PHOTO COURTESY KARCHER

Robots Clean Buildings

A SOLUTION TO STAFF SHORTAGES

BY ROBIN PAUL

While consumers have embraced robotic floor cleaning products for their homes, these devices are rarely seen operating in professional settings. Even as autonomous cleaning products have become more readily available, they have not yet become the norm in the cleaning industry. Since most cleaning tasks are performed manually, people are hard to replace. And, due to the pandemic, the need for heightened cleaning and regular disinfecting has increased costs and stretched staff time and resources.

Today's challenging labor environment could be the catalyst for autonomous products becoming more commonplace; the growing shortage of skilled staff makes reducing time-consuming activities more important. Cleaning robots are therefore becoming a viable option to supplement cleaning and maintenance personnel, especially since some models now work so autonomously that they provide great relief for certain applications. Easy handling, high safety standards and the large footprint of flooring to be cleaned encourage their use, making these products ideal for colleges and universities.

Independent Operation

When considering the autonomous operation of machines, the objective is to minimize the need for human intervention as much as possible. In an ideal scenario, a robotic scrubber can clean extensively right up to the floor edge without the need for any additional manual work. If the machines contain high-performance software and sensors, they can turn in tight spaces and avoid unexpected obstacles, such as waste baskets or people entering the cleaning path. The robots become reliable, productive members of the cleaning team, typically providing a return on investment in less than two years.

Safety

Complete autonomy would be no help if cleaning robots do not meet the most exacting safety standards, especially in areas frequented by the public. Constant 360° monitoring of the surroundings is now possible with the aid of high optic cameras and Lidar sensors. Both moving obstacles and stationary objects are reliably detected, allowing the robot to recalculate the cleaning route. Depending on the model and manufacturer, safety features are certified in accordance with the provisions of CSA North America. An external authority must always confirm that the robot enables safe operation in accordance with the relevant standards.

Ease of Use

Maintenance personnel at many institutions still feel some inhibitions when operating robotic cleaners even though these devices are now quite simple to control. When scrubber robots were first launched on the market, only service engineers with technical equipment and special programming knowledge were able to create a route plan with the complicated technology. Some companies still require their customers to use white glove support both to get started and to maintain the system over time. Fortunately, some technology providers have made tremendous advancements using improved sensors and higher data quality to ensure that every user can now create, correct, or combine routes without any technical support.

Most models offer step-by-step instructions to show what needs to be done, not only for the robot but for the operator as well. Multiple cleaning routes can be saved simultaneously, eliminating everyday mundane set-up. If a route is to be programmed, the user chooses a starting point which is marked with a code that can be read by the robot. The user then teaches the robot the scheduled cleaning route using "Teach and Repeat" mode. Alternately, the user can choose "Area Fill" selection and move the robot around the perimeter of a defined area. The robot then cleans everything within the perimeter. A key benefit of all of these devices is that staff can easily see the status of the cleaning robot in real time using any smartphone or tablet.

Teamwork

Although cleaning robots could be regarded as rivals to janitorial staff, working in tandem proves the opposite. Everyday floor cleaning is often a monotonous, strenuous activity that costly for employers. Floor scrubber robots can provide valuable assistance in this area, since they cope with medium and large areas as well as maneuvering safely in narrow surroundings.

With the introduction of autonomous cleaning floor scrubbers and vacuums, cleaners can perform other, more complex tasks for which they had too little time in the past. The increased demands on cleanliness and hygiene in public spaces needs the expertise of skilled personnel. For example, disinfecting stair rails, door handles, desks, elevator buttons, bathrooms, and kitchen surfaces always needs a human touch. With the introduction of professional autonomous floor scrubbers, workers can put away the mop in hallways, lobbies, labs, and classrooms, and increase productivity by saving time.

Vacuum cleaner robots also significantly reduce the effort required in cleaning carpeted

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areas—a task that can be both very time-consuming and expensive. If the machines feature powerful batteries and high area output and cleaning performance, they will improve productivity and cleaning quality while simultaneously reducing the workload of cleaners. Plus, a robotic floor cleaner will not "miss" areas; cleaning tasks will be completed with the same quality and efficiency every time, without supervision.

