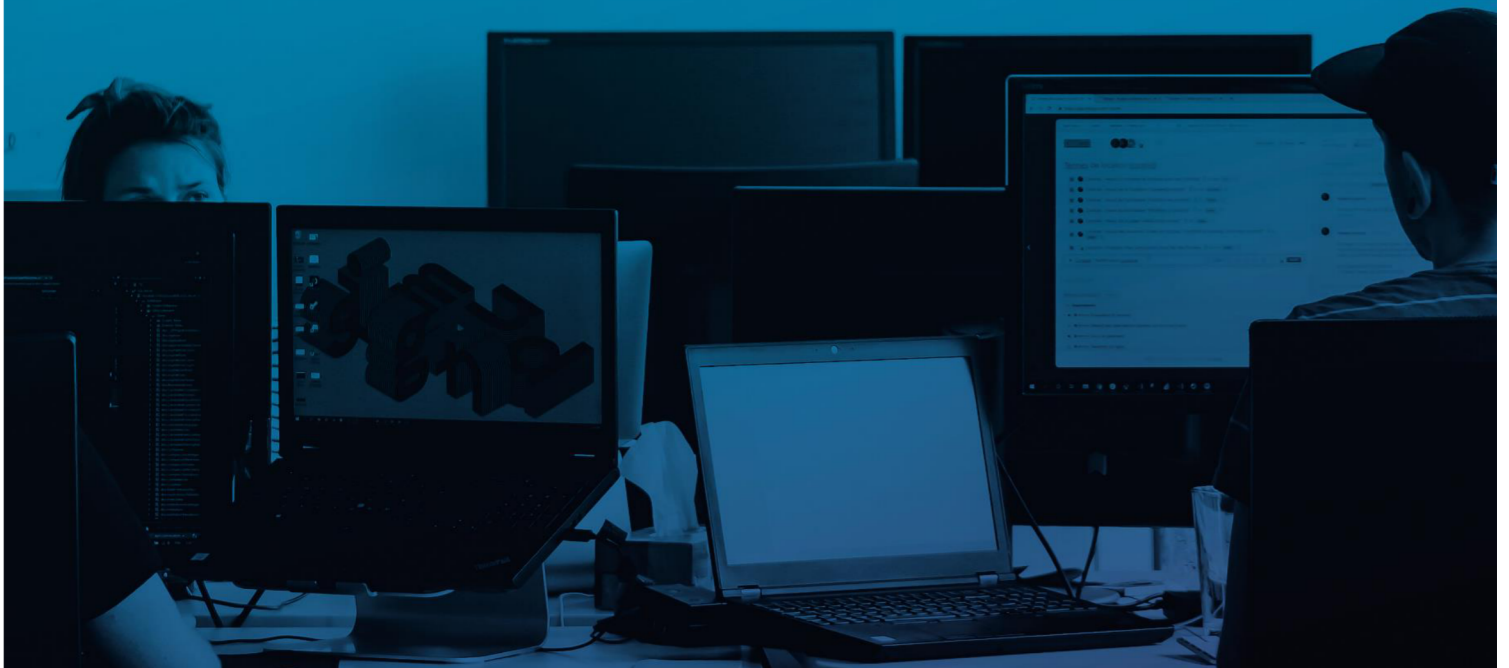




# CREATING PARTNERSHIPS IN INDUSTRY 4.0

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# INTRODUCTION

Manufacturing industries are still the beating heart of many European industrial city regions. But global competition is tough, and traditional business practices are under fire, challenged by digitalisation and the need to become both more productive and sustainable. How can cities best deal with the challenges of the disruptive “Industry 4.0” era? Bilbao provides a good example: In its [AS-FABRIK](#) project, it developed a comprehensive concept that offers new training schemes, partnership formation, actions to speed up digitalisation, and activities to grow and develop innovative startups. In the URBACT [AS-TRANSFER](#) project, other cities with an industrial heritage are now learning how Bilbao did it: Bielsko-Biala, Tartu and Timisoara have joined Bilbao in the AS-TRANSFER exchange project.

The AS-TRANSFER project was developed to transfer the lessons of Bilbao’s AS-FABRIK to the three partner cities in our network, Bielsko-Biała, Tartu, and Timișoara. Bilbao’s AS-FABRIK has evolved since 2017 as an integrated concept to promote industry 4.0, and in particular the connection between manufacturing, advanced services, and education.

