



Data Driven Evolution

# THE LIVINGGRID

The LivingGrid building Located in the heart of London is a building concept that offers a full life experience inside it. Its name is inspired from the living organisms' ability to adapt, grow, evolve & learn. The LivingGrid is evolving every second according to the data it collects from various sources, so that the building can cope with & offer its services under any circumstances that may result due to COVID-19 or any other pandemic. The concept is derived from 5 main axes:

**HEALTH**

- According to a study by (Nagaa et al., 2020) buildings & Cities must be low dense for a safer environment, also buildings shall expand horizontally to avoid crowdedness. In a large metropolis as London this makes a paradox. Especially that latest studies prove that 68% of the population will be living in cities by 2050. The LivingGrid offers a solution for this problem by a set of mini cores that serve a limited number of people.
- The same study proves that improved air quality is a must after COVID-19. The building's form (using prefabricated Modular Building Technology) is porous allowing each unit of the building to have four naturally ventilated facades that see sun light.
- After lockdown was adopted in many countries, the mental health was affected and many people suffered psychological problems from loneliness. LivingGrid guarantees a full healthy life that respects the WHO guidelines where people can interact safely.
- It uses anti-bacterial, easily cleaned materials, it also adopts a touch free technology to minimize infection by surfaces contact.
- Using the BMS (behavior monitoring system) human behavior is monitored to continuously improve the design to match human behavior and achieve WHO guidelines.

**Designing & Delivering for Public Good:**

- LivingGrid is a place where you live, play & work. It offers its various services to the community. Extra spaces in the facilities that exceed the resident's needs are available for non-residents through the LivingGrid app.
- There are specific cores for non-residents.
- The LivingGrid app is connected to its users' medical history uploaded on the cloud as it only accepts COVID free people.

**Adaptable & Data Driven:**

- LivingGrid Software collects data from WHO, BMS & many online sources, this data is used to know future needs in any given scenario so the building is modified accordingly. So that the building is evolving every second. This is inspired by the PDSA (plan-do-study-act) continuous way of thinking.
- Thanks to the Modular Building Technology the building is easily modified.

**Technology:**

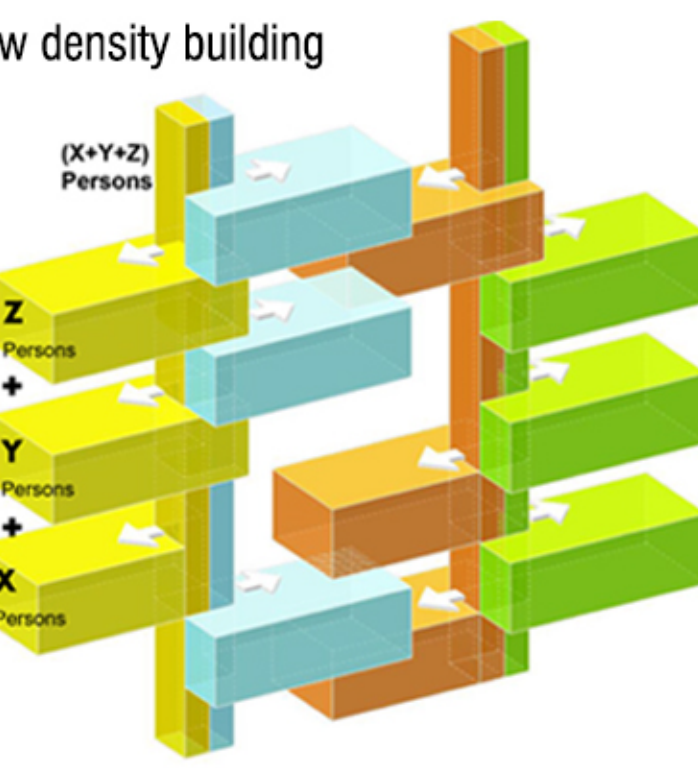
- The LivingGrid adopts touch free technology to limit infection by contact where all facilities & cores are accessed using QR code generated by the app.
- The use of modular building prefabricated units.
- Using BMS visitors that don't follow WHO guidelines are subject to points decrease. Low score means you cannot enter the facilities, while high score gives access to fancy facilities.

**Economic:**

- The modular building is a very economical solution.
- This technology offers flexible building that fits in any land plot.
- Fast construction method.

