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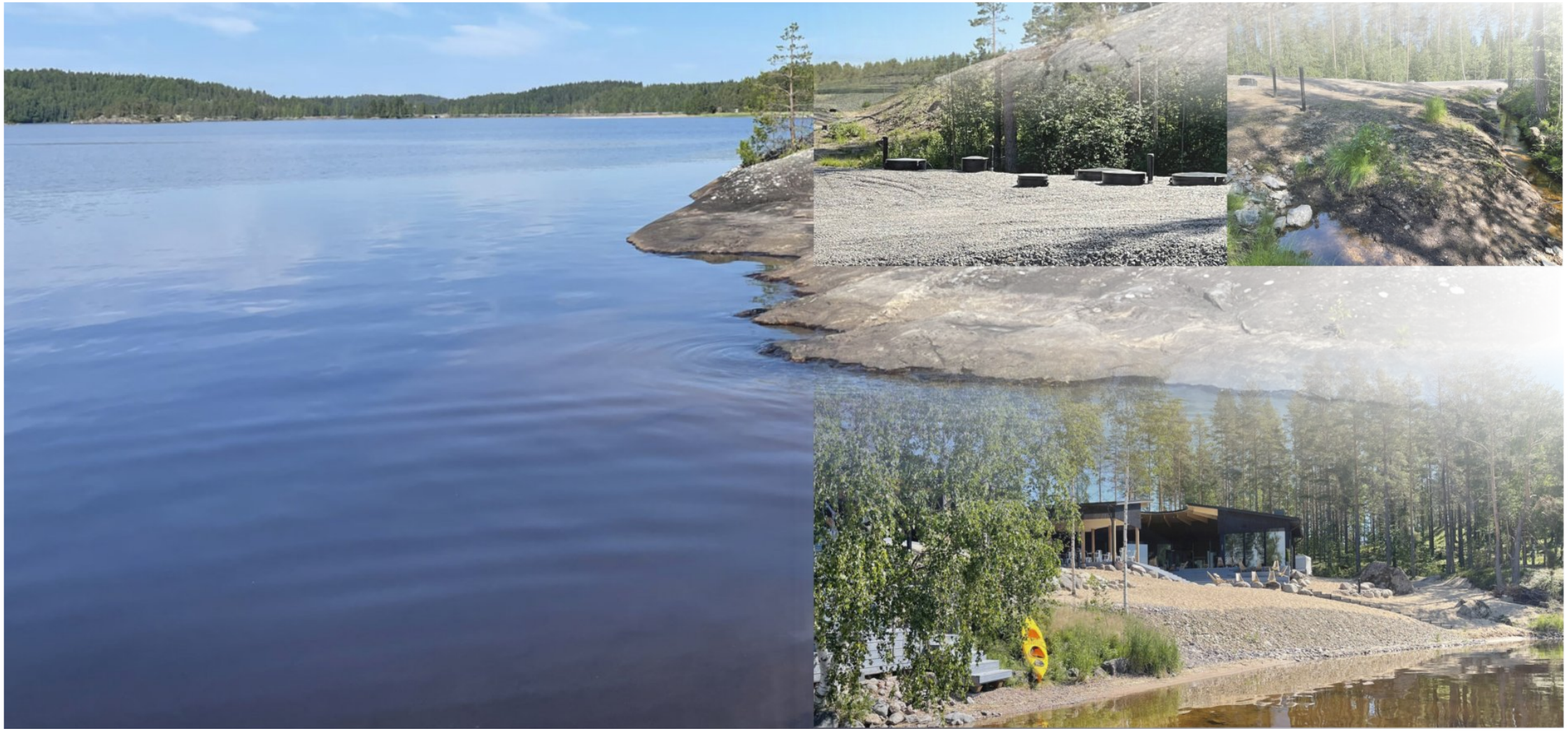
BioHS XL

Raita Environment



RAITA BioHS XL treatment plant has been developed for the treatment of grey water for residents in communities, associations, course centers, tourist destinations, etc.

BioHS XL is available in sizes of 5-50 m3 / 24 hours and are cost-effective, self-regulating and remote-controlled treatment plants, tailored forgrey water treatment..

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Raita Environment

Raita Environment is a specialist in environmental technology

Our passion is to develop and manufacture environmentally friendly and sustainable products for waste management. With our systems, we want to leave as little environmental impact (footprint) as possible on our earth.

