



PRESCRIPTION For a Sustainable Global BC/DR Program

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BC/DR process implementation is expected to become a core competency of the business, fully integrated into every manager's business routine.

WHAT WOULD HAPPEN IF A MASSIVE thunderstorm knocked out power at one of Aventis' manufacturing sites, or a vital computer system was damaged by a water leak? Which areas of the business would be affected and to what extent? How can we ensure we have appropriate recovery strategies in place to get the critical business *up and running*, economically and with maximum efficiency?

Aventis, headquartered in Strasbourg, France, is one of the top 10 pharmaceutical manufacturers in the world. Its Aventis Pasteur division is one of the top three vaccines producers. The company has more than 70,000 employees in more than 130 countries, with annual sales exceeding 17 billion euros. Aventis was created in 1999 with the merger of the French company Rhone-Poulenc and the German company Hoechst. The company is organized around five business functions:

- Commercial Operations (ComOps)—Sales, marketing and distribution
- Drug Innovation and Approval (DI&A)—Research and development and regulatory submission
- Industrial Operations (IO)—Manufacturing
- Finance and Administration (F&A)
- Aventis Pasteur—Vaccine research and development, ComOps, IO and F&A

In 2003, the Aventis Operations Management Committee (OMC), headed by COO Richard J. Markham, directed the company's Business Continuity Council (BCC), headed by Director of Risk Management Andrew Tait, to develop a sustainable, global BC/DR program. Early on, the BCC set the

following goals for the implementation:

- Implement a rigorous, *business-driven* protection strategy.
- Begin each implementation with focused scoping to concentrate resources where most required.
- Protect critical systems and infrastructure that support critical processes.

The necessity of using a global approach to BC/DR had been identified by internal (corporate) audit via the business audits in 2002 and had been presented as an area for the company to address at a senior management level.

"A focused and globally aligned approach to BC/DR is critical to properly manage resource allocation and optimize the protection of shareholder assets," says Markham.

Setting the Stage for BC/DR

When Aventis was formed in 1999, senior management decided to perform a holistic analysis of the company's risk tolerances. Directed by the risk management department, the analysis started with senior management interviews to determine the company's risk tolerance, as well as a thorough review of all predecessor internal and available industry information. The team was able to identify the optimal risk financing structure for the company and identify *best-in-class* practices to be implemented as the company developed its own culture.

An outside firm assisted in managing the risk appetite and tolerance interviews and provided recommendations on risk tolerance. The risk management department developed basic measures of risk tolerance that were supported by senior management and industry best practices. The following



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Brian Bobich, senior manager of project and service continuity management at Aventis GIS, Andrew Tait, director of property insurance and BC at Aventis Corporate Risk Management, and Daniel Garlewicz, senior director of global systems management at Aventis GIS, are featured from left to right at Aventis' Somerset, NJ office complex.

Photo courtesy of Scott Ream.

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The top risks are reported quarterly to the CEO of the company and each risk is monitored. The process has matured into a functioning risk council, led by a strategic risk officer reporting to the CEO.

Photo courtesy of Carlos San.

guidelines were used to implement risk financing solutions, setting the stage for the second step in the evolution of risk management at Aventis:

- Five to 10 percent of working capital
- One to two percent of sales
- Five percent EPS
- Five percent of operating income

Enterprise Risk Management

Once Aventis had implemented its risk financing programs and company management had a year to get a feel for its

identity, the next project was launched. Coordinated by the risk management department, Aventis began the implementation of an enterprise risk management (ERM) process. The need sprang from two sources: 1) identifying ERM as a best practice, supporting a culture of *no surprise* to senior management, and 2) implementation of country laws, long before the Sarbanes-Oxley Act of 2002, requiring risk reporting (for example, ContraG in Germany and Cadbury's in the United Kingdom).

