# Microsoft outage disrupts airline services in Hyderabad airport

Hyderabad: Hyderabad's Rajiv Gandhi International Airport has issued an advisory on Friday, following a Microsoft Azure outage that has disrupted airline operations nationwide. The RGIA advisory alerts passengers to potential delays and urges them to contact their airlines for flight information."We are closely working with all our stakeholders to minimize the inconvenience to our flyers," the RGIA said. Advisory: Due to the global IT outage, services of airlines have been impacted We are closely working with all our stakeholders to minimise the inconvenience to our flyers. You may please get in touch with the airline concerned for updates on your flight information.The outage has significantly affected major carriers, including IndiGo, Akasa Air, Air India, SpiceJet and others causing significant inconvenience to the passengers. Frustrated passengers took to their social media handles to express their disappointment."We've been waiting for 45 mins just to check in our bags!!! Honestly in such a big airport, why do you have only 3 active counters. This is one of the worst experience (sic)," read a comment on 'X'.

Taking to its 'X' handle, IndiGo reported increased wait times at contact centers and airports due to the disruption. "Our



systems across the network are impacted, resulting in slower check-ins and longer queues," stated IndiGo. The airline stated that it is looking to restoring normalcy swiftly, working closely with Microsoft Azure. This system outage has a global impact and we truly regret the inconvenience caused. We assure you that our teams are working relentlessly to ensure safe travels.Akasa Air similarly reported disruptions, particularly in online services like booking and check-in. The airline has resorted to manual processes at airports and advised passengers to arrive early. "We sincerely regret the inconvenience and assure you that our teams are working with our service provider to resolve this at the earliest," Akasa Air communicated via social media. #TravelUpdate: Due to infrastructure issues with our service provider, some of our online services, including booking, check-in and manage booking services will be temporarily unavailable. Currently we are following manual check-in and boarding processes at the airports and hence…Air India and SpiceJet also issued advisories about the technical issues. Air India acknowledged temporary impacts on digital systems, while SpiceJet mentioned difficulties in providing flight disruption updates, apologizing for the inconvenience and

pledging swift resolution. Customer Advisory Our digital systems have been impacted temporarily due to the current Microsoft outage resulting in delays. We regret the inconvenience caused and request our guests to plan their travel accordingly.#AirIndia A global technical outage has affected the aviation industry. SpiceJet is ensuring that all its flights scheduled for today will depart. We are

working closely with airports and relevant authorities to minimize disruptions and ensure the safety and comfort of our…Meanwhile, Microsoft acknowledged the issue and stated they are investigating the disruption affecting access to various Microsoft 365 apps and services. Hyderabad Airport assured passengers that it is working closely with stakeholders to minimize inconvenience.

# "Container hospital" to bring medical facilities to tribals in Mulugu



*"It is becoming difficult for the medical staff to go to the remote villages and provide treatment to the tribals due to lack of transport facilities*

Mulugu: As part of the effort to provide medical assistance to tribals living in remote hamlets at their doorstep, the State

health department has set up a prefabricated health sub-centre, popular as a "container hospital", for providing emergency

medical treatment to people living in the remote agency area of Pocharam in Bandhala gram panchayat of Tadvai mandal in Mulugu district.

Equipped with doctors, necessary equipment and medicines, this hospital will move around the villages to provide medical assistance to tribal families. The mobile unit will screen suspected patients and drugs will be administered as needed. According to health officials, the main objective of the initiative was to serve five tribal villages that are cut off from the prime area during the rainy season for two to three months.

"It is becoming difficult for the medical staff to go to the remote villages and provide treatment to the tribals due to lack of transport facilities. Hence the Mulugu district collector took the initiative and set up the container hospital," the officials informed.Built at a cost of Rs. 7 lakh, the container hospital, designed in Hyderabad, has separate rooms for nurses and health officials. It also features a small

lab, allowing for the treatment of seasonal diseases and snakebites, as well as providing delivery facilities for pregnant women. Recently, Minister for Women and Child Welfare Danasari Anasuya launched the facility.The mobile unit will serve as an additional health sub-center for the villages of Narsapur,

Aligudem, Bandhala, and Bolepalli around Pochapur in Bandhala Gram Panchayat of Tadvai Mandal. A local Auxiliary Nurse Midwife (ANM), a local health assistant, and a contingent worker and a security personnel have been appointed to manage the container hospital. While doctors won't be permanently stationed there, they will visit once or twice a week.In case of emergency, the mobile unit will be used as an ambulance to shift patients to nearby primary health centres or government hospitals, an official informed. The health officials are expecting the container hospital to play a vital role in providing healthcare to remote tribal hamlets, especially during the ongoing monsoon season.

# The problem with the Karnataka gig workers Bill



Last month, Karnataka introduced a new Bill, called the draft Karnataka Platform-based Gig Workers (Social Security and Welfare) Bill, 2024, seeking to provide social security and welfare measures for platform-based gig workers in the State. The government shared the draft on July 9. In the recent past, a similar law was also enacted by Rajasthan called the Rajasthan Platform Based Gig Workers (Registration and Welfare) Act, 2023.The Karnataka Bill has a distinct similarity with the Rajasthan legislation in the sense that both are based on a welfare board model. This model does not address employment relations as such and is more appropriate for self-employed informal workers. In the case of gig work, addressing employment relations is the need of the hour.The rise of gig work versus work issues

The number of gig and platform workers is on the rise, more so in the last decade with developments in the app-cab and retail delivery sectors. In its working policy paper on the gig economy, NITI Aayog has made projections of the gig workforce expanding to 23.5 million workers by 2030. Given the overall depressed employment generation scenario, gig work is one sector that is providing a livelihood to an increasingly large number of job-seekers. Such trends are also visible in other countries.

In the recent past, India has seen protests and agitations by gig workers on the issue of revenue sharing, working hours and various other working conditions and terms of employment. It is difficult to solve these issues within the existing legal framework as employment relations in the gig economy are non-existent at worst or complicated at best. The legal framework in labour laws is inherently based on employer-employee relation.However, in the gig economy, employment relations are subject to demystification as well as complication. Those who run the platform prefer to call themselves as aggregators and consider gig workers as independent contractors/workers. Aggregators believe that they are providing the technology and bringing together independent workers and consumers. Independent workers are masters of their own work, according to aggregators.On the other hand, workers in the gig economy consider aggregators as their employers as the conditions of service and terms of employment are set by the aggregators. For example, in an app-cab operation, the price of the ride is determined by the app/aggregator and the entire ecosystem of working conditions and terms for the ride are decided by the app company only. In this context, gig workers seek fair treatment, improved working conditions, and access to social security as legal entitlement.

