

# Business Continuity Manufacturing Focus



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**theManufacturer**

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## Contents

Page 3

**Executive Summary**

Page 4

**Overview of BCM in the manufacturing sector**

Page 7

**The changing nature of threats in the manufacturing sector**

Page 9

**Where is the weakest link in your chain?**

Page 10

**How good are your plans?**

Page 12

**Testing your plan and gaining real confidence**

Page 15

**Conclusion**



# Executive Summary

Welcome to the Business Continuity Report 2013.

Sponsored and written by Zurich.

Most disruptions to business continuity are minor and can be managed with minimal impact on customers.

However, organisations are now predicted to experience a major disruption to business continuity at least once every five years. Business continuity plans, which mitigate the risks of such events, enhance the survival rates of organisations including manufacturers.

Fire, flood, workforce disputes, outbreaks of sickness, loss of utilities and suppliers are all examples of potential incidents that could have a dramatic effect on your organisation.

It is too late to plan in the aftermath of a major disruption. How long would it take to consider alternative equipment, create flexibility in your operations, find a new supplier or secure vital client records?

Each year Zurich co-produce a report into global risk trends. It is produced for the World Economic Forum to inform global decision makers about the key trends that needs to be managed.

This provides a fascinating insight for manufacturers to consider some of the main risks facing them including: cyber security, water scarcity, unreliable utilities, pandemics and climatic events.

Along with a brief summary of this research, this report aims to help you identify the areas that will support you in making informed decisions on current and future risks to your business.

The manufacturing sector faces similar challenges to any organisation in planning for disruptions, however there are specific challenges a manufacturer should consider when developing business continuity arrangements including a comprehensive review of supply chain management and resource availability.

Through the use of real world manufacturing case study examples and the provision of guidance for the development and testing of business continuity plans, this report aims to explain what is involved in safeguarding your business from interruption.

# Overview of BCM in the manufacturing sector



Before considering Business Continuity Management (BCM) a critical question to answer is, *how long would your customers be willing to wait if you suffered a major disruption?*

All too often we know that for manufacturers the answer is: "Not long!"

BCM is about preventing and preparing for events that could cause major disruption to your manufacturing environment. The purpose is to make your business more resilient by reducing the likelihood of a disruption and – if or when a disruption does happen - to ensure you have an effective plan to recover within a timeframe key customers will find acceptable. Too many businesses rely on informal agreements or vague assumptions of what could be done to continue production, with no clear plan.

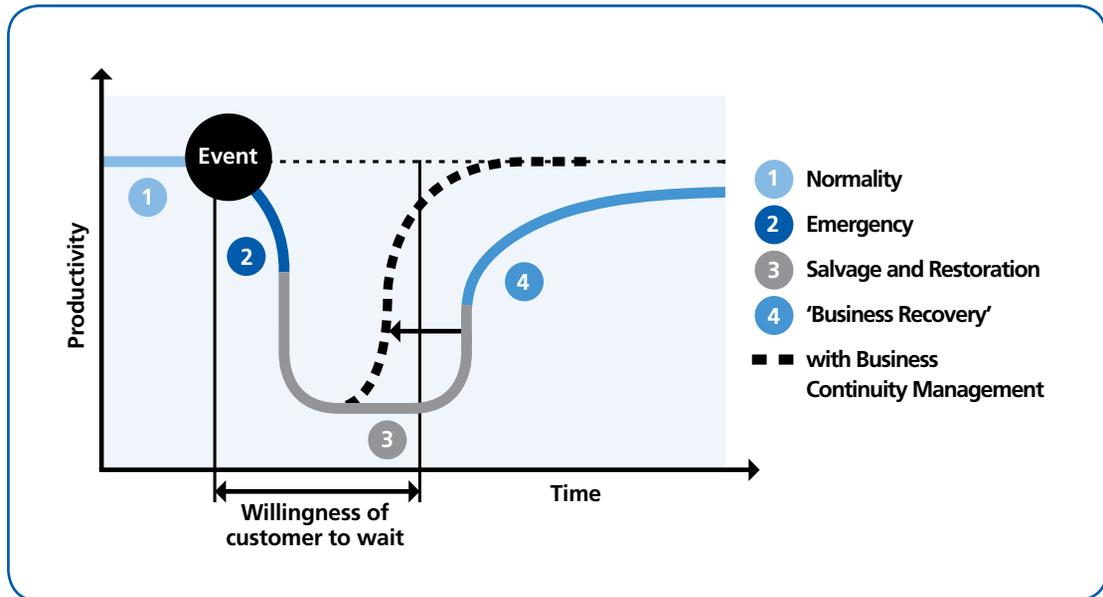
Disruptions happen for many reasons, for example supply chain disruptions, loss of IT, or product recalls. Thankfully most disruptions are more of a nuisance and operational managers are able to cope, with minimal impact on customers. However, in the past decade there has been a growing catalogue of serious disruptions from fuel strikes, bank failures, adverse weather events, volcanoes, swine flu and terrorism to name a few.

