

## STAREBEI

A digital process for participative decision-making enabling efficient space planning for dynamic and smart office organisations.



### Inspiration

The design of office workspaces is constrained with different factors to be taken into consideration. Time, users' satisfaction, working conditions, occupants' preferences, circulation or cost are among these factors that can influence the productivity of the working places. With a campus made of 2.500 workstations and five additional rented buildings, the European Investment Bank Group, settled in Luxembourg Kirchberg, is facing a real challenge to provide to its staff both space and supporting facilities at the right place and the right time. Space planning and management, staff evolution and adaptation to its organization are the main challenges the bank is facing today. These challenges are coupled with the new shift in the workplace from a production space to a more interactive and user-centred design space.

As a continuous adaptation of both the space planning and resources allocation is essential, the current process needs to be improved. In that way, LIST researchers will work closely with the bank, especially the Facility Management Department to design a participative process and associated digital tools that would support the bank in these challenges.

### Innovation

Through this STAREBEI project, LIST researchers will research, design and test innovative solutions aiming at improving the operational resilience in the facilities management of the European Investment Bank. A particular aspect of this research focuses on the participative approaches applied to the reorganisation of workplaces for more efficient and productive spaces. It will define a new generation of technological system in order to create a managing operational resilience, focusing on a smart space management that will be tested in the context of the bank's office buildings.

LIST researchers and the bank's team aim to define a system allowing to simulate the reorganization of workspaces within a building in a participative approach. The approach relies on the use of digital models (parametric models) and the implementation of a multi-objective optimization process to handle the various aspect of such processes. A specific attention will be given to the visualization through technological devices such as tangible table and Augmented Reality to enable the modification of elements and parameters in a participative setting.

The tasks of LIST researchers linked with digital innovation will range from the identification of the key elements regarding the workplace to the implementation of an efficient technological device to facilitate the participation of the users in the design process and to include a real-time visual representation of the solutions proposed.

### Impact

At the end of the project, a participative decision-making prototype for businesses will be developed allowing the users to participate in the design process of their own spaces for better space management answering their requirements and priorities. The main feature of the system will thus lie in simulation and visualization in real-time of the effects of changing parameters related to various constraints such as space, security or internal policy during participative meetings.

Such a decision-making prototype could bring added-value to any organization facing space management challenges.

### Partners

EIB Institute (LU)

### Financial Support

European Investment Bank

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