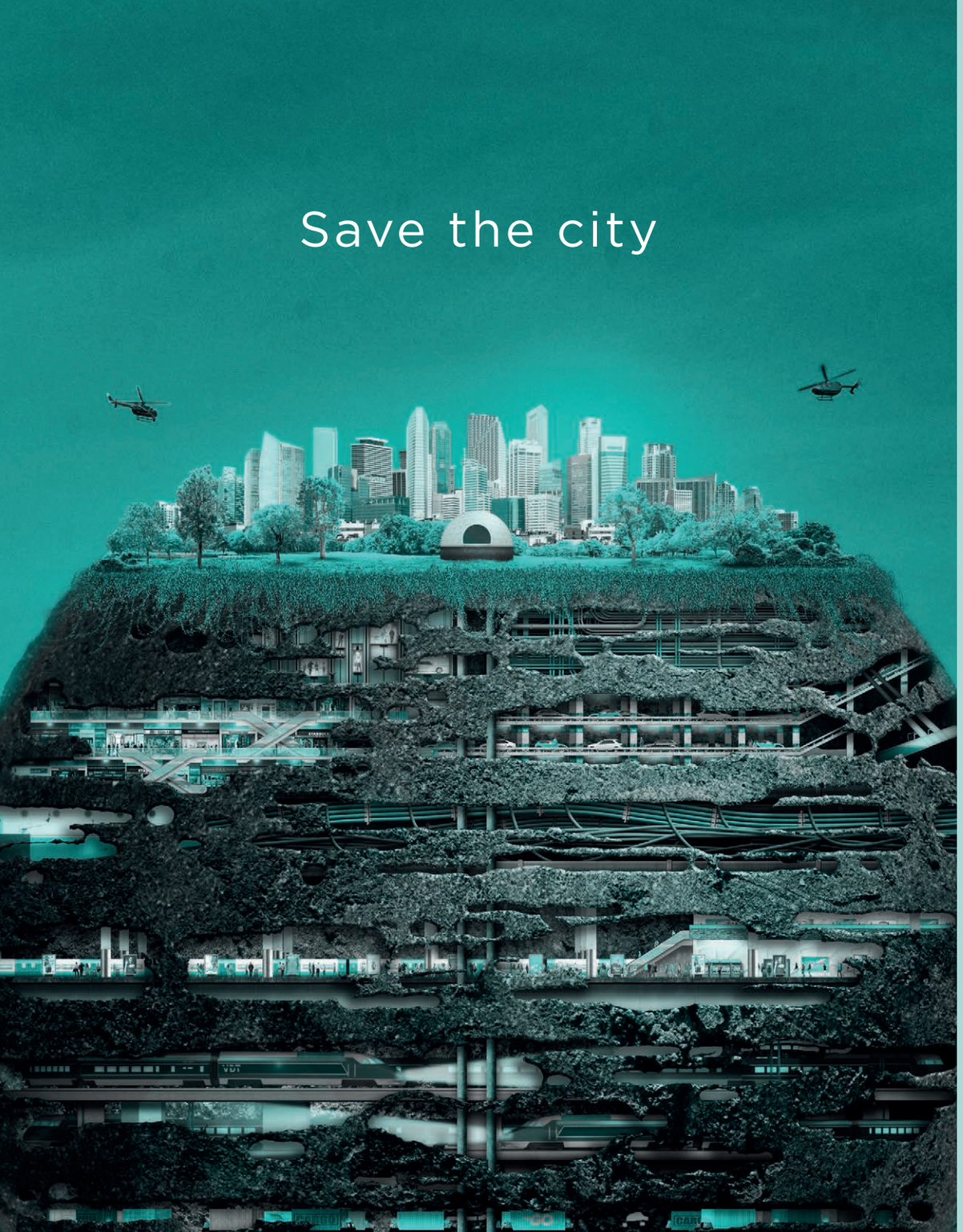
dreamcutter

DENYS × BAUER

THE GAME-CHANGER
IN UNDERGROUND CONSTRUCTION



Underground use of space offers endless possibilities to extend the urban public domain.

The Urbanization Challenge

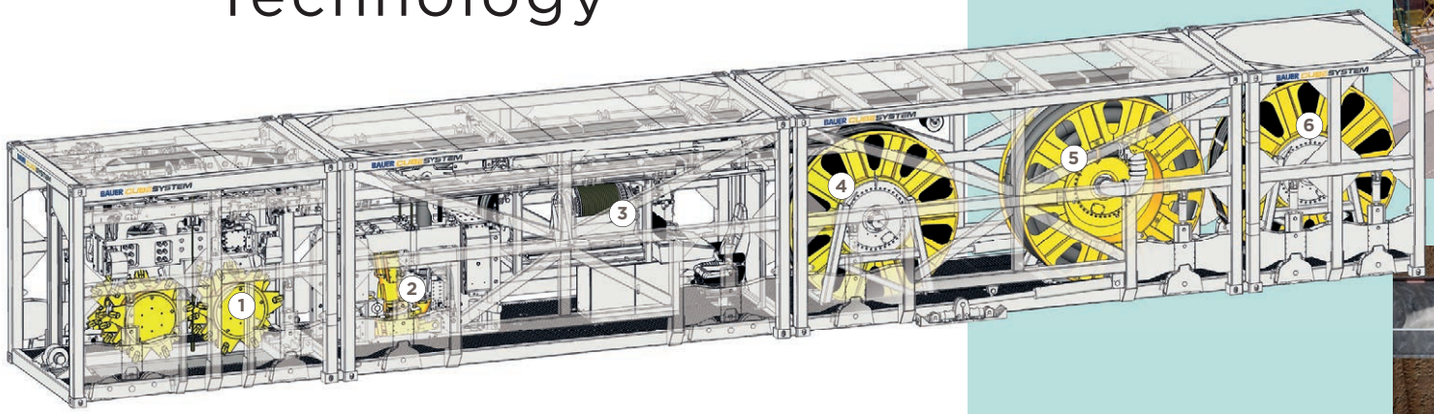
The world is urbanizing every minute. The pressure on our cities is increasing. Urbanized regions worldwide are faced with the important task of absorbing population growth while simultaneously addressing challenges such as climate change, mobility, economical and technological development.

