

# Resilient Supply Chains

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A thought leadership paper by Leidos UK, examining lessons learned during the Covid19 pandemic and discussing how supply chains can become more flexible, building in resilient but adaptable systems and processes as an integral part of their logistics operations.

**IN PARTNERSHIP WITH PROFESSOR RICHARD WILDING OBE  
AND DR MALCOLM WHEATLEY**



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About the Authors

Foreword

## **Resilient Supply Chains**

- ▶ Resilience and agility
- ▶ Supply chain resilience
- ▶ The bi-modal supply chain and Supply Chain 4.0
- ▶ Leveraging the Leidos supply chain integration platform



**Professor Richard Wilding OBE** is recognised globally for his thought leadership in Logistics & Supply Chain Management.

Richard is a highly acclaimed presenter, regularly speaks at Industrial Conferences and has undertaken lecture tours of Europe and Asia at the invitation of local Universities and Confederations

of Industry. He is passionate about taking and creating academic knowledge that creates ACTION in business.

As a professor at Cranfield School of Management his goal is to challenge and inspire supply chain and business leaders to innovate. In 2019, Richard was awarded a National Teaching Fellowship in recognition of his outstanding impact on student outcomes and the teaching profession within U.K.



**Dr Malcolm Wheatley MA MBA PhD** is a professional writer and editor specialising in the areas of supply chain management, procurement, and manufacturing.

A former management consultant, Malcolm has line management industrial experience of warehousing and distribution, procurement, and production planning. He is a Visiting Fellow at Cranfield University School of Management.

Large-scale national and regional crises occur, however much governments might wish that they wouldn't. Natural disasters, for instance, such as floods, hurricanes, fires, or earthquakes. Terrorist incidents, civil unrest, or security alerts. And pandemics—think foot-and-mouth disease, and Covid-19.

In the midst of a crisis, government and its departments need trusted partners with the global expertise to step into the breach at short notice. The support we offered to the Ministry of Defence (MOD) during Covid-19 showed that Leidos was able to respond flexibly and resiliently in an often fast-changing situation.

The Leidos Supply Chain Integration Portal delivered 'one version of the truth' for the MOD, with every stakeholder seeing exactly the same data. It's constantly updated, providing total visibility in near real-time.

The logistics industry is certainly going to change after Covid-19, greater collaboration is needed and a recognition that supply chain resilience is a strategic requirement. It's too late to build supply chain resilience when you're in the midst of dealing with a crisis.

Covid-19 has shown that government needs a strategic partner with experience of solving the world's most difficult problems – an area where Leidos excels!

**DARRELL WILLIAMS**

*Vice President and  
Managing Director  
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When crises occur, there's often a need for different government agencies and departments to work together to achieve complex and challenging logistics objectives. The emergency services working with the military, for instance. Government departments working with the police and other agencies. And—as with Covid-19—different branches of the military working with each other, and with the National Health Service (NHS).

Within the military, there's a term for this: MACA, short for 'military aid to civil authorities'. And when a MACA request is made to the military, it means that someone somewhere has identified that a problem can best be resolved by calling on the skills, equipment, capabilities, and personnel of one—or all—of the military's three armed services.

Sometimes, the need is tight and focused. In August 2019, for instance, an RAF Chinook helicopter from RAF Odiham was engaged to drop hundreds of tonnes of aggregate to shore up the dam at Toddbrook Reservoir, located above the Derbyshire town of Whaley Bridge. Similarly, over 140 Army personnel assisted civil authorities in responding to the extensive flooding in West Yorkshire following Storm Dennis in February 2020.

Sometimes, though, the need is broad and extensive. During the 2012 London Olympic and Paralympic Games, for instance, over 13,000 service personnel were deployed to assist, as well as a number of military assets including Royal Navy warships and RAF fighter jets. Another example: managing the disposal of infected cattle during the nationwide Foot and Mouth epidemic of 2001.

Few examples of MACA, however, are quite as extensive as the military's response to the Covid-19 pandemic which swept across the UK in early 2020. On 18 March 2020—just days away from the national lockdown that was put in place on 23 March—the Defence Secretary announced the creation of a COVID Support Force to assist public services with their response to the coronavirus outbreak.

Some 20,000 armed forces personnel were stood at readiness, with up to 4,000 troops committed on any given day: delivering PPE, manning mobile testing units, analysing samples, helping to build ventilators, constructing Nightingale hospitals, delivering testing kits, driving emergency response vehicles, and flying in urgent supplies of PPE and other materials from faraway countries, safely delivering them to RAF Brize Norton.

