

# START-UP TO SCALE-UP: PHYSICAL SPACE

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# FOREWORD

**Finding a home for their business is one of the most stressful events that a business owner can go through. For many, finding that first property comes with a whole host of additional, often unplanned, expenses. Meanwhile, those who are looking to expand to bigger or to additional premises know all too well the trials and tribulations that may come their way.**

The challenges involved for small businesses with complex models, especially those in manufacturing, are even higher. Not only are the physical spaces important but also other factors – such as humidity control, power supply, transportation links and specialist lighting, to name but a few – often reduce the number of potential properties. Small manufacturers rely more than most on a good-quality, pothole-free, local road network, but FSB research shows that, despite many announcements, the quality locally continues to fall. Gigabit broadband and 5G connectivity finally reached the threshold for being promised on the steps of Downing Street; however, the promised £5 billion of funding has been knocked back beyond the current Spending Review period and has yet to materialise. The downgrade of previously promised connectivity in HS2 and Northern Powerhouse Rail affects freight capacity across the nation that would have been freed up for manufacturers to use.

Added to this, the ever-increasing demand for new residential homes places even greater pressure on sites with good transportation links to be redeveloped into residential housing. This squeezes manufacturing and industry bases further and further away from vital transportation links and results in fewer and fewer possible sites and properties for these types of businesses.



Even when a suitable property has been identified, the costs in securing that new home for the business can mount up. One of the largest and often most complex is understanding the new business rates liability. Manufacturing businesses are more likely to have complex assessments, owing to the nature of the properties used and the amount of rateable plant and machinery. Often this means increased costs, and possibly the loss of previously held reliefs. As a result, a business looking to move to another property to increase productivity, or because its previous home is now marked for residential development, could be facing an annual tax increase of tens of thousands of pounds.

In his Autumn Budget Speech, Chancellor Rishi Sunak credited FSB for our proposals for a new investment relief to encourage businesses to adopt net zero technologies such as solar panels. Business rates until now have provided a perverse disincentive to investing in net zero measures, as the Valuation Office Agency would increase a premises' annual bill – a helpful yearly reminder that the business could have saved money by not tackling carbon emissions. With this absurdity addressed, the principle should be built upon for other areas where small firms invest in good things the Government wants to see, such as ventilation for better, safer, Covid-19-tackling working conditions for employees.

The moment of moving or setting up, however, remains the peak moment for steep and sudden cost increases. Many firms simply do not have the upfront capital to expand their business, leading some to seek financing elsewhere or to write off the possibility altogether.

Without suitable properties for businesses at reasonable prices, we risk these sectors being forced away from their current locations and priced out. This would have a devastating impact on the levelling-up agenda and risks creating a society where the only jobs available are those in towns and city centres.

This is especially pertinent for those areas with a historically strong manufacturing base that have seen this decline in recent decades. We cannot afford to lose what manufacturing industry we still have, and should do all we can to encourage more small, new manufacturers to set up in the UK.

If we are to encourage our manufacturing businesses in the UK to grow and diversify our local economies, then we must provide them with suitable homes to do so.

**Martin McTague,**  
**National Vice Chair Policy and Advocacy, FSB**

# NO ROOM TO GROW

**Manufacturing requires physical space to grow organically, whether that be through expansions in sites or developments in the quality of real estate. Physical space is an issue for both scale-ups and non-scale-up manufacturers who may be deterred from expanding their output or employment if they lack the level of space needed. In some cases, it is Government policies that directly deter productivity-enhancing investments in property. This chapter discusses the issues around access to physical space and the quality of infrastructure.**

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**18% OF SME MANUFACTURERS INDICATED PHYSICAL SPACE IS A BARRIER TO ACHIEVING THEIR GROWTH AMBITIONS**

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This is by no means a majority view, which may be reflective of the limited number of fast-growing scale-up firms within the manufacturing industry. Physical space is important to manufacturing because of the tangible nature of production, which requires room for both machinery and labour to work together. Acquiring new sites is a reliable strategic method of achieving organic growth; it requires significant capital to finance, but when executed allows a business to scale up production and grow its labour force.

Access to space is not always about the total quantity of land available, as many other factors need to be accounted for, such as the surrounding infrastructure, access to power and energy, the conditions of the property, business rates, the availability of labour, and cost. Sometimes it may be something as simple as the ceiling not being high enough to fit large equipment on the premises. All these factors and more influence where manufacturers choose to be based, and where they choose to expand to if they have the means to do so.