Aventis' ERM process looked to establish a strong, integrated risk reporting process that provides a route for risks to be regularly reported to senior management. The project involved conducting interviews and questionnaires of the top 200-plus people in the company, and conducting workshops in approximately 20 areas of the company. Efforts focused on developing tailored risk reporting environments for the five business functions through 10 different operating committees. The top risks are reported quarterly to the CEO and each risk is monitored. The process has matured into a functioning risk council, led by a strategic risk officer reporting to the CEO.

Following the approach used to establish the ERM project and looking at its successful engagement with the business, the risk management department was charged with implementing the next stage of risk control, the BC/DR program.

One of the first products of this new initiative was the formation of the BCC, including representatives from the

Chart 1: Global Implementation Team

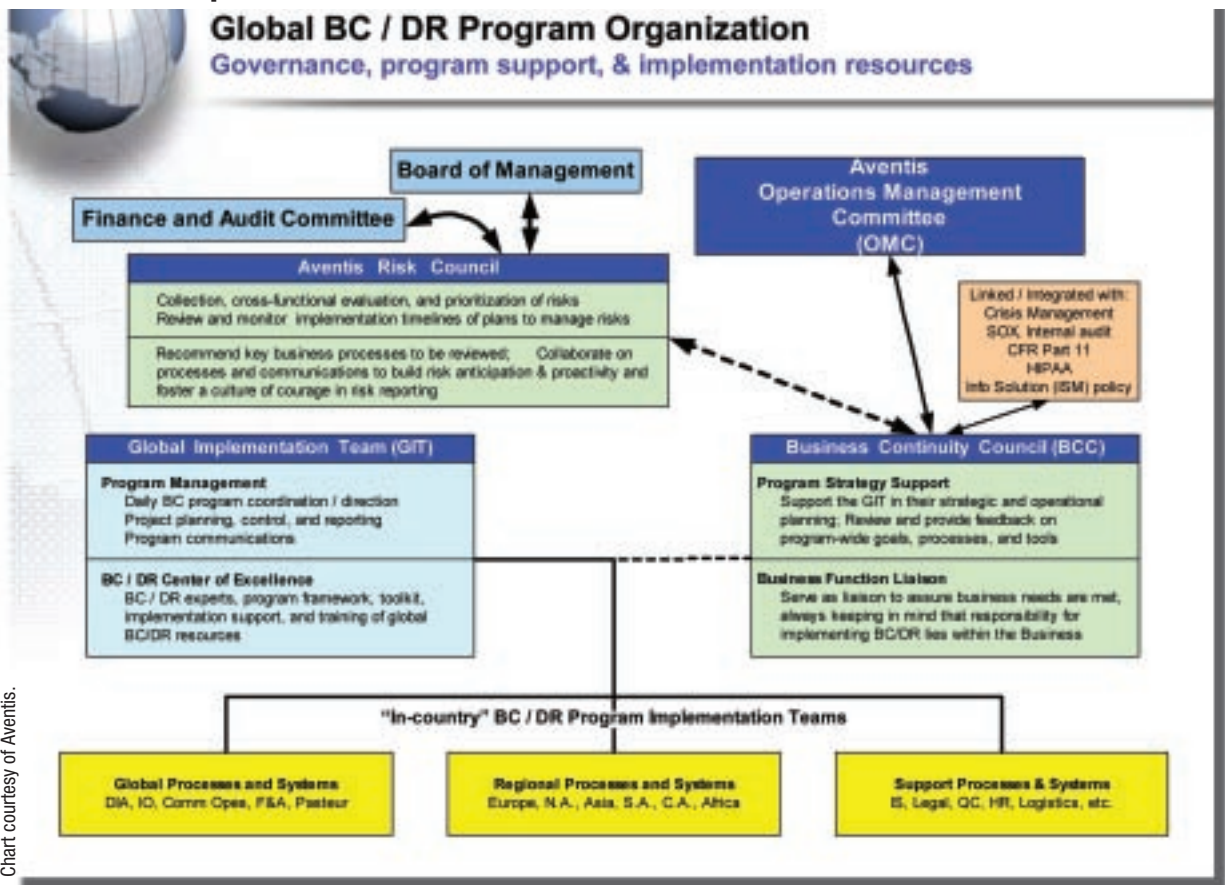


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major stakeholders (those groups that drive the company’s success), namely, global IS, Industrial Operations, Commercial Operations, Drug Innovation and Approval, Aventis Pasteur, Global Finance and Crisis Management. The BCC is advised and guided by the global implementation team (GIT), which is charged with day-to-day program execution and provides BC/DR expertise and support to local management. The GIT is largely staffed by Virtual Corporation (Flanders, NJ)—Aventis’ BC/DR consulting partner. The GIT is led by Andrew Tait, director of property insurance and BC (Aventis Corporate Risk Management), Dan Garlewicz, head of global systems management (Aventis-IS), Brian Bobich, BC/DR program director (Aventis-IS), and Scott Ream, project manager (Virtual Corporation) as shown in **Chart 1, page 18**.

Materiality Analysis: Focusing the Program for Maximum ROI

When the BCC first began work on the design of the BC/DR program, one of its key concerns was how to focus program resources on those areas of the business where they would result in maximum ROI. The BCC created an innovative approach called *materiality analysis* that focused attention on those processes and systems across the company, which, if disabled, would generate the most significant material adverse impacts. The analysis consisted of the following:

1. Quantify the financial impact that becomes intolerable (*materiality*).
2. Define synonyms to make it easier for managers to relate to the financial criteria.
3. Decide at what level of impact program participation is mandatory.
4. Describe how dependent processes and systems are included in the program.
5. Apply the materiality criteria to each business function globally to focus scope.