## Why should a manufacturer invest in business continuity?

- a) Despite robust risk management, unplanned events **will** occur. Significant business continuity events are now considered a one in five year event.
- b) Business continuity plans **will** enhance the survival rates of organisations including manufacturers.
- c) There is an **expectation** now by clients that organisations will take business continuity seriously. This is a real differentiator. If you don't take business continuity seriously you can be sure that your competitors do.
- d) It is **too late** to plan when an event does occur. How long would it take to consider alternative equipment, create flexibility in your operations, or secure vital client records?

**Prudent planning can be the difference between survival and failure. Zurich has a dedicated team of accredited business continuity specialists who have worked with many clients across manufacturing and other sectors for the past ten years to build resilience.**

Figure 1 – Recovering from a disruptive event



The danger for any business are the minority of disruptions that cause such a drop in productivity, that your customers can't help but notice the effect (see Figure 1). Many of the larger businesses in the sector understand this, and look for assurance from their key suppliers that they could cope with major disruptions.

“Too many businesses rely on informal agreements or vague assumptions of what could be done to continue production, with no clear plan.”

If yours is like most manufacturing businesses, your day to day operational focus will likely be on production of quality goods at the lowest possible cost. This pressure to lower cost and increase efficiency has seen the adoption of practices like lean principles, and 'just-in-time' ordering systems. You will perhaps have moved from several smaller production sites to a few larger sites.

You may have reduced, or even eliminated, the need for storage of finished goods on site. You will almost certainly be carrying fewer raw materials than you did 5 – 10 years ago.

While there is a sound business case for doing all of these things, it can mean businesses are inherently more risky – disruptions can have a greater impact than they might have done previously. Typical business disruptions that happen every year<sup>1</sup> include:

- Loss of a site or loss of access to a site through fire or flood
- Transport disruption
- Loss of IT and / or telecommunications
- Loss of people, perhaps through sickness or key individuals
- Loss of utilities
- Product recalls / product safety incidents

For example if an organisation has consolidated production from several sites to only one, then a disruption at that site has a greater impact on the business as a whole, and its ability to supply customers.

If you rely on 'just-in-time' ordering then you are relying on three things to work efficiently and effectively: access to the IT system to make the orders you need; the supplier's capacity to produce exactly what you need, and the transportation network to deliver it to you on time.

Similarly If you rely on two high speed production lines running 24 hours a day and something happens to one of those lines can you cope with that loss of capacity?

Major disruptions are rare but they do happen, and the realities of how businesses operate mean they can have a massive impact on customers and therefore the health of any business. In the manufacturing sector, the response to many of these disruptions may be to move production elsewhere (to flex production<sup>2</sup>) or to utilise informal agreements with competitors. However, this is rarely tried and tested and may be based on overly optimistic assumptions of what could be done rather than what would actually happen.

These are all vulnerable to disruptions that could impact on your business's ability to meet customers' needs.



### Case study: Manufacturer of prepared foods

A fire at a factory disrupted the supply of pastries to one of the UK's leading supermarket chains. The site employed good crisis management (dealing with the immediate consequences of the fire) but plans for restoration of supply to the supermarket group were not put in place until day three. By that time the supermarket group had already identified an alternative supplier and terminated the original contract. The factory never re-opened.

**Top tip:** Take account of the needs of your customers in devising business continuity plans. If your timescales are different to theirs, it may be too late to recover whatever plans are in place.

