

Dollars and Sense:

## The Benefits of Safety on the Bottom Line

*Excerpt from Rockwell Automation Inc. Publication:  
SAFETY-SP006A-EN-P - July 2006*

By Joe Quigg  
President, Engineering

*To remain competitive and profitable, manufacturers across industry sectors are restructuring operations in order to cut costs and improve operational efficiency. This is felt at all levels of manufacturing, including highly sensitive areas such as those controlled by plant floor safety systems.*

*While cost definitely needs to be a consideration, safety must be viewed outside the realm of pure cost burden. Instead, adding safety systems can potentially lead to more productive equipment and reduced costs due to fewer workers' compensation claims, less overtime, and more efficient use of management's time.*

### Why Are Manufacturers Holding Back?

Despite the many potential benefits safety control provides, it has commonly been viewed as an unnecessary and expensive barrier to increasing production. Traditionally, safety and productivity in a manufacturing plant are pulled in opposite directions. The safer a system was, the less productive it was. Additionally, manufacturers struggle to cost justify the implementation of a safety system. That's because, beyond compliance, many benefits often go unrealized, such as lower insurance premiums, making manufacturers hesitant to invest in a safety system.

### Workers' Compensation

Clearly, the safety of employees is a priority at manufacturing plants. In addition to the safety of employees, a well-designed safety system can also potentially save a company money. For example, workers' compensation is one of the more costly elements associated with safety. Nearly all states require an employer to procure workers' compensation insurance from the state workers' compensation department or an insurance company.

The financial impact of employee injuries is measurable, so claims and insurance premiums associated with them are considered a direct loss. Obviously, reducing the frequency and severity of employee claims will potentially help minimize these premiums. Indirect costs, on the other hand, include production losses, increased overtime, and unproductive use of management's time. These are indirect costs because their financial and operational impacts are more difficult to measure, and it's tempting to minimize the impact of these costs. However, a 2001 survey from insurance company Liberty Mutual revealed that these indirect costs are potentially three to five times the size of direct costs.

## **Increase Production**

The historical view of safety was that it slowed production, so implementing an appropriate safety solution could potentially increase production. Companies implementing safety systems can increase throughput and, at the same time, instill greater confidence among workers that the company is taking their safety and well-being seriously. This can help boost employee morale, which can lead to further gains in productivity. One of the automotive manufacturers was actually able to produce one additional vehicle every five hours at each assembly plant after implementing a safety solution.

An example of how advanced safety products can improve productivity involves light curtains, or infrared beams, that detect operator presence in hazardous zones. Typically, a safety interlock gate is used to help prevent operators from entering these areas. A gate takes about 10 seconds to open and 10 seconds to close, depending on the programming. If operators do this 100 times a day, 6 days a week, 300 days a year, the amount of lost productivity adds up.

By replacing traditional gates with light curtains, operators -- when entering hazardous zones -- would simply break the infrared beam and the operation would come to a safe stop (with the appropriate programming). Due to the frequency with which this area was entered, the light curtain investment would quickly increase productivity and create a positive return. International Automation has seen this improved productivity first-hand. They retrofit stamping machines for large tandem lines, and they're working on upgrading the safety control for five presses that were 40 percent efficient and produced between 85 and 120 parts per hour. International Automation switched to the Allen-Bradley® GuardLogix,™ a new safety controller from Rockwell Automation,® and saw the tandem lines' efficiency rise to 90 percent, with each tandem producing an average of 500 parts each hour.

## **Additional Cost Savings**

Safety systems can potentially pay significant dividends by helping companies comply with regulatory requirements. For example, a visit from safety inspectors can result in the immediate shutdown of any machine considered to be unsafe. This type of interruption on a production line could have potential financial consequences, such as lost production, but may also result in penalties incurred from safety violations. In addition to increasing productivity, implementing a safety system can potentially reduce costs in other areas such as overtime, management, and public relations expenses. Overtime issues can arise when an employee is injured and additional time from other employees is required to make up for lost production.

Safety systems can also help managers and supervisors use their time more wisely. For example, when an employee is injured, management is required to spend additional time investigating and managing the claims. When an accident occurs or a fine is issued, a company's public relations efforts (and costs) will potentially increase in order to effectively manage the reputation of the company. By investing in the appropriate safety technology, companies can safeguard their most valuable asset – the workforce – and at the same time, reduce costs, improve morale, and help ensure continuity of future production.

*Excerpt from Rockwell Automation Inc. Publication:*

**SAFETY-SP006A-EN-P - July 2006**