Executive Summary

The world is changing at a fast pace, demanding industries to adapt to combat becoming obsolete. By 2050, urban population accounts to 6.6 billion, being an increase of 36% compared to 2020. The group of people aged 65 or older among the population accounts to 16% in 2050, displaying an increase of 7% compared to 2020. Beforementioned developments collectively pose great social and environmental sustainability challenges for mega cities.

The increase in age of population also brings threats; disorders such as dementia are suspected to triple by 2050, meaning 152 million people are forecasted to suffer from dementia. Furthermore, 25 % of people aged 65 or above, are prospected to live socially isolated, implying a 50 % increased risk of suffering from dementia. By 2050, expenses in healthcare for dementia are estimated to reach 1.1 Trillion USD. Dementia will then be the most expensive disease.
Until today, funding for research on dementia is low compared to other diseases and there are no solutions in place yet when it comes to tackling the disease in early stages.

Memargon, which is a portmanteau, blended from 'memory' and 'hexagon', is a European-based institute. It aims to revolutionize healthcare by using VR gaming technologies to prevent dementia, while elevating life quality for those who are sick and supplying space for diverse groups of people:

- Dementia patients live in the building getting tailored healthcare according to individual needs and the stage of the disease they are in . They receive neuro- technological training to enhance their memory.
- People receiving preventive therapy have the possibility of actively training their memory by playing serious virtual reality games stimulating brain growth and reducing risks of developing the disease.
- People or family members of patients who co-live and engage with dementia patients. This slows down the progression of the disease.

Memargon is tailored to fit the changing needs of patients experiencing memory loss and feeling disoriented. It aims to enhance the experience for people by intelligent technology adapting to people's wants and needs.

Common symptoms of dementia are wandering around and becoming lost. Memargon supplies AI-based guidance and facial recognition. Furthermore, the hexagon shape of the building guides residents intuitively. This way, patients always reach their desired location.

Memories have a substantial impact on the patient's well-being, as it contributes to the patients' feeling of competence and confidence. Immersive walls recognize patients and modify themselves according to the patients' needs in order for them to feel safe. This happens through a change of scenery or showing images from the past. Hence, memories are triggered making the patient feel at ease while increasing the patient's life quality.

In 2050, space scarcity is likely to have become a ubiquitous problem. Memargon boasts smaller rooms equipped with retractable furniture. This way, space is used in the most efficient way. The room setting will be automatically rearranged to adequately tailor the residents' requirements.

Apart from people-related benefits, the building comes with green technology and is self-sustaining. Calculations have proven, that the long-term effects of building green not only outweigh the additional construction costs but have a tremendous positive environmental impact in the long term. Memargon is not just self-sustaining, but also provides nearby buildings with resources, such as electricity.

The building's façade will be equipped with transparent solar panels. A water treatment facility up-cycles up to 80% grey- and blackwater into drinking water and thereby reduces waste to an absolute minimum.
A server farm located in the building's basement is powered by excess energy produced by the solar panels. Excess heat generated by the server farm is utilized to heat the building.

Memargon is a real-estate concept designed for reinventing the patient experience of those suffering from dementia by adapting to the needs and comfort of the user, instead of the user adapting its behaviour to the building. revolutionising healthcare by promoting prevention over treatment and bringing society together.