GROUND CUBE
UNITED KINGDOM

GROUND CUBE
UNITED KINGDOM

Patentrechtlich geschütztes MODUL , DPMA

PRELIMINARY NOTE

The consideration of separate network structures such as electricity, water, sewage, district heating, gas and telecommunications belong to the past.

In the future, these factors combined together. One of the leading product developments in area is the Ground Cube, which bundles all supply units and can be extended to accommodate additional energy producers (e.g. CHP, peak load boiler, storage).

The Ground Cube accommodates all building connections, smart metering as well as energy production.

GROUND CUBE
UNITED KINGDOM

Benefits of the Module

Relocation of the microinfrastructure into the public space, thus permanent access by the network operator

Applications for apartment buildings and housing estates

Cost advantage over conventional construction and additional space gain in the buildings

The provider operates and coordinates regenerative and traditional producers and bills all services

Housing of battery systems and integration of e-mobility

The syNERGIE® MODULE is watertight and accessible

control, check, inspection
control, check, inspection
control, check, inspection

Simplified construction coordination single-family house / multi-family house

Necessary basic services mean time delays and unnecessary measures to be carried out several times:
- different suppliers with different requirements at different times
- Planning requirements in the building (loss of space)
- additional supply during the construction phase

In the worst case, 4 – 5 earthworks
(Also the building services can only be carried out when lockability)

The Ground Cube is installed together with the floor plate and all pipes are laid to the transfer station in the building.
All connections can be made regardless of the state of the building. Construction electricity and water connections are no longer necessary.
The entire technology can be pre-installed and tested plug-in, so that possible defects and delays during installation and commissioning are also excluded.

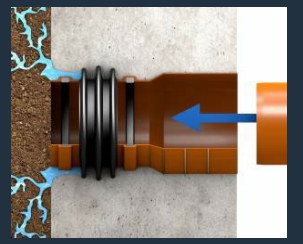
as a supply line

Water inspection flaps

Control, viewing, inspection

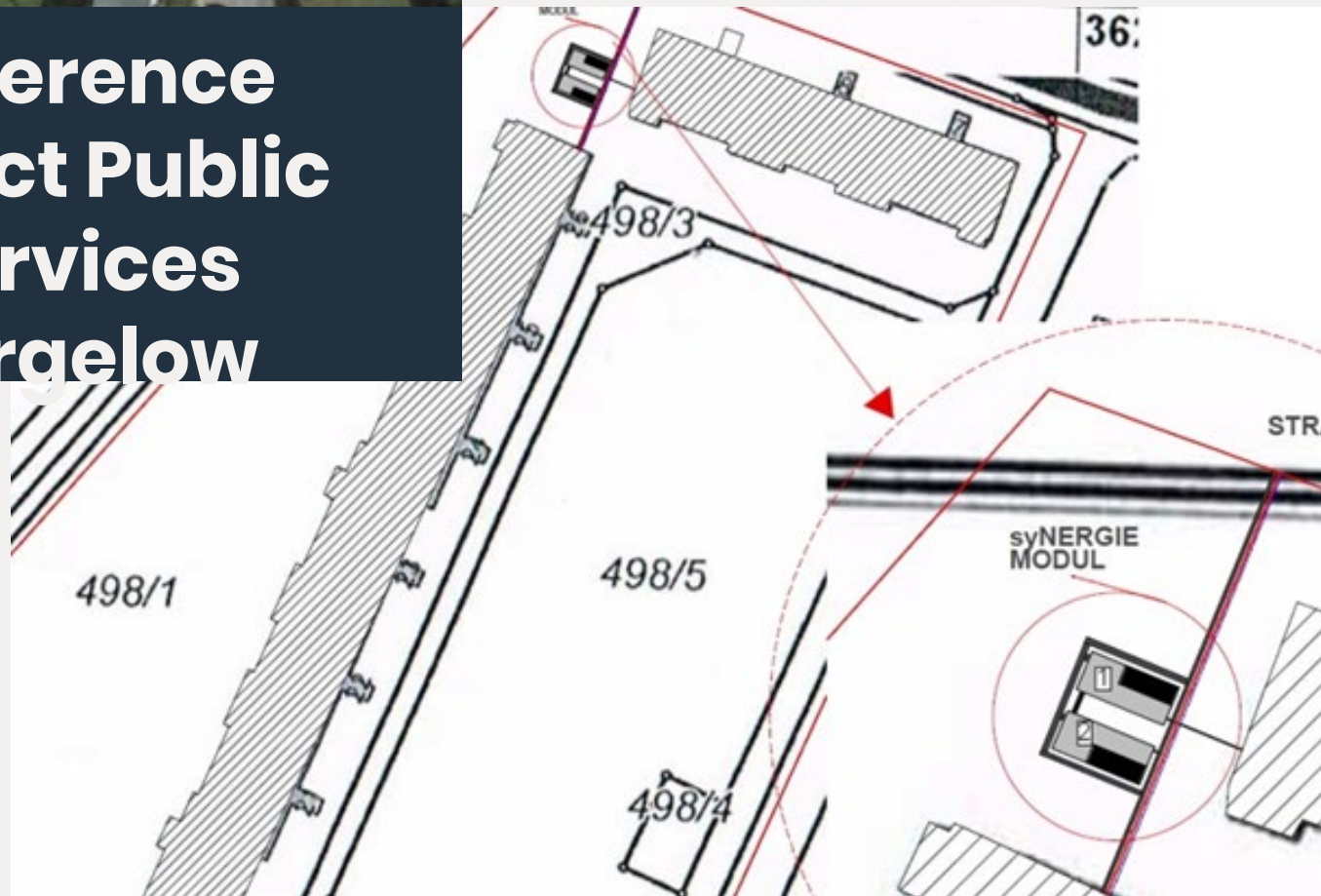
Finished wall feedthroughs
for air, water

