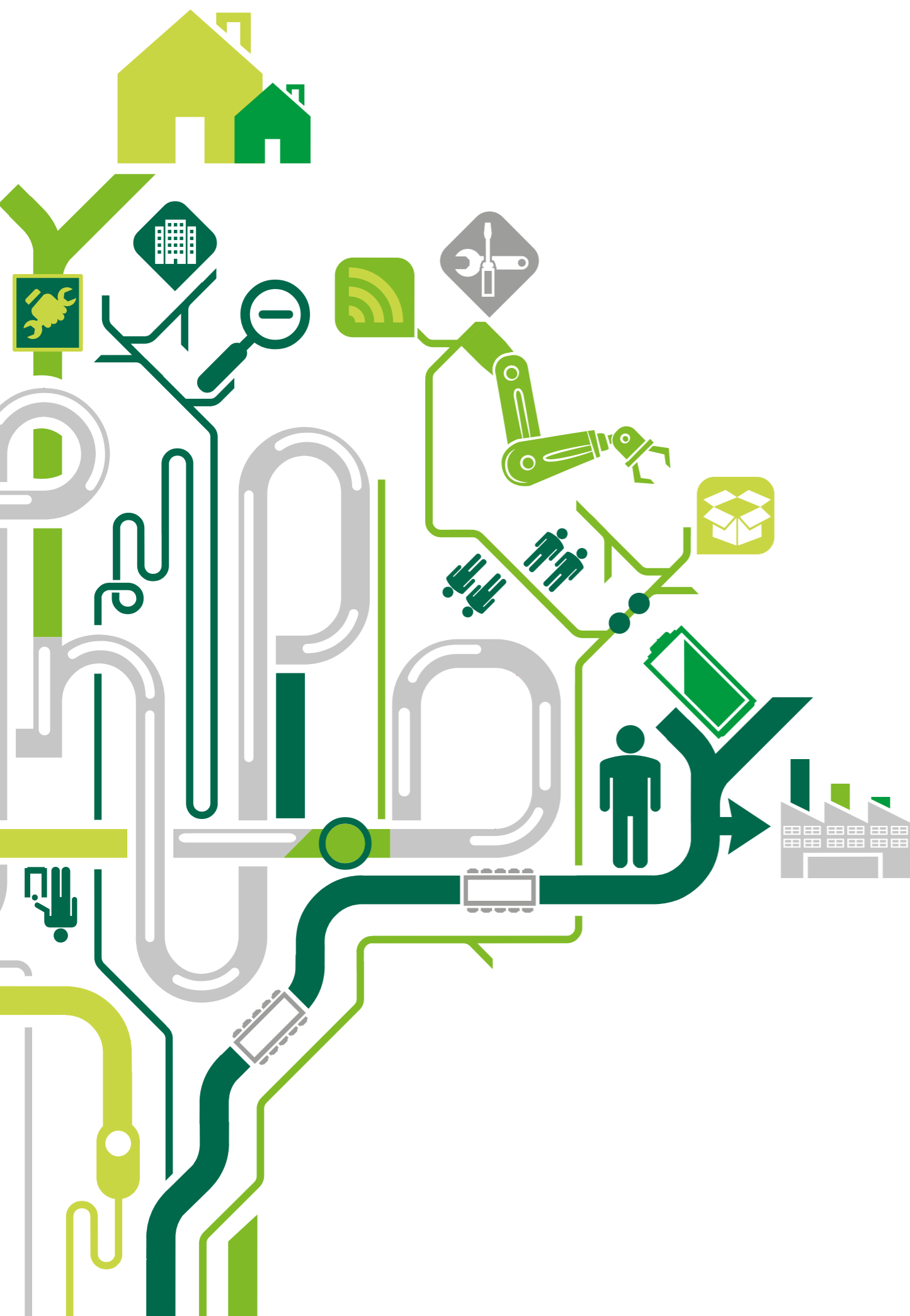


TECHNOLOGY:
**THE INDUSTRIAL
REAL ESTATE
GAME CHANGER**



INTRODUCTION

The impact of new technologies on global supply chains can hardly be overstated. The possibilities of mobile devices and apps seem endless and have made old business models obsolete. Increasing competitive pressures and the need to deliver first-class customer service, to both retain and win business, is leading to an acute need for innovation among manufacturers, retailers and third-party logistics service providers (3PL). The resulting changes in supply chains will have a strong impact on industrial real estate.

