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# Cities that make: back to the future?

## *Abstract*

*As the number of consumers increases, production must grow to meet demand. Urban areas throughout Europe are set to confront the challenge of reindustrialisation, according to Adrian Vickery Hill and Andrew Reynolds. They consider whether this process entails a step backwards or an unprecedented age of urban-focused industry. They identify potential obstacles and benefits of reindustrialisation, and argue that the current focus of regeneration on the service economy misses an important opportunity to bring manufacturing back to the city. The questions remain as to what, where and how this can be achieved.*

Since the 2008 financial crisis, there has been a growing realisation at a political level that reindustrialisation of Europe is necessary and an essential complement to the services sector. Urban areas, as drivers of GDP and hubs of capital accumulation, are at the heart of this challenge. The role of the economy of cities is shifting. They can no longer rely on a single market or the service sector to provide jobs and growth. There is a growing realisation among policy makers that cities need to drive innovation, provide opportunities and be places of production, not just consumption.

Reindustrialisation of urban areas is necessary to complement the service sector for a strong and resilient local economy. In this time of transition, there is much discussion on the topic of reindustrialisation, but it is not clear

where industry can be accommodated. Finally, it is very unclear what will trigger a shift to a new type of industry, rather than a reinvention of the old. Are we moving to the past, or are we entering into a new age of urban focused industry unlike what we've seen before?

## > Challenge

Since the turn of the 20th century, European cities have gradually moved industry, manual jobs, and local industrial production out of urban centres. Industry that was formerly in the heart of cities has moved to the fringes, employment has become more homogenous and services focused, while cities have been converted into centres of linear consumption. Cities have not only grown out but have

grown into former industrial zones - the likes of Canary Wharf, the former industrial canal precinct in Brussels and the port areas along the Maas River in Rotterdam. Mayors and developers have celebrated 'cleaning up' industry by replacing it with housing or offices that are more in tune with our 21st century sensibility for clean, vibrant and public spaces.

Cities need sustainable local industry for various reasons, yet there remains little space for it (Leigh & Hoelzel 2012). As urban centres absorb a large percentage of the world's population, they are also increasingly exposed to irregularities in both climate and economy, and will need to become far more resilient, independent and resourceful. That makes the return of local production, together with its jobs and innovation, essential.

Furthermore, industry has become a political story and cities are going to be the centre of the action. The European Commission defined a challenge in 2012 to grow industry from around 16% to 20% of GDP by 2020 (European Commission 2012), issuing several strategy documents as part of an effort to bring back a strong productive base, increase local jobs, promote import replacement, and increase value and economic activity. The 2015 Circular Economy Package will likely manifest itself at an urban level. Industry 4.0 calls to increase local production and to improve local economic activity will not gain traction in Europe unless cities decide to become motivated. Finally, with interest rates down to zero (or negative as in Switzerland) and jobs remaining alarmingly scarce due to various reasons (such as widening inequality, work off-shoring and conservative spending), economists are urging policy makers to create local jobs and to encourage investors to activate their cash. Reindustrialisation responds to many of these challenges.

### > Opportunity

The current focus of regeneration on the service economy misses a significant opportunity to bring manufacturing back into the city, to have a local economy driven by production and creativity, filling the gap left

with deindustrialisation, providing jobs and apprenticeships to young workers and helping to rebuild communities.

With the advancement of technology and the revaluation of resources, we are entering into a new age of industrialisation, which is more local, quieter and adaptable to specific urban conditions. 3D printing, CNC milling and decentralised resource processing, the emergence of the 'maker' culture - there is a genuine change in attitude at a grass-roots level. Governments are also slowly embracing the circular economy and are valuing waste (for example Barcelona's methane gas production or Copenhagen's incinerators). There are a number of lenses through which this concept can be viewed.

**Technology.** We are now entering a new age of industrial-scale technology. Some have called this the third (or fourth) industrial revolution. Many fairly simple objects that were produced in low-cost production areas can now be manufactured locally with freely accessible technology through 3D printing and other methods. In many cases, the technology needed is much simpler and smaller than it used to be, as 'industrial' and 3D printers are slowly becoming available for home use.

**Resources.** With an increasing common awareness of the faults of linear production (pressing evidence in the recent Paris climate talks), we need to understand how to take advantage of locally produced and consumed resources. This is about circulation of resources based on 21st century technology. Both Amsterdam and Copenhagen have taken this head on and have completed very ambitious reports (Ellen MacArthur Foundation 2015).