Occupancy freely
selectable



Torgelow-Spechtberg Mozartstr. /
Beethovenstr.

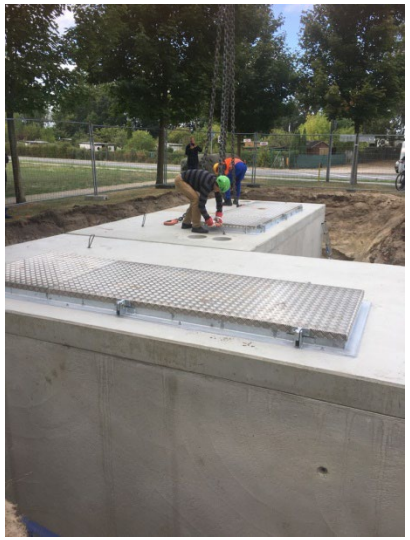
Reference object Public services Torgelow

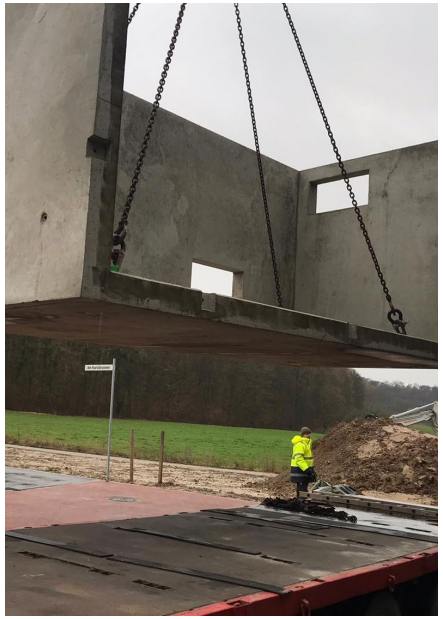


Target for providers - Losses become profits

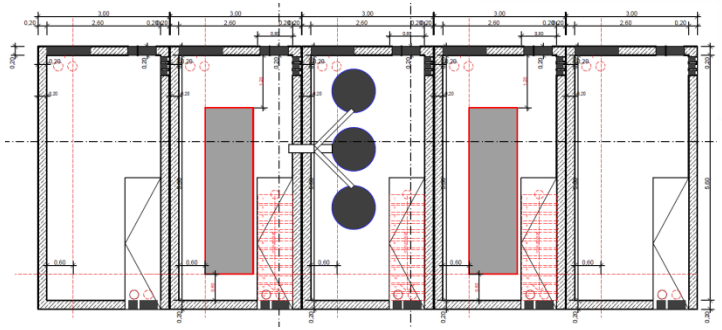
Old district heating network is replaced. In the future, the complete residential district will be supplied by two Ground Cubs
2 x CHP á 25 kW and 2 boilers á 300 kW.