The AS-TRANSFER learning and exchange network is not about simply copying and pasting Bilbao’s concept, but rather uses it as a source of inspiration for the project partners that want to strengthen different aspects of their industry 4.0 ecosystem. The AS-TRANSFER network focuses on the following elements of the Bilbao good practice: Talent Ecosystem, Startup Boosting and Partnership Brokering.

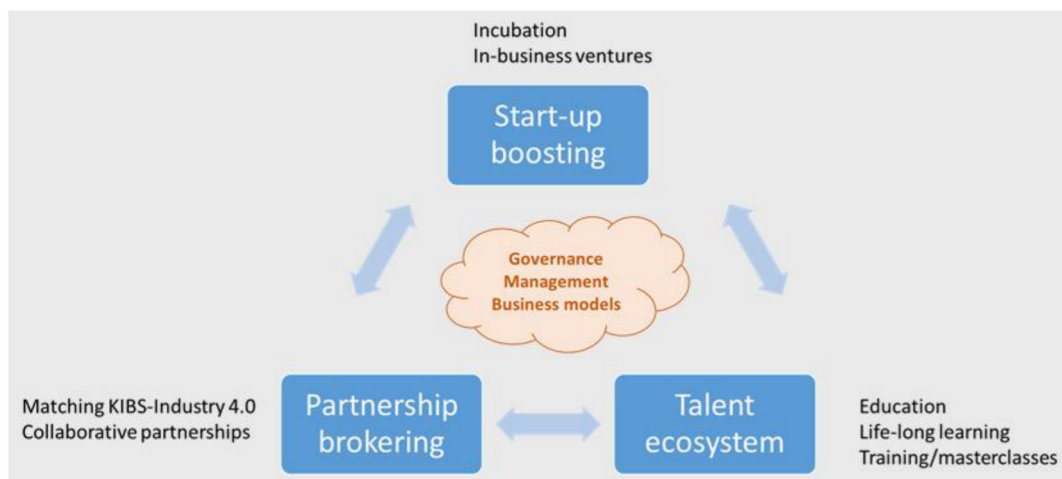


Figure 1. AS TRANSFER's good practice

At the virtual network meeting in Bielsko-Biala in January 2022, the cities focused on partnership brokering. This report brings together some of the findings, presents two case studies from Bilbao and Liverpool City Region and explores what cities can do to support this process.

## WHAT IS PARTNERSHIP BROKERING?

In this context, Partnership brokering is the activity of bringing relevant partners in the industry 4.0 ecosystem together, in order to promote collaborations that might lead to new products, services, business models or innovations. It may include range of possible new relation types, for example:

- 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 startups in its innovation process,
- 4) A KIBS firm works with startups
- 5) A manufacturer develops solutions together with an external technology centre or company.

In all cases, new types of collaboration are needed, and hence partnership brokering is a key element. Some key questions that were discussed at the Transnational Meeting:

- How do you select and approach relevant partners?
- How do you bring them together, seduce/convince them to take part?
- What methods, tools and formats can be applied to make the interaction fruitful?
- Which institutions or persons should lead/carry out the brokering activities?
- What capacity is needed to broker these partnerships effectively?
- What kind of support or expertise should be offered to new partnerships (legal, finance, technology, business models, etc) in their various stages?
- What is needed after the brokering activity - how far should you go to support/monitor new partnerships?

## WHAT ARE THE DRIVERS OF PARTNERSHIP BROKERING?

The business world has been changing rapidly due to the significant influences of globalisation and digitalisation - such as worldwide supply chains, logistics operations and economies of scale. Think of the reach of firms like Amazon and Uber and how quickly they have expanded. Added to that, the complexity of some technology solutions, such as Internet of Things and Artificial Intelligence, require multiple skill sets to deploy and integrate them. Set against the backdrop of climate change and the pressure to reduce their carbon footprint, firms will struggle if they try and go it alone.

As a result, companies increasingly need to combine resources to respond - forming strategic alliances in a range of ways, such as through contractual agreements, franchising, licensing joint ventures and even mergers and acquisitions. The impact also affects how our cities and regions operate in business support and trade, as we see more global competition.

