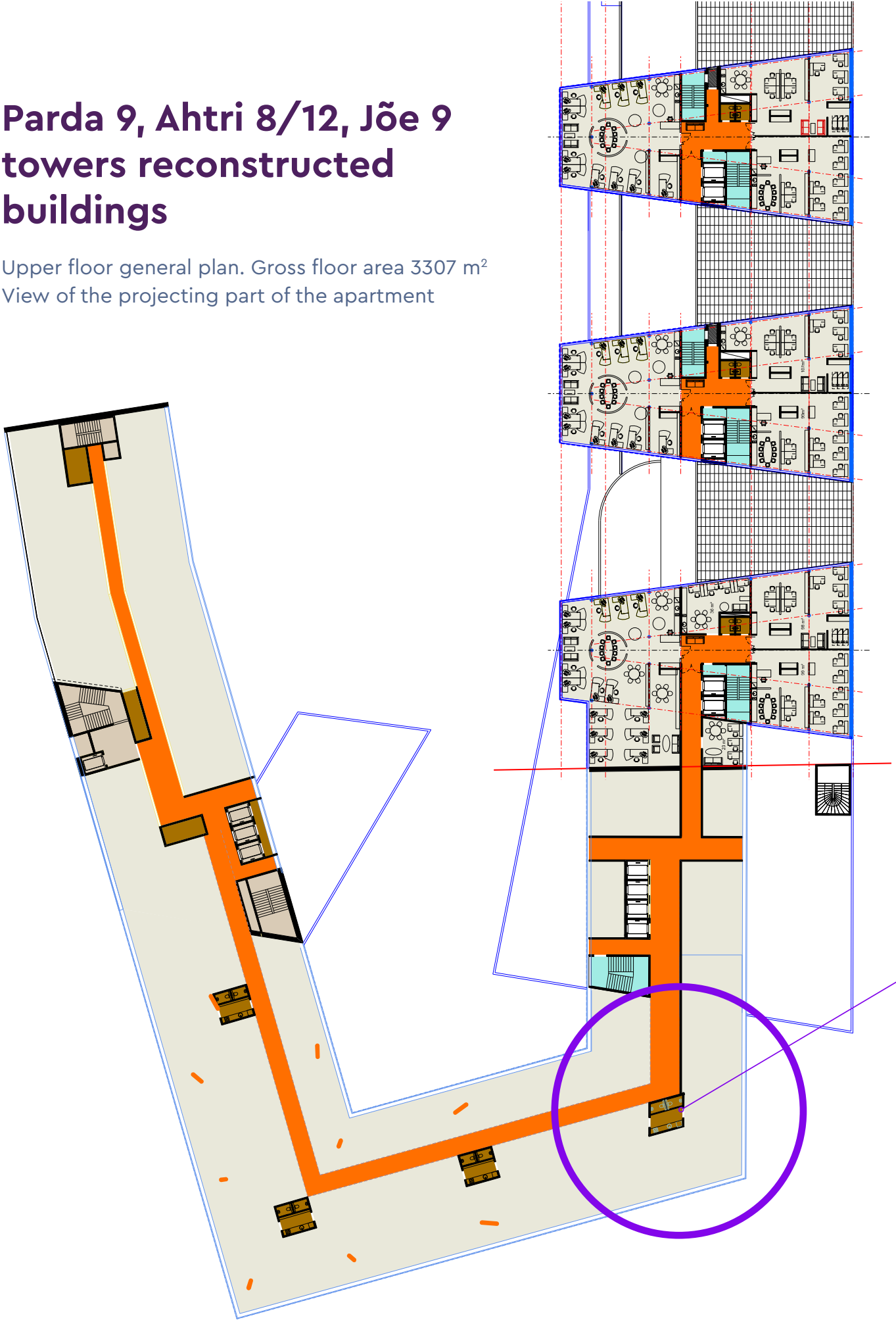
Upper floor general plan. Gross floor area 3307 m²
View of the projecting part of the apartment




