

# HELEN

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The Partanen-Sopanen family was among the first to move to Kalasatama. Marius, 10 mths, spends the days at home with his father Petja Partanen.

## FUTURE LIVING NOW IN KALASATAMA

MACHINE DISHWASHING PAYS 3

HELEN'S ENERGY STORAGE FACILITIES ARE STEEL TANKS AND UNDERGROUND LAKES 4

VILLE RINNE

## SMARTLY NEW

The development of the Kalasatama residential area into a model of smart city living is underway. The Partanen-Sopanen family, one of the first to move in, is loving the sea views and waiting for neat connections to downtown. Text Susanna Haanpää

**T**he Partanen-Sopanen family was able to move into their new home in the Kalasatama district as early as March.

"We got lucky. We entered the draw for the Hitas homes and got a home from among a total of about 2,000 applicants," says **Petja Partanen**.

The brand new area is as yet unfinished, and many services are still under construction. For now, there is only one small grocery shop and restaurant in the neighbourhood.

"We knew when we moved in that we'd be living on a building site for some time. Construction of many of the buildings planned for the area is starting, and many are still on the drawing board," **Titta Sopanen** tells us.

In the new apartment block, attention was paid at the construction stage to details that could improve the comfort of living in later years.

For example, the building contains an intelligent power network, literally one where electricity and intelligence travel in the same network. »



The Partanen-Sopanen family's new home contains intelligent solutions that will permit living comforts to be added also in future years.

tives as possible, and almost all the home light fittings have LED bulbs.

Partanen says that he includes in the price of an appliance also its power consumption over its lifecycle. Nevertheless, the family has not skimped in the number of electrical devices they own, using the sauna several times a week, for example, even though it creates a consumption spike. This is shown clearly in the Helen Sävel Plus reporting service.

“Taking frequent saunas may still be a novelty, as we didn’t have one of our own in our previous home.”

Along with a few other residents in the building, Petja Partanen took part in workshops organised by Helen, which collected user experiences and comments for the purpose of developing the HIMA home automation system.

“As an engineer, I’m a bit of a nerd,” Partanen admits to taking a keen interest in generating ideas.

Titta Sopanen does not share her husband’s enthusiasm as willingly:

“It’s enough for me if one of the family understands these things. The most pleasing feature of the new home to me is peace, in other words that outside noises are not carried inside.”

#### HOME ENERGY USAGE



- The family’s electricity consumption per month: 200–240 kWh.
- Heating: district heating.
- The sauna warms up often. Average apartment sauna
- per heating: imputed power consumption 6-8 kWh.
- The family favours LED bulbs.
- The HIMA remote control service uses the phone, tablet or computer.
- The service reports the real-time consumption of power and water.
- HIMA allows the monitoring and control of electrical groups and setting timers on electrical equipment.

The information travels from the fuse board of each home via an internet browser for the resident to read on any device.

Partanen mostly operates HIMA from his phone. You log into the service using your own IDs, after which the screen shows the current day’s data for the consumption of electricity, as well as hot and cold water. It also lets you check if some piece of equipment is left on and turn it off, if necessary.

“I need this feature when I’ve left home and can’t think whether or not I forgot to turn off the espresso maker after all,” Partanen chuckles.

#### AN AWARE CONSUMER

Petja Partanen calls himself a power and energy issue buff, who follows the field closely. It is important to him that he can monitor and pare down his energy consumption.

“That is why I was also delighted to learn that this building comes in class A for energy.” The building is heated by district heating.

Over the years, the family has chosen as low-energy electrical equipment alterna-

#### KALASATAMA



CONSTRUCTION OF THE RESIDENTIAL BLOCKS BEGAN IN

2011

THE CENTRE OF KALASATAMA WILL BE COMPLETED NEAR THE METRO STATION BY

2021

ONCE COMPLETE, THE 175-HECTARE AREA WILL HOUSE 20,000 RESIDENTS, AS WELL AS PLACES OF WORK FOR 8,000 PEOPLE.

20 000

8 000

There is no outward sign of the solution in the homes, but it allows functions like controlling home appliances from outside the home using HIMA home automation. A similar system can also be installed in homes that are being modernised.

## Invisible electricity

One August evening, my 4-year-old son wanted to know what I do at work. While trying to think of an explanation, it occurred to me that things to do with the electricity network are not very familiar to ordinary power consumers either. Helsinki has been spared any major power distribution outages. While everything works, people pay no attention to how the electricity network operates, and why should they, since electricity comes out of the socket!

The arrival of the electricity bill is a regular reminder of the existence of the distribution system operator. Sometimes it’s good to stop and think about all the things hiding behind the euros on the electricity bill: maintenance of the existing network, investments in a new network, repairing faults, customer service, reading electricity meters, and continuous monitoring of the network. A person living in an apartment block pays about EUR 15 per month for this. Doesn’t sound expensive, especially when you remember that the distribution charge also includes the electricity and value-added taxes payable to the government. Roughly speaking, household electricity costs are divided between electric energy, distribution and taxes 40% - 30% - 30%.

The power network is closer than we realise. Power cables run under the streets, distribution cabinets and transformer cabins are found in home streets, substations around the city. Alongside the main routes into the city are the trunk lines crucial for the electricity network, its motorways.