**Consumer demand.** The need for on-demand products as well as the desire for better quality have led a number of companies to recently relocate manufacturing back to Europe. Consumers are also demanding much greater personalisation.

**Local social cohesion.** The rise of the social economy and the grassroots development of FabLabs, Hacker Spaces and the maker

movement, as well as the growth of social enterprises and short-circuit economies demonstrate the move towards local production and the power that can be given back to communities that embrace technology. Furthermore, sharing is a vital part of the process and could be an essential way of rephrasing existing forms of currency.

**Politics.** There is increasing pressure to lower unemployment rates across Europe. In the United Kingdom, the 'March of the Markers', advocated by the current national government, has focused on promoting manufacturing jobs in the UK, yet it was focused on big industry and has quickly evaporated. Politics is certainly an essential chaperone for urban re-industrialisation, yet the political process is coming to terms with the role it will play amongst many other competing voices.

**Jobs, employment and local entrepreneurship.** While the use of technology will result in the loss of jobs through mechanisation, many other jobs could be created associated with manual labour and by recovering work that

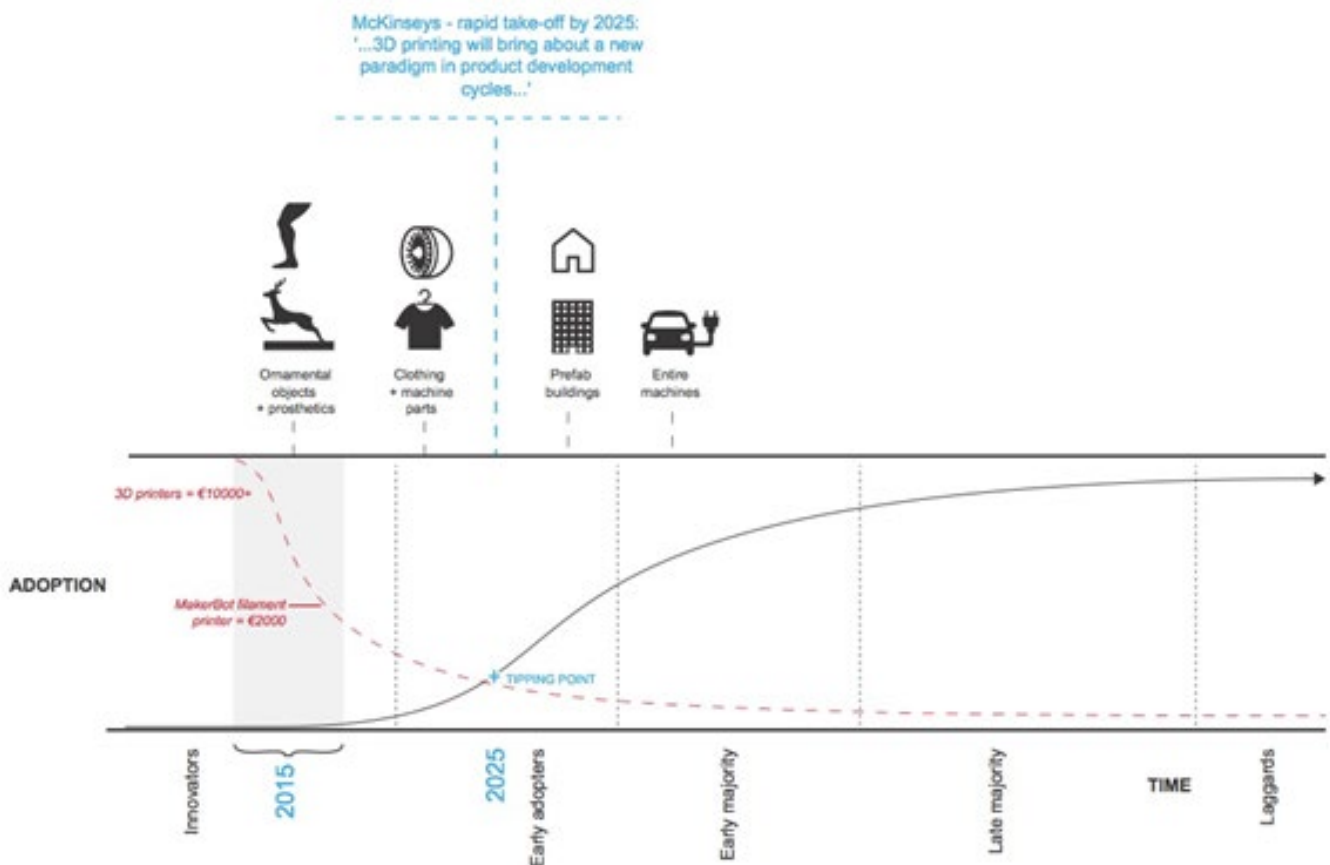
is now exported (in dealing with materials or maintaining technology). If the focus is indeed on jobs, there is likely to be technology that will not be useful (3D printing, for example), while others may be (material sorting and processing organic matter).