Although cyclical changes in the property markets appear to be increasingly intersecting with technological shifts, it is not yet understood precisely how new technologies are impacting market dynamics and site selection processes for industrial property. As the industrial markets in Europe have been improving strongly, desired product is becoming increasingly scarce. The need for new construction is growing and for occupiers, investors and developers alike, it is paramount to understand the impact of technological change on property requirements.

CBRE's annual Industrial and Logistics conference, 'The Power of Three', held in Paris in April this year, sought to identify the technological game changers for industrial property markets. Expert opinions from a forum of influential global speakers, guests and business leaders resulted in the identification of a number of key trends that are expected to produce shifts in the location of production and distribution facilities, and in the specification and role of buildings.

Real estate markets are affected by a number of longer-term structural shifts or megatrends. At CBRE we have identified three: technology, globalisation and demographics. In focussing on the impact of technology on industrial occupiers' real estate decisions, this paper forms part of CBRE's evolving programme of fundamental research into the long-term impacts of these three megatrends on real estate markets.

The poll results shown in this report were collected during CBRE's annual Power of Three conference. These reflect the views of 200 occupier, investor and developer sector delegates, as well as 100 CBRE attendees. Not all poll questions were answered by the same respondents each time nor by the same number of respondents each time.

DRIVERS OF INNOVATION

Technological innovation is mostly driven by commercial needs and competitive pressures in the market place. In particular, the evolution of e-commerce and online retailing stands out as a major disruptive factor. The Power of Three poll results show that this is expected to have the greatest impact on logistics occupier decisions in the near future. However, the need to satisfy customer requirements and the ability to execute a swift and flawless order fulfilment and a speedy delivery are also very important.

Which technology is likely to have the greatest impact on logistics occupier decisions in the next three years?

“Innovation is key. Our customers are constantly looking for new solutions. They are demanding re-engineering, they are thinking about outsourcing, about re-internalising their processes. As a 3PL we always need to be innovating to provide them with new solutions.”

*Christophe Hamon,
Real Estate Director – ID Logistics*

5%
3D printing

5%
Warehouse handling

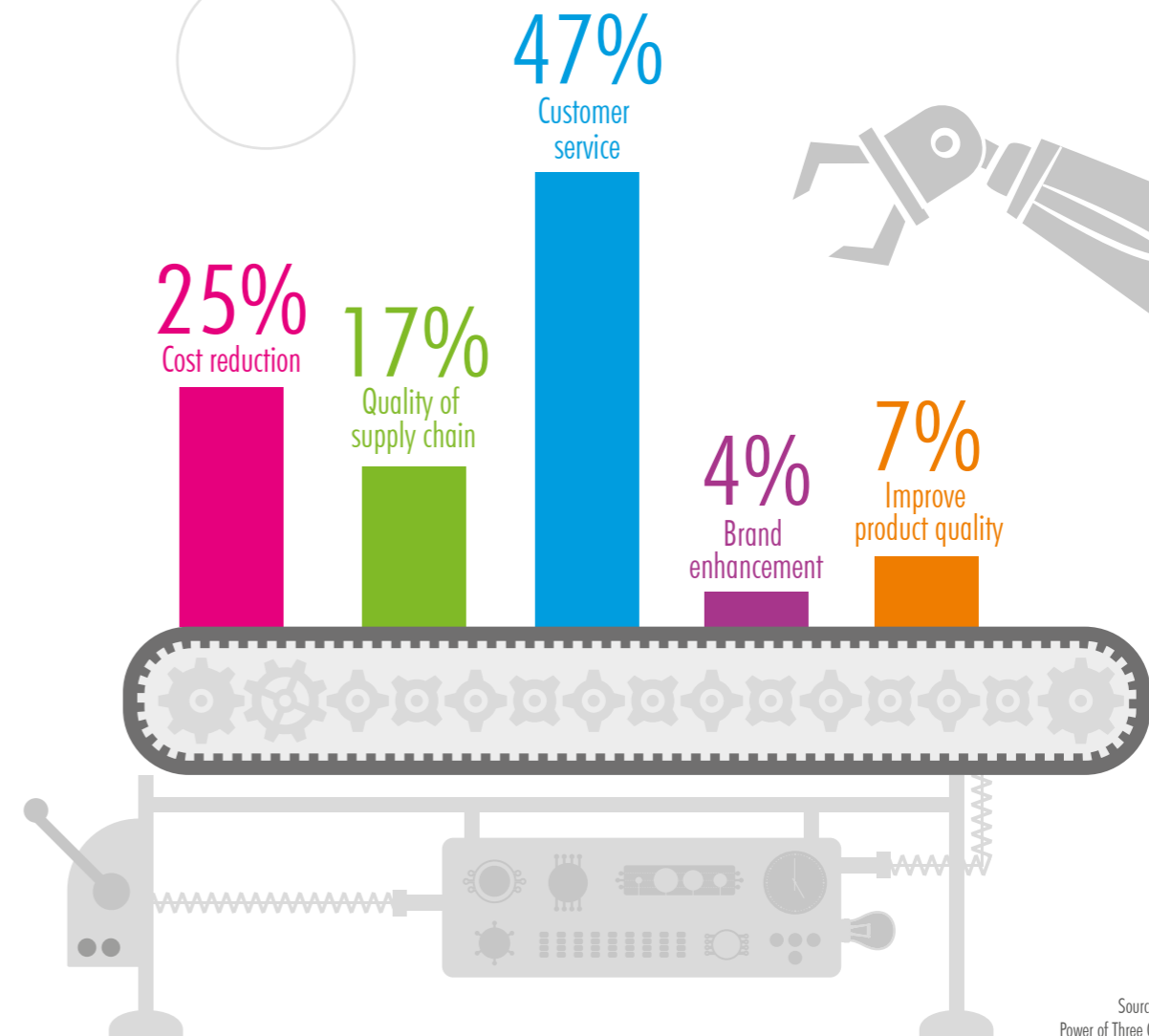
7%
Customer demands for speed of delivery