### What you can do to prepare.

It isn't realistic to plan for every possible disruption but every business should ask itself a few questions about how prepared it is for disruptions generally:

1. Which products generate most profit and how long would our key customers be prepared to wait if we couldn't supply them on time?
2. What are the most significant risks or events that could cause a major disruption to production of these products?
3. How strong is our response to these threats? Is there a relatively detailed plan or just an assumption that 'we could work around it'?

### Why should you invest in business continuity?

Despite robust risk management, unplanned events **will** occur. Business continuity events are now considered a one in five year event. Business continuity plans **will** enhance the survival rates of organisations including manufacturers.

There is an **expectation** now by clients that organisations will take business continuity seriously. This is a real differentiator. If you don't take business continuity seriously you can be sure that your competitors do.

It is **too late** to plan when an event does occur. How long would it take to consider alternative equipment, create flexibility in your manufacturing, or secure vital client records?

Prudent planning can be the difference between survival and failure.

<sup>1</sup> Managing Threats in a Dangerous World (2011) Chartered Management Institute

<sup>2</sup> Resilience in the Food Chain (2006), DEFRA

# The changing nature of threats in the manufacturing sector



Each year Zurich co-produce a report into global risk trends. It is produced for the World Economic Forum to inform key global decision makers about the trends that needs to be managed. This report provides a fascinating insight for manufacturers to consider some of the main risks facing them.

Every year the risk environment is becoming more challenging with long term risk trends adversely moving against many sectors. It is a worry that many manufacturers are so busy managing short term risk they have failed to recognise these major risk trends that may eventually overtake them.

Some of these risks are slower burn risks which will gradually erode the competitive position of manufacturers whilst some of these trends will cause long term damage that may see many manufacturers going out of business overnight.

So let's take a look at a few of the global threats facing manufacturers over the coming decade:

## 1. Cyber attack (fastest growing risk globally)

It will never happen to me! A recent Cabinet Office report concluded that cyber crime costs the UK economy £27bn per annum. The major element of this calculation was Intellectual Property theft.

Cyber attack trends show that smaller organisations are becoming an increasing target as governments and large corporate organisations become more resilient to such a threat. One recent example showed that a design for a new component that was ready to go into production in the UK was hacked on-line, copied and produced abroad prior to the first batch being ready in the UK.

This threat also needs to be seen in light of increased regulation in the area of data security and major fines where there has been a data breach. New EU regulations are due to be in place for 2016.

## 2. Water scarcity (second highest risk in global risk terms)

Water is a vital component in many manufacturing processes. It is a product we take for granted in the UK. Weather patterns are becoming more extreme and unpredictable. This often means too

“ Severe weather events like flooding and drought are becoming more frequent and have the potential to trigger major incidents. ”

much water but in many cases this can mean too little water. With an aging water infrastructure and a UK population set to grow by 10m by 2035 this could represent a serious continuity issue for years to come. The increased demand by 10m people represents an extra water need of 250 olympic size swimming pools daily.

**Many parts of the UK are already becoming increasingly water stressed during drier summers.**

### 3. Utility threat

One of the major threats to utilities over the next few years is potentially from that of “severe space weather” which has a moderate to high ranking on the governments risk register of civil emergencies. The real concern is the impact this would have on transformers within the grid and the length of time to replace. The grid nature of the UK power supply may mitigate this to a certain extent but the threat of power disruption remains a constant threat especially given the increasing weather extremes being experienced.

A challenge should be asked.....if faced with the loss of power for three to four days, what would this do to our business?

### 4. Pandemic (the UK Government's top threat)

Manufacturing requires skilled people. Influenza pandemics are a natural phenomena that have occurred over centuries including three times in the 20th century and most recently in 2009 with the H1N1 influenza pandemic. The 2009 pandemic caused mild disease and is attributed to have caused 1,550 excess deaths.

The consensus view amongst experts is that there is a high probability of another influenza occurring.

It is impossible to forecast the timing or the nature of the impact although it is fair to say the UK Government has improved its ability to spot the occurrence of this threat and plan accordingly.

It is a key threat that manufacturers should plan for in terms of managing key skills within their workforce.

### 5. Climate / weather events

While tsunamis and volcanic eruptions are not a feature in the UK, severe weather events like flooding and drought are becoming more frequent and have the potential to trigger major incidents.

