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SUPPLY CHAIN, RISK AND OPERATIONAL EXCELLENCE

The State of the Art in Supply Chain Risk Management 2026

How Large Corporations Catch Up
A Step-by-Step Action Plan and a Self-Audit

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ABSTRACT

In the last week of October 2026, British shoppers sent sales of tinned food and torches soaring because their government had asked them to be able to last three days alone. The public had been taught for ten years: by a referendum that showed a border is a decision, by a tariff war that showed a supply chain is a political object, and by a thermometer that kept breaking its own records. Since 2024 those lessons have become operating conditions. Europe lost the Strait of Hormuz and the Suez Canal in the same week, watched a cyber attack idle Jaguar Land Rover's British plants for over a month, and lived through the hottest summer on record in its western half, with the Rhine at 31 centimetres at Kaub. Nothing points to a return to calm: the climate projections, the risk surveys and governments' own planning all say the opposite. Yet most boards still manage supply chain risk with a Value at Risk built once and filed. A frozen assessment measures the past. The practices that hold are known: map beyond tier one, stress-test the network on time to survive and time to recover, choose your stock instead of suffering it, and protect your smaller suppliers. Lean is not the culprit. Toyota, which invented just-in-time, is also the company that stockpiles chips. The paper ends with a twelve-question self-audit and a ninety-day plan, step by step, to bring a large corporation up to date.

KEYWORDS: *supply chain risk management; state of the art; resilience; geopolitics; climate risk; Value at Risk; stress testing; self-audit; Lean*

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I. TEN YEARS AND ONE SUMMER

IN THE LAST WEEK OF OCTOBER 2026, Ocado was showing several kinds of bottled water as unavailable, and beans and soup as out of stock. Iceland's sales of tinned food rose 40 per cent in a few days; Maplin's torch sales nearly quadrupled in three (Carey, 2026). There had been no strike, no failed harvest, no lorry stuck at a port. There had been a leaflet.

On 22 October the British government asked every household to be able to get by for three days without outside help: bottled water, non-perishable food, a torch, a radio, batteries, some cash (The National, 2026). The campaign, called *Be Ready*, names its risks plainly, from floods and wildfires to cyber attacks, and it arrived as ministers were warning of the possibility of war (Radio X, 2026).[1] That weekend the Defence Secretary told *The Telegraph*: "That gives us a little over 1,000 days to complete our mission: to be ready with our allies to fight and win" (Padgett, 2026).

A European state now plans for its citizens the way a supply chain director plans for a plant. A buffer, a checklist, a deadline.

Nobody in Whitehall woke up one morning and decided to sell torches. The public had been taking lessons for ten years.

The first came in June 2016 and taught the British public that a border is a decision. Whatever one thinks of the result,[2] the referendum put a supply chain question on every kitchen table: what happens to the lorry, the medicine and the spare part when the rules at Dover change? Ten years on, the answer is an official working assumption. The Office for Budget Responsibility still expects UK exports and imports to settle around 15 per cent lower in the long run than if the country had stayed in the EU, and productivity 4 per cent lower (Office for Budget Responsibility, 2026).

The second lesson came from the Pacific, and it was for everybody. Washington and Beijing started exchanging tariffs in 2018. By April 2025 the duty on Chinese goods entering the United States had reached 145 per cent, with 125 per cent in the other direction, and by the end of that year US trade with China had fallen by more than a quarter (Council on Foreign Relations, 2026). Beijing then reached for a finer instrument than a tariff: the export licence. In June 2025, Europe's car-parts suppliers reported that only about a quarter of their applications for Chinese rare-earth materials had been approved, and that the restrictions had already "led to the shutdown of several production lines and plants across Europe" (CLEPA, 2025). Europe was not a party to the quarrel. Its lines stopped anyway.

Meanwhile the thermometer kept its own score. 2024 became the first calendar year more than 1.5 °C above the pre-industrial level, at 1.60 °C (Copernicus Climate Change Service, 2025). In 2025, insured losses from natural catastrophes passed US$100 billion for the sixth year running (Howard, 2025).

For a decade, most boards filed all of this under weather. A storm, a bad season, a political accident: you sit it out, then things go back to normal. The last two years have settled the matter. This is not the weather. It is the climate, in both senses of the word.