## HOW DOES EFFECTIVE PARTNERSHIP BROKERING WORK?

The way in which many of these alliances are formed initially is via partnership brokering, setting up early stage collaborations that then mature into more established relationships. Getting it right at an early stage is crucial, as it lays the foundations for mutually beneficial interaction and ultimately success.

Massachusetts Institute of Technology (MIT) has established a framework called Regional Entrepreneurship Acceleration Program ([REAP](#)) to promote cooperation for economic growth. It relies on bringing 5 key stakeholder groups together - Government, Corporate, Risk Finance, University and Entrepreneur - to create the right conditions for leveraging local strengths to stimulate innovation and entrepreneurship. At its heart is partnership brokering: getting diverse stakeholders to work together for the greater good.

At the Transnational Meeting the network partners heard about interesting examples of partnership brokering between businesses from 2 main cities – Bilbao in Spain and Liverpool in the UK - and these are outlined here.

### Bilbao (ES)

The AS-FABRIK programme in Bilbao focused significant effort and resources on partnership brokering. They found that many companies do not see collaboration as a natural option and that instead they need help, support and structure to help them both understand the advantages of partnering and actually do it effectively. Partnerships of this kind can be complex and maybe even create conflict, so organisations need to learn how to manage the full lifecycle of collaboration to get the most out of it.

The main activities delivered in Bilbao are:

- **Mapping** – it is essential to start by identifying the different stakeholders, whether they are industry clusters, intermediaries, individual manufacturers or knowledge providers. In Bilbao they did this through an extensive mapping exercise, coupled with awareness raising and match making activities and events.
- **Development of a Collaboration Guide** – In order to fully define life-cycle support, the Bilbao team developed a practical guide for both companies and ecosystem animators / convenors (they called them dynamisers) to use to identify collaboration opportunities, map stakeholders, create alliances, manage Intellectual Property and assess and monitor the collaboration.
- **Mentoring** - also structured in 5 different phases and was provided both 1:1 and in groups

## PARTNERSHIP BROKERING



### PB, WHY? | ACTIVITIES | ZOOM MENTORING | LEARNING

#### CORE ACTIVITIES OF THE PARTNERSHIP BROKERING

- ✓ **GUIDEBOOK OF COLLABORATION**
  - Conceptualization of collaboration
  - 2 perspectives: Ecosystem (Dinamizer) and Organization (Participating companies)
  - Process and managerial tools
  - Input of the mentoring process
  
- ✓ **MENTORING PROCESS**
  - Structured in 5 phases
    - Theoretical pills
    - Group and individual sessions
    - Implementation of phases and tools
    - Brokering

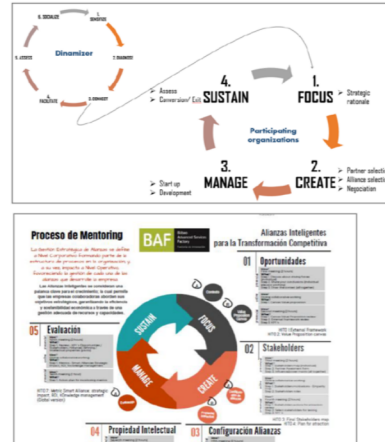


Figure 2. Partnership Brokering

Some of the successful partnerships presented by Bilbao were:

- 2 companies - *Imatek* and *MaterialConnexion* - collaborated to offer an integral solution to a manufacturing company, integrating Imatek's device into Material Connexion's solution
- *Nexmachina* – worked with Company X and the mentoring process to enhance the development of a Joint Venture agreement which ultimately led to Nexmachina implementing a pilot of its solution in a multinational tech company
- A company called *BeClever* included parts of the Bilbao methodology inside its own routines which improved their ability to develop and sustain productive alliances.