132.3 m²
118.4 m²

Parda 9, Ahtri 8/12, Jõe 9 towers reconstructed buildings

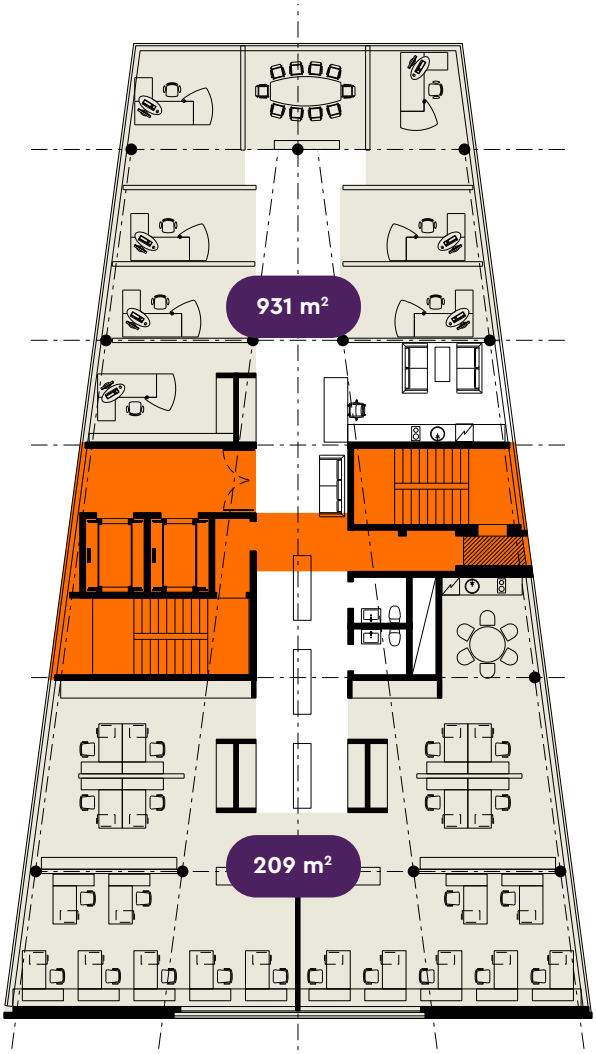
Upper floor general plan. Gross floor area 3307 m²
View of the projecting part of the apartment



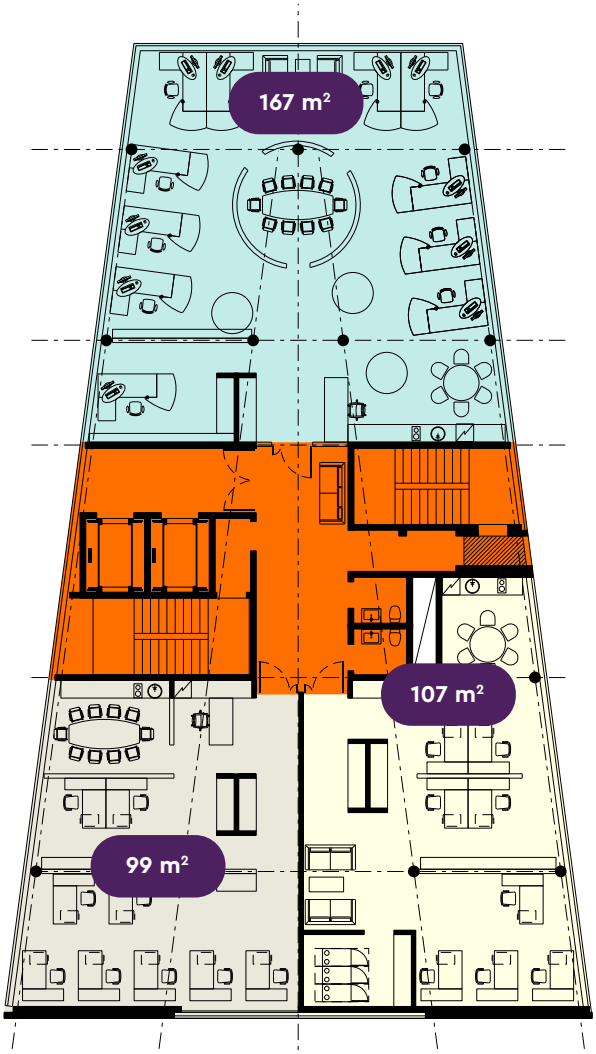
Apartments on the upper floors of Ahtri 8–12

Parda street 3, 5, 7 towers

According to the detailed plan, the construction of both offices and living spaces is secured.



