

■ 180 ON BOARD, 180 ALIVE: THE HEROES OF FLIGHT FZ1073 ■ NIKKEI 68,956, UP 2,203 ■ TOKYO: 36 DAYS OF RAIN, A RECORD ■ CYBER DEFENCE LAW IN FORCE ■ NISHIKORI RETIRES ■

# The Heroes That Saved 180 People

*A captain who reached the cockpit door release from the floor, a plumber who had learned from air-crash documentaries, a banker, a businessman, a dentist and two off-duty pilots brought flydubai Flight FZ1073 down safely in Saudi Arabia after its co-pilot allegedly stabbed the captain and tried to crash the aircraft; 174 passengers, 27 of them children, and six crew are alive*

By Jonathan Mercer | Senior Editor, International Desk, with Rachel Kim | Washington-Tokyo Liaison, and Daisuke Ito | Investigations & Longform



Left: passengers leave flydubai Flight FZ1073 by the rear stairs at Tabuk, Saudi Arabia, on Wednesday, after the emergency landing; a section of the rudder is missing from the tail fin (supplied image). Top right: Captain Smit Machchhar, who unlocked the cockpit door after he was wounded, in an undated photograph. Bottom right: the plumber Yaniv Hayun, right, in the stained T-shirt he was still wearing when he was welcomed home on Wednesday evening. (Photos of Captain Machchhar and Mr Hayun: WPM Productions)

At about 34,000 feet over the north-west of Saudi Arabia on Wednesday morning, two hours and a quarter out of Dubai on its way to Tel Aviv, flydubai Flight FZ1073 stopped behaving like an airliner. The Boeing 737 MAX 8 pitched down, climbed sharply and pitched down again. In the cabin were 174 passengers, 27 of them children, and in all 180 people were on board when the six crew are counted.

Eighty-four minutes after the first plunge the aircraft was on the ground at Tabuk, in Saudi Arabia, with its captain gravely wounded, its co-pilot tied up with the cords of the airline's headphones, a piece of its rudder missing and two pilots who had boarded as passengers sitting at the controls. Nobody had died.

How that happened is, by the accounts gathered since, the work of a small number of people who had no time to discuss it: a 39-year-old Indian captain who reached the cockpit door release while lying wounded on the floor; an Israeli plumber who pulled the attacker out by the neck and then hauled back on the control column because he had seen it done on television; a banker, an insurance agent and a dentist; the cabin crew; and two off-duty flydubai pilots who took the aircraft from there.

The fullest version of events comes from the passengers themselves and from the Israeli government, whose prime minister, Benjamin Netanyahu, said that one pilot stabbed the other and that all the indications were that he then tried to crash the aircraft with everyone on it. The airline has confirmed less. In its own words, 'An altercation occurred in the flight deck'; the aircraft, it said, was secured by flydubai crew travelling on the flight, who diverted it and landed it safely.

The United Arab Emirates' aviation regulator calls it a security incident that was brought under control. Saudi Arabia's Interior Ministry said on Thursday that its preliminary investigation, conducted with Emirati security teams, confirmed the basic fact: the co-pilot assaulted the captain in flight. No authority has yet published a motive, and flydubai has asked that nobody guess at one.

What follows is drawn from those statements, from flight-tracking data, and from what the people on board told reporters at Tabuk and at Ben Gurion

Airport, as carried by Reuters, The Times of Israel, Gulf News, CNN, NBC and the Indian and Israeli press. Where the accounts differ, the difference is given.

## The flight

FZ1073 left Dubai International Airport at 7:05 a.m. local time on Wednesday, September 30, which was 12:05 p.m. in Tokyo. It was a scheduled service to Ben Gurion Airport, a route flydubai has flown since the United Arab Emirates and Israel established relations under the Abraham Accords in 2020, and on Wednesday nearly everyone in the cabin was Israeli. American reports say United States citizens were also among the passengers.

Many were on the last leg of a long journey home. Assaf Rajuan, who owns an insurance agency, was returning from a family holiday in Thailand. Shota Musaev, a dentist, was coming back from China. Lital Shahar, from Givat Shmuel, sat in row 10 with her four daughters. Zvika Manes, the chief executive of Bank Leumi's underwriting company, was travelling with his wife and daughters. Yaniv Hayun, a 50-year-old plumber, had his family with him too.

In the left-hand seat on the flight deck was Captain Smit Machchhar, a Mumbai-born pilot who lives in Dubai and has flown Boeing 737s for more than 13 years. Beside him was a first officer whom Israeli officials describe as an Omani national who had joined the airline eight months earlier. His name has not been made public by any of the three governments now involved, and flydubai has declined to give the nationalities of either pilot.

Two more flydubai pilots were on the passenger list. Passengers said the pair were being carried to Tel Aviv to operate a later flight, a routine arrangement that airlines call positioning or deadheading. They were in civilian clothes and sitting in the forward cabin. Ms Shahar, the mother in row 10, later called their presence one of two miracles; the other, she said, was the passengers who went into the cockpit.

Flydubai is the low-cost airline owned by the government of Dubai, a sister company to Emirates. It began flying in 2009, operates a fleet made up entirely of Boeing 737s and serves more than a



hundred cities from its one base. It does not fly to Japan, but Emirates does, to Narita, Haneda and Kansai, and the two airlines sell seats on each other's flights, so that a Japanese traveller changing aircraft in Dubai for somewhere else in the region may well find the second boarding pass is flydubai's.

According to Flightradar24, the aircraft climbed to about 34,000 feet and flew north-west across the Arabian Peninsula without incident for more than two hours.

## The attack

At around 9:21 a.m. Dubai time, 2:21 p.m. in Tokyo, the tracking data shows a pronounced descent, then a sharp climb, then a second steep descent. By about 9:33 the aircraft was at roughly 15,000 feet. Gulf News, citing Flightradar24, reported a loss of more than 14,000 feet in 29 seconds at the worst of it; Reuters put the fall at about 4,300 metres. The data describe the aircraft's path. They do not, by themselves, say what was happening behind the cockpit door.

The passengers do. Mr Manes told Israel's Channel 12 that his wife had taken their young daughter to the lavatory at the front of the cabin when she heard screaming and a struggle from the flight deck. She caught the attention of a flight attendant and told the attendant to check. At that point, he said, the cockpit door opened and the captain fell through it while the co-pilot was still attacking him.

The Israeli account is that the first officer had turned on the captain with a blade. Mr Netanyahu has said the captain was stabbed, or struck with an axe, and some reports suggest the weapon was the crash axe carried on the flight deck for emergencies; investigators have released nothing about it. Dr Musaev, who treated the captain minutes later, described deep cuts to his head and hands.

A modern cockpit door is built to stay shut. Since the attacks of September 2001 it has been armoured and locked from the inside, precisely so that nobody in the cabin can force it. On Wednesday that design was working against everyone on the aircraft, and the person who defeated it was the man it was meant to

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WEATHER — TOKYO

19°C

Low 16°C · Rain on the map; cool rain in Kanto

Sapporo

17°

Niigata

21°

Fukuoka

24°

Naha

28°

Tokyo: 36 straight days of rain, a record. Typhoon No. 26 leaves to the north-east, extratropical this morning; No. 27 (Choi-wan) strengthening near the Marianas, near Ogasawara about Monday. M5.1 in north-eastern Chiba on Thursday night. Full weather, Page 13.

TODAY IN BRIEF

- Flight FZ1073: a flydubai co-pilot allegedly stabbed his captain and tried to crash a Dubai-Tel Aviv flight on Wednesday; the captain opened the cockpit door, passengers subdued the attacker and two off-duty pilots landed at Tabuk. All 180 on board survived.
- Politics: proactive cyber defence in force, 258 operators must report attack signs (Sankei). AI action plan by year-end, 17 strategic areas. Sakie Yokota before Megumi's 62nd birthday: 'Until she comes back.' The Diet convenes Monday.
- Markets: Nikkei 68,956.72, up 2,203, Advantest adding about 700 yen among them (Asahi). Atomic Energy Agency: 175 people's details leaked. OpenAI says it blocked a distillation attack centred on Moonshot AI.
- Weather: Tokyo's rain reaches 36 straight days, a record since 1886. Typhoon No. 26 leaves; No. 27 strengthens near the Marianas. Magnitude 5.1 in north-eastern Chiba, intensity 3.
- Sport: Nishikori loses 4-6, 4-6 to Tiafoe in his last match. Hanshin 2, Giants 2 in 12 innings; magic number 2. Nine Asian Games golds on Thursday; 217 medals. Football final v South Korea on Saturday.

FLIGHT FZ1073

- 180 on board: 174 passengers, 27 of them children, and six crew.
- Plunge at 9:21 a.m. Dubai time; landing at Tabuk 84 minutes later.
- Captain Smit Machchhar: recovering in Abu Dhabi.
- First officer: in Emirati custody; motive not established.

THE NAMED

- Yaniv Hayun, plumber. Zvika Manes, banker.
- Assaf Rajuan, insurance agent. Shota Musaev, dentist.
- Two off-duty flydubai pilots, not yet named.

| MARKETS                |                    |
|------------------------|--------------------|
| Nikkei 225 (close)     | 68,956.72 ▲2,203   |
| Advantest              | up over 9%         |
| Yen                    | 158.37-40 per \$   |
| BOJ policy rate        | 1.25%              |
| Tankan, large makers   | 6th straight rise  |
| Tankan, large services | 1st fall in 5 qtrs |
| Nidec net loss         | ¥564.6bn           |

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THE WEEK

- Sat. Oct. 3: Komeito convention; football final v South Korea.
- Sun. 4: the Asian Games close. Mon. 5: the Diet convenes; Typhoon No. 27 near Ogasawara.
- Tue. 6: Nishikori's farewell ceremony at Ariake.

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# The Heroes That Saved 180 People

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protect. Doron Spielman, a spokesman for Mr Netanyahu, said the captain, bloodied and on the floor, used the last of his strength to press the release.

The lock is controlled from the pilots' side. Cabin crew can ask to be let in, and on most airliners there is an emergency code for the case in which both pilots are unconscious, but a pilot inside can refuse it. That is the arrangement that defeated the captain of the Germanwings flight in 2015, who was shut out by his first officer and could not get back in. On FZ1073 the wounded man was on the inside of the door, and the switch was within his reach.

Mr Hayun, the first passenger through, said the captain was lying right against the door, which made it hard to push open. His conclusion was that the captain had managed to unlock it for them before he collapsed.

In the cabin there was no way to know any of this. The aircraft dropped, and people who were not belted in left their seats. 'I was just sure I was going to die,' one passenger, Mika Bauman, told CNN, describing children crying as the aircraft fell and seemed to turn. Motti Cohen Or, who is 70, told NBC News he heard a woman shout that someone was being stabbed in the cockpit before the nose went down. Mr Manes said his daughters were screaming that they did not want to die, which he called a traumatic thing for any father to hear.

Mr Rajuan remembered screaming from near the lavatory and a mother coming out of it in terror, and then the understanding, as the aircraft pointed at the ground, that nobody was flying it. Ms Shahar, ten rows back with her girls, heard people shouting that there had been a stabbing.

