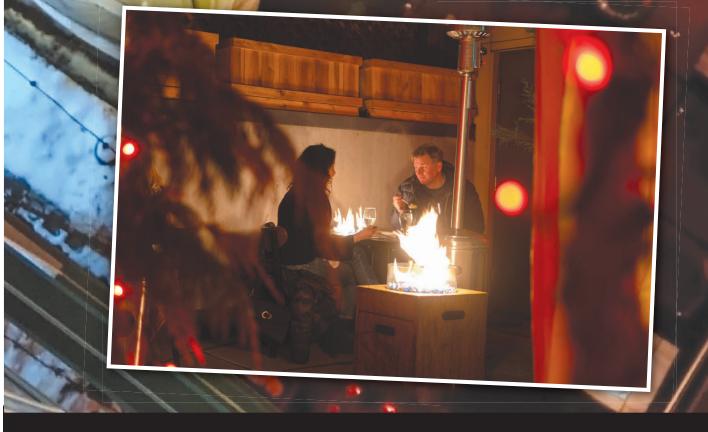
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BUSINESS

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After COVID-19 | Central Oregon Restaurants adapt to virus restrictions **BY SUZANNE ROIG** The Bulletin hen government mandates forced restaurants to close dining-in options to combat the spread of COVID-19, El Sancho Taco Shop had to incorporate an online option for customers to order food. When Sparrow Bakery, a mostly grab and go kind of business, had to find a way to offset the losses incurred from the lack of wholesale pastry sales, it turned to delivery service for customers. COVID-19, and the related closures imposed since last March, has forced many restaurants to reimagine their business model by tapping into their entrepreneurial thinking to reach customers. 'They had to adapt it (COVID-19 restrictions) to their business model," said Todd Montgomery, Oregon State University-Cascades Hospitality Management program executive in residence. "Overnight businesses had to adopt technology to survive." Whenever Central Oregon overcomes the coronavirus, what's certain is that many of these survival methods for restaurants and bars will become the norm, Montgomery said. It all depends on the comfort level of customers going



Jackalope's outdoor courtyard is decorated for Valentine's Day to welcome diners.

 Ida Alul and Ed Boyle stay warm dining at their adjustable fire table in Jackalope's courtyard. Photos by Barb Gonzalez/ for The Bulletin forward as to what a dining-in experience will look like. What's certain is the restaurant landscape in Central Oregon will change. Competitors will come and go. Dining options and menu offerings will change, Montgomery said.

The losers, however, will be the entry-level jobs lost from the adoption of more technology. Online ordering requires fewer workers. Streamlining workplaces mean fewer workers, he said.

"It's a trend that's been happening for 10 years now and COVID-19 has accelerated it," Montgomery said. "Businesses will be more efficient."

At Ariana Restaurant on NW Galveston Avenue, the owners have established outdoor dining in a greenhouse or a tent to meet the restrictions. Reservations are made online for one of these four seating arrangements.

Since mid-March Oregon restaurants have been shut down for dining-in service twice. The first was in March at the start of the pandemic. The second was in mid-November when the governor imposed a two-week freeze on activities and later extended it in counties that were in the extreme risk category, which bans indoor dining, encourages takeout, and limits how many people can gather. *See* **Restaurants** / *C8*

In-demand computer chips are the ball bearings of today

Part of the Allied strategy to cripple the German war machine in World War II was to destroy ball-bearing plants. Why? Because they were used in virtually anything that moved, such as tanks, submarines, ships, airplanes, machine guns and trucks. Massive bombing raids, with heavy losses, were aimed at German ball-bearing factories, which seriously disrupted their production and may have shortened the war.



Today, the ball bearing equivalent is the computer chip, and a tight supply is causing major market disruptions. This cycle, known as a "chip famine" in chip-tech, regularly occurs about every four years from normal supply-and-demand fluctuations. Add in regional conflicts and COVID-19, and we have a recipe for a major worldwide economic disruption, as is happening now.

Consumer demand is way up

Thanks to increased demand for home-based tech products and too many of us shifting work from offices to homes demand quickly outstripped supply. For example, Peloton's sales increased more than 172% last year. Demand for everything for desktops, laptops, tablets, webcams, microphones, gymtech, kitchen appliances and entertainment devices has led to the shortage.

For example, a webcam's smarts have come a long way in the last five years. Webcams can process HD and, in some cases 4k, video. Some include enhancement tools and filters. A few, such as Ring doorbells, also have facial recognition. All these advancements require more sophisticated video processing, memory and power management chips. The number of available chip factories have not kept up with demand and many have maxed out production capability.

Auto industry may lose \$61 billion in sales

In the last month, auto manufacturers are revising their vehicle production projections due to a lack of computer chips. Ford, Mercedes-Benz, Toyota, Volkswagen, Subaru, Honda, Audi and Nissan have all had to slow production or idle plants. A recent report by Bloomberg estimates the auto industry could lose over \$61 billion in sales if the COVID-19 pandemic continues.

Computer chips now control virtually all features and functions in a car, including fuel injection, transmission, engine, audio/video, steering and brakes.