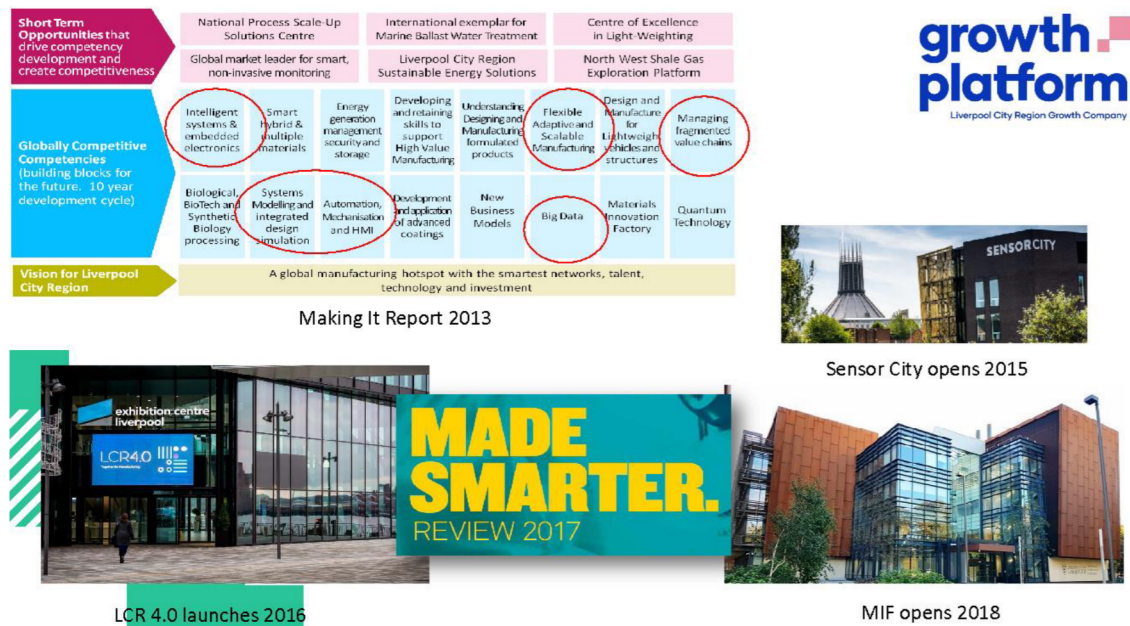
The Bilbao project has been defined as a good practice based on its clear definition of a full life-cycle methodology to promote, manage, monitor and evaluate partnerships based on multi-stakeholder participation. This methodology includes both mentoring and a wide range of awareness raising and networking activities and events. As with many projects, there have been a number of challenges around levels of recruitment, participation and commitment. As they move into the next phase, the Bilbao team will be focusing more on the need to fully activate the whole network of ecosystem stakeholders and testing the commitment of all involved through more careful screening at the outset. They will be spending more time communicating and disseminating success stories and lessons learnt to promote greater buy-in across the region. And they will be further defining the business model to optimise impact for all involved.

More information is available here → [Bilbao Ekintza – As Fabrik](#)

## Liverpool City Region (UK)

Liverpool City Region is a major transatlantic port city in the North West of the UK which historically had a high dependence on manufacturing, particularly in the automotive sector. As early as 2012 the Liverpool Local Enterprise Partnership started thinking about what the future of manufacturing might look like for local businesses faced with the introduction of digitalisation, just-in-time efficiencies and first and last-mile logistics.

This work to develop an effective City Region approach to industry 4.0. has evolved constantly in the last decade and continues to focus on supporting traditional, often very analogue manufacturing SMEs to increase productivity and efficiencies, so as to be able to integrate into the supply chains of the larger OEMs (Original Equipment Manufacturers) or ‘primes’ present in the region. This work featured heavily in the UK Government’s Made Smarter review in 2017 which explored how UK manufacturing can maximise benefits from increasing adoption of digital technology through a strong industry and government partnership. Made Smarter was launched in Liverpool at the 2018 Digital Manufacturing Week which has since become a beacon for all industry 4.0. stakeholders and is one of the forces behind the development of LCR 4.0. - a joint venture between local and regional authorities, universities and research centres – which exists to support the development of the City Region’s industry 4.0. ecosystem.