What nobody in the cabin did, by any of the accounts given so far, was wait to be told what to do. The flight attendants had no instruction to give that covered this. The men who went forward did not know one another, and those who have described it since say they decided in seconds. Mr Rajuan's phrase for it, speaking to Channel 12, was that it was a case of to be or not to be.

## The plumber

Mr Hayun ran forward. What he found, he told Mr Netanyahu at Ben Gurion Airport that evening, in a conversation filmed and released by the Government Press Office, was a cockpit with nobody in either pilot's seat. The captain was on the floor by the door. The first officer was between the two seats, at the controls, and by Mr Hayun's description he was not trying to fly the aircraft. He was trying to wreck the instruments so that it could not be flown.

He took the man in a hold around the neck and dragged him out of the cockpit. Then he shouted for other Israelis to come and hold him down, and went back in.

There is no dispute between the passengers about who went in first. They differ slightly on how many followed and in what order, as people do who have been in a fight in a confined space on an aircraft that is diving, and the investigators will have their statements. Israeli officials have named four men, Mr Hayun, Mr Manes, Mr Rajuan and Dr Musaev, and all four say there were others, including members of the cabin crew.

The aircraft was tilting steeply. Mr Hayun took hold of the control column and pulled it towards him. He is a plumber, not a pilot. Asked how he knew what to do, he gave an answer that has since travelled round the world: 'I watch Mayday,' he said, naming the long-running Canadian documentary series about air accidents, shown in some countries as Air Crash Investigation or Air Disasters.

The nose began to come up. As the aircraft started to level, he said, a pilot appeared beside him and told him he was taking over from there.

Outside the cockpit door the fight was not finished. Mr Manes had reached the attacker early, and Mr Rajuan arrived with two other men; members of the cabin crew joined them. Mr Manes described a strong man, full of adrenaline, who took a great deal of physical force to hold. They bound him with what the aircraft had to offer, which was the corded headphones handed out for the entertainment system. By Mr Manes's estimate it took 20 to 25 minutes

before the man was fully subdued. Mr Rajuan, who was slightly hurt, said they then kept him pinned for the better part of an hour, until the wheels were on the ground. Once he was bound and could not move, Mr Hayun told the prime minister on Thursday, the man shouted at them in English: 'Kill me, kill me.' Mr Hayun took it to mean that he knew he had failed. They did not oblige him.

## The dentist

Dr Musaev had not waited either. He told The Times of Israel that he heard the screaming and was running within ten seconds. He went first to help with the attacker and then, once other hands had him, turned to the captain.

He found a man in very bad shape, bleeding heavily from the head and from both hands. There was no physician on the aircraft. He was, he said afterwards, the only doctor of any kind among the passengers, and a dentist is what the captain got: someone who knew how to stop a haemorrhage and steady a patient's blood pressure, working on the floor of an aircraft that had only just stopped falling.

He stopped the bleeding. The captain stayed conscious and kept talking to the people around him. In video filmed in the cabin during the emergency, a member of the crew can be heard calling for a doctor or a pilot and telling passengers to sit down, and the wounded captain is seen explaining that he can no longer close his hand, because he was hit so many times. Dr Musaev said his patient was fairly stable for most of the remaining flight and deteriorated somewhat shortly before landing.

## The pilots in the cabin

The two off-duty flydubai pilots have not been named and have not spoken publicly. Passengers who watched them go forward describe them as European, and several say at least one was British; another account, attributed to an Israeli official, makes them a South African and a New Zealander. What is not in dispute is what they did. They took the two seats, recovered the aircraft from its dive and flew it for more than an hour with a wounded colleague on the floor behind them and a bound one under guard.

The transponder tells part of their story. At 9:28 a.m. Dubai time, near the border between Saudi Arabia and Jordan, the aircraft began transmitting 7700, the code for a general emergency. At 9:35 it changed to 7500, the code reserved for unlawful interference, which is the phrase aviation uses for a hijacking. The aircraft turned west, crossed briefly into Jordanian airspace and turned back towards Saudi Arabia. Who entered each code, and why the second was chosen, is one of the things the investigation will have to establish.

On the ground the second code had its effect. The Times of Israel reported that Israeli warplanes were scrambled as the aircraft, signalling an emergency, veered over Saudi territory. Around the time it landed, a spokesman for Mr Netanyahu's office told Reuters that the event did not appear to be a hijacking.

At 8:44 a.m. Saudi time the control tower at Prince Sultan bin Abdulaziz International Airport in Tabuk received a distress call asking for an emergency landing. Tabuk is a regional airport in the far north-west of the kingdom, with a runway long enough for a 737 and a hospital in the city. As the aircraft approached, its transponder went back to 7700.

It landed at 9:45 a.m. local time, which was 10:45 in Dubai and 3:45 p.m. in Tokyo. Video from the cabin shows the passengers clapping and then singing as it rolled out.

## On the ground at Tabuk

Saudi emergency crews were waiting. The airport said the captain and the first officer had both been injured and were taken to hospital. The passengers were brought into the terminal, where they were met by soldiers, nurses and doctors.

Ms Shahar said the people who received them were generous and kind, that they all spoke English, and that they kept repeating one sentence: that the passengers were in a safe place now. Another passenger told Reuters that hot tea and food were provided at Tabuk, and that people had stayed calm

throughout.

Photographs taken on the apron, one of which appears on the front page, show the aircraft parked with a section of its rudder gone from the trailing edge of the tail fin. A flydubai official confirmed to The National, the Abu Dhabi newspaper, that the rudder had been damaged. Arik Zer, a former head of flight security at Israel's Shin Bet, told Channel 12 that the violence of the plunge was the likely cause, and that nothing striking the aircraft from outside would explain it. That, too, is a matter for the investigators.

Flydubai sent two replacement aircraft to Tabuk. Getting the passengers onto one of them was not simple. Mr Rajuan said many were very reluctant to board another aircraft of the same airline, that they asked for the departure to be held while the second crew was checked, and that this was done. The airport said the passengers left at 5:40 p.m. local time.

They landed at Ben Gurion at about 6:34 p.m. in Israel, half past midnight on Thursday in Japan, most of a day later than their tickets said. Magen David Adom, the Israeli ambulance service, examined them all. One passenger, a 51-year-old man, was taken to hospital in good condition with an injury to his upper body.

Mr Netanyahu was at the airport. He met Mr Hayun, whose T-shirt was still stained with blood, though he said he was not hurt himself. On Thursday the prime minister received the group at his office and told Israelis to learn from them, to keep their eyes open and to stay alert.

## The captain

Smit Machchhar was not supposed to be a pilot. Reuters reports that his family is in the textile business in Mumbai and expected him to join it, until he discovered aviation at 19; he holds a diploma in man-made textile chemistry and a degree in business administration. His mother, by the same account, was worried by the choice. He trained as a pilot in New Zealand.

According to his professional profile, he spent 11 years at the Indian low-cost carrier SpiceJet, from 2011 to 2022, rising to senior commander and to line training captain, the pilot who supervises, checks and mentors other pilots on scheduled flights. He logged more than 9,500 hours there, over 6,400 of them in command. He joined flydubai in June 2022 as a direct-entry captain on the 737 fleet and lists 9,750 flying hours on the type.

He describes himself there as an airline captain, a lifelong learner and a father, and lists crew resource management and leadership under high workload among his skills. He hopes, it says, to join the airline's training department. Reuters reports that he prefers to leave the talk of flying in the cockpit.

He was operated on in Tabuk. The Indian Embassy in Riyadh said on Wednesday night that he was stable, and on Thursday the Saudi Interior Ministry said both pilots had been medically cleared and had left for Abu Dhabi that morning, the captain to continue his treatment and the first officer in the custody of a security team. Indian officials said on Thursday that the captain was recovering well.

Photographs of him that have circulated since Wednesday, among them the one on the front page, show a man in a white uniform shirt with a captain's four stripes, smiling in a cockpit. The Indian mission in the Emirates said its ambassador, Deepak Mittal, and the consul general had visited the family to brief them on his recovery.

India's prime minister, Narendra Modi, called him a hero whose courage saved hundreds of lives, and said he had spoken to the captain's father, his mother and his wife. President Droupadi Murmu praised his presence of mind. In Mumbai, the Free Press Journal reported, his neighbours waved the national flag and prayed for his recovery.

Mr Netanyahu, writing on X, saluted him by name, said that he had fought back and opened the door despite his wounds, and credited him with the lives of the 174 passengers. In an interview with CNN he went further and said the captain had prevented a disaster on the scale of September 11.

## What the governments say

The three governments with a hand in the case have said different amounts, and it is worth keeping them apart.

The Emirati position is the most cautious. Flydubai's second statement confirmed the altercation and the diversion, said the reasons and motives were unknown and subject to a formal investigation, and urged all parties to refrain from premature speculation. The General Civil Aviation Authority said its teams were examining the operational and security aspects and asked the public not to circulate unofficial information.

The country's attorney-general, Hamad Saif Al Shamsi, has ordered a specialised team of prosecutors to investigate. The Emirati Foreign Ministry said the judicial authorities of the United Arab Emirates have full jurisdiction, because the aircraft is registered there and flies under its flag, whatever airspace it was in at the time; it also thanked Saudi Arabia for its quick response. The National reports that the investigation will determine whether the incident was linked to terrorist activity.

That jurisdictional point rests on a treaty with a Japanese name. Under the Tokyo Convention of 1963, the agreement on offences committed on board aircraft that was signed in this city, the state in which an aircraft is registered is competent to try what happens on it in flight.

Saudi Arabia, where the aircraft landed, made its first official comment on Thursday. Besides confirming the assault, the Interior Ministry said the first officer had been handed over. The kingdom's National Transport Safety Centre has opened a separate safety investigation.

Israel has said the most. Its defence minister, Israel Katz, called the event an attempted jihadist terrorist attack, without saying how he had reached that conclusion. Mr Netanyahu told Fox News on Thursday that the first officer had undergone what he called Islamist radical indoctrination, and said twice that it was too early to know whether Iran was involved. Channel 12 reported that Israeli intelligence had no indication of direction from Tehran or any organisation, and that the working assumption was a man acting alone.

In Washington, President Trump called the captain a hero on Wednesday and said of the co-pilot that he was perhaps a terrorist or 'a whack job.' On Thursday, asked whether there was a link to Iran, he first said that from what he was hearing the answer was yes, and then, pressed, that there could have been. It is not clear what information he was relying on. The United States ambassador in Jerusalem, Mike Huckabee, praised the passengers' heroism.

Saudi Arabia has been more careful than either. A spokesperson for its embassy in Washington told NBC News on Wednesday that the authorities were still working out whether this had been a dispute between two pilots or an attack sponsored from outside the aircraft, and the Interior Ministry's statement a day later described an assault and went no further.

Inside Israel the event landed in the middle of an election campaign and was absorbed by it within hours. Yair Lapid, a leader of the opposition, said nothing resembling it had been mentioned in the security briefing the prime minister had given him. The national security minister, Itamar Ben Gvir, said it showed that Israel must intensify its campaigns in the region. Two separate monitoring reports cited by The Times of Israel found that conspiracy theories blaming Israel and Jews for the incident were circulating online within minutes of the first news.

