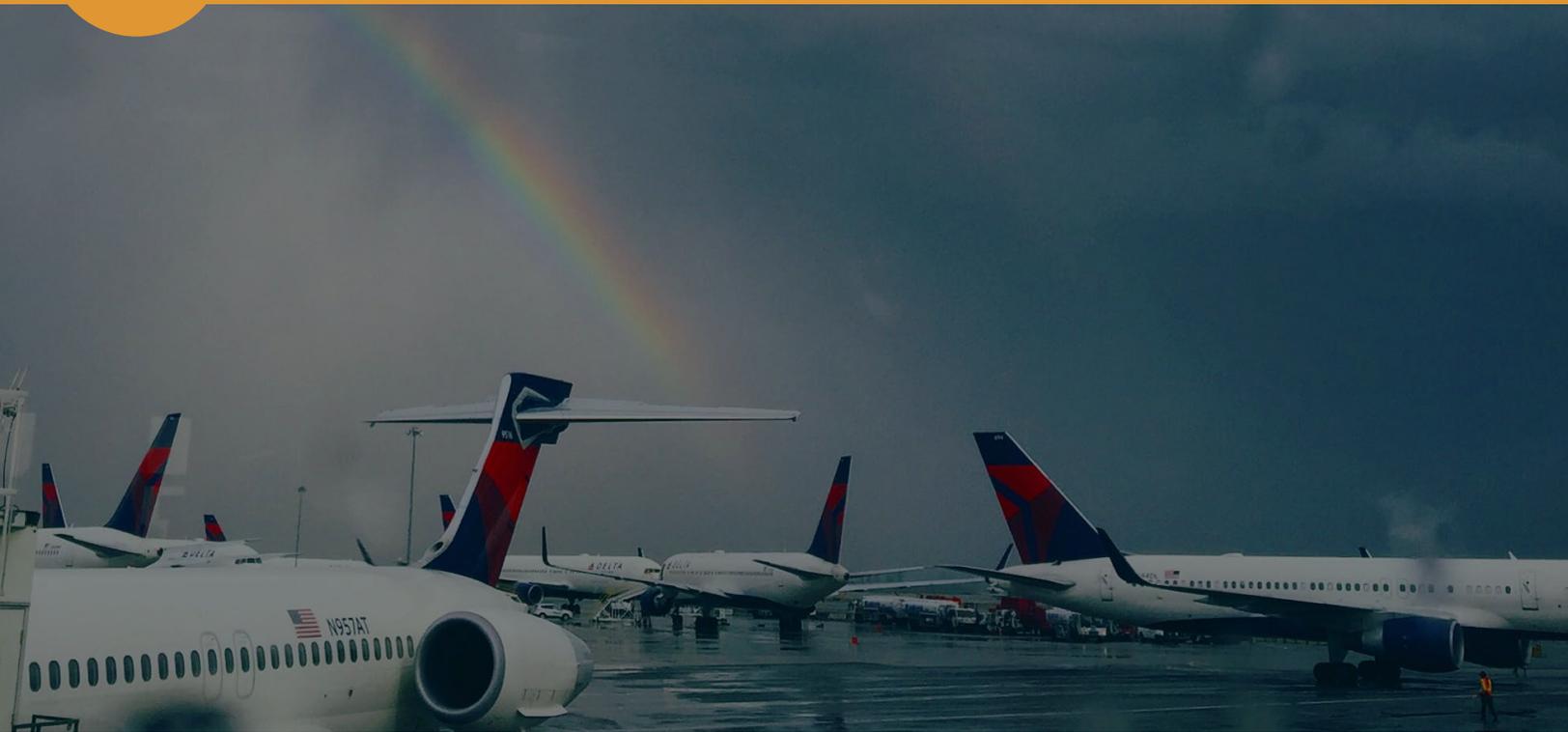




HOW OUTAGES IMPACT DIFFERENT INDUSTRIES

ENERGY CONTROL SYSTEMS WHITE PAPER





Businesses rely on their critical systems being operational at all times. However, it's unrealistic to think that hardware will always react predictably or that processes won't be interrupted. Equipment might break down from wear and tear, necessitating parts to be shipped out to fix it. Outages in power supply and other infrastructure are becoming more prominent and costly, making it essential for organizations to be prepared for emergency situations.

Let's take a look at how outages impact different industries and what business leaders can do to protect their company.



Airlines aren't just in danger of monetary consequences for an outage, they can also take significant reputational damage, leading travelers to choose other options.

GROUNDING FLIGHTS

Whether for business or pleasure, planes depart daily carrying passengers to their destinations. In fact, more than 2 million passengers fly every day, according to the Federal Aviation Administration. There are 7,000 aircrafts in the air at any given time, and 23,911 commercial flights daily. While canceled or delayed planes are nothing new, airline operators try to avoid these situations as much as possible.

