The AS-Fabrik Project
Journal N°1

Project led by the City of Bilbao

JOBS & SKILLS
IN THE LOCAL ECONOMY
The AS-Fabrik project

Considering the challenge faced by manufacturing industries in the Bilbao area that are moving towards a 4.0 dimension, the AS-FABRIK project seeks to increase the competitiveness of the advanced services sector of Bilbao (Knowledge intense Business Services – KIBS), that will prepare current or future workers of the KIBS sector, to acquire the needed skills, in order to supply digital transformation demands.

Bilbao City council is therefore leading a strategic alliance between leading businesses and universities, local service providers and entrepreneurs, in order to shape a collaborative pilot ecosystem based on innovative pillars and hosted in a tailor made space for experimentation and incubation of new services. New education programs for university students, entrepreneurs and professionals addressing the new challenges of the industry 4.0 and the digital economy will be tested, while networking actions among the main stakeholders, supported by tailored IT tools, will ensure a good match between demand and supply. New business models will be prototyped to support specialised start-ups that will benefit from a Minimum Viable Product (MVP) test Fab Lab for the market validation of new products/services.

At the end of the project, KIBS providers from Bilbao will have access to AS-FABRIK, the “factory for the creation of advanced services for industry”, that will gather in a physical space an integrated kit of tools in order to shape new products and services for the new industry needs, and to reinforce their competitiveness. This new model will lead to create a new generation of young and advanced service providers able to supply the challenging digital transformation demands the manufacturing sector is growingly facing.

Partnership:

- Ayuntamiento de Bilbao
- Bilbao Ekintza - Public Agency
- Mondragon Goi Eskola Politeknikoa J.M.A. S.COOP - Research Centre
- Mondragon Unibertsitatea Enpresagintza S.COOP - Research Centre
- MIK S. COOP. - Research Centre
- GAIA - Association of Electronic and Information Technologies in the Basque Country - NGO
- Deusto Foundation - Basque Institute of Competitiveness - Research Centre
- Assoc. Cluster Audiovisual de Euskadi - EIKEN BASQUE AUDIOVISUAL - NGO
- Mondragon Centro de Promocion, S.COOP - Business Support Centre
- IDOM Consulting, Engineering, Architecture, S.A.U. (IDOM) - Private Company
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1 Executive Summary

This journal describes and analyses the progress of the AS-FABRIK project in Bilbao, an UIA project, in the domain of job creation and economic development. For Bilbao, as for so many other European cities, economic renewal is of paramount importance. The city is recovering from the global financial crisis, and despite having an unemployment rate significantly lower than the Spanish average numbers are still high, and now faces the challenge to build a knowledge-based economy. The AS-FABRIK project is a coin with two sides: on the one side, it promotes “smart specialisation”, aiming to make manufacturing –a traditionally strong sector in the city- and related knowledge intensive business services (KIBS) services more competitive. On the other side, it is an instrument to improve the spatial conditions of the local economy, through the regeneration of the Zorrotzaurre area, a peninsula that will become an island during 2018 and a former industrial zone that will be turned into a knowledge-based new part of the city.

Section 2 sketches the policy context, positioning this UIA project in the EU urban agenda (jobs and skills domain), and outlining how it fits in Bilbao’s recent local economic development path and ambitions. Section 3 highlights the particular local challenges and the innovativeness of the AS-FABRIK project. Manufacturing industries face strong pressures, and need to deal with internationalisation and digitalisation. If Bilbao wants to continue to be a hub of modern manufacturing, bold steps are needed to modernize the industry. Both technological and organisational innovations are required: manufacturing must become more service oriented, and the deployment of new technologies in the industry must be speeded up. This requires new partnerships between firms, and with RD&I institutes. Section 4 sets out the partnership, and the role division between the three types of actors: public organisations, universities/knowledge institutes, and cluster organisations (representing the private sector). Section 4 describes the progress so far: the purchase of a building on the Zorrotzaurre island –that should become the home of the new partnerships-, the setup of the observatory (monitoring local & international trends and developments related to Industry 4.0), the creation of dedicated training courses for firms and students, and the development of the partnership brokering model. Section 5 outlines the main implementation challenges. Although progress is very good overall, special attention is needed in the fields of citizen participation, participatory planning, SME engagement, and ensuring the longer-term viability of the AS-FABRIK project after the UIA subsidy ends. Also, the phasing of the redevelopment of the Zorrotzaurre island –now a place where very little happens- is a key issue.
2 The policy context

In the EU Urban Agenda, job creation is recognized as one of the top priorities for the EU, Member States, cities and citizens. Although unemployment rates have been falling recently, 22.6 million people in the EU were unemployed as of September 2015, many of them young people.