Israel's Foreign Ministry instructed its embassies to describe the event as an attempted attack on Israelis, on the United Arab Emirates and on the Abraham Accords together. The two foreign ministers, Gideon Sa'ar and Sheikh Abdullah bin Zayed, spoke by telephone, and Mr Netanyahu spoke to the Emirati president, Sheikh Mohammed bin Zayed.

## The gap

Behind the praise there is an awkward question for Israel's own security services, and the Israeli press has not been slow to ask it.

Oman has no diplomatic relations with Israel. Mr Netanyahu acknowledged that there are rules meant to keep pilots from such countries off flights into Israel, and that this first officer got through them. Channel 12 reported that the restriction, which dates from the opening of the routes, had not been enforced; that dozens of Omani pilots had flown into Tel Aviv in recent years; and that the Shin Bet had left compliance to the foreign airlines and had not examined the backgrounds of flydubai's pilots.

INTERNATIONAL

*The Heroes That Saved 180 People, continued*

Mr Spielman told Reuters that this will change. Israel, he said, intends to know the identity of every pilot flying into the country and to run a security check on each, on foreign carriers as well as its own. The consequences for air travel were immediate. Flydubai has suspended all flights to and from Israel while the investigation continues. Emirates has stopped selling its codeshare seats on the route. El Al and Arkia announced flights to bring home Israelis stranded in Dubai, with passengers allowed to bring only a single personal bag on board, on the instructions of the security authorities. Hebrew-language media reported overnight that the Emirati authorisation for those flights had been withdrawn and that officials on both sides were working to resolve it.

What is not known

A great deal. No authority has said why the first officer did it, or whether anyone told him to. No investigator has described the weapon or said how it came to be on the flight deck; Mr Netanyahu has said he can see two possible ways. Nobody has said who set the hijack code. The cause of the rudder damage is an inference, not a finding.

The aircraft's flight-data and cockpit-voice recorders will answer some of these questions, and the first officer, who is alive and in custody, may answer others. Flydubai's request that the public wait for the facts is a reasonable one, and it applies to the confident statements made in Jerusalem and Washington as much as to rumour.

Some of the uncertainty is about smaller things. The accounts give the length of the struggle variously as 20, 50 and 55 minutes, depending on whether the speaker is counting from the first blow or to the landing. The depth of the plunge is given as 14,000 feet by one reading of the tracking data and 17,000 by another. The nationalities of the two relief pilots are reported three different ways. None of these discrepancies changes the outline, and all of them will be settled by the recorders and the crew list.

There is also the matter of timing, which officials have raised without resolving. The war that the United States and Israel launched against Iran in late February has lasted more than seven months, and Israel votes in a general election on October 27. Mr Netanyahu had warned of possible attacks only a day earlier. None of that is evidence about what one man intended on one flight.

Why it matters in Japan

The reports available do not mention Japanese nationals among those on board. The story is on this front page for another reason: there is nothing in it that could not happen on an aircraft leaving Haneda or Narita, and part of it already has.

On July 23, 1999, a man with a kitchen knife forced his way onto the flight deck of All Nippon Airways Flight 61 shortly after it left Haneda for Sapporo with more than 500 people on board, stabbed the captain, Naoyuki Nagashima, and took the controls himself. The Boeing 747 sank to within a few hundred metres of the ground over the Tokyo area. It was saved when crew members broke into the cockpit and an All Nippon captain who happened to be travelling as a passenger helped recover the aircraft. Captain Nagashima died. Everyone else survived.

That was an intruder. The danger shown on Wednesday is the one a locked door cannot address, because the threat was already inside it. Japan has met that as well: in 1982 the captain of a Japan Air Lines DC-8 deliberately put his aircraft into Tokyo Bay on approach to Haneda, and 24 people died while his first officer and flight engineer fought him for the controls. And in 2015, after a Germanwings first officer locked his captain out and flew 150 people into a mountainside in France, regulators in Europe and in Japan moved to keep two people on the flight deck at all times.

None of those rules would have changed Wednesday's first minute. There were two people on the flight deck, and one of them attacked the other. What changed the outcome was everything that came afterwards: a door opened from the inside, passengers who moved without being asked, a cabin crew that joined them, a dentist, and two qualified pilots in the cabin by the accident of a crew roster.

It is worth being exact about how thin the margins were. Had the captain lost consciousness a few seconds earlier, the door would have stayed locked

with the aircraft pointed at the desert. Had Mr Hayun pushed the control column instead of pulling it, or had no one gone forward at all, the two pilots in the cabin would have had no cockpit to enter. Had the roster not put those two pilots on that flight, a plumber would have been the most experienced person at the controls of a Boeing 737 at 15,000 feet.

Japanese airlines, and the Ministry of Land, Infrastructure, Transport and Tourism that regulates them, will want to ask how much of that was design and how much was luck. The editorial on today's opinion pages argues that the honest answer is uncomfortable, and that the screening of the people who are trusted with an aircraft deserves the same seriousness as the screening of the people who merely ride in one.

One hundred and eighty

The count that matters is simple enough. One hundred and seventy-four passengers boarded in Dubai on Wednesday morning and 174 walked into the arrivals hall at Ben Gurion on Wednesday evening. The cabin crew went home. The two off-duty pilots, who had expected to spend the flight as freight, went home. The captain is in hospital in Abu Dhabi, and his embassy says he is getting better.

Mr Rajuan, back at Ben Gurion on Wednesday evening, said he could not believe that he had been on holiday in Thailand a few hours earlier, and insisted that he had not done it alone. Dr Musaev said he wanted to go home and hug his children.

The television programme Mr Hayun watches reconstructs flights that ended badly, so that the next one need not. When the investigators have finished with FZ1073 there will be a reconstruction of this flight as well, and it will end in an unusual way: at Tabuk, with the passengers clapping.

INTERNATIONAL

Eighty-Four Minutes: Flight FZ1073 by the Clock, in Dubai, Greenwich and Tokyo Time

*By Kenta Sakamoto | Data & Visualization*

The record of flydubai Flight FZ1073 is unusually precise, because an airliner in trouble announces itself. The times below come from Flightradar24's tracking data as reported by Gulf News and Al Jazeera, and from the statement of Tabuk's airport. Dubai time is given first, then Greenwich Mean Time, then Japan Standard Time.

7:05 a.m. Dubai, 03:05 GMT, 12:05 p.m. in Tokyo: the Boeing 737 MAX 8 leaves Dubai International for Ben Gurion Airport and climbs to about 34,000 feet.

9:21 a.m. Dubai, 05:21 GMT, 2:21 p.m. in Tokyo: the aircraft begins a pronounced descent, followed by a sharp climb and a second steep descent. This is the moment passengers describe as the plunge.

9:28 a.m. Dubai, 05:28 GMT, 2:28 p.m. in Tokyo: the transponder begins transmitting 7700, the international code for a general emergency. The aircraft is near the border between Saudi Arabia and Jordan.

About 9:33 a.m. Dubai, 2:33 p.m. in Tokyo: the aircraft is flying at roughly 15,000 feet, less than half its cruising altitude twelve minutes earlier.

9:35 a.m. Dubai, 05:35 GMT, 2:35 p.m. in Tokyo: the transponder changes to 7500, the code for unlawful interference. The aircraft turns west, briefly enters Jordanian airspace and then turns back towards Saudi Arabia.

9:44 a.m. Dubai, 05:44 GMT, 2:44 p.m. in Tokyo: air traffic controllers at Tabuk receive a distress call requesting an emergency landing. In Saudi Arabia it is 8:44 a.m. As the aircraft approaches, the code returns to 7700.

10:45 a.m. Dubai, 06:45 GMT, 3:45 p.m. in Tokyo: the aircraft lands at Prince Sultan bin Abdulaziz International Airport. Eighty-four minutes have passed since the first descent. Flightradar24 receives its last signal from the aircraft at 10:58.

6:40 p.m. Dubai, 14:40 GMT, 11:40 p.m. in Tokyo: the airport reports that all passengers have left on a replacement aircraft sent by the airline. In Tabuk it is 5:40 in the afternoon.

About 15:34 GMT, 6:34 p.m. in Israel, 12:34 a.m. on Thursday in Tokyo: the replacement flight lands at Ben Gurion Airport.

Thursday morning, Saudi time: the captain and the first officer leave Tabuk for Abu Dhabi after medical

clearance, according to the Saudi Interior Ministry.

The tracking data, as Gulf News observes, shows where the aircraft went and how fast it fell. It does not show what was happening inside it. For that, the investigators have the two recorders, the statements of 174 passengers and a suspect in custody.

INTERNATIONAL

The Captain Who Opened the Door: Smit Machchhar, From a Mumbai Textile Family to the Left-Hand Seat

*By Rachel Kim | Washington-Tokyo Liaison*

Captain Smit Machchhar, who is 39, was born in Mumbai into a family that works in textiles, and by Reuters' account he was expected to work in it too.

He studied for it. He holds a diploma in man-made textile chemistry from the SASMIRA institute in Mumbai and a degree in business administration from the Welingkar Institute of Management, according to the profile he keeps on a professional networking site and to Gulf News.

At 19 he found aviation, and the plan changed. Reuters reports that his mother was uneasy about it at first. He went to New Zealand to learn to fly.

In June 2011 he joined SpiceJet, the Indian low-cost airline, and stayed for 11 years. He became a senior commander and, from November 2020, a line training captain, responsible for supervising and checking other pilots during ordinary scheduled flights and for seeing that company procedures were followed.

His profile lists more than 9,500 hours flown at SpiceJet, over 6,400 of them as pilot in command.

He moved to Dubai in June 2022 to join flydubai as a direct-entry captain, the term for a pilot hired straight into the left-hand seat on the strength of command experience elsewhere. He gives his total on the Boeing 737-800 and the 737 MAX as 9,750 hours.

On the same page he calls himself an airline captain, a lifelong learner and a father, and says he helps others to fly higher. He lists pilot mentoring, crew resource management and leadership in high-workload conditions among his skills, and says he hopes to join flydubai's training team.

On Wednesday he was in command of Flight FZ1073. According to the Israeli government and to the passengers, he was attacked by his first officer, fought back, and, lying wounded on the cockpit floor, operated the release that unlocked the door.

The dentist who treated him, Dr Shota Musaev, said he had deep wounds to the head and hands and had lost a great deal of blood, but stayed conscious and kept speaking. In video from the cabin he explains that he cannot close one hand.

He underwent surgery in Tabuk and was flown to Abu Dhabi on Thursday. Indian officials say he is recovering well.

India's prime minister, Narendra Modi, said he had spoken to the captain's father, Bhupendrabhai, his mother, Gitaben, and his wife, Sonalben, and that the whole country was proud of him. Israel's prime minister called him a true hero.

His airline has said nothing about him by name. It has confirmed only that there was an altercation on the flight deck and that the reasons for it are under investigation.