I read the Cabinet Office checklist with a supply chain director's reflex. Three days. How many days would a large European company last if its first supplier stopped tomorrow morning?

Ask the question in a board meeting. The answer is rarely a number. It is a document: the supply chain risk map, often with a "Value at Risk" attached, approved two years ago, shown to the auditors, filed since.

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[1] The Cabinet Office campaign is planned to run for three years (Radio X, 2026). The Defence Secretary said he wanted people to be "alert but not alarmed" (The National, 2026). It is presented as ordinary preparedness, not as the announcement of a crisis.

[2] This paper takes no position on the referendum, nor on the size of its economic effects, which economists continue to debate. The OBR figures are quoted as the official forecaster's working assumption, nothing more.

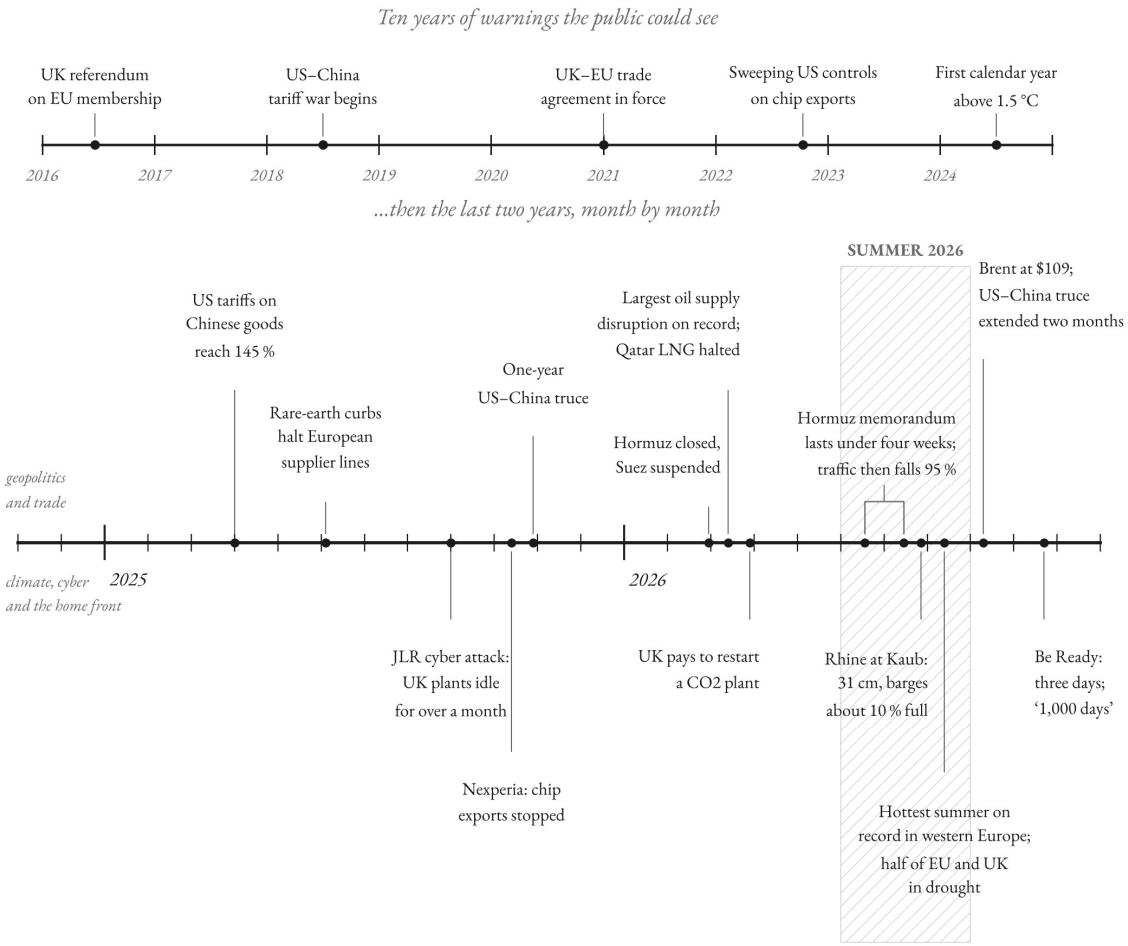


FIGURE 1. *A decade of warnings, then two years month by month. Above the axis, geopolitics and trade; below it, climate, cyber and the home front. The hatched band marks summer 2026. Sources: Office for Budget Responsibility (2026), Council on Foreign Relations (2026), Copernicus Climate Change Service (2025), CLEPA (2025), Express & Star (2025), Z2Data (n.d.), Flexport (2026), International Energy Agency (2026), Gnana (2026), Harvey (2026), Duggal et al. (2026), Hapag-Lloyd (2026), Hogan (2026), Copernicus Climate Change Service (2026), Joint Research Centre (2026), Al Jazeera (2026), South China Morning Post (2026), Radio X (2026), Padgett (2026).*

I have run the global supply chain of a supplier to the pharmaceutical industry. Our first raw material came out of plants in the United States, Germany, China and Korea, and reached customers through eleven regional hubs. I know the comfort of that document. It reassures because it is complete. It is complete because it describes a world that no longer exists.

II. TWO YEARS, MONTH BY MONTH

TAKE AN ASSESSMENT closed at the end of 2024 by serious, competent people. Figure 1 shows what it could not contain.

On 1 September 2025, after a cyber attack at the end of August, Jaguar Land Rover stopped production. Its British plants only began coming back in early October, and the government underwrote a £1.5 billion loan guarantee to keep the supplier base alive (Express & Star, 2025; Redfern, 2025). On 30 September, The Hague took control of Nexperia, a maker of the small, unglamorous chips found all through a car's electronics. Beijing answered four days later with export

controls on the group's Chinese unit, and on 22 October Volkswagen warned its workers that a production stoppage could be imminent (Z2Data, n.d.).[3]

