

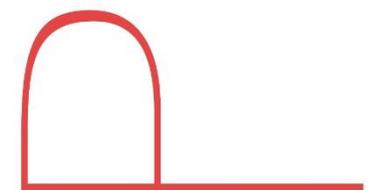
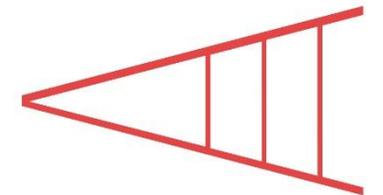
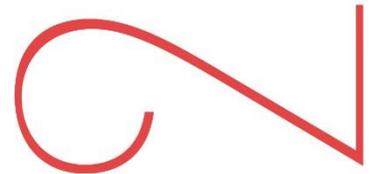
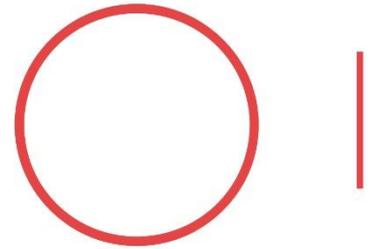
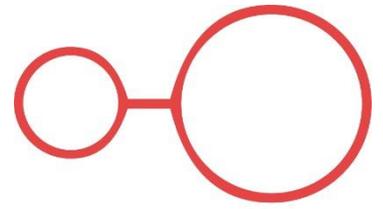
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Monitoring Tool for Urban Brownfield Regeneration Projects Interaction with Stakeholders

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ABSTRACT: Urban brownfield regeneration projects are complex operations that are not automatically sustainable. To facilitate the integration of sustainability issues in these projects, a recent research project led to the creation of an operational monitoring tool tested on case studies. Following this, we undertook interactions with the stakeholders of the case studies to confront the potential of the tool with the future end user's point of view and the reality of the practice. This paper presents the method and results of these interactions. Essentially, it has been recognized that the tool could provide a valuable decision-making support throughout the transformation of urban brownfields into new sustainable neighborhoods. The inclusion of a monitoring tool into the management of these projects appears not only feasible, but realistic and desired.

KEYWORDS: Urban brownfields, Sustainable urban regeneration, Monitoring tool, Decision-making

1. INTRODUCTION

Within the post-industrial European context, urban brownfield regeneration projects (UBRP) represent an important potential to limit urban sprawl by increasing the density of the already built fabric and to revitalize cities at the neighborhood scale [1]. However, because of their complex nature, most of these operations are not automatically sustainable [2]. To foster a proactive, structured, and continuous integration of sustainability issues into the dynamics of UBRP, a specifically adapted operational monitoring tool was created as an outcome of a recent research project undertaken at Ecole Polytechnique Fédérale de Lausanne (EPFL) (Fig. 1).

Entitled SIPRIUS+, this hybrid tool combines approaches from different fields: a sustainability indicator system adapted to brownfield regenerations and a user-friendly, web-based monitoring software [3]. This way, SIPRIUS+ provides a new, efficient support for stakeholders involved in the decision-making of UBRP. It is designed to meet three requirements [4] : 1. a search for global quality; 2. an adequacy with the specificities of UBRP; 3. an integration into the project dynamics.

In a first verification stage of the tool, test-applications were conducted on case studies in Belgium, Switzerland, and France to check its general performance and to improve its functioning. It gave positive insights about the potential of SIPRIUS+ to answer the three requirements [5]. However, some aspects inherent to the notion of monitoring could not be completely verified. This is explained by the fact that the test-applications were performed once only while UBRP are long-term projects. Actually, sustainability monitoring implies a continuous and structured follow-up of several environmental, social, and economic criteria. For this reason, a complementary verification stage involved interaction with stakeholders of UBRP. Consisting of round tables, it confronts the tool with the future end users' point of view and the reality of the practice. This paper presents the method and the results of this second verification stage.

2. METHOD

To interact with the stakeholders, an interactive round table is organized for each case study: The Val Benoit UBRP in Liège (Belgium), the Gare-Lac UBRP in Yverdon-les-Bains (Switzerland) and the Pôle Viotte UBRP in Besançon (France). The focus of these round tables is made on the monitoring features of SIPRIUS+, which are essential for the tool to meet the three requirements.

2.1 Definition of the topics

It is suggested to establish a range of topics to guide the discussion during round table sessions [6]. The topics addressed are the potential of SIPRIUS+ to foster:

- The In itinere and ex-post follow-up of the sustainability objectives of the UBRP;



Figure 1: Screenshot of the Homepage of SIPRIUS+.

PLEA 2018 HONG KONG

Smart and Healthy within the 2-degree Limit

- The communication of the sustainability objectives of the UBRP;
- The improvement and optimization of the sustainability objectives of the UBRP.

2.2 Structure of the round tables

Before opening the round tables discussions, maximum information is given about SIPRIUS+. First, the research team makes an online presentation of SIPRIUS+. This presentation is personalized for each case study as it shows the test-application made during the first verification stage. Therefore, stakeholders are not only able to see the diverse functionalities of the monitoring tool, but also a dynamic overview of the performance of their UBRP.

Next, an evaluation report is given to each participant of the three case studies. Directly extracted from SIPRIUS+, the evaluation report gives detailed information about over 50 sustainability indicators. As such, it is a major output of the monitoring tool.

Finally, the research team moderates the discussion, according to the topics previously defined.

3. RESULTS

In total, 15 participants from different discipline (architecture, urbanism, engineering, and politics) have taken part in the three round tables (Fig. 2). It is important to underline that these round tables are not a foolproof demonstration of the tool neither claim to bring statistical outputs, but are rather a complementary verification of the test-applications. The discussions, reported here under each topic, highlight in a qualitative way trends and perception about SIPRIUS+, its potential to answer the three requirements, and, more specifically, the performance of its monitoring features. Globally speaking, what emerges from these interactions is that, whereas the use of such a tool implies a change in the management of these projects, the evolutions to adopt in order to include this practice appear not only feasible, but also realistic and desired.



Figure 2: Interaction with the stakeholders of the Val Benoit UBRP in Liège (Belgium)

3.1 In itinere and ex-post follow-up

The stakeholders agreed on the fact that SIPRIUS+ could contribute maintaining sustainability objectives over the long term of UBRP. In that respect, the word

“dashboard” has been associated with SIPRIUS+ several times, showing the perception of the potential users regarding the support the tool can bring.

3.2 Communication

The majority of the stakeholders agreed on the fact that SIPRIUS+ could be a relevant tool to build a shared vision of the sustainability of their UBRP. In that order, it could facilitate the communication about this vision within the internal and external teams of the project, which are usually multidisciplinary. It could also facilitate the communication with a broader audience, such as the population. However, divergences appeared among stakeholders about the level of information to communicate to the public.

3.3 Improvement and optimization

Stakeholders agreed on the fact that the monitoring provided by SIPRIUS+ could stimulate an iterative process, that is to say, a willingness to improve and optimize sustainability parameters of their project.

4. CONCLUSION

Urban brownfield regeneration projects (UBRP) are not inherently sustainable. A research project proposes an operational monitoring tool, SIPRIUS+, facilitating the integration of sustainability issues during the transformation of urban brownfields into new sustainable neighborhoods. This paper presents interactions with stakeholders in order to gather their point of view about the potential of SIPRIUS+. Even though limited by the small number of participants, it was recognized that the tool could provide a valuable decision-making support throughout the UBRP. Further investigation implies the implementation of SIPRIUS+ within the project teams of the case studies.

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