Making It Report 2013



Sensor City opens 2015



LCR 4.0 launches 2016



MIF opens 2018

Figure 3. Growth Platform

At the AS-TRANSFER event in January 2022, the partners heard from Simon Reid, whose role was to engage SMEs looking to deploy industry 4.0. technologies. Listed below are three of the key success factors discussed at the event:

- **Mind your language** – don't play the 'tech' card at the beginning – company owners are only interested in technology and digital solutions if they believe this will contribute to increased profitability which comes from better productivity and efficiency so it's better to lead with that. Intermediaries should therefore think about 'what does this company actually need?' rather than 'what digital solutions can support this company?'.
- **Engage company leaders** – often tech teams or younger members of a management team will be the people who are most interested in exploring digital solutions. However, a prerequisite of success is to engage the company leadership team as early as possible in the partnership development process. Working with leaders is often the most cost-effective use of public funding. If they get on board, these people can become the greatest agents of change. Intermediaries can help them to understand their challenges – particularly around what is going on in the wider economy and where business threats are likely to come from – and to explore potential solutions and understand the art of the possible before supporting them with technology integration.
- **Work with the large and the small** – In order to support local SME manufacturers to integrate into the supply chains of 'primes', it is vital to actually understand how the larger companies work. These large companies don't need help from the public sector to digitalise their processes and supply chain, but they do need help understanding the wealth of local suppliers available to them and they might therefore benefit from sharing their challenges with intermediaries. The intermediaries can then help to develop the capability of small companies and get them ready for supply chain integration. This might include provision of specialist facilities or equipment – a digital sandpit if you like – to test solutions they can then sell into supply chains.

For more information see [LCR 4.0](#) and [Growth Platform](#).

## WHAT CAN CITIES DO TO FACILITATE PARTNERSHIP BROKERING?

Below we explore some of the key activities that cities might consider doing to facilitate partnership brokering in an Industry 4.0. context.

From the examples above it is clear that ecosystem mapping is a core task when embarking on partnership brokering. This needs to be done at the beginning to identify stakeholders, intermediaries, knowledge institutions and manufacturers – and it needs to be maintained.

At the same time, a significant awareness raising exercise is also needed. Local, regional and national authorities and politicians need to understand the business case for this sort of work and businesses themselves can also be very traditional and resistant to change or allowing 'consultants' to come in and look at their existing processes. Bilbao and Liverpool have both applied a pragmatic approach to selection, preferring a reasonably wide, sector-agnostic approach combined with careful screening to test commitment.

Each partner brings specific knowledge, networks, connections and skills. The broker needs to understand both the regional ecosystem and organisational capacity. They need to be really patient and flexible as the key to success is to show direction but not to push too hard. As well as the right technical fit between partners, there also needs to be a good match with cultural aspects, delivery time and affordability. Sometimes more traditional firms have had poor experiences with technology suppliers, such as high costs, inflexible systems and a lack of ongoing maintenance, so there is an extra hurdle to encourage them to try again. Another dimension is getting staff on board as bringing in new approaches can have big implications for workforce management and activities.

It's really important to share successes at all levels to clearly demonstrate what can be achieved. In some cases, the municipality itself may be well placed to act as an honest broker but this is not always the case. Importantly, the public sector needs to be cautious about favouring one prospective partner over another as it needs to be a fair playing field for tendering firms.

Interestingly, both the examples outlined here found a sector agnostic approach worked best – this seemed to add to the depth and breadth of opportunities. Indeed there was a sense that focusing on one sector or sub sector could actually be quite limiting and reduce the scope of innovation.

The importance of communication and dissemination has come up again and again as a success factor and the city can certainly help to collect and share good news stories or pieces on lessons learnt that may be of use to stakeholders both within and outside the city.

Cities can also work with their ecosystem stakeholders to offer facilities and equipment of virtual prototyping – digital sandpits as some call them – and they can play a role in encouraging better use of local capabilities and facilities by linking what companies need with what digital knowledge providers have. Cities could also provide topics or challenges for hackathons or similar events which act as 'magnets' to local ecosystem stakeholders. They might also provide prizes – workspace, for example, or access to opportunities to pilot technologies within their own services.

At the end of the day, it all comes back to dissemination, meetups, get togethers where peers can discuss their experiences – large and small companies. We see that networks and connections are the common theme. Through creating connections and building networks, and the partnerships that result, firms increase their knowledge base and inform their research and development strategy, which ultimately leads them to become more innovative and competitive.

As we've learnt above about the key drivers above, such as globalisation, businesses and their regions simply have to place a high emphasis on partnership brokering in order to grow and survive.