January 2026 opened on a hopeful note. A hundred days after the last Houthi attack on a merchant ship, BIMCO's chief shipping analyst judged that a normalisation of Suez transits "now appears more likely than at any point during the last two years" (Rasmussen, 2026). Seven weeks later, on 28 February, the war in the Middle East closed the Strait of Hormuz and suspended Suez transits. Ships bound for the canal were sent round Africa, and Asia–Europe voyages were expected to take ten to fourteen days longer (Flexport, 2026). The International Energy Agency called it "the largest supply disruption in the history of the global oil market" (International Energy Agency, 2026). Qatar, about a fifth of the world's liquefied natural gas, declared force majeure after strikes on Ras Laffan (Gnana, 2026). In March, London stepped in to restart a Teesside bioethanol plant that was due to close, because it makes carbon dioxide and the food, healthcare and nuclear sectors cannot do without it (Harvey, 2026).[4]

Then the summer.

On 17 June an interim agreement in the Gulf lifted Hormuz traffic from about five ships a day to twenty. It held for less than four weeks. From mid-July to late August the strait averaged about five ships a day again, almost 95 per cent below its pre-war level (Duggal et al., 2026). On 22 June Beijing put two American rare-earth producers, among ten US entities, on its export-control list (Reuters, 2026). And over the same weeks western Europe lived through its hottest summer on record, 2.5 °C above the 1991–2020 average, beating 2003. Copernicus describes the most severe low-flow summer for the continent since its river records began in 1992, with the Rhine, the Danube, the Po, the Loire, the Rhône and the Seine at or near record lows, and "severe disruption for multiple industries, including cargo transport" (Copernicus Climate Change Service, 2026).

The Rhine deserves its own paragraph, because it is where weather turns into logistics. On 27 July the gauge at Kaub, the reference for the Middle and Upper Rhine, read 31 centimetres, close to the 25-centimetre record of October 2018 (Hapag-Lloyd, 2026). Barges that need a metre and a half of water to sail fully loaded were going out about 10 per cent full, and moving a tonne by tanker barge from Rotterdam to Karlsruhe cost €130 to €140, against €45 at the end of June (Hogan, 2026). By August half of the EU and the UK was in drought. The burnt area had passed 505,000 hectares, a third more than at the same date in 2025, itself the worst season on record, and low rivers had cut French nuclear output (Joint Research Centre, 2026).