Although cities cannot influence macro-economic conditions, it is clear that they have a key role to play in the economy. City governments are key players when it comes to the creation of favourable spatial conditions in which the local economy can flourish; Cities have a key role to play on the labour market, to improve the match between supply and demand, and in retraining the workforce; Also, cities can pursue smart specialisation policies: in close collaboration with local stakeholders, promoting specific promising fields of economic development, in alignment with other policy levels, the private sector and knowledge institutes, which helps to guide investments into the most productive direction; Finally, cities can play an important role as facilitators of new innovation networks in the triple helix.

For Bilbao –as for so many other European cities- economic renewal is of paramount importance. Since the beginning of the economic crisis in 2009, the city went through five very difficult years of economic decline and job losses; It is only since 2015 that the urban economy has started to grow again.

From this perspective, the AS-FABRIK project can be seen as a coin with two sides: on the one side, it is a project with a strong “smart specialisation” emphasis: it aims to further develop knowledge intensive business services and industry 4.0 in the city, to make manufacturing –a traditionally strong sector in the city- and related services more competitive.

On the other side, it is an instrument to improve the spatial conditions of the local economy: a key aspect of AS-FABRIK is the regeneration of the Zorrotzaurre area, a pensinsula that will become an island in 2018, a former industrial zone that will be turned into a knowledge-based new part of the city.

Thus, the project’s ambitions are large and manifold. And clearly, the project’s budget and scope are not large enough to cover the full transformation of the Zorrotzaurre Island over the coming decades. But it never intended to do that: the project is strategically embedded in a bigger vision of the city on its economic future, and the role of urban redevelopment.

Since its inception, the AS-FABRIK project is part of a wider wave of projects and programmes, funded by various sources and actors.

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3 Local challenges in Bilbao & innovativeness of the project

Bilbao’s economic transformation has left deep traces in the city. Since the 1970s, manufacturing industries started to decline. Until then, Bilbao’s riverside was dominated by large companies in the heavy industries and shipbuilding. But due to the economic crisis, they had difficulties to compete on the global market, and a gradual but painful decline set in. Factories were abandoned, large strips of land along the Nervion River became vacant.

Over the decades that followed, the city of Bilbao faced the dual challenge of transforming urban spaces no longer used for production, and developing a new, more promising economic future based on knowledge and innovation. The contemporary visitor may not realise that the banks of the Nervion River, now filled with strolling locals and tourists, with a lively mix of offices, housing and leisure, were once the domain of large manufacturing plants and shipyards.

The development of the Guggenheim Museum – and the area around it- became the visible landmark of the cities’ regeneration. The transformation does not imply, however, that Bilbao had ceased to be an industrial city. Still, the city and its surroundings are home to a large number of manufacturing firms, large and small, that compete on world markets; Manufacturing still represents 23% of the urban economy, and many service activity has evolved around it. And still, there are many industrial sites –although no more in the city centre- where production takes place.

The Zorrotzaurre Island is a crucial place in this respect. It is a large peninsula (839,000 m²), located in the Nervion river, and stretches to the North East. This island was the home of several manufacturing plants, including various types of production such as food, paper, etc. Most of them have abandoned the place, most buildings are vacant, and in many cases, the soil is polluted. But it is not only an island for production: it also has (cheap) housing and some minor retail activities, there are some people living there (about 300 houses). Also, it has a weekly market –well known by many Bilbao inhabitants-, there is a jazzclub, and the island has become a hip place for (illegal) parties.

For Bilbao city, the redevelopment of Zorrotzaurre Island is a priority to take Bilbao to a next level as city of knowledge and innovation. It is located relatively central, not too remote from Bilbao city centre; there are opportunities to turn it into an attractive, mixed urban quarter that should lure higher-educated people, and make the city into an attractive magnet for talent that can compete with Madrid or Barcelona.