50%
E-commerce and retail online

33%
Internet of things

Source: CBRE Audience Poll, Power of Three Conference, April 2015

In your view, what is the key driver for **innovation impacting manufacturing and production**?



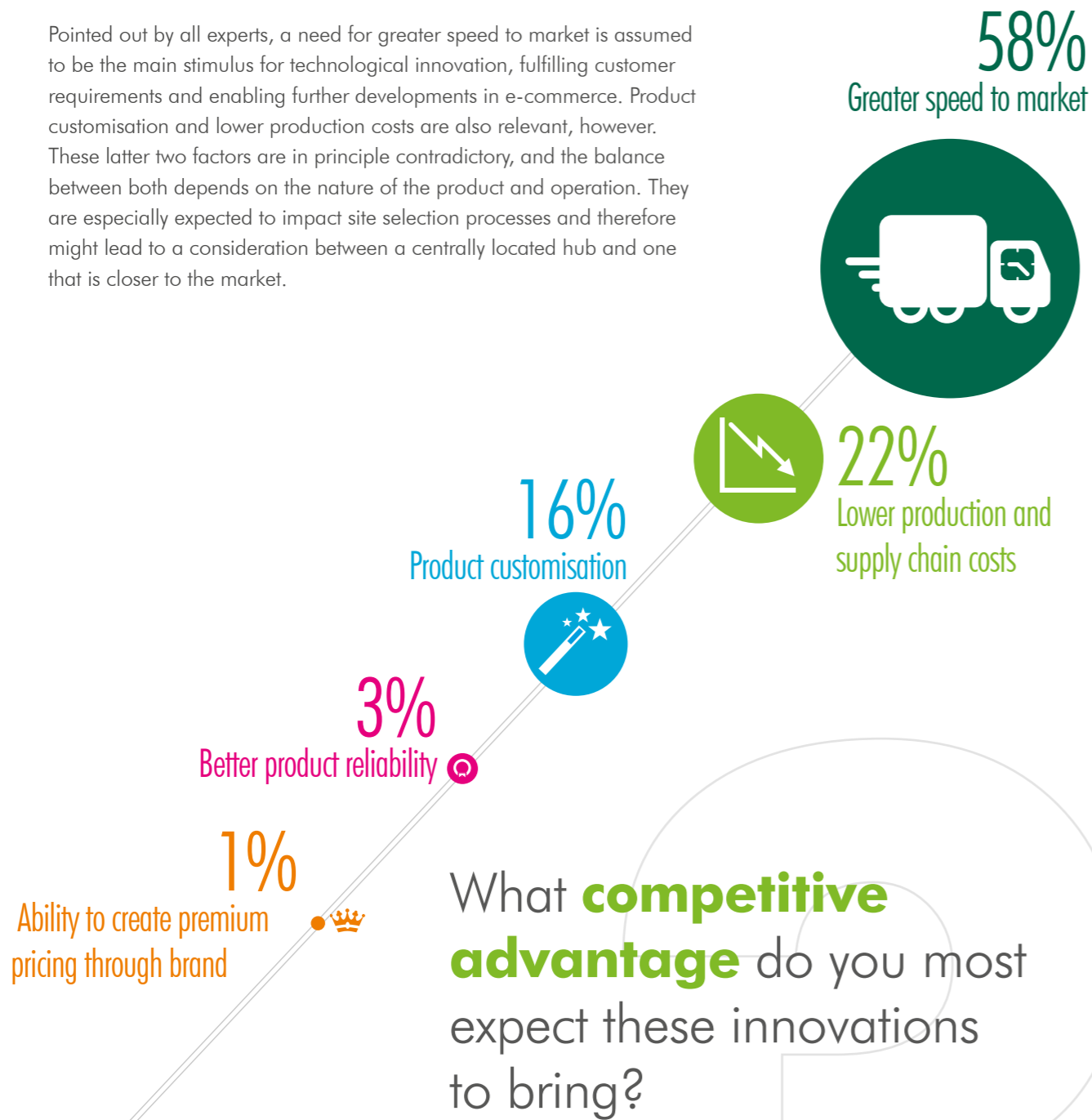
Source: CBRE Audience Poll, Power of Three Conference, April 2015