During the summer, there has been discussion on a new draft master plan for Helsinki, which would change the main highways into city boulevards. It is a fine thing that the city develops. At the same time, we must ensure that the space required for the power lines running alongside the roads is still there. In order to function, a reliable electricity network needs to be where the people are, in the city centre.

A Helsinki resident experiences on average a half-hour power cut once every ten years. Thus, the security of power supply in the capital is first-class. The flipside of the coin is that the con-

struction of the electricity network and fault situations require excavation works. When you come across one of our roadworks in the morning rush hour, please remember that we are working to keep your electricity coming.

My boy and I continued our conversation. As night was already falling, I took my son’s hand, we walked together to a light switch, I turned on the lights and told him that this is what I do for a job.

Wishing you a light-filled autumn!

**Petri Vihavainen**

Customer Service Manager,  
Helen Sähköverkko Oy



JUUSO PALONIEMI

## MACHINE WASHING PAYS

**DID YOU KNOW THAT YOU SAVE A CONSIDERABLE AMOUNT OF ENERGY AND WATER WHEN YOU DO THE DISHES IN THE DISHWASHER? WASHING-UP BY HAND USES MUCH MORE OF THE ENVIRONMENT AND MONEY THAN MACHINE WASHING.**



**BY HAND UNDER RUNNING WATER**

135

WATER L/TIME

49 275

WATER L/YEAR



**BY HAND, WASHING AND RINSING WATER IN BOWLS**

40

WATER L/TIME

14 600

WATER L/YEAR



**IN DISHWASHER**

12

WATER L/TIME

4 380

WATER L/YEAR



**DID YOU KNOW** that washing-up under running water uses 1,570 kilowatt hours more energy in a year than using a dishwasher?

Furthermore, if you wash the dishes in the machine instead of doing them under running water, you save 123 litres in water per wash, and 44,895 litres in a year.

#### 24 BUCKETS OF WATER



A 20-minute shower uses 24 bucketfuls of water. Could you carry your shower water? It’s easy to save in water consumption, for example on days when you don’t wash your hair. If you swap your 20-minute showering for five minutes, you save 180 litres of water per each shower and 65,700 litres in a year.



## ENERGY OFF THE SHELF

Heat and cooling storage facilities increase the energy efficiency of district heating and district cooling networks. Developments in electricity storage open new possibilities for solar and wind power.

**HELEN PRODUCES** electricity and district heat energy-efficiently by combined heat and power generation. For district cooling, it makes use of energy streams, for example heat waste from buildings, which would otherwise be left unused.

Senior Adviser **Timo Arponen** from Helen says that in a smart city energy system, energy storage facilities play an important part:

“Energy storage facilities help to even out consumption peaks. They might be needed perhaps when more cooling is required for a time on a summer afternoon, or more heating on a winter’s morning.”

In case of consumption peaks, it pays to get energy produced energy-efficiently by CHP from the storage facility – if there is enough available – rather than start up separate heating plants and other peak load facilities.

“Energy storage facilities are also vital in the combined operation of our

cogeneration plants. They help to even out the plants’ loads and optimise production,” Arponen goes on.

### MASSIVE TANKS AND UNDERGROUND LAKES

Helen has a long tradition in utilising energy storage facilities. As early as the 1980s, Helen built two enormous steel tanks in Salmisaari for hot water reserves required by the district heating network. The following decade saw an even larger heat storage facility go up in Vuosaari. In 2012, a large cooling storage facility was excavated in the Pasila bedrock. Recently, in April this year, a second cooling storage facility was taken into use, a huge underground ‘lake’ beneath the Esplanadi Park. An investigation is currently underway on the construction of a new heat storage facility.

Helen has made the decision to build the first megawatt-output class

battery-operated electricity storage facility in Finland, forming part of the smart grid in Kalasatama, Helsinki.

“Kalasatama will generate a lot of solar energy. The idea is that the batteries are charged whenever there is surplus solar energy available, and utilised when production is low. At the same time, the electricity storage facility will serve as part of the national distribution network output reserve, which will help to stabilise fault situations affecting the network.”

Arponen emphasises that Kalasatama is a trial site where the latest technology is tested and preparations made for the future.

“The problem with solar and wind power is that no electricity is generated if it’s not sunny or windy. The entire energy system would benefit a great deal, if we could store electricity better than we can at present.”

TEXT MATTI VÄLIMÄKI



GETTY IMAGES

Helsinki is a forerunner in district cooling, with several large cooling storage facilities in the city. District cooling is also available in other parts of the world, for example in Paris, France, the United Arab Emirates, and Japan.



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#### HELEN.FI

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3rd floor

Energy Gallery 010 802 805  
Advice on heating, new energy solutions and domestic appliances. You can also borrow energy, moisture, structural, surface temperature and light meters from us:  
energiatori@helen.fi

### Telephone service

Mon–Fri 8–18

Domestic customers 010 802 802

Business customers 010 802 803

asiakaspalvelu@helen.fi

### District heating

New connections to district heat

09 617 2213

Contract amendments and help

09 617 2214

Billing, meter readings and queries on consumption

09 617 2856

District heating equipment

– inspections and help

09 617 2976

### Fault reports

Breakdowns in electricity supply

08001 80808

Breakdowns in district heating supply

08001 60602

Real-time fault reports → [HELEN.FI](https://helen.fi)

### Call charges

for numbers beginning with 010

8.8 c/min.

The prices include VAT at 24%.

Telephone calls received by Helen customer service are recorded.