With this in mind, back in 2003, well-known architect Zaha Hadid was charged to develop a masterplan for the area. The ambitious and integrated plan that she made contains a mixed programme, of housing, retail, offices, production spaces, two technology parks; a redesign of the streets and public spaces and public transport, new bridges, and, remarkably, the digging of a canal to turn the peninsula into a real island; this aims to add space to the river,
which will prevent flooding with rising sea and river levels.

However, in the years that followed, the city was hit by the economic crisis, and the implementation slowed down due to a stagnant real estate market and difficult public finances. As outlined, for the city of Bilbao the redevelopment of Zorrotzaurre Island is a priority for the next decades. It is a multi-million programme, to be developed in stages, with a large number of stakeholders, public and private, and with involvement of the citizens that currently live there.

The AS-FABRIK project is one piece of this very large and long puzzle. It is part of a portfolio of other projects that should contribute (figure 1).

![Diagram](image-url)

*Figure 1: UIA AS-FABRIK as part of larger project portfolio to redevelop Zorrotzaurre Island.*

The most important one is an energy project (EDUSI; with a budget of 18,6m euro, of which 50% funded by the EU) that will help to find sustainable and 0-emission solutions; Other projects in the field of smart city development are to follow. After all, Zorrotzaurre should become an exemplary case of urban redevelopment.

An important aspect of the AS-FABRIK project is to (re)develop a dilapidated building at the centre of the island: the “beta 2” building that is to be redeveloped into a hub for the development of “industry 4.0” in Bilbao: a new concept where knowledge-intensive business services meets manufacturing, research, R&D and education.

**Innovativeness of the project**

The innovativeness of the AS-FABRIK project does not lie in the fact that a building is being refurbished, as part of a redevelopment strategy. Rather, it is the combination of a long-term regeneration with a smart specialisation approach that makes the AS FABRIK project unique and promising. The building is no aim in itself (although the biggest chunk of the project’s budget will end up there): it should become an
important catalyst for the development of industry 4.0 in Bilbao.

And now we have arrived at the heart of the AS-FABRIK project, whose mission is “to increase the competitiveness of companies in the advanced services sector, through a collaborative process of capacity building, which may allow them to respond adequately to the challenges associated with the digital transformation of the industrial sector”. This fits in the bigger picture that Bilbao is still an important industrial city, with industry taking a share of 23% of Bilbao’s economy. But the industrial landscape is changing very rapidly, due to digitalisation and servitization (the growing service component in manufacturing).

Technological changes are fast, clients are more demanding, new competitors enter the market, so Bilbao’s manufacturing firms and service firms face strong pressures to stay ahead of the game. With AS- FABRIK, an ecosystem should be created that makes the city economy stay fit in this tough environment.

4 The partnership

The AS-FABRIK project unites a number of partners from the public sector (the city and Bilbao Ekintza its development company), the university/knowledge sector (Deusto Foundation, Mondragon University, MIK) and the private sector (cluster organisations, business support organisations). The partnership reflects the complexity and multi-stakeholder nature of the challenges described in section 3.

The collaboration in AS-FABRIK is embedded in a long-standing collaborative culture in Bilbao. Compared to many other European regions and cities, actors from the triple helix work together well, and have developed a range of collaborative ventures over the last decades.

Partners in the project share the ambition to develop Bilbao into a modern manufacturing (and related services) hub, and all partners realise that this can only be done in close collaboration: new spatial conditions are required, new types of training need to be offered, and new forms of alliances are necessary between service firms, manufacturing firms, and players in the R&D/innovation realm. Within the partnership, it is clear who should play what role: the city leads, and takes care of the redevelopment of Zorrotzaurre; the knowledge institutes take care of the education programme, the observatory, and the design of the new partnership models; the cluster organisations play a key role in mobilizing the industry and setting up new innovative partnerships with them.

Interestingly, the project builds on the experience gained in an earlier project, namely the creation of the BBF, a special education/innovation centre that Mondragon University (MU) opened in downtown Bilbao about 5 years ago (see box 1).