In a similar kind of a situation, in Britain, the United Kingdom Supreme Court ruled that Uber is an employer and that the existing labour laws of the U.K. do apply to Uber drivers. In India, gig and platform workers are included in Code on Social Security 2020 as a kind of informal self-employed workers but no mention of such

workers has been made in the other three new labour codes, namely Code on Wages, Industrial Relations Code and Occupational Safety, Health and Working Conditions Code. The Rajasthan and Karnataka pieces of legislation are recent additions to this legal landscape.Like the Rajasthan Act, the Karnataka Bill has also skirted the issue of defining employment relations in gig work. It has preferred the term 'aggregator' for app companies rather than employer. Without the recognition of employment relations, protective labour laws that ensure a minimum wage, occupational safety and health, working hours and leave entitlements, and the right to collective bargaining cannot be applied. These important issues remain unresolved in gig work.There is no guarantee on minimum earnings from gig work even when a worker is available for the greater part of the day. There is no regulation on working hours also. There are regular incidents of overworked app cab drivers being involved in accidents late in the night or early in the morning, jeopardising their own lives along with that of passenger.Employment relations do exist in gig work, and regulations should acknowledge this. Aggregators are the de-facto employers as they set the terms and conditions of employment. While they may present the platform as a tool connecting workers and consumers, they are responsible for designing it and establishing its terms. The platform is merely a tool, and is not an independent entity, making the aggregators the actual employers.

The welfare board model adopted by Rajasthan and Karnataka provides some welfare schemes for gig workers, but it does not replace institutional social security benefits such as provident fund, gratuity, or maternity benefits, which regular workers are legally entitled to. Historically, welfare board models have been poorly

implemented, as evidenced by the Construction Workers Welfare Act of 1996 and the Unorganized Workers Social Security Act, where funds were available but inadequately used.The Karnataka Bill does not address the issue of minimum wages or working hours for gig workers. Section 16 discusses income security regarding payment deductions but does not guarantee a minimum income, wage entitlements, or revenue sharing between aggregators and gig workers. Section 16(2) only requires

weekly payments, without specifying a minimum amount.The proposed Karnataka Bill, like the Code on Social Security, 2020 and the Rajasthan Act 2023, fails to address the employment relationship in the gig economy. This oversight confuses employment relations and absolves employers of legal obligations, making it difficult to fully protect workers' rights.Kingshuk Sarkar is a faculty member at the Goa Institute of Management and former Labour Administrator with the Government of West Bengal

# Telangana Govt issues order with guidelines for crop loan waiver

Hyderabad: The State government on Monday issued a government order GO Rt. No 567, listing out the guidelines for implementation of the crop loan waiver. According to the GO, the waiver would be limited to Rs.2 lakh per one farmer's family. The food security card database of the Civil Supplies department would be considered as a parameter to define a farmer's family.This would be applicable to short term crop loans obtained between December 12, 2018 and December 9, 2023. The waiver would be implemented for loans obtained from scheduled commercial banks, rural banks and district cooperative banks.Under the programme, farmers will have to pay the excess loan amount (more than Rs.2 lakh) to the banks. Once the excess amount was paid, the remaining Rs.2 lakh would be deposited into the farmer's loan account.The Agriculture Commissioner would be the implementing authority for the farm loan waiver 2024 and the National Informatics Centre would be IT partner for the implementation.An exclu-

sive portal would be operated for implementation of the farm loan waiver programme. All the details, including each farmer's loan account, data validation, eligibility and others would be made available in the portal.The agriculture department would be setting up grievance cells to address complaints raised by farmers. They can lodge the complaints on the portal or at the centres at mandal level. Officials should process the application and address it within 30 days and the same should be informed to the farmers.Every bank would be appointing a nodal officer and the officer would be coordinating with the agriculture department and NIC. The officer would have to digitally sign on the farm loans from the respective banks.The farm loan waiver would not be applicable for loans secured by SHGs, JLGs, RMGs, LECS. Similarly it would not be applicable for rescheduled loans or reorganized loans secured by firms or companies but it would be applicable for loans secured through PACS.

# Whirlpool of India launches Ice Magic Pro Glass Door Refrigerator Range

The new range of single-door refrigerators is one-of-its-kind design, inspired by the rich cultural heritage of India.

Whirlpool of India, a subsidiary of Whirlpool Corporation, has launched a new range of single door refrigerators- Ice Magic Pro glass door, an amalgamation of superior aesthetics and craftsmanship.

At Whirlpool, the belief is that the product offering needs to be stylish and contemporary to blend in with the ever-evolving modernization of Indian homes. The new range with "never seen before" patterns on glass door embodies sophistication and elevates the living space by adding a layer of elegance to the Indian homes.The range comes in three distinctive designs – Gold Dust, Silvia, and Night Bloom which celebrates the arts and artisans of India and its diverse culture. The entire range with its unique designs reflects the timeless beauty, diverse traditions, and vibrant colours of India. It aims to bring the essence of India's heritage into the modern home, creating a piece of art that's both inspiring and aspirational.

Gold Dust is influenced by the intricacies and earthy tones of the famous Pashmina, honouring the local craftsmanship of Kashmir region. Silvia, inspired by Indian silver artistry and artisans showcases floral and natural motifs, representing pride in heritage. Nightbloom which celebrates the sacredness of florals within the Indian culture, seamlessly blends moonlit flowers against a night sky, paying an ode to serenity and devotion.

Beyond aesthetics, the new range of refrigerators consists of innovative features that not only enhance their visual appeal but also ensure superior performance.

With its trademarked 'Microblock Technology', the new Impro glass door guarantees up to 7 Days of Garden Freshness and also helps in preserving the nutritional value of the food.The advanced technology also helps with 12 hours of milk preservation even during power cuts to maintain the freshness and quality of the milk. It is equipped with "Insulated Capillary Technology" to enable faster-cooling efficiency and low-temperature variations.

Whirlpool's Impro glass door refrigerator range comes with a scratch-resistant glass door, ensuring durability and maintaining aesthetic appeal over time. The effective space management feature helps in providing ample space for storage. This range is designed with energy efficiency in mind, effectively reducing consumption and helping save electricity bills.On the new launch, Mr. Kumar Gaurav Singh, Vice President-Marketing, at Whirlpool of India, said: "At Whirlpool, we believe that our products will help improve the overall lifestyle of our customers through style, functionality, and durability. With the launch of our Impro Glass Door Refrigerator Range, we're proud to offer a unique range of designer refrigerators that elevate the overall design of the home