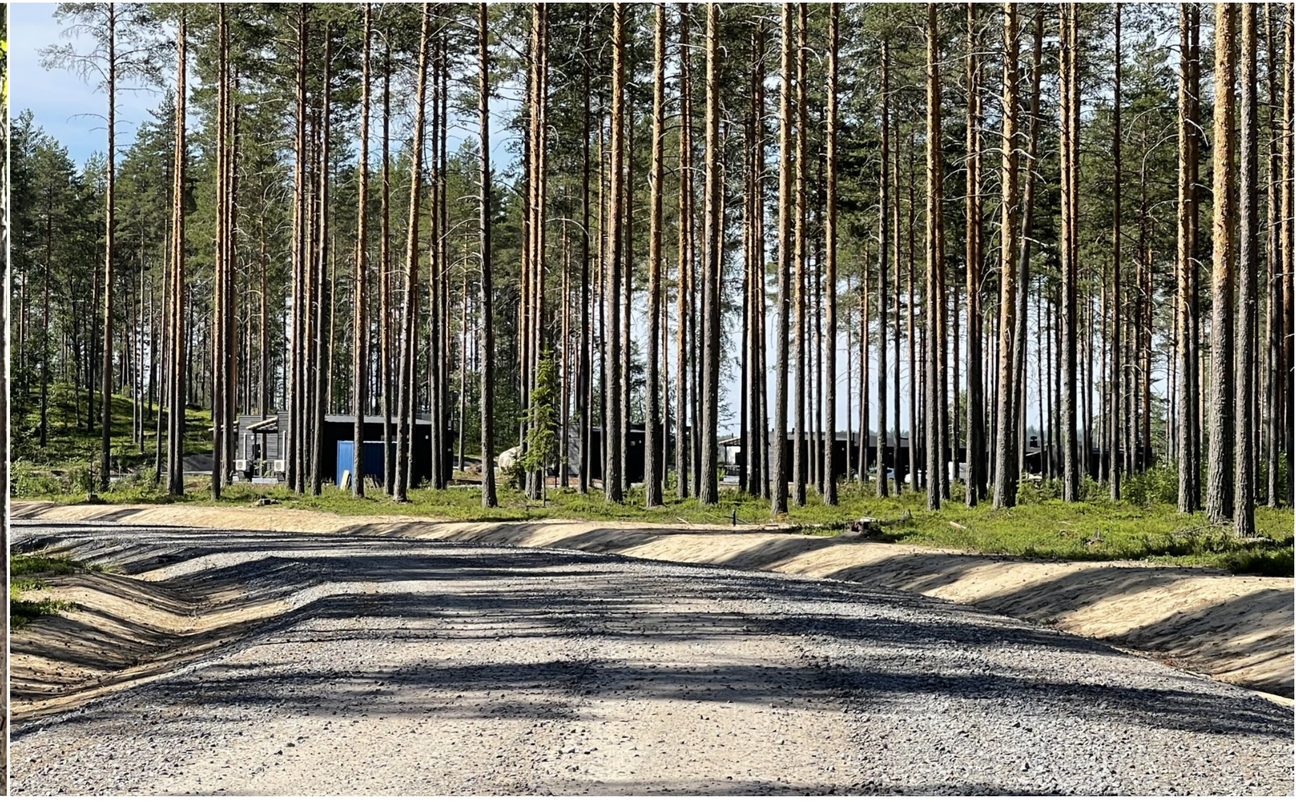
In addition to the environmental benefits, our systems are reliable and affordable. Waste and wastewater are cleaned and used locally, and in this way acquisition and operating costs are affordable.

Our activities in water and sewage technology began already in the 1950s in Finland. Over the decades, our operations and expertise in areas have been refined to be the leading sewage and environmental technology development experts that we are today.

Raita Enviroment is known as a reliable and respected partner and operator. Our systems and products are used in hundreds of different locations in Finland and abroad.

Our areas of expertise include biotoilets, gray and rainwater treatment, wastewater treatment and composting.

Contact us for more information.



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Effective purification process:

The Bio HS process utilizes natural bio-purification

The purification process in six steps:

1) sludge separation - pretreatment

2) fat separation - pretreatment

In the pre-treatment (tank 1), solids (food residues, hair and fat, etc.) are separated from the waste water that enters the treatment plant by gravity (self-flowing system). The bioprocess begins under anaerobic conditions, i.e. a process that does not require oxygen.

3) microbiological purification - bioprocess

4) aeration - bioprocess

5) mixing - bioprocess

The bioprocess is based on efficient biofiltration of greywater. The microbes are in the biofilter and in the water circulated by an air-lift pump (no moving parts) under aerobic conditions through the filter.