**BBF** is a special education/innovation centre that Mondragon University (MU) opened in downtown Bilbao in 2012. This centre offers an alternative type of university education: it offers higher education in strong partnerships with companies (including many companies of the Mondragon Corporation, with heavy emphasis on students creating startups and scale up companies –already during their study- , and practical innovations relevant for industry. Over
the last years, a lot of experience has been gathered on how to build an ecosystem of startups, growing SMEs, business associations, education, and established firms. BBF does not look like a traditional university; it has lecture rooms, but also prototyping spaces, network spaces, and labs. This setup serves as inspiration for the new AS-FABRIK building in the Zorrotzaurre island. Over the last decade, BBF has created over 50 companies, of which 10 developed into high-growth SMEs. BBF leader Luis Berasategi, also involved in AS-FABRIK, explained how BBF organises 300 events in one academic year, creating communities between actors.

Spaces in BBF

![Prototyping Space - The Makery](image1)

![Networking Space - The Dock](image2)

![Audio Visual Space - The Lab](image3)

Box 1: the BBF as prequel to the AS-FABRIK partnership.

5 Steps taken so far

Since the official launch of the AS-FABRIK project, substantial progress has been made:

The city acquired a building in Zorrotzaurre and decided to refurbish rather than demolish it: the costs would have been similar but the building has authentic features that are worth preserving. The building quality has been analysed, and the process of the functional design of the building is well underway. According to the original plan, around 2 floors (4000 m²) of the building would be dedicated for (and co-funded by) the AS-FABRIK project.

However, the interest to use the building was bigger than expected; As of September 2017, 4 floors of the building (10,000 m²) are foreseen to be redeveloped, to house the industry 4.0 ecosystem. To date, a number of players have already committed to set up shop there (see figure 4).
Figure 2: The building.

Figure 3: Prospected tenants of AS-FABRIK.
An advanced services observatory was set up, that should help to understand and interpret the changes in the manufacturing and KIBS industry, and also to assess how Bilbao’s firms are performing in this respect. Since the project’s start, MIK and GAIA (partner research institutes) published and shared a study about the main technological and business challenges; also, Bilbao Ekintza and MIK made a detailed assessment of the local KIBS sector, and identified factors that facilitate the development of KIBS. This is an important basis for the work to be done in the second year of the project.

Specialized education modules are developed for both students and professionals, to prepare them for the new realities in modern manufacturing and related services. During the first months of the project, an expert course on servitization has been created, (by Mondragon Unibertsitatea Enpresagintza, Mondragon Goi Eskola Politeknikoa and GAIA) taking place from September to November 2017. It contains a conceptual part, the exchange of experiences, and workshops, and counts for 10 ECTS. About 15 people subscribed, most of them from the mayor players in KIBS and manufacturing, each paying a fee of €800. In the remainder of the project, several new courses will be developed by the knowledge partners in the project.

A partnership brokering method is elaborated. This is among the most complex tasks in AS-FABRIK: it is about new types of networks and collaborations between players in the industrial ecosystem.

During our interview, Bart Kamp from Orkestra and Luis Berasategi and Eduardo Castellano from MIK and Mondragon Unibertsitatea Enpresagintza sketched a range of possible new relation types and pathways that catalyse industrial renewal:

1) a manufacturing firm hires a KIBS firm and they work on servitization together;
2) a manufacturer hires new type of employees who bring the service and/or tech knowledge;
3) a manufacturing firm works with start-ups in its innovation process,
4) a KIBS firm works with start-ups;
5) a manufacturer develops solutions together with and external technology centre or company.

In all cases, new types of collaboration are needed, and hence partnership brokering is a key element. So far, MIK has produced a “customized partnering methodology” and a “Brokering guidebook”, that will serve as a basis for the partnership formation in the remainder of the project.

Startups are to be boosted, in the field of KIBS and manufacturing 4.0. Again, the experience of Mondragon’s BBF is crucial in this work package; Startups will emerge from an active and lively industrial and educational ecosystem that nurtures them.