Understanding these challenges will be key to achieving the levelling-up agenda in the UK, as manufacturers offer some of the most highly skilled jobs in industry, paying an average wage of more than £34,000 to their workers. Many manufacturers are already based in regions where the Government is seeking to level up, but there is potential for even more growth in these areas. If we are to incentivise manufacturers to set up and grow in locations that stand to benefit the most from levelling up, then we must aim to understand the barriers preventing them from taking that step. A strategy to level up through scale-up would offer a sound basis to achieving the UK's long-term goals.



## What kind of space do we mean?

The needs of physical space differ from firm to firm, with some manufacturers, for example metal products / fabricators, requiring larger sites to fit heavy machinery and needing access to adequate power supply in terms of both gas and electricity to weld and process materials. On the other hand, a manufacturer assembling electronic components or processing smaller products may more easily be able to set up shop in a traditional office base. These two types of manufacturers sit on opposite ends of a spectrum of the type of real estate required to meet their needs. Many manufacturers operate somewhere in between, where facilities need to be set up to operate heavy machinery as well as meet the needs of a traditional office space. And this raises the question whether the types of real estate or land available may be blocking certain industries from setting up more in under-developed locations.

Even if a manufacturer can source a suitable site to expand, and assuming it has the capital to finance that acquisition, not all properties are suitable for operation on day one. For example, manufacturers stress the importance of having access to adequate power supply as their machines generally require more voltage and amps to power different types of equipment. A traditional wall socket may be suitable to power an everyday appliance like a kettle, but not a large machine that specialises in moulding raw materials. A manufacturer can make an additional investment into readying the property to fit its energy needs, but this raises the cost threshold required to make that step towards growth and can result in SME manufacturers avoiding opportunities to scale up.

## Business rates changes from 2023

One of the most common frictions manufacturers face when looking to expand or improve the quality of a site is an increase in business rates. Business rates have historically deterred investments in factory spaces, and for a long while now, Make UK has called for a reform of the system to be more flexible for manufacturers. The Chancellor recently announced some positive developments in the Autumn Budget 2021, such as an increase in the frequency of re-evaluation of rates, from every six years to three years. This will not be an easy task for the Valuation Office Agency to deliver and will likely require an increase in agents available to conduct more evaluations.

Additionally, the Government included a new investment relief, from April 2023, that will exempt businesses investing in green real estate improvements. This is a problem that Make UK has regularly highlighted, as several members have faced barriers to installing new solar panels on their property to avoid the risk of higher business rates. Alongside this is an improvement relief that will exempt increases in business rates by 12 months for businesses that have expanded or improved their property. This is a small step in the right direction, but the list of improvements that are exempt should be expanded over time if we are to reach our green objectives. Manufacturers do not become green through direct investment in green technologies only; they can also reduce their emissions by improving the general quality of machinery by investing to reduce energy usage, increasing efficiencies or managing waste, indirectly also resulting in reducing the climate impact.



## If physical space is fixed, focus on productivity

For an SME, expanding through the acquisition of physical space may be too large a task without the capital and ambition to see it through for the long haul. To scale-up, you may first need to accept a period of slower growth when investing in capital intended for future gains. However, for many SMEs across the UK, physical space is fixed and unchangeable. Instead, manufacturers can upscale through innovation and improvements in productivity, which leads to the question of whether the definition of "scale-up" (which focusses on employment and turnover growth) is too narrow a definition for manufacturing, as firms within the sector can also scale up through expanding productive capacity.

Scale-ups in manufacturing can be seen as multi-dimensional, achieving growth through improvements in technology, processes, firm size and value chains. Before a manufacturer can scale up through greater employment and turnover, it would need to scale up its technology and processes. As a result, the new large company can support the scaling-up of other manufacturers across the supply chain. While physical space is fixed, improvements in productivity are controllable and can support the growth of a manufacturer without increasing its employment or turnover. The steps manufacturers have taken to improve productivity are discussed further in the section 'Productivity, leadership and skills'.



# An example of the multi-dimensional nature of “scale-up” in manufacturing

## 1. TECHNOLOGY DEVELOPMENT SCALE-UP

For innovative technologies, manufacturers face significant technical uncertainties and risks in the process of transforming a laboratory prototype into a product with a demonstrable potential for full-scale production.