“Product, cash and information make up the supply chain. Cash and information have both been digitised...the slowest part of the supply chain is the product. Speed of product is becoming a game changer in the way people can access products and get a hold of them. But also the amount of customisation that people desire now is far greater than has ever been the case previously.”

*Mark Parsons,
Chief Customer Officer, UK & Ireland - DHL Supply Chain Ltd*

DRIVERS OF INNOVATION

Pointed out by all experts, a need for greater speed to market is assumed to be the main stimulus for technological innovation, fulfilling customer requirements and enabling further developments in e-commerce. Product customisation and lower production costs are also relevant, however. These latter two factors are in principle contradictory, and the balance between both depends on the nature of the product and operation. They are especially expected to impact site selection processes and therefore might lead to a consideration between a centrally located hub and one that is closer to the market.



Source: CBRE Audience Poll, Power of Three Conference, April 2015

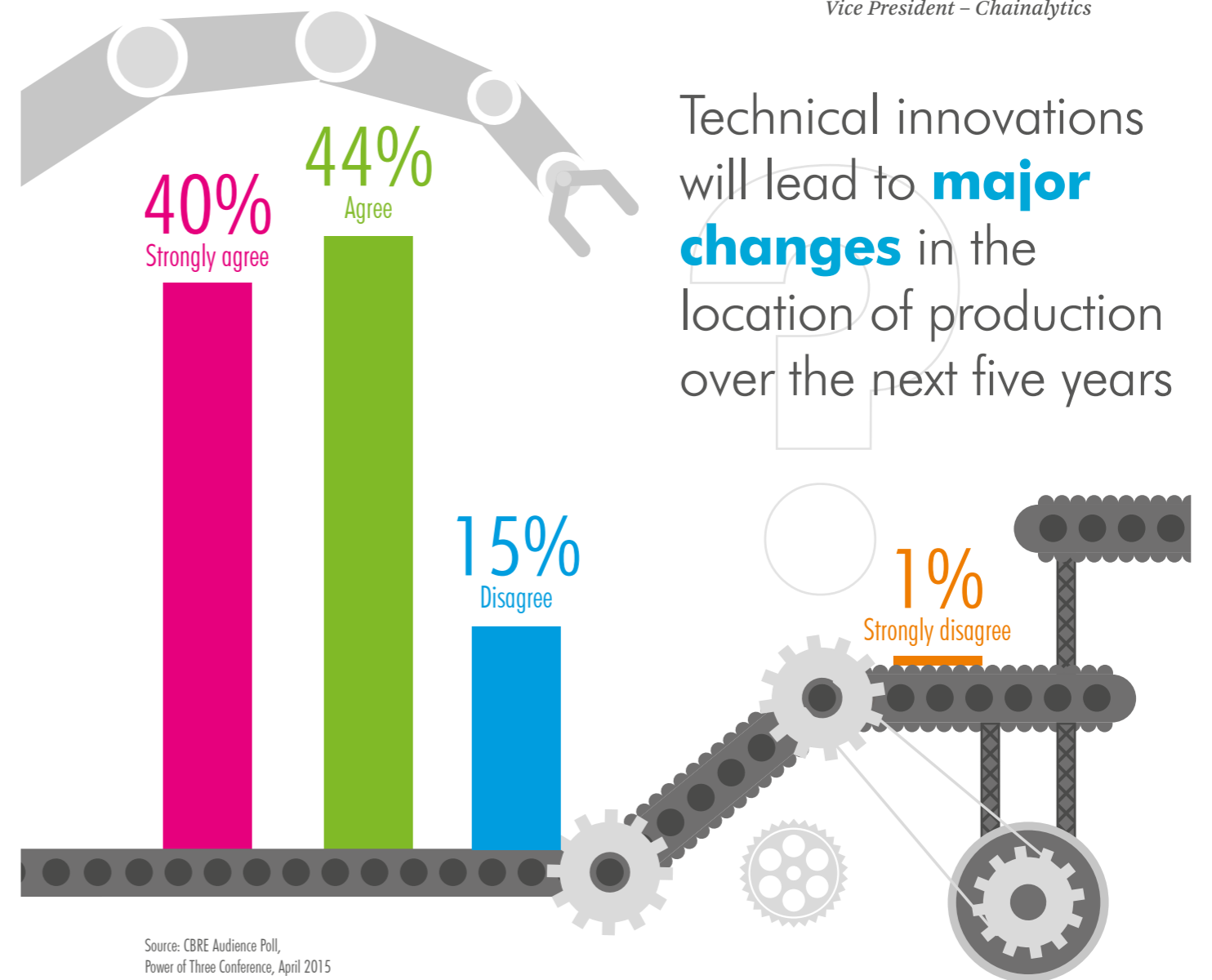
LOCATION CHOICE