Within AS-FABRIK, a number of entrepreneurial ventures will be selected and guided during the project, starting from the 2nd year. So at the time of writing (September 2017) no ventures had yet started.
This section summarizes the main types of implementation challenges as identified by UIA (table 1). Next, it elaborates some particular challenges that emerged during the discussions with the stakeholders in the project.

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<tr>
<th>Challenge</th>
<th>Level</th>
<th>Observations</th>
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<tbody>
<tr>
<td>1. Leadership for implementation</td>
<td>High</td>
<td>The leadership (city of Bilbao) is clear, consistent, accepted by all partners, and it delivers results.</td>
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<td>2. Public procurement</td>
<td>High</td>
<td>The building was procured by the city. Some hick-ups (a remaining tax debt by the owner, the question whether to demolish or refurbish the building) were easily resolved and did not lead to substantial delays of the project.</td>
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<td>3. Integrated cross-departmental working</td>
<td>High</td>
<td>The development of the physical space of AS-FABRIK is part of a wider and longer term challenge to regenerate Zorrotzaurre Island; for this, an intensive interdepartmental collaboration is in place (uniting departments responsible for environment, planning, transport, economic development agency).</td>
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<td>4. Adopting a participative approach</td>
<td>Medium</td>
<td>Participation of the private sector and higher education/knowledge institutes is well developed, and key players are partners in the project. However, the participation of local citizens and “unusual suspects” could be strengthened.</td>
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<tr>
<td>5. Monitoring and evaluation</td>
<td>High</td>
<td>On the project level, the lead partner (the city) closely monitor progress in frequent steering committee meetings in which the partners come together. On the level of actual results and impacts in the local economy, the “observatory”, founded as part of the project, plays a key role to systematically monitor and evaluate the project’s impact.</td>
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<td>6. Financial Sustainability</td>
<td>Medium</td>
<td>So far, there are no indications of financial concerns. One main project cost realized so far - the acquisition of the building- stayed within budget; So far, the partners are delivering their part of the project within budget. On the longer run, it remains to be seen how AS-FABRIK will be able to be effective without EU support: this would require structural financial commitments of all partners, to update courses, to maintain startup support, to fund the brokering/networking activities, and to keep the observatory in the air.</td>
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<tr>
<td>7. Communicating with target beneficiaries</td>
<td>Medium</td>
<td>The communication with the beneficiaries –companies in manufacturing, KIBS, startups, students- is in full swing and provided by all partners. A main issue is how to reach smaller, traditional SMEs. Second, in the redevelopment of Zorrotzaurre, it is a challenge to engage citizens, young and creative people and students more in the design process.</td>
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<tr>
<td>8. Upscaling</td>
<td>Medium</td>
<td>The project itself can be considered as an upscaling of an earlier project in Bilbao: the development of BBF (see box in section 4). Upscaling will be a challenge in two respects. The first task, locally and regionally, is to engage “first mover” companies in this new ways of working. Over time, more companies may want to participate if they expect real benefits, and if they hear positive stories about the project. To</td>
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cater for that, a viable business model must be developed that makes it possible to serve more firms without additional subsidies.

Second, the project, if successful, might scale up to the national or international level. Companies from other Spanish regions or abroad might be attracted to join the AS FABRIK concept; Or other European cities, with similar industrial challenges, might develop a similar concept to develop their own industry 4.0 catalyst, drawing from the lessons learnt in Bilbao.

Table 1: Mapping AS-FABRIK against the established UIA challenges.

Particular challenges and open questions

The AS-FABRIK project was set up primarily as an economic modernization project. The industrial landscape of Bilbao should become more like an industrial ecosystem, with innovation emerging from more intense collaborations between players that may not find each other that easily.

A fundamental issue in this project (as recognized by the interview partners) is the following: how does this stakeholder collaboration get a foot on the ground in Zorrotzaurre, the new urban zone that is yet to be developed? How to attract people, firms and activities to an area that is now still far from attractive? How can AS-FABRIK become a catalyst for the regeneration of Zorrotzaurre Island?

One key challenge in the project, recognized by the stakeholders, is to address and convince the “less receptive” companies to take part in the journey of modernization and participate in the AS-FABRIK events and activities; some firms are very open to new approaches, but others much less so. This holds especially for smaller, more traditional manufacturing companies.

