

# RESILIENCE

## THROUGH A THOUSAND MEASURES

A Comprehensive Catalogue of Industrial Resilience Measures

**1,003**

measures in this catalogue

### Technology Industries of Finland

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# Introduction

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## Background

In today's operating environment, companies across all industrial sectors face a growing range of disruptions — from geopolitical shocks and supply chain failures to cyber threats and climate-related events. Traditional risk management, focused on known and identifiable threats, is no longer sufficient on its own. Strengthening resilience in the global value chain of industries requires the capacity to withstand, adapt to, and recover from disruptions that may not have been anticipated.

## What is Industrial Resilience?

Industrial resilience is an organisation's ability to prepare for, absorb, and recover quickly from disruptions, and to learn from those experiences. A resilient company has prepared in advance, experiences limited performance loss when a shock occurs, recovers rapidly, and continuously improves its capabilities. Industrial resilience does not replace risk management — it complements it by building adaptive capacity alongside targeted controls. Where risk management asks "what can go wrong and how likely is it?", resilience in the global value chain of industries asks "what must always work, and how do we guarantee it?"

## The Resilience Manual

This catalogue is the foundation of the Resilience Manual developed by Technology Industries of Finland. The approach starts not from threats, but from a company's critical operating prerequisites — the factors without which the business cannot function. These span both internal dimensions (IT infrastructure, production equipment, facilities, data, people, financing, and intellectual capital) and external ones (raw materials and suppliers, production partners, investors, and customers and sales channels). Sustaining resilience in the global value chain of industries means ensuring each of these prerequisites remains protected regardless of the nature of any disruption.

## Four Phases of Action

Measures are organised across four temporal phases: (1) Planning and Preparedness — mapping dependencies, identifying alternatives, and developing continuity plans before a disruption occurs; (2) Impact Mitigation — immediate actions during a disruption to limit its scope and protect critical functions; (3) Recovery and Restoration — restoring normal operations, documenting the incident, and implementing improvements; and (4) Adaptation and Monitoring — ongoing tracking of the risk environment, testing plans, and incorporating lessons learned. Together these four phases form a comprehensive cycle for building and maintaining industrial resilience.

## Three Maturity Levels

Each measure is assigned a maturity level reflecting the resources and capabilities required. Default measures form the baseline every organisation should implement, requiring modest resources. Intermediate measures require analytical rigour and cross-functional collaboration. Advanced measures leverage real-time analytics, automation, and adaptive modelling. Companies strengthening their resilience in the global value chain of industries are encouraged to progress systematically across maturity levels, starting from the default baseline and building upward in line with their strategic priorities and available resources.

## How to Use This Catalogue

This catalogue contains over 1,000 measures across five industry-specific action plans: Machinery and Metal Products, Electronics and Electrical Equipment, Information Technology, Metal Processing, and Engineering Design Consulting. Not all measures are relevant to every company. The Resilience Manual provides a structured process for identifying critical prerequisites, selecting and prioritising relevant measures, and building

an actionable continuity plan tailored to each company's context and resource level.

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## Catalogue at a Glance

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<b>1,003</b> Total Measures	<b>440</b> External Prerequisite	<b>563</b> Internal Prerequisite	<b>5</b> Industry Sectors
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Action Phase	Measures
Planning and preparedness	270
Impact mitigation	249
Recovery and restoration	221
Adaptation and monitoring	263

## Complete Catalogue of Measures

All 1,003 measures organised by operating prerequisite type, category, prerequisite, action phase, and maturity level.

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Default	Maintaining an up-to-date list of all direct suppliers and procurement contracts
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Default	Identifying the most critical raw materials and their substitution possibilities
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Default	Ensuring force majeure clauses and supply disruption clauses in procurement contracts
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Default	Identifying and documenting statutory and regulatory requirements for the procurement chain
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Default	Conducting a Business Impact Analysis (BIA) for direct procurement
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Intermediate measure	Developing a register of alternative suppliers (at least 2 alternatives for each critical item)
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Intermediate measure	Conducting regular supplier risk analysis (financial stability, geographic location, capacity)
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Intermediate measure	Agreeing in advance on stock levels and buffer stock maintenance
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Intermediate measure	Ensuring personnel competence and awareness of supply chain continuity procedures
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Intermediate measure	Assessing supplier information security risks as part of the procurement process
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Advanced measure	Implementing real-time supply chain risk monitoring (geopolitical risks, natural disaster tracking)
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Advanced measure	Modeling critical supply chain dependencies through simulation
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Advanced measure	Developing a dual/multi-sourcing strategy with geographic diversification of production
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Advanced measure	Assessing climate risk impacts and integrating them into the procurement chain risk model
External	Raw materials and suppliers	Direct procurement	Planning and preparedness	Advanced measure	Integrating sustainable procurement principles into supplier selection criteria
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Default	Activating buffer stocks during a disruption
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Default	Contacting alternative suppliers immediately upon disruption
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Default	Internal communication about the disruption and its impact on production

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Default	Assessing the severity and scope of the disruption against predefined criteria
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Intermediate measure	Activating pre-agreed backup supplier contracts
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Intermediate measure	Prioritizing critical production lines and allocating raw materials accordingly
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Intermediate measure	Negotiating temporary delivery changes (batch size, delivery frequency, logistics route)
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Intermediate measure	Activating the crisis communication plan to coordinate stakeholder communication
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Advanced measure	Using real-time data analytics to reroute raw material flows
External	Raw materials and suppliers	Direct procurement	Impact mitigation	Advanced measure	Initiating dynamic production planning to optimize product mix according to available raw materials
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Default	Restoring normal order backlog after the disruption and replenishing buffer stocks
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Default	Documenting the causes, duration, and financial impact of the disruption
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Default	Evaluating supplier performance during the disruption
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Default	Producing a post-incident report in documented form
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Intermediate measure	Conducting root cause analysis of the disruption and assessing the likelihood of recurrence
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Intermediate measure	Updating the procurement strategy and supplier contracts based on lessons learned
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Intermediate measure	Evaluating the adequacy of buffer stocks and adjusting levels as needed
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Intermediate measure	Implementing corrective actions and monitoring their effectiveness
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Advanced measure	Conducting a comprehensive post-mortem analysis (cost impacts, response times, bottlenecks)
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Advanced measure	Integrating data from the disruption into supply chain risk models to update parameters
External	Raw materials and suppliers	Direct procurement	Recovery and restoration	Advanced measure	Developing an automated recovery protocol for future similar disruptions
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Default	Regular monitoring of supplier delivery reliability and quality metrics
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Default	Keeping the supplier register up to date and updating contact information
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Default	Annual review of procurement contracts

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Default	Conducting annual continuity plan exercises and tests
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Intermediate measure	Introducing a supplier scorecard system (delivery reliability, quality, price, flexibility)
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Intermediate measure	Systematic monitoring of suppliers' financial condition and market developments
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Intermediate measure	Conducting an annual scenario-based supply chain stress test
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Intermediate measure	Conducting management review of supply chain continuity as part of the business continuity process
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Intermediate measure	Conducting internal auditing of supply chain continuity readiness
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Advanced measure	Using AI-based predictive analytics for raw material market monitoring
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Advanced measure	Integrating real-time geopolitical and climate risk data into supplier monitoring
External	Raw materials and suppliers	Direct procurement	Adaptation and monitoring	Advanced measure	Developing a continuous improvement program to grow supplier network resilience
External	Raw materials and suppliers	Indirect procurement	Planning and preparedness	Default	Mapping all indirect procurement and its suppliers (IT, facility services, consulting, logistics)
External	Raw materials and suppliers	Indirect procurement	Planning and preparedness	Default	Identifying indirect procurements that would halt operations
External	Raw materials and suppliers	Indirect procurement	Planning and preparedness	Default	Ensuring Service Level Agreements (SLAs) and disruption handling in master contracts
External	Raw materials and suppliers	Indirect procurement	Planning and preparedness	Default	Conducting BIA for indirect procurement to define recovery time objectives (RTO/RPO)
External	Raw materials and suppliers	Indirect procurement	Planning and preparedness	Intermediate measure	Classifying indirect procurement by criticality (high/medium/low)
External	Raw materials and suppliers	Indirect procurement	Planning and preparedness	Intermediate measure	Identifying alternative service providers for critical indirect procurement
External	Raw materials and suppliers	Indirect procurement	Planning and preparedness	Intermediate measure	Including business continuity requirements in contracts (backup capacity, response time)
External	Raw materials and suppliers	Indirect procurement	Planning and preparedness	Intermediate measure	Separate assessment of IT service security and continuity requirements
External	Raw materials and suppliers	Indirect procurement	Planning and preparedness	Advanced measure	Modeling interdependencies of indirect procurement (IT system --> logistics --> invoicing)
External	Raw materials and suppliers	Indirect procurement	Impact mitigation	Default	Communicating to key personnel about the impact of the disruption and expected duration
External	Raw materials and suppliers	Indirect procurement	Impact mitigation	Intermediate measure	Activating pre-agreed backup service providers

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Raw materials and suppliers	Indirect procurement	Impact mitigation	Intermediate measure	Switching to backup plan processes for critical services
External	Raw materials and suppliers	Indirect procurement	Impact mitigation	Intermediate measure	Centrally coordinating disruption management between the procurement team and business units
External	Raw materials and suppliers	Indirect procurement	Impact mitigation	Advanced measure	Triggering automated failover to backup services based on predefined thresholds
External	Raw materials and suppliers	Indirect procurement	Impact mitigation	Advanced measure	Using Total Cost of Ownership (TCO) analysis to prioritize rapid replacement solutions
External	Raw materials and suppliers	Indirect procurement	Impact mitigation	Advanced measure	Managing the multi-supplier environment through a centralized command center model
External	Raw materials and suppliers	Indirect procurement	Recovery and restoration	Default	Restoring normal service levels and ensuring fulfillment of SLA obligations
External	Raw materials and suppliers	Indirect procurement	Recovery and restoration	Default	Documenting the impact and costs of the disruption
External	Raw materials and suppliers	Indirect procurement	Recovery and restoration	Default	Assessing the supplier's recovery capability and ability to meet contractual obligations going forward
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Intermediate measure	Conducting root cause analysis and updating SLA requirements as needed
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Intermediate measure	Assessing the adequacy of the supplier's business continuity plan
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Intermediate measure	Developing internal back-up processes for critical functions whose disruption caused the greatest impact
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Advanced measure	Integrating lessons learned into procurement criteria and supplier auditing
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Advanced measure	Developing a predictive analytics model to identify disruptions in indirect services in advance
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Advanced measure	Standardizing recovery processes and automating reporting
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Default	Monitoring indirect supplier performance with SLA metrics
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Default	Maintaining an up-to-date list of backup suppliers and their contact information
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Default	Annual review of contracts and categories
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Default	Conducting continuity plan exercises and evaluating results
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Intermediate measure	Introducing spend analysis and category-based risk assessment
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Intermediate measure	Regular auditing of critical indirect suppliers' continuity plans
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Intermediate measure	Developing a cross-functional collaboration model (procurement + IT + finance + operations)

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Advanced measure	Implementing a digital procurement risk dashboard with real-time monitoring
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Advanced measure	Using market analytics and benchmarking in category management
External	Raw materials and suppliers	Indirect procurement	Adaptation and monitoring	Advanced measure	Developing an adaptive procurement strategy that adjusts automatically to changes in the risk environment
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Default	Identifying and documenting strategic suppliers (strong business dependencies)
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Default	Ensuring at least a baseline continuity plan for strategic suppliers
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Default	Agreeing on regular collaboration meetings and disruption communication protocols
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Default	Identifying statutory, regulatory and contract-based requirements for strategic supplier relationships
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Intermediate measure	Conducting thorough dependency analysis: permitted disruption duration before own production halts
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Intermediate measure	Developing a joint business continuity plan (joint BCP) with the supplier
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Intermediate measure	Mapping the subcontractor chains of strategic suppliers (tier 2 and tier 3)
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Intermediate measure	Conducting supplier information security and cyber resilience assessments
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Advanced measure	Establishing a joint risk management forum with strategic suppliers
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Advanced measure	Modeling the cascading effects of strategic supplier disruptions across the entire value chain
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Advanced measure	Developing an exit strategy for each strategic supplier (transition plan)
External	Raw materials and suppliers	Strategic suppliers	Planning and preparedness	Advanced measure	Integrating ESG risks (environmental, social, governance) into strategic supplier evaluation
External	Raw materials and suppliers	Strategic suppliers	Impact mitigation	Default	Immediately contacting the strategic supplier to determine the scope and expected duration of the disruption
External	Raw materials and suppliers	Strategic suppliers	Impact mitigation	Default	Activating own stock buffers
External	Raw materials and suppliers	Strategic suppliers	Impact mitigation	Default	Informing customers of possible delivery delays
External	Raw materials and suppliers	Strategic suppliers	Impact mitigation	Intermediate measure	Activating the joint continuity plan with the supplier
External	Raw materials and suppliers	Strategic suppliers	Impact mitigation	Intermediate measure	Urgent qualification of alternative supply sources

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Raw materials and suppliers	Strategic suppliers	Impact mitigation	Intermediate measure	Negotiating product prioritization and changes to delivery schedules with customers
External	Raw materials and suppliers	Strategic suppliers	Impact mitigation	Advanced measure	Activating the pre-prepared transition plan to an alternative supplier
External	Raw materials and suppliers	Strategic suppliers	Impact mitigation	Advanced measure	Orchestrating the reorganization of the entire subcontracting network as needed
External	Raw materials and suppliers	Strategic suppliers	Recovery and restoration	Default	Monitoring strategic supplier recovery and gradually normalizing orders
External	Raw materials and suppliers	Strategic suppliers	Recovery and restoration	Default	Documenting the costs and operational impacts of the disruption
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Intermediate measure	Reassessing supplier performance and updating the risk profile
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Intermediate measure	Negotiating contract changes to improve preparedness for similar situations
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Intermediate measure	Assessing the need to reduce dependence by diversifying procurement
External	Raw materials and suppliers	Strategic suppliers	Recovery and restoration	Advanced measure	Conducting a joint post-mortem analysis and updating the joint BCP
External	Raw materials and suppliers	Strategic suppliers	Recovery and restoration	Advanced measure	Integrating lessons learned into the strategic procurement plan and supplier development program
External	Raw materials and suppliers	Strategic suppliers	Recovery and restoration	Advanced measure	Remodeling the risk profile of the entire value chain taking into account the realized disruption
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Default	Annual monitoring of strategic suppliers' financial condition (financial statement data)
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Default	Holding regular collaboration meetings (at least quarterly)
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Default	Ensuring contact information and escalation paths are up to date
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Default	Testing continuity plans through exercises with strategic suppliers
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Intermediate measure	Conducting an annual strategic supplier audit with a continuity readiness assessment
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Intermediate measure	Monitoring the supplier's market position, competitive situation and technology development
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Intermediate measure	Using supplier credit rating services (Dun & Bradstreet, Bisnode)
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Advanced measure	Developing a real-time strategic supplier risk dashboard (financial, geopolitical, ESG, capacity)
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Advanced measure	Implementing a continuous monitoring service (supply chain risk intelligence platforms)