6. Build the materiality criteria into the BC/DR program policy, standards and guidelines to further focus the work effort at those sites mandated to participate.
7. Once initial BC/DR program is implemented, prioritize and implement for sites and functions not included in initial scope.

Quantify the Financial Impact

The BCC looked at the company’s view on risk tolerance and queried the Aventis risk council, which addresses strategic risks. They used the risk reporting levels selected by the risk council, which had been selected using the original risk tolerance study (referenced previously). Once reconfirmed by senior management and following a specific discussion at a risk council meeting, four levels of business impact or materiality were established, *low, medium, high* and *very high*. Euro limits were set for each as follows:

Low materiality	Less than 25 MM euros
Medium materiality	Between 25 and 100 MM euros
High materiality	Between 100 and 500 MM euros
Very high materiality	Over 500 MM euros

Definition: Materiality—a quantified measure of the adverse business impact that would be incurred if one or more specific business processes were disabled for a defined period of time. Materiality is measured for every business process by means of a business impact analysis (BIA). The resulting materiality value for each business process is compared against the business process materiality grid in **Chart 2** to determine the appropriate level of BC/DR protection required.

Define Business Impact Synonyms

It became obvious that the BCC would need *synonyms* for this financial materiality rating scale to create a more familiar context for Aventis managers within the company’s primary business functions. (Not every area can easily identify the

Chart 2: Business Process Materiality Grid

Process Materiality Grid (applies to impacts directly attributable to the outage)				
Type of Impact	Low	Medium	High	Very High
<i>Financial</i>	Losses equal to or less than 25 MM euros	Losses between 25 and 100 MM euros	Losses between 100 and 500 MM euros	Losses equal to or greater than 500 MM euros
<i>Potential Operational Impact (Pharma IO definition)</i>	Outage of less than one day	Outage of one day to one week	Outage of one week to one month	Outage for more than one month
<i>Delay of Regulatory Submission of expected strategic product in major market (VS Plan)</i>	Delay of 30 days or less	Delay of 30 to 90 days	Delay of 90 to 180 days	Delay of more than six months
BC plans not required/DR baseline provided			BC/DR plans required	

Chart courtesy of Aventis.

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financial impact caused by the loss of their key business processes.) To date, synonyms have been developed for industrial operations and DI&A, and more will be developed as the other business sectors are engaged.

Synonym: What equates to approximately a 100 to 500 Million euro impact?