In August, three Banque de France economists published an index that separates two kinds of strain (Elsayed et al., 2026). A transport disruption delays goods: you replan, you reroute, and inflation is back to its pre-shock level after about two years. An input disruption removes them: manufacturing output falls and stays down, because some inputs have no substitute. Since the spring both components have been rising together. The Gulf managed both at once. It lengthened the routes and took away the gas.

In September Brent touched $109 a barrel (Al Jazeera, 2026), and the threat to commercial shipping in the Gulf was still rated "severe" (Lloyd's List Intelligence, 2026). The US–China truce agreed in Busan for one year was extended by two months, to 10 January 2027, while rare-earth magnet shipments to the United States were running 13 per cent below the previous August (South China Morning Post, 2026). In October came the leaflet, the torches and the thousand days.

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[3] Shipments resumed on 7 November 2025, and The Hague suspended its intervention on 19 November (Z2Data, n.d.).

[4] Transit times, traffic counts and prices quoted for 2026 come from forwarders, brokers, agencies and wire services. They are market averages, not the exposure of any particular company, and sources counting ships differently give different totals. Oil had peaked above $130 a barrel in April (Duggal et al., 2026).

None of this was unthinkable. Researchers have described each of these scenarios for twenty years. But a frozen assessment has a flaw nobody writes into the executive summary: it gives each event a probability, then treats them one at a time. 2026 added them up.

III. WHY IT WILL NOT CALM DOWN

THE NATURAL REFLEX is to wait for things to settle. I would not.

Look at the lulls. BIMCO's optimism lasted seven weeks. The Hormuz memorandum lasted less than four. A trade truce signed for a year has been renewed for two months. The horizons are getting shorter, and each lull was greeted as the end of the story.

The physics does not negotiate. The World Meteorological Organization gives an 86 per cent chance that one of the years from 2026 to 2030 will beat 2024 as the warmest on record, and a 91 per cent chance that at least one of them will temporarily pass 1.5 °C (World Meteorological Organization, 2026). A summer like 2026 is not an outlier on that path. It is a sample.

The people paid to watch risk say the same. In January, before Hormuz, the World Economic Forum's survey already put geoeconomic confrontation at the top of the risks for 2026. Half of its respondents expected a turbulent or stormy world over the next two years, 57 per cent over the next ten, and extreme weather ranked first among the most severe long-term risks (World Economic Forum, 2026). Allianz counted trade restrictions covering an estimated US$2.7 trillion of merchandise, nearly a fifth of global imports, and found that only 3 per cent of the risk experts it surveyed rate their supply chains "very resilient" (Allianz Commercial, 2026).

Shipping, which lives on chokepoints, has already moved its baseline. Richard Matthews of Gibson Shipbrokers told Al Jazeera that the trade used to see one major disruption every five years, and has had "probably four of them or maybe five of them since 2020" (Duggal et al., 2026). Tanker analysts expect the Gulf to keep freight markets high through 2027 (Lloyd's List Intelligence, 2026).

And governments are budgeting for it. *Be Ready* is planned for three years. The Defence Secretary's horizon runs to 2030. In October the International Monetary Fund warned that "dwindling energy inventories could amplify transmission of geopolitical shocks to energy prices" (Tenreyro, 2026). When the state plans in years, a company that plans for a return to normal is planning for the past.

This is not a cycle that will turn. It is a regime. The good news is that a regime can be managed. The bad news is that it cannot be managed with last year's spreadsheet.

IV. THE SPREADSHEET THAT REASSURES

A SUPPLY CHAIN VALUE AT RISK answers an honest question: how much can I lose, with what probability, over what horizon? It rests on observed frequencies, known outage durations and scenarios judged plausible by the people who write them. That is its strength. It is also its sell-by date.

Its first weakness is arithmetic. Each risk gets a line, a probability and an impact, and the total is a sum of separate events. The last two years delivered them as a bundle. Hormuz did not arrive instead of the Rhine. It arrived on top of it, with a cyber incident somewhere in the network for good measure.

