The article covers the problems of modernization of buildings of research institutions and, in particular, the future use of existing buildings, that is, their restructuring and adjustment to new objectives, or demolition and construction of new buildings instead of demolished ones. The authors highlight functional, technological, structural and compositional constituents of this problem. The authors provide examples of buildings restructured both in Russia through the involvement of the authors, and worldwide. Their conclusions represent a list of major issues that need to be resolved as part of the decision-making process concerning the future use of buildings:

- availability of layout plans of the building to accommodate the proposed functional processes as well as flexibility in terms of any future changes;
- assessment of potential improvement of the architectural environment in terms of reduction of functional connections, provision of formal and informal communications, and improvement of visual connections;
- the load bearing capacity of building structures, including floors and ceilings slabs;
- sufficiency of the floor height;
- suitability of existing technical rooms and shafts and possibility of their extension to assure a flexible layout;
- assessment of the working capacity and service life of structural elements of the building;
- selection of the applicable technology and sequence of works to ensure a minimal impact produced on the operation of an enterprise; the need for temporary facilities and the cost of relocation of existing services and business units.

Key words: buildings of research institutions, restructuring of buildings, design of public buildings.

References


About the authors: Bantserova Ol’ga Leonidovna — Candidate of Architectural Sciences, Professor, Department of Design of Buildings, Moscow State University of Civil Engineering (MGSU), 26 Yaroslavskoe shosse, Moscow, 129337, Russian Federation; olga.bancerova@gmail.com;

Loginov Igor’ Yur’evich — postgraduate student, Department of Design of Buildings, Moscow State University of Civil Engineering (MGSU), 26 Yaroslavskoe shosse, Moscow, 129337, Russian Federation;igor.loginow@gmail.com.