

Can Singapore's labour crunch spark a robot revolution?

REUTERS, Singapore

SHERINE Toh says her best days at work are when none of the 600-or-so staff at Singapore's Tung Lok Restaurants quits, though such days are rare.

The Chinese restaurant group is one of the thousands of businesses struggling with a labour crunch caused by foreign worker curbs, that threaten the city-state's already feeble growth rates.

"It has gotten much more tougher compared to the old days, five years back," said Toh, who has at least 20 vacancies to fill at any one time as head of human resources. The group closed some outlets because of the shortage.

The city's restaurants, hotels and retailers have become the biggest casualties of the labour crunch since Singapore accelerated restrictions on foreign workers in 2011 as political disquiet about immigration grew. But its highly-educated locals largely shun the late hours and unglamorous work.

To address the constraints, Singapore is pushing businesses to look to non-human solutions for their human resource challenges, including greater use of automation and robotics.

At Chilli Padi Nonya Cafe near a leafy university enclave, a tray-wielding robot roams the eatery, offering to collect plates from patrons in a childlike voice. Navigating its way through cus-

tomers, it delivers the dirty dishes to the kitchen.

While tech powerhouses such as Japan, the US and Germany invest billions in robotics to compete commercially in the emerging sector, Singapore's robots push is driven by a much more urgent need: the survival of some labour-strapped small and medium sized businesses may depend on them.

In the food and beverage industry, 90 percent of the businesses face the shortage and about a third are "really struggling," according to its lobby group.

"There is an increasing number of businesses that are up for sale," said Lim Rui Shan, executive director at the Restaurant Association of Singapore, which represents 2,200 outlets. "Some of them just shut down."

To encourage adoption, Singapore this year announced plans to spend S\$450 million (\$333 million) over three years to fund robot development and deployment.

Andrew Khaw, Infocomm Development Authority's senior director of productivity growth through information and communications technology, admits the take-up of robots is slower than he would like.

But he says the lack of manpower is a new operating reality businesses now need to accept.

"It's a bit of 'let's see who blinks first'. As far as the government is concerned, we can't go back on this policy," Khaw said.



A robot navigates its way to collect dirty dishes at Chilli Padi Nonya Cafe in Singapore.

Service robots can be found in Singapore - in hospitals and restaurants, as waiters or cleaners - but are less ubiquitous than might be expected for the aggressively tech-oriented economy.

James Xia, director at Unitech Mechatronics, which built the busboy robot Chilli Padi uses, sees export potential in his product but says development outlays mean commercialization is slow.

Xia thinks more upfront government grants, rather than the current post-project reimburse-

ments, could accelerate development.

Another firm, Aitech Robotics and Automation, has developed a tea-lady robot that delivers food and drinks throughout a seven-storey building to workers in their offices.

But the company's business development manager, Eric Lee, says orders are slow and doesn't expect to make any money on the showcase robot.

Weak capital expenditure amid the global economic slowdown has made it difficult for a

virtuous robot development cycle to rev up in Singapore.

"In a hypothetical situation where there were no foreign manpower curbs, then (domestic) growth may have been a little bit higher," said Selena Ling, head of treasury research for OCBC.

For now, manpower is just one of many economic challenges: Singapore cut its 2016 growth forecast this month after revising down its second-quarter growth as the service sector contracted.

Starwood, Marriott, Hyatt, IHG hit by malware

REUTERS, New York

A data breach at 20 US hotels operated by HEI Hotels & Resorts for Starwood, Marriott, Hyatt and Intercontinental may have divulged payment card data from tens of thousands of food, drink and other transactions, HEI said on Sunday.

The breach follows similar attacks at Hyatt Hotels Corp and Starwood Hotels & Resorts Worldwide Inc in recent months.

Norwalk, Connecticut-based HEI, which is privately held, said malware designed to collect card data was found on HEI's systems.

The malware was discovered in early to mid-June on payment systems used at restaurants, bars, spas, lobby shops and other facilities at the properties, Chris Daly, a spokesman for HEI, said in emails and phone calls.

The number of customers affected is difficult to calculate because they might have used their cards multiple times, Daly said. About 8,000 transactions occurred during the affected period at the Hyatt Centric Santa Barbara hotel in California, and about 12,800 at the IHG Intercontinental in Tampa, Florida, Daly said.

The malware affected 12 Starwood hotels, six Marriott International Inc properties, one Hyatt hotel and one InterContinental Hotels Group PLC hotel. It was active from March 1, 2015 to June 21, 2016, with 14 of the hotels affected after Dec. 2, 2015, HEI said on its website on Friday.

Marriott and IHG declined to comment. Representatives from the other hotel groups did not respond to requests for comment.

HEI said outside experts investigated the breach and determined that hackers might have stolen customer names, account numbers, payment card expiration dates and verification codes. The hackers did not appear to have gained PIN codes, since those are not collected by its system, it added.

The company has informed federal authorities and has installed a new payment processing system that is separate from other parts of its computer network.

Among the properties affected were Starwood's Westin hotels in Minneapolis; Pasadena, California; Philadelphia; Snowmass, Colorado; Washington, D.C.; and Fort Lauderdale, Florida. Also affected were Starwood properties in Arlington, Virginia; Manchester Village, Vermont; San Francisco; Miami; and Nashville, Tennessee.

The Marriott properties affected were in Boca Raton, Florida; Dallas-Fort Worth, Texas; Chicago; San Diego, California; and Minneapolis.

Brexit vote to have 'limited' economic impact on Germany: Bundesbank



German, British and European Union flags fly in front of the Reichstag building in Berlin.