## Paradox between Highrise & low density building

A metropolis as London needs high rise dense buildings to accommodate residents, which contradicts with WHO requirements for COVID-19. The LivingGrid offers a smart solution to this problem by having many mini cores to reduce the crowd density.



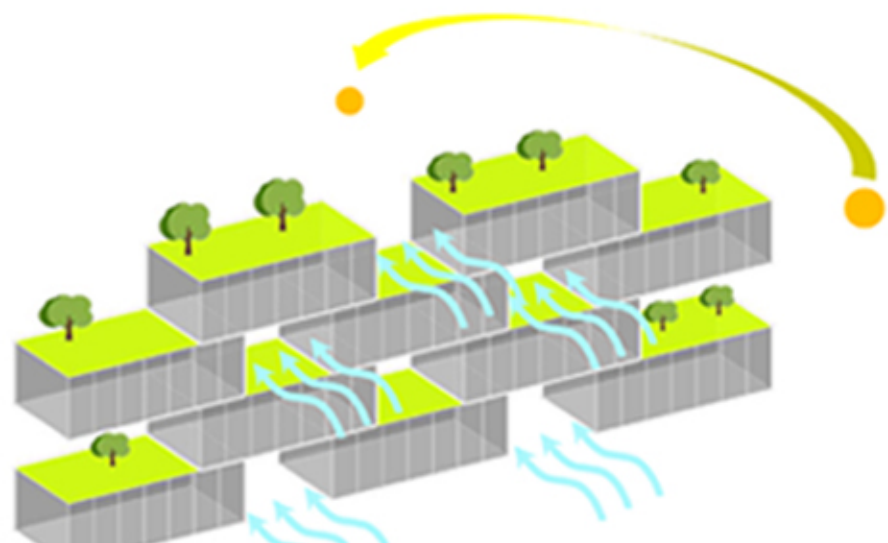
## Touch free Technologies

The LivingGrid supports a touch free technology policy to minimize surfaces contact infection. Access to all facility & cores is by a QR code generated from The LivingGrid App. Also robots are used for security & serving.



## Better Air Quality

The porous massing of the LivingGrid allows better air quality & sun exposure for each unit, where all the facades are directed to air & sun for a more healthy and pleasant environment.