Economies of scale are a very important factor in the site selection process of industrial occupiers. Nonetheless, an amplified focus on customer service and the need for a greater speed to market are expected to result in an increased need for distribution sites, or manufacturing plants, closer to the final customer.

On the other hand, operational costs remain a crucial factor, and a trade-off exists between labour and occupancy costs versus transport times and costs. Also, cloud computing, while not replacing physical storage, can supplement it and allow more remote locations to serve multiple markets in one go.

“For manufacturing...one advantage to [locating in] a low cost area is that they don't have to have so much automation. Cheap labour is very flexible and can change quickly. This creates distribution problems, so they have to have smaller facilities closer to the people.”

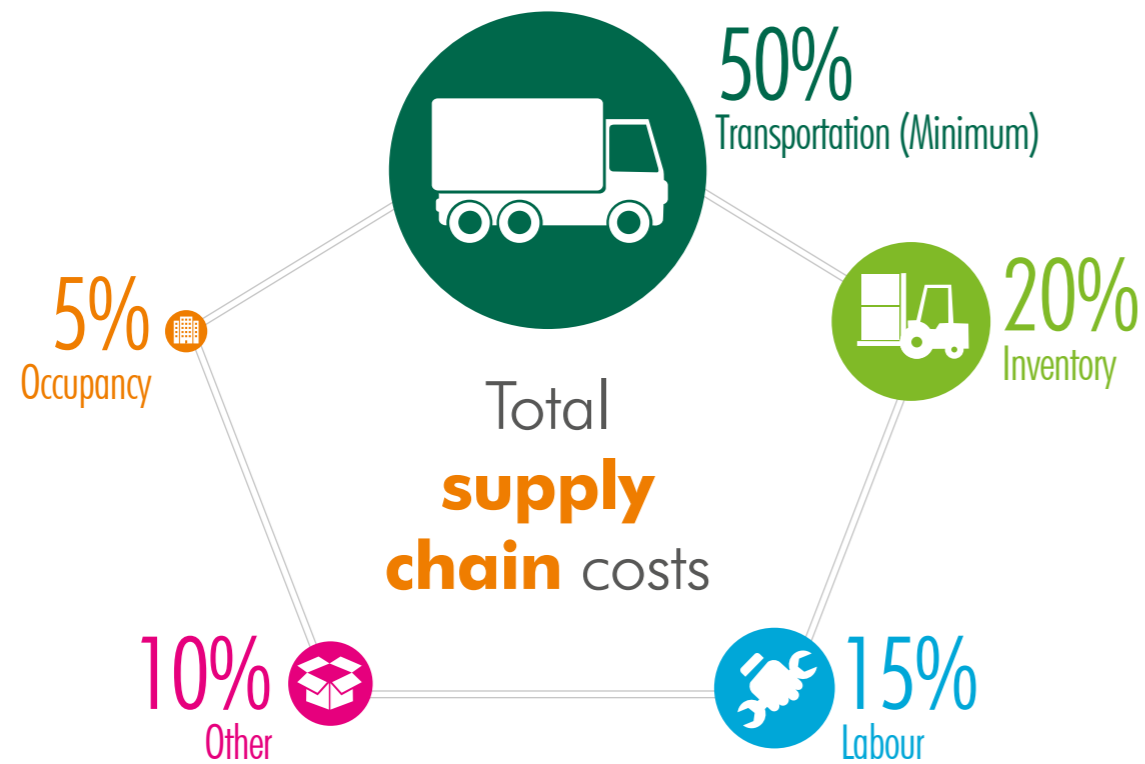
Gary Girotti, Global Executive, Vice President – Chainalytics



Source: CBRE Audience Poll, Power of Three Conference, April 2015

LOCATION CHOICE

It seems, therefore, that the drive for further network optimisation by industrial occupiers will lead to an increasing tension between concentration and dispersion.