Between 22 February and 8 May, UK armed forces personnel helped to deliver over 1.18 billion items of PPE to NHS staff on the frontlines of

hospitals, care homes, and clinics across England—including 158 million masks, 184 million aprons, 2.3 million gowns and 689 million gloves. Tens of millions more PPE items were also been delivered to NHS trusts and organisations across the rest of the United Kingdom.

But the military's role during the Covid-19 pandemic was notable for another reason. For on this occasion, it did more than volunteer its manpower and equipment: critically, it also volunteered its supply chains,



procurement personnel, and logisticians. Within days, the Defence Fulfilment Centre, based at MOD Donnington, was pressed into service—despatching ventilators to NHS hospitals, receiving and holding many more ventilators in inventory to be deployed as required, and distributing critical medical equipment such as oxygen concentrators and humidifiers to NHS trusts.

Key to those efforts: Leidos, the prime contractor on the Ministry of Defence's Logistics Commodities & Services Transformation (LCST) Programme, a 13-year, £6.7bn contract to both manage and transform the UK's defence supply chain. The LCST programme provides essential services such as storage and distribution for the Ministry of Defence's military materiel, including a global freight service, and the procurement

and inventory management of 70,000 commodity NATO Stock Numbers. Using cutting edge procurement techniques, Leidos personnel lead the effort to procure everything from food rations to boots, delivering them exactly where they need to be, at the right price and at the right time—all while generating hundreds of millions of pounds worth of savings for the UK government and taxpayers.

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It's critical that organisations understand their capabilities, and how their skills, processes, infrastructure and information systems can leverage those capabilities. Likewise, it's important to understand the limits of those capabilities—or those skills, processes, infrastructure and information systems—so as to partner with organisations with complementary abilities and strengths.

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RICHARD WILDING OBE, PROFESSOR OF SUPPLY  
CHAIN STRATEGY, CRANFIELD SCHOOL OF MANAGEMENT

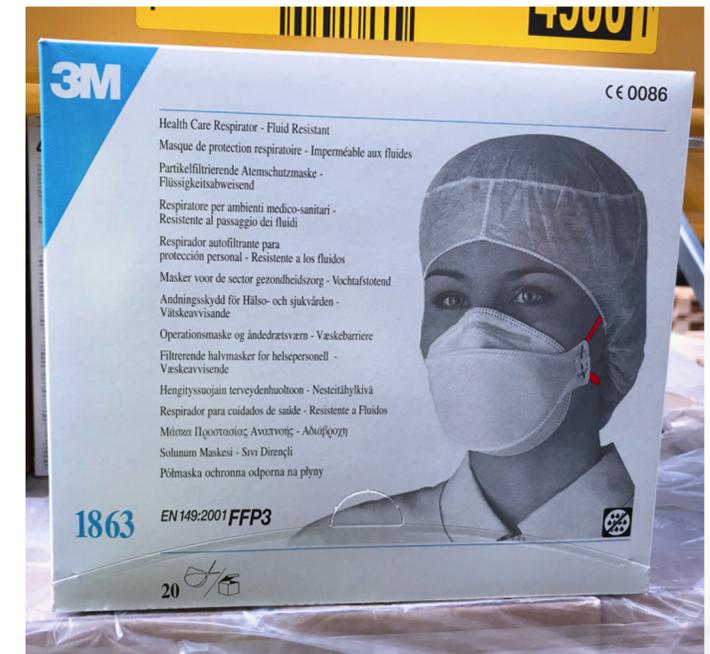


And so, with less than a week's notice, Leidos put the purpose built, 850,000 square foot Defence Fulfilment Centre at MOD Donnington onto 24/7 operation, added additional logistics and storage capacity, and began meeting and unloading air freight shipments arriving at RAF Brize Norton. In all, over a hundred additional personnel were assigned to the operation, as the flow of medical supplies and equipment began to arrive for outbound distribution.

Meanwhile, Leidos' procurement experts were at work sourcing and procuring supplies. 80 suppliers were engaged to supply PPE, of which 45 were newly registered as MOD suppliers. Purchase orders for 115,000 ventilators were issued, as were orders for millions of vital consumables, including around 3,000 NATO Stock Numbers required for Covid-19 related purposes. Pharmaceuticals, too, could be on the shopping list: to meet one requirement, Leidos procurement personnel purchased 46,000 packs of Vitamin D—around seven million tablets.

Flexibility and adaptability were key, recalls Huw Jenkins, Leidos' chief operations officer for the LCST programme. Especially with hard-to-find PPE, the organisation was dealing with a combination of new items and new suppliers, and buying whatever stock it could locate.

"Much of it wasn't compliant with our existing IT systems and standards," he explains. "There might be no SKU for it, for instance, or no barcode, or poor labelling—or packaging in another language.