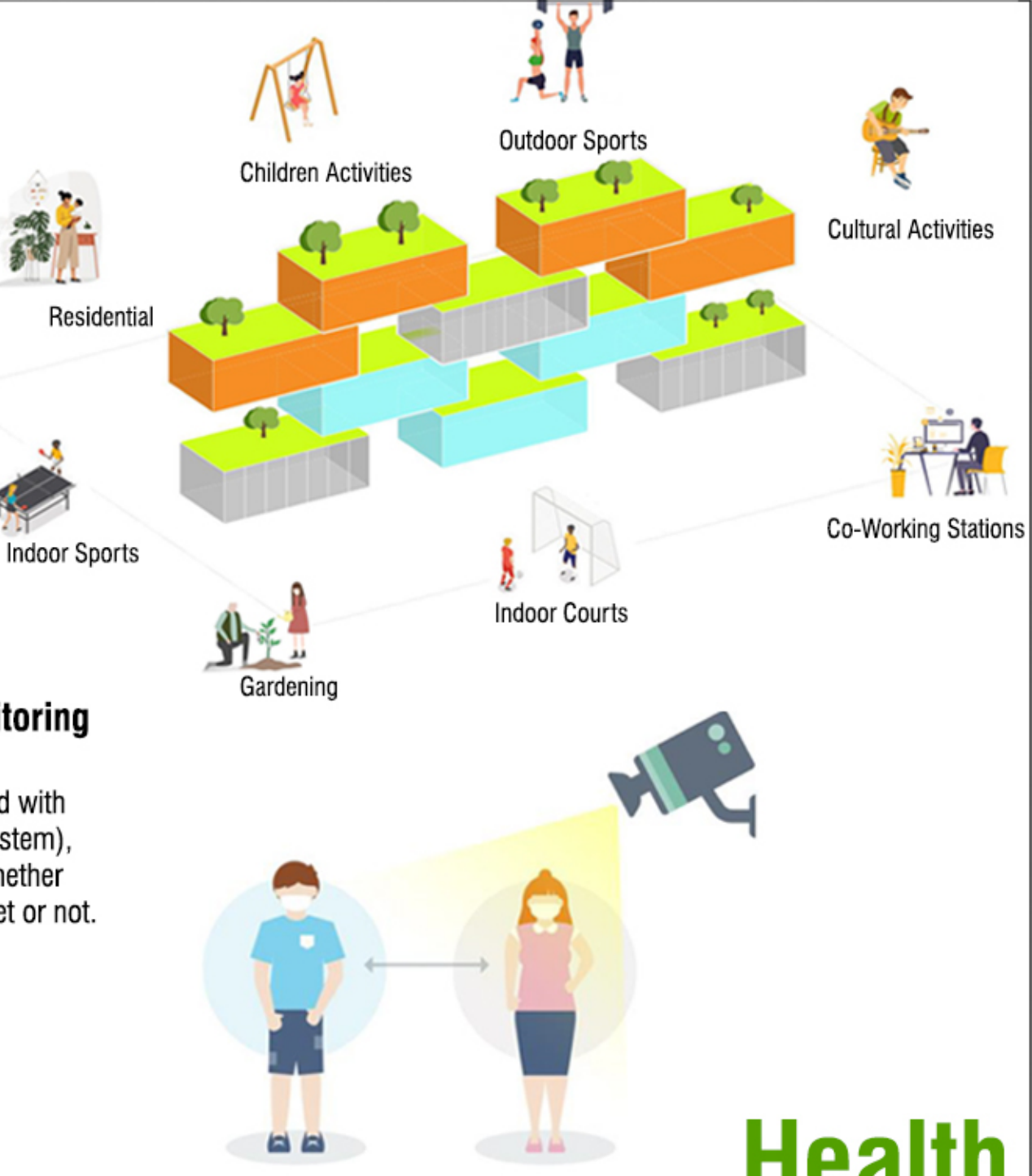
## Anti Bacterial Materials

A selection of Anti bacterial & easily cleaned materials are used for walls and floors inside the building for a safe environment



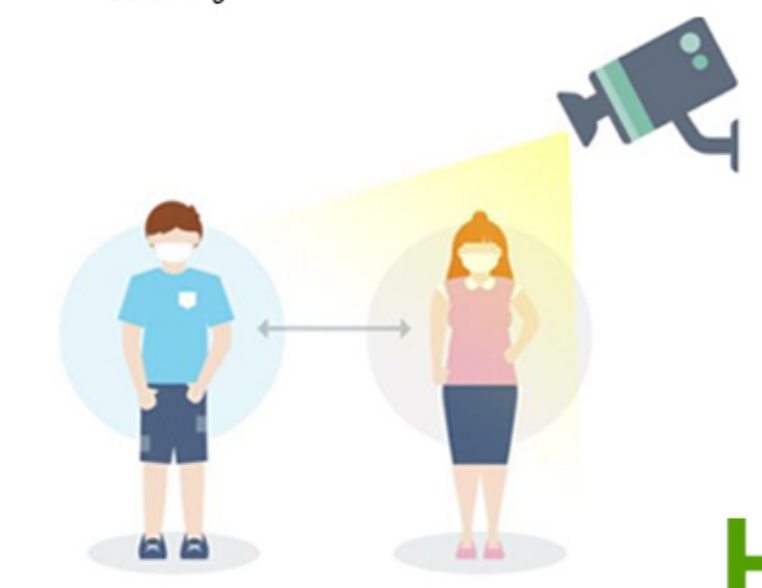
## Psychological Health

The lockdown is not a barrier. The LivingGrid offers various activities where people can meet & interact safely and enjoy a full life during the lockdown for better mental health.