Source: CBRE Audience Poll, Power of Three Conference, April 2015

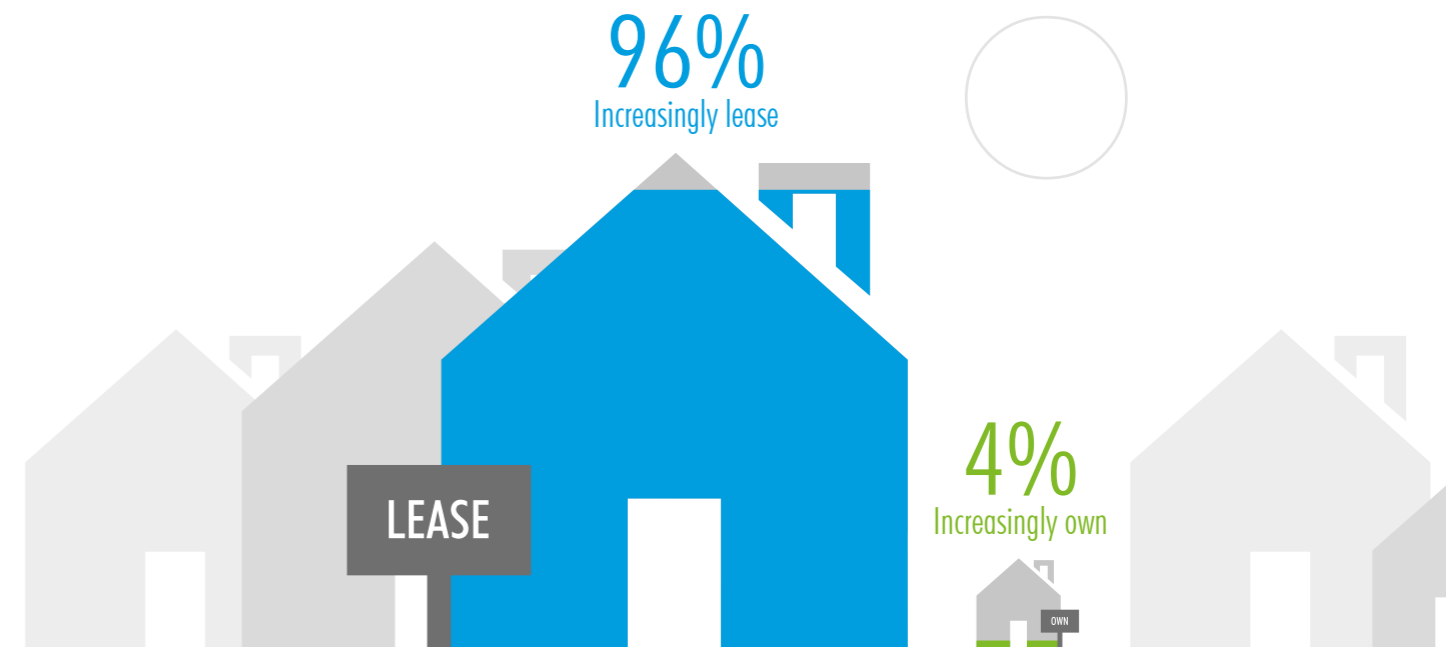
The diagram below shows the different types of product needed for the new supply chain and the short delivery promises.



OCCUPANCY AND DEVELOPMENT

Network optimisation and operational flexibility are increasingly important for industrial occupiers and virtually all experts expect that this will increase their tendency to lease rather than own property. It makes a strong difference in this respect, however, whether an operation is labour intensive – and thus relatively easy to move, or heavily dependent on capital goods – and thus more bound to the site.

In relation to property portfolios, in the future will **occupiers prefer to own or lease?**



Source: CBRE Audience Poll, Power of Three Conference, April 2015

“The implication of innovation for future operational property needs will include integrated systems, network optimisation capabilities, access to multiple modes of transportation and [access to] emerging markets”

*David Stephenson,
Global Storage & Industrial Real Estate Lead – Cargill*

OCCUPANCY AND DEVELOPMENT

There is no clear consensus on the impact of technological change on the amount of buildings that industrial occupiers need in the future. This is partly due to the twin effects of the need for large-scale central hubs as well as smaller-scaled urban parcel facilities.