6) filtration - post-treatment

The bioprocess is very flexible to load fluctuations and reacts quickly to changes in water volume and load.

Organic loads and nutrients are broken down by biological microbial activity.

Microbial activity takes place in the filter elements. There are three different densities of elements (290, 350, 450 m2 / m3). They make the biofiltration process, which is common in nature, more efficient in a small space. The microbes in the elements remove organic matter, nutrients biologically.

Thanks to the large surface of the elements and good air circulation, the cleaning is very effective.

The treatment plant RAITA BioHS works well in areas with load fluctuations, it reacts quickly to changing water quantities and loads. Purified water can be released into a ditch, stone box or filtered into the ground.

Maintenance:

The microbial filter element is lifted out and cleaned as needed (once every 3-4 years) by brushing or washing them off.

Please note, no chemicals when washing as it kills the microbial community that has grown in the elements. The filtering element is cleaned if necessary (for example when emptying sludge).

The waste that is cleared away is composted or left for waste management.

The sludge from the sedimentation well (sludge separator) is removed once a year with a SAV wagon or sludge truck. The air pump's rubber membrane is replaced every 4-5 years

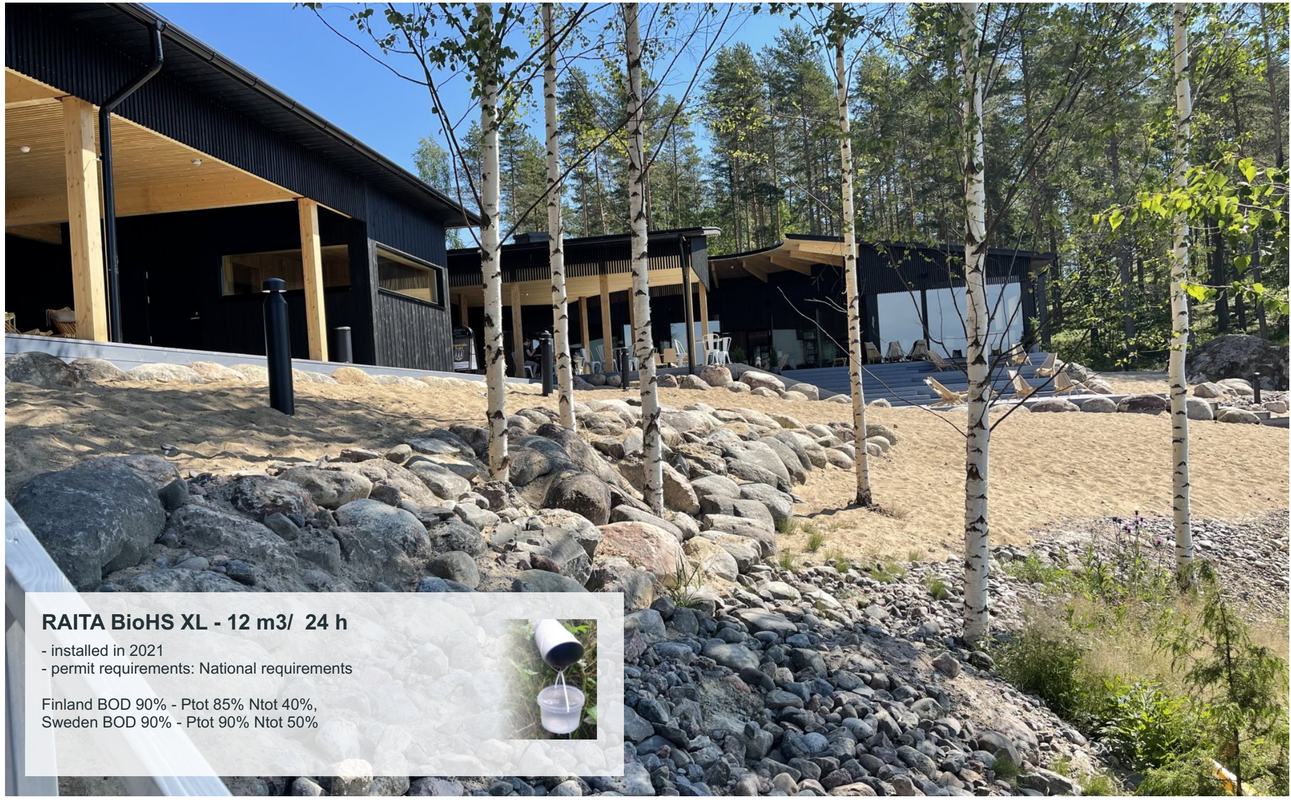
Operating costs

Very low operating costs. Filter changed every 10 years, electricity consumption ~ 60 w/m3/ drain.