## Hygienic behavior Monitoring

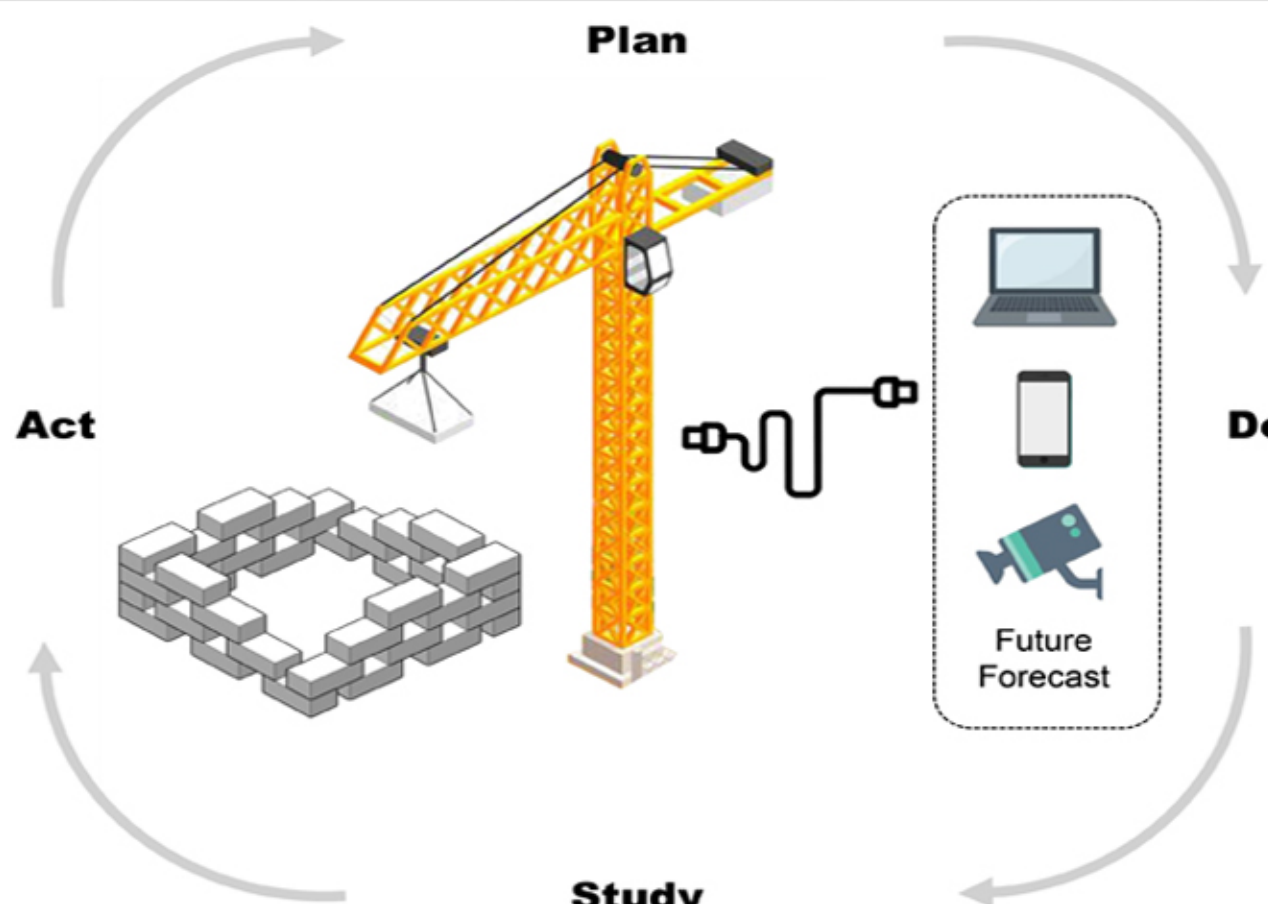
The public spaces are covered with BMS (behavior Monitoring System), to track human behavior & whether the WHO requirements are met or not.



Health

## Data Driven Evolution

The LivingGrid is an adaptive, interactive & expandable building that is Evolving every second. The data collected from the BMS, the building app and from all online sources is analyzed to specify the building's needs in the future under any circumstances, these results are then implemented to the building.