## 2. PROCESS / PRODUCTION SCALE-UP

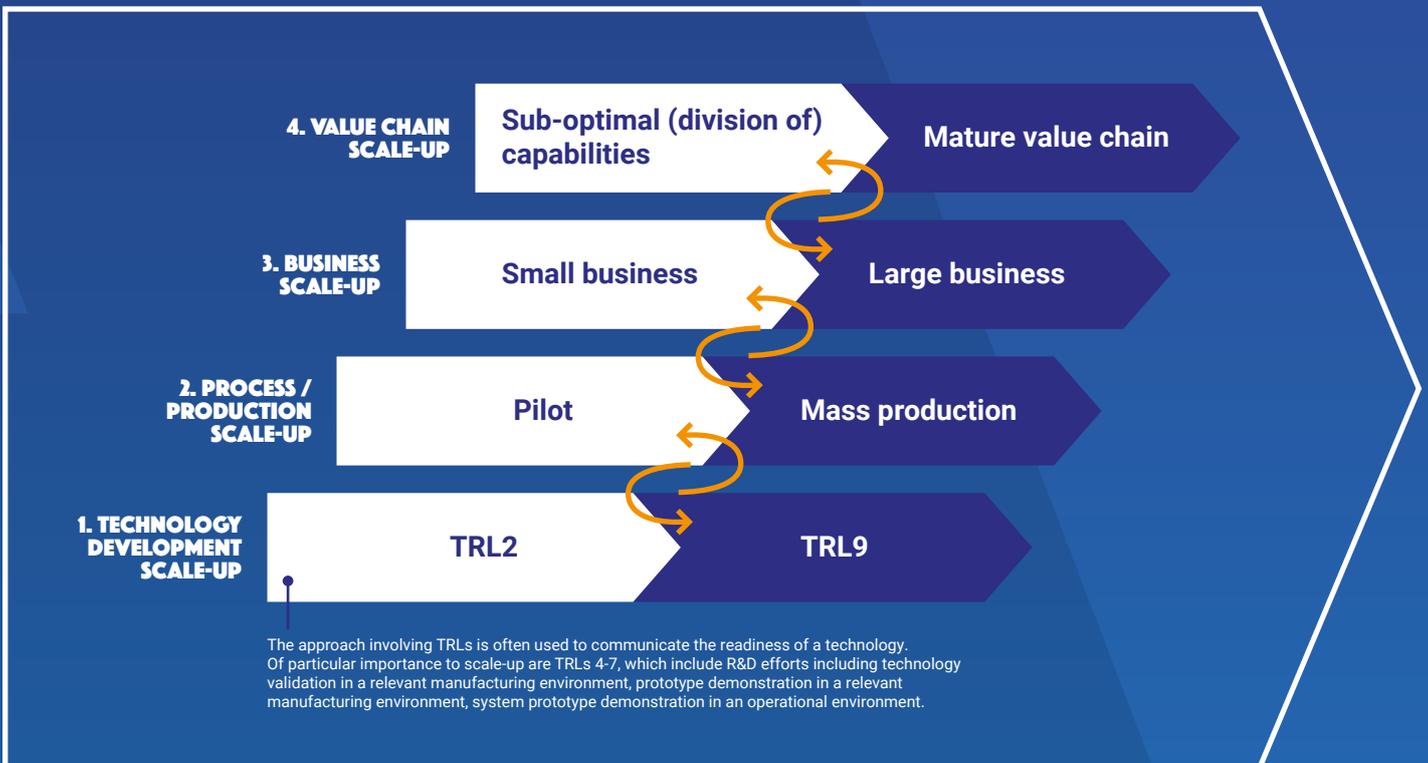
Achieving scaled growth requires a significant R&D effort for novel production or process technologies (e.g., additive manufacturing). Many novel production technologies and processes require demonstration of their functionality, applicability and cost-effectiveness at greater production volumes. Without evidence of the practicality of scaling up production, it becomes unfeasible to scale up the business.

## 3. BUSINESS SCALE-UP

Firms will expand their technical and operational capabilities and their organisational structures when emerging technologies move from prototype to full-scale development and production. This is where the challenge accelerates for many manufacturers who need to expand to meet growing demand (e.g., through hiring skills, building management teams, accessing customers in new markets, finance and working with the infrastructure that is available).

## 4. VALUE CHAIN SCALE-UP

Once emerging technologies are effectively industrialised, it can lead to new value chains. Manufacturing scale-up innovation may require cooperation across an entire industrial value chain, with suppliers of inputs and equipment / tool vendors needing to synchronise their innovation efforts, engaging closely with end users. According to the Institute for Manufacturing (IfM), there could be a significant role to be played by linkage programmes, institutions and diffusion mechanisms (e.g., intermediate R&D institutes, technology diffusion organisations and technology roadmaps).