INTERNATIONAL

A Plumber, a Banker, an Insurance Agent and a Dentist: The Four Passengers Israel Has Named

*By Daisuke Ito | Investigations & Longform*

Israeli officials have named four passengers for their part in what happened on Flight FZ1073. None of them is a soldier on duty, a policeman or a pilot. Their own descriptions of the morning, given to Israeli television, to Ynet, to The Times of Israel and to CNN, are summarised here.

Yaniv Hayun, 50, is a plumber. He was the first passenger into the cockpit. He says he found the first officer between the two empty pilots' seats, damaging the controls; took him in a neck hold; dragged him out; and called for other men to restrain him.

He then went back in and pulled on the control column to bring the nose up. He says he knew to pull because he watches a television series about air accidents, and that he held it until one of two off-duty pilots told him he was taking over.

Zvika Manes is the chief executive of Bank Leumi's underwriting company. It was his wife, taking their daughter to the lavatory at the front, who heard the struggle and alerted a flight attendant.

Mr Manes says he first got his daughter out of the lavatory and then went for the attacker. He describes a very strong man, a great deal of blood, and passengers thrown about the cabin as the aircraft fell. He and the others tied the man with the cords of the headphones handed out on board.

Assaf Rajuan owns an insurance agency and was on his way back from a family holiday in Thailand. He says he went in with two other men after Mr Manes and that, with help from the cabin crew, they overpowered the first officer and held him until the landing, which he puts at 50 to 55 minutes.

He was hurt, though not badly. Later, at Tabuk, he was among the passengers who asked that the replacement flight be delayed until its crew had been checked.

Shota Musaev is a dentist and was returning from China. He says he was running towards the cockpit within ten seconds of hearing screams, helped at first with the attacker, and then spent the rest of the flight with the captain.

He was the only doctor on board. He stopped the bleeding from the captain's head and hands and kept his blood pressure up. He believes that helped to save the captain's life.

The four agree on one point more than any other, which is that there were more than four. Each mentions other passengers whose names have not been published, and each mentions the cabin crew.

Mr Manes had his daughters with him on the aircraft. He said that hearing them scream that they did not want to die was something no father should have to hear.

Prime Minister Netanyahu met Mr Hayun at the airport on Wednesday and received the group at his office on Thursday. President Trump, The Times of Israel reports, has marvelled at the plumber's calm.

INTERNATIONAL

Three Governments, One Suspect: Who Is Investigating Flight FZ1073, and Under Which Law

*By Jonathan Mercer | Senior Editor, International Desk*

The aircraft belongs to an Emirati airline. It landed in Saudi Arabia. Most of the people on it were Israeli, the captain is Indian and the suspect is, by Israel's account, Omani. The question of who investigates is not a formality.

The answer in international law is the United Arab Emirates. The Tokyo Convention of 1963, on offences and certain other acts committed on board aircraft, makes the state in which an aircraft is registered competent to exercise jurisdiction over what happens on it in flight. The Emirati Foreign Ministry cited exactly that principle on Thursday.

The Emirati attorney-general, Hamad Saif Al Shamsi, has formed a team of specialised prosecutors to establish the causes and motives. The National reports that the investigation will consider whether there was a link to terrorist activity.

Separately, the Emirates' General Civil Aviation Authority is examining the operational and security aspects, which is the regulator's question: how a first officer in this state of mind, if that is what it proves to be, came to be on a flight deck.

Saudi Arabia, as the state where the aircraft landed, held both pilots at first. Its Interior Ministry said on Thursday that a preliminary investigation carried out with Emirati security teams had confirmed that the first officer assaulted the captain, and that both men had left for Abu Dhabi that morning after medical clearance.

The kingdom's National Transport Safety Centre has opened a safety investigation of its own, according to the Emirates News Agency. That inquiry concerns the aircraft: its descent, the damage to its rudder and the conduct of the diversion.

Israel has no formal standing, but it has the witnesses. Its officials told The Times of Israel that they expect to take part in the Emirati investigation and that Israel is conducting an internal review of its own aviation security.

India has a consular interest in the captain. American media report that United States citizens were on board.

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What the investigators have to work with is considerable. The aircraft's flight-data recorder will show every control input and the cockpit-voice recorder will have captured the sounds on the flight deck. The suspect is alive.

What they have not yet said is also considerable. No authority has published the first officer's name, a motive, a description of the weapon or an explanation of who selected the hijack code on the transponder.

Flydubai has asked for patience while the facts are gathered. Given how much has been asserted in two days by people who were not on the aircraft, the request seems fair.

INTERNATIONAL

### The Rule That Was Not Enforced: Israel Promises to Vet Every Pilot Who Flies In

By Jonathan Mercer | Senior Editor, International Desk

Israel's prime minister has acknowledged that the first officer of Flight FZ1073 should not, under the rules his own government relies on, have been flying into Tel Aviv at all.

Oman has no diplomatic relations with Israel. Mr Netanyahu said there are constraints meant to keep pilots from such countries off flights to Israel, and that this one got through.

Channel 12, citing the investigation, reported on Thursday that the restriction had not been enforced. Dozens of Omani pilots had flown into Ben Gurion in recent years, the network said, and Israel had left it to the foreign airlines to comply.

According to the report, the Shin Bet security service never examined the origins of flydubai's pilots beyond asking the airline not to roster those from states without ties. The Transportation Ministry told the network that the service had issued no specific warning about the airline beyond a request for more baggage checks.

An unnamed industry official quoted by the network said the service could have identified every pilot on the airline's books in minutes and chose not to look.

The government's answer is that it will look now. Doron Spielman, a spokesman for the prime minister's office, told Reuters that Israel intends to know the identity of every pilot flying into the country and to run a security check on each, whether the airline is Israeli or foreign.

The United Arab Emirates' regulator did not respond to Reuters' request for comment on how its pilots are vetted.

The report also recalls that Israel's state comptroller recommended in 2024 that the government review its security protocols for air travel as a whole.

The broader point is not confined to Israel. Aviation security since 2001 has been built around the passenger: the bag, the shoe, the bottle of water. The people who already hold a pass to the flight deck are vetted when they are hired and, in most countries, lightly thereafter.

A first officer who had been with his airline for eight months, as this one had according to an Israeli official, would have been through recruitment checks, licensing and simulator training in that time. None of those is designed to find out what a man has come to believe.

That gap is the subject of today's editorial.

INTERNATIONAL

### The Locked Door: How Cockpit Security Was Rebuilt After 2001 and 2015, and What It Cannot Do

By Ethan Cole | Editor, Technology & Science

Until September 2001 a cockpit door was a light partition, often left open in cruise. Children were shown the flight deck. The door existed for privacy, not defence.

The hijackings of September 11 ended that. Regulators required doors that could resist force and gunfire, locked for the whole flight and opened only from inside, and by late 2003 the reinforced door was the international standard on large passenger aircraft.

The design assumed that the danger was in the cabin. It left one case uncovered, which is the case in which the danger is one of the pilots.

That case had already occurred. In October 1999 an EgyptAir Boeing 767 dived into the Atlantic off the American coast, killing all 217 people on board;

American investigators concluded that the relief first officer's control inputs caused it, a finding the Egyptian authorities disputed.

In March 2015 it occurred behind a locked door. The first officer of a Germanwings Airbus waited until the captain left the flight deck, refused him re-entry and flew the aircraft into the French Alps. All 150 on board died. The cockpit recorder captured the captain trying to break the door down.

The response was a rule about numbers. European regulators recommended that two authorised people be on the flight deck at all times, so that when a pilot steps out a cabin crew member steps in. Japan's transport ministry gave its airlines a similar instruction that spring.

Europe later relaxed its recommendation and left the decision to each airline's assessment of risk, on the argument that the rule creates risks of its own by opening the door more often.

There are other cases that fit neither pattern. In 1994 an off-duty FedEx flight engineer travelling as a passenger on one of the company's cargo flights attacked the three crew with hammers; they overpowered him and landed, all badly hurt. In 2023 an off-duty pilot in the spare seat of a Horizon Air flight in the United States tried to shut down the engines and was restrained by the crew.

Flight FZ1073 is different again. Both pilots were present, both were on duty, and one attacked the other. No rule about doors or head-counts addresses that.

What saved the aircraft was the reverse of the post-2001 design: the door was opened from inside, and the cabin came in.

Regulators will now be asked whether the door should ever be openable from outside against the will of whoever is at the controls. The answer for 25 years has been no, and the reasons for that answer were also written in lives.

INTERNATIONAL

### Japan Has Seen This Before: All Nippon Airways Flight 61 in 1999 and Japan Air Lines Flight 350 in 1982

By Aiko Tanaka | Senior Japan Correspondent

Two events in Japanese aviation history bear on what happened over Saudi Arabia on Wednesday. One involved an intruder and one involved a captain, and between them they contain most of the elements of Flight FZ1073.

On July 23, 1999, All Nippon Airways Flight 61, a Boeing 747, left Haneda for New Chitose with more than 500 people on board. Shortly after take-off a passenger produced a knife, forced his way into the cockpit and ordered the first officer out.

Alone with the captain, Naoyuki Nagashima, he stabbed him and took the controls. The aircraft descended until it was a few hundred metres above the ground.

Crew members forced the cockpit door. Among those who went in was an All Nippon captain travelling as a passenger, who took the controls and recovered the aircraft. It landed safely at Haneda. Captain Nagashima died of his wounds; no one else was killed.

The hijacker had smuggled the knife through a weakness in the layout of Haneda's terminal, which he had identified and reported to the authorities beforehand. Airport screening and cockpit access rules in Japan were tightened afterwards.

The second case is older and darker. On February 9, 1982, Japan Air Lines Flight 350, a DC-8 arriving from Fukuoka, was a few hundred metres short of the runway at Haneda when its captain pushed the nose down and put engines into reverse.

The first officer and the flight engineer fought him for control. The aircraft struck the shallow water of Tokyo Bay. Twenty-four people died. The captain, who survived, was later found to have been suffering from mental illness and was not held criminally responsible.

That accident led Japanese airlines and the ministry to look hard at how pilots' health is monitored and how colleagues' concerns are reported, questions that came back in 2015 after Germanwings.

Set beside each other, the two cases describe Wednesday's flight rather exactly: a captain attacked with a blade in his own cockpit, an aircraft pointed at

the ground, colleagues and bystanders fighting for the controls, and an off-duty pilot in the cabin who happened to be there.

In 1999 the off-duty captain was the difference between one death and more than 500. In 2026 two off-duty pilots were the difference between none and 180.

Neither outcome was the product of a regulation. Both were the product of who was on board.

INTERNATIONAL

### Squawk 7700, Squawk 7500: What the Two Codes From FZ1073 Told the Ground

By Maya Suzuki | Science & Innovation Desk

Every airliner carries a transponder, a radio that answers air traffic control's radar with a four-digit code so that the controller's screen shows which aircraft is which.

The code is normally assigned by the controller. Three codes are reserved worldwide for emergencies, and a crew can select them without speaking a word.

7700 is a general emergency. It covers anything from an engine failure to a medical crisis, and it tells every controller in range to give the aircraft priority.

7600 means the radio has failed and the crew cannot hear or cannot transmit.