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Raw materials and suppliers	Strategic suppliers	Adaptation and monitoring	Advanced measure	Conducting regular wargame simulations to test readiness for losing a strategic supplier
External	Raw materials and suppliers	Other suppliers	Planning and preparedness	Default	Maintaining an up-to-date register of all other suppliers
External	Raw materials and suppliers	Other suppliers	Planning and preparedness	Default	Identifying other suppliers that indirectly affect operations
External	Raw materials and suppliers	Other suppliers	Planning and preparedness	Default	Ensuring the maintenance of master contracts (termination and disruption clauses)
External	Raw materials and suppliers	Other suppliers	Planning and preparedness	Intermediate measure	Classifying other suppliers by risk level and identifying replacement alternatives for medium-risk suppliers
External	Raw materials and suppliers	Other suppliers	Planning and preparedness	Intermediate measure	Standardizing contract templates to include continuity clauses
External	Raw materials and suppliers	Other suppliers	Planning and preparedness	Intermediate measure	Developing a rapid tendering process for disruption situations
External	Raw materials and suppliers	Other suppliers	Planning and preparedness	Advanced measure	Integrating other suppliers into the overall risk model and identifying hidden dependencies
External	Raw materials and suppliers	Other suppliers	Planning and preparedness	Advanced measure	Automating monitoring and alerts for low-risk suppliers
External	Raw materials and suppliers	Other suppliers	Planning and preparedness	Advanced measure	Developing a platform-based procurement model to enable fast and effortless switching
External	Raw materials and suppliers	Other suppliers	Impact mitigation	Default	Identifying the disrupted supplier and determining replacement availability
External	Raw materials and suppliers	Other suppliers	Impact mitigation	Default	Prioritization: shifting resources to more critical disruptions if impact is minor
External	Raw materials and suppliers	Other suppliers	Impact mitigation	Default	Using internal resources as a temporary solution
External	Raw materials and suppliers	Other suppliers	Impact mitigation	Intermediate measure	Activating the rapid tendering process and leveraging pre-qualified suppliers
External	Raw materials and suppliers	Other suppliers	Impact mitigation	Intermediate measure	Leveraging framework agreements and group procurement networks for rapid replacement
External	Raw materials and suppliers	Other suppliers	Impact mitigation	Intermediate measure	Allocating procurement team resources by criticality
External	Raw materials and suppliers	Other suppliers	Impact mitigation	Advanced measure	Initiating automated procurement processes to activate a replacement supplier
External	Raw materials and suppliers	Other suppliers	Impact mitigation	Advanced measure	Leveraging digital procurement platforms (e-sourcing) for rapid tendering
External	Raw materials and suppliers	Other suppliers	Impact mitigation	Advanced measure	Dynamic cross-functional reallocation of resources
External	Raw materials and suppliers	Other suppliers	Recovery and restoration	Default	Restoring the normal supplier relationship or confirming the alternative supplier
External	Raw materials and suppliers	Other suppliers	Recovery and restoration	Default	Documenting the disruption and its handling

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Raw materials and suppliers	Other suppliers	Recovery and restoration	Default	Assessing the need to update the continuity plan
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Intermediate measure	Assessing the impact of the disruption on total costs and service level
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Intermediate measure	Updating supplier register risk assessments
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Intermediate measure	Developing a standardized onboarding process for the rapid introduction of new replacement suppliers
External	Raw materials and suppliers	Other suppliers	Recovery and restoration	Advanced measure	Analyzing disruption data to identify recurring patterns and structural vulnerabilities
External	Raw materials and suppliers	Other suppliers	Recovery and restoration	Advanced measure	Automating post-incident reporting and integrating it into the risk database
External	Raw materials and suppliers	Other suppliers	Recovery and restoration	Advanced measure	Optimizing the supplier portfolio based on data analytics
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Default	Semi-annual review of the supplier register
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Default	Monitoring service level and complaints
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Default	Keeping the list of alternative suppliers up to date
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Intermediate measure	Implementing automated supplier performance monitoring
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Intermediate measure	Developing risk profiling of procurement categories
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Intermediate measure	Proactively assessing market conditions and new supplier alternatives
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Advanced measure	Integrating supplier data into the company's broader risk situational picture
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Advanced measure	Using machine learning to predict supplier risk
External	Raw materials and suppliers	Other suppliers	Adaptation and monitoring	Advanced measure	Developing an adaptive procurement portfolio model that automatically responds to market changes
External	Production partners	Contract manufacturers	Planning and preparedness	Default	Documenting all contract manufacturers, production processes and capacities
External	Production partners	Contract manufacturers	Planning and preparedness	Default	Ensuring clear production obligations, quality requirements and disruption clauses in contracts
External	Production partners	Contract manufacturers	Planning and preparedness	Default	Identifying backup capacity: ability of another contract manufacturer or own production to absorb volume
External	Production partners	Contract manufacturers	Planning and preparedness	Default	Conducting dependency analysis for contract manufacturing (MTPD, RTO)
External	Production partners	Contract manufacturers	Planning and preparedness	Intermediate measure	Auditing contract manufacturers' production facilities (quality, capacity, continuity readiness)

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Production partners	Contract manufacturers	Planning and preparedness	Intermediate measure	Developing a qualification process for alternative contract manufacturers
External	Production partners	Contract manufacturers	Planning and preparedness	Intermediate measure	Pre-agreeing capacity scaling mechanisms (ramp-up/ramp-down terms)
External	Production partners	Contract manufacturers	Planning and preparedness	Intermediate measure	Assessing the contract manufacturer's physical security and facility security
External	Production partners	Contract manufacturers	Planning and preparedness	Advanced measure	Developing a digital twin of the contract manufacturer's production process
External	Production partners	Contract manufacturers	Planning and preparedness	Advanced measure	Modeling the impacts of production capacity loss in various disruption scenarios
External	Production partners	Contract manufacturers	Planning and preparedness	Advanced measure	Establishing a joint innovation and continuous improvement program with the contract manufacturer
External	Production partners	Contract manufacturers	Impact mitigation	Default	Immediately contacting the contract manufacturer to determine the scope of the disruption
External	Production partners	Contract manufacturers	Impact mitigation	Default	Shifting production where possible to another contract manufacturer or to own production
External	Production partners	Contract manufacturers	Impact mitigation	Default	Prioritizing production order by customer priority and margin
External	Production partners	Contract manufacturers	Impact mitigation	Intermediate measure	Activating pre-qualified backup manufacturers and initiating the transfer
External	Production partners	Contract manufacturers	Impact mitigation	Intermediate measure	Negotiating temporary production arrangements (shift work, overtime, third parties)
External	Production partners	Contract manufacturers	Impact mitigation	Intermediate measure	Proactively managing customer communication: updated delivery schedules
External	Production partners	Contract manufacturers	Impact mitigation	Advanced measure	Launching digital twin simulation to optimize production capacity with remaining resources
External	Production partners	Contract manufacturers	Impact mitigation	Advanced measure	Real-time orchestration of production reorganization across the multi-actor network
External	Production partners	Contract manufacturers	Impact mitigation	Advanced measure	Using advanced optimization (linear programming) in production allocation
External	Production partners	Contract manufacturers	Recovery and restoration	Default	Monitoring contract manufacturer production recovery and normalizing orders
External	Production partners	Contract manufacturers	Recovery and restoration	Default	Documenting the financial and operational impacts of the disruption
External	Production partners	Contract manufacturers	Recovery and restoration	Default	Conducting a joint assessment of the causes of the disruption
External	Production partners	Contract manufacturers	Adaptation and monitoring	Intermediate measure	Conducting root cause analysis and updating contract terms (capacity reservations, sanctions)
External	Production partners	Contract manufacturers	Adaptation and monitoring	Intermediate measure	Assessing the contract manufacturer's investment needs to improve continuity

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Production partners	Contract manufacturers	Adaptation and monitoring	Intermediate measure	Developing standardized recovery protocols for different types of disruption
External	Production partners	Contract manufacturers	Adaptation and monitoring	Advanced measure	Integrating disruption data into the production chain risk model and updating simulation parameters
External	Production partners	Contract manufacturers	Adaptation and monitoring	Advanced measure	Developing a joint resilience development program with the contract manufacturer
External	Production partners	Contract manufacturers	Recovery and restoration	Advanced measure	Conducting comprehensive stress testing of alternative production chains
External	Production partners	Contract manufacturers	Adaptation and monitoring	Default	Monitoring contract manufacturer quality, delivery reliability and capacity utilization rate
External	Production partners	Contract manufacturers	Adaptation and monitoring	Default	Holding an annual contract review
External	Production partners	Contract manufacturers	Adaptation and monitoring	Default	Updating the list of backup manufacturers
External	Production partners	Contract manufacturers	Adaptation and monitoring	Intermediate measure	Conducting an annual contract manufacturer audit on continuity readiness
External	Production partners	Contract manufacturers	Adaptation and monitoring	Intermediate measure	Monitoring the contract manufacturer's investments and technology development
External	Production partners	Contract manufacturers	Adaptation and monitoring	Intermediate measure	Developing joint KPIs and transparent reporting
External	Production partners	Contract manufacturers	Adaptation and monitoring	Advanced measure	Implementing a real-time production monitoring system at the contract manufacturer's facilities
External	Production partners	Contract manufacturers	Adaptation and monitoring	Advanced measure	Using IoT sensors and predictive analytics to anticipate production disruptions
External	Production partners	Contract manufacturers	Adaptation and monitoring	Advanced measure	Developing adaptive capacity planning that takes into account market demand and risk signals
External	Production partners	Joint ventures and alliances	Planning and preparedness	Default	Documenting the governance model, decision-making processes and areas of responsibility of joint ventures and alliances
External	Production partners	Joint ventures and alliances	Planning and preparedness	Default	Ensuring clear procedures for disruption and dispute situations in joint venture agreements
External	Production partners	Joint ventures and alliances	Planning and preparedness	Default	Identifying key personnel and communication channels on the partner's side
External	Production partners	Joint ventures and alliances	Planning and preparedness	Intermediate measure	Developing a joint risk management plan with joint venture parties
External	Production partners	Joint ventures and alliances	Planning and preparedness	Intermediate measure	Mapping the partner's financial, operational and strategic risks
External	Production partners	Joint ventures and alliances	Planning and preparedness	Intermediate measure	Agreeing on a joint continuity plan covering the responsibilities of both parties

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Production partners	Joint ventures and alliances	Planning and preparedness	Advanced measure	Modeling the joint venture's risk profile taking the partner's entire ecosystem into account
External	Production partners	Joint ventures and alliances	Planning and preparedness	Advanced measure	Establishing a joint governance model with regular stress tests
External	Production partners	Joint ventures and alliances	Impact mitigation	Default	Activating agreed communication channels with the partner
External	Production partners	Joint ventures and alliances	Impact mitigation	Default	Determining the impact of the disruption on the joint venture's operations and cash flow
External	Production partners	Joint ventures and alliances	Impact mitigation	Default	Prioritizing the joint venture's critical functions
External	Production partners	Joint ventures and alliances	Impact mitigation	Intermediate measure	Activating the joint continuity plan with clear division of responsibilities
External	Production partners	Joint ventures and alliances	Impact mitigation	Intermediate measure	Negotiating temporary governance arrangements as needed
External	Production partners	Joint ventures and alliances	Impact mitigation	Intermediate measure	Coordinating communication to customers and stakeholders jointly
External	Production partners	Joint ventures and alliances	Impact mitigation	Advanced measure	Launching the pre-planned operational reorganization
External	Production partners	Joint ventures and alliances	Impact mitigation	Advanced measure	Activating the backup governance model (one party takes greater operational responsibility)
External	Production partners	Joint ventures and alliances	Impact mitigation	Advanced measure	Using joint data analytics for real-time situation monitoring
External	Production partners	Joint ventures and alliances	Recovery and restoration	Default	Joint assessment with the partner of the impacts of the disruption and follow-up plan
External	Production partners	Joint ventures and alliances	Recovery and restoration	Default	Documenting the financial and operational impacts
External	Production partners	Joint ventures and alliances	Recovery and restoration	Default	Normalizing the governance model and decision-making processes
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Intermediate measure	Conducting a joint root cause analysis and updating disruption protocols in the joint venture agreement
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Intermediate measure	Assessing changes in the partner's risk profile and updating due diligence
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Intermediate measure	Developing a joint learning process (after-action review)
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Advanced measure	Updating the joint venture's strategic plan considering the changed risk environment
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Advanced measure	Conducting a comprehensive assessment of the suitability of the joint venture structure in the changed environment
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Advanced measure	Integrating lessons learned into the broader partnership strategy
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Default	Holding regular board and steering group meetings
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Default	Monitoring the joint venture's key financial figures

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Default	Ensuring communication channels and contact information are up to date
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Intermediate measure	Conducting an annual partner risk assessment (finance, strategy, operational performance)
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Intermediate measure	Regularly assessing the strategic added value of the joint venture
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Intermediate measure	Developing joint resilience KPIs and reporting practices
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Advanced measure	Implementing continuous monitoring of partner ecosystem risks
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Advanced measure	Conducting regular scenario analyses of the joint venture's future
External	Production partners	Joint ventures and alliances	Adaptation and monitoring	Advanced measure	Developing an adaptive partnership model that scales and adjusts to market changes
External	Production partners	Critical partners	Planning and preparedness	Default	Identifying critical partners (R&D, technology, patent licenses) and documenting dependencies
External	Production partners	Critical partners	Planning and preparedness	Default	Ensuring inclusion of IP protection, information security clauses and disruption procedures in contracts
External	Production partners	Critical partners	Planning and preparedness	Default	Agreeing on a crisis communication protocol
External	Production partners	Critical partners	Planning and preparedness	Intermediate measure	Conducting dependency analysis: assessing the consequences of completely losing the partner
External	Production partners	Critical partners	Planning and preparedness	Intermediate measure	Developing a partner-specific continuity plan with mapping of alternative partners
External	Production partners	Critical partners	Planning and preparedness	Intermediate measure	Mapping the partner's financial stability and strategic direction
External	Production partners	Critical partners	Planning and preparedness	Intermediate measure	Conducting a partner information security audit and assessing cyber risks
External	Production partners	Critical partners	Planning and preparedness	Advanced measure	Developing an alternative implementation model for each critical partner (insourcing, another partner, technology change)
External	Production partners	Critical partners	Planning and preparedness	Advanced measure	Modeling the cascading effects of losing the partner on the business model
External	Production partners	Critical partners	Planning and preparedness	Advanced measure	Establishing a shared risk database with partners
External	Production partners	Critical partners	Impact mitigation	Default	Immediately contacting the partner and assessing the criticality of the disruption
External	Production partners	Critical partners	Impact mitigation	Default	Activating internal backup plans to maintain critical processes
External	Production partners	Critical partners	Impact mitigation	Default	Informing management and stakeholders of the situation

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Production partners	Critical partners	Impact mitigation	Intermediate measure	Activating the pre-prepared continuity plan (insourcing, backup partner)
External	Production partners	Critical partners	Impact mitigation	Intermediate measure	Prioritizing partner-provided services by criticality
External	Production partners	Critical partners	Impact mitigation	Intermediate measure	Initiating an accelerated procurement process for an alternative partner
External	Production partners	Critical partners	Impact mitigation	Advanced measure	Activating the alternative implementation model and scaling as needed
External	Production partners	Critical partners	Impact mitigation	Advanced measure	Orchestrating resource allocation across the entire partner network to optimize the situation
External	Production partners	Critical partners	Impact mitigation	Advanced measure	Initiating a strategic-level decision-making process (make-or-buy assessment)
External	Production partners	Critical partners	Recovery and restoration	Default	Assessing the partner's recovery capability and gradually normalizing cooperation
External	Production partners	Critical partners	Recovery and restoration	Default	Documenting the impact and costs of the disruption
External	Production partners	Critical partners	Recovery and restoration	Default	Holding a feedback session with the partner
External	Production partners	Critical partners	Recovery and restoration	Intermediate measure	Updating the partner's risk profile and contract terms based on lessons learned
External	Production partners	Critical partners	Recovery and restoration	Intermediate measure	Assessing the need to reduce dependence through diversification
External	Production partners	Critical partners	Recovery and restoration	Intermediate measure	Developing improved escalation processes
External	Production partners	Critical partners	Recovery and restoration	Advanced measure	Conducting a strategic assessment of the partnership's future in the changed context
External	Production partners	Critical partners	Recovery and restoration	Advanced measure	Integrating lessons learned into the partnership strategy roadmap
External	Production partners	Critical partners	Recovery and restoration	Advanced measure	Developing a resilience score for each critical partner
External	Production partners	Critical partners	Adaptation and monitoring	Default	Holding regular collaboration meetings and monitoring service level
External	Production partners	Critical partners	Adaptation and monitoring	Default	Updating contact information and escalation paths
External	Production partners	Critical partners	Adaptation and monitoring	Default	Annual review of contracts
External	Production partners	Critical partners	Adaptation and monitoring	Intermediate measure	Conducting an annual partner continuity readiness audit
External	Production partners	Critical partners	Adaptation and monitoring	Intermediate measure	Monitoring the partner's strategic direction and market position
External	Production partners	Critical partners	Adaptation and monitoring	Intermediate measure	Developing partner-specific resilience KPIs
External	Production partners	Critical partners	Adaptation and monitoring	Advanced measure	Implementing continuous partner risk monitoring (financial, cyber, reputation, geopolitical)

