



8th
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Academic
Conference on
Places and
Technologies

BOOK OF ABSTRACTS

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Aleksandra Djukić
Aleksandra Krstić-Furundžić
Eva Vaništa Lazarević
Milena Vukmirović



Keeping up with technologies to imagine and build together sustainable, inclusive, and beautiful cities

**PLACES AND
TECHNOLOGIES**
2023

**8th International Academic
Conference on Places and Technologies**
Book of Abstracts

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ENERGY SAVINGS POTENTIAL IN MODULAR ENVELOPE RENOVATIONS OF PREFABRICATED RESIDENTIAL BUILDINGS IN BOSNIA-HERZEGOVINA AND SERBIA

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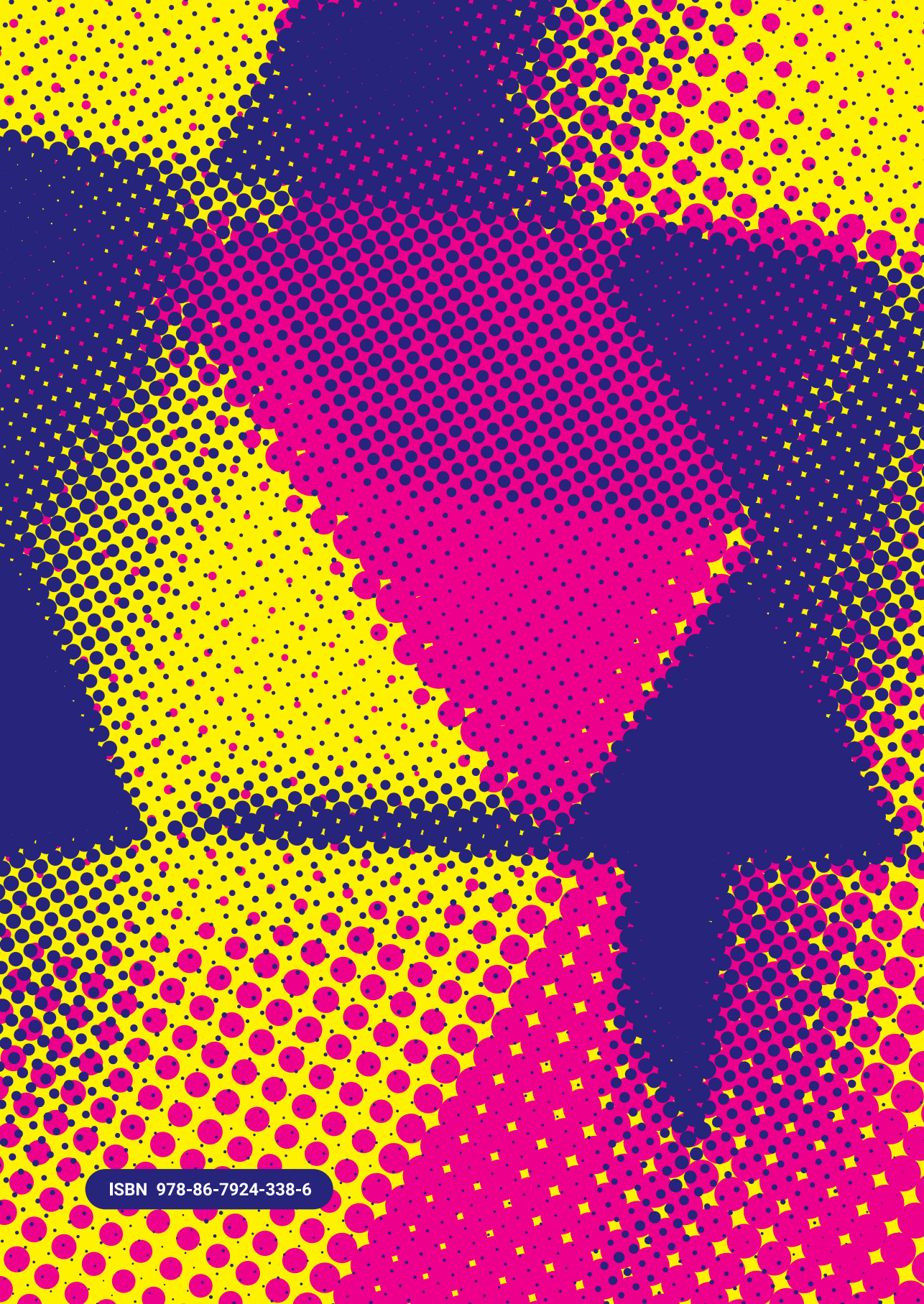
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ABSTRACT

In the light of the development of new construction systems and envelopes based on renewable and natural materials, that is recently obligatory for the EU member countries through New renovation Wave strategy, authors present research on the topic of energy renovation of buildings using renewable materials in modular systems and its possibilities in two developing countries. This paper presents energy savings, through case study of deep renovation of buildings, using timber modular systems for enveloping the characteristic example of residential building. Paper focuses on the period between 1971 and 1980, due to the considerable number of modular buildings designed during the peak of the construction progress and promotion of prefabricated buildings. Total potential energy savings for such building types is considered according to national typologies of residential buildings in Bosnia and Herzegovina and Serbia. Through a comparative analysis of these countries, the paper presents following parameters of buildings built in period 1971-1980: total number of buildings, total number of apartments, average energy need for heating - $Q_{h,nd}$, and total energy need for heating before and after the renovation of the envelope applying standard measures from national typologies and applying timber modular envelope systems, which have the potential for deep renovation of buildings.

KEYWORDS _ *renovation strategies, deep energy refurbishment, residential buildings, timber systems, modular envelopes*





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