IO	One week up to one-month production outage
DIA or R&D	90- up to 180-day delay in regulatory submission

Decide at What Level of Impact BC/DR Program Participation Is Mandatory

The BCC needed to set the level of materiality that would require participation in the BC/DR program. They agreed to the following criteria:

- Any business process that can be determined to generate a high or very high materiality must prepare, test and maintain BC plans.
- These business processes are to be identified as *material business processes* and their RTO is to be shorter than the time in which they would generate a *material* impact, if disabled.

The data used to determine materiality are gathered directly from each site participating in the BC/DR implementation. A BIA survey was designed by Virtual Corporation based on an earlier version created by PA Consulting (London, UK), through which the answers to a series of targeted questions automatically determines materiality and yields RTO for each

material process. The initial RTO is then reviewed by the local management team and if adjustments are necessary, the reasons are documented and the RTOs for material processes are finalized.

Describe How Dependent Processes and Systems Are to Be Included

With the mechanism for determining material processes developed, attention turned to defining the mechanism to identify dependent processes, systems and infrastructure. Aventis insisted that the BC/DR program implementation be *business-driven*, meaning that program need first identify material business processes and then identify other dependencies (supporting business processes, IS and facility systems and infrastructure) without which the material processes would fail. The following criteria define how this objective would be accomplished:

- Supporting material business processes—Any business process that, if it were to fail, would cause a *material business process* to fail; must also prepare, test and maintain BC plans
- Material systems—Any IS system, facility or production system, or any infrastructure component (power, water, HVAC) that, if it were to fail, would cause a material business process to fail; must also prepare, test and maintain DR plans
- Supporting material systems—A dependency analysis is necessary for all *material systems* through which critical supporting systems and infrastructure are identified and appropriately protected with DR solutions.

Figure 1: Five-step Implementation Methodology

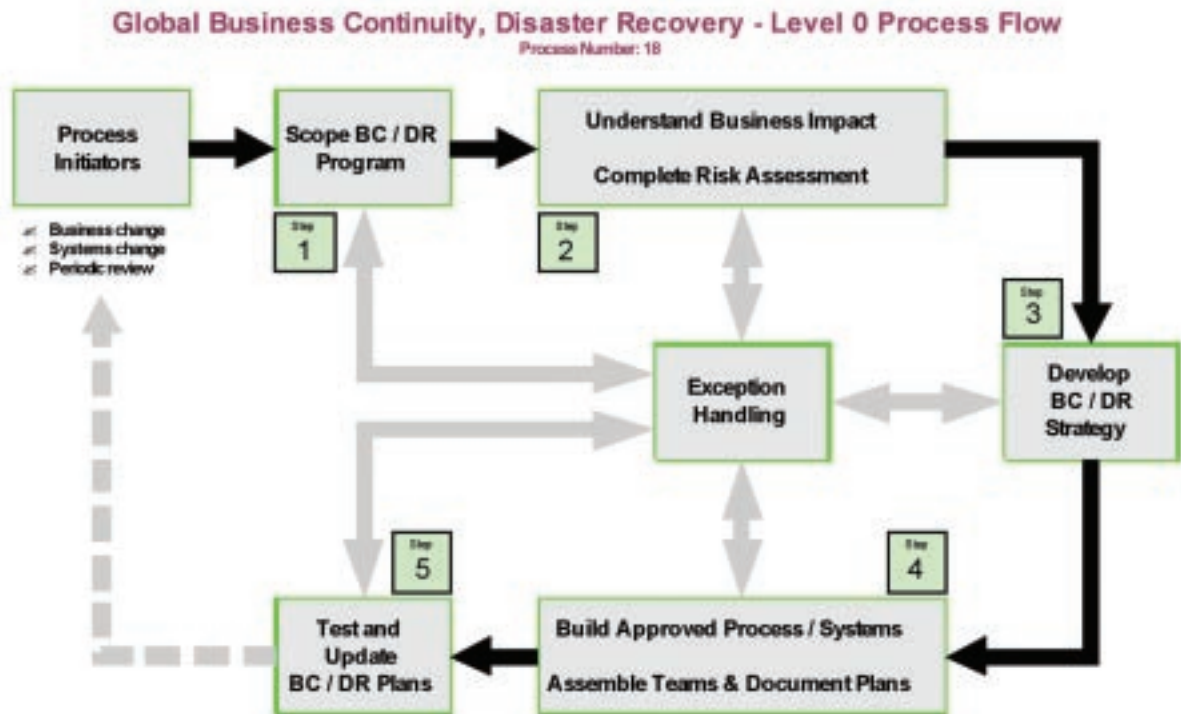


Figure courtesy of Aventis.