while being equipped with advanced features. We want our customers to feel a sense of pride and ownership with the new product that also reflects their personalities. The varied design optio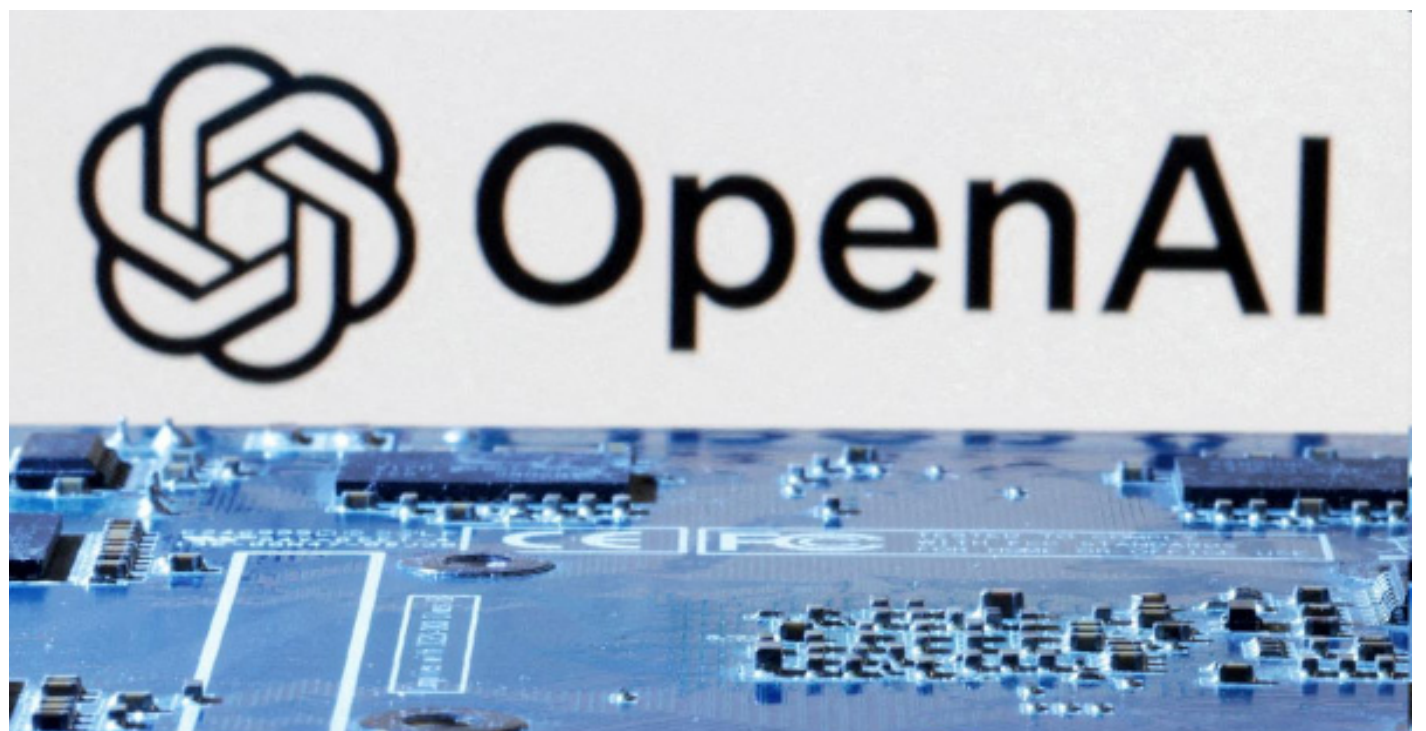ns will add a touch of grace to the household and will become a piece of art that reflects the style and aura of the home. At Whirlpool, we're not just about manufacturing appliances; we're about inspiring dreams and enriching lives." The Impro Glass Door Range is now available in two capacities 192L and 207L.

# OpenAI's GPT-4o mini launched | Smaller and cheaper than GPT-3.5 Turbo model

Per the ChatGPT-maker, GPT-4o mini has a context window of 128K tokens and supports up to 16K output tokens per request. Its knowledge cut-off is October 2023 and the model handles non-English text in a more cost-effective way, claimed the company.While the name might be "mini," OpenAI stressed that the small model could hold its own against both smaller rivals as well as provide an experience comparable to larger ones."GPT-4o mini surpasses GPT-3.5 Turbo and other small models on academic benchmarks across both textual intelligence and multimodal reasoning, and supports the same range of languages as GPT-4o," said OpenAI.ChatGPT's Free, Plus, and Team users can access the new model immediately, while Enterprise users will get access from next week.OpenAI noted that safety measures were in place from the pre-training stage so that the model would not learn from hate speech, adult content, sites that primarily aggregate personal information, and spam.

In addition, the model has been fortified to better stand against jailbreak attempts, prompt injections, and system prompt extractions.

"GPT-4o mini surpasses GPT-3.5 Turbo and other small models on academic benchmarks across both textual intelligence



and multimodal reasoning, and supports the same range of languages as GPT-4o. It also demonstrates strong performance

in function calling, which can enable developers to build applications that fetch data or take actions with external systems, and

improved long-context performance compared to GPT-3.5 Turbo," said OpenAI in its statement introducing the new model.

# As thoughts become digitised, who will protect our neurorights? | Explained

Neurotechnologies have come a long way since the development of electroencephalography (EEG). Invented a hundred years ago, the EEG has had a significant impact on our knowledge of the human brain and various treatments of brain disorders. Many researchers expect that soon there will be wearable EEGs that could directly assist human cognitive functions. Elon Musk's Neuralink has also kindled hope about using brain-computer links to help physically impaired people restore some lost function.

The 1990s was popularly known as the 'decade of the brain' as research on neuroscience and neurotechnologies received a big boost from various governments. The European Union's 'Human Brain Project' and the subsequent 'BRAIN' initiative were some of the major initiatives. Today, research in these areas is also supported by private companies, especially in the life sciences sector, and is also more extensive than before, including brain pathophysiology, deep-brain stimulation, and neuromarketing.Neurotechnologies range from the magnetic resonance imaging (MRI) that health workers routinely use to the rarer brain-computer interfaces (BCI). In the last few decades, the type of sensory information these technologies have become able to record has expanded considerably. Sophisticated biosensors that can record a person's physiological activities, behavioural responses, and emotions are no longer fiction.

How is neurodata valuable?

The digitisation of neuro-data raises great opportunities as well as concerns. Not all neurotech users are care-seekers, as smartwatches, apps, and 'embeddables' are integrated more into day-to-day activities. After users' devices collect these data, there will be an option to transmit them to healthcare providers and private companies, who will have an incentive to integrate them in a larger knowledge framework to offer, say, real-time tracking of health indicators and personalised suggestions.This also increases the risk of surveillance — from multiple sources for different purposes. For example, a manager can monitor the movements and mental states of an employee to track alertness, fatigue, and other indicators. This data can be shared with various state and non-state actors, including other employers and physicians. This can be a boon but can also help these actors exert more control over individuals' behaviour. Digitised health data also has great commercial value in advertising and marketing (including neuromarketing).

Surging investment by the private sector in neurotechnologies has also raised concerns about their governance and regulation. There are unique ethical concerns here because these neurotechnologies can probe individuals' physiological and psychological states.Ultimately the right to think freely and mental privacy can be imperilled. In the garb of performance monitoring and assessing efficiency, different entities may be able to track and monitor the movements and behaviour of diverse sections of the population, individually and collectively.

What is neuroethics?

The right to think freely and the right to safeguard one's mental statuses and thoughts from surveillance and monitoring are precious fundamental rights but technological advancements may cheapen them in some contexts. Experts strive to adopt ethical standards such that humankind benefits most from the use of neurotechnologies while minimising harm.This is the principal concern of neuroethics. It has emerged as an important field of research and action in the last two decades.Various institutions and funding agencies have tried to identify and enforce ethical principles for neuro-X research and development. In 2015, the U.S. Presidential Commission on Bioethics published a two-volume report entitled 'Gray Matters'. It focused its analysis on three "controversial topics that illustrate the ethical tensions and societal implications of advancing neuroscience and technology: cognitive enhancement, consent capacity, and neuroscience and the legal system".