Its second weakness is eyesight. A map that stops at tier one sees suppliers. It does not see the single plant, three tiers up, on which all of your suppliers depend. Nor can it see the Banque de

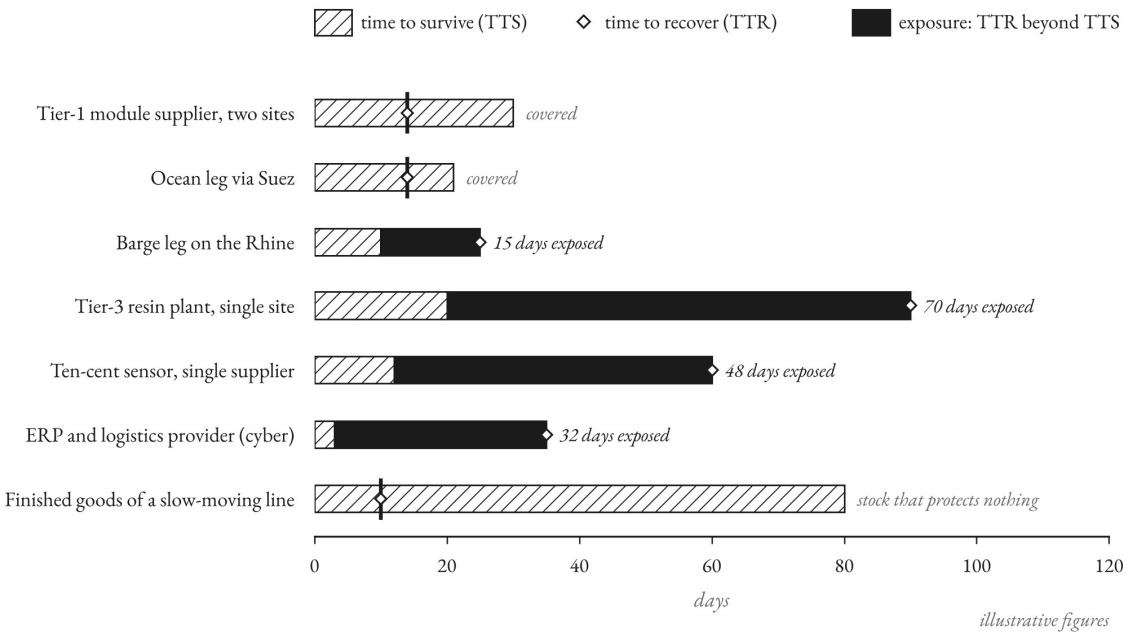


FIGURE 2. *Reading a stress test. For each node of the network, the hatched bar is the time the business can keep serving customers without it (time to survive); the diamond is the time the node needs to return to full function (time to recover). Black marks the days of exposure. The figures are illustrative; the method follows Simchi-Levi et al. (2014) and Ham (2022).*

France's distinction between a ship that is late and an input that is gone. The first costs you money. The second costs you customers.

Its third weakness is the calendar. An annual review is a photograph. In a year when the Gulf closed, half-opened and closed again, and the Rhine went from ordinary to barely navigable in four weeks, a photograph is out of date before it is printed.

V. WHAT THE RESEARCH ALREADY KNEW

MARTIN CHRISTOPHER AND HELEN PECK, at Cranfield, laid the ground in 2004. Resilience, they wrote, "should be designed in", and it rests on supply chain engineering, collaboration, agility and a risk management culture that runs through the whole organisation (Christopher & Peck, 2004). Yossi Sheffi and James Rice, at MIT, showed that resilience can be bought in two ways, through redundancy or through flexibility, and that only the second pays its way on ordinary days too (Sheffi & Rice, 2005).

The numbers are stubborn. Kevin Hendricks and Vinod Singhal studied 827 disruptions announced by listed companies between 1989 and 2000. Over the three years around the announcement, the shares of the firms concerned underperformed by around 40 per cent on average, with no recovery, and the volatility of their shares rose 13.5 per cent from the year before to the year after (Hendricks & Singhal, 2005). McKinsey estimates that a company can expect a production stoppage of a month or longer about every 3.7 years (McKinsey Global Institute, 2020), and Bloomberg's account of the same research put the bill at more than 40 per cent of a year's profit, once a decade (Murray, 2020).[5]

[5] These are scenario-based estimates built sector by sector, not the exposure of any given firm. Take the order of magnitude, not the decimal.