Apply the Materiality Criteria Globally to Focus Scope

Because Aventis is a global enterprise with operations in more than 100 countries, the BCC's next challenge was to define a mechanism that would focus the BC/DR program on the business functions at the sites where it would be of greatest value. With the materiality criteria defined, the BCC could now review available data on revenue, profit and other standard performance measures for each business function, and make informed decisions about which business functions and sites could generate a material business impact if disrupted. The BC/DR program would be implemented for those business functions and sites.

To date, this process has been applied with excellent results. Some interim results include:

- Applying the methodology was easiest in manufacturing. Using strategic supply chain product maps and the products' profits to the company as the key measure, Aventis Industrial Operations narrowed the target sites from the global total of about 60 manufacturing sites down to 16 sites and their supporting infrastructures which could have an impact of high or very high against the financial measure.
- Commercial Operations used weekly bottom line revenue contribution as the measure to identify the *material* countries—markets which could have a material impact over time.

Scoping Methodology Further Refined to Focus Work Effort for Targeted Functions

To further facilitate the identification process and focus the work effort, Virtual Corporation devised a scoping process to eliminate non-material subprocesses or functions when implementing BC/DR. A local implementation team (LIT) composed of knowledgeable senior managers completed a high-level BIA, cross-referencing a variety of business impacts on each primary function being performed. The list of business impacts includes:

- Primary impacts
 - Financial
 - Production outage
 - Delay in regulatory submission
- Other business impacts
 - Regulatory compliance
 - Product distribution impact
 - Product safety
 - Image/public confidence
 - Employee retention/morale

During the workshop, the LIT is asked to answer the following question for each primary business function: "If this business function were disabled for up to six months, would the resulting impact be *possibly material* or *absolutely not material*, meaning could the loss of this function for up to six

months generate an adverse financial impact exceeding 100 million euros?" This question is asked for each of the business impacts listed above for each primary business function.

The *absolutely not* material business functions can be excluded from the remaining BC/DR program implementation. The possibly material functions are further scrutinized at the site level to determine whether the loss of each function at each specific site is possibly material or absolutely not material.

Through these scoping exercises, the BC/DR program has been successfully targeted at those business functions and at those sites that most require protection. Using this approach, Aventis has reduced the work effort to launch the BC/DR program and has been able to concentrate its resources to yield maximum efficiency and gain wider program acceptance from local management.

Build Materiality Analysis into Program Policy, Standard, and Guidelines, and Implement Across Targeted Sites and Functions

To support this innovative analysis and project scoping approach, the GIT published BC/DR policy and standards documents that define the rules and compliance standards by which the company will be measured. The team also created guidelines in the form of a five-step implementation methodology (see **Figure 1**).

Once Initial BC/DR Program is Completed, Prioritize and Implement Throughout Aventis

Over time, these BC/DR processes are expected to become a core competency of the business, fully integrated into every manager's business routine.

"The BC project is an important next step in the development of core competencies at Aventis," says COO Richard Markham. "It is fully supported by my office, and will be tracked in conjunction with the enterprise risk management and crisis management initiatives."

Aventis' well-earned reputation for innovation and caring is evident in its BC initiative. Over the next three years, the BC/DR program will be implemented across the organization, providing Aventis associates with the tools necessary to sustain local BC and DR plans, services, and infrastructure—and helping Aventis meet its mission of "improving life by treating and preventing human disease through the discovery and development of innovative pharmaceutical products."

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