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Production partners	Critical partners	Adaptation and monitoring	Advanced measure	Conducting an annual simulation exercise with a critical partner loss scenario
External	Customers and sales channels	Key customers	Planning and preparedness	Default	Identifying the largest customers (significant revenue share) and documenting contractual relationships
External	Customers and sales channels	Key customers	Planning and preparedness	Default	Assessing customer concentration risk: analysis of top 5 customers' revenue share
External	Customers and sales channels	Key customers	Planning and preparedness	Default	Ensuring clear delivery disruption clauses in sales contracts
External	Customers and sales channels	Key customers	Planning and preparedness	Intermediate measure	Developing customer-specific continuity plans for key customers
External	Customers and sales channels	Key customers	Planning and preparedness	Intermediate measure	Mapping key customers' own risks and knock-on effects (e.g. insolvency)
External	Customers and sales channels	Key customers	Planning and preparedness	Intermediate measure	Diversifying the customer base to reduce dependence on individual customers
External	Customers and sales channels	Key customers	Planning and preparedness	Advanced measure	Modeling the financial impacts of customer concentration risk in various scenarios
External	Customers and sales channels	Key customers	Planning and preparedness	Advanced measure	Developing a joint value chain continuity plan with the key customer
External	Customers and sales channels	Key customers	Impact mitigation	Default	Proactively informing the key customer of delivery disruptions
External	Customers and sales channels	Key customers	Impact mitigation	Default	Prioritizing key customers' orders during a disruption
External	Customers and sales channels	Key customers	Impact mitigation	Default	Offering temporary solutions (partial delivery, alternative product)
External	Customers and sales channels	Key customers	Impact mitigation	Intermediate measure	Activating the customer-specific continuity plan
External	Customers and sales channels	Key customers	Impact mitigation	Intermediate measure	Negotiating flexible delivery schedules and replacement solutions
External	Customers and sales channels	Key customers	Impact mitigation	Intermediate measure	Managing customer relationship retention through active leadership-level communication
External	Customers and sales channels	Key customers	Impact mitigation	Advanced measure	Using customer data analytics in prioritization decisions (customer lifetime value, strategic importance, churn risk)
External	Customers and sales channels	Key customers	Impact mitigation	Advanced measure	Activating the joint value chain continuity plan
External	Customers and sales channels	Key customers	Impact mitigation	Advanced measure	Offering innovative temporary solutions (e.g. digital service as a substitute for a physical product)
External	Customers and sales channels	Key customers	Recovery and restoration	Default	Restoring normal delivery cadence to key customers first
External	Customers and sales channels	Key customers	Recovery and restoration	Default	Assessing customer satisfaction after the disruption
External	Customers and sales channels	Key customers	Recovery and restoration	Default	Documenting the impacts of the disruption on sales and the customer relationship

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Customers and sales channels	Key customers	Recovery and restoration	Intermediate measure	Conducting customer-specific assessment of disruption impacts and developing a compensation plan as needed
External	Customers and sales channels	Key customers	Recovery and restoration	Intermediate measure	Updating sales forecasts and contracts based on lessons learned from the disruption
External	Customers and sales channels	Key customers	Recovery and restoration	Intermediate measure	Strengthening the customer relationship through strategic leadership-level dialogue
External	Customers and sales channels	Key customers	Recovery and restoration	Advanced measure	Leveraging the disruption to deepen the customer relationship (joint learning, transparency)
External	Customers and sales channels	Key customers	Recovery and restoration	Advanced measure	Developing predictive models for the probability of customer loss in disruption situations
External	Customers and sales channels	Key customers	Adaptation and monitoring	Default	Regular monitoring of key customer satisfaction (NPS, CSAT)
External	Customers and sales channels	Key customers	Adaptation and monitoring	Intermediate measure	Quarterly monitoring of customer concentration risk
External	Customers and sales channels	Key customers	Adaptation and monitoring	Default	Holding regular reviews with key account managers
External	Customers and sales channels	Key customers	Adaptation and monitoring	Intermediate measure	Developing a key-customer-specific risk dashboard (credit risk, volume changes, competitive situation)
External	Customers and sales channels	Key customers	Adaptation and monitoring	Intermediate measure	Monitoring developments in customers' industries and identifying early signals
External	Customers and sales channels	Key customers	Adaptation and monitoring	Intermediate measure	Conducting an annual customer portfolio risk assessment
External	Customers and sales channels	Key customers	Adaptation and monitoring	Advanced measure	Real-time customer risk monitoring (payment behavior, market position, ESG)
External	Customers and sales channels	Key customers	Adaptation and monitoring	Advanced measure	Using predictive analytics to anticipate customer attrition
External	Customers and sales channels	Key customers	Adaptation and monitoring	Advanced measure	Developing a customer portfolio management strategy that keeps revenue and related risks in balance
External	Customers and sales channels	Small and medium-sized customers	Planning and preparedness	Default	Segmenting small and medium-sized customers and identifying the segments' significance for total revenue
External	Customers and sales channels	Small and medium-sized customers	Planning and preparedness	Default	Ensuring scalable contract terms and clear delivery commitments
External	Customers and sales channels	Small and medium-sized customers	Planning and preparedness	Default	Developing standardized communication templates for disruption situations
External	Customers and sales channels	Small and medium-sized customers	Planning and preparedness	Intermediate measure	Analyzing customer attrition risk in the SME segment and developing retention strategies

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Customers and sales channels	Small and medium-sized customers	Planning and preparedness	Intermediate measure	Developing a multi-channel communication model for disruption situations (email, self-service portal, phone)
External	Customers and sales channels	Small and medium-sized customers	Planning and preparedness	Intermediate measure	Diversifying the SME customer base by industry and geography
External	Customers and sales channels	Small and medium-sized customers	Planning and preparedness	Advanced measure	Modeling SME segment behavior in disruption situations (e.g. churn analysis, price sensitivity model)
External	Customers and sales channels	Small and medium-sized customers	Planning and preparedness	Advanced measure	Building an automated alert system for early identification of SME customer credit risks
External	Customers and sales channels	Small and medium-sized customers	Planning and preparedness	Advanced measure	Adding the SME customer segment to the pricing model so that pricing flexes automatically according to customer-specific risk signals
External	Customers and sales channels	Small and medium-sized customers	Impact mitigation	Default	Clear and timely communication to SME customers about the disruption situation
External	Customers and sales channels	Small and medium-sized customers	Impact mitigation	Default	Offering realistic delivery schedules and alternatives
External	Customers and sales channels	Small and medium-sized customers	Impact mitigation	Default	Directing customers to self-service channels for status tracking
External	Customers and sales channels	Small and medium-sized customers	Impact mitigation	Intermediate measure	Activating segment-specific prioritization rules (growing vs. declining customers)
External	Customers and sales channels	Small and medium-sized customers	Impact mitigation	Intermediate measure	Using automated communication for a large customer base
External	Customers and sales channels	Small and medium-sized customers	Impact mitigation	Intermediate measure	Offering targeted flexibility (extended payment terms, partial delivery)
External	Customers and sales channels	Small and medium-sized customers	Impact mitigation	Advanced measure	Flexible prioritization of customers based on data (customer value, loyalty and strategic significance)
External	Customers and sales channels	Small and medium-sized customers	Impact mitigation	Advanced measure	Automating disruption communication, order rescheduling and compensation
External	Customers and sales channels	Small and medium-sized customers	Impact mitigation	Advanced measure	Using chatbot or AI-based customer service for scalable support
External	Customers and sales channels	Small and medium-sized customers	Recovery and restoration	Default	Restoring normal service level and informing customers about normalization of the situation
External	Customers and sales channels	Small and medium-sized customers	Recovery and restoration	Default	Monitoring customer attrition after the disruption
External	Customers and sales channels	Small and medium-sized customers	Recovery and restoration	Default	Documenting the impacts of the disruption on the SME segment

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Customers and sales channels	Small and medium-sized customers	Recovery and restoration	Intermediate measure	Conducting a segment-specific satisfaction survey after the disruption
External	Customers and sales channels	Small and medium-sized customers	Recovery and restoration	Intermediate measure	Developing a win-back campaign for lost customers
External	Customers and sales channels	Small and medium-sized customers	Recovery and restoration	Intermediate measure	Evaluating and improving the effectiveness of the communication model
External	Customers and sales channels	Small and medium-sized customers	Recovery and restoration	Advanced measure	Developing a predictive model for the impact of disruptions on different customer segments
External	Customers and sales channels	Small and medium-sized customers	Recovery and restoration	Advanced measure	Optimizing the recovery strategy by segment based on data analysis
External	Customers and sales channels	Small and medium-sized customers	Adaptation and monitoring	Default	Monitoring sales development and customer attrition in the SME segment
External	Customers and sales channels	Small and medium-sized customers	Adaptation and monitoring	Default	Keeping CRM system data up to date
External	Customers and sales channels	Small and medium-sized customers	Adaptation and monitoring	Default	Annual assessment of the overall health of the SME segment
External	Customers and sales channels	Small and medium-sized customers	Adaptation and monitoring	Intermediate measure	Developing customer-group-specific tracking metrics (e.g. customer retention, customer profitability, customer satisfaction)
External	Customers and sales channels	Small and medium-sized customers	Adaptation and monitoring	Intermediate measure	Monitoring business cycle developments in SME customers' industries
External	Customers and sales channels	Small and medium-sized customers	Adaptation and monitoring	Intermediate measure	Continuous optimization of the channel strategy
External	Customers and sales channels	Small and medium-sized customers	Adaptation and monitoring	Advanced measure	Building a real-time analytics view of the SME segment
External	Customers and sales channels	Small and medium-sized customers	Adaptation and monitoring	Advanced measure	Using machine learning to predict customer behavior
External	Customers and sales channels	Small and medium-sized customers	Adaptation and monitoring	Advanced measure	Developing an adaptive SME segment service model that scales automatically according to demand and risk level
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Default	Documenting all direct sales channels (e-commerce, stores, sales team, telesales)
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Default	Identifying the critical technology dependencies and bottlenecks of each channel
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Default	Ensuring basic backup systems (e.g. manual order intake when the e-commerce site goes down)
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Intermediate measure	Developing channel-specific continuity plans

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Intermediate measure	Mapping critical vulnerabilities of sales channels and building backup arrangements
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Intermediate measure	Ensuring cross-training: ensuring sales personnel's ability to work in multiple channels
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Intermediate measure	Developing an IT systems recovery plan for sales channels
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Advanced measure	Developing multichannel capability so channels can mutually support each other in disruptions
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Advanced measure	Modeling the impact of channel disruptions on sales and customer experience
External	Customers and sales channels	Direct sales channels	Planning and preparedness	Advanced measure	Automating channel switching in disruption situations
External	Customers and sales channels	Direct sales channels	Impact mitigation	Default	Switching to a backup channel when the primary channel is disrupted (e.g. phone/email instead of e-commerce)
External	Customers and sales channels	Direct sales channels	Impact mitigation	Default	Informing customers of alternative ordering methods
External	Customers and sales channels	Direct sales channels	Impact mitigation	Default	Directing sales resources to functioning channels
External	Customers and sales channels	Direct sales channels	Impact mitigation	Intermediate measure	Activating the channel-specific continuity plan
External	Customers and sales channels	Direct sales channels	Impact mitigation	Intermediate measure	Initiating accelerated repair/recovery for the disrupted channel
External	Customers and sales channels	Direct sales channels	Impact mitigation	Intermediate measure	Using social media and direct communication to guide customers
External	Customers and sales channels	Direct sales channels	Impact mitigation	Advanced measure	Activating the automatic channel switching mechanism
External	Customers and sales channels	Direct sales channels	Impact mitigation	Advanced measure	Using real-time sales data for optimal resource allocation to functioning channels
External	Customers and sales channels	Direct sales channels	Impact mitigation	Advanced measure	Launching dynamic pricing/campaigns to drive demand to functioning channels
External	Customers and sales channels	Direct sales channels	Recovery and restoration	Default	Restoring the disrupted channel to operation and testing its functionality
External	Customers and sales channels	Direct sales channels	Recovery and restoration	Default	Informing customers of normalization
External	Customers and sales channels	Direct sales channels	Recovery and restoration	Default	Documenting the disruption and lost sales
External	Customers and sales channels	Direct sales channels	Recovery and restoration	Intermediate measure	Analyzing sales lost during the disruption by channel and segment
External	Customers and sales channels	Direct sales channels	Recovery and restoration	Intermediate measure	Conducting root cause analysis and updating the channel-specific continuity plan
External	Customers and sales channels	Direct sales channels	Recovery and restoration	Intermediate measure	Launching a win-back campaign for orders lost during the disruption

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Customers and sales channels	Direct sales channels	Recovery and restoration	Advanced measure	Conducting a comprehensive assessment of channel investment needs
External	Customers and sales channels	Direct sales channels	Recovery and restoration	Advanced measure	Developing automated recovery processes (auto-recovery, health checks)
External	Customers and sales channels	Direct sales channels	Recovery and restoration	Advanced measure	Optimizing the overall channel mix in the long term to improve resilience
External	Customers and sales channels	Direct sales channels	Adaptation and monitoring	Intermediate measure	Monitoring and ensuring channel functionality and availability (e.g. service agreements and service level targets)
External	Customers and sales channels	Direct sales channels	Adaptation and monitoring	Default	Monitoring sales development by channel
External	Customers and sales channels	Direct sales channels	Adaptation and monitoring	Default	Annual testing of backup systems
External	Customers and sales channels	Direct sales channels	Adaptation and monitoring	Intermediate measure	Building a common tracking system to measure customer experience across channels
External	Customers and sales channels	Direct sales channels	Adaptation and monitoring	Advanced measure	Real-time monitoring of sales channels and automatic alert systems for exceptional situations
External	Customers and sales channels	Direct sales channels	Adaptation and monitoring	Advanced measure	Using predictive analytics to anticipate channel disruptions
External	Customers and sales channels	Direct sales channels	Adaptation and monitoring	Advanced measure	Building a flexible channel strategy that responds automatically to disruptions
External	Customers and sales channels	Distribution partners and resellers	Planning and preparedness	Default	Documenting all distribution partners and resellers and their contract terms
External	Customers and sales channels	Distribution partners and resellers	Planning and preparedness	Default	Identifying the most critical distribution partners (e.g. largest volume share, strategic regions)
External	Customers and sales channels	Distribution partners and resellers	Planning and preparedness	Default	Recording disruption situations and inventory responsibilities in contracts
External	Customers and sales channels	Distribution partners and resellers	Planning and preparedness	Intermediate measure	Mapping alternative distribution channels for each market area
External	Customers and sales channels	Distribution partners and resellers	Planning and preparedness	Intermediate measure	Mapping the financial risks and capacity limitations of distribution partners
External	Customers and sales channels	Distribution partners and resellers	Planning and preparedness	Intermediate measure	Agreeing on inventory management principles with partners
External	Customers and sales channels	Distribution partners and resellers	Planning and preparedness	Advanced measure	Assessing the impact of distribution disruptions on sales and market coverage by region
External	Customers and sales channels	Distribution partners and resellers	Planning and preparedness	Advanced measure	Designing a flexible distribution network with resilience in mind
External	Customers and sales channels	Distribution partners and resellers	Impact mitigation	Default	Contacting backup channels to replace the disrupted partner (direct sales, another partner)
External	Customers and sales channels	Distribution partners and resellers	Impact mitigation	Default	Informing customers of possible delivery delays
External	Customers and sales channels	Distribution partners and resellers	Impact mitigation	Default	Prioritizing critical products and markets