Installation Ground Cube
Objekt Torgelow





Project old building-new quarter with 2 x 220 KW pellet heating



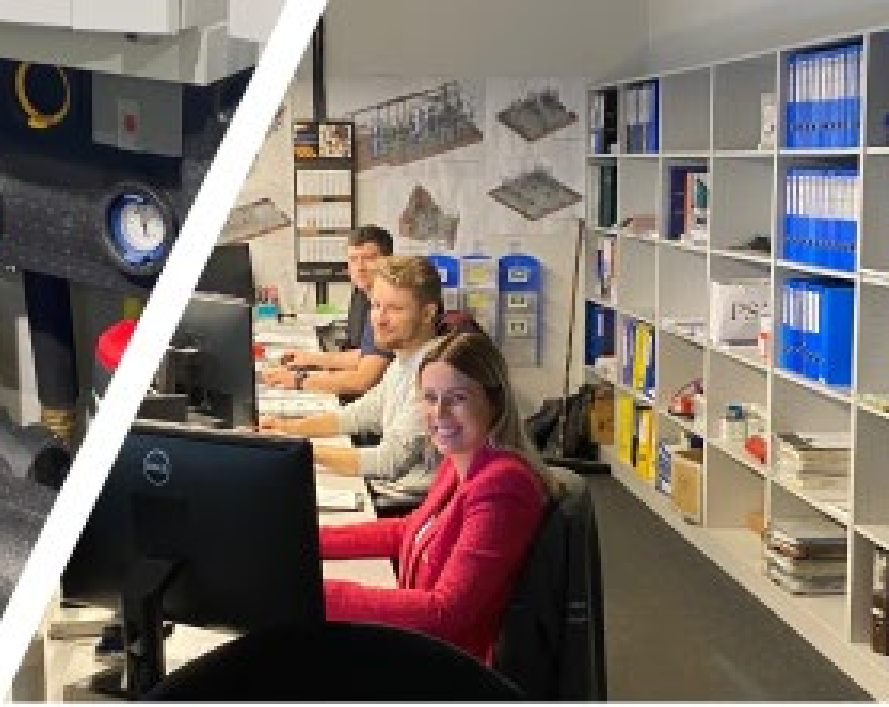
Exemplary site plan

Renovation of old buildings in the district

with 4 Ground Cubes

- is 50 KW BHKW
- is 400-600 KW Boilers
- Inverters for photovoltaics

From a necessary restructuring measure, a business-economically sensible
and scalable measures.
If we continue to consider every construction project as UNIQUE and, if necessary, focus on actors
who first have to acquire the necessary knowledge and techniques,
the restructuring process is delayed all the more.
The bad thing about it – UNIKATE are ultimately always open-ended!
It must be possible for the real estate sector to move out of a necessary restructuring measure,
to make a lucrative measure
– so that in the end he does not have to modernize, but that he wants to modernize.



Complete planning of all components
Through a competent team
Serial installation in the Ground Cube according to the latest energy standard