In relation to property portfolios, in the future will occupiers need **more or less buildings?**



Source: CBRE Audience Poll, Power of Three Conference, April 2015

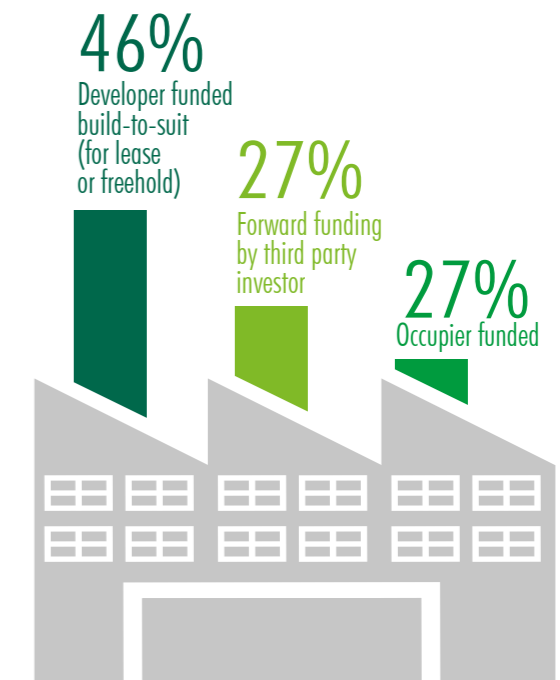
In any case, all experts agree that specialised developers have an important role to play in the delivery of new properties that are able to meet future occupier requirements. The most efficient route for delivery of new manufacturing buildings is found to be development-funded, but occupiers might also develop space themselves using their own capital. The extent to which an operation has to be facilitated with investment in capital goods is an important factor in this perspective.

“For big boxes we will secure sites and build ourselves. Internally we have a very sophisticated design and project management functionality for that type of facility. From a purely financial perspective it makes no sense to pay a third party investor to provide us with space, particularly if that space is going to require significant investment in equipment”

Neil Hildreth, Director,
Real Estate EMEA- Johnson & Johnson

What is the most efficient route for delivery of new **manufacturing buildings?**

Manufacturing buildings
The most efficient route for delivery of new manufacturing buildings appears to be development-funded, but occupiers might also take care of this themselves.



What is the most efficient route for delivery of new **logistics buildings?**

The most efficient route for delivery of new logistics buildings is believed to be developer-funded too, while occupier-funded buildings hardly seem to be an option here, as customisation and capital goods investment are required less.