In 2019, the OECD recommended nine principles to ensure the ethical development and use of neurotechnologies based on the concept of responsible innovation. Two of them were "safeguarding personal brain data" and "anticipating and monitoring potential unintended use and/or misuse".UNESCO published a paper in 2022 in which it said: "As [neurotech] actively interacts with, and alters the human brain, this technology also raises issues of human identity, freedom of thought, autonomy, privacy and flourishing. The risk of unauthorised access to the sensitive information stored in the brain is a case in point. Already today, neural data is increasingly sought after for commercial purposes, such as digital phenotyping, emotional information, neurogaming and neuromarketing. Neuromarketing units have been developed by industry to evaluate, and even alter consumer preferences — raising serious concerns about mental privacy. These risks can also pose serious problems when dealing with non-democratic governments."

In 2023, researchers at the Institute of Neuroethics in Atlanta in the U.S. reviewed several guideline documents and ethical frameworks published by institutions, think-tanks, governments, etc. worldwide. Among other things, they wrote, these texts ask researchers to "proactively consider and communicate potential implications of scientific advances" and "to improve and meaningfully incorporate ethics in training and the conduct of research".

What are your neurorights?

Internationally accepted human rights principles and the Universal Declaration of Human Rights provide some inkling as to individuals' neurorights. But the extent to which they are enforceable depends on the laws in each jurisdiction.In 2021, Chile became the first country to legally recognise its citizens' neurorights when its Senate agreed to amend the constitution. As a result, according to a 2022 article in the journal AI & Society, technological developments in the country must "respect people's physical and mental integrity" and its laws should "protect brain activity and information related to it". In the U.S., Colorado enacted a law in April 2024 to protect individuals' neurological privacy while California is deliberating a similar instrument.But some legal scholars have said the current rights framework is adequate and that laws specific to neurorights may be limited in scope. For example, in a paper published last year in the journal AJOB Neuroscience, Pennsylvania State University scholars discussed whether neuro-privacy is meaningfully separate from data privacy.An important challenge to developing suitable neuroethical standards is that the underlying technologies are evolving rapidly. The contexts in which people use these technologies are also diverse, beset by disparate expectations and cultural norms. For now, UNESCO has appointed an expert group to develop the "first global framework on the ethics of neurotechnology", expected to be adopted by the end of 2025. While this framework is not likely to result in a treaty or a binding convention, it could have a major impact on governments' guidance documents and policy narratives.

# 78% of employers bet big on gig workers, stress proficiency in technical skills

New Delhi: While 78.57 per cent of employers in India find gig workers meeting or surpassing job requirements, they also emphasise their need to boost technical skills, according to a report on World Youth Skills Day on Monday.The report by learning and employability solutions provider, TeamLease EdTech, highlights that employers seek gig workers with a combination of domain knowledge, technical skills, and strong soft skills to handle clients effectively.About 75.90 per cent of employers identified technical skills as the most essential for gig workers. This was closely followed by communication skills as 68.67 per cent of employers emphasised the importance of remote collaboration and meeting client expectations."The gig economy is not just the future of work but rather our present. With 78.57 per cent of gig workers meeting or exceeding expectations, we spot a real potential. However, the emphasis on both technical and soft skills highlights the complex demands of this new work paradigm," said Shantanu Rooj, Founder and CEO of TeamLease EdTech.The report was based on survey data from 837 employers across various sectors in India. It offers crucial insights into the skills and competencies required for success in the rapidly growing gig economy. Further, the report revealed a preference for gig workers with 1-5 years of experience among 67.86 per cent of employers, while digital literacy emerged as non-negotiable, with over 90 per cent of respondents stressing its importance.For skill enhancement, on-the-job training (76.19 per cent) and online courses (73.81 per cent) emerged as the most preferred methods. The most common skill gaps in new gig workers include industry-specific knowledge (42.86 per cent) and soft skills (28.57 per cent).The study also projects that AI and automation skills (53.57 per cent) will be the most critical for gig workers in the next five years, followed by advanced technical skills (21.43 per cent) and sustainability practices (14.29 per cent). "With over half of employers prioritising AI and automation skills, it's clear that continuous upskilling is not just beneficial, it's essential," said Shantanu.

# Tiny animals use stolen genes to fight infections – and could fight antibiotic resistance too

A little-known group of microscopic animals has spent millions of years copying recipes for antibiotics from bacteria and using them to fight infections, we have shown in a new paper. We think this unusual defensive strategy could offer shortcuts in the race to develop antimicrobial treatments.More than 1.2 million people worldwide are killed by drug-resistant bacteria each year. Antibiotics are used to treat serious bacterial infections. Similar drugs called antifungals treat infections caused by yeasts and moulds, which are also on the rise. Together, these antimicrobial chemicals are essential to modern medicine, but with resistance increasing, the World Health Organisation recently warned of a pressing need for new drugs.Like many scientists, we were concerned about antimicrobial resistance, but we didn't think our day-to-day research had much to do with it. We spend our time looking down microscopes at tiny animals, about a hair's breadth in size. Most people have never heard of these creatures. They have a strange name: bdelloid rotifers. Pronounced DELL-oid WROTE-if-furs, it means "crawling animals that carry wheels on their heads". They live everywhere in the world with freshwater: in ponds, streams and lakes, even where the water sometimes dries up or freezes, like moss, soil, puddles and ice sheets.

About one in ten of their genes have been copied from different kinds of life, including bacteria, fungi and even plants. To give some idea of how out of place these genes are in animals, imagine a cat with blades of grass scattered among its fur, or a dog whose tail is a mushroom.No other animals are known to import genes on such a scale. Earlier research found that the rotifers have been picking up DNA that doesn't belong to them for millions of years, but a big puzzle is what they are doing with these thousands of stolen genes.Stealing genes from other species is called horizontal gene transfer. It is common in bacteria, and while it is unusual in bigger and more complicated creatures, more and more examples are coming to light. Scientists still aren't sure how it happens, but the transferred genes often carry out functions that give their new owner an edge in the evolutionary fight for survival.

When we exposed rotifers to a deadly fungal disease that specifically infects them, we discovered that they switched on hundreds of the stolen genes to fight the infection, far more than expected by chance. Our next surprise was what these stolen genes are doing. The most strongly activated genes looked like instructions for antimicrobial chemicals that we didn't think animals could make.Most antimicrobials were not invented by humans. They are natural products made by bacteria and fungi to fight each other. Imagine an overripe apple lying on the ground. The first spot of mould will grow better if it can stop other microbes moving in, so it makes chemicals to kill the competition. Most fungi and bacteria have recipes in their DNA for these chemicals, and humans can sometimes harvest these chemicals or make them artificially as treatments for patients, animals and crops.