Source: "An international review of emerging manufacturing R&D priorities and policies for the next production revolution", in The Next Production Revolution: Implications for Governments and Business (Paris: OECD Publishing, 2017) ([https://www.oecd-ilibrary.org/science-and-technology/the-next-production-revolution/an-international-review-of-emerging-manufacturing-r-and-d-priorities-and-policies-for-the-next-production-revolution\\_9789264271036-14-en](https://www.oecd-ilibrary.org/science-and-technology/the-next-production-revolution/an-international-review-of-emerging-manufacturing-r-and-d-priorities-and-policies-for-the-next-production-revolution_9789264271036-14-en))

# CONTRACTS ENGINEERING LTD WORKS WITH FANUC UK AND CYBERWELD ON ITS FIRST ROBOT WELDER



**Contracts Engineering Ltd (CEL) is an SME sheet metal volume and fabrication manufacturer based in Sittingbourne, Kent, UK, which focusses exclusively on manufacturing other companies' products. It performs all fabrication in-house using modern CNC machines and welding capabilities to meet the needs of other manufacturers, specialising in light infrastructure, street furniture, construction, design installations and hard landscaping equipment.**

In late 2019, CEL saw a significant increase in demand for its goods and services. To meet this new demand, CEL sought to implement its first automated welder, the FANUC ARC Mate 100i/8L. Coupled with a conscious effort to engage with employees, CEL saw significant gains in productivity.

A key element to creating the incentive for this step change in production was a core customer increasing its orders from CEL, enabling the SME to justify automation to scale production. But this investment also enables CEL to stay ahead of changing market trends favouring automated welding more and more.

The adoption of technology is a critical ingredient for achieving scale-up growth within the SME manufacturing community. When executed successfully, manufacturers can grow at scale through improvements in production where space and labour may be fixed. For SMEs like CEL, which is taking this step for the first time, having the capital available to finance this investment is only part of the challenge. The other parts include engagement with staff and having access to the expertise and knowledge needed to integrate that technology into the business.

While in this case CEL had that support, it is not the case for all SMEs, and this presents a significant barrier to manufacturers who may have the capital available to adopt new technologies but are not aware of how to access support, if any exists, to overcome those barriers. Thanks to the successful implementation of an automated welder, productivity more than doubled, with weld time cut by as much as 60-70%, depending on the various welded assemblies being processed.



## Logistics and the surrounding infrastructure matter too

Just as important to the suitability of real estate for different manufacturers is the infrastructure surrounding a location, such as roads and access for logistics and heavy goods vehicles (HGVs), which can be a greater problem for manufacturers based in urban areas. Manufacturers rely as much on their own ability to produce goods efficiently as they do on the logistics industry to transport goods within and outside the UK as efficiently as possible. The bounce-back that has followed the pandemic has noticeably exposed issues within the logistics industry, which have already been boiling for many years, from a shortage of drivers to an insufficient number of lorries and vans being produced, thanks to scarce resources within the automotive subsector.

Just like having access to power, manufacturers base their location choices on access to roads, and the ease with which delivery vehicles, including HGVs, can access sites. This is critical mainly for the reason of unloading and loading products and materials off of and on to vehicles. This can be less of a challenge for manufacturers producing goods in small batches, but its main purpose is to maximise speed and efficiency of the movement of goods within and across borders.

Optimising the efficiency at which logistics operates will not only support manufacturers to grow and scale up but will also help the UK move towards its net zero goals. In London, Transport for London (TfL) estimates that almost 25% of road transport carbon emissions come from goods vehicles alone. Without access to freight and room for vehicles to move more freely on the road, and access to different sites across the country, the manufacturing sector would certainly descale at a much faster rate. Reducing the barriers logistic vehicles face when moving from any point A to any point B, as well as increasing the rate of electrification of vehicles, could materially reduce the industry's impact on the climate and the environment.

Since the pandemic, the needs of consumers and businesses have changed dramatically in terms of access to transport and roads. With more people working from home and an increased adoption of online shopping, there are expectations that over time UK roads may see fewer passenger vehicles and more HGVs. To ensure that HGVs do not clog up our roads and are able to move freely so that consumers are able to access their needs more digitally, it is important to start thinking about vehicle priorities in the UK. In a similar way as buses and taxis have access to priority lanes in London, delivery vans could benefit from priority access on some roads to allow the movement of goods and services to flow more freely, leading to benefits to UK SME manufacturers too. The Centre for London is currently looking at this idea of "working vehicles" specifically for London, and any practical outcomes should be considered for wider application across the UK as manufacturers rely on access to freight in all parts of the UK.