Source: CBRE Audience Poll, Power of Three Conference, April 2015

SPOTLIGHT ON DHL

Changing operational real estate requirement

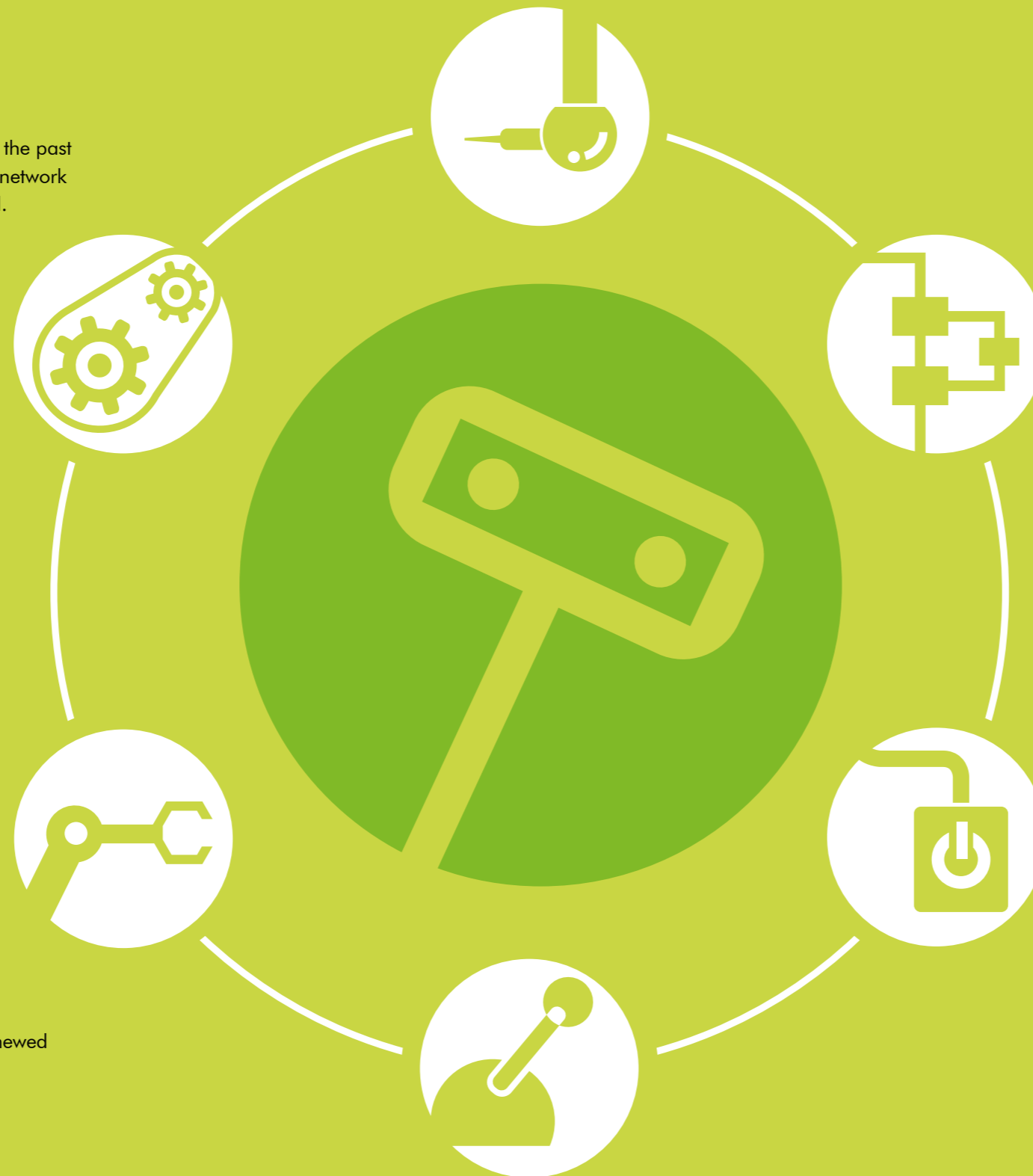
Anticipating the rapid growth in ecommerce, over the past three to four years DHL has invested heavily in its network to keep up with rising delivery and return demand.

Two major classes of property

DHL recognises the growing trend for major fulfilment centres which are highly automated, need fewer people and house sophisticated processes. To cover the last mile, it has seen an emergence of parcel delivery centres close to major urban populations. This allows the logistics leader to deliver a better customer experience by providing consumers with what they want, where they want it and when they want it, at the lowest possible price.

Capital Markets are beginning to respond to requirements

After the 2008 crash, the institutions were understandably more risk adverse and reluctant to invest in property. However DHL spotted an opportunity and, identifying a gap in its portfolio, invested significantly in German real estate, anticipating customer demand for local parcel hubs. Using its own capital, the company created over 120 parcel centres, resulting in a portfolio fit for purpose which recognises the requirement for different classes of property. By investing in its network for the future, including substantial sums in automation, DHL is providing investors and developers with renewed confidence to follow suit.



OUTLOOK

With customer service and a greater speed to market as the main driving forces behind supply chain innovation, industrial occupiers are keen to implement new technologies for the enhancement of their operations. It should be pointed out that IT innovation is a costly process and not always easily implemented. In fact, some occupiers stated that IT upgrades are in fact slowing down their desired supply chain adaptations, mainly because of the need to adapt or integrate legacy processes or systems.

The consequences of technological innovation for site-selection processes are not uniform. In fact, it seems that an increasing dichotomy is emerging between centralised hubs and smaller-scaled facilities closer to the cities. Whereas capital-intensive operations are expected to opt for economies of scale and more centralised and consolidated locations, labour-intensive operations, such as 3PL warehouses, will increasingly aim for locations closer to the customer. In the long run, however, a further automation of warehouse operations might disrupt this pattern again. In fact, a further future can be envisaged when 3PLs could have 3D printing goods in their facilities, thus optimising the delivery times and making production plants partly obsolete.

As a result, the industrial property markets are likely to be increasingly facing shortages around the big cities and the major logistics hubs. Simultaneously, obsolete property at locations that fit neither category – and are often located at a relatively short distance – might lead to vacancy and value decline. To be able to optimally manoeuvre in this new market environment it is paramount to integrate location choice processes and property selection with the overall supply chain overhaul. With technology changing rapidly, this will in turn lead to an ever-growing need to anticipate the impact of such changes on both customer needs and building requirements.

KEY CONTACTS

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