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Customers and sales channels	Distribution partners and resellers	Impact mitigation	Intermediate measure	Bringing pre-mapped backup channels into use
External	Customers and sales channels	Distribution partners and resellers	Impact mitigation	Intermediate measure	Moving inventory to more optimal locations
External	Customers and sales channels	Distribution partners and resellers	Impact mitigation	Intermediate measure	Sharing capacity with other partners
External	Customers and sales channels	Distribution partners and resellers	Impact mitigation	Advanced measure	Rerouting distribution in real time
External	Customers and sales channels	Distribution partners and resellers	Impact mitigation	Advanced measure	Using external logistics partners to obtain temporary additional capacity
External	Customers and sales channels	Distribution partners and resellers	Impact mitigation	Advanced measure	Activating the direct sales channel for regions where the distribution partner has been lost
External	Customers and sales channels	Distribution partners and resellers	Recovery and restoration	Default	Restoring the distribution partner relationship and normalizing delivery flows
External	Customers and sales channels	Distribution partners and resellers	Recovery and restoration	Default	Evaluating distribution partner performance during the disruption
External	Customers and sales channels	Distribution partners and resellers	Recovery and restoration	Default	Documenting the impacts of the disruption on market coverage and sales
External	Customers and sales channels	Distribution partners and resellers	Recovery and restoration	Intermediate measure	Conducting root cause analysis and updating the distribution partner agreement
External	Customers and sales channels	Distribution partners and resellers	Recovery and restoration	Intermediate measure	Assessing partner network diversity and diversifying as needed
External	Customers and sales channels	Distribution partners and resellers	Recovery and restoration	Intermediate measure	Developing recovery tracking metrics (inventory levels, delivery flows, sales)
External	Customers and sales channels	Distribution partners and resellers	Recovery and restoration	Advanced measure	Developing the distribution partner network based on experience
External	Customers and sales channels	Distribution partners and resellers	Recovery and restoration	Advanced measure	Adding resilience scores as part of partner management
External	Customers and sales channels	Distribution partners and resellers	Recovery and restoration	Advanced measure	Strategic assessment of own distribution vs. outsourcing
External	Customers and sales channels	Distribution partners and resellers	Adaptation and monitoring	Default	Regular monitoring of distribution partners' sales performance and inventory levels
External	Customers and sales channels	Distribution partners and resellers	Adaptation and monitoring	Default	Annual partnership evaluations
External	Customers and sales channels	Distribution partners and resellers	Adaptation and monitoring	Default	Maintaining a backup partner list
External	Customers and sales channels	Distribution partners and resellers	Adaptation and monitoring	Intermediate measure	Developing a partner scorecard (sales, quality, logistics, resilience)
External	Customers and sales channels	Distribution partners and resellers	Adaptation and monitoring	Intermediate measure	Monitoring market developments and new distribution opportunities
External	Customers and sales channels	Distribution partners and resellers	Adaptation and monitoring	Intermediate measure	Annual auditing of critical distribution partners
External	Customers and sales channels	Distribution partners and resellers	Adaptation and monitoring	Advanced measure	Real-time monitoring of partners (sales data, inventory, logistics)

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Customers and sales channels	Distribution partners and resellers	Adaptation and monitoring	Advanced measure	Using predictive analytics to identify and anticipate disruptions and market changes
External	Investors	Investors	Planning and preparedness	Default	Identifying key investors and financiers and their commitments and terms
External	Investors	Investors	Planning and preparedness	Default	Maintaining reliable financial reporting and open investor communication
External	Investors	Investors	Planning and preparedness	Intermediate measure	Developing an investor relations (IR) management plan for disruption situations
External	Investors	Investors	Planning and preparedness	Intermediate measure	Diversifying funding sources (bank loans, bonds, equity investors, public funding)
External	Investors	Investors	Planning and preparedness	Intermediate measure	Preparing a liquidity plan covering at least 3-6 months of cash flow without new financing
External	Investors	Investors	Planning and preparedness	Intermediate measure	Developing a separate crisis communication plan for financiers and investors
External	Investors	Investors	Planning and preparedness	Advanced measure	Modeling the impacts of different crisis scenarios on cash flow, covenants and financing availability
External	Investors	Investors	Planning and preparedness	Advanced measure	Developing a proactive investor communication strategy for different disruption scenarios
External	Investors	Investors	Planning and preparedness	Advanced measure	Establishing strategic partnerships with multiple financiers through committed facility agreements
External	Investors	Investors	Planning and preparedness	Advanced measure	Assessing the financial impacts of climate risks (physical and transition risks) and developing TCFD/ISSB reporting
External	Investors	Investors	Impact mitigation	Default	Proactively informing investors and financiers about the disruption situation and its management
External	Investors	Investors	Impact mitigation	Default	Activating cash reserves and credit limits to secure liquidity
External	Investors	Investors	Impact mitigation	Default	Prioritizing critical payments and obligations
External	Investors	Investors	Impact mitigation	Intermediate measure	Activating the IR crisis communication plan: clear narrative on the disruption, impacts and actions
External	Investors	Investors	Impact mitigation	Intermediate measure	Negotiating changes to financing terms (covenants) or payment terms with financiers (waiver, amendment)
External	Investors	Investors	Impact mitigation	Intermediate measure	Initiating the activation of alternative funding sources (factoring, asset-based lending)
External	Investors	Investors	Impact mitigation	Advanced measure	Activating committed facility agreements and other pre-agreed financing reserves
External	Investors	Investors	Impact mitigation	Advanced measure	Using real-time cash flow analytics to optimize liquidity management

Type	Category	Prerequisite	Phase	Maturity	Measure
External	Investors	Investors	Impact mitigation	Advanced measure	Coordinating strategic investor dialogue: separate briefings for key investors and analyst call
External	Investors	Investors	Recovery and restoration	Default	Normalizing financial reporting and restoring regular investor communication
External	Investors	Investors	Recovery and restoration	Default	Documenting the financial impacts of the disruption and the recovery timeline
External	Investors	Investors	Recovery and restoration	Default	Replenishing cash reserves and restoring liquidity buffers
External	Investors	Investors	Recovery and restoration	Intermediate measure	Organizing a separate post-crisis review for investors and financiers
External	Investors	Investors	Recovery and restoration	Intermediate measure	Updating the financing strategy taking into account the realized disruption and lessons learned
External	Investors	Investors	Recovery and restoration	Intermediate measure	Assessing the resilience of the financing structure and making necessary changes (e.g. maturity diversification)
External	Investors	Investors	Recovery and restoration	Advanced measure	Conducting a comprehensive stress test on the financing structure with updated scenarios
External	Investors	Investors	Recovery and restoration	Advanced measure	Developing an investor relationship deepening strategy: building transparency and trust
External	Investors	Investors	Recovery and restoration	Advanced measure	Integrating financial resilience into the company's strategic planning and reporting (e.g. TCFD)
External	Investors	Investors	Adaptation and monitoring	Default	Continuous monitoring of covenant fulfillment and key financial figures
External	Investors	Investors	Adaptation and monitoring	Default	Maintaining adequacy of liquidity buffers
External	Investors	Investors	Adaptation and monitoring	Intermediate measure	Developing a financial early warning system (approaching covenants, cash flow forecasts)
External	Investors	Investors	Adaptation and monitoring	Intermediate measure	Monitoring developments in financial markets and the availability of alternative funding sources
External	Investors	Investors	Adaptation and monitoring	Intermediate measure	Conducting an annual financing structure resilience assessment
External	Investors	Investors	Adaptation and monitoring	Advanced measure	Implementing a real-time cash flow and financial risk dashboard
External	Investors	Investors	Adaptation and monitoring	Advanced measure	Using scenario analysis and Monte Carlo simulation to test financial resilience
External	Investors	Investors	Adaptation and monitoring	Advanced measure	Developing an adaptive financing strategy that automatically adapts to market conditions and risk signals
Internal	Production equipment	Production equipment	Planning and preparedness	Default	Maintaining a register (listing) of all production equipment (owned and leased)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Production equipment	Production equipment	Planning and preparedness	Default	Identifying critical equipment and assessing their recovery time and maximum tolerable period of disruption (RTO, MTPD)
Internal	Production equipment	Production equipment	Planning and preparedness	Default	Maintaining a service and maintenance program for critical equipment
Internal	Production equipment	Production equipment	Planning and preparedness	Default	Ensuring spare parts availability for critical equipment
Internal	Production equipment	Production equipment	Planning and preparedness	Intermediate measure	Mapping backup equipment and backup capacity (own, leased, third-party)
Internal	Production equipment	Production equipment	Planning and preparedness	Intermediate measure	Conducting equipment-specific risk assessment (failure probability, severity of consequences)
Internal	Production equipment	Production equipment	Planning and preparedness	Intermediate measure	Developing a predictive maintenance program
Internal	Production equipment	Production equipment	Planning and preparedness	Intermediate measure	Assessing and updating the adequacy of equipment insurance coverage
Internal	Production equipment	Production equipment	Planning and preparedness	Advanced measure	Implementing IoT (Internet of Things)-based equipment condition monitoring with real-time alert systems
Internal	Production equipment	Production equipment	Planning and preparedness	Advanced measure	Using digital twin modeling for simulation and optimization of production lines
Internal	Production equipment	Production equipment	Impact mitigation	Default	Identifying the failed equipment and assessing the extent of the fault
Internal	Production equipment	Production equipment	Impact mitigation	Default	Activating spare parts and maintenance services
Internal	Production equipment	Production equipment	Impact mitigation	Default	Reorganizing production for functioning equipment
Internal	Production equipment	Production equipment	Impact mitigation	Intermediate measure	Activating backup capacity (backup equipment, leased equipment, equipment of another production unit)
Internal	Production equipment	Production equipment	Impact mitigation	Intermediate measure	Prioritizing maintenance personnel and spare parts for the most critical equipment
Internal	Production equipment	Production equipment	Impact mitigation	Intermediate measure	Initiating temporary production arrangements (overtime, additional shifts, subcontractors)
Internal	Production equipment	Production equipment	Impact mitigation	Advanced measure	Launching real-time production capacity optimization with remaining equipment
Internal	Production equipment	Production equipment	Impact mitigation	Advanced measure	Activating dynamic allocation of the global equipment pool
Internal	Production equipment	Production equipment	Impact mitigation	Advanced measure	Triggering automated procedures to redirect production to another location or process during a disruption
Internal	Production equipment	Production equipment	Recovery and restoration	Default	Repairing or replacing the failed equipment and normalizing production
Internal	Production equipment	Production equipment	Recovery and restoration	Default	Documenting the causes, duration and production impacts of the disruption

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Production equipment	Production equipment	Recovery and restoration	Default	Reviewing and updating the maintenance program based on lessons learned from the failure
Internal	Production equipment	Production equipment	Recovery and restoration	Intermediate measure	Conducting root cause analysis and updating predictive maintenance parameters
Internal	Production equipment	Production equipment	Recovery and restoration	Intermediate measure	Reassessing the adequacy of spare parts and backup equipment
Internal	Production equipment	Production equipment	Recovery and restoration	Intermediate measure	Developing tracking metrics for production capacity recovery
Internal	Production equipment	Production equipment	Recovery and restoration	Advanced measure	Integrating disruption data into equipment lifecycle and risk models
Internal	Production equipment	Production equipment	Recovery and restoration	Intermediate measure	Updating the investment plan to improve equipment fleet resilience
Internal	Production equipment	Production equipment	Adaptation and monitoring	Advanced measure	Developing automated recovery reporting
Internal	Production equipment	Production equipment	Adaptation and monitoring	Default	Regular monitoring of equipment availability and failure frequency
Internal	Production equipment	Production equipment	Adaptation and monitoring	Default	Monitoring implementation of the maintenance program
Internal	Production equipment	Production equipment	Adaptation and monitoring	Default	Ensuring the equipment register is up to date
Internal	Production equipment	Production equipment	Adaptation and monitoring	Intermediate measure	Conducting equipment performance benchmarking (comparative analysis)
Internal	Production equipment	Production equipment	Adaptation and monitoring	Intermediate measure	Conducting an annual equipment risk assessment
Internal	Production equipment	Production equipment	Adaptation and monitoring	Intermediate measure	Systematically analyzing maintenance data to identify trends
Internal	Production equipment	Production equipment	Adaptation and monitoring	Advanced measure	Implementing predictive analytics-based maintenance
Internal	Production equipment	Production equipment	Adaptation and monitoring	Advanced measure	Developing an adaptive equipment investment strategy that takes market environment and risk signals into account
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Default	Maintaining a register of all facilities (owned, leased, warehouses, offices, production facilities)
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Default	Identifying critical facilities and conducting BIA (how long can operations continue without the facility)
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Default	Ensuring physical security of facilities (access control, fire safety, burglar alarms)
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Default	Knowledge of lease terms in case of disruption and termination situations (force majeure, insurance liabilities)
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Default	Preparing and maintaining a facility rescue plan
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Intermediate measure	Mapping and pre-arranging alternative facilities (backup premises, co-working, use of another location)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Intermediate measure	Conducting a facility risk assessment (flood risk, earthquake, fire risk, neighborhood risks, vandalism)
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Intermediate measure	Assessing and updating the adequacy of facility insurance coverage (business interruption insurance, property insurance)
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Intermediate measure	Developing and testing remote work readiness as an alternative during a facility disruption
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Intermediate measure	Maintaining a service program for critical facility technical systems (HVAC, sprinklers, generators)
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Advanced measure	Analyzing and optimizing the geographic diversification of the facility portfolio from a resilience perspective
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Advanced measure	Long-term assessment of facility climate risks (floods, heatwaves, storms) and an adaptation plan
Internal	Production facilities	Own and leased facilities	Planning and preparedness	Advanced measure	Using smart building technology for real-time facility monitoring (IoT sensors, environmental monitoring)
Internal	Production facilities	Own and leased facilities	Impact mitigation	Default	Activating the facility-specific rescue plan and evacuating personnel as needed
Internal	Production facilities	Own and leased facilities	Impact mitigation	Default	Assessing the extent and expected duration of the facility's unusability
Internal	Production facilities	Own and leased facilities	Impact mitigation	Default	Moving critical operations to other facilities or to remote work
Internal	Production facilities	Own and leased facilities	Impact mitigation	Default	Informing stakeholders (personnel, customers, authorities) of the facility disruption
Internal	Production facilities	Own and leased facilities	Impact mitigation	Intermediate measure	Activating and bringing into use the pre-arranged backup facilities
Internal	Production facilities	Own and leased facilities	Impact mitigation	Intermediate measure	Salvaging or moving critical equipment and materials from the damaged facilities
Internal	Production facilities	Own and leased facilities	Impact mitigation	Intermediate measure	Setting up IT and telecommunications connections at the backup facility
Internal	Production facilities	Own and leased facilities	Impact mitigation	Intermediate measure	Initiating the acquisition of temporary facility solutions (containers, temporary structures, pop-up spaces)
Internal	Production facilities	Own and leased facilities	Impact mitigation	Advanced measure	Implementing dynamic facility capacity reallocation across the organization's entire facility portfolio
Internal	Production facilities	Own and leased facilities	Impact mitigation	Advanced measure	Maintaining a real-time situational picture of facility availability and capacity at all locations
Internal	Production facilities	Own and leased facilities	Impact mitigation	Advanced measure	Utilizing facility capacity in the partner network (shared-use agreements, industry alliances)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Default	Assessing the condition of the damaged facility and initiating the repair plan
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Default	Documenting the causes, duration, and financial impact of the disruption
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Default	Initiating the insurance claims process
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Default	Ensuring personnel safety upon return after the facility is restored to working condition
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Intermediate measure	Conducting root cause analysis and improving facility protections (fire protection, waterproofing, structural reinforcement)
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Intermediate measure	Evaluating the effectiveness of backup facility solutions and updating the continuity plan based on lessons learned
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Intermediate measure	Renegotiating lease terms as needed (lessons from the disruption, improvements to landlord responsibilities)
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Advanced measure	Comprehensive assessment of facility portfolio resilience and developing an investment plan
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Advanced measure	Integrating disruption data into facility risk models and updating insurance analysis
Internal	Production facilities	Own and leased facilities	Recovery and restoration	Advanced measure	Updating the facility strategy combining resilience, sustainability and cost objectives
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Default	Regular inspection of facility condition and safety systems
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Default	Annual execution of rescue plan exercises (evacuation drills)
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Default	Ensuring the facility register and lease agreements are up to date
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Default	Annual review of insurance coverage
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Intermediate measure	Annual assessment of facility risks (structural condition, environmental risks, neighborhood, infrastructure)
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Intermediate measure	Regular testing of backup facility solutions and remote work readiness
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Intermediate measure	Monitoring facility energy efficiency and conditions
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Intermediate measure	Monitoring the real estate market and alternative facility solutions
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Advanced measure	Implementing a real-time facility monitoring system (IoT sensors, environmental conditions, access control)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Advanced measure	Integrating continuous climate risk monitoring into facility management
Internal	Production facilities	Own and leased facilities	Adaptation and monitoring	Advanced measure	Developing an adaptive facility strategy (hybrid work, flex spaces, geographic diversification) that adapts to changes in the risk environment
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Default	Identifying and documenting dependencies on critical utilities (electricity, water, heating, cooling)
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Default	Documenting utility providers and contracts
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Default	Ensuring a baseline level of backup power solutions (UPS, backup generator)
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Default	Conducting BIA (assessment of business interruption impacts) to assess the impacts of utility outages
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Intermediate measure	Ensuring backup connections and backup supply for critical facilities (e.g. redundant electricity supply)
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Intermediate measure	Assessing the adequacy of backup power capacity relative to critical operations needs
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Intermediate measure	Developing backup plans for utility disruptions (water outage, power outage, district heating outage)
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Intermediate measure	Assessing the continuity readiness of utility providers
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Advanced measure	Increasing energy self-sufficiency (solar panels, battery systems, microgrids)
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Advanced measure	Simulating the impacts of utility disruptions in different production scenarios
Internal	Production facilities	Facility utilities (electricity, water)	Planning and preparedness	Advanced measure	Integrating smart energy management (smart grid) into production facilities
Internal	Production facilities	Facility utilities (electricity, water)	Impact mitigation	Default	Activating backup power systems during a power outage
Internal	Production facilities	Facility utilities (electricity, water)	Impact mitigation	Default	Prioritizing critical processes during limited availability of utilities
Internal	Production facilities	Facility utilities (electricity, water)	Impact mitigation	Default	Contacting the utility provider to determine the duration and scope of the disruption
Internal	Production facilities	Facility utilities (electricity, water)	Impact mitigation	Intermediate measure	Adjusting production to the available energy capacity
Internal	Production facilities	Facility utilities (electricity, water)	Impact mitigation	Intermediate measure	Activating alternative utility sources (backup water sources, portable generators)
Internal	Production facilities	Facility utilities (electricity, water)	Impact mitigation	Intermediate measure	Ensuring personnel safety during a utility disruption
Internal	Production facilities	Facility utilities (electricity, water)	Impact mitigation	Advanced measure	Activating automated load management systems to optimize energy

