TRIPLA - copyright YIT Group

# Tripla ensures sustainable growth and expansion for Helsinki

OPEN BIM helps the development of this gigantic mixed use project in Helsinki, Finland.

Project name: **Tripla**
Location: **Helsinki, Finland**
Type: **Mixed use**
Year: **2013-2021**
Size: **355,000 sqm | 3,821,188 square feet**
Cost: **€1 billion | $1.3 billion**
Architects: **Architects Soini & Horto, Brunow & Maunula**

Software used:

**Client: Solibri Model Checker, Tekla Structures**

**AS&H: ARCHICAD, Solibri Model Checker, 3ds Max**

**Brunow & Maunula: Revit**

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CASE STUDY
**PASILA TRIPLA - ARCHITECTS SOINI & HORTO LTD.**


TRIPLA View from South West-
copyright YIT Group

Tripla will be a bold, three-block urban entity connecting East and West Pasila, which had been separated by an old railway yard. The overall design will comprise offices, a shopping mall and congress center, housing, a hotel, a multi-purpose arena and public transportation terminal. The development is committed to continuing the sustainable expansion of the Helsinki city center, while creating a new, diverse backdrop for Helsinki urban life.

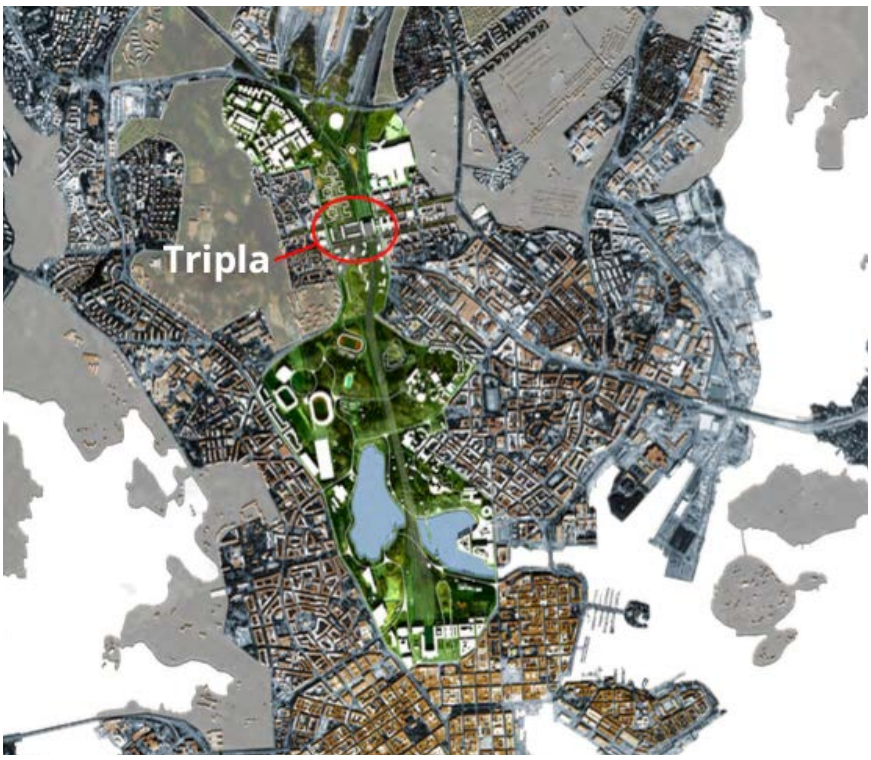
Tripla is the result of cooperation between international and Finnish planners and experts. The client is the construction company YIT. The client brief and architectural competition for the Pasila area of Helsinki focused on developing the present railway station and its immediate surroundings. The plan establishes the prerequisites for the next stage: the tower area designed by Gino Zucchi located south of the Tripla blocks and the residential blocks to the north. “The design of the new center, called Tripla, started in our office about six months prior to the invitation for the actual planning and implementation by developing the spatial programs and project contents,” said Kalle Soini, Architect. “We were also tasked with

forming an international working group, to which we invited OMA from the Netherlands."