Our new study shows that bdelloid rotifers have written the antimicrobial recipes into their DNA. By tracking gene activation patterns, we watched them use one of these recipes against the fungal disease that attacks them. The animals that survived the infection were making ten times more of the recipe than the ones that died. We looked at the rotifers' DNA, using a map made by some of our colleagues. We found 30 or 40 more chemical recipes on standby, which look different from any known antibiotics.We think these tiny animals could be allies in the hunt for antimicrobials to tackle resistant infections. There are hundreds of species of bdelloid rotifers, and they've had a lot of time to copy and test out recipes that microbes have left lying around.Most natural chemicals from microbial turf wars are poisonous to animals (like that mouldy apple). Only a few can be turned into treatments, and it's difficult and expensive to tell which ones are safe. If rotifers are already making a chemical in their own cells, this hints that they might have adjusted or selected the recipe to be safer for other animals, perhaps including people.

Sex-starved rotifersA big question raised by our work is why rotifers are the only animals known to adopt such extreme levels of DNA piracy. It may sound strange, but we think part of the answer is that they're not getting enough sex.Unlike other known animals, all bdelloid rotifers are females, with no sightings of males in the 300 years since they were discovered. Rotifer mothers lay eggs that hatch into genetic copies



of themselves, without sex, sperm or fertilisation.

Copying yourself like this is a quick way to increase in numbers, but it usually comes with a big price in the longer term. Infectious diseases are always changing, as seen recently with COVID. When animals and plants have sex, their genes are shuffled into new combinations, which helps the next generation to resist diseases. Scientists think organisms that reproduce by copying themselves exactly can get in trouble, because if one individual gets infected, the disease can easily spread to all the others with the same genes.If this thinking is right, then the sex-starved rotifers need other ways to manage diseases.

If they can't easily shuffle their own genes through sex, then taking DNA from other places might be a useful stopgap. This could explain why an unusually high number of stolen genes responded to infections.It can take decades for a new drug to get approval from regulators and only a fraction of treatments ever make it through medical trials. However, as is often the case in biology, studying creatures that have spent millions of years grappling with similar problems can lead to surprising possibilities.Chris Wilson is a lecturer in Biology, University of Oxford; Tim Barraclough, is Professor of Evolutionary Biology, University of Oxford and Reuben Nowell is Lecturer in Animal Evolutionary Biology

# Women favour period leave, but many call for looking beyond policy

Sharanya Rao (name changed) is a 27-year-old lecturer at a private college in Bengaluru. She spends most of her days on her feet. "I have polycystic ovarian syndrome and so, I have heavy bleeding during my periods. It is hard to go about my day as usual when I have my period. People should stop shaming women for wanting to sit down and or slow down because period fatigue is real," she says, on the much-debated issue of menstrual leave.The world of Prabha (name changed), who is in her late thirties and works as domestic help in at least three houses in North Bengaluru, is very different. "If I ask for leave every month because I am on my period, then I simply miss out on that day's pay. I am not even comfortable telling my employers that I have my period, let alone asking for leave for it. Unless I have very bad cramps, I go about my work," she says.As a discussion is underway in Karnataka about a menstrual leave policy and legislation to implement this, women from different socio-economic backgrounds, working in various sectors, look at the issue through different lenses. But most agree that this taboo subject needs wider discussion and acceptance.

The Karnataka government has set up an 18-member committee,headed by Sapna Mohan, Associate Dean at the School of Law at Christ University, to study and recommend the feasibility of implementing a menstrual leave policy in the State, including in the private sector, garments industry, and IT sector. The committee in its preliminary report has recommended one day of menstrual leave a month, as well as the passage of The Right of Women to Menstrual Leave and Free Access to Menstrual Health Products Bill by the State legislature."There were a lot of deliberations in the committee about the terminology for this leave, and if it should be called 'menstrual leave'. But this is something that biologically happens to women, and it should be called menstrual leave. Most members of the committee are of the opinion that this should not just be called sick leave and should be exclusive to women," says Sapna Mohan. However, a few committee members have expressed their disapproval of the policy. They argued that this policy could lead to further discrimination against women employees at workplaces. "While we welcome the government's thinking in the direction of a

menstrual leave policy, we want to take a balanced approach to this so that it does not become counterproductive for women. We are working out these modalities and a final report will be submitted to the government soon," Ms. Mohan clarifies.Karnataka is not the first State to mull over this policy. Bihar has been providing two-day menstrual leave since 1992 to government employees, including contract workers,while Maharashtra is also considering implementing it. According to sources in the Labour Department, menstrual leave might soon become a reality in Karnataka.Women-centric sectorsIn a sector like the garments industry, where the majority of the workforce is women, there is a great need for menstrual leave, argues Prathibha R., president of the Garment and Textile Workers Union who is part of the 18-member committee. She says that around 4 lakh women in the State work in garment and textile factories.While some committee members pointed out that with so many women in the workforce, a menstrual leave policy could work adversely for the employer and affect productivity if too many women took the leave at once, Ms. Prathibha disagrees.

# Trump assassination attempt: Donald Trump will now be seen as a target of political violence instead of an instigator

Republican presidential candidate former President Donald Trump pumps his fist as he is rushed offstage during a rally after an assisation attempt on July 13, 2024 in Butler, Pennsylvania.Republican presidential candidate former President Donald Trump pumps his fist as he is rushed offstage during a rally after an assisation attempt on July 13, 2024 in Butler, Pennsylvania. | Photo Credit: Getty Images via AFP

As he survived an assassination attempt by a whisker in Pennsylvania on Saturday evening, Republican Donald J. Trump's image underwent an abrupt makeover. From defending charges of being an instigator and an authoritarian-in-waiting, he will now be seen as a target of political violence.Mr. Trump's defiant response in the face of death with his fist raised against the backdrop of an American flag could blunt his Democrat rival Joe Biden's strategy of a counter polarisation, and reinforce his messianic claims. The bid on Mr. Trump's life could derail the wobbly script that Mr. Biden struggled to put together after his meltdown in the presidential debate on June 27.

Mr. Trump is seen as a divisive figure of U.S. politics, but Mr. Biden's re-election bid is also premised on polarisation. With the Democrat base itself conflicted over his politics, Mr. Biden has raised the decibel on rhetoric on domestic and international questions to unify his party. All that adds up to a very elementary claim that Mr. Trump would be worse.On two polarising domestic questions that can unite the progressives, Mr. Biden has raised the stakes since the debate — gun control and

abortion decontrol. The Biden campaign has sought to corner Mr. Trump on both questions. The battleground States that turned by narrow margins in 2016, and 2020, are being addressed on these two questions which would not only charge up the Democrat base but also potentially swing women voters from the Republican side too. Against the backdrop of his accelerating gaffe train, Mr. Biden amplified his messaging on these two questions, contrasting himself with Mr. Trump in stark terms.'Washington Playbook'But this has not stopped the chatter about his fitness to run for another term. In fact, it is growing into a clamour, being repeated by Democrat seniors and American strategists across the political divide. Mr. Biden has sought to talk up the Russia-China axis in recent weeks — though he mistook Ukraine President Volodymyr Zelenskyy for 'President Putin'.