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Production facilities	Facility utilities (electricity, water)	Impact mitigation	Advanced measure	Dynamically moving production to facilities with backup power or to another location
Internal	Production facilities	Facility utilities (electricity, water)	Impact mitigation	Advanced measure	Using real-time energy consumption monitoring to prioritize critical operations
Internal	Production facilities	Facility utilities (electricity, water)	Recovery and restoration	Default	Ensuring utility recovery and normalizing production
Internal	Production facilities	Facility utilities (electricity, water)	Recovery and restoration	Default	Documenting the duration, impacts and costs of the disruption
Internal	Production facilities	Facility utilities (electricity, water)	Recovery and restoration	Default	Refueling and replenishing capacity of backup power systems
Internal	Production facilities	Facility utilities (electricity, water)	Recovery and restoration	Intermediate measure	Conducting root cause analysis and updating the utilities continuity plan
Internal	Production facilities	Facility utilities (electricity, water)	Recovery and restoration	Intermediate measure	Reassessing the adequacy of backup power capacity
Internal	Production facilities	Facility utilities (electricity, water)	Recovery and restoration	Intermediate measure	Evaluating the utility provider's performance during the disruption
Internal	Production facilities	Facility utilities (electricity, water)	Recovery and restoration	Advanced measure	Conducting an investment analysis to increase energy self-sufficiency or redundancy (backup systems)
Internal	Production facilities	Facility utilities (electricity, water)	Recovery and restoration	Advanced measure	Integrating utility disruption data into risk models
Internal	Production facilities	Facility utilities (electricity, water)	Recovery and restoration	Advanced measure	Conducting a strategic assessment of alternative energy sources
Internal	Production facilities	Facility utilities (electricity, water)	Adaptation and monitoring	Default	Regular testing of backup power systems
Internal	Production facilities	Facility utilities (electricity, water)	Adaptation and monitoring	Default	Monitoring utility availability
Internal	Production facilities	Facility utilities (electricity, water)	Adaptation and monitoring	Default	Annual review of utility contracts
Internal	Production facilities	Facility utilities (electricity, water)	Adaptation and monitoring	Intermediate measure	Systematic monitoring of energy consumption and efficiency
Internal	Production facilities	Facility utilities (electricity, water)	Adaptation and monitoring	Intermediate measure	Annual assessment of utility risks (grid age, capacity, climate impacts)
Internal	Production facilities	Facility utilities (electricity, water)	Adaptation and monitoring	Intermediate measure	Conducting backup power system exercises under production conditions
Internal	Production facilities	Facility utilities (electricity, water)	Adaptation and monitoring	Advanced measure	Implementing real-time energy monitoring and predictive analytics
Internal	Production facilities	Facility utilities (electricity, water)	Adaptation and monitoring	Advanced measure	Assessing the long-term impacts of climate change on utility availability
Internal	Production facilities	Facility utilities (electricity, water)	Adaptation and monitoring	Advanced measure	Developing an adaptive energy strategy with an approach combining resilience and sustainability
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Default	Maintaining an IT asset register (CMDB) of all devices, software and licenses

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Default	Identifying critical IT systems and conducting BIA (assessment of business interruption impacts) (RTO and RPO, i.e. defining how quickly operations must be restored after a disruption and how much data can be lost at most)
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Default	Ensuring regular backups and conducting restore testing
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Default	Implementing basic information security management (firewalls, antivirus, updates)
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Default	Ensuring physical security of IT facilities (access control, fire safety, cooling)
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Intermediate measure	Developing and documenting an IT disaster recovery plan (DRP)
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Intermediate measure	Implementing critical system redundancy (backup systems) (clustering, RAID, redundant network connections)
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Intermediate measure	Conducting regular cybersecurity risk assessments
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Intermediate measure	Training and exercising IT personnel on continuity procedures
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Advanced measure	Developing a cyber resilience strategy (zero trust architecture, micro-segmentation)
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Advanced measure	Implementing automatic scaling and failover in the IT environment
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Planning and preparedness	Advanced measure	Regular execution of red team/blue team exercises and penetration testing
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Impact mitigation	Default	Identifying the IT disruption and assessing its scope
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Impact mitigation	Default	Activating IT support personnel and external support as needed
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Impact mitigation	Default	Informing users of the disruption and instructing on alternative ways of working
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Impact mitigation	Intermediate measure	Activating the IT disaster recovery plan
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Impact mitigation	Intermediate measure	Initiating restoration of backups for critical systems

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Impact mitigation	Intermediate measure	Implementing containment measures during a cyberattack to prevent spread
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Impact mitigation	Advanced measure	Activating the automated failover mechanism to backup systems
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Impact mitigation	Advanced measure	Initiating Security Operations Center (SOC) escalation during a cyber threat
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Impact mitigation	Advanced measure	Initiating forensic analysis to determine the scope of the data breach
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Recovery and restoration	Default	Restoring IT systems and verifying functionality
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Recovery and restoration	Default	Documenting the disruption and preparing the IT incident report
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Recovery and restoration	Default	Ensuring the integrity and currency of backups after restoration
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Recovery and restoration	Intermediate measure	Conducting root cause analysis and updating the DRP
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Recovery and restoration	Intermediate measure	Implementing security updates and improvements based on identified vulnerabilities
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Recovery and restoration	Intermediate measure	Monitoring and validating the effectiveness of corrective actions
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Recovery and restoration	Advanced measure	Conducting a comprehensive post-incident analysis including cyber forensics
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Recovery and restoration	Advanced measure	Conducting a strategic assessment of IT architecture resilience
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Recovery and restoration	Advanced measure	Integrating disruption data into the cyber resilience risk model and threat analysis
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Adaptation and monitoring	Default	Continuous monitoring of IT system availability and performance
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Adaptation and monitoring	Default	Regular verification of backups and restore tests
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Adaptation and monitoring	Default	Keeping the IT asset register up to date
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Adaptation and monitoring	Intermediate measure	Annual DRP testing and execution of exercises
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Adaptation and monitoring	Intermediate measure	Implementing continuous security monitoring (SIEM)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Adaptation and monitoring	Intermediate measure	Regular execution of internal IT audits
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Adaptation and monitoring	Advanced measure	Implementing real-time cyber threat intelligence
Internal	IT infrastructure	Own IT infrastructure (servers and computers)	Adaptation and monitoring	Advanced measure	Continuous development and testing of zero trust architecture
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Default	Documenting all cloud services and external IT service providers
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Default	Assessing the criticality of cloud services and conducting dependency analysis
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Default	Ensuring availability terms and information security responsibilities in Service Level Agreements (SLAs)
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Default	Determining and documenting data location, ownership and portability
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Intermediate measure	Developing a multi-cloud or hybrid strategy to avoid vendor lock-in
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Intermediate measure	Conducting information security audits of cloud service providers (SOC 2, ISO 27001 certification)
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Intermediate measure	Ensuring data backups also outside the cloud service provider
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Intermediate measure	Developing an exit plan for switching cloud service providers
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Advanced measure	Preparing an automatic redundancy plan for cloud services
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Advanced measure	Conducting a cloud service provider dependency analysis (chain risk: what the cloud provider itself uses)
Internal	IT infrastructure	External IT infrastructure (cloud services)	Planning and preparedness	Advanced measure	Conducting chaos engineering exercises to test cloud environment resilience
Internal	IT infrastructure	External IT infrastructure (cloud services)	Impact mitigation	Default	Identifying the cloud service disruption and assessing its impact (service health dashboard)
Internal	IT infrastructure	External IT infrastructure (cloud services)	Impact mitigation	Default	Informing users of the disruption and activating alternative ways of working
Internal	IT infrastructure	External IT infrastructure (cloud services)	Impact mitigation	Default	Contacting the service provider to obtain situational information and ensure prioritization
Internal	IT infrastructure	External IT infrastructure (cloud services)	Impact mitigation	Intermediate measure	Activating redundancy mechanisms in a backup cloud environment or on-premise solutions

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	IT infrastructure	External IT infrastructure (cloud services)	Impact mitigation	Intermediate measure	Prioritizing the restoration of critical applications and data
Internal	IT infrastructure	External IT infrastructure (cloud services)	Impact mitigation	Intermediate measure	Intensifying security measures during the disruption (log monitoring, access management)
Internal	IT infrastructure	External IT infrastructure (cloud services)	Impact mitigation	Advanced measure	Automatic activation of distribution based on predefined thresholds
Internal	IT infrastructure	External IT infrastructure (cloud services)	Impact mitigation	Advanced measure	Conducting real-time impact analysis based on business process dependencies
Internal	IT infrastructure	External IT infrastructure (cloud services)	Impact mitigation	Advanced measure	Activating coordinated crisis management together with the cloud service provider
Internal	IT infrastructure	External IT infrastructure (cloud services)	Recovery and restoration	Default	Ensuring cloud service recovery and testing normal operations
Internal	IT infrastructure	External IT infrastructure (cloud services)	Recovery and restoration	Default	Documenting the disruption and evaluating the service provider's SLA performance
Internal	IT infrastructure	External IT infrastructure (cloud services)	Recovery and restoration	Default	Checking data integrity after restoration
Internal	IT infrastructure	External IT infrastructure (cloud services)	Recovery and restoration	Intermediate measure	Conducting post-incident analysis together with the service provider
Internal	IT infrastructure	External IT infrastructure (cloud services)	Recovery and restoration	Intermediate measure	Updating SLA terms and contracts based on lessons learned
Internal	IT infrastructure	External IT infrastructure (cloud services)	Recovery and restoration	Intermediate measure	Updating and testing the exit plan
Internal	IT infrastructure	External IT infrastructure (cloud services)	Recovery and restoration	Advanced measure	Comprehensive assessment and improvement of cloud environment architecture resilience
Internal	IT infrastructure	External IT infrastructure (cloud services)	Recovery and restoration	Advanced measure	Optimizing the multi-cloud strategy based on lessons learned from the disruption
Internal	IT infrastructure	External IT infrastructure (cloud services)	Recovery and restoration	Advanced measure	Integrating cloud service resilience into the company's overall risk model
Internal	IT infrastructure	External IT infrastructure (cloud services)	Adaptation and monitoring	Default	Continuous monitoring of cloud service availability and performance
Internal	IT infrastructure	External IT infrastructure (cloud services)	Adaptation and monitoring	Default	Annual review of cloud service contracts
Internal	IT infrastructure	External IT infrastructure (cloud services)	Adaptation and monitoring	Default	Regular execution of data backup restore tests
Internal	IT infrastructure	External IT infrastructure (cloud services)	Adaptation and monitoring	Intermediate measure	Annual information security and continuity audit of cloud service providers