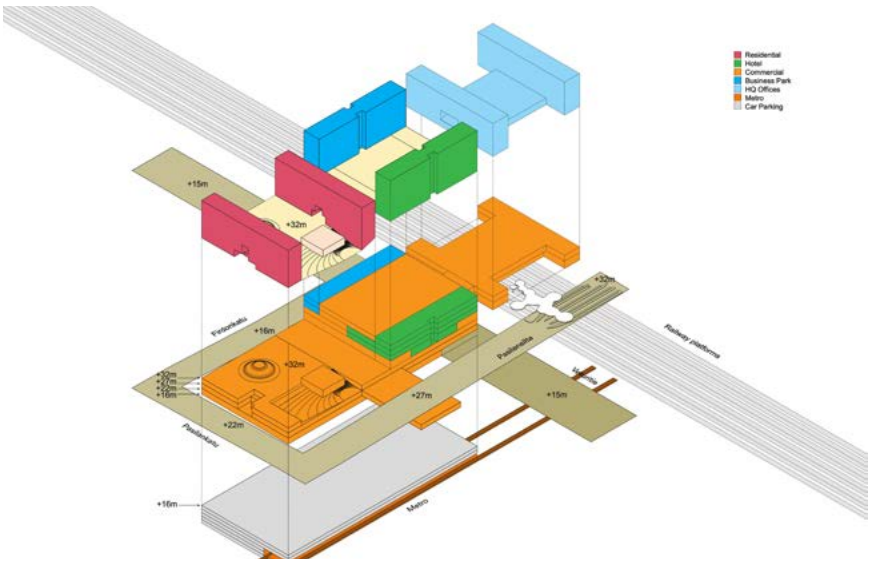
**Helsinki's urban past serves as a guide to its future**

The solution is based on an analysis of the history and scale of the urban structure of Helsinki. Helsinki has grown to its present size as new city districts have joined the inner city street grid, with variations typical for their time. The new center of Pasila continues this urban structural tradition, code and scale typical for Helsinki,

Helsinki Green Spine - copyright YIT Group




TRIPLA axonometric - copyright YIT Group



which started in the early 19th century. The concept of the new cityscape was to continue the Töölönlahti area, a central park with cultural buildings. Could this green 'spine' be leveraged by opening a growth corridor for it northwards all the way beyond Pasila? The center of Pasila could become an urban structural element that supports this idea.

Due to its central location and easy accessibility, Tripla is an attractive place for an exceptional variety of activities. As a basic solution, Tripla will be a bold, three-block urban entity that connects East and West Pasila, which had been separated by an old railway yard. The overall design will comprise offices, a shopping mall and congress center, housing, a hotel, a multi-purpose arena and public transportation terminal. Housing will account for approximately 20% of total building area.

Part of the housing will be rental and for senior citizens. Overall,

Pasila TRIPLA today - copyright YIT Group

***"ARCHICAD has been found to be quite flexible in order to divide information into smaller pieces and still keep most of the information in just a few model files. IFC files are created from these main model files."***

Kalle Soini

the area will be economically, socially and ecologically sustainable. The sizes of the spaces have been based on market analyses, so that the project can be implemented in a single stage.

The basic character of Tripla is public, open and serving all groups. The entire spectrum of life - the meeting point for different values, lifestyles and age groups and social interaction - was one of the most important guidelines in the design process. In the implementation, these objectives are evident primarily at the human scale, as a vibrant environment that does not attempt to grab attention with trendy architectural design but rather is committed to continuing the expansion of the Helsinki city center in the direction of Pasila. At the same time, it creates a new, diverse backdrop for Helsinki urban life.

