

DEEP UNDERGROUND CHALLENGE

OFFICIAL REVIEW REPORT

Project: BELLOW TOWNS AND ANT COLONY OPTIMIZATION

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1. Project Description

According the authors, this projects find the future of human society in the ant's nest.

Authors describes the ants nest as a huge, elaborate highly organized social universe and propose the similar organization of human settlement underground, placed in Tokachi, Hokkaido, Japan. The authors defines underground as and sustainable environment, where all the underground can be established, like electrical power generation and underground farms. The inner structures are provided by 3D printing.

2. Evaluation by Criteria

Criterion	Assessment
Relevance to the Deep Underground Concept	The project provides the underground facility follow the logic of ants nets, taking into account several ideas, providing by Deep underground Concept, like energy production, underground farming and using of 3d printers.
Geology	<p>The location of the project is Tokachi, Hokkaido, Japan.</p> <p>Tokachi's geology is a product of subduction and collision tectonics where old Mesozoic Accretionary Complexes at depth, overlain by Neogene forearc sediments, capped by Quaternary volcanic</p>

	deposits, and covered by thick river/alluvial plains.
	The geology in Tokachi starts with Jurassic–Cretaceous accretionary complexes of the Hidaka and Nemuro Belts. The formation consists chert, mudstone, sandstone, mélange, and greenstones. These are tectonically deformed, faulted, and form the structural basement.
	Bedrock materials materials are not ideal, but acceptable for facility, constructed according the deep underground concept
Sustainability	The project doesn't address this topic.
Benefit to the Community	The proposal envisions an huge underground facility, whih can benefit the community.
Use of Modern Technologies	This project provides an use of modern construction techniques, as 3d printer, and gheothermal power plant construction.
Feasibility of Construction	The project does not adress this topic.
Quality of the Design	The design contend the description of basic elements of the facility.
Quality of the Presentation	The project consists of a description sheet poster with comments. All submitted material clearly communicates the author's ideas and intentions.

3. Conclusions

This project used several ideas, provided by Deep Underground Conceptm with focus on social component of living underground.

From this perspective, *Towns and ant colony optimization * is a significant project.

For this reason, the jury grants this project a second award.