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	IT infrastructure	External IT infrastructure (cloud services)	Adaptation and monitoring	Intermediate measure	Regular execution of cloud disaster recovery testing
Internal	IT infrastructure	External IT infrastructure (cloud services)	Adaptation and monitoring	Intermediate measure	Systematic monitoring of cloud service market developments and alternatives
Internal	IT infrastructure	External IT infrastructure (cloud services)	Adaptation and monitoring	Advanced measure	Implementing continuous automatic resilience and security testing of the cloud environment
Internal	IT infrastructure	External IT infrastructure (cloud services)	Adaptation and monitoring	Advanced measure	Optimizing cost-effectiveness and resilience with multi-cloud analytics
Internal	IT infrastructure	External IT infrastructure (cloud services)	Adaptation and monitoring	Advanced measure	Developing an adaptive cloud strategy that responds to changes in the technology and threat environment
Internal	Data	Data	Planning and preparedness	Default	Identifying and classifying critical data types and stores
Internal	Data	Data	Planning and preparedness	Default	Documenting data backup policies and procedures
Internal	Data	Data	Planning and preparedness	Default	Taking data protection legislation (GDPR) requirements into account in data management
Internal	Data	Data	Planning and preparedness	Default	Defining the basic requirements for data availability, integrity and confidentiality
Internal	Data	Data	Planning and preparedness	Intermediate measure	Developing a data governance model: ownership, responsibilities, lifecycle
Internal	Data	Data	Planning and preparedness	Intermediate measure	Implementing the 3-2-1 backup rule (3 copies, 2 media, 1 off-site)
Internal	Data	Data	Planning and preparedness	Intermediate measure	Regular execution of data restore testing and validation of RTO/RPO objectives (defining how quickly operations must be restored after a disruption and how much data can be lost at most)
Internal	Data	Data	Planning and preparedness	Intermediate measure	Implementing data encryption for data at rest and in transit
Internal	Data	Data	Planning and preparedness	Advanced measure	Comprehensive modeling of data loss impacts on business processes
Internal	Data	Data	Planning and preparedness	Advanced measure	Implementing an immutable backup solution to ensure ransomware protection
Internal	Data	Data	Planning and preparedness	Advanced measure	Developing a data mesh/fabric architecture to improve data resilience and distribution
Internal	Data	Data	Impact mitigation	Default	Assessing the scope of the data disruption or loss
Internal	Data	Data	Impact mitigation	Default	Initiating the backup restoration process for critical data
Internal	Data	Data	Impact mitigation	Default	Preventing the spread of data contamination (isolation, access control)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Data	Data	Impact mitigation	Intermediate measure	Following the prioritized restoration order based on BIA-defined RTO/RPO objectives
Internal	Data	Data	Impact mitigation	Intermediate measure	Initiating forensic measures in case of a data breach or ransomware incident
Internal	Data	Data	Impact mitigation	Intermediate measure	Filing a data breach notification with authorities as needed (GDPR 72h)
Internal	Data	Data	Impact mitigation	Advanced measure	Activating the automated data restoration process at different priority levels
Internal	Data	Data	Impact mitigation	Advanced measure	Initiating real-time data integrity validation during restoration
Internal	Data	Data	Impact mitigation	Advanced measure	Escalating cyber forensics capacity and activating external experts
Internal	Data	Data	Recovery and restoration	Default	Ensuring data integrity and completeness after restoration
Internal	Data	Data	Recovery and restoration	Default	Documenting the data disruption and preparing the incident report
Internal	Data	Data	Recovery and restoration	Default	Normalizing the backup process and creating the next backup
Internal	Data	Data	Recovery and restoration	Intermediate measure	Conducting root cause analysis and strengthening information security measures
Internal	Data	Data	Recovery and restoration	Intermediate measure	Updating backup and restoration strategy based on lessons learned
Internal	Data	Data	Recovery and restoration	Intermediate measure	Assessing GDPR impacts and making necessary notifications to data subjects
Internal	Data	Data	Recovery and restoration	Advanced measure	Comprehensive assessment of data resilience and developing an investment plan
Internal	Data	Data	Recovery and restoration	Advanced measure	Integrating disruption data into cyber and data risk models
Internal	Data	Data	Recovery and restoration	Advanced measure	Developing automated monitoring of data integrity and availability
Internal	Data	Data	Adaptation and monitoring	Default	Regular monitoring of backup success
Internal	Data	Data	Adaptation and monitoring	Default	Verifying that data classification and ownership are up to date
Internal	Data	Data	Adaptation and monitoring	Default	Regular execution of restore tests
Internal	Data	Data	Adaptation and monitoring	Intermediate measure	Annual evaluation and development of data governance processes
Internal	Data	Data	Adaptation and monitoring	Intermediate measure	Regular execution of data protection and information security audits
Internal	Data	Data	Adaptation and monitoring	Intermediate measure	Optimizing data lifecycle management (archiving, deletion, retention)
Internal	Data	Data	Adaptation and monitoring	Advanced measure	Implementing real-time monitoring of data integrity and availability
Internal	Data	Data	Adaptation and monitoring	Advanced measure	Using predictive analytics to identify data risks

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Data	Data	Adaptation and monitoring	Advanced measure	Developing an adaptive data resilience strategy that takes technology and regulatory developments into account
Internal	People	Production personnel	Planning and preparedness	Default	Identifying critical production roles and key personnel
Internal	People	Production personnel	Planning and preparedness	Default	Implementing a backup personnel system for critical production tasks
Internal	People	Production personnel	Planning and preparedness	Default	Maintaining an occupational health and safety program (prevention of accidents and sick leave)
Internal	People	Production personnel	Planning and preparedness	Intermediate measure	Developing a cross-training program for production personnel
Internal	People	Production personnel	Planning and preparedness	Intermediate measure	Conducting a workforce availability risk analysis (age structure, skills shortage, location risks)
Internal	People	Production personnel	Planning and preparedness	Intermediate measure	Training personnel for disruption situations and organizing exercises
Internal	People	Production personnel	Planning and preparedness	Intermediate measure	Mapping remote work and flexible work arrangement possibilities for production tasks
Internal	People	Production personnel	Planning and preparedness	Advanced measure	Assessing personnel resilience in various disruption situations (pandemic, accident, strike)
Internal	People	Production personnel	Planning and preparedness	Advanced measure	Evaluating automation and robotization investments to reduce personnel dependency for critical tasks
Internal	People	Production personnel	Impact mitigation	Default	Activating backup personnel for critical production tasks
Internal	People	Production personnel	Impact mitigation	Default	Ensuring personnel safety during a disruption
Internal	People	Production personnel	Impact mitigation	Default	Adjusting work shifts and arrangements to available personnel
Internal	People	Production personnel	Impact mitigation	Intermediate measure	Activating temporary workforce or subcontractors to fill capacity gaps
Internal	People	Production personnel	Impact mitigation	Intermediate measure	Prioritizing critical production processes according to available competence
Internal	People	Production personnel	Recovery and restoration	Intermediate measure	Arranging psychosocial support for personnel in serious disruption situations
Internal	People	Production personnel	Impact mitigation	Advanced measure	Flexibly reorganizing personnel resources according to the situation
Internal	People	Production personnel	Impact mitigation	Advanced measure	Initiating an automated production phase to compensate for personnel shortages
Internal	People	Production personnel	Impact mitigation	Advanced measure	Coordinating cross-organizational resource sharing (subsidiaries, partners)
Internal	People	Production personnel	Recovery and restoration	Default	Restoring normal staffing after the disruption (e.g. recruiting new people, onboarding old and new employees)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	People	Production personnel	Recovery and restoration	Default	Documenting the impacts of the disruption on personnel availability and productivity
Internal	People	Production personnel	Recovery and restoration	Default	Implementing wellbeing measures after the disruption
Internal	People	Production personnel	Recovery and restoration	Intermediate measure	Conducting root cause analysis of the causes of personnel shortage and updating the backup personnel system
Internal	People	Production personnel	Recovery and restoration	Intermediate measure	Updating the cross-training program based on identified competence gaps
Internal	People	Production personnel	Recovery and restoration	Intermediate measure	Developing a recruitment plan for long-term shortages of critical roles
Internal	People	Production personnel	Recovery and restoration	Advanced measure	Assessing personnel resilience and preparing a development plan
Internal	People	Production personnel	Recovery and restoration	Advanced measure	Updating workforce planning models based on disruption data
Internal	People	Production personnel	Recovery and restoration	Advanced measure	Updating the automation plan taking into account personnel resilience
Internal	People	Production personnel	Adaptation and monitoring	Default	Regular monitoring of sick leave, turnover and backup personnel situation
Internal	People	Production personnel	Adaptation and monitoring	Intermediate measure	Monitoring cross-training coverage for critical roles
Internal	People	Production personnel	Adaptation and monitoring	Default	Monitoring occupational health and safety metrics
Internal	People	Production personnel	Adaptation and monitoring	Intermediate measure	Annual assessment of personnel risks (e.g. age structure, competence, market situation)
Internal	People	Production personnel	Adaptation and monitoring	Intermediate measure	Conducting continuity exercises in personnel shortage situations
Internal	People	Production personnel	Adaptation and monitoring	Intermediate measure	Actively monitoring personnel job satisfaction and engagement
Internal	People	Production personnel	Adaptation and monitoring	Advanced measure	Using predictive analytics to anticipate personnel risks
Internal	People	Production personnel	Adaptation and monitoring	Advanced measure	Continuous monitoring of personnel resilience
Internal	People	Production personnel	Adaptation and monitoring	Advanced measure	Developing a flexible personnel strategy taking demographic and technology changes into account
Internal	People	Specialists	Planning and preparedness	Default	Identifying and documenting critical specialist roles
Internal	People	Specialists	Planning and preparedness	Default	Implementing a backup personnel system for key specialists
Internal	People	Specialists	Planning and preparedness	Default	Creating a basic process for capturing specialists' tacit knowledge
Internal	People	Specialists	Planning and preparedness	Intermediate measure	Specialist competence mapping and distributing competence (at least 2 people for each critical competence)
Internal	People	Specialists	Planning and preparedness	Intermediate measure	Analyzing factors affecting specialist retention and developing a retention program

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	People	Specialists	Planning and preparedness	Intermediate measure	Developing external specialist networks and consulting agreements as backup capacity
Internal	People	Specialists	Planning and preparedness	Advanced measure	Assessing specialist competence risks: which competences are critical, hard to replace or rare in the market
Internal	People	Specialists	Planning and preparedness	Advanced measure	Using AI and automation solutions to support specialist tasks and reduce dependence
Internal	People	Specialists	Planning and preparedness	Advanced measure	Building cooperation agreements with universities and research institutions to ensure competence
Internal	People	Specialists	Impact mitigation	Default	Activating backup personnel for critical specialist tasks
Internal	People	Specialists	Impact mitigation	Default	Activating external specialists as needed
Internal	People	Specialists	Impact mitigation	Default	Prioritizing and reorganizing workload
Internal	People	Specialists	Impact mitigation	Intermediate measure	Activating pre-agreed consulting engagements
Internal	People	Specialists	Impact mitigation	Intermediate measure	Ensuring knowledge sharing between teams during a disruption
Internal	People	Specialists	Impact mitigation	Intermediate measure	Prioritizing critical projects and decisions according to available expertise
Internal	People	Specialists	Impact mitigation	Advanced measure	Activating an international specialist network as remote support
Internal	People	Specialists	Impact mitigation	Advanced measure	Using AI-based decision support tools to bridge specialist shortages
Internal	People	Specialists	Impact mitigation	Advanced measure	Cross-organizational competence sharing at group level
Internal	People	Specialists	Recovery and restoration	Default	Restoring normal specialist capacity
Internal	People	Specialists	Recovery and restoration	Default	Documenting the impacts of the disruption on decision-making and projects
Internal	People	Specialists	Recovery and restoration	Default	Evaluating the effectiveness of the backup personnel system
Internal	People	Specialists	Recovery and restoration	Intermediate measure	Analyzing competence gaps and updating the cross-training plan
Internal	People	Specialists	Recovery and restoration	Intermediate measure	Updating the retention program based on lessons learned
Internal	People	Specialists	Recovery and restoration	Intermediate measure	Enhancing the tacit knowledge capture process for identified risk areas
Internal	People	Specialists	Recovery and restoration	Advanced measure	Assessing specialist resilience and preparing a development plan
Internal	People	Specialists	Recovery and restoration	Advanced measure	Building a knowledge management system to support organizational learning
Internal	People	Specialists	Recovery and restoration	Advanced measure	Updating the automation plan taking into account specialist resilience

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	People	Specialists	Adaptation and monitoring	Default	Monitoring specialist turnover and availability
Internal	People	Specialists	Adaptation and monitoring	Default	Monitoring cross-training coverage for critical competence areas
Internal	People	Specialists	Adaptation and monitoring	Default	Verifying that the backup personnel system is up to date
Internal	People	Specialists	Adaptation and monitoring	Intermediate measure	Conducting an annual competence risk analysis
Internal	People	Specialists	Adaptation and monitoring	Intermediate measure	Monitoring the competence market and competitive situation in critical areas
Internal	People	Specialists	Adaptation and monitoring	Intermediate measure	Evaluating and developing knowledge management practices
Internal	People	Specialists	Adaptation and monitoring	Advanced measure	Using predictive analytics to anticipate specialist attrition
Internal	People	Specialists	Adaptation and monitoring	Advanced measure	Developing a flexible competence strategy to respond to market and technology changes
Internal	People	Management and supervisors	Planning and preparedness	Default	Planning and ensuring succession for key executives
Internal	People	Management and supervisors	Planning and preparedness	Default	Clearly defining management roles and responsibilities in crisis situations
Internal	People	Management and supervisors	Planning and preparedness	Default	Engaging management in preparedness for disruption situations
Internal	People	Management and supervisors	Planning and preparedness	Intermediate measure	Organizing crisis management training for management and supervisors
Internal	People	Management and supervisors	Planning and preparedness	Intermediate measure	Establishing a crisis management team and documenting the operating model
Internal	People	Management and supervisors	Planning and preparedness	Advanced measure	Developing a crisis management maturity model and conducting regular assessment
Internal	People	Management and supervisors	Planning and preparedness	Advanced measure	Adding resilience training as part of the management development program
Internal	People	Management and supervisors	Planning and preparedness	Advanced measure	Organizing management exercises to practice decision-making in disruption situations
Internal	People	Management and supervisors	Impact mitigation	Default	Activating the crisis management team and conducting a situational assessment
Internal	People	Management and supervisors	Impact mitigation	Default	Following the predefined decision-making and escalation processes
Internal	People	Management and supervisors	Impact mitigation	Default	Coordinating stakeholder communication at management level
Internal	People	Management and supervisors	Impact mitigation	Intermediate measure	Making strategic decisions on resource reallocation and prioritization
Internal	People	Management and supervisors	Impact mitigation	Intermediate measure	Maintaining regular situation reporting and decision-making cycles during the crisis
Internal	People	Management and supervisors	Impact mitigation	Intermediate measure	Managing external stakeholder communication (media, authorities, investors)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	People	Management and supervisors	Impact mitigation	Advanced measure	Enabling real-time maintenance and sharing of situational picture to support decision-making
Internal	People	Management and supervisors	Impact mitigation	Advanced measure	Using scenario analysis in strategic decision-making during the crisis
Internal	People	Management and supervisors	Impact mitigation	Advanced measure	Coordinated management to handle several simultaneous crises
Internal	People	Management and supervisors	Recovery and restoration	Default	Conducting management evaluation of crisis management success
Internal	People	Management and supervisors	Recovery and restoration	Default	Restoring the normal management and decision-making process
Internal	People	Management and supervisors	Recovery and restoration	Default	Post-crisis communication to stakeholders
Internal	People	Management and supervisors	Recovery and restoration	Intermediate measure	Conducting post-crisis review at management level
Internal	People	Management and supervisors	Recovery and restoration	Intermediate measure	Updating the crisis management model and team operations based on experience
Internal	People	Management and supervisors	Recovery and restoration	Intermediate measure	Updating the succession plan
Internal	People	Management and supervisors	Recovery and restoration	Advanced measure	Comprehensive assessment of crisis management and benchmarking against other organizations
Internal	People	Management and supervisors	Recovery and restoration	Advanced measure	Updating management resilience training based on the assessment
Internal	People	Management and supervisors	Adaptation and monitoring	Default	Regularly verifying that the succession plan is up to date
Internal	People	Management and supervisors	Adaptation and monitoring	Default	Maintaining crisis preparedness: contact information and action chains up to date
Internal	People	Management and supervisors	Adaptation and monitoring	Intermediate measure	Conducting annual crisis management exercises
Internal	People	Management and supervisors	Adaptation and monitoring	Intermediate measure	Assessing management resilience (e.g. annually)
Internal	People	Management and supervisors	Adaptation and monitoring	Advanced measure	Adding resilience as part of management performance evaluation
Internal	People	Management and supervisors	Adaptation and monitoring	Advanced measure	Developing a flexible crisis management model for unexpected and complex threats
Internal	People	Support functions	Planning and preparedness	Default	Assessing the criticality of support functions (HR, finance, communications, legal)
Internal	People	Support functions	Planning and preparedness	Default	Implementing a backup personnel system for critical support function roles
Internal	People	Support functions	Planning and preparedness	Default	Developing continuity plans for support functions
Internal	People	Support functions	Planning and preparedness	Intermediate measure	Mapping interdependencies among support functions
Internal	People	Support functions	Planning and preparedness	Intermediate measure	Ensuring remote work readiness for support functions