The most useful answer came from David Simchi-Levi, at MIT. Rather than chase the probability of an event nobody can forecast, he measures two durations for every node of the network. Time to recover, or TTR: how long a site, a supplier or a warehouse takes to be back at full function. Time to survive, or TTS: how long the supply chain can go on matching supply with demand once that node is down (Simchi-Levi et al., 2014; Ham, 2022). Where TTR exceeds TTS, there is a hole in the hull (Figure 2). At Ford, the most dangerous holes were not at the big strategic suppliers but at tiny ones, supplying components worth about ten cents (Ham, 2022).

In 2020 he proposed that governments impose on companies providing critical goods what regulators have imposed on banks since 2008: a stress test (Simchi-Levi & Simchi-Levi, 2020). That is exactly what the Value at Risk in the drawer lacks.

VI. LEAN IS NOT THE DEFENDANT

EVERY CRISIS REOPENS the same trial. Just-in-time emptied the warehouses and made supply chains brittle. Even Christopher and Peck counted the continued "leaning-down" of operations among the forces raising supply chain risk (Christopher & Peck, 2004).

I plead not guilty for Lean. Guilty for its caricature.

Just-in-time never meant zero stock. It means stock is not allowed to hide problems. Taiichi Ohno made overproduction the worst of the wastes precisely because it covers up all the others (Ohno, 1988). Stock that masks a process defect is waste. Stock sized against a risk the company does not control is insurance. The difference is not the quantity. It is the decision.

The proof is Toyota. After Fukushima, the company that invented just-in-time asked its suppliers to hold two to six months of chips, depending on lead time, and pays for that stock by handing back part of the cost reductions it demands of them every year (Reuters, 2021). It also built RESCUE, a database mapping its suppliers and their suppliers, which cut the time needed to locate the source of a problem from two weeks to twelve hours (Barrett, 2021). When the semiconductor shortage stopped rival lines in 2021, Toyota kept building for months longer than most.[6]

Lean brings three things that classic risk management forgets. Lead time, first: every day between buying a material and banking the sale is a day of exposure, and a shorter flow is a smaller target. Visibility, next: a value stream map extended into the supply base shows where the flow actually stops, which no risk register does (Rother & Shook, 1999). And the reflex of stopping. An organisation used to halting the line at the first defect, tracing the cause and fixing it already has the muscles of a crisis cell.

Research says the same, with more caution. In aerospace, Ruiz-Benítez, López and Real found that lean practices drive resilience practices, and that lean applied on its own could leave the supply chain more vulnerable (Ruiz-Benítez et al., 2018). At Cardiff, my own alma mater (I declare an interest), Mohamed Naim and his colleagues had argued as early as 1999 for combining the two around a decoupling point: a level, lean schedule where demand can be smoothed, agility where it cannot (Naylor et al., 1999). They called it *leagility*. The word is ugly. The idea is right.

[6] The shortage did reach Toyota in the end, later in 2021. But it held for months longer than its rivals, at the very moment they were stopping their lines.

VII. THE STATE OF THE ART: SIX PRACTICES THAT HOLD

1. Map down to the tier that hurts

Tier one is the tier that invoices you. The risk often lives at tier three. Go up to the components with no substitute, check where they are really made, count the plants able to make them, and make sure an apparent dual source does not rest on a single supplier further up. London is pushing the same way. Its new Supply Chain Centre has published 36 broad categories of what it calls growth-driving inputs, asks manufacturers to check their reliance on each, and has promised clearer standards for mapping (Department for Business and Trade, 2026).

2. Replace the photograph with a film

An annual assessment is a photograph. You need a film. In practice: a simple digital model of the network, TTR and TTS kept up to date, and a stress test every quarter on combined scenarios. Hormuz plus a cyber attack at a logistics provider. A Rhine at 31 centimetres plus a heatwave that cuts a supplier's shifts. The right question is not "what will happen?". It is "where are we uncovered, whatever happens?"

3. Choose your stock, do not suffer it

Where time to recover exceeds time to survive, you need a buffer, a second qualified source or capacity reserved by contract. Schneider Electric's North American business raised inventories precisely where longer logistics times had pushed TTR above TTS, and used the same two numbers to decide where to build up its suppliers (Ham, 2022). The same calculation exposes stock that protects nothing, wherever time to survive far exceeds time to recover. A good stress test often frees as much cash as it ties up.