Flood is generally regarded as the most common severe weather event in the UK, whether through the effects of heavy rainfall on rivers or in coastal areas. However, drought is becoming increasingly significant, with severe impact on farming and production. Drought increases the likelihood of flash floods and subsidence while heat waves pose a threat to health risk and working conditions.

How are you planning to deal with the increased likelihood of major incidents resulting from climate change and potential impact on service, supply chain and health and safety?

“ Some of these trends will cause long term damage that may see many manufacturers going out of business overnight. ”

# Where is the weakest link in your chain?



All too often business continuity planning is overwhelming focused only within the organisation concerned. Manufacturing is predominantly part of a complex chain with goods ending up in the hands of the consumer. Failure at any point of a value chain will result potentially in the whole chain failing to deliver.

Once a year, Zurich support a supply chain resilience survey that's undertaken by the Business Continuity Institute. This survey comprises of more than 530 organisations over 65 countries.

The survey makes interesting reading:

- 73% of survey respondents experienced at least one disruption. This high level is consistent with the trend-line over the past four years.
- 39% of analysed disruptions originated below the immediate tier one supplier, underscoring for the second consecutive year the deep-rooted nature of disruption.

- Failure of service provision by outsourcing suppliers has doubled from 17% to 35% of disruption and joins the top three causes, 21% suffered more than €1m in costs for a single incident; higher than 2011 and in spite of lower overall levels of disruption.
- 59% cited loss of productivity as the primary impact of the disruption experienced.
- While 47% now look for evidence of a business continuity programme over a simple plan and 23% run joint exercises— all improvements on 2011—15% still do not collect any information from key suppliers, and 41% do not validate that key supplier plans might work in practice.
- 42% stated the biggest on going challenge is to secure buy in to implement supply chain continuity practices in their firm.

## Challenging Risks

- Unplanned IT or telecom outages jumped to the top of sources of disruption with 52% affected to some or a high degree. The level was 41% in 2011.
- Adverse weather maintained its prominent position with 48% citing it as a cause of disruption.

## Case study

A UK toy manufacturer with a high dependence on a single supplier in China for its key products recently encountered some issues. During the installation of a new warehouse IT management system, the Chinese supplier suffered a systems failure, leading to supply shortages during the run-up to the seasonal Christmas peak. As a result the toy manufacturer couldn't get all of its requirements and had to issue a profit warning with a resultant slide in its share price.

**Know your facts** - think about critical suppliers and consider joint approaches to certain aspects of business continuity planning that could affect both parties.

From a manufacturing perspective there are a number of simple steps that can be undertaken to dramatically alter the outcome:

- **Understand your supply chain from a risk perspective.** In our experience many manufacturers are well versed in understanding their supply chain from a cost perspective. This is why they survive and are still in business. Understanding a supply chain from a risk perspective can often reveal different insights, geographical vulnerabilities, limited diversification, political vulnerabilities and transport disruption potential.
- **Focus on key suppliers to drive up resilience.** Supply chains can be complex involving thousands of potential organisations. A focus on key suppliers can produce a dramatic improvement in resilience. This focus often involves either reviewing periodically their business continuity plans through to running joint scenarios.
- **Build business continuity into the contracting process.** As a general rule serious questions need to be asked about doing business with key suppliers who do not take business resilience seriously.

# How good are your plans?

As a manufacturer it is one thing to have a plan. It is another thing to have a plan that you and your management team have confidence in.

There are a number of examples where plans in reality have not stood the test of a real incident. In such circumstances organisations live on borrowed time with their partners. In a cut throat market there are plenty of competitors that are willing to step in!

A real event can be a costly exercise in finding out that your plan doesn't work.

“ Plans need to be shared, communicated and understood by key individuals such as senior managers ”

A couple of options present a more viable approach. These include a desktop scenario test with key players to run through a credible scenario. These scenario tests gain credibility when a group doesn't know what is about to be presented. This can be taken one step further forward by undertaking a "walk through" of a plan. This may include trying to run some basic operations from another location. The ultimate (but riskier) approach is to undertake a full live test. This can often be very expensive (and hence avoided by many manufacturers) as it involves putting the total plan into operation.