We had to receive it, and transform it into something that would work, from a systems point of view. The most pragmatic approach was simply to develop a unique parallel stock control systems for all this uncodified PPE, and use that instead.”



Another challenge, adds Edward Askew, the LCST programme’s head of policy, governance and development, was translating incoming requests—

from both the LCST programme’s usual customers, the military, and the NHS—into actionable and deliverable procurement decisions. Not every wearer of a face mask, for instance, needed a full medical-grade face mask. Obviously, patient-facing personnel, such as the Ministry of Defence’s medics, nurses, and dentists clearly did; but in other situations, an ordinary face covering would suffice. In short, says Askew, close liaison between LCST programme personnel and its customers was required, often in tight timescales.

“You have to remember that—especially in the early days of the pandemic—it was a fast-changing situation, and the official guidance itself kept changing, as more and more was understood about the Covid-19 virus itself,” he sums up. “Understanding the capabilities and constraints of our supplier base was key, as many of the requirements placed on us needed fulfilling at short notice—whether those requirements were moving items such as ventilators from point X to point Y, or sourcing PPE manufactured to a particular standard.”

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Once, procurement was all about procuring for cost, with other objectives of secondary importance, subject to meeting acceptable levels of quality and performance. And single-sourcing often resulted from an attempt to consolidate demand so as to drive economies of scale. But increasingly, the focus is moving to procuring for resilience—dual-sourcing or multiple-sourcing, and near-shoring and re-shoring in order to shorten and de-risk supply chains. For procurement organisations, agility and collaborative ability are now what they’re looking for in suppliers.

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RICHARD WILDING OBE, PROFESSOR OF SUPPLY  
CHAIN STRATEGY, CRANFIELD SCHOOL OF MANAGEMENT

## RESILIENCE AND AGILITY

Yet to Leidos, a lot of this is bread-and-butter stuff: simply put, it is a capability that is central to Leidos’ suite of offerings. Founded in 1969 as Science Applications Incorporated, the company’s first customer was the United States government, which hired it to help analyse the effects of nuclear weapons.

Subsequent work in the next few years saw the company win a contract to study radiation based cancer therapy for the Los Alamos National Laboratory, support the Air Force Weapons Laboratory with its work on electromagnetic

phenomena and effects, and help with the clean-up in the wake of the nuclear accident at the Three Mile Island nuclear power station in Pennsylvania.





And along the way, explains Lisa Devine, a Leidos logistician supporting the United States Department of Defense as chief technology officer for its Logistics and Mission Support operation, Leidos' growing ability to manage large and complex projects in challenging environments saw the company—now renamed Leidos—called upon to expand its service offerings so as to provide procurement and logistics capabilities in precisely these challenging environments.

Take the work that Leidos does managing logistics and operations for the United States' National Science Foundation's United States

Antarctic Programme, which is centred on McMurdo Station, the largest research base on the continent, and which has more than a thousand residents each austral summer—in other words, October through February. Supporting scientific research on the coldest, windiest, and emptiest place on Earth requires exceptional logistics and planning expertise, and Leidos' role is to deliver a cost effective, streamlined infrastructure for managing elements such as work stations, medical facilities, communications,

transportation, shipping, emergency response, housing, food services, science support, environmental protection, research vessels, construction projects and remote field camp support.

Every February, two supply ships arrive at McMurdo Station from Los Angeles, transporting what is required in order to supply the United States' research facilities for the entire year. One of the ships carries fuel, and the other has everything else that the scientific expeditions and support



staff will need. These ships are hardened against icy waters but must be accompanied by an icebreaker to ensure safe delivery and return.

Crucially, as there is only one supply delivery each year, materials that will be needed in October have to be ordered a year in advance so that they can be delivered on the February supply ship. In all, it amounts to over nine thousand tonnes, and when the supply ships depart McMurdo Station for

Los Angeles—hurrying to get away before the weather changes—they are first loaded with everything that needs to go back. For in order to keep the Antarctica pristine, all waste generated on the continent is returned to the United States, where approximately 65% of it is recycled.

As one of the food service and facilities management subcontractors working for Leidos on the programme is based in Anchorage, Alaska, the result is that the Antarctic resupply programme is—quite literally—the longest supply chain in the world, jokes Devine.

Nor is this all—for the Antarctic resupply programme is not the only challenging supply chain that Leidos manages, she adds. Because Leidos—well accustomed to supporting NASA's space operations in many ways, over almost its entire 50-year history—also manages the resupply programme for the International Space Station.