7500 means unlawful interference. In plain language it means that someone who should not be is trying to take control of the aircraft. Pilots are trained never to select it by accident, because of what follows.

What follows is that air defence commands are alerted. Fighters may be sent to look at the aircraft, and the authorities on the ground prepare for a hijacking. The Times of Israel reported that Israeli warplanes were scrambled on Wednesday.

Flight FZ1073 transmitted 7700 at 9:28 a.m. Dubai time, seven minutes after its first plunge. At 9:35 it changed to 7500. As it approached Tabuk it went back to 7700.

The sequence can be read in more than one way. The first code may have been set by whoever first reached the controls and knew only that the aircraft was in distress. The change to 7500 may reflect the moment someone qualified understood why.

The return to 7700 near Tabuk would be consistent with a crew telling the ground that the interference was over and that what remained was an injured captain and a damaged aircraft.

That reading is inference. Gulf News lists the question of why 7500 was activated, and by whom, among those the Emirati investigation has not yet answered.

The transponder is a blunt instrument, but on Wednesday it did its job: within minutes, three countries knew that a Boeing 737 over the Saudi desert needed help.

INTERNATIONAL

### The Missing Piece of Rudder: What the Photograph From Tabuk Shows, and What It Does Not

By Ethan Cole | Editor, Technology & Science

The photograph on today's front page was taken on the apron at Tabuk after Flight FZ1073 landed. Passengers are coming down a set of airport stairs at the rear door. Above them, the trailing edge of the tail fin is visibly incomplete.

The rudder is the hinged surface at the back of the vertical fin. It swings left and right to turn the aircraft's nose and, more importantly, to keep it pointing straight, especially if an engine fails.

In the photograph a section of that surface is missing. The Times of Israel and other outlets published similar images on Wednesday, and a senior flydubai official confirmed to The National that the rudder had been damaged.

No authority has said how. The explanation offered so far is from Arik Zer, a former head of flight security at Israel's Shin Bet, who told Channel 12 that the rapid plunge was the likely cause and that nothing striking the aircraft from outside would account for it.

That is plausible on its face. An airliner's structure is certified for the speeds and loads of normal flight with a margin above them. A dive of the kind the tracking data suggests, with abrupt control movements, can take an aircraft beyond those limits. Mr Netanyahu told CNN that the aircraft had gone

into a nosedive and that its rudder and tail were damaged, according to The Jerusalem Post.

If the damage did occur in the dive, then the two off-duty pilots flew the aircraft to Tabuk and landed it with part of a primary flight control missing. A Boeing 737 can be flown with reduced rudder authority, but it is not something crews expect to do.

Saudi Arabia's National Transport Safety Centre has opened a safety investigation that will examine the airframe. The flight-data recorder will show the speeds, the loads and the rudder's position through the event.

Until then the photograph shows only what it shows: an aircraft that was treated very roughly in the air and still brought everyone down.

The image was supplied for this edition without a photographer's credit and is reproduced as supplied.

INTERNATIONAL

### 'You Are in a Safe Place Now': How a Saudi Airport Received an Aircraft Full of Israelis

By Rachel Kim | Washington-Tokyo Liaison

When the two off-duty pilots of Flight FZ1073 called for an emergency landing, the nearest suitable runway was at Tabuk, in the north-west of Saudi Arabia.

Tabuk is a provincial capital near the head of the Red Sea, not far from the borders of Jordan and from the coast where the kingdom is building its new city of Neom. Its airport, named for Prince Sultan bin Abdulaziz, handles domestic flights and a few regional ones.

On Wednesday morning its control tower took a distress call at 8:44 and had the aircraft on the ground an hour later.

The airport's own statement was brief. It said the aircraft had landed safely, that the captain and first officer had been injured and taken to hospital, and that all the passengers had later left on another aircraft provided by the airline.

The passengers have said more. Lital Shahar, who was travelling with her four daughters, told The Times of Israel that they felt safe at once, that there were soldiers, nurses and doctors, that everyone spoke English, and that they were told again and again that they were in a safe place.

A passenger quoted by Reuters said they were given hot tea and food. Video published by Israeli media shows Saudi medics attending to passengers in the terminal.

The captain was operated on in a hospital in the city. India's embassy in Riyadh said he was receiving the care he needed.

The significance was not lost on anyone involved. Until 2020 an Israeli airliner could not cross Saudi airspace, and it is only since 2022 that all civilian flights to and from Israel have been allowed to do so.

The United Arab Emirates formally thanked the kingdom for its swift response. Israel's prime minister's office said on the day that the situation was under control and that every measure was being taken to bring the passengers home.

They were home by evening. They had been on Saudi soil for about eight hours.

INTERNATIONAL

### Flydubai Suspends Its Israel Flights, Emirates Its Codeshare; El Al and Arkia Prepare to Fetch Israelis From Dubai

By Yuki Saito | Economics & Finance

Flydubai has suspended all flights to and from Israel while the investigation into Flight FZ1073 continues, the airline said on Wednesday night.

A spokesperson said the suspension was temporary, that it would allow the authorities to establish the facts, and that it would be reviewed as more information became available.

Emirates, its sister airline, suspended its codeshare on flydubai's Tel Aviv flights with immediate effect. Passengers whose final destination is Tel Aviv will not be accepted at their point of origin, the airline said; those already travelling will be helped to complete their journeys.

Mainichi Shimbun reported the suspension in Japan on Thursday. Japanese travellers holding Emirates tickets that include a flydubai sector to Israel should

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check their bookings before leaving for the airport.

The suspension leaves Israelis in the Emirates without a way home, because the Israeli airlines have not been flying the route. El Al said its Dubai service had been suspended for eight months because of the war with Iran and that it was preparing to resume it in November.

El Al and Arkia both announced special flights to bring Israelis back from Dubai, to begin on Friday. On the instructions of Israel's security authorities, El Al said, passengers will not be allowed to check suitcases or bring cabin baggage; each may carry one personal bag, and luggage will follow separately.

Arkia said it was preparing to operate two daily flights on the route once approvals were in place.

Overnight, Hebrew-language media reported that the Emirati authorities had withdrawn their authorisation for the Israeli airlines' flights, and that defence and aviation officials were working with their Emirati counterparts to resolve the matter. That report had not been officially confirmed at the time of going to press.

Dubai is one of the main connecting points between East Asia and the Middle East, and flydubai's network reaches many cities that Emirates' larger aircraft do not serve.

The airline has said it remains in close contact with governments, regulators and airports. It has not said when it expects to fly to Tel Aviv again.

**INTERNATIONAL**

### Flydubai: The Low-Cost Sister of Emirates, and Its Worst Day Since 2016

*By Yuki Saito | Economics & Finance*

Flydubai was set up by the government of Dubai in 2008 and flew its first service in June 2009.

It was meant to do what Emirates, with its fleet of large long-haul aircraft, could not: connect Dubai to the smaller cities of the Middle East, Africa, Central Asia, the Caucasus and the Indian subcontinent, a few hours away, at low fares.

It operates only the Boeing 737, with a fleet of around 90, and serves more than 120 destinations from a single base.

The two airlines have sold seats on each other's flights since 2017, so that a passenger can travel from Tokyo to Dubai on Emirates and continue on flydubai on one ticket.

The airline has grown out of its original description. It now has business-class cabins, and in 2023 it ordered 30 Boeing 787 long-haul aircraft, its first that are not 737s.

It was among the largest customers for the 737 MAX and was badly affected when that aircraft was grounded worldwide from 2019 to 2021 after two fatal crashes at other airlines.

Its own safety record includes one fatal accident. In March 2016 a flydubai 737 crashed while attempting to land in bad weather at Rostov-on-Don in Russia, killing all 62 people on board. Investigators attributed it to the crew's loss of control during a go-around.

Its pilots come from dozens of countries, as they do at every Gulf airline. The region trains few pilots of its own relative to the size of its fleets and recruits experienced crews from India, Europe, Africa and the Americas.

That makes the vetting of crews a more complicated task than at an airline that hires mostly from one country, since a pilot's history may lie in several jurisdictions.

The airline has said that the safety of its passengers and crew is its highest priority and that it is supporting the investigation.

**INTERNATIONAL**

### From New Delhi to Washington: A Wounded Pilot and a Plumber Draw Tributes From Four Governments

*By Rachel Kim | Washington-Tokyo Liaison*

Within hours of the landing at Tabuk, the captain of Flight FZ1073 had been praised by the heads of government of India, Israel and the United States.

Narendra Modi wrote that Captain Smit Machchhar's valour had helped save hundreds of lives and averted a great tragedy, and that India was proud of him. On Thursday he said he had telephoned the family.

President Droupadi Murmu said the captain had shown remarkable presence of mind and had stayed determined to protect others even after he was seriously hurt.

Benjamin Netanyahu saluted the captain by name and said he had saved the lives of the 174 passengers, Israelis and others. The speaker of the Knesset, Amir Ohana, said Israelis were praying for his recovery.

Donald Trump, speaking in the Oval Office, also called the captain a hero. The Times of Israel reports that the president has since expressed his admiration for Yaniv Hayun, the plumber who pulled the aircraft out of its dive.

The United States ambassador to Israel, Mike Huckabee, said the passengers' courage in the face of terror had averted catastrophe.

Israel's foreign minister, Gideon Sa'ar, spoke to his Emirati counterpart, Sheikh Abdullah bin Zayed. The Israeli ministry said the two agreed to strengthen relations at every level and to co-operate against extremists seeking to undermine stability in the region, and that the Emirati minister said he was glad the passengers were home.

Mr Netanyahu spoke to the Emirati president, Sheikh Mohammed bin Zayed, according to Israeli media.

The United Arab Emirates publicly thanked Saudi Arabia for its handling of the landing. Passengers did the same in their own words, describing the medics and soldiers who met them at Tabuk as generous and kind.

That last detail deserves notice. An aircraft full of Israelis made an emergency landing in Saudi Arabia, was received with ambulances and tea, and left the same afternoon.

Japan's government had made no statement on the incident in the reports available on Friday morning.

**INTERNATIONAL**

### The Region Around the Flight: A Tanker Hit in the Strait of Hormuz, New Sanctions on Iran's Railways and Car Makers, and Houthi Drones Over Saudi Arabia

*By Jonathan Mercer | Senior Editor, International Desk*

Flight FZ1073 crossed a region in which, on the same two days, a tanker was set on fire in the Strait of Hormuz, the United States tightened its economic siege of Iran and Saudi Arabia shot down missiles launched from Yemen.

The British maritime agency UKMTO said on Thursday that a tanker passing through the strait had been struck by an unidentified projectile, which started a fire. The crew were reported safe. The extent of the damage was not known.

The United States has been blockading Iranian oil exports through the strait, and Iran has sought to obstruct other traffic. The war began with American and Israeli strikes on Iran in late February; Reuters notes that Israel has largely stayed out of the fighting since April.

On Thursday the Treasury Department in Washington added Iran's two largest car makers, its state railway and several rail companies to its sanctions list. The Treasury said Tehran had turned to road and rail to move petroleum, fertiliser and chemicals since the blockade, and that the new measures were aimed at those alternatives.