The phasing of the island’s redevelopment is an issue. The AS-FABRIK host building will be developed as one of the first projects. That means that in its early years, it will be one of the few “oases in an urban desert” with many empty buildings, poor infrastructures & accessibility, and constant construction works.

This forms a rather stark contrast with the earlier exemplary development of BBF, which is located centrally, in a lively and diverse urban district. BFF’s location was one of the assets to become an ecosystem hub with many people and partners moving easily in and out.

Many of Bilbao’s inhabitants do not know the place, they have no reason to go there. Therefore, a key challenge is to connect it to the “mental map” of the Bilbao citizens. For the ignorant bypasser, Zorrotzaurre looks like a desolate place. To stir the imagination, it might help to show/visualise what it will be in the future, in all sorts of ways.

The development of Zorrotzaurre is mainly done by professionals. It makes sense to set up a programme that involves other groups –startups, students, artists, citizens- more intensely in the developments of the area. Related to that, the question can be asked what’s in it for the current inhabitants?

It is key to connect with them (this can be done via schools, children, fablabs); Dublin’s Digital Hub² is a great example how new knowledge areas can be connected to the existing DNA of the area.

A crucial question for Zorrotzaurre is how to attract young people? It already does, in (illegal) parties and concerts, and it may be fruitful to build on that; Make it an edge, dynamic place to be designed by themselves rather than fancy architects; put the platform but let it fill by them.

The AS-FABRIK will have some permanent tenants; but its main function, especially in the early days, will be as “beehive” where many people will come and go, for events, meetings and temporary activities. Also it can become a “temporary cluster” where people from various backgrounds work together on projects, prototypes, new services designs etc. The beehive function of AS-FABRIK will help to draw many people to Zorrotzaurre can thus can be a catalyst for its redevelopment. Transport and communications are key for an urban knowledge district. Currently (and probably for some more years) the accessibility is limited. More connections/bridges are needed, innovative transport modes etc. Here again, it might be fruitful to engage students or creatives in the design of temporary “smart but cheap” accessibility solutions.

The question emerged what might be learned from other European cities that develop similar initiatives, and that also struggled to make a desolate yet promising area more lively and attract people. Good examples to explore would be Strijp S in Eindhoven³, The Netherlands (a renovated industrial site that was turned into a creative urban quarter); The Wissenschaftshafen in Magdeburg⁴ (Germany), a logistics hub transformed into a hub of science.

7 Conclusions

This journal conveys the message that the AS-FABRIK project is an innovative, integrated project intending to modernize the economy, especially the industry and related services. The project is run well, partners are strongly committed, and progress made in all its domains. It can be expected that the project will help to make Bilbao’s companies more competitive, hence contributing to job creation and economic growth. Also, it will promote smart specialisation, further intensifying the collaboration between industry and education/R&D, which is a key prerequisite for developing a successful knowledge economy. Finally, AS-FABRIK will substantially contribute to the regeneration of Zorrotzaurre Island. Although progress is very good overall, special attention is needed in the fields of participatory planning, SME engagement, and ensuring the longer-term viability of the AS-FABRIK project after the UIA subsidy ends.

The phasing of the redevelopment of the Zorrotzaurre island will require special attention: The AS-FABRIK building will operate in an environment that will be “under construction” for a long time.

And finally, there is some work done, with all stakeholders, to ensure that the project can be maintained and scaled up after the formal end of the project period.

The second journal -to be published in the spring of 2018- will focus on the challenges of implementation and how the project has progressed from September 2018 until spring 2019.

Urban Innovative Actions (UIA) is an Initiative of the European Union that provides urban areas throughout Europe with resources to test new and unproven solutions to address urban challenges. Based on article 8 of ERDF, the Initiative has a total ERDF budget of EUR 372 million for 2014-2020.

UIA projects will produce a wealth of knowledge stemming from the implementation of the innovative solutions for sustainable urban development that are of interest for city practitioners and stakeholders across the EU. This journal is a paper written by a UIA Expert that captures and disseminates the lessons learnt from the project implementation and the good practices identified. The journals will be structured around the main challenges of implementation identified and faced at local level by UIA projects. They will be published on a regular basis on the UIA website.

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