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In complex supply chains, skills, experience, and wisdom are prized commodities. They aren't the place to learn 'on the job': there's a need for seasoned and experienced supply chain professionals who know what they're doing, and have done it all before. For organisations, the challenge is to provide those professionals with the data and information that they need in order to be able to make timely and correct decisions.

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*RICHARD WILDING OBE, PROFESSOR OF SUPPLY  
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NASA's Cargo Mission Contract, explains Devine, is tasked with procuring and loading everything sent to the space station on the various resupply missions sent aloft by NASA and its commercial launch partners such as SpaceX, with its Cargo Dragon resupply craft, and Northrop Grumman with its Cygnus resupply craft. In all, she adds, Leidos processes and packs over 35,000lbs of supplies each year for the space station, with everything carefully bagged, labelled, and stowed.

"It's particularly complex because we have to get all of those supplies into very specific containers, which also have weight limitations. What's more, included in the shipments are sensitive scientific equipment that must be packaged and handled in a very specific way," sums up Devine.

Yet look at such examples of Leidos' work for its clients, and there's a danger of focusing on the wrong things, and coming away with the wrong messages, says Richard Wilding, professor of supply chain strategy at Cranfield University's Cranfield School of Management, a past chair of the Chartered Institute of Logistics and Transport, and a non-executive director of Leidos Supply Ltd.

Yes, it is procurement and logistics at scale. Yes, it is procurement and logistics in some technically challenging environments. Yes, it is procurement and logistics involving a complex array of items and materials.

And yes, it is procurement and logistics over long distances—the LCST programme, for instance, involves a truly global supply chain. But the real message, asserts Wilding, is that it is procurement and logistics requiring very high levels of both **supply chain resilience and supply chain agility**.

Wilding—described by the BBC as "one of the world's leading experts in logistics and supply chain management", and the world's first professor of supply chain risk management—is known for his insights into both supply chain resilience and supply chain agility.

Look at NASA's Cargo Mission Contract, or the United States Antarctic Programme, or the strategically vital LCST programme, and what you see, he points out, is procurement and logistics being carried out where the margin for error or deviation is vanishingly small. In Antarctica, there's no easy way of getting hold of something that wasn't on the annual resupply convoy. And the same thing, of course, goes for the International Space Station. So too with military logistics, of course: not only is resupply difficult in a battlefield context, but shortages of material can cause the battle to be lost.

Similarly with supply chain agility. The real world, notes Wilding, is never quite like the tidy assumptions that underpin supply chain planners' schedules and plans. Things go wrong. Unexpected requirements emerge. Demand changes. Suppliers fail. And in each case, the agile supply chain

has to cope. Consequently, he explains, it is useful to think in terms of supply chains having two 'modes'—a 'business-as-usual' mode intended to meet steady, predictable demand, and where the focus is on leanness and low cost; and an 'agile' mode, where the focus is on speed, responsiveness, and flexibility.

"Organisations need both modes in their supply chains, which is why the talk is increasingly of the 'bi-modal' supply chain," he stresses. "But they also need the ability to flexibly switch between modes, and possess the technology, systems, and governance to manage either mode. All too often, organisations are really only properly geared for the 'business-as-usual' mode, with agility being accomplished through ad hoc firefighting. But when agility is the order of the day—and in many organisations it's now becoming the dominant mode—then it's important to have the technology, systems, and governance to manage the 'agile' mode as well."

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It has been recognised for years that no longer is competition all about individual organisations competing: instead, it is supply chains that compete. So it is obviously important to optimise—and develop a strategy for—the supply chain as a whole. Leaving it to chance is not a viable option.

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CHAIN STRATEGY, CRANFIELD SCHOOL OF MANAGEMENT*

## SUPPLY CHAIN RESILIENCE

As the world's first professor of supply chain risk management, Richard Wilding—now professor of supply chain strategy at Cranfield University's Cranfield School of Management—has devoted a lot of thought to supply chain resilience.