> Shortfalls

Urban reindustrialisation risks remaining the subject of political discourse or a cottage industry unless some key scruples are resolved.

> Materials + Technology

While 3D printing has been the subject of much discussion, there remains relatively little use of such technology (or awareness of what it does) by the general public. Likewise, the kinds of products being produced are fairly rudimentary. But 3D printing is just one of many new and well established technologies that could form a buffet of technical opportunities.



Potential growth of 3D printing based on projections by McKinsey & Co (1/2014) - Image: A Hill

Materials, likewise, are quite poorly understood in terms of how they could be reprocessed, and the same applies to the business models behind them. For now, a linear waste style economy is the easiest to handle. By better understanding the volumes of materials and how they could connect to available technology, we could begin to close material flow chains.

### > Spatial and urban dimension

There is a desperate need to know where reindustrialisation will take place. Will it be in existing warehouses and industrial buildings that have not been poached for ‘city renewal’ (such as the London-based Brompton factory)? Will it be in vacant buildings, such as the BlueCity101 in Rotterdam ([www.bluecity010.nl](http://www.bluecity010.nl))? Will it be in underground parking lots or shop fronts; such as the Brussels Beer Project ([www.beerproject.be](http://www.beerproject.be))? There is a fundamental question about not only where it fits spatially but where it is allowed to go legally and how technology can be complementary to other processes going on in urban areas.

### > Governance and action

While innovation is often thought to be best at the hands of private actors, a problem as complex as industry in urban areas can only be handled responsibly by an actor that has an interest both in private profit and in social welfare. The public sector plays a vital role in convening the reindustrialisation process, as it is the only actor charged with a panoramic responsibility for society. Through policy, subsidies and a strong connection to local stakeholders, public actors can foster conditions for change. However, catalysing complex changes, such as reindustrialisation, presents new vexing challenges for public services, as it involves innovation-based knowledge that is not commonly applied.

*“In addition to the public sector’s role in catalysing innovation in the wider economy, there is an urgent need to power innovation within the public sector itself in order to unlock radical productivity improvements and efficiency gains, to foster the creation of more public value and a better response to societal challenges.”*

*(European Union 2013)*

The shift to reindustrialisation is not just about business. It is about jobs, material flows, local entrepreneurship, new land use and action between various stakeholders, including: public services, entrepreneurs, financiers, the research/design sector and local communities. Public services can play an essential role in arbitrating the outcomes of reindustrialisation. However, specific mechanisms for public services-led urban reindustrialisation are being ignored or not mentioned in the EU’s industrial strategy documents, possibly due to the expectation that the private sector should drive innovation. Effective transition strategies must be developed, which place private services and stakeholders at the centre of the discussions, rather than focusing exclusively on technical solutions and business (as usual) models.

### > Summary

There is much momentum, but the shape and form of production in cities remains unclear. There are a number of key points that policy makers, designers, planners and citizens could consider.

Firstly, while extensive research has been done on industry, it remains unclear what materials (particularly waste) and technologies are most relevant to reindustrialisation within the European context, so we aim to clearly describe the state of affairs relating to both.

Secondly, as old industry has been largely pushed out of cities while more amenable new technology is being developed, it remains unclear where industry can be accommodated,

so we will explore various suitable urban typologies.

Finally, future public services relating to a complex topic, such as reindustrialisation, require a new approach, which involves creating the conditions for change rather than either pushing it in a certain direction or leaving it ultimately for the private sector to innovate.

While researchers and numerous practical projects are exploring aspects of these three points, there remains a challenge of how to bring together the bigger picture and how to effectively cultivate change. There also remains a challenge of focusing on one opportunity while impacting another - such as favouring high-tech over jobs or resources. In short, industry has its calling in urban areas, yet there is a question of what, where and most significantly, how.

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