REUTERS
Britain's vote to leave the European Union should have limited immediate economic impact on Germany, the country's central bank said on Monday, noting the mood among entrepreneurs remained positive.

The Bundesbank expects the German economy to have continued to expand over the summer, underpinned by exports, industrial production, construction and consumer spending.

"Against the background of an intense public debate about the economic effects of the announced exit of the United

Kingdom from the EU, German companies' positive expectations have so far only been modestly dampened," the Bundesbank said in its monthly report.

"This supports the view that the economic consequences of the Brexit vote for Germany will be limited, at least in the short term."

Germany's gross domestic product grew by 0.4 percent in the three months to June, data showed last week.

While this was less than in the first quarter of the year, it still put Germany well ahead of its peers and of analyst expectations.

Nissan revolution: could new petrol engine make diesel obsolete?

REUTERS, Atsugi, Japan

JAPANESE automaker Nissan Motor Co has come up with a new type of gasoline engine it says may make some of today's advanced diesel engines obsolete.

The new engine uses variable compression technology, which Nissan engineers say allows it at any given moment to choose an optimal compression ratio for combustion - a key factor in the trade-off between power and efficiency in all gasoline-fuelled engines.

The technology gives the new engine the performance of turbo-charged gasoline engines while matching the power and fuel economy of today's diesel and hybrid powertrains - a level of performance and efficiency the conventional gasoline engine has so far struggled to achieve.

The potential breakthrough technology comes at a time when diesel engine technology has been tarnished by Volkswagen's emissions cheating scandal.

The German automaker admitted last year to using secret software to cheat exhaust emissions tests on its diesel cars, affecting millions of vehicles worldwide, and prompting the departure of the company's CEO and other executives.

"Diesel engine is a hot topic globally. We believe this new engine of ours is an ultimate gasoline engine that could over time replace the (advanced) diesel engine of today," Kinichi Tanuma, a senior Nissan engineer who leads product development for the premium Infiniti brand, told reporters at a pre-launch briefing last month.

"Everyone's been working on variable compression and other technologies to significantly improve gasoline engine fuel economy



The logo of Nissan is seen through a window of a bus passing by its dealership in Seoul, South Korea.

... at least for the last 20 years or so," said James Chao, Asia-Pacific managing director at consultant IHS.

"Increasing the fuel efficiency of internal combustion engines is critical to automakers. Not all consumers will accept a battery electric vehicle solution. But significant challenges remain, such as increased complexity and cost, as well as potential vibration issues."

The new Variable Compression-Turbo (VCT) powertrain, expected to be officially unveiled at next month's Paris motor show, will initially be showcased in an Infiniti car to be unveiled next year, Nissan engineers said, without elaborating. Eventually, it's expected to be used in Nissan cars and possibly by its

alliance partner Renault.

The turbo-charged, 2-liter, four-cylinder VCT engine averages 27 percent better fuel economy than the 3.5-liter V6 engine it replaces, with comparable power and torque. Nissan says the new engine matches the diesel engine in torque - the amount of thrust that helps determine the car's acceleration.

The engine is also cheaper than today's advanced turbo-charged diesel engines, Nissan engineers said at the briefing at the company's technical and design center in Atsugi, south of Tokyo. They said it should also meet nitrogen oxide (NOx) and other emissions rules in certain markets without requiring costly treatment systems.

Thailand risks losing 200,000 visitors after blasts

REUTERS
THAILAND could lose up to 200,000 foreign visitors and \$293 million in tourism revenue this year, the head of its tourism authority said on Monday, after a series of deadly blasts in tourist towns last week.

The wave of attacks in places including the seaside town of Hua Hin and the island of Phuket, is the biggest challenge to an industry that has weathered more than a decade of instability and bounced back from violence over recent years.

Yuthasak Supasorn, governor of the state Tourism Authority of Thailand, said the attacks could result in long-term losses in terms of tourist revenue and arrivals, mainly from other Asian countries.

"By the year end, there could be about 100,000 to 200,000 travel cancellations," he said in a statement.

baht (\$146 million) to 10.16 billion baht (\$293 million)."

Tourism accounts for 10 percent of Thai gross domestic product and is one of the few bright spots in an economy that has struggled under the stewardship of a military government that seized power in a bloodless coup two years ago.

The Southeast Asian nation had been expecting a record 32 million visitors in 2016, with expected revenue of 2.41 trillion baht (\$70 billion).

Narongchai Wongthavimok, chief financial officer at national carrier Thai Airways, Thailand's national carrier, said on Friday the bombings would hurt business and consumer confidence.

No group has claimed responsibility for the Thursday and Friday attacks that killed four people and wounded dozens, some of them tourists.

Police said on Monday they had arrested one man for arson.



Injured people receive first aid after a bomb exploded in Trang, Thailand on August 11.

Japan negotiating with banks to borrow at zero rate

REUTERS

Japan's Ministry of Finance is negotiating with the country's major banks to lend to the government at a zero interest rate in auctions beginning in October or November, a government official familiar with the procedure said on Monday.

The government has been asking lenders about the possibility of submitting tender offers with negative rates at the ministry's short-term special accounts borrowing program auctions.

But Japan's big banks have said it would be difficult to submit tender offers with negative rates in the auctions, which prompted the government to instead ask the banks to agree to a "zero floor" on interest rates, said the official, who did not want to be identified due to the sensitivity of the issue.

The floor on the tender offer rate is now set at 0.001 percent. The government's approach to lenders comes after the Bank of Japan's aggressive monetary easing drove yields below zero for most of the Japanese government bonds traded in the market.