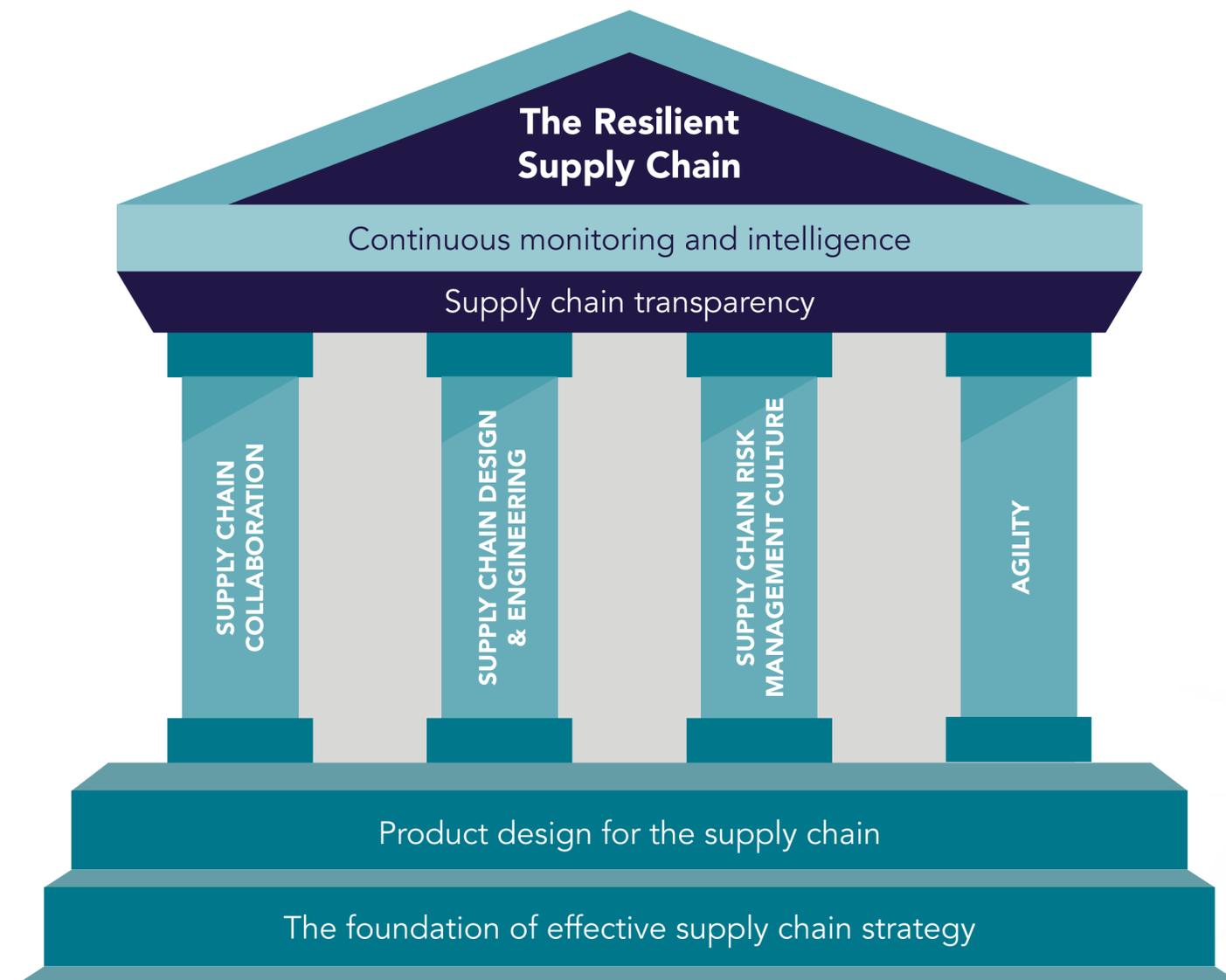
Conventionally, he explains, many people make the mistake of thinking of supply chain resilience—and supply chain risk—in terms of high-profile 'high-impact, low-probability' events: in other words, events such as tsunamis, earthquakes, hurricanes, and major infrastructure failures. In reality, he asserts, supply chain risk is more insidious, involving a combination of some factors that are external to the organisation, and some factors that are internal—inadequacies in systems, forecasting, control processes, planning, and inventory management. Both can be dangerous.

## SOURCES OF SUPPLY CHAIN RISK



Source: Richard Wilding OBE - [www.richardwilding.info](http://www.richardwilding.info)

“Supply chain risk isn’t just about external factors and external events,” he stresses. “Organisations are equally vulnerable to consequences of their own failings and inadequacies.”



So how to mitigate against these various failings and inadequacies—as well as mitigating against the consequences of external factors and events?

For many years, Wilding has taught and lectured around the concept of the ‘Temple of Supply Chain Resilience’, a conceptual framework which embraces not just those factors that impact supply chain resilience, but which also highlights the interplay between them. Resilience, quite literally, is built from the ground upwards.

The starting point is an **effective supply chain strategy**, in order to complement and enact the organisation’s own overarching strategy. Next: **product design for the supply chain**—in other words, taking steps in the design process so as to maximise resilience in terms of the sourcing and availability of materials and components.

Then come four ‘pillars’, which can be broadly thought of as the organisation’s supply chain management policies, practices, and procedures. The first is **supply chain collaboration**, which is often overlooked as a source of resilience, notes Wilding. When a fire in 1997 devastated the premises of Toyota’s supplier of brake master cylinders, vehicle production halted right across Japan. But 20 other suppliers then re tooled, set up jury rigged production lines, and trained workers to make the parts. Vehicle production restarted just three days later.