Without undertaking scenario testing there are a number of quick check points you can cover:

- a) **Knowledge of the plans is held or known by only a few** such as the Head of Operations. This creates key person dependency. You can be sure that the incident will occur when the key person is on holiday. Plans need to be shared, communicated and understood by key individuals such as senior managers.
- b) **Plans lack key priorities.** Manufacturers can be extremely complex. In reality however all organisations have priorities, such as key customers or product lines that must be attended to first following a disruption. Without key priorities it is likely that the organisation may recover parts of the manufacturing process that are not high priority. In terms of prioritising always keep in mind factual based details rather than being swayed emotionally.
- c) **The plan is actually an “incident plan” and not a “business continuity plan”.** This is a very common issue with manufacturers. There can be a complete misunderstanding of what business continuity should be. Many plans we see are in fact incident management plans. They relate to managing incidents such as evacuation, closing down facilities etc. Many of these plans do not deal with the real issue; how do we keep our operations going beyond the first few hours of chaos?

- d) **Plans make major assumptions.** Often we see plans that have major assumptions. When asked how it would work in practice, plans will often unravel.
- e) **Organisations assume that they are a priority for suppliers.** Often business continuity failure lies outside the four walls of the manufacturer concerned. Many manufacturers find out at crunch moments that they are well down the list of your key suppliers’ priorities.
- f) Always remember that if a site is lost and the only copies of your plan you have are inside or held on servers that may have shut down or been destroyed it’s of no use. **Top tip:** Always keep multiple copies, securely in different locations.

### Case study

The Icelandic volcano eruption and subsequent ash cloud was another scenario where there was a need to understand the reliance of transportation routes.

**Forward thinking:** Look beyond the four walls of your own operations for business threats.

The disruption caused by the volcanic ash cloud is reputed to have cost the European economy \$5bn.

# Testing your plan and gaining real confidence



The manufacturing sector faces similar challenges to any organisation in planning for disruptions, however there are specific challenges a manufacturer should consider when developing or reviewing its business continuity arrangements:

- Prioritise your key customers and work out how long they would be willing to wait before moving to a competitor or alternative supplier. In our experience most organisations over estimate their customers' loyalty and ability to withstand a disruption.
- Identify key equipment and how you would respond if it was damaged in a flood, fire or other incident. Smoke and water damage following a fire can be more harmful to assets than the fire itself.
- Find out what the potential lead time could be for your key equipment. It is important not to be overly optimistic here. If you think the lead time is 9-12 months consider how resilient you would be if it actually took 15, 18 or 24 months to replace. Our experience tells us lead times can be much longer than anticipated.
- Calculate stock levels for raw materials on site. Modern stock management methods tend to mean buffer stocks are not large. If there is a break in the supply chain how long could you continue to operate before alternative supplies can be made available from other sites, or from the open market?
- Identify who your critical suppliers are. Of the dozens or hundreds of organisations that supply you with goods and services you need to identify which of those could adversely affect your organisation if they have a disruption.
- Seek assurances from your critical suppliers about their contingency plans or resilience to disruptions: how would they continue to supply you if they suffer their own IT failure, fire or flood? A supplier that takes resilience and contingency planning seriously will be able to

“ Prioritise your key customers and work out how long they would be willing to wait before moving to a competitor or alternative supplier. ”

prove this with an updated plan, and records of maintenance and testing.

- Consider resilience and contingencies before making strategic decisions. Moving from production at two sites to one site may make financial sense, however it increases vulnerability if an incident affects the single production site. Contingency and resilience should be factored into major strategic or operational decisions.

“ Plans need to be shared, communicated and understood by key individuals such as senior managers ”

- Reciprocal agreements with competitors or other third parties help – especially for those who rely on a single production facility – however they have to be tested to ensure the agreement will actually work.

An area of business continuity risk that is often forgotten about, is that which arises following a product safety and recall incident.

With increased levels of product regulation, consumer awareness and media attention, companies need to be ready to manage any product safety issues with immediate effect.

A Business Continuity Management (BCM) capability cannot be considered wholly reliable until it has been exercised; with these challenging risks in mind testing can take various forms, including technical tests, desktop walk-throughs and full live exercises. No matter how well-designed and thought-out a BCM Strategy or Business Continuity Plan (BCP), a series of robust and realistic exercises will identify issues and assumptions that require attention. Often these events have side benefits around team building and improved communication between insurer, broker and manufacturer.