Operation interruptions can leave customers stranded without their luggage for days. When Delta Air Lines lost power in its operations center in Atlanta in 2016, computers were downed for five hours. CNN noted that this outage caused 1,000 flights to be cancelled and another 1,000 to be grounded for two days. The total bill for the outage amounted to \$150 million, with Delta agreeing to give refunds and vouchers to affected travelers.

Southwest found that a similar incident hurt its quarterly revenue, amounting to a \$177 million hit.

Outages within the air transportation industry continue to be major disruptions. The recent incident at British Airways, among others, serves as a reminder that organizations must have preventive maintenance plans in place. Airlines aren't just in danger of monetary consequences for an outage, they can also take significant reputational damage, leading travelers to choose other options.

WASTING FOOD

Restaurants and grocers are under strict requirements to keep food under certain conditions to ensure they're safe for sale and consumption. Any type of food scare can make a significant impact on public perception – just look at Chipotle's recent issues with e.coli. Refrigeration is particularly necessary to store certain perishable items. If something like milk isn't kept within the right temperature range, it can make customers sick and could result in the company losing customers. Outages, in this way, are particularly dangerous for food sellers, and customer dissatisfaction will depend on how an organization responds to the issue.

If an outage does occur, businesses must act fast to launch backup power solutions and ensure that critical food storage units

are operating appropriately. An uninterruptible power supply unit should be in place to seamlessly transfer power in the case of an outage. This guarantees that organizations have power going to their systems for the battery runtime, giving them time to restore power or figure out alternative solutions. With this type of backup in place, organizations won't have to worry as much about wasting food or providing customers with products that are potentially spoiled, helping preserve reputation and reducing potential costs.

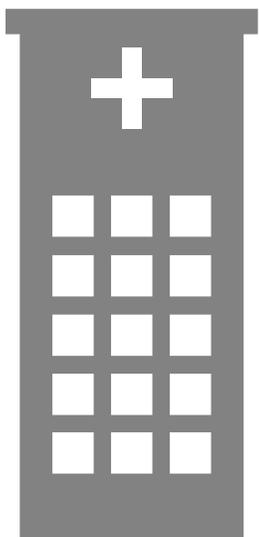
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PUTTING LIVES AT STAKE

In health care, a power outage could turn into a life or death situation for some patients. If a doctor is working on an operation and the lights go out, it puts the patient's life in danger. Similarly, if important monitoring, medicine administration or support tools go offline, it could lead to an emergency situation. Patient care and safety are the main priority and will be the focus while working around power outages. In theory, the lights should never go off as many institutions have backup generators on hand. It's important to regularly test these systems to ensure they will react appropriately during actual emergencies.

Health care facilities come in different sizes, making it essential to have a backup plan in place that adheres to your particular power supply needs. Hospitals often have monitoring points throughout the building to track power levels. If a point drops too low, generated power is provided to specific loads based on how the power is used and how critical it is. With an uninterruptible



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power supply, power can be directed toward emergency lighting and clinical applications. Doctors and nurses will still be able to care for patients appropriately and work effectively until processes can be shut down gracefully or the power comes back on.

RISKING DATA AND BUSINESS CONTINUITY

Data centers are the lifeblood of many organizations, handling the growing amount of information while guaranteeing uptime for critical resources. However, data centers are very volatile environments that require proper maintenance. Servers must be kept cool to prevent overheating or damage to internal parts. Any issues could lead to premature hardware failures and unexpected downtime. The cost of downtime has increased significantly, with the expenses averaging \$740,000 in 2016, according to a report by Ponemon Institute and Emerson Network. For some, a data center outage could top out at more than \$2 million. These prices are only going to escalate as data centers are expected to manage more sensitive information and provide resources for business operations.

If a data center is brought down, it's not just that facility that's impacted, it's the users as well. Some data centers might serve multiple clients, and downtime could end up affecting all of them. With this information, it's important for data center operators to monitor their equipment and power supply. According to

a study by Timico, 25 percent of IT outages in the U.K. stemmed from unreliable power supplies, followed by issues with software and hardware failures. Data centers must be managed appropriately and have backup systems in place to prevent one issue from disrupting all operations.

Power outages impact every industry but have vastly different implications for each sector. Outages can put the lives and safety of people at risk in some verticals. For

most, power outages will bring big costs and potential reputational damage. To prevent these consequences and maintain customer satisfaction, organizations across every industry can utilize UPS systems. A UPS seamlessly transitions power in the event of an outage to ensure that you can save data, gracefully shut down systems and even continue working for the battery runtime. For more information on how a UPS can help power your business, contact Energy Control Systems today.



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