Sludge treatment:

The sludge from the RAITA BioHS treatment plant is odorless and stabilized in the bioprocesses. Relatively small amounts are formed, but what is produced is emptied by a sludge truck and transported to municipal treatment.

The sludge can also be dried and composted at the treatment plant, then no emptying with the sludge truck is required.



RAITA BioHS XL - 12 m3/ 24 h

- installed in 2021
- permit requirements: National requirements

Finland BOD 90% - Ptot 85% Ntot 40%,
Sweden BOD 90% - Ptot 90% Ntot 50%

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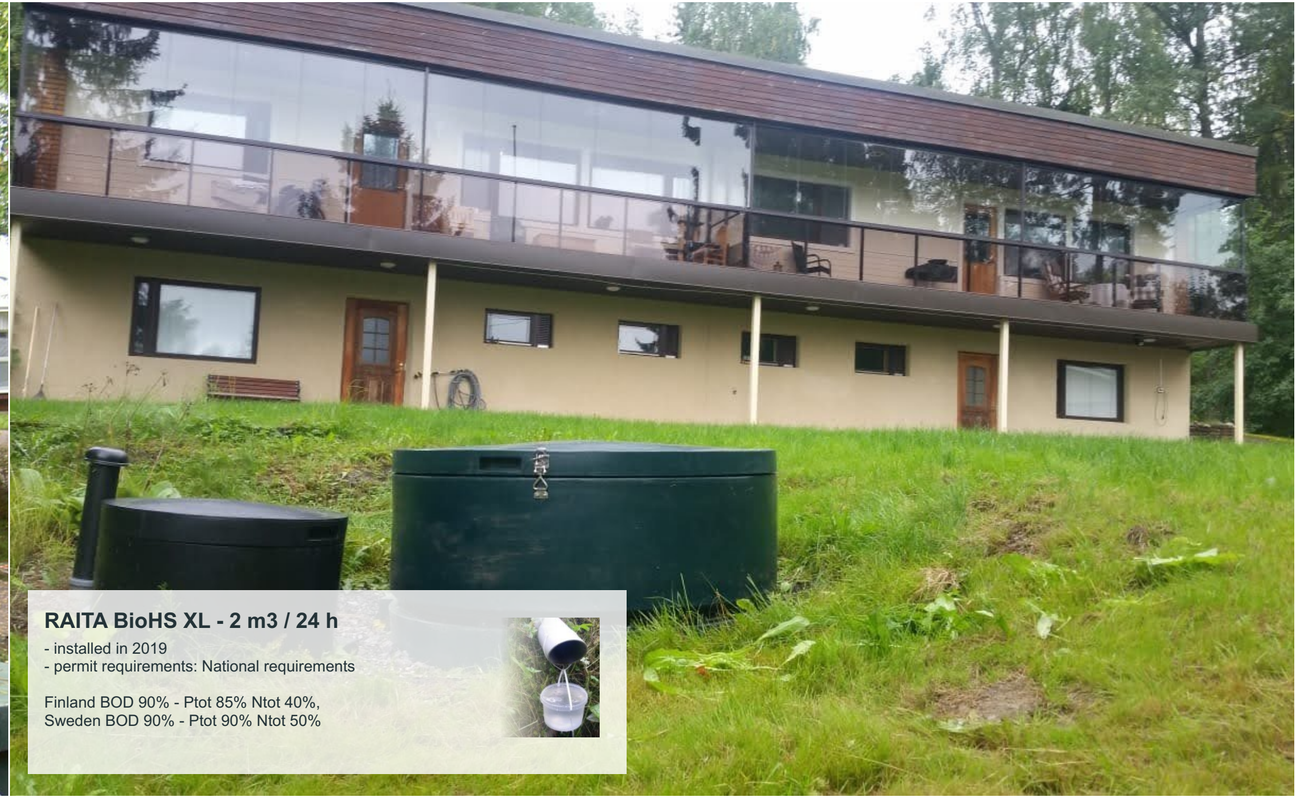
RAITA BioHS XL - 6 m3/ 24 h

- installed 2009

98% of the results (a total of 63 in 2010 - 2021) were better than the level required for near-water and groundwater areas in Finland (BOD 90%, Ptot 85%, Ntot 40%) and in Sweden (MB 1998: 808 - NFS 2006: 7 (BOD 90%, Ptot 90%, Ntot 50%)).