The advantages at a glance

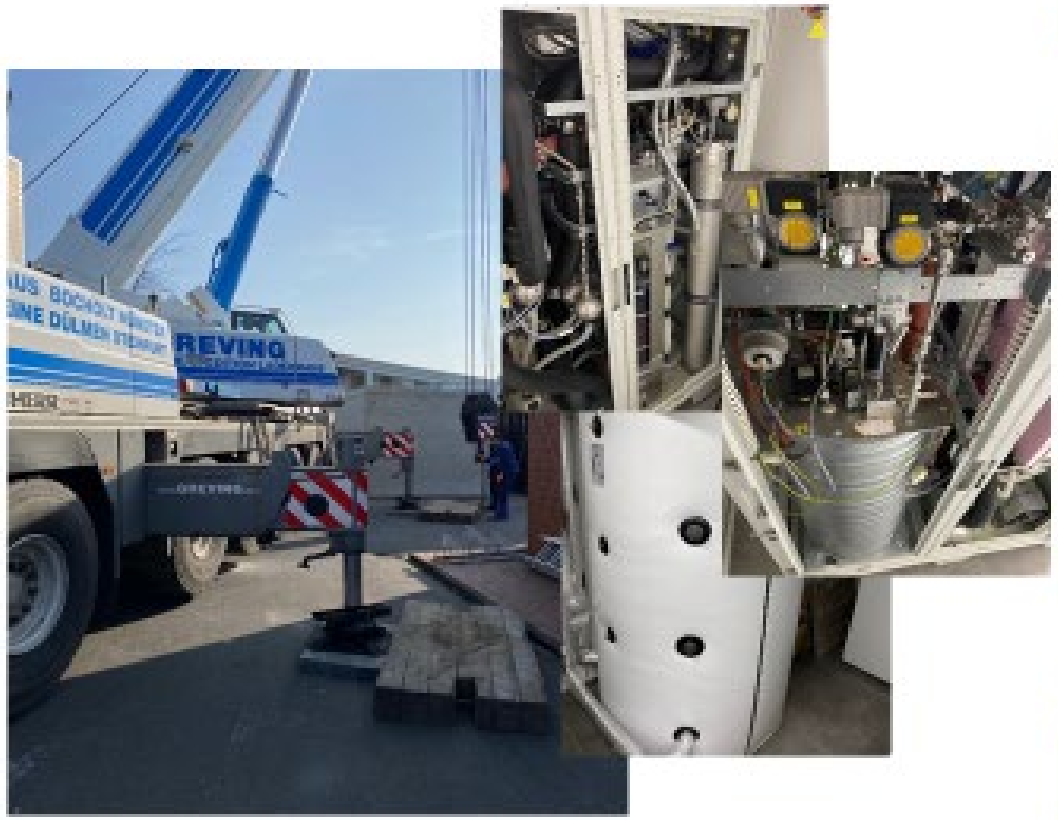
Efficient use of the cooling effect of the soil – economical development of near-surface geothermal energy
Removal of high power peaks by water as a buffer medium – no provision of oversized capacities for peak loads
Easy to design and integrate into existing cooling systems
Fast installation and small footprint

Cooperation partners:TerraCool – High-performance energy pile (°C) Tiee (m) f0 5 10 15 20 05 10 15 20 25 30 Februar Mai November August empeTratur (°C) Tiee (m) f0 5 10 15 20 05 10 15 20 25 30 Februar Mai November August

First hydrogen settlement with the Ground Cube in Gütersloh

Implementation planned in 2023

In cooperation with BenTec



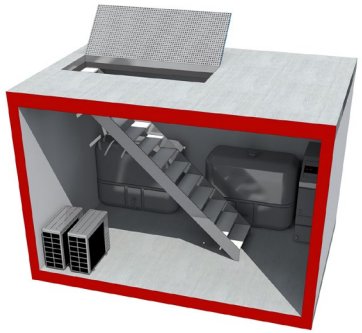
Practical example: Climate protection settlement
Construction site Ennigerloh August Macke Allee
4 semi-detached houses

Kooperationspatner Naturholzhaus

Exemplary climate protection settlement:

Eight semi-detached houses with local heating network and CO^2 reduced construction

- Global warming and CO^2 emissions are becoming increasingly important issues in politics. So far, only a few are aware that the "grey" construction method accounts for about 6% of CO^2 emissions worldwide. Building with solid wood not only creates a healthy living atmosphere, but also binds about as much CO^2 as building with concrete consumed. Building with solid wood is therefore a double benefit for the climate balance.
- The four plots in August-Macke-Allee are intended to serve as an example of climate protection settlements, in which we incorporate further climate-friendly construction concepts.
-



Construction site Ennigerloh August Macke Allee
The supply!

- **Local heating network with the Ground Cube**
- Depending on the calculations that have not yet been made, heating and cooling is planned centrally with geothermal heat exchangers. The energy and water supply for all residential units runs centrally via a technical room embedded in the ground, the Ground Cube. Thus, we save devices, connections and space in the houses.
- These are the advantages of central care:
- With 8 residential units, an additional space gain of approx. 72 sqm, with average construction costs of approx. 2,200 €/sqm results in a potential of 158,000 €
- One-time instead of 8-time purchase of the system technology (cost and climate advantage)
- Reduction of connection costs by 50% this makes a saving of approx. 30,000 €
- Immediately ready for use! Inspection shaft, construction current and service water connections are no longer necessary
- Accommodation of the entire generation, storage and distribution including reading technology (smart meter)
- Due to central control of the systems, no opposing processes
- Later retrofitting or changes (replacement or extension of the system technology are possible with less effort.