Tripla middle block south competition image - copyright YIT Group

***"Communication is a vital part of any successful project. With model-based design, communications errors are reduced and possible conflicts can be found in an early stage of the project. Also, understanding different design intentions is easier and ambiguities are greatly minimized when communicating with the model information on the screen."***

Kalle Soini

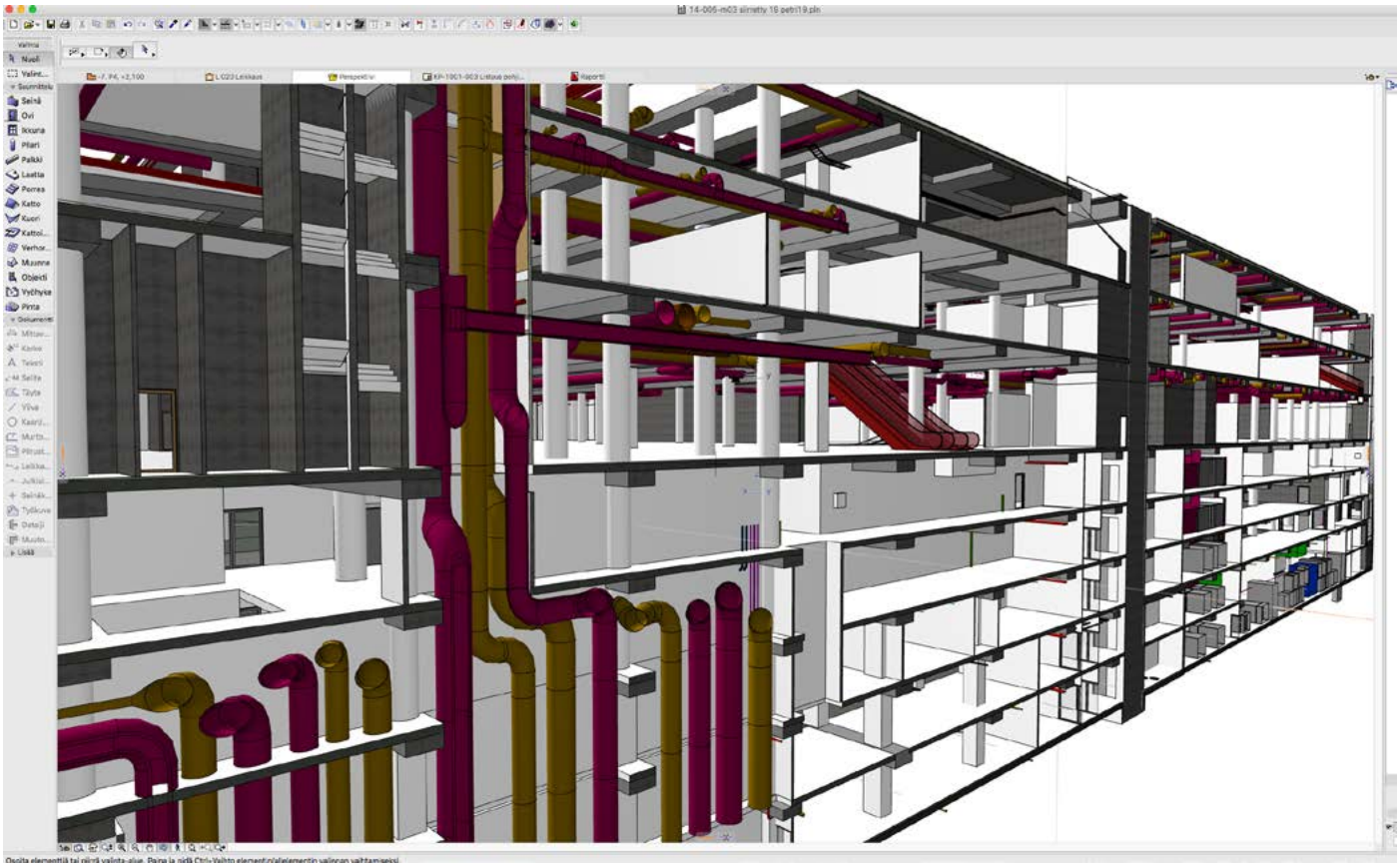
**BIM puts Tripla on sure footing**

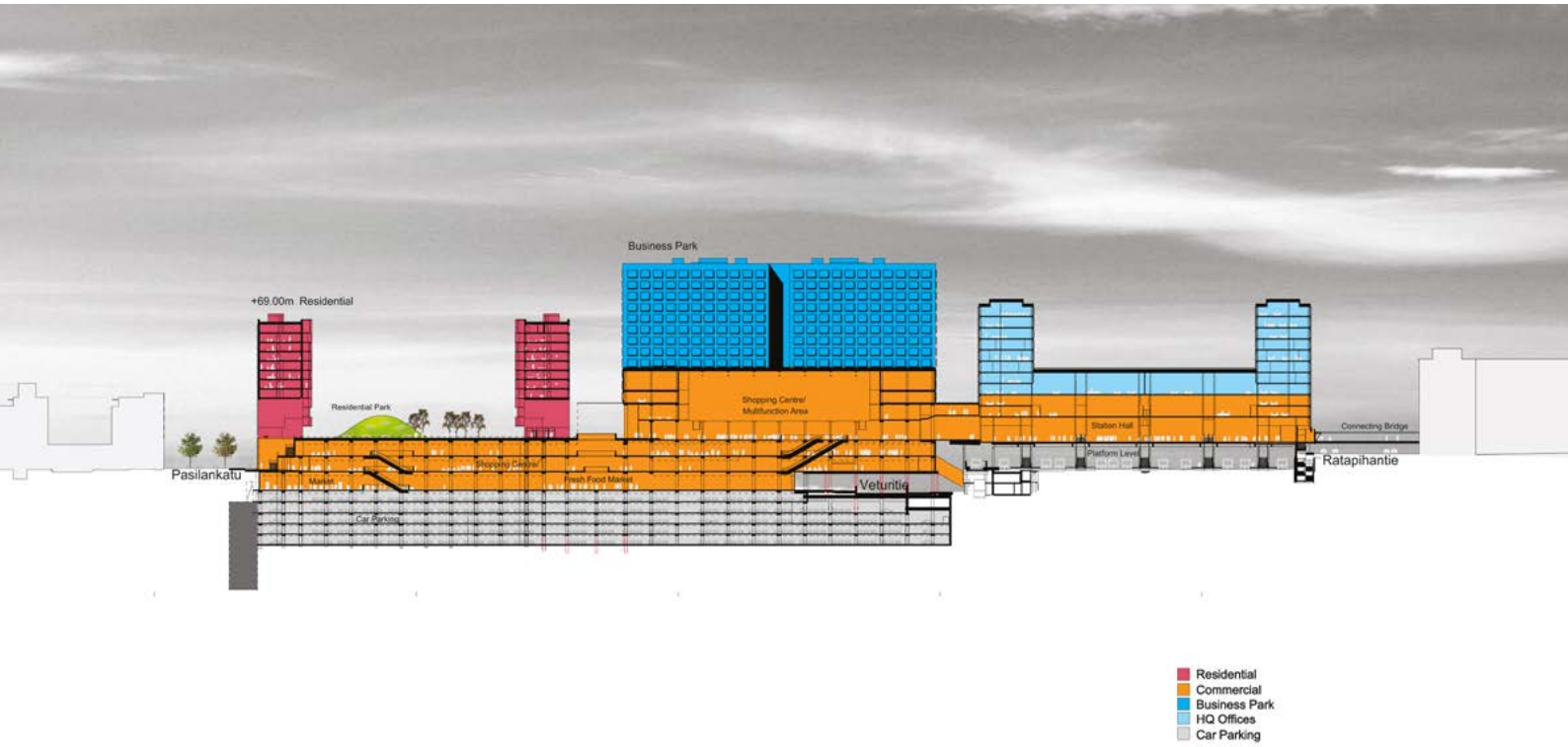
In the very beginning of the project, the client stressed that all designers must follow Common BIM Requirements by BuildingSMART Finland, level 3. The project's BIM coordinator created a detailed BIM execution plan for the entire project to fulfil CoBIM requirements and convey how specific information should be produced and maintained in the models.

**ARCHICAD Teamwork and OPEN BIM overcomes technical challenges**

"The size of the project had to be taken seriously from the very beginning of the design phase. In order to keep Teamwork file sizes acceptable and functional in the future as well, we have to separate the building blocks into the three main models," said Kalle Soini. "Most of the layouts are located in separate files. These separate files contain only layouts and .pmk view files, which are produced from the main models."