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	People	Support functions	Planning and preparedness	Intermediate measure	Mapping outsourcing options for support function services as backup capacity
Internal	People	Support functions	Planning and preparedness	Advanced measure	Developing automation and digitalization of support functions to improve resilience
Internal	People	Support functions	Planning and preparedness	Advanced measure	Impact modeling of support function disruption scenarios on core business
Internal	People	Support functions	Impact mitigation	Default	Activating backup personnel for critical support function roles
Internal	People	Support functions	Impact mitigation	Default	Prioritizing support functions according to core business needs
Internal	People	Support functions	Impact mitigation	Default	Activating manual backup processes in case of system disruptions
Internal	People	Support functions	Impact mitigation	Intermediate measure	Activating the support functions continuity plan
Internal	People	Support functions	Impact mitigation	Intermediate measure	Shifting support functions to remote work as needed
Internal	People	Support functions	Impact mitigation	Intermediate measure	Initiating temporary outsourcing for critical support functions
Internal	People	Support functions	Impact mitigation	Advanced measure	Activating automated support processes to compensate for personnel shortages
Internal	People	Support functions	Impact mitigation	Advanced measure	Coordinating resource sharing between different functions during a disruption
Internal	People	Support functions	Impact mitigation	Advanced measure	Flexibly prioritizing support functions according to the situation
Internal	People	Support functions	Recovery and restoration	Default	Restoring normal support function service level
Internal	People	Support functions	Recovery and restoration	Default	Documenting the impacts of the disruption on support functions
Internal	People	Support functions	Recovery and restoration	Default	Evaluating the effectiveness of the backup personnel system
Internal	People	Support functions	Recovery and restoration	Intermediate measure	Conducting root cause analysis and updating the support functions continuity plan
Internal	People	Support functions	Recovery and restoration	Intermediate measure	Updating the support functions dependency map based on lessons learned
Internal	People	Support functions	Recovery and restoration	Intermediate measure	Developing remote work readiness and digital processes based on lessons learned
Internal	People	Support functions	Recovery and restoration	Advanced measure	Comprehensive assessment of support function resilience and preparing a development plan
Internal	People	Support functions	Recovery and restoration	Advanced measure	Evaluating the support function operating model to improve resilience
Internal	People	Support functions	Adaptation and monitoring	Default	Monitoring support function service level and availability
Internal	People	Support functions	Adaptation and monitoring	Default	Verifying that the backup personnel system and contact information are up to date

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	People	Support functions	Adaptation and monitoring	Default	Conducting continuity exercises for support functions
Internal	People	Support functions	Adaptation and monitoring	Intermediate measure	Annual updating of support functions risk assessment
Internal	People	Support functions	Adaptation and monitoring	Intermediate measure	Developing metrics for support function efficiency and quality
Internal	People	Support functions	Adaptation and monitoring	Intermediate measure	Monitoring the market situation for support functions (outsourcing options, technology)
Internal	People	Support functions	Adaptation and monitoring	Advanced measure	Continuous monitoring of support function resilience
Internal	People	Support functions	Adaptation and monitoring	Advanced measure	Using predictive analytics to identify support function disruption risks
Internal	People	Support functions	Adaptation and monitoring	Advanced measure	Developing a flexible support function model to respond to changes in business and risk environment
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Default	Identifying and documenting critical business processes
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Default	Clearly defining process ownership and responsibilities
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Default	Documenting backup operating methods for critical processes in case of disruption
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Default	Creating a tacit knowledge capture process for key processes
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Intermediate measure	Developing a process dependency map (inputs and outputs between processes)
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Intermediate measure	Standardizing processes and documenting operating instructions (standardized ways of working)
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Intermediate measure	Conducting a process vulnerability analysis
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Intermediate measure	Implementing a knowledge management system
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Advanced measure	Using process analytics to identify hidden dependencies and bottlenecks
Internal	Human capital	Processes (tacit and documented knowledge)	Planning and preparedness	Advanced measure	Developing a systematic operating model for organizational learning
Internal	Human capital	Processes (tacit and documented knowledge)	Impact mitigation	Default	Activating backup procedures (workarounds) for disrupted processes
Internal	Human capital	Processes (tacit and documented knowledge)	Impact mitigation	Default	Informing the process owner of the disruption and making prioritization decisions

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Human capital	Processes (tacit and documented knowledge)	Impact mitigation	Default	Initiating manual backup processes in case of system disruptions
Internal	Human capital	Processes (tacit and documented knowledge)	Impact mitigation	Intermediate measure	Reorganizing processes according to available resources
Internal	Human capital	Processes (tacit and documented knowledge)	Impact mitigation	Intermediate measure	Using the knowledge management system to share process knowledge with backup personnel
Internal	Human capital	Processes (tacit and documented knowledge)	Impact mitigation	Intermediate measure	Enhancing quality assurance of critical process outputs during the disruption
Internal	Human capital	Processes (tacit and documented knowledge)	Impact mitigation	Advanced measure	Flexible real-time process reorganization according to the disruption
Internal	Human capital	Processes (tacit and documented knowledge)	Impact mitigation	Advanced measure	Activating automatic process alternatives based on predefined rules
Internal	Human capital	Processes (tacit and documented knowledge)	Recovery and restoration	Default	Restoring normal processes and verifying functionality
Internal	Human capital	Processes (tacit and documented knowledge)	Recovery and restoration	Default	Documenting the impacts of the disruption on process operations
Internal	Human capital	Processes (tacit and documented knowledge)	Recovery and restoration	Default	Updating process documentation regarding identified gaps
Internal	Human capital	Processes (tacit and documented knowledge)	Recovery and restoration	Intermediate measure	Conducting root cause analysis and correcting process vulnerabilities
Internal	Human capital	Processes (tacit and documented knowledge)	Recovery and restoration	Intermediate measure	Updating knowledge management system contents based on lessons learned
Internal	Human capital	Processes (tacit and documented knowledge)	Recovery and restoration	Intermediate measure	Standardizing processes in identified risk areas
Internal	Human capital	Processes (tacit and documented knowledge)	Recovery and restoration	Advanced measure	Comprehensive assessment of process resilience and preparing a development plan
Internal	Human capital	Processes (tacit and documented knowledge)	Recovery and restoration	Advanced measure	Integrating disruption data into process risk models
Internal	Human capital	Processes (tacit and documented knowledge)	Adaptation and monitoring	Default	Verifying that process documentation is up to date
Internal	Human capital	Processes (tacit and documented knowledge)	Adaptation and monitoring	Default	Annual testing of backup procedures
Internal	Human capital	Processes (tacit and documented knowledge)	Adaptation and monitoring	Intermediate measure	Annual updating of process risk assessment
Internal	Human capital	Processes (tacit and documented knowledge)	Adaptation and monitoring	Intermediate measure	Regular execution of internal process audits

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Human capital	Processes (tacit and documented knowledge)	Adaptation and monitoring	Advanced measure	Real-time process monitoring and automatic alert system to identify deviations
Internal	Human capital	Culture	Planning and preparedness	Default	Promoting a culture of openness and learning from mistakes
Internal	Human capital	Culture	Planning and preparedness	Intermediate measure	Systematically promoting lessons learned practices
Internal	Human capital	Culture	Planning and preparedness	Advanced measure	Systematically measuring and developing organizational psychological safety
Internal	Human capital	Culture	Impact mitigation	Default	Maintaining open and honest internal communication during a disruption
Internal	Human capital	Culture	Impact mitigation	Default	Encouraging personnel to take initiative in problem-solving within their own area of responsibility
Internal	Human capital	Culture	Impact mitigation	Default	Maintaining calm and trust in leadership communication
Internal	Human capital	Culture	Impact mitigation	Intermediate measure	Actively leveraging cultural strengths (team spirit, collaboration) in disruption management
Internal	Human capital	Culture	Impact mitigation	Intermediate measure	Providing psychosocial support to personnel in serious disruption situations
Internal	Human capital	Culture	Impact mitigation	Intermediate measure	Enabling learning and reflection already during the disruption (real-time learning)
Internal	Human capital	Culture	Impact mitigation	Advanced measure	Leveraging the entire organization's collective competence and knowledge in problem solving
Internal	Human capital	Culture	Impact mitigation	Advanced measure	Promoting cross-organizational collaboration and creativity to resolve the crisis
Internal	Human capital	Culture	Recovery and restoration	Default	Thanking and recognizing personnel for their actions during the disruption
Internal	Human capital	Culture	Recovery and restoration	Default	Open communication about lessons learned from the disruption and upcoming measures
Internal	Human capital	Culture	Recovery and restoration	Default	Implementing wellbeing measures after the disruption
Internal	Human capital	Culture	Recovery and restoration	Intermediate measure	Implementing a structured lessons learned process across the entire organization
Internal	Human capital	Culture	Recovery and restoration	Advanced measure	Comparing the organization's culture to industry best practices
Internal	Human capital	Culture	Adaptation and monitoring	Default	Regular monitoring of personnel satisfaction and wellbeing
Internal	Human capital	Culture	Adaptation and monitoring	Intermediate measure	Annual measurement of organizational culture (culture survey, indicators)
Internal	Human capital	Culture	Adaptation and monitoring	Intermediate measure	Evaluating the effectiveness of resilience culture development measures

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Human capital	Culture	Adaptation and monitoring	Intermediate measure	Regular assessment of the organization's readiness for change
Internal	Human capital	Culture	Adaptation and monitoring	Advanced measure	Investigating the connection between organizational culture and resilience
Internal	Human capital	Culture	Adaptation and monitoring	Advanced measure	A flexible organizational culture development program tailored to the organization's needs and development stage
Internal	Human capital	Skills	Planning and preparedness	Default	Identifying critical competences and preparing a competence map
Internal	Human capital	Skills	Planning and preparedness	Default	Identifying competence gaps relative to continuity needs
Internal	Human capital	Skills	Planning and preparedness	Default	Developing a training plan to ensure critical competences
Internal	Human capital	Skills	Planning and preparedness	Intermediate measure	Ensuring competence distribution (at least 2 people per critical competence)
Internal	Human capital	Skills	Planning and preparedness	Intermediate measure	Conducting competence risk analysis (retirement, market situation, technology changes)
Internal	Human capital	Skills	Planning and preparedness	Intermediate measure	Measuring the impact of training and competence development
Internal	Human capital	Skills	Planning and preparedness	Advanced measure	Developing a strategic competence risk model (valuation of competence capital)
Internal	Human capital	Skills	Planning and preparedness	Advanced measure	Developing a competence forecasting model for technology disruptions and market changes
Internal	Human capital	Skills	Planning and preparedness	Advanced measure	Developing an organizational model based on continuous learning
Internal	Human capital	Skills	Impact mitigation	Default	Mapping available competence and allocating it to critical tasks
Internal	Human capital	Skills	Impact mitigation	Default	Implementing accelerated onboarding for backup personnel
Internal	Human capital	Skills	Impact mitigation	Default	Using external competence resources as needed
Internal	Human capital	Skills	Impact mitigation	Intermediate measure	Enhancing competence sharing between teams and units during a disruption
Internal	Human capital	Skills	Impact mitigation	Intermediate measure	Using AI-assisted learning systems for accelerated onboarding
Internal	Human capital	Skills	Impact mitigation	Intermediate measure	Prioritizing critical tasks according to available competence
Internal	Human capital	Skills	Impact mitigation	Advanced measure	Flexibly leveraging the organization's entire competence pool according to need
Internal	Human capital	Skills	Impact mitigation	Advanced measure	Using a real-time competence map for optimal resource allocation
Internal	Human capital	Skills	Impact mitigation	Advanced measure	Coordinated use of competence resources in the partner network
Internal	Human capital	Skills	Recovery and restoration	Default	Assessing competence gaps after the disruption and planning corrective actions

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Human capital	Skills	Recovery and restoration	Default	Updating the training plan based on identified gaps
Internal	Human capital	Skills	Recovery and restoration	Default	Documenting and sharing lessons learned from the disruption within the organization
Internal	Human capital	Skills	Recovery and restoration	Intermediate measure	Updating competence risk analysis based on lessons learned
Internal	Human capital	Skills	Recovery and restoration	Intermediate measure	Strengthening the cross-training program in identified risk areas
Internal	Human capital	Skills	Recovery and restoration	Intermediate measure	Updating knowledge management system content
Internal	Human capital	Skills	Recovery and restoration	Advanced measure	Comprehensive assessment of competence capital resilience and preparing a development plan
Internal	Human capital	Skills	Recovery and restoration	Advanced measure	Strengthening learning organization principles with experiences gained from the disruption
Internal	Human capital	Skills	Adaptation and monitoring	Default	Regularly updating the competence map and backup personnel situation
Internal	Human capital	Skills	Adaptation and monitoring	Default	Monitoring training plan implementation
Internal	Human capital	Skills	Adaptation and monitoring	Default	Monitoring competence development in relation to continuity needs
Internal	Human capital	Skills	Adaptation and monitoring	Intermediate measure	Monitoring competence trends and responding to them through training (technology, markets, regulation)
Internal	Human capital	Skills	Adaptation and monitoring	Intermediate measure	Measuring the benefit and impact of training investments
Internal	Human capital	Skills	Adaptation and monitoring	Advanced measure	Implementing predictive analytics to identify competence needs
Internal	Human capital	Skills	Adaptation and monitoring	Advanced measure	Developing a flexible competence portfolio to respond to the organization's changing needs
Internal	Financing	Working capital	Planning and preparedness	Default	Analyzing and documenting working capital structure and turnover rate
Internal	Financing	Working capital	Planning and preparedness	Default	Defining the minimum level of working capital (cash reserve) for disruption situations
Internal	Financing	Working capital	Planning and preparedness	Default	Ensuring basic processes for accounts receivable and accounts payable management
Internal	Financing	Working capital	Planning and preparedness	Intermediate measure	Conducting working capital stress testing in different disruption scenarios
Internal	Financing	Working capital	Planning and preparedness	Intermediate measure	Developing a working capital optimization strategy (inventory, receivables, payables)
Internal	Financing	Working capital	Planning and preparedness	Intermediate measure	Mapping alternative working capital sources (factoring, supply chain finance)
Internal	Financing	Working capital	Planning and preparedness	Advanced measure	Developing a dynamic working capital forecasting model (cash flow simulation)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Financing	Working capital	Planning and preparedness	Advanced measure	Implementing integrated modeling of working capital and supply chain risk
Internal	Financing	Working capital	Planning and preparedness	Advanced measure	Implementing real-time cash flow analytics
Internal	Financing	Working capital	Impact mitigation	Default	Activating the cash reserve to secure immediate payment obligations
Internal	Financing	Working capital	Impact mitigation	Default	Prioritizing payments by criticality
Internal	Financing	Working capital	Impact mitigation	Default	Intensifying collection of accounts receivable to safeguard cash flow
Internal	Financing	Working capital	Impact mitigation	Intermediate measure	Activating alternative working capital sources (factoring, revolving credit facility)
Internal	Financing	Working capital	Impact mitigation	Intermediate measure	Managing accounts payable: negotiating and prioritizing payment terms
Internal	Financing	Working capital	Impact mitigation	Intermediate measure	Dynamic optimization of inventory levels to minimize cash flow impacts
Internal	Financing	Working capital	Impact mitigation	Advanced measure	Using real-time cash flow analytics in liquidity decisions
Internal	Financing	Working capital	Impact mitigation	Advanced measure	Activating supply chain finance programs to stabilize the entire value chain
Internal	Financing	Working capital	Impact mitigation	Advanced measure	Implementing dynamic capital allocation between business units
Internal	Financing	Working capital	Recovery and restoration	Default	Replenishing cash reserves and restoring normal liquidity
Internal	Financing	Working capital	Recovery and restoration	Default	Documenting working capital impacts
Internal	Financing	Working capital	Recovery and restoration	Default	Normalizing accounts receivable and accounts payable
Internal	Financing	Working capital	Recovery and restoration	Intermediate measure	Conducting cash flow analysis of the disruption's overall impacts on working capital
Internal	Financing	Working capital	Recovery and restoration	Intermediate measure	Updating the working capital strategy based on lessons learned
Internal	Financing	Working capital	Recovery and restoration	Intermediate measure	Reassessing minimum working capital levels
Internal	Financing	Working capital	Recovery and restoration	Advanced measure	Comprehensive assessment and development of the working capital resilience model
Internal	Financing	Working capital	Recovery and restoration	Advanced measure	Analyzing the correlation between working capital and business resilience
Internal	Financing	Working capital	Recovery and restoration	Advanced measure	Developing automation of working capital management systems
Internal	Financing	Working capital	Adaptation and monitoring	Default	Regular monitoring of working capital turnover and cash flow
Internal	Financing	Working capital	Adaptation and monitoring	Default	Monthly review of cash reserve adequacy
Internal	Financing	Working capital	Adaptation and monitoring	Default	Monitoring the aging distribution of accounts receivable and accounts payable