Next: **supply chain design and engineering**, which involves making conscious decisions about such things as where inventory is held, how much inventory is held, the desirability of alternate sources of supply, supplier development in order to reduce risk, and production postponement. Then comes the organisation's **supply chain risk management** culture—essentially, how it plans and prepares for risks. The fourth and final pillar: **supply chain agility**. Agile supply chains, stresses Wilding, are generally also resilient supply chains.

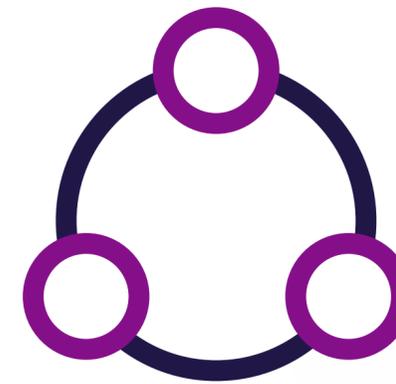
Straddling these four pillars is a requirement for **supply chain transparency**. Simply put, transparency of what is happening within the supply chain system is critical to risk mitigation. In other words, says Wilding, when everyone knows what is going to happen—and confidence increases because of this transparency—then trust develops between all the players in the supply chain.

Finally, overarching all of this is a need for continuous monitoring and intelligence. While supply chain transparency provides a window into what is happening within the supply chain, continuous monitoring and intelligence is what puts the supply chain in context, gathering data on both local and world events. If a natural disaster makes the news, for instance, then an effective continuous monitoring and intelligence process quickly works to assess the impact on the supply chain.

### THE BI-MODAL SUPPLY CHAIN AND SUPPLY CHAIN 4.0

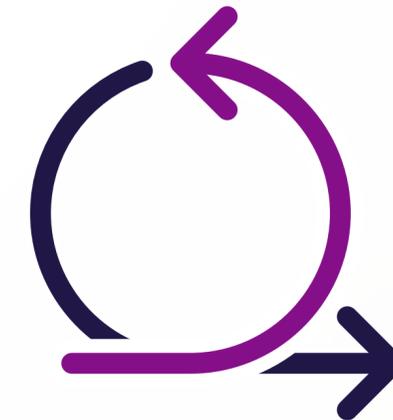
Supply chains can be thought of as having two modes of operation, says Richard Wilding, professor of supply chain strategy at Cranfield University's Cranfield School of Management.

#### THE BIMODAL SUPPLY CHAIN



MODE 1  
Focus on  
Predictability (Lean)

Efficiency and cost reduction, managing, predictable swings and inventory fluctuations, and focussing on risk mitigation and prevention.



MODE 2  
Focus on  
Exploration (Agile)

Speed; it's dynamic and iterative, strategies for solving the unexpected or adapting to new technologies.

"Organisations need to learn to manage both simultaneously".