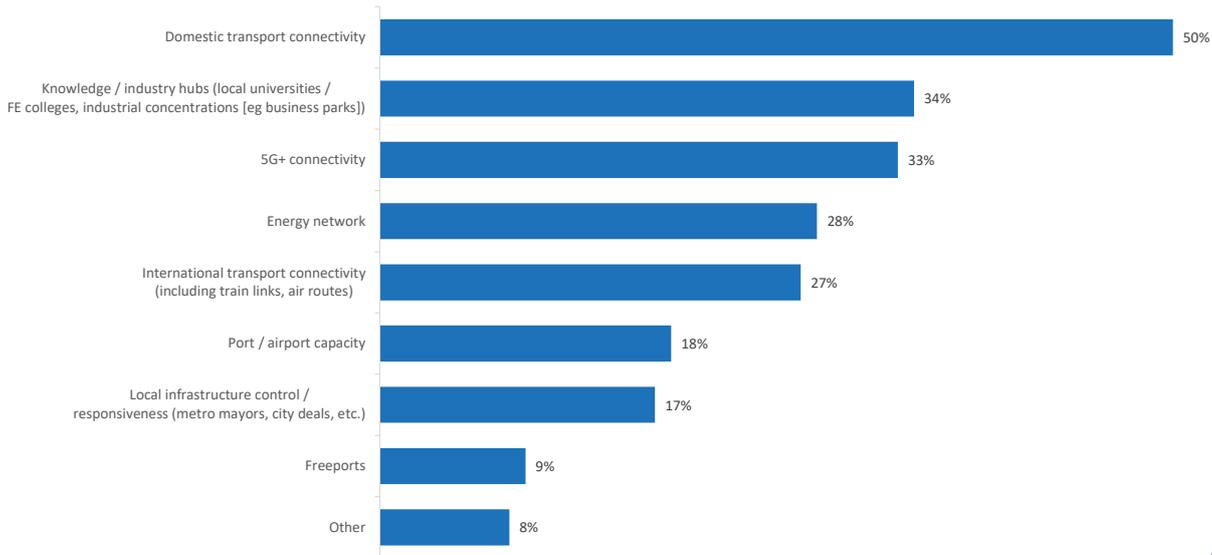
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**50% OF SME MANUFACTURERS SAY GOVERNMENT INVESTMENT IN DOMESTIC TRANSPORT CONNECTIVITY (ROADS, TRAINS, AIRPORTS) SHOULD BE A PRIORITY**

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**Chart 9: Infrastructure priorities for SMEs and scale-ups**



Source: Make UK Start-up to Scale-up survey 2021

After this, priorities include investment in knowledge or industry hubs, such as business parks that allow manufacturers to benefit from local network effects, as well as increased access to logistics. A third of SME manufacturers also believe 5G connectivity should be a priority. As manufacturers become more digital, the online infrastructure should be just as important as the physical infrastructure.

A total of 28% of SME manufacturers highlighted investment in the energy network as critical to creating an ideal environment for growth. With the current energy crisis that has pushed gas prices up to record levels, energy-intensive sectors like manufacturing face a challenging road ahead as they recover from the pandemic. For manufacturing, investment in energy cannot be ignored if we are to support our SMEs to become scale-ups. However, we must ensure that we do not compromise on our climate change objectives either, which manufacturers also consider to be a priority today. This includes accelerating our investment in renewable infrastructure, hydrogen and other clean energy sources so manufacturers can scale up without exponentially increasing their negative impact on the environment.

## Scale-ups and modest-growth firms prioritise digital infrastructure over physical

Breaking down the data to focus specifically on modest-growth and scale-up manufacturers indicates a slight difference in preferences for infrastructure priorities. Half of SME manufacturers (50% based on employment growth and 45% based on turnover growth) believe investment in 5G connectivity should be a Government priority to enable UK SME manufacturers to scale up. However, whether we use employment or turnover as the criteria for defining scale-ups, investment in domestic transport still ranks high on priorities (second) for fast-growing firms.



Make UK is backing manufacturing – helping our sector to engineer a digital, global and green future. From the First Industrial Revolution to the emergence of the Fourth, the manufacturing sector has been the UK’s economic engine and the world’s workshop. The 20,000 manufacturers we represent have created the new technologies of today and are designing the innovations of tomorrow. By investing in their people, they continue to compete on a global stage, providing the solutions to the world’s biggest challenges. Together, manufacturing is changing, adapting and transforming to meet the future needs of the UK economy. A forward-thinking, bold and versatile sector, manufacturers are engineering their own future.

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For more information, please contact:

**Fhaheen Khan**  
Senior Economist  
Make UK  
[Fkhan@MakeUK.org](mailto:Fkhan@MakeUK.org)

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