The secretary of the Treasury, Scott Bessent, said the action targeted those who enable Iran and prepared the ground for draining the government's revenue.

In Yemen, where fighting between the Houthi movement and the Saudi-backed government resumed in July after several quiet years, the Saudi-led coalition said it had intercepted four drones and two ballistic missiles over the south of the kingdom.

It also said the Houthis had attacked a power station in Medina earlier in the week, putting one transformer out of service. The station supplies the Prophet's Mosque. A Houthi source denied it.

On Wednesday, President Trump hailed the withdrawal of American-led coalition forces from Iraq as a victory, saying it was time for America to go home.

In Britain, counter-terrorism police arrested a man with British and Iranian nationality over a suspected plot connected with an incident last weekend near the air base at Fairford, which American bombers have

used in the campaign against Iran.

None of these events has been linked to what happened on the flydubai aircraft. They are the setting in which three governments are now trying to establish whether one first officer acted alone.

For Japan the setting has a price. The Tankan published on Thursday cited expensive crude oil as a reason for the first fall in sentiment among large non-manufacturers in five quarters, and electricity and gas bills rise this month.

**INTERNATIONAL**

### The Air Link That Was Attacked: Six Years of Flights Between the Emirates and Israel

*By Jonathan Mercer | Senior Editor, International Desk*

Israel's Foreign Ministry told its ambassadors on Wednesday to describe the attack on Flight FZ1073 as an attack on Israelis, on the United Arab Emirates and on the Abraham Accords.

The third item on that list explains why a fight on a flight deck is being treated in Jerusalem and Abu Dhabi as a matter of state.

The Abraham Accords were signed at the White House on September 15, 2020. Under them the United Arab Emirates and Bahrain established diplomatic relations with Israel, the first Arab states to do so in a quarter of a century. Morocco and Sudan followed.

Scheduled flights were the first visible result. Flydubai began flying between Dubai and Tel Aviv in November 2020, and the Israeli airlines followed in the other direction. Saudi Arabia opened its airspace to the flights, which cut hours from the journey.

For Israelis, Dubai became both a holiday destination and a gateway. A traveller from Tel Aviv could change planes there for Thailand, India, China or Japan, which is how many of Wednesday's passengers came to be on a flydubai aircraft at the end of a holiday in Asia.

The route was therefore more than a route. It was the daily evidence that the agreement worked.

The link has been under strain since February. El Al suspended its own Dubai service when the war with Iran began and has not flown it for eight months, leaving the route to the Emirati carriers.

Flydubai has now suspended its Israel flights as well, and Emirates its codeshare on them. For the moment the Dubai route has no regular service at all.

Both governments have been quick to say that the relationship itself is not in question. The two foreign ministers spoke on Wednesday evening and agreed, by Israel's account, to strengthen ties at every level.

Whether the passengers come back is a different matter. Several of those who landed at Tabuk were reluctant to board the replacement aircraft, and Israel's security authorities have said that every pilot flying into the country will now be vetted.

An airline route can be restored in a day. The confidence that fills the seats takes longer.

**INTERNATIONAL**

### Xi Marks the People's Republic's 77th National Day With a Call for Taiwan's Unification

*By Jonathan Mercer | Senior Editor, International Desk*

President Xi Jinping expressed his determination to achieve the unification of Taiwan in remarks marking the 77th anniversary of the founding of the People's Republic of China, according to the morning papers.

The People's Republic was proclaimed in Beijing on October 1, 1949. The anniversary is the country's National Day and opens a week-long public holiday.

The leader's address on the occasion is a fixed point in the Chinese political calendar, and a reference to Taiwan is a fixed point in the address. What is watched from Tokyo, Taipei and Washington is the wording, and whether it is accompanied by anything at sea.

The reports available this morning give the substance, that Mr Xi restated the goal of unification, without the full text. The wording will be compared with last year's when it is published.

Japan's formal position has not changed since the Joint Communique of 1972, in which Tokyo said it fully understands and respects Beijing's stand that Taiwan is an inalienable part of its territory, without

endorsing it. Successive Japanese governments have added that they expect the question to be resolved peacefully.

The geography has not changed either. Yonaguni, the westernmost inhabited island of Okinawa Prefecture, lies about 110 kilometres from Taiwan's east coast.

Relations between Tokyo and Beijing have been strained since Prime Minister Takaichi's remarks in the Diet last November about what a crisis over Taiwan could mean for Japan's own security.

The anniversary falls this year with the American carrier normally based at Yokosuka deployed to the Middle East, as reported on this page, and with the United States weighing whether to send a third carrier there.

The extraordinary session of the Diet convenes on Monday, four days after the anniversary.

Taiwan's own National Day is on October 10.

**POLITICS**

### The Week Ahead

*By the Politics & Policy Desk*

FRIDAY, OCT. 2: Typhoon No. 26 becomes extratropical east of Japan. Yakult v Giants at Jingu.

SATURDAY, OCT. 3: Komeito convention. Asian Games football final, Japan v South Korea.

SUNDAY, OCT. 4: The Asian Games close. The Yokohama mayoral campaign opens.

MONDAY, OCT. 5: The extraordinary Diet session convenes. Megumi Yokota's 62nd birthday. Kirin Cup final, Japan v New Zealand. Typhoon No. 27 forecast near the Ogasawara Islands.

TUESDAY, OCT. 6: Japan Open final day; farewell ceremony for Kei Nishikori.

FRIDAY, OCT. 9: Start of the period under discussion for the suspension of three Tokai Kisen vessels, to October 28.

SATURDAY, OCT. 10: Taiwan's National Day.

MONDAY, OCT. 12: Sports Day, a public holiday.

TUESDAY, OCT. 27: General election in Israel.

END OF OCTOBER: Nidec's deadline for its internal controls confirmation to the Tokyo Stock Exchange.

**INTERNATIONAL**

### Flight FZ1073 in Numbers

*By Kenta Sakamoto | Data & Visualization*

180: people on board.

174: passengers, of whom 27 were children.

6: crew.

34,000 feet: cruising altitude before the plunge.

About 15,000 feet: altitude twelve minutes later.

7700, then 7500, then 7700: the transponder codes transmitted.

84: minutes from the first descent to the landing at Tabuk.

9,750: the captain's flying hours on the Boeing 737, by his own profile.

8: months the first officer had been with the airline, according to an Israeli official.

0: deaths.

**INTERNATIONAL**

### Those Named So Far

*By the International Desk*

Captain Smit Machchhar, 39, of flydubai: wounded; opened the cockpit door.

Yaniv Hayun, 50, plumber: first into the cockpit; pulled the attacker out; pulled back on the controls.

Zvika Manes, bank executive: helped overpower and bind the attacker.

Assaf Rajuan, insurance agency owner: helped restrain the attacker until landing; slightly hurt.

Dr Shota Musaev, dentist: treated the captain.

Two off-duty flydubai pilots: took the controls and landed the aircraft. Not named.

The cabin crew: joined the passengers. Not named.

The first officer: in custody in the United Arab Emirates. Not named.

Lital Shahar, passenger in row 10 with four daughters: described the reception at Tabuk.

Mika Bauman and Motti Cohen Or, passengers: described the plunge to reporters.

The medics and soldiers at Tabuk: not named.

INTERNATIONAL



Military aircraft over the White House during September's state visit, in a file image. The United States is weighing the dispatch of up to 10,000 more personnel and a third aircraft carrier to the Middle East, the morning papers report; the Yokosuka-based George Washington is already there. (White House Official)

INTERNATIONAL

U.S. Weighs Up to 10,000 More Troops and a Third Carrier for the Middle East; Iran's Foreign Minister Signals Openness to Nuclear Inspections

By Rachel Kim | Washington-Tokyo Liaison

The United States is considering sending up to 10,000 additional military personnel to the Middle East, including a third aircraft carrier, according to the morning papers.

The Associated Press, citing an American official who spoke on condition of anonymity, gives the detail: three ships carrying more than 7,000 sailors and 2,000 Marines are heading for the region, among them the carrier Theodore Roosevelt and its strike group and the amphibious ship Makin Island and its group.

If they arrive as planned there could be three carriers in the region by the end of October, the official said, and more than 20,000 sailors and Marines with several hundred aircraft.

Two carriers are there now, the George H.W. Bush and the George Washington. The George Washington is the carrier based at Yokosuka; the AP reports that it moved from the Pacific to relieve the Abraham Lincoln, which had been deployed for a long period.

Its absence from the western Pacific is the part of this story that matters most directly to Japan. The carrier at Yokosuka is the centrepiece of the Seventh Fleet, and the alliance's deterrent posture in the waters around Japan is built around it. The George Washington returned to Yokosuka in November 2024 as the United States Navy's only carrier with a home port outside America, and its air wing is based at Iwakuni. While it is away, no American carrier is permanently stationed in the western Pacific, although others pass through on deployment.

The war with Iran began with American and Israeli strikes in late February and has now lasted more than seven months. The United States Navy had three carriers in the region in April, for the first time since 2003.

On Thursday the Treasury Department imposed new sanctions on Iran's car makers and railways, Reuters reports, as part of a campaign to cut off the revenue Tehran has turned to since the American blockade of its oil exports through the Strait of Hormuz.

The same day, the British maritime agency UKMTO said a tanker had been struck by an unidentified projectile while passing through the strait, causing a fire. The crew were reported safe.

Against that, there was one conciliatory signal. Iran's foreign minister has indicated a willingness to accept nuclear inspections, the Japanese papers report, apparently on condition that sanctions are eased.

For Japan the strait is not an abstraction. In ordinary times most of the crude oil the country imports comes through it, and the Bank of Japan's Tankan survey, published on Thursday, found sentiment among large non-manufacturers falling for the first time in five quarters, with the high price of crude oil among the reasons.

The photograph with this article shows military aircraft over the White House during September's state visit, in a file image.

ELSEWHERE IN TODAY'S PAPER

Eighty-four minutes: Flight FZ1073 by the clock, Page 3.

The captain who opened the door: a profile, Page 3.

POLITICS

Takaichi's AI Action Plan to Come by Year-End, With Concentrated Investment in 17 Strategic Areas Over Five Years

By Aiko Tanaka | Senior Japan Correspondent

Prime Minister Takaichi intends to draw up an action plan for the adoption of artificial intelligence by the end of the year, with investment concentrated in 17 strategic areas over the next five years, the morning papers report.

The year-end deadline was announced on Wednesday and reported in yesterday's edition. What is new is the shape: the plan will be built around the 17 fields the government has already designated as strategic, and the money will be front-loaded into a five-year window.

The 17 fields are those identified in the government's growth strategy, which range from semiconductors and shipbuilding to quantum technology and fusion energy. The instruction is to work out, field by field, what AI should be doing in each by the end of the decade.

The phrase the government has used since Wednesday is reliable AI. The prime minister's argument is that Japan's opening lies less in building the largest models than in putting dependable ones to work in factories, hospitals, shipyards and public offices.

That is an industrial policy, and it will be judged as one. The questions are how much public money is committed, over what period, and whether it goes to adoption by existing companies or to new capacity.