MEP model shown on ARCHICAD using IFC communication






Tripla section view - copyright YIT Group

In addition to the architects, the project team consists of several structural and mechanical companies and numerous other engineers and consultants. To manage the workflow of this large scale project as a whole, the overall BIM coordination was handled by a separate company. IFC communication has played a major role in information exchange for cost estimate on this particular project. The client uses Solibri Model Checker and Tekla Structures for purposes such as construction scheduling. AS&H integrated IFC and DWG files from other disciplines into their ARCHICAD model. According to Kalle Soini, "ARCHICAD has been found to be quite flexible in order to divide information into smaller pieces and still keep most of the information in just a few model files. IFC files are created from these main model files."

IFC files that are produced from all design disciplines are brought together in Solibri Model Checker in weekly or bi-weekly cycle; this combined model is used in everyday work for quality control and to solve design challenges in the project meetings. Adapting and unifying the IFC information for the client or different design teams is straightforward and easy when using ARCHICAD.

All project files are stored in one repository (cloud) and any file exchange happens through this portal. There are over a hundred designers from different disciplines working on this project. In addition, there are client's personnel and organizations of the city of Helsinki and the state, which make over 300 individuals altogether. All of them have access to at least some of the project data. This is possible only with a web-based solution.

"Communication is a vital part of any successful project. With model-based design, communications errors are reduced and possible conflicts can be found in an early stage of the project. Also, understanding different design intentions is easier and ambiguities are greatly minimized when communicating with the model information on the screen," Soini said. "Large projects like Tripla present many challenges, for example designing simultaneously in design development and construction documentation phases. Interaction between different design stages and proceeding to the next ones require constant communication between all project stakeholders."

Tripla vew from north - copyright YIT Group

## About Architects Soini & Horto

AS&H is a Finnish architectural practice founded in 2007 by architects Kalle Soini and Sami Horto, with a head office based in Helsinki, Finland. Our core competencies are architectural design, project management and property development. We supply the full chain of services from the entire design team management and on-site supervision to facility management systems. The company operation unifies the long-term professional experience from the fields of construction, property development and architecture.

Our team of Lead Architects have completed projects in Germany, Russia, Sweden, Estonia and Finland. We have earned our reputation with a long-term commitment to study, learning and understanding our clients' businesses. Our reward is a returning customer with new projects to complete together. With trust, we can truly help our clients to achieve their goals.

Our clientele consists of large international construction companies, national pension funds, insurance companies and developers. All appreciate our capability to understand their business models and our capability to deliver flawless documentation for each phase of the construction process.

## YIT Group

YIT leads the way in the construction field. YIT creates more attractive and sustainable urban environments by building housing, business premises, infrastructure and entire areas. YIT has a strong market position: it is the largest residential construction company in Finland and the largest foreign residential construction company in Russia. YIT is also one of the largest business premises and infrastructure construction companies in Finland.

YIT is pursuing well-managed and profitable growth in all businesses in Finland, Russia, the Baltic countries and Central Eastern Europe. In 2014, our revenue amounted to approximately €1.8 billion. YIT operates in eight countries and has nearly 6,000 employees.

YIT aims at being a leading European developer, builder and

service provider creating shared value with high responsibility. We aim at improving our quality and customer service further and continuously introduce new and innovative housing solutions for consumers. Our success is first and foremost based on skilled employees and continuous development of competence.

YIT's shares are listed on NASDAQ OMX Helsinki.

Detailed information of the project:

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Design team | Competition phase: Soini & Horto Architects and Office for Metropolitan Architecture (OMA)
Design team | Post-competition phase: Soini & Horto Architects and Brunow & Maunula Architects
Software used by clients: Solibri Model Checker, Tekla Structures
Software used by architects | AS&H: ARCHICAD, Solibri Model Checker, 3ds MAX
Software used by architects | Brunow & Maunula: Revit

Video link to PASILA TRIPLA

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