Mr. Trump's first term had significantly disrupted what former President Barack Obama had described as 'Washington Playbook,' — the standard, usually militarised response to most global events. By confronting China and appearing friendly to Russia, Mr. Trump's first term had disrupted this playbook.Mr. Trump's first term institutionalised rivalry with China in U.S. strategy, and Mr. Biden turned it into a new cold war by talking up the danger of an axis between Russia and China. This focus on Russia and China also helped Mr. Biden skirt two foreign policy setbacks under his watch — the U.S. withdrawal from Afghanistan without achieving the stated strategic goals and Israel's war on Gaza

that has scattered the Democrats.On all these points, Mr. Biden's claim of legitimacy has been that he is the most effective counter to Mr. Trump and his instincts. The stark scenarios that Mr. Biden portrays involve a double barrel polarisation — a U.S.-led world order threatened by an authoritarian Russia-China axis and the U.S. democracy threatened by fascism fuelled by MAGA [Make America Great Again] Republicans.Mr. Trump is a common factor in Mr. Biden's campaign narrative, which shows the former President as a stooge of Mr. Putin. The gunman in Pennsylvania has not merely dismantled this grand narrative of Mr. Biden's claim of his own inevitability despite his infirmities but also reinforced the talking points of Mr. Trump.Trump's narrativeMr. Trump has always claimed that he is a victim of a deep state conspiracy

that undermined his first presidency, and thwarted his re-election in 2020. He has also, repeatedly, alluded to "a divine plan" in his politics — a theme that got an instant boost in social media chatter after his miraculous escape from the bullet on Saturday. Mr. Trump's other talking points — American weakness, leftist conspiracies, and his claims of being a fighter and a true patriot, all fall in place for a perfect storm of a campaign for him on the eve of the Republican National Convention that begins on Monday in Milwaukee.Mr. Trump presents himself as a strong leader and accuses Mr. Biden of being weak. By appearing unruffled and combative with blood dripping from his bullet injury, Trump can claim to have lived up to his boast. In the coming weeks, he is sure to use this to amplify his politics.

# TSMC second-quarter profit seen jumping 30% on surging AI chip demand

Taiwan Semiconductor Manufacturing Co, the main producer of advanced chips used in artificial intelligence applications, is expected to report a 30% rise in second-quarter profit on Thursday thanks to soaring demand.The world's largest contract chipmaker, whose customers include Apple and Nvidia, has benefited from a surge towards AI that has pushed TSMC's stock - and the broader Taiwan market - to record highs. Last week, its American Depositary Receipts topped a trillion dollar market value.TSMC is set to report a net profit of T$236.1 billion ($7.25 billion) for the quarter ended June 30, according to a LSEG SmartEstimate drawn from 20 analysts. SmartEstimates give greater weighting to forecasts from analysts who are more consistently accurate.That estimate compares to the 2023 second-quarter net profit of T$181.8 billion.TSMC last week reported a jump in second-quarter revenue, comfortably beating market expectations."I expect the third quarter outlook for all of their products to be very good," said President Capital Management Co Chairman Li Fang-kuo.TSMC, at its quarterly earnings call at 0600 GMT on Thursday, will update its outlook for the current quarter as well as

for the full year, including its capital expenditure as it races to expand production.TSMC is spending billions building new factories overseas, including $65 billion on three plants in the U.S. state of Arizona, though it says most manufacturing will remain in Taiwan.

On its last earnings call in April, TSMC maintained its guidance for capital spending this year at $28 billion to $32 billion, compared with last year's $30.45 billion, and said 70% to 80% of that would go towards advanced technologies."TSMC could raise their capital spending," said KGI Securities Investment Advisory Co Chairman Chu Yen-min.

"There are many positive factors which will help their stock price and support the broader market."The AI boom has helped

drive up the price of shares in Asia's most valuable company, with TSMC's Taipei-listed stock leaping 75% so far this year to historic highs,

# Scientists found a bacteria tricked a wasp to get rid of its males

A hundred years ago, two American researchers named Marshall Hertig and Simeon Burt Wolbach discovered that mosquitoes harboured bacteria within their cells. Other researchers later found similar bacteria in the cells of most insects and many other arthropods. The genus to which the bacteria belonged was named Wolbachia.Wolbachia bacteria are also present in insect eggs but they are absent in the sperm. This means females can transmit Wolbachia to their offspring whereas males can't — from the bacteria's point of view, an evolutionary dead-end. As a result, Wolbachia have evolved ways to manipulate their insect hosts to produce more female than male progeny.

A new study reports that the bacteria may have taken it a bit too far this time. Researchers from Shenyang Agricultural University (SAU), China, published a paper in the June 3 issue of the journal Current Biology showing that Wolbachia bacteria had manipulated the wasp Encarsia formosa to entirely get rid of its males.The farmer-friendly amazonE. formosa wasps are of interest to agricultural scientists because they provide an efficient way to control whiteflies. Whiteflies feed on the sap of plant leaves, causing productivity losses, and are thus a major agricultural pest. Whiteflies belong to the insect order Hemiptera whereas wasps belong to the insect order Hymenoptera. The wasp seeks out the nymphs (or larvae) of whiteflies and lays its eggs on them. When the eggs hatch, the larvae that emerge penetrate the nymph, feed on its tissues, grow to adulthood, and in the process kill the nymph.The progeny wasps emerge from the nymph's carcass. As a parasitoid of whiteflies, the female wasp is in effect a search and destroy weapon. The male wasps are superfluous to this role.Doubling up with WolbachiaGenerally, among hymenopterans such as ants, bees, and wasps, the eggs fertilised by sperm cells develop into females while unfertilised eggs develop into males. The males contain only one set of chromosomes, derived from the egg, and are thus said to be haploid. In contrast, the females are diploid because they contain two sets of chromosomes: one set derived from the egg and the other from the sperm.The females use a specialised form of cell division called meiosis to transmit only one set of chromosomes to their eggs, while the males transmit their single chromosome set to all of their sperm by the more general cell-division process called mitosis. This, in a nutshell, is how haplo-diploid sex determination works.

The SAU researchers noticed that in the wild the E. formosa wasp almost never produced males. In the laboratory, however, they found that if the female wasp was treated with an antibiotic (usually tetracycline), almost 70% of the progeny were male. The reason for this was that antibiotic treatment reduced the titre, or concentration, of the Wolbachia bacteria. As a result, the chromosome number remained un-doubled and the eggs developed into males.That is, normal titres of Wolbachia bacteria could induce unfertilised eggs to somehow double the chromosome number and enable the development of female wasps. We don't (yet) know how the bacteria do this, but again this action rendered the males superfluous.The findings are of interest even to scientists whose primary interest is not whitefly controlA coleoptera gene to the rescue

A gene named tra has an evolutionarily conserved role in promoting female development in insects. ('Evolutionarily conserved' means all insects have it.) That is, if the tra gene mutates, cells won't be able to make a functional Tra protein, and progeny development proceeds along the default mode towards male production. The SAU researchers found that the tra gene in the E. formosa genome was missing some 'pieces' important for its function. How then did the female wasps develop?The researchers found the genome of the wasp's Wolbachia bacteria contained a functional version of tra. Ordinarily, bacteria don't have any reason to possess a tra gene. But the wasp's Wolbachia acquired one from a distantly related insect, one belonging to the order coleoptera, which includes beetles. That is, the bacteria had acquired the gene through horizontal gene transfer.Having lost its own tra gene, the E. formosa wasps had to rely on their Wolbachia's tra gene to allow its eggs to develop into females. This is the first example of a bacterium using a horizontally



transferred gene to manipulate female production in an insect.No males, no speciesThe males produced by the SAU researchers after antibiotic treatment didn't mate with females and didn't inseminate them. This could be because the males were absent from E. formosa populations for so long that they have now lost their ability to mate. An alternative possibility is that the inability to mate was an unintended consequence of antibiotic treatment.To resolve these two possibilities, scientists will now need to examine those rare naturally produced males to know whether at least a fraction of them can engage in sex with females. If sexual exchange is absolutely missing in the wasp, the species will no longer have the ability to purge bad mutations that accumulate in its genome. In this case, the wasp-Wolbachia duo faces a relatively early extinction.The Wolbachia bacteria were shown to be smart enough to double the chromosome number in their host's unfertilised eggs and to supply them with tra. But are they also smart enough to occasionally allow a few males to emerge and enable sexual exchange and thus delay their own extinction?