Cost savings, shorter construction time, flexibility over time

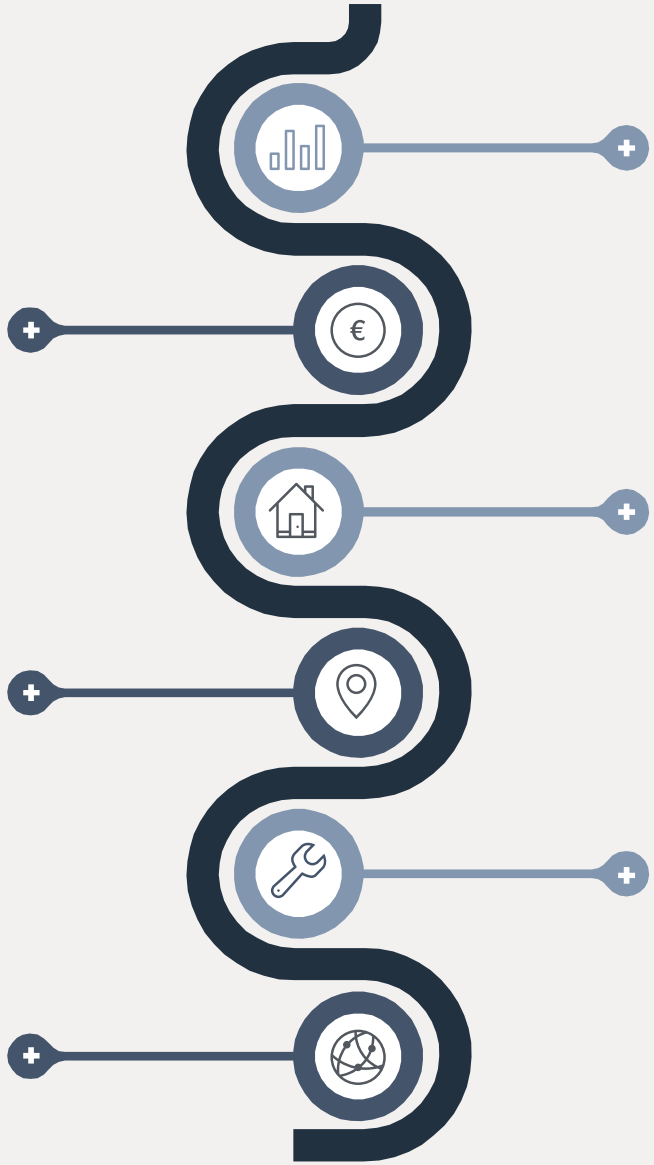
Connection before building envelope and easier coordination of building services
Building services can be installed at any time
Significantly reduced effort in renovations
Retrofitting of sewage pipe unnecessary
Use for multiple buildings, thus cost saving from 2nd unit and lower ongoing monthly maintenance costs across all units

Less effort for earthworks

Less wire depth from the syNERGIE® MODULE
Revision shafts omitted

Simplified networking, billing and customer loyalty

Easy access to all structures
Real-time recording enables real-time billing
Requirements for perspective Blockchain statements



Lower costs for supply connections

Construction electricity connection and construction water connection can be omitted

Additional space gain in the building

Additional space gain up to 8 sqm per unit
No chimney and no boiler necessary

Easier maintenance / reduced risks

Subsequent modification / repair without earthworks
Maintenance access without appointments
As the gas lines are contained in the module, no gas leakage is possible in the housing units
Spatial separation between owner and user of the technology
Fire loads are outsourced from the building into the syNERGIE® MODULE

GROUND CUBE
UNITED KINGDOM

We plan and implement your care according to jointly developed ideas.
The technology is pre-installed in the Ground Cube including all permits and local installation.

Kontakt:

DALIBORKA DJUKIC-SCHRÖDER
CEO Recht / Vertrieb
Ground Cube UK LTD
Victoria House, Suite 41
38 Surrey Quays Road
London SE16 7DX

Cell: UK + 44 7438 5399 43
Tel. D. +49 (0)1628796307
info@ground-cube.com

Kontakt:

RALF STEPPELER
CEO Technik / Vertrieb
Ground Cube UK LTD
Victoria House, Suite 41
38 Surrey Quays Road
London SE16 7DX

Cell: UK + 44 7438 5302 69
Tel. D.+49(0)1712104759
info@ground-cube.com