4. Protect your smaller suppliers

A large group is as resilient as the cash position of its most fragile supplier. Jaguar Land Rover's shutdown proved it to the whole of British industry. Genex UK, a press-work firm of 17 people in Walsall, was never attacked. Most of its staff were nonetheless laid off without pay, and the bank offered its managing director a loan at 16 per cent, against a 100 per cent personal guarantee (BBC News, 2025; Express & Star, 2025).

Pay on time, finance the safety stock you demand, share your forecasts, write the continuity plan with them. This is not philanthropy. It is your own plan B.

5. Put cyber and climate on the same map

An IT incident at your company, a supplier or a logistics provider does what a burnt-out plant does: no orders, no invoices, no deliveries. A river that drops below navigable depth does what a closed port does. Both belong on the map, with their own TTR and TTS, next to the single-source plant. The firewall is not an IT matter, and the river gauge is not a weather report. Both are flow.

6. Give the risk an owner

A risk without an owner is a risk accepted by default. It needs a name, leading indicators reviewed every month (the Banque de France index and the Kaub gauge are both public), a crisis exercise once a year and a standing place on the board agenda. In the House of Lean I use with clients, the roof reads "profitable today and tomorrow". Risk management is the tomorrow.

VIII. A SELF-AUDIT IN TWELVE QUESTIONS

BEFORE ANY PLAN, take an honest reading. Table 1 turns the six practices into twelve questions an executive team can answer in an afternoon, without a consultant in the room. Score each from 0 to 3: 0 when nothing is in place, 1 when it has started but lives in someone's head or a single spreadsheet, 2 when it is in place for most critical items, 3 when it is systematic, tested and less than three months old. The table gives the two ends of the scale; the middle you can judge for yourselves.

One rule for the scoring: a 2 you cannot show on paper is a 1. Boards are generous with themselves on resilience in the same way that drivers are generous with themselves on driving.

TABLE 1. *Supply chain risk self-audit. Score each question from 0 to 3; the columns describe what earns a 0 and what earns a 3.*

NO.	QUESTION	SCORE 0 IF…	SCORE 3 IF…	SCORE
Visibility				
1	How many days can you keep serving customers if your first supplier stops tomorrow morning?	Nobody can give a number.	A number for every critical supplier, worked out from time to survive, less than three months old.	/3
2	How far up the chain can you name the plants behind your critical items?	Tier one, from the purchasing ledger.	Every input with no substitute, its real origin checked, single sites flagged.	/3
3	Have you checked whether your "dual sources" share a supplier further up?	Never checked.	Checked for every critical item; hidden single sources listed, each with an owner.	/3
Measurement and testing				
4	Do you hold a time to survive and a time to recover for each critical node: sites, suppliers, routes and systems?	No.	Yes, for all four kinds of node, reviewed every quarter.	/3
5	How do you express exposure?	Probability-times-impact scores in a register.	Days of exposure and revenue at stake, node by node.	/3
6	How often do you stress-test the network, and on what?	An annual review of the risk register, or never.	Every quarter, on combined scenarios mixing geopolitics, climate and cyber.	/3
Decisions				
7	Can you justify each safety stock by a named gap between recovery and survival?	Stock set by habit or by a working-capital target.	Every buffer tied to a gap; stock that protects nothing has been released.	/3
8	What do your contracts for critical items cover beyond price?	Price, volume and payment terms.	Reserved capacity, continuity clauses or jointly financed stock, as standard.	/3
9	Do you know the cash position of your most fragile critical suppliers?	No.	Monitored; payment terms and financing adjusted for the most exposed; continuity plans written together.	/3
Governance				
10	Are cyber incidents and climate events on the same map as your plants?	IT and facilities each keep their own list.	One map, with recovery and survival times for systems, rivers, ports and heat-exposed sites.	/3
11	Who owns supply chain risk, and what do they watch every month?	Nobody, until an incident.	A named executive with leading indicators: supply tension index, river gauges, freight rates, supplier health.	/3
12	When did the board last spend time on it, and when did you last rehearse a crisis?	After the last incident; no exercise.	A standing quarterly item; a crisis exercise with suppliers and logistics providers in the past twelve months.	/3

Total out of 36. A zero on question 1, 4 or 11 caps the reading at "catching up", whatever the total.