100% of the results (63 in total) were of a higher level than required for normal areas.



RAITA BioHS XL - 2 m3 / 24 h

- installed in 2019
- permit requirements: National requirements

Finland BOD 90% - Ptot 85% Ntot 40%,
Sweden BOD 90% - Ptot 90% Ntot 50%

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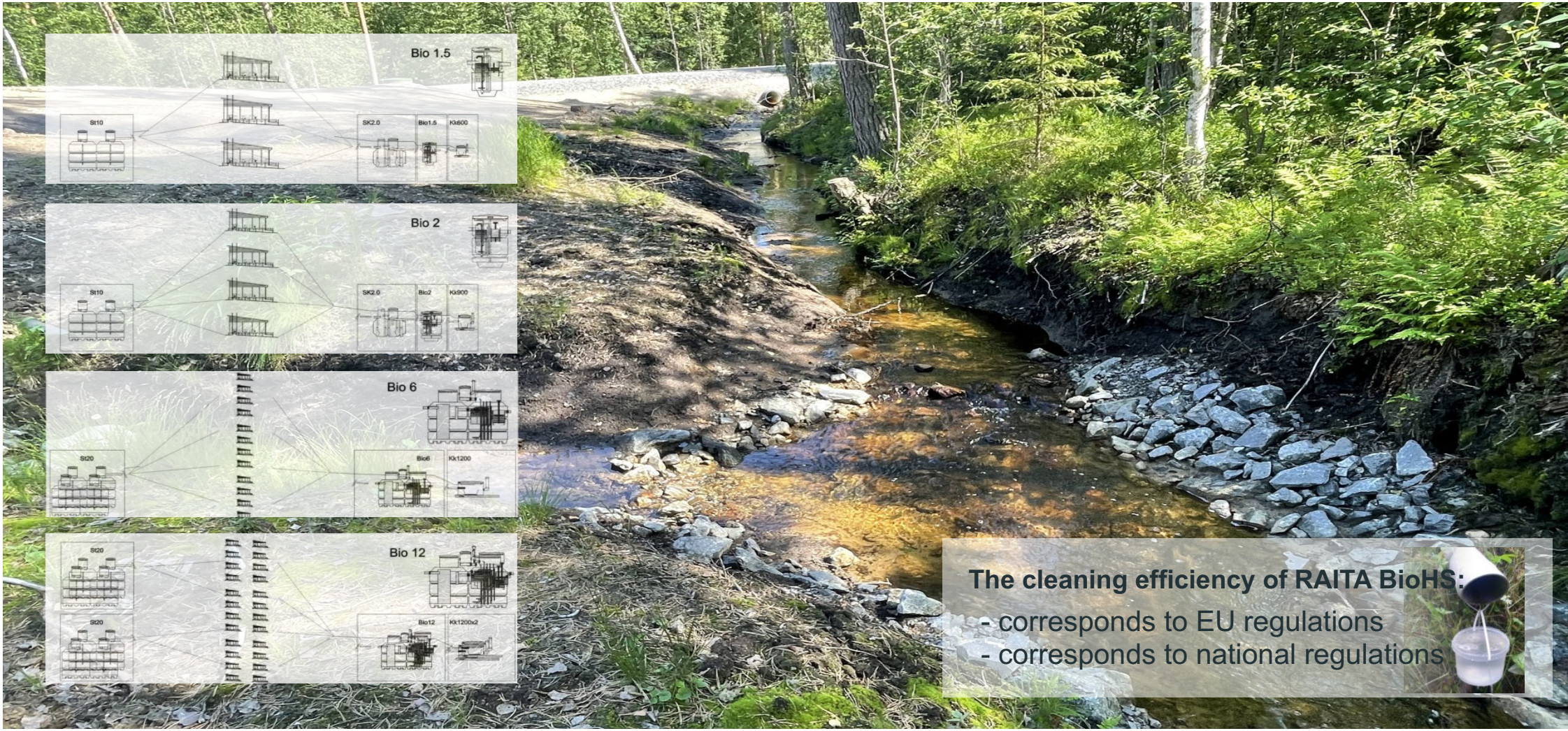

The cleaning efficiency of RAITA BioHS:

- corresponds to EU regulations
- corresponds to national regulations

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