The reports do not give a total. The five-year horizon suggests the plan will be tied to the multi-year budget framework the government is preparing alongside the fiscal 2027 request.

The timing puts the plan before the Diet in the ordinary session that opens in January, after an extraordinary session, starting on Monday, that will be dominated by household finances.

It also arrives in a week when the supply side of the AI economy was visible in Tokyo's markets. The Nikkei average rose 2,203 yen on Thursday on semiconductor shares, and one maker of chip-testing equipment accounted for about 700 yen of that by itself.

The demand side was visible in the Tankan, where large manufacturers reported better conditions for a sixth consecutive quarter.

And the risks were visible in the technology news. OpenAI said it had blocked a sustained attempt, which it traced to a Chinese company, to extract the capabilities of its models by querying them at scale. A plan for reliable AI will have to say something about whose AI it is.

Officials have until December. The cyber-defence law that took effect on Thursday took the better part of a decade.

ELSEWHERE IN TODAY'S PAPER

Nikkei leaps 2,203 to 68,956, Page 9.

Thirty-six days of rain, a record, Page 12.

POLITICS

'Until She Comes Back': Sakie Yokota Speaks as Her Daughter Megumi's 62nd Birthday Approaches

By Emi Kondo | Society & Local News

Sakie Yokota, whose daughter Megumi was abducted by North Korean agents in 1977, has held a news conference to mark Megumi's 62nd birthday and said she will go on until her daughter comes back.

Megumi Yokota was born on October 5, 1964. She disappeared on November 15, 1977, on her way home from badminton practice at her junior high school in Niigata. She was 13.

For two decades her family did not know what had happened. In 2002 North Korea admitted that its agents had taken Japanese citizens, and said that Megumi had died. Remains it later handed over as hers were found by Japanese testing to belong to someone else.

Her mother has never accepted the claim. She is now 90, and she has faced the cameras before this birthday year after year.

Megumi's father, Shigeru, who led the association of the abductees' families for its first decade, died in June 2020 without seeing her again.

Mrs Yokota is the last surviving parent of any of the abductees whom the government officially recognises and who have not come home. The fathers and mothers who stood beside her at these events through the 1990s and 2000s have died, one after another.

That is the fact behind the phrase she used. The families' request to successive prime ministers has long been that the abductees be returned while their parents are alive. For all but one family it is already too late.

The government lists 17 people as abducted. Five returned in October 2002. North Korea maintains that eight are dead and that four never entered the country, and says the matter is settled.

Every prime minister since has called the issue the highest priority and said he or she is ready to meet North Korea's leader without conditions. Prime Minister Takaichi has said the same.

There has been no summit. Pyongyang has not responded to Tokyo's approaches in any way that has been made public, and its missile programme has given the two governments other things to say to each other.

Megumi's younger brothers, Takuya and Tetsuya, now carry much of the work of the families' association.

Her birthday is on Monday. She has been gone for nearly 49 years.

POLITICS

Seventeen Recognised, Five Returned: Where the Abduction Cases Stand

By Aiko Tanaka | Senior Japan Correspondent

The government of Japan officially recognises 17 citizens as having been abducted by North Korea in the 1970s and 1980s. The police list several hundred more missing people for whom abduction cannot be ruled out.

The 17 were taken from Japan's coasts and from Europe. They include a couple on a date on a beach, a mother and daughter out shopping, and a schoolgirl walking home.

On September 17, 2002, Prime Minister Junichiro Koizumi went to Pyongyang. North Korea's leader at the time, Kim Jong Il, admitted the abductions and apologised.

Five of the abductees came back to Japan the following month. Their children, and the American husband of one of them, followed in 2004 after a second visit by Mr Koizumi.

Of the other 12, North Korea said eight had died and four had never entered its territory. The documents and remains it offered in support were, in the Japanese government's assessment, not credible.

In May 2014, in talks held in Stockholm, North Korea agreed to reinvestigate the fate of all Japanese nationals in the country in exchange for an easing of some sanctions. It dissolved the investigating committee in 2016 after Japan imposed new sanctions over a nuclear test.

Nothing has moved since. The families measure the time in funerals.

The association of the victims' families was founded in 1997. Its leadership has passed to the abductees' brothers and sisters, who are themselves now in their sixties and seventies.

Japan's position is that the issue is one of sovereignty and of the lives of its citizens, that it is unresolved, and that there can be no normalisation of relations with North Korea without it.

The United States has supported that position under presidents of both parties, and American presidents have met the families on visits to Tokyo.

The blue ribbon that ministers wear on their lapels is the symbol of the campaign. The colour stands for the Sea of Japan, which lies between the families and the people they are waiting for.

POLITICS

Report, Watch, Neutralise: How Proactive Cyber Defence Works in Three Steps

By Ethan Cole | Editor, Technology & Science

The framework that took effect on Thursday has three working parts.

The first is reporting. Designated operators of essential infrastructure, 258 of them in 15 sectors, must tell the government when they see indications of an attack, and must report what equipment they have installed on their critical systems.

The purpose is a common picture. An intruder who probes a power company on Monday and a railway on Tuesday looks, to each victim, like a nuisance. Seen together, the two events look like reconnaissance.

The second is watching. The law allows the government to analyse communications data that crosses Japan's borders in order to detect attack infrastructure, under the supervision of an independent body.

The analysis is of the machine-readable envelope of a communication and not of its content: which address spoke to which, when and how much. Purely domestic communications between people in Japan are outside its scope.

The third is neutralising. Where a server is identified as the source or relay of a serious attack, the police, and in the gravest cases the Self-Defense Forces, may access it and disable the attacking function.

That step requires prior approval from the independent supervisory body except in emergencies, and it is confined to removing the threat. It is not a licence to retaliate.

The servers in question are often abroad, and often belong to innocent third parties whose machines have been taken over. International law on what one state may do to a computer in another is unsettled, which is one reason the prime minister stressed co-operation with partners.

The director-level analysis system at the National Cyber Security Office is the hinge between the three parts. Reports arrive, are matched against what the monitoring shows, and become the basis for a decision to act.

The test of the system will be an attack that does not happen, which is a difficult thing to announce.

POLITICS

The Cyber-Defence Law at a Glance

By the Politics & Policy Desk

In force: Thursday, October 1.

Who must report: 258 designated operators.

In how many sectors: 15.

What they report: indications of an attack, not only successful ones.

Who may act: the police, and the Self-Defense Forces in grave cases.

What they may do: access an attacking server and disable it.

Who must approve: an independent supervisory body, except in emergencies.

What is analysed: communications data crossing Japan's borders.

What is not: the content of messages; purely domestic traffic.

Who co-ordinates: the National Cyber Security Office.

POLITICS



Prime Minister Sanae Takaichi at the rostrum of the House of Representatives, in a file image. The laws on proactive cyber defence took effect on Thursday; she said the threat cannot be met by the government, the private sector or any one country alone, Sankei and ITmedia report. (Photo: WPM Productions)

POLITICS

Proactive Cyber Defence Is Now Law: 258 Operators in 15 Sectors Must Report Signs of Attack, and Police and the Self-Defense Forces May Neutralise Hostile Servers

Takaichi says no government, no private sector and no single country can respond alone; the National Cyber Security Office sets up continuous analysis at director level

By Michael Hayes | Deputy Editor, Politics & Policy

The laws that allow Japan to act against a cyber attack before the damage is done came into effect on Thursday, and from that morning 258 operators in 15 sectors of essential infrastructure have been under a legal duty to report signs that they are being attacked, Sankei and ITmedia report.

The same legislation gives the police and the Self-Defense Forces the authority to reach into a server that is being used to attack Japan and render it harmless. Until this week that was something Japanese law did not permit; the country could harden its own networks and trace an intrusion afterwards, but it could not go to the source.

Prime Minister Sanae Takaichi, pictured here at the rostrum of the House of Representatives in a file image, said the threat could not be met by the government alone, by the private sector alone or by one country alone, and committed Japan to working with like-minded partners.

The National Cyber Security Office, the body in the Cabinet Secretariat that directs the effort, has set up a system at director level to analyse incoming reports continuously, according to the same accounts.

The figure of 258 is the number of companies designated under the reporting duty. The reports available do not list them, but the 15 sectors are those the state already treats as core infrastructure, among them electricity, telecommunications, finance and transport.

What must be reported is broader than a successful intrusion. The duty covers indications: the unexplained probing, the malware found dormant on a network, the anomaly that might be the start of something. The point of the law is to see an attack forming.

The power to neutralise is the part that took a decade to argue. It sits beside Article 21 of the Constitution, which protects the secrecy of communications, and the legislation that passed the Diet last year surrounds it with conditions, including approval by an independent body before the state acts.

In practice the police are expected to take the lead, with the Self-Defense Forces brought in where an attack is of a scale or sophistication that suggests a foreign state.

The law's first day coincided with two reminders of why it exists. A car-sharing company disclosed that the records of about 6.6 million members, including images of driving licences, had been taken, and the Japan Atomic Energy Agency reported unauthorised access to a research reactor site's systems that exposed the licence details of 175 people. Both are reported on today's business and technology pages.

Neither of those would necessarily have been stopped by the new powers. Both are the kind of event the new reporting duty is meant to bring to the government's attention in hours instead of weeks.

The alliance dimension is not incidental. Washington has pressed Tokyo for years to bring its cyber defences up to the level at which sensitive information can be shared freely, and proactive defence was the largest item outstanding.

The extraordinary session of the Diet convenes on Monday, and the government can expect to be asked how many operations it has authorised, a question it is unlikely to answer in detail.

POLITICS

From Pension Records to a Paralysed Port: The Attacks That Brought Japan to Proactive Cyber Defence

By Michael Hayes | Deputy Editor, Politics & Policy

The powers that took effect on Thursday were first promised in the National Security Strategy of December 2022, which committed the government to introducing what it called active cyber defence.

The case for them had been accumulating for years, one incident at a time.

In 2015 attackers who sent infected email to the Japan Pension Service took the records of about 1.25 million people. It was the first breach to reach the general public's attention.

In July 2023 a ransomware attack shut down the container terminal system at the Port of Nagoya, the country's busiest port by cargo volume. Loading and unloading stopped for more than two days.

The same year the space agency disclosed intrusions into its networks.

In 2024 a ransomware attack on the publisher Kadokawa took its video-sharing service offline for weeks and exposed personal data.

In the autumn of 2025 an attack on the brewer Asahi Group halted orders and shipments and briefly emptied shelves, and another disrupted the office-supplies company Askul.

Each incident produced the same observation. Japan could investigate after the fact, and it could ask companies to protect themselves, but it had no legal means of seeing an attack coming or of stopping one at its source.

The bills passed the Diet in May 2025. The office in the Cabinet Secretariat that co-ordinates the government's response was reorganised and strengthened that summer.

The system that came into force this week is the result. Its critics say it arrived late and with more safeguards than powers. Its supporters reply that the safeguards are what made it possible to pass at all.

