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## INVESTIGATING CIRCULAR ECONOMY URBAN PRACTICES IN CENTOCELLE, ROME DISTRICT

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### Abstract

The embedment of circular economy principles in cities is an opportunity to reduce the urban waste production and resource consumption towards closed-loop systems. In particular, the adoption of circular economy strategies as regeneration, optimization, sharing and loops can overcome waste and inefficiencies of linear economy. This paper presents some circular economy practices bringing an integration of circular strategies at urban scale. This work was funded by the Research into Electrical Systems Italian National Programme aimed at implementing a Smart District Models. The research project has been carried out in an Italian demonstrator quarter: Centocelle located in the city of Rome. Thanks to the smart solutions employment, a collaborative process has been established involving citizen. As a result, several circular economy urban practices have been identified supporting the smart community growth. The combination of smart community experience and circular economy principles application has resulted in several mutual advantages. In particular, the identified circular practices, as community gardens, co-workings, local and km0 production systems, recycling centres and other experiences of waste management, have achieved an urban transformation in terms of regeneration, sharing economy experiences, resource optimization, closed-loop systems. Therefore, circular economy practices have positively and actively influenced the urban community supporting the transition towards circular economy models.

*Key words:* circular economy, smart district, smart community, urban regeneration, waste prevention

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