# Nvidia investor dilemma: how much is too much in a stock portfolio?

Outsized positions in artificial intelligence darling Nvidia have boosted portfolio managers' returns this year but the bets stand to magnify risk if the chipmaker's redhot shares see a reversal of fortune.Nvidia shares are up about 785% since the start of 2023 and have risen some 160% this year alone, boosted by demand for its chips, seen as the gold standard in the AI field. Nvidia briefly became the world's most valuable company in June before a dip in its shares returned that title to Microsoft.

Asset managers' holdings of the chipmaker have swelled alongside its stock price. Morningstar data showed that 355 actively managed funds held Nvidia positions that totaled 5% or more of their assets at the end of the first quarter, compared to just 108 funds in the same period last year. Funds can maintain large positions in a single holding for a variety of reasons, whether to maximize profits or to track a stock's weight in an index to which the fund is benchmarked."There's a mindset among some portfolio managers that they missed the boat on Apple or Microsoft and they don't want to be wrong on AI," said Jack Shannon, a senior Morningstar analyst. "They don't want to sell."

The oversized positions in Nvidia are another example of how investors have cast their lots with a handful of massive growth stocks, leading to one of the most concentrated market advances ever.

Nvidia alone has accounted for around a third of the S&P 500's nearly 17% gain this year, according to S&P Dow Jones Indices.Overall, markets are the third-narrowest since 1986, with only 24% of stocks in the S&P 500 outperforming the index in the first half, according to BofA Global Research strategists.

Funds that owned Nvidia have so far reaped the benefits. Actively-managed U.S. equity funds that held the stock were up 16.3% on average over the first six months of 2024, compared with an average 5.7% return among those that did not own Nvidia, Morningstar data showed.Yet concentration in a single stock can hurt investors if Nvidia shares hit a rough patch. While the average price target for the stock among analysts stands at $133.45, some 3% above its current level, according to LSEG data, some market participants point to increasing competition, an expected balance between supply and demand as Nvidia ramps up production, and the company's rich valuation as possible reasons for a downturn.The stock trades at 39.3 times forward earnings, about 50% more than its industry median, according to LSEG.

"Does having 6% or more of your portfolio in one stock create outsized risks? The answer is obviously, yes," said Phil Orlando, chief equity market strategist at Federated Hermes. "The fact that one stock did take off like a rocket ship doesn't mean that

it was smart ... to have that many eggs in one basket."Investors got a taste of how concentrated positions can be a two-way street last week, following a sharp, one-day rotation out of Big Tech stocks sparked by cooler inflation data. Nvidia fell nearly 6% on Thursday, its biggest daily drop in more than two weeks, while the tech-heavy Nasdaq 100 lost about 2.2%. Both pared those losses the following day. 'TWINGE OF REGRET'Technology-sector funds overall have the largest weightings in Nvidia, with four Fidelity funds each holding more than 18% of their assets in the stock, according to Morningstar. Yet other, more diversified, funds appear to be taking on similar risks, with the Baron Fifth Avenue Growth fund holding nearly 15% of its portfolio in Nvidia and the Fidelity Blue Chip Growth fund holding about 13% of its portfolio in the stock. Both firms declined to comment.Anthony Zackery, a portfolio manager at Zevenbergen Capital Investments, has owned Nvidia since 2016 and continues to maintain a core position, though he has trimmed it periodically to keep within his firm's risk-tolerance guidelines. The fund can hold as much as 13% of one stock in growth portfolios to keep in line with weightings in its benchmark, the Russell 3000 Growth Index."This is a company that is at the forefront of the next trend in technology," he said.Some who sold out entirely, on the other hand, wish they had held on longer.

# Can self-sufficient, 15-minute neighbourhoods make Bengaluru a more liveable city?
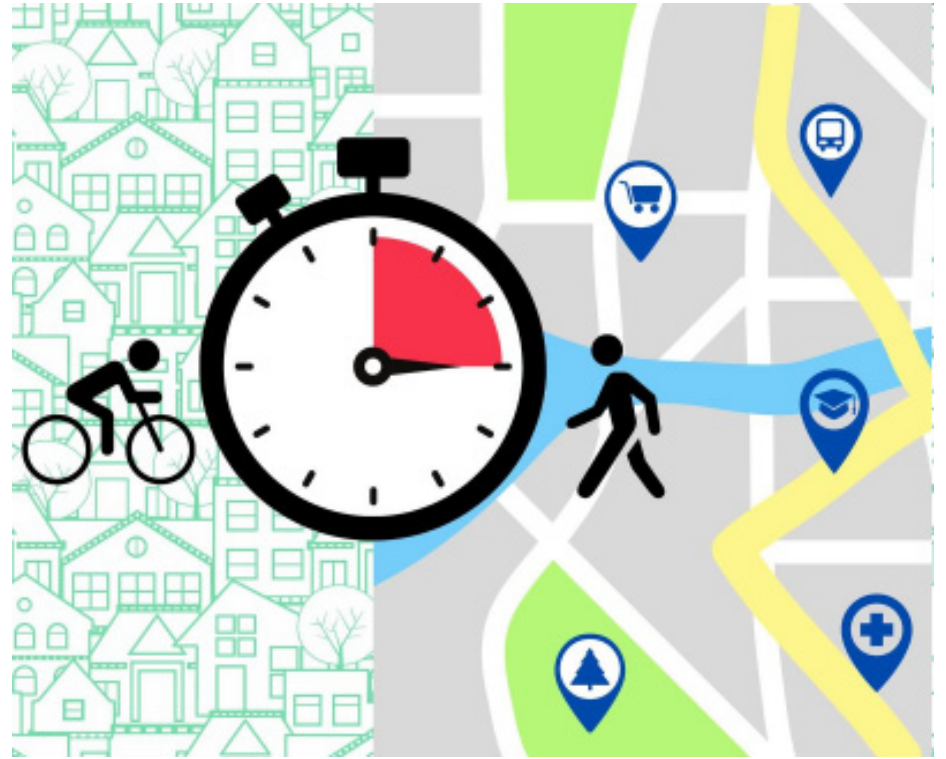
Will Bengalureans travel less and thus reduce the transportation load on roads if most of their needs – groceries, schools, healthcare, recreational avenues – are available within a 15-minute walk from their homes? As the city struggles to deal with its extreme congestion, water crises and unpredictable weather-triggered woes, can this 15-minute neighbourhood concept spark a much-needed turnaround?Desperate scenarios call for desperate action, and this hyper-local model might just be a way out. "By ensuring that essential services, amenities, and opportunities are within a short walk from every doorstep, we can foster a sense of community, reduce reliance on cars, and improve quality of life for residents." This articulation by Rakesh Singh, Additional Chief Secretary, State Urban Development Department, clearly maps a doable, workable rescue act out of the city's inglorious urban mess.But can retro-fixing work in a city that has gained notoriety for unplanned, unregulated growth, triggering unprecedented urban chaos? Many urban policy analysts are convinced that the 15-minute model fits the bill. "The concept addresses a key challenge in the planning process – tailored redevelopment of already-built, saturated cities to enhance the quality of life," states the background note of the model's comprehensive design guidelines prepared by Jana Urban Space Foundation.The guidelines offer a structured roadmap to plan and implement the concept. To illustrate that it is workable, four city areas - Chickpete, Whitefield, Indiranagar, and Malleswaram – were selected as case studies. Distinct characteristics of each of these areas were identified: Primary land use patterns, population, built density, mobility patterns, availability of green spaces, public transit network, occupation, diverse socioeconomic backgrounds, and availability of land for development.Targeted interventions helped identify the potential of these areas to transform into 15-minute neighbourhoods. The approach of the guidelines is to be flexible and complementary, providing quick wins through neighbourhood-specific proposals while addressing the gaps in planning and development. This is seen as significantly different from existing planning processes such as Land Use Planning, Transit Oriented Development, and Transport Planning.Integrated mobility