Robot Variety and Reporting Functions

One critical component, the software that drives robotic floor cleaners, needs to be inspected, updated, and maintained in order to continue efficient and safe operation. When considering autonomous cleaning products, users also need to consider the software provider. There are significant differences in how software providers enhance robotic ease of use, deliver new features based on technological advancements, and enforce safety and security protocols. Operation managers are often asked to provide "proof of clean" for internal audits and budget discussions. Reporting is an importation function when selecting an autonomous solution. In today's data driven world, having this information at one's fingertips provides an advantage for users to make informed decisions. The provider should have the ability to deliver the data in a digestible and customizable format within an online portal. To take advantage of these features, maintenance personnel can choose reliable, known software with a history of excellent performance and a proactive approach to constantly evaluating and updating the software. On-site set up and ample training should always be considered, as well.

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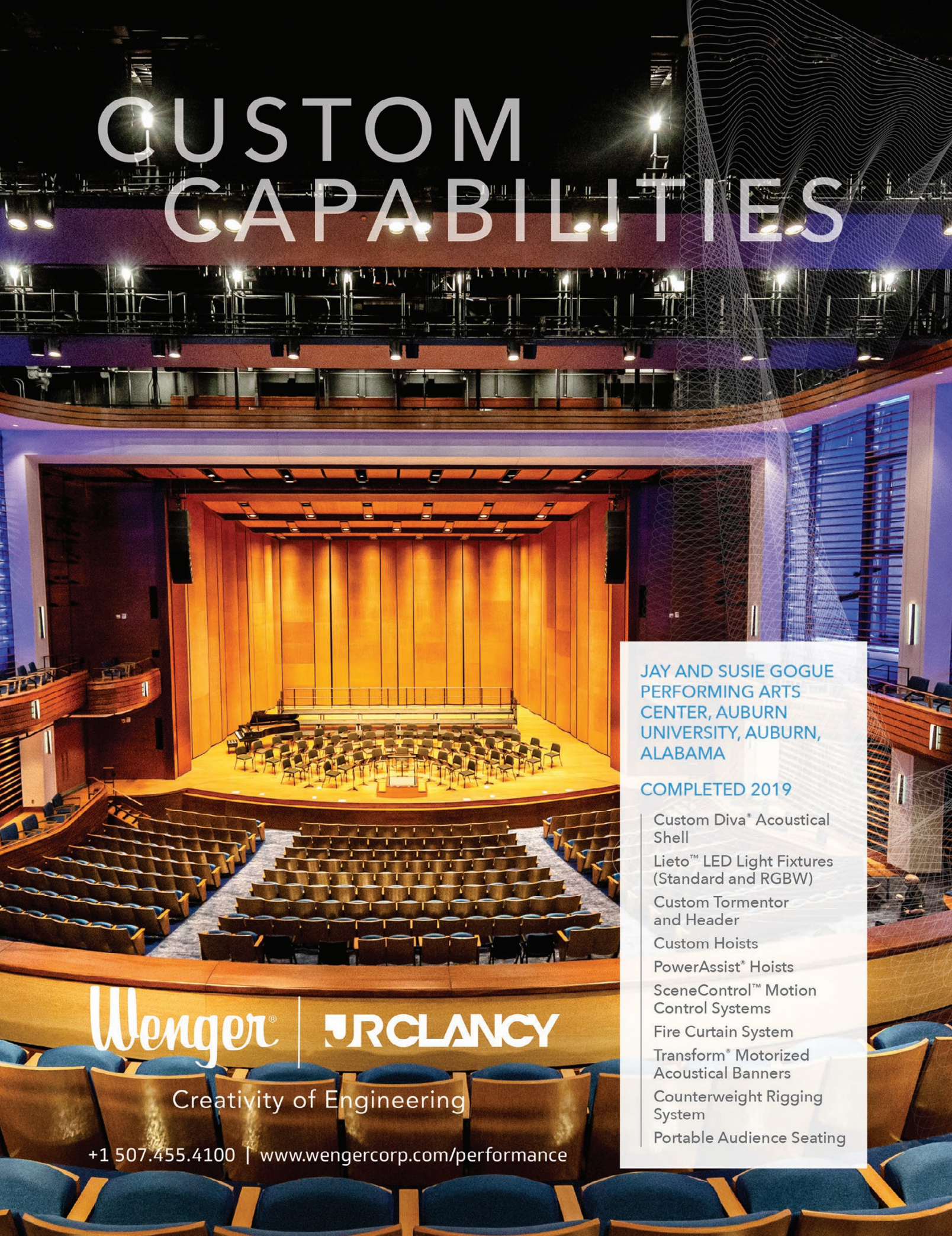

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