The world population is increasing and it is increasingly concentrated in the cities. Since 2008, more than half of the world's population lives in cities. Over the next four decades, the world's population will increase to about 10 billion people. The increase will be felt most in the cities.
By 2050, 68% of the world's population will live in cities (UN, 2018). Absorbing the demographic growth in the cities, while dealing with the societal challenges puts enormous pressure on the urban space, infrastructure and services in the cities. In order to absorb this pressure, cities are looking for solutions that keep the city compact and resilient while improving the quality of the living environment.

Underground use of space is an important avenue in this regard.
If cities want to remain cultural, social and economic centers, they will have to build as compactly as possible within the currently available space. The use of underground spaces as an extension of the urban public domain is an important part of this.

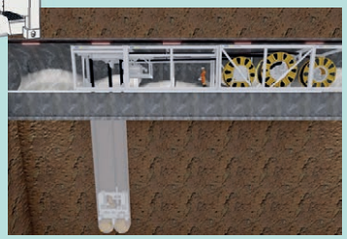
There is only one major problem: much of the available space is already taken up by above-ground structures, and the nuisance created by traditional construction methods becomes increasingly difficult to justify.

Dreamcutter Technology



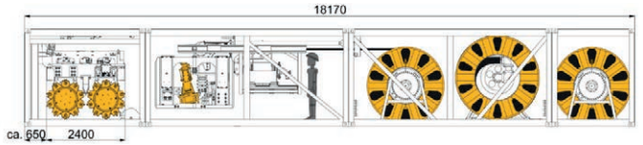
1 - Cutter unit
2 - Pumping unit
3 - Main winch
4 - HDS pumping unit
5 - HDS mud hose
6 - HDS cutting unit

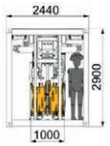
Minimal impact,
access shaft of 6 x 8 m



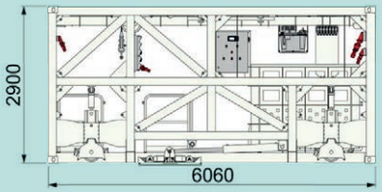
Cutting primary trench

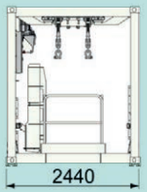
Our quest to provide 21th century solutions to facilitate subterranean construction in densely populated areas started in 2014 with the development of the WallslotRobot. After completing the Schuman-Josaphat project in 2012, where we used the technique of the shored trench on a large scale, we were determined to develop an alternative for this labor intensive, time consuming and costly method. This is how the WallslotRobot came to be.
Building further upon this first innovation, which was capable of constructing subterranean walls above the groundwater table, we wanted to be able to do this below the groundwater table as well.
To provide an answer, Denys entered into strategic cooperation with Bauer Maschinen GmbH, and together we developed the first machine of what we like to call Dreamcutter-technology. The Dreamcutter/Cube system, a machine that will change inner-city building forever.





The Dreamcutter uses a slurry wall system based upon the hydrocutter technology of Bauer Maschinen GmbH to create slurry walls out of underground low headroom spaces, such as micro tunnels of 4 m diameter, galleries of 3 by 3 meter or any other low headroom space. On the surface an access shaft of only 6 x 8 m is needed, which highly reduces the above ground impact. The machine with a size of 2,9 x 2,4 x 18 m (h x w x l) is built out of four high cube containers. Walls of up to 40 m depth and 1 m width can be created using this system.





This additional unit has been developed to facilitate the reinforcing and concreting process.

The Game-Changer

CUTTER SPEC'S

CUTTER HEIGHT	3,600 MM
TRENCH LENGTH	2,400 MM
TRENCH WIDTH	640 MM - 1,000 MM
STEERING FLAPS	8 PC
HOOK LOAD	20 T
MIN. WEIGHT	12.8 T
MAX. WEIGHT	14.3 T
MUD PUMP	127 MM (5")
GEARBOX	BCF 5 (2 X 46 KNM)

CONCRETING AND REINFORCEMENT UNIT SPEC'S

MAIN LIFTING CAPACITY	15 T
AUXILIARY LIFTING CAPACITY	1 T
CONDUCTOR PIPE RACK	27 x 1.5 M
REINFORCEMENT CAGE SECTION	1.86 M
WEIGHT	8.5 T
CSC	OPTIONAL
CE	CERTIFIED

DREAMCUTTER TECHNOLOGY

All electric
Subterranean building with minimum impact
Proven Bauer technology

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