Adapted from Gartner 2016



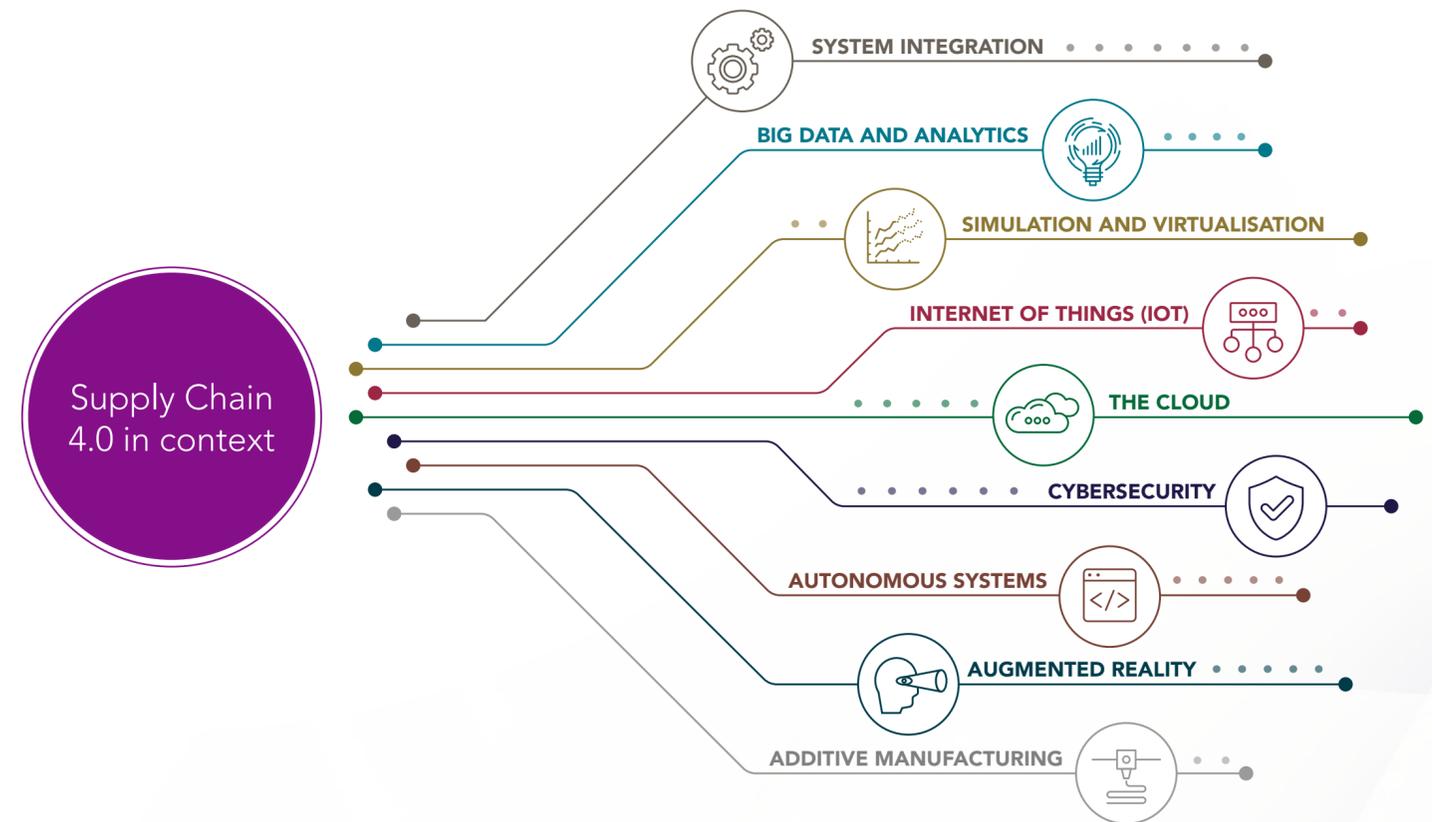
Firstly, there's a 'business-as-usual' mode. This is intended to meet steady, predictable demand, with the emphasis being on efficiency, leanness and low cost; and focusing on risk mitigation and prevention. And second, there's an 'agile' mode, where the emphasis is on speed, responsiveness, and flexibility; focusing on the agile development of strategies to deal with the unexpected.

Taken together, they form the bi-modal supply chain, explains Wilding—adding that not only must organisations learn to manage both modes simultaneously, but also understand that in many organisations and in many supply chains, the 'agile' mode is of growing prominence.

Increasingly, technologies are being thrown at the task of doing this. Lumped together under the banner of Supply Chain 4.0—a nod to a similar parallel development in manufacturing industry called Industry 4.0—the idea is to harness the power of innovations such as artificial intelligence, analytics, autonomous systems, the Internet of Things, and the Cloud, using these and similar technologies to achieve levels of supply chain management performance that would otherwise be unattainable.

"In a bi-modal world, agility and resilience are driven by technology," sums up Wilding. "Traditionally, technology has been seen as a source of cost reduction and efficiencies—but now, the emphasis is on technology as a

source of transformative capabilities."



#### LEVERAGING THE LEIDOS SUPPLY CHAIN INTEGRATION PLATFORM

How to achieve all this? How to deliver on these aspirations in respect of supply chain resilience and supply chain agility? How, specifically, to carry out the required supply chain communication and collaboration? How, specifically, to deliver that required supply chain transparency, and that continuous monitoring and intelligence? And to do so not just on a

business-as-usual basis, as in mode #1 of the bi-modal supply chain, but also do it in mode #2, the 'agility' mode?

And to do it, moreover, at scale. For thanks to its commitment to spending a minimum of 2% of GDP on defence over the next decade—and with at least 20% of that spending being on equipment—the UK has the fifth biggest defence budget in the world, with over 13,000 suppliers. In fiscal year 2019/20, for instance, the UK's Ministry of Defence spent over £21 billion with industry, accounting for almost 40% of all UK government procurement spend during the period.

One thing is clear, says Leidos' Huw Jenkins, chief operations officer for the LCST programme: the Covid-19 pandemic unequivocally showed that Leidos did indeed possess these capabilities and strengths, responding flexibly and resiliently in an often fast-changing situation—sourcing and delivering PPE and ventilators, sourcing and delivering equipment and materials in order to help to build the Nightingale hospitals and vaccination centres, and carrying out many other urgently-required tasks.

