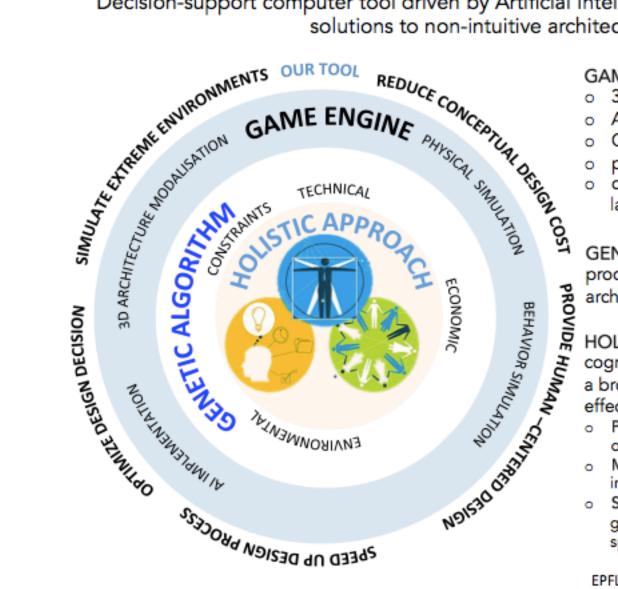
HUMAN PREDICTIVE SIMULATION FOR EARTH AND SPACE EXPLORATION

Decision-support computer tool driven by Artificial Intelligence processing, to find optimal solutions to non-intuitive architectural issues.



GAME ENGINE provides:

- 3D architectural modalisation
- Artificiel Intelligence implementation
- Character behavior simulation
- physical simulation (gravity, mechanics)
- compatible with high-level programming languages, such as C++, Python, C#

GENETIC ALGORITHM proceeds an iterative process, capable of modifying the modular architecture according to the Fitness Function

HOLISTIC APPROACH fuses the physical, cognitive and social aspects of work, offering a broader perspective on organizational effectiveness via design

- PHYSICAL Study of body size, capabilities-fit of the workplace to the individual
- MENTAL Work load, job tasks, software interface, the individual at work
- SOCIAL, COLLABORATIVE Formal and informal group work, transitions between modes-group spaces

Volkova Tatiana, Ph.D. candidate EPFL EDCE/Swiss Space Center, <u>tatiana.volkova@epfl.ch</u> Dr. Olivier Boisard, École Centrale de Lille