Essentially, the guidelines are based on a framework of Move, Play, Sustain and Include. 'Move' is about integrated mobility and transport networks, accessibility and connectivity. The network here means non-motorised and public transport, safe intersections and organised utilities.'Play' is about access to sustainable public spaces: parks, playgrounds and water bodies, designed to boost environmental sustainability and climate responsiveness. 'Sustain' implies access to local produce markets that promote sustainable farming and consumption patterns, reducing farm-to-table distances, and increasing economic opportunities.

By 'include,' the framework means integrating social infrastructure for the vulnerable and urban poor. This is achieved by building community halls, anganwadis, and safe spaces for girls. In fact, accessibility for 'everyone at all times' is the core principle of the 15-minute neighbourhood. To ensure that it works for all, it should cater to the needs of the most vulnerable groups: women, children, the elderly, people with disabilities, and the economically weaker class.Do local residents feel the need for a 15-minute neighbourhood? A survey conducted as part of the guidelines process revealed that a high 69% consider transport infrastructure as the most important amenity required in their neighbourhood. While 61% did not find good quality transport infrastructure near their homes, their alternative was to either walk (40%) or cycle (8%) for short trips. Inevitably, 62% were forced to use private transport (29% two-wheelers and 33% four-wheelers) for long trips.The hierarchy of commute, he reminds, starts with walking, followed by cycling and motorised transport, particularly public transport. Private transport should be the last priority.The hierarchy of commute, he reminds, starts with walking, followed by cycling and motorised transport, particularly public transport. Private transport should be the last priority. | Photo Credit: BHAGYA PRAKASHThis perception, while acknowledging the need for new concepts, also raises questions. As independent mobility consultant Satya Arikutharam notes, "Without a reliable backbone of an integrated public transport and active mobility infrastructure, the concept would just be a pipedream."The hierarchy of commute, he reminds, starts with walking, followed by cycling and motorised transport, particularly public transport. Private transport should be the last priority. "But today, it is all reversed because the enabling infrastructure for walking and cycling is missing in Bengaluru. Anyone who wants to go to a park, hops onto a motorbike. They don't walk because there are no walkable footpaths. Cycling is perceived as dangerous since they have to mingle with other traffic," he explains.

Safer streetsTo make neighbourhoods walkable, the survey had sought suggestions from residents themselves. While 47% suggested auto rickshaws and feeder bus services to transit points, 40% of the respondents had articulated the need for safer streets with better street lighting. Thirty-nine per cent wanted greenery and seating along roads, while 31% stressed the need for better traffic management at key intersections. More than half of the respondents sought a dramatic upgrade of pedestrian and cycling infrastructure in their neighbourhoods.Though not structured or planned, the 15-minute concept has evolved randomly in some localities and gated communities. Satya cites the case of Electronics City, where housing units sprang up only 20 years after the place was developed. "It now has housing colonies close-by not out of design, but out of compulsion. People wondered why they should travel two hours daily when they

could build a community there itself. However, the lack of enabling infrastructure elsewhere makes it suboptimal."Systems and frameworks can nudge the reconfiguration of the city's neighbourhoods, says Bengaluru Apartments Federation (BAF) president Vikram Rai. "The city has exploded, having grown with a population of about 1.5 crore. While this is inevitable, frameworks can help optimise the neighbourhoods at the backend. Such an approach can guide and support future growth enabling decentralised local governance, local culture, and inducing a sense of environmental responsibility by shared ownership of neighbourhood lakes and more," he elaborates.Environmental benefitsFrom a

walkability perspective, the 15-minute concept has clear environmental benefits: Improved air quality due to a shift from private cars to walking and cycling for short trips; and improved biodiversity by building green, walkable environments. The consequent reduction in fossil fuels for transport leads to a lowering of the urban heat island effect.Besides the obvious health benefits, walkable neighbourhoods could also boost social interaction and sense of ownership of residents, encouraging them to be more involved in the community. Citing a report by the Institute of Transportation and Development Policy (ITDP), the Jana Urban Space study notes that women are more likely to engage in walking or cycling when streets are designed to prioritise pedestrian safety.

# 78% of employers bet big on gig workers, stress proficiency in technical skills

New Delhi: While 78.57 per cent of employers in India find gig workers meeting or surpassing job requirements, they also emphasise their need to boost technical skills, according to a report on World Youth Skills Day on Monday.The report by learning and employability solutions provider, TeamLease EdTech, highlights that employers seek gig workers with a combination of domain knowledge, technical skills, and strong soft skills to handle clients effectively.About 75.90 per cent of employers identified technical skills as the most essential for gig workers. This was closely followed by communication skills as 68.67 per cent of employers emphasised the importance of remote collaboration and meeting client expectations."The gig economy is not just the future of work but rather our present. With 78.57 per cent of

gig workers meeting or exceeding expectations, we spot a real potential. However, the emphasis on both technical and soft skills highlights the complex demands of this new work paradigm," said Shantanu Rooj, Founder and CEO of TeamLease EdTech.The report was based on survey data from 837 employers across various sectors in India. It offers crucial insights into the skills and competencies required for success in the rapidly growing gig economy. Further, the report revealed a preference for gig workers with 1-5 years of experience among 67.86 per cent of employers, while digital literacy emerged as non-negotiable, with over 90 per cent of respondents stressing its importance.For skill enhancement, on-the-job training (76.19 per cent) and online courses (73.81 per cent) emerged as the most preferred methods.