"It wasn't about moving at scale, or moving at speed—it was moving at scale, and at speed," he stresses. "In a national crisis, that's always the requirement. But in many organisations, that can't be achieved: their rigid and sclerotic IT systems get in the way. The military came to

Leidos because they recognised that our systems actually enhanced our performance, rather than hampering it."

Those systems collectively constitute the Leidos supply chain integration platform, explains James Langley, Leidos' director of information services. Essentially, he says, they are a collection of so-called 'best-of-breed' specialist procurement and supply chain systems sourced from some of the world's most respected software companies, supplemented by additional best-of-breed capabilities in respect of such functionality as identity access management and analytics.

Procurement, purchase order execution, end-user ordering from e-catalogues, asset management, warehouse management, transport management—all these capabilities and more are built into the Leidos supply chain integration platform, says Langley.

"The Leidos supply chain integration platform delivers 'one version of the truth', with every stakeholder seeing exactly the same data. It's constantly updated, providing total visibility in near real-time. Compared to the 30 or so systems that were in place before the LCST programme, the outcome is vastly improved management information, delivering vastly greater levels of data quality, reliability, and trust—leading to better decisions, and better partnering."



But the Leidos supply chain integration platform is more than just best-of-breed software, he stresses. The Leidos supply chain integration platform is also people, he explains—people with a deep bench of skills in supply chain management, and supply chain integration.

“We understand supply chains, we understand supply chain processes, and we can work quickly,” explains Langley. “The Leidos support chain integration platform interacts with hundreds of suppliers, and seamlessly interacts with three major Ministry of Defence systems. When you look at what was happening with sourcing and delivering PPE, the result was PPE being sourced through systems designed to support the Ministry of Defence, transported through systems designed to support the Ministry of Defence, and then being receipted in systems designed to support the NHS. That’s what we’re capable of.”



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The supply chain integration platform is a complex system of systems. It automates processes that used to be manual; orchestrates the supply chain end to end; provides logistics and IT services for warehousing, transport planning optimisation, procurement and inventory management, and financial services.

The Cloud will also offer us additional opportunities to innovate and to become more resilient. We're really going to be able to take advantage of what the cloud offers us in terms of only running the compute power that we need to keep the system going and, equally, expand our system's capacity when we need to. And that's really important because if the military were to deploy on operations or there's another pandemic, the demand on the supply chain would increase significantly.

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JAMES LANGLEY, DIRECTOR OF INFORMATION SERVICES, LEIDOS

That said, he adds, it takes time to build teams with the knowledge and capabilities to do all this. And to do it quickly: the supply chain system built to handle ventilators, for instance, took less than a week to specify, design, and build. The lesson, he sums up, is obvious: with the right people, almost anything can be achieved—and in a crisis, he stresses, almost anything has to be achieved.

But there's another—broader—lesson, concludes chief operations officer Huw Jenkins. A lesson with implications for a wide range of government departments and agencies.



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The logistics industry is certainly going to change after Covid-19, and I believe much more focus will be given to collaboration. What happened very quickly was that organisations shared facilities, infrastructure and assets to support the immediate priority which was Covid-19. The way that the industry mobilised operations, collaboratively, was phenomenal. Supply chains must learn from this experience and become more flexible, building in resilient but adaptable systems and processes as an integral part of their logistics operations—an area where Leidos excels.

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HUW JENKINS, CHIEF OPERATING OFFICER, LOGISTICS  
COMMODITIES AND SERVICES TRANSFORMATION PROGRAMME

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Crises occur: that's a fact. And when they do occur, it's important to be prepared to move quickly, and move surely. More than ever, supply chain resilience is a strategic requirement—and one that won't be met by ageing systems laden with technology debt. It isn't necessary to throw those ageing systems away: simply integrate them with a modern best-of-breed platform such as the Leidos supply chain integration platform. And the time to do that is now: it's too late to build supply chain resilience when you're in the midst of dealing with a crisis.

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DARRELL WILLIAMS VP & MD LOGISTICS DIVISION,  
PROGRAMME DIRECTOR, LCST



## **About Leidos**

Leidos is a Fortune 500® technology, engineering, and science solutions and services leader working to solve the world's toughest challenges in the defence, intelligence, civil, and health markets. The company's 43,000 employees support vital missions for government and commercial customers. Headquartered in Reston, Virginia, Leidos reported annual revenues of approximately \$12.30 billion for the fiscal year ended January 1, 2021.

For more information, visit [www.Leidos.com/uk](http://www.Leidos.com/uk).