Add up the scores. From 0 to 12, you are looking at the photograph in the drawer: the company is managing the risks of 2024 with the tools of 2024. From 13 to 24, you are catching up: the method exists, the rhythm does not. From 25 to 36, you are at the state of the art. Keep the film running, because the regime will move again.

Why the cap? Because without a number, a measurement or an owner, everything else is decoration. A company that scores well on contracts and dashboards but cannot say how many days it lasts without its first supplier has a well-furnished house with no foundations.

IX. Catching Up in Ninety Days: The Plan, Step by Step

NINETY DAYS, EIGHT STEPS. The order matters more than the speed. Each step produces something you can put on the table at the next one, and nothing in Table 2 requires new software before week eight.

TABLE 2. *The ninety-day plan. Weeks overlap on purpose: mapping feeds measurement while it is still under way.*

STEP	WEEKS	WHAT TO DO	WHAT YOU HOLD AT THE END
1	1	Score the twelve questions of Table 1 with the executive team. Name the owner, and a small team from purchasing, supply chain, finance, IT and operations.	A baseline score and a named owner.
2	1–3	List the critical items: the products and customers that carry the revenue, and the inputs with no substitute. The Supply Chain Centre's 36 categories make a useful checklist.	A short list, ranked by revenue at stake.
3	2–6	Map up to the tier that hurts: supplier questionnaires, a value stream map extended to the key suppliers, the routes and chokepoints, the systems and service providers.	A network map, with single sites and hidden single sources flagged.
4	4–8	Put two numbers on every node. Time to survive from stock, pipeline and alternatives; time to recover from suppliers, history and engineering judgement, checked with the supplier.	A recovery and survival table like Figure 2.
5	6–9	Run the first stress test on three to five combined scenarios: a Gulf closure plus a cyber attack at a logistics provider; a low Rhine plus a heatwave at a key supplier.	Days exposed and revenue at risk, scenario by scenario.
6	8–11	Decide, node by node: buffer, second source, reserved capacity, redesign, or accept the risk explicitly and in writing. Release the stock that protects nothing.	A costed decision for every gap, signed by its owner.
7	9–12	Secure the fragile suppliers: payment terms, financed safety stock, shared forecasts and a continuity plan written together.	Continuity plans with the most exposed suppliers.
8	12–13	Install the routine: monthly indicators, a stress test every quarter, a crisis exercise every year, a standing item on the board agenda. Score Table 1 again.	A second score, and a calendar for the next four quarters.

Two mistakes come back in almost every company. The first is to start with a tool. A digital twin bought in week one models the network you think you have; built in week eight, it models the one you mapped. The second is to let step 6 turn into a negotiation over working capital. Finance will ask what the buffers cost. The right answer is a comparison: what the buffer costs against the revenue at risk in the gap it closes, and how much cash the stock that protects nothing gives back. Often the second number pays for the first.

Step 1 is also the one most often skipped, because it is uncomfortable. Do not skip it. A score of 14 in November, then 23 in February, is the most persuasive slide a supply chain director will ever show a board.

X. WHAT A CONSULTANT SHOULD BRING, AND SHOULD NOT SELL

I AM A CONSULTANT, so I distrust consultants. No firm should sell you a new Value at Risk, bound, presented and filed. It would be out of date before anyone read it.

Outside help should bring four things. An outside eye, because an organisation's blind spots are, by definition, invisible from inside. A method: end-to-end mapping, TTR and TTS, combined scenarios, priorities set by the value at stake. Time, which teams do not have while they are busy delivering. And comparisons: the same weak points come back from one industry to the next, and months are saved by not rediscovering them.

Above all, it should leave behind a capability, not a report. A good engagement ends with an internal team able to rerun the test alone, a live dashboard, and a purchasing team that negotiates differently: reserved capacity, jointly financed stock, continuity clauses. The first ninety-day cycle can be done with outside help. The ones after that belong to the company.

London has given its households a checklist and three days. Table 1 gives your board twelve questions and an afternoon. Start on Monday with the first: how many days do we last without our first supplier? Then ask how they know.

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