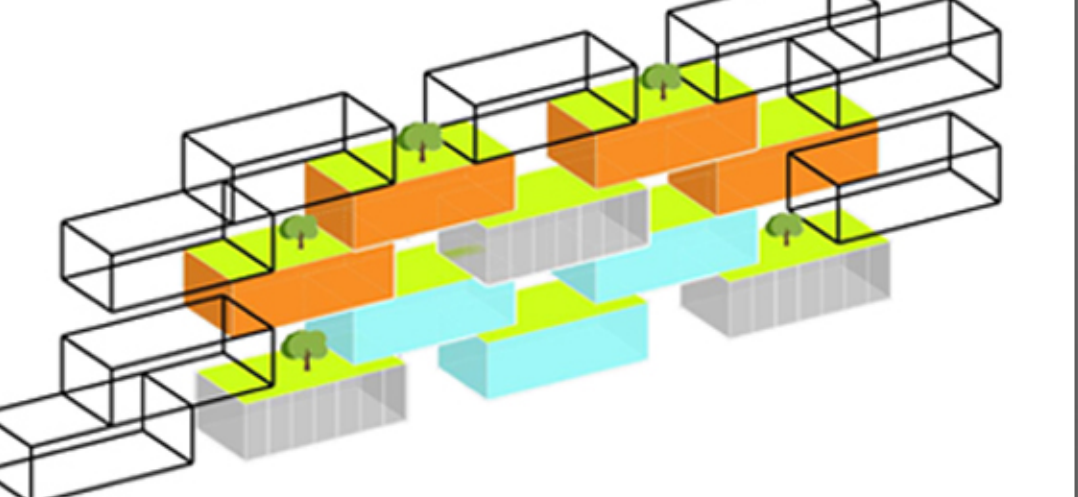
## Flexible Form

The LivingGrid is a flexible building concept, it can fit in any irregular land plot coping with any context.

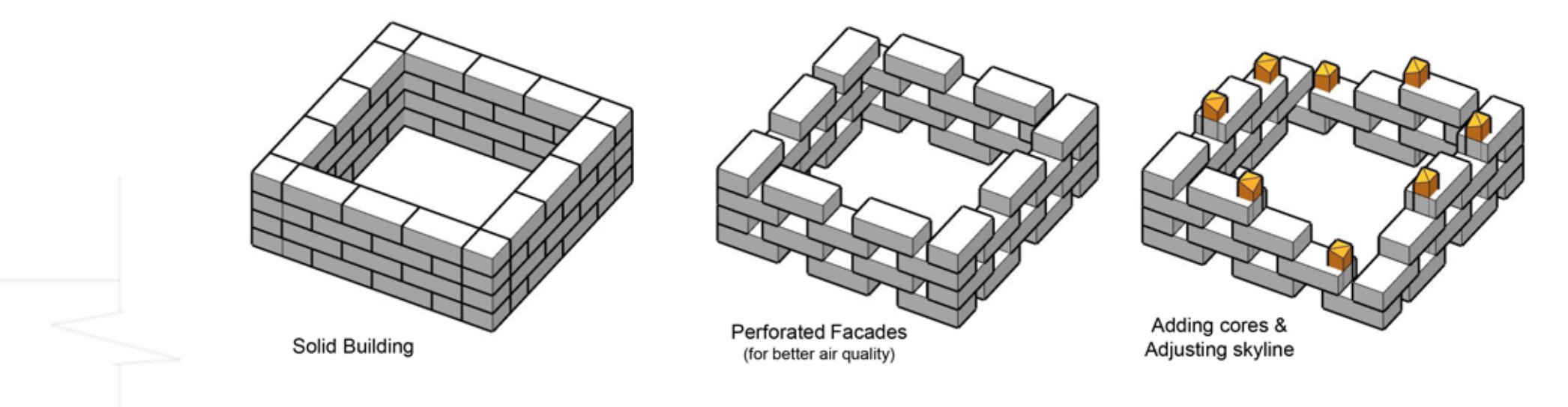


## Expandable & Evolving

The LivingGrid resembles living organisms that it is always growing to fulfill its needs.



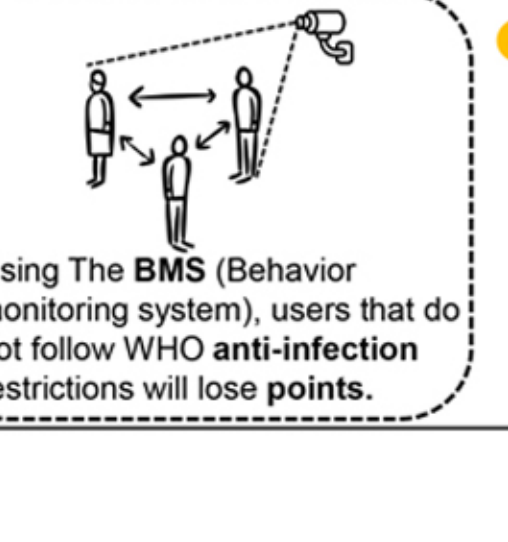
Adaptable



## Form Generation

## Giving Back to the Community

The LivingGrid offers its services to the public with affordable prices. After fulfilling the residents needs extra places in the facilities can be booked by neighbors. The building's score is directly proportional with the number of benefited non residents. Resulting in reduced taxes.



## Non Residents are Welcome

The LivingGrid Welcomes and serves the community & non residents. A specific number of cores serve the non residents for a hygienic atmosphere.



Designing & delivering for the public good