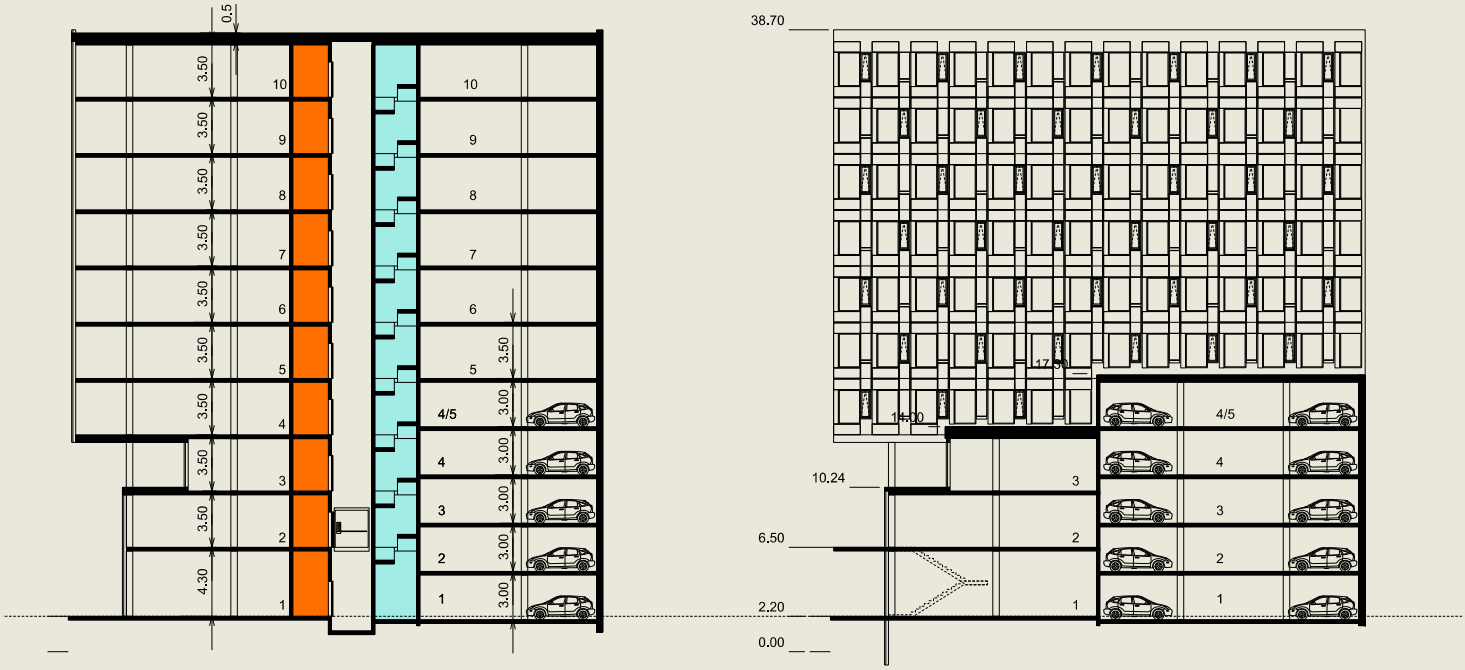
1:1 tenant on the floor



2:3 tenant on the floor

The three towers above at Parda 3, 5 and 7 are multifunctional buildings with planning permits for both office and residential space. A sufficient number of parking spaces has been provided for both. The towers are planned to be 11-storey buildings with a height of 38.5 m.

The three described office buildings are designed to conform to the class A standard, which means zero-energy buildings in terms of energy consumption. The location of the office buildings in the WTC Tallinn quarter provides a significant competitive edge.



Technical data of the Parda street 3, 5, 7 three properties:

- Area available for construction: 2 294m^2
- No. of floors: 11
- Gross area: 19 077m^2
- Net area: 17 309m^2
- Parking spaces: 222

The figure below shows a multifunctional building extending onto the pedestrianised Ahtri Street, the main part of which is an exclusive projecting section resting on a braided pipe. Here, too, there will be both office and residential spaces with sufficient parking.

The building was designed to be an energy efficiency class A structure, i.e. a nearly zero energy building with the best available energy efficiency and renewable energy technology.

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THE TALLINN WTC QUARTER

designed by **Professor Andres Alver** according to the zoning plan from 2010, with updates starting from 2025

PORTO FRANCO

REIDI ROAD

Additional connection to the WTC Quarter

Parda T1
(internal street)
2 024 m² • 100% WTC

AHTRI STR.

JÕE STR.

Ahtri 8

Ahtri 12

Ahtri 8/12 – 23 810 m²
(Current enclosed net area 11 432 m², according to the zoning plan 23 810 m², WTC part 93.43%)

Property area **2 977 m²**

Parda 9 – 14 950 m²
Current enclosed net area 9 960 m², according to the zoning plan 14 950 m²

Parda 9

Property area **2 172 m²**

Parda 12
Current enclosed net area **881 m²**
Property area **295 m²**

Parda 10
Current enclosed net area **720 m²**
Property area **240 m²**

Jõe 9

Jõe 9 – 2 925 m²
100% WTC

Property area **710 m²**

Parda 8
Current enclosed net area **2 831 m²**

Property area **905 m²**

Additional access to the WTC Quarter

Jõe 7
apartment building
Current enclosed net area **8 633 m²**

Property area **1 406 m²**

DELFI QUARTER

Parda 3, 5, 7
19 020 m²
100% WTC
Current enclosed net area 2 617 m², according to the zoning plan 19 020 m²

Parda 7 property area **908 m²**

Parda 5 property area **1 037 m²**

Parda 3 property area **931 m²**

Parda 3, 5, 7

Parda 6
Current enclosed net area **1 946 m²**

Property area **539 m²**

Jõe 5A
apartment building
Current enclosed net area **4 050 m²**

Property area **901 m²**

Jõe 5
Current enclosed net area **1 999 m²**

Property area **543 m²**

Parda 4

Parda 4
3 745 m²
100% WTC

Property area **740 m²**

Jõe 3
Current enclosed net area **3863 m²**

Building managed by WTC

Property area **1 276 m²**

Narva 9

Narva 11
Current enclosed net area **7 869 m²**

Property area **1 739 m²**

ROTERMANN QUARTER

Parda T1 (internal street) **2 024 m²** • 100% WTC

NARVA ROAD

One of Tallinn's busiest roads

Area of buildings owned by WTC Quarter
68 313 m²
Area of the properties owned by WTC 12 775 m²

Area of buildings operated by WTC Quarter
30 965 m²
Area of the properties operated by WTC 6 568 m²

Area of the buildings in the quarter
TOTAL: 99 278 m²
or approx. 1 million square feet
Total area of the properties 19 343 m²