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Financing	Working capital	Adaptation and monitoring	Intermediate measure	Regular updating of cash flow forecasts and monitoring of variances
Internal	Financing	Working capital	Adaptation and monitoring	Intermediate measure	Annual updating of working capital risk assessment
Internal	Financing	Working capital	Adaptation and monitoring	Intermediate measure	Working capital benchmarking (comparative analysis) in industry comparison
Internal	Financing	Working capital	Adaptation and monitoring	Advanced measure	Implementing a real-time working capital dashboard
Internal	Financing	Working capital	Adaptation and monitoring	Advanced measure	Using predictive analytics to anticipate working capital risks
Internal	Financing	Working capital	Adaptation and monitoring	Advanced measure	Developing an adaptive working capital strategy that automatically adapts to market conditions
Internal	Financing	Equity	Planning and preparedness	Default	Documenting the structure and adequacy of equity
Internal	Financing	Equity	Planning and preparedness	Default	Clearly documenting owners' commitments and decision-making processes
Internal	Financing	Equity	Planning and preparedness	Default	Setting a target level for the equity ratio and monitoring it
Internal	Financing	Equity	Planning and preparedness	Intermediate measure	Conducting equity stress testing in different disruption scenarios
Internal	Financing	Equity	Planning and preparedness	Intermediate measure	Mapping possibilities for increasing equity (share issue, retained earnings, investors)
Internal	Financing	Equity	Planning and preparedness	Intermediate measure	Assessing the resilience perspective of dividend and profit distribution policy
Internal	Financing	Equity	Planning and preparedness	Advanced measure	Developing a capital structure optimization model combining resilience and efficiency objectives
Internal	Financing	Equity	Planning and preparedness	Advanced measure	Modeling the relationship between shareholder value and resilience
Internal	Financing	Equity	Planning and preparedness	Advanced measure	Developing scenario-based strategic capital structure planning
Internal	Financing	Equity	Impact mitigation	Default	Informing owners of the impacts of the disruption on equity
Internal	Financing	Equity	Impact mitigation	Default	Withholding profit distribution as needed to safeguard the capital buffer
Internal	Financing	Equity	Impact mitigation	Default	Prioritizing critical investments and deferring non-critical ones
Internal	Financing	Equity	Impact mitigation	Intermediate measure	Initiating equity-increase measures as needed (emergency financing round)
Internal	Financing	Equity	Impact mitigation	Intermediate measure	Negotiating with owners about additional investments or capital loans
Internal	Financing	Equity	Impact mitigation	Intermediate measure	Assessing the resilience of the capital structure during the disruption
Internal	Financing	Equity	Impact mitigation	Advanced measure	Activating the strategic capital structure reorganization plan
Internal	Financing	Equity	Impact mitigation	Advanced measure	Orchestrating a coordinated support package with owners and investors

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Financing	Equity	Impact mitigation	Advanced measure	Using real-time capital adequacy analysis to support decision-making
Internal	Financing	Equity	Recovery and restoration	Default	Normalizing the equity situation after the disruption
Internal	Financing	Equity	Recovery and restoration	Default	Documenting capital impacts and reporting to owners
Internal	Financing	Equity	Recovery and restoration	Default	Preparing a plan for achieving the equity ratio target
Internal	Financing	Equity	Recovery and restoration	Intermediate measure	Assessing capital structure resilience and planning development measures
Internal	Financing	Equity	Recovery and restoration	Intermediate measure	Updating the profit distribution policy taking the resilience perspective into account
Internal	Financing	Equity	Recovery and restoration	Intermediate measure	Conducting post-crisis reporting to owners and the board
Internal	Financing	Equity	Recovery and restoration	Advanced measure	Conducting a comprehensive stress test of the capital structure with updated scenarios
Internal	Financing	Equity	Recovery and restoration	Advanced measure	Integrating lessons learned into the long-term capital strategy
Internal	Financing	Equity	Recovery and restoration	Advanced measure	Integrating capital resilience reporting into ESG/TCFD reporting
Internal	Financing	Equity	Adaptation and monitoring	Default	Regular monitoring of equity ratio and capital adequacy
Internal	Financing	Equity	Adaptation and monitoring	Default	Regular informing of owners and the board about the capital situation
Internal	Financing	Equity	Adaptation and monitoring	Default	Regular updating of investment plan and capital needs
Internal	Financing	Equity	Adaptation and monitoring	Intermediate measure	Annual execution of capital structure resilience assessment
Internal	Financing	Equity	Adaptation and monitoring	Intermediate measure	Monitoring market conditions and financing alternatives
Internal	Financing	Equity	Adaptation and monitoring	Intermediate measure	Annual execution of board capital strategy review
Internal	Financing	Equity	Adaptation and monitoring	Advanced measure	Implementing a real-time capital resilience monitoring dashboard
Internal	Financing	Equity	Adaptation and monitoring	Advanced measure	Conducting integrated scenario simulation of capital structure and business resilience
Internal	Financing	Equity	Adaptation and monitoring	Advanced measure	Developing an adaptive capital strategy that automatically responds to macroeconomic and market changes
Internal	Financing	Liabilities	Planning and preparedness	Default	Documenting the structure of debt capital (loans, credit limits, bonds) and knowledge of terms
Internal	Financing	Liabilities	Planning and preparedness	Default	Ensuring the process for monitoring covenants (financing terms) and payment obligations
Internal	Financing	Liabilities	Planning and preparedness	Default	Ensuring the existence of backup sources (standby credit facilities)

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Financing	Liabilities	Planning and preparedness	Intermediate measure	Analyzing the maturity profile of debt capital and assessing refinancing risk
Internal	Financing	Liabilities	Planning and preparedness	Intermediate measure	Diversifying financier relationships to reduce financier dependence
Internal	Financing	Liabilities	Planning and preparedness	Intermediate measure	Conducting covenant (financing terms) stress testing in different disruption scenarios
Internal	Financing	Liabilities	Planning and preparedness	Intermediate measure	Developing a crisis communication plan directed at financiers
Internal	Financing	Liabilities	Planning and preparedness	Advanced measure	Modeling the impacts of financial market disruption scenarios (interest rate rise, credit market crisis)
Internal	Financing	Liabilities	Planning and preparedness	Advanced measure	Strategic development of the committed facilities portfolio and diversification across financiers
Internal	Financing	Liabilities	Impact mitigation	Default	Proactively informing financiers of the disruption situation
Internal	Financing	Liabilities	Impact mitigation	Default	Activating credit limits and standby financing
Internal	Financing	Liabilities	Impact mitigation	Default	Prioritizing debt service payments
Internal	Financing	Liabilities	Impact mitigation	Intermediate measure	Negotiating with financiers about covenant waivers or changes
Internal	Financing	Liabilities	Impact mitigation	Intermediate measure	Activating alternative forms of financing (mezzanine, bridging finance)
Internal	Financing	Liabilities	Impact mitigation	Intermediate measure	Initiating loan restructuring negotiations as needed
Internal	Financing	Liabilities	Impact mitigation	Advanced measure	Coordinated activation of the committed facilities portfolio with different financiers
Internal	Financing	Liabilities	Impact mitigation	Advanced measure	Using real-time covenant situation monitoring and forecasting in decision-making
Internal	Financing	Liabilities	Impact mitigation	Advanced measure	Coordinating strategic financier dialogue: managing the syndicate (financier group) in a crisis situation
Internal	Financing	Liabilities	Recovery and restoration	Default	Restoring the normal debt service cadence
Internal	Financing	Liabilities	Recovery and restoration	Default	Documenting the financial impacts of the disruption
Internal	Financing	Liabilities	Recovery and restoration	Default	Normalizing financier relationships and restoring trust
Internal	Financing	Liabilities	Recovery and restoration	Intermediate measure	Assessing the resilience of the financing structure after the disruption
Internal	Financing	Liabilities	Recovery and restoration	Intermediate measure	Updating covenants and contract terms based on lessons learned
Internal	Financing	Liabilities	Recovery and restoration	Intermediate measure	Updating the refinancing plan
Internal	Financing	Liabilities	Recovery and restoration	Advanced measure	Conducting a comprehensive stress test of the financing structure with updated scenarios

Type	Category	Prerequisite	Phase	Maturity	Measure
Internal	Financing	Liabilities	Recovery and restoration	Advanced measure	Developing a strategy for deepening financier relationships
Internal	Financing	Liabilities	Recovery and restoration	Advanced measure	Integrating financial resilience reporting into ESG/TCFD reporting
Internal	Financing	Liabilities	Adaptation and monitoring	Default	Continuous monitoring of covenant fulfillment and debt service capacity
Internal	Financing	Liabilities	Adaptation and monitoring	Default	Regular maintenance of financier relationships
Internal	Financing	Liabilities	Adaptation and monitoring	Default	Monitoring the maturity profile and refinancing risk
Internal	Financing	Liabilities	Adaptation and monitoring	Intermediate measure	Annual execution of financing structure resilience assessment
Internal	Financing	Liabilities	Adaptation and monitoring	Intermediate measure	Monitoring developments in financial markets and alternative funding sources
Internal	Financing	Liabilities	Adaptation and monitoring	Intermediate measure	Maintaining a covenant (financing terms) early warning system
Internal	Financing	Liabilities	Adaptation and monitoring	Advanced measure	Implementing a real-time financial risk dashboard
Internal	Financing	Liabilities	Adaptation and monitoring	Advanced measure	Using scenario analysis and Monte Carlo simulation to test financial resilience
Internal	Financing	Liabilities	Adaptation and monitoring	Advanced measure	Developing an adaptive debt capital strategy that automatically adapts to market conditions and risk signals

## Measures by Industry Sector

The 1,003 measures in this catalogue are distributed across five industry-specific action plans. While many underlying challenges are shared — IT resilience, people continuity, process documentation — the critical operating prerequisites and their relative importance differ substantially between sectors. The following overview summarises the distinct focus and structure of each sector's action plan, reflecting the particular demands of industrial resilience in that part of the global value chain of industries.

Sector	Measures	Resilience Profile	Key Operating Prerequisites
<b>Machinery and Metal Products</b>	<b>229</b>	Physical production environment and supply chain	Raw materials and suppliers, Customers and sales channels, Production equipment, Production facilities, People, Intellectual capital
<b>Electronics and Electrical Equipment</b>	<b>176</b>	Technology systems, data, and investor relations	Raw materials and suppliers, Production partners, Investors, IT infrastructure, Data, People, Intellectual capital
<b>Information Technology</b>	<b>236</b>	IT systems, data, expert talent, and leadership	IT infrastructure, Data, People, Intellectual capital
<b>Metal Processing</b>	<b>258</b>	Heavy industrial operations, utilities, and compliance	Raw materials and suppliers, Production equipment, Production facilities, People, Intellectual capital
<b>Engineering Design Consulting</b>	<b>222</b>	Knowledge assets, IT environment, and project continuity	IT infrastructure, Data, People, Intellectual capital

### Machinery and Metal Products

229 measures

*Resilience profile: Physical production environment and supply chain*

The action plan for this sector centres on protecting the physical production environment, critical equipment, and delivery capability. Resilience in the global value chain of industries for machinery and metal products companies is anchored in maintaining manufacturing continuity despite disruptions to facilities, utilities, or key equipment.

#### Key focus areas:

- Strong emphasis on production equipment redundancy, spare parts availability, and predictive maintenance
- Supplier diversification and joint business continuity planning with strategic suppliers
- Customer concentration risk management for companies reliant on a small number of large clients
- Cross-training programmes for production personnel to reduce key-person dependencies

### Electronics and Electrical Equipment

176 measures

*Resilience profile: Technology systems, data, and investor relations*

For companies in electronics and electrical equipment, resilience in the global value chain of industries is primarily a question of protecting technical systems, proprietary data, and critical partnerships — including investor relationships for growth-stage companies dependent on external financing. Supply chain risk from component scarcity (e.g. semiconductors) is also a central concern.

#### Key focus areas:

- Component supply risk management including tier 2 and tier 3 supplier mapping
- Cloud and IT infrastructure resilience with SLA management and exit planning
- Investor relations continuity planning, including crisis communication for financiers

- IP protection, data governance, and partner dependency management

## Information Technology

236 measures

*Resilience profile: IT systems, data, expert talent, and leadership*

IT sector companies face acute resilience risks in the global value chain of industries around talent retention and knowledge concentration, given high employee turnover and heavy reliance on specialist skills. The action plan balances cyber and IT resilience with people-centred measures covering expert retention, management continuity, and knowledge management.

### Key focus areas:

- Comprehensive IT and cyber resilience: disaster recovery planning, SIEM, zero-trust architecture
- Multi-cloud and hybrid strategies to avoid vendor lock-in
- Expert retention programmes, succession planning for management, and cross-training
- Knowledge management systems to reduce dependence on individual expertise

## Metal Processing

258 measures

*Resilience profile: Heavy industrial operations, utilities, and compliance*

Metal processing operations — including mining, smelting, and refining — face some of the most demanding industrial resilience challenges. Continuous process operations, strict regulatory obligations, and high dependency on utilities (electricity, water, heat) mean that disruptions can have severe and rapid consequences. Strengthening resilience in the global value chain of industries in this sector requires robust physical, operational, and compliance-related safeguards.

### Key focus areas:

- Utility redundancy (backup power, water, heating) and long-term climate risk planning for facilities
- Critical equipment maintenance programmes, IoT-based condition monitoring, and predictive maintenance
- Regulatory and environmental compliance continuity, including emergency permitting processes
- Direct procurement resilience: buffer stocks, alternative sourcing, and force majeure contracting

## Engineering Design Consulting

222 measures

*Resilience profile: Knowledge assets, IT environment, and project continuity*

For engineering design and consulting firms, resilience in the global value chain of industries is fundamentally about protecting knowledge assets and ensuring project continuity. With the business model built around expert people and project-specific data, the key risks are loss of key personnel, IT disruptions affecting project data, and gaps in documented processes and institutional knowledge.

### Key focus areas:

- IT infrastructure and cloud service resilience for project tools and document platforms
- Data protection, backup, and recovery for project data, designs, and client information
- Expert retention, backup staffing systems, and tacit knowledge capture
- Support function continuity (HR, finance, legal) and cross-dependency mapping

*The sector breakdown above illustrates how resilience in the global value chain of industries takes different forms depending on a company's critical operating prerequisites. A mining operation and a software consultancy both need resilience — but the measures that matter most are fundamentally different. The Resilience Manual is designed to accommodate this variation, enabling each company to build an action plan that reflects its own operational reality.*