Three terms are in general use:

- **Testing** – usually used when a technological procedure and/or business process is being

tried, often against a target timescale. Example: Rebuilding of a server from back-up tapes.

- **Rehearsal** – practice of a specific set of procedures that require the following of a script to impart knowledge and familiarity. Example: Fire drill procedures
- **Exercise** – usually employed for a scenario-based event when decision-making abilities are being examined. Example: Desktop exercise to manage a major incident

There are a number of reasons for undertaking a test exercise:

- Identify areas for improvement or missing information
- Highlight assumptions that need to be questioned
- Provide information and instil confidence in exercise participants
- Develop teamwork
- Raise awareness of Business Continuity throughout the organisation
- Test the effectiveness and timeliness of restoration procedures at the end of the exercise.

In order for any test to be useful, it needs to meet the criteria of:

- **Consistent approach:** Tests should be carried out — wherever possible — using the same procedures and methods as would be used in a real event, making the event as real as possible.

### Example scenarios Zurich have run with manufacturers

- Partial flooding of a key location
- Fire having an impact on key equipment
- Loss of utility following a key storm event
- Protest or other disruptive actions
- Accident at key location
- Loss of staff through pandemic

“ The major outcome from a test is often confidence and a renewed sense of purpose that investing time in business continuity is worthwhile. ”

- **Realism:** The usefulness of a test is reduced by the selection of an unrealistic scenario. The simulation of an event is needed to prove the viability of plans in such circumstances.
- **Minimal exposure:** Testing may place the business at a level of increased risk. The designer of the test should ensure that the risk and impact of disruption is minimised, and that the business understands and accepts the risk.

These three criteria often have conflicting requirements, and will require a compromise amongst them.

The major outcome from a test is often confidence and a renewed sense of purpose that investing time in business continuity is worthwhile.

#### Example of innovation

There are two ways to have confidence in a plan. One is to test it; the other is to suffer a major disruption. Clearly one of these methods is preferable to the other. Tests can take many forms. They can range from desktop exercises with a group of managers through to live tests with staff of all levels.

During 2011 Zurich insured a manufacturer based in the East of England. This manufacturer supplied a number of high street brands and relied upon importing material from Asia.

Initial meetings with management were arranged to understand the organisation, key stakeholders and vulnerabilities. A review of the plan was undertaken which soon highlighted that potential threats were not incorporated into the plan nor was there wide understanding and support of what was actually in the plan.

Short phone interviews were held with key managers including site management, logistics and IT. From this information Zurich developed a detailed scenario to test the organisation's plan. Three weeks following these interviews a workshop was held with the management team. They were given the scenario (a moderate scale fire) and asked to use their knowledge, experience and the plan to agree on how they would respond.

Over the course of the workshop the scenario unfolded to challenge the management team to consider the short, medium and long term impact of the fire to their business. This allowed the management team to identify where they needed to improve. The workshop was followed by a short report summarising the action points and recommendations for improvement from the exercise.

“ There are two ways to have confidence in a plan. One is to test it; the other is to suffer a major disruption. Clearly one of these methods is preferable to the other. ”

#### Benefits to the customer

- Provided experience for the manufacturer as to how they should respond to a major disruption.
- Identified gaps in their plan that needed to be addressed.
- Raised awareness of the importance of business continuity and the contents of the plan.
- A side benefit was that it also acted as team building for some of the managers within the group that were new to the business.

# Conclusion

Business continuity is about how resilient your business would be in a range of scenarios; it is about staying in business.

Business continuity management should not be about creating a huge document. It should be about managers understanding the potential risks and disruptions that could arise, what contingencies are already in place, and what more has to be done – if anything – to make sure the business is resilient.

A mitigation plan should be tested in various forms, including technical tests, desktop walk-throughs and potentially full live exercises, before it can be considered reliable.

There is an expectation now by clients that organisations will take business continuity seriously and this has become an important selling point when marketing a business. If you don't take business continuity seriously you can be sure that your competitors do.

Zurich takes a pragmatic and outcome focused approach when working with its customers to co-develop business continuity plans. Ultimately plans have to be owned and understood by the managers who will be responsible for developing, testing and implementing them in real life situations.

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