POLITICS

Transport Ministry to Order Three Tokai Kisen Vessels Out of Service, Including a Large Passenger Ship, Over Drinking on Duty

By Emi Kondo | Society & Local News

The Ministry of Land, Infrastructure, Transport and Tourism is preparing to order Tokai Kisen to stop using three of its ships, including a large passenger vessel, the morning papers report.

The period under discussion runs from October 9 to October 28, and is still being finalised.

The reasons given include drinking on duty. The

reports do not say on which vessels, by which crew members or on how many occasions.

Tokai Kisen operates the passenger services between Tokyo's Takeshiba pier and the Izu Islands, including Oshima, Niijima, Kozushima, Miyakejima and Hachijojima. For the people who live on those islands the ships are not an excursion. They carry residents, patients, schoolchildren, post and freight.

An order of this kind is among the heaviest penalties the ministry can impose on a shipping operator short of withdrawing its licence. It takes the vessel away from the company for a fixed period.

Three ships at once, for close to three weeks, will leave gaps in the timetable that the company's remaining fleet will have to cover. How it intends to do that has not been announced.

The timing is awkward. The islands spent Thursday under evacuation orders and without ferries as Typhoon No. 26 passed, and a new typhoon, No. 27, is forecast to move north through the waters near the Ogasawara Islands early next week.

Alcohol rules for ships' crews have been tightened across the industry in recent years, with breath tests before duty written into operators' safety management regulations.

The ministry's action follows the pattern it has applied since the sinking of a sightseeing boat off Shiretoko in 2022, after which it increased inspections of passenger operators and made its penalties public.

Islanders and travellers with bookings in the period should watch for the company's announcements once the order is formally issued.

POLITICS

A City's Inflated Count: Sankei Criticises Toyama Over Its Census Figures as the National Total Stands at 122.97 Million

By Aiko Tanaka | Senior Japan Correspondent

Sankei Shimbun has devoted an editorial to criticising the city of Toyama for inflating its population figures in the national census.

The census counted a total population of 122.97 million. The suspicion that one city's numbers were padded has raised a wider question, the reports say, about how far the count can be relied on.

The census is taken every five years, on October 1, and is the most basic of the state's statistics. It counts people where they actually live, household by household, which is what distinguishes it from the resident registers that municipalities keep.

Much depends on it. The allocation of tax grants from the central government to municipalities uses census population. So does the drawing of electoral districts, and the measurement of the disparity in the weight of votes that the courts review after every election.

A municipality therefore has an interest in its own number, and the enumeration is carried out by the municipality's own staff and by enumerators it appoints.

That is the structural weakness the Toyama case exposes. The body that benefits from a higher count is the body that does the counting.

The reports available this morning do not set out how the figures were inflated or by how much, and the city's explanation is not given.

Trust in official statistics has been damaged before. The labour ministry's monthly wage survey was found in 2018 to have been conducted improperly for years, and the land ministry's construction orders data in 2021 to have been double-counted. In both cases the damage was to the credibility of every number published afterwards.

The Ministry of Internal Affairs and Communications, which is responsible for the census, will be expected to say whether it considers the national total affected.

The extraordinary Diet session that opens on Monday is likely to hear the question.

ELSEWHERE IN TODAY'S PAPER

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Nidec's new president vows to keep the listing, Page 10.

Thirty-six days of rain, a record, Page 12.

POLITICS

'Only a Few Left': Rules Against Dark Patterns Are to Widen, With Vague Scarcity Claims Among the Targets

By Michael Hayes | Deputy Editor, Politics & Policy

The regulation of so-called dark patterns, the design tricks that steer online shoppers into choices they did not mean to make, is being expanded, the morning papers report.

Among the practices to be covered are vague displays suggesting that stock is about to run out, of the 'only a few left' kind, where the claim has no clear basis.

The term dark pattern was coined by a British designer in 2010 and has since entered the vocabulary of regulators in Europe, the United States and Japan.

It covers a family of techniques: the countdown timer that resets, the subscription that takes one click to start and six screens to cancel, the box ticked in advance, the fee revealed at the last step.

Japanese law already reaches some of these. Since 2022 the Specified Commercial Transactions Act has required that the final confirmation screen of an online order set out the quantity, price, period and cancellation terms clearly, and has allowed consumers misled at that screen to cancel.

The law on misleading representations covers false claims about price and quality, and a 2023 rule under it brought undisclosed advertising within its scope.

Scarcity claims have been harder to reach, because a statement that few items remain is not false if a few do remain. The difficulty is the display that implies urgency without stating anything that can be checked.

The reports do not yet give the legal form of the expansion, whether an amendment, a new guideline from the Consumer Affairs Agency or both.

For businesses the practical consequence will be the same. A claim about stock or time will need a basis that can be shown to a regulator.

For shoppers the advice does not change with the law. A message that hurries you is doing so for the seller's benefit.

POLITICS

The October Rules on Their Second Day: A Science Council Outside the State and a Residency Standard Tied to Household Income

By Aiko Tanaka | Senior Japan Correspondent

Two of the changes that took effect on Thursday will be felt slowly, and are worth restating now that they are in force.

The Science Council of Japan ceased to be a special organ of the state on October 1 and became a special corporation.

The change separates the country's representative body of scholars from the government's own structure. Its members are no longer appointed by the prime minister, which was the point at issue in 2020, when six nominees were refused without explanation.

What the council gains in formal independence it must now secure in practice. A corporation has to be funded, and how the state funds a body whose job includes telling the state things it may not wish to hear is the question the new arrangement leaves open.

The second change is to permanent residency. From October 1 the screening standard includes an income above the average income of Japanese households.

The Immigration Services Agency applies the standard case by case. The previous guideline spoke of a stable livelihood; the new one sets a line, and the line is the average, which is higher than the income of a majority of Japanese households because the average is pulled up by the highest earners.

The practical effect will be measured in refusals. Applicants who have lived and worked in Japan for the required period but earn an ordinary wage may now fall short.

Supporters of the change argue that permanent status should be reserved for those who are demonstrably self-supporting. Its critics say that the country is asking for workers in care, construction and logistics and then setting the bar for staying above what those jobs pay.

Both changes will be tested in the Diet from Monday, and the second in the courts in due course.

POLITICS

The other measures that began on Thursday, the abolition of the 1.06-million-yen threshold for part-time workers, mandatory countermeasures against customer harassment and the unified beer tax, were reported in yesterday's edition.

POLITICS

The Political Weekend: Komeito Confirms Its Leader on Saturday, Yokohama's Campaign Opens Sunday, and the Diet Sits on Monday

By Michael Hayes | Deputy Editor, Politics & Policy

Three dates in the next four days set the political calendar for the autumn.

On Saturday Komeito holds its party convention, at which Mitsunari Okamoto is to be confirmed as leader.

On Sunday the campaign for the mayoralty of Yokohama, the country's second-largest city, formally opens.

On Monday the extraordinary session of the Diet convenes.

The session's agenda is household money. The government plans income-linked benefits for people earning up to 3 million yen a year, to begin in fiscal 2027, and the session will also take up the cut in the consumption tax.

It opens against a backdrop the government did not choose. The Bank of Japan's Tankan showed large manufacturers in good heart and large non-manufacturers worsening for the first time in five quarters, with concern about the cash flow of smaller firms.

October's bills are also arriving. Electricity and gas charges rise at every supplier this month as subsidies end, and 3,153 food and drink items are more expensive than they were in September.

On the other side of the ledger, the Nikkei average closed on Thursday at its highest in a month and a half.

The prime minister will also face questions on the laws that took effect on Thursday, including the cyber-defence powers and the new income standard for permanent residency, and on the census after the Toyama affair.

Foreign affairs will intrude. Xi Jinping's National Day remarks on Taiwan, the American naval build-up in the Middle East, with the Yokosuka-based carrier already there, and the attack on the flydubai flight all bear on Japan's security.

Monday is also Megumi Yokota's 62nd birthday.

ANALYSIS

ANALYSIS: The Threat With a Crew Pass: What Flight FZ1073 Asks of Japan's Airlines and Their Regulator

By William | Senior Political Analyst

The security of a passenger aircraft rests on a simple division. Everyone who boards through the cabin door is treated as a possible threat, and everyone who boards through the cockpit door is treated as the defence.

Flight FZ1073 is what happens when that division fails. If the Israeli and Saudi accounts are right, the man who attacked the aircraft was not smuggled past a checkpoint. He was waved through it, in uniform, because he was the first officer.

The term security professionals use is the insider threat. It is harder than the outsider threat in every respect, because the insider already has the access, the knowledge and the trust that the defences are built to deny.

Aviation knows three answers to it, and none is complete.

The first is vetting: checking who a person is before issuing the pass. Airlines and airports check identity and employment history before they hand over access to restricted areas. The checks are made at the point of hiring, and they establish who a person is, not what he has since come to believe.

The second is watching: the continuing attention of colleagues, managers and doctors. This is where Japanese aviation has put its effort since the Japan Air Lines accident of 1982 and again after Germanwings in 2015, mostly with a medical emphasis.

A colleague of the flydubai first officer told Israeli television that the man prayed a great deal and would not shake hands with women. Whether that is true, and whether it meant anything, is for the investigation. The question for an airline is what a pilot who noticed such a change in a colleague would be expected to do with the observation, and whether there is a route for it that is neither gossip nor denunciation.

The third is redundancy: arranging things so that no single person can destroy the aircraft. Two pilots are redundancy. So is the rule, adopted in Japan in 2015, that two people remain on the flight deck when one pilot leaves.

On Wednesday the redundancy that worked was not in any manual. It consisted of a captain who could still reach a switch, passengers willing to fight, and two more pilots in the cabin.

The policy question that follows is uncomfortable for a security establishment that has spent 25 years teaching passengers to stay seated. The passengers were the last line, and they held.

None of this argues for alarm. Japanese carriers fly millions of sectors without incident, and their crews are among the most carefully trained anywhere. It argues for the transport ministry to ask each airline one question and to publish the answers: what, precisely, would have happened on your aircraft?

ANALYSIS

ANALYSIS: Who Protects the Computers, and Who Copies Them? Three Dates That Fell Together This Week

By Ethan Cole | Editor, Technology & Science

On Thursday Japan gave its police and its armed forces the legal power to disable a foreign server that is attacking the country.

On the same day OpenAI disclosed that it had blocked what it called a hostile distillation attack, running since July 1 and centred, by its account, on the Chinese company Moonshot AI.

And today is the anniversary of the night in 1955 when ENIAC, the first general-purpose electronic computer, was switched off for the last time after nearly a decade of work for the United States Army.

The three have more in common than the calendar. ENIAC was built by a state, for a state, in secret, to compute artillery tables. For its entire working life the question of who protected it did not arise, because it stood in a guarded room and was connected to nothing.

Seventy years later the most valuable computing systems in the world belong to private companies and are connected to everyone. They can be attacked from anywhere, and they can be copied without being broken into at all.

That is what distillation means. A competitor does not steal the model; it asks the model millions of questions and trains its own system on the answers. The original is untouched and the knowledge has left the building.

Japan's new law addresses the first kind of threat, the intrusion, and addresses it in the old way, by asserting the authority of the state. It has nothing to say about the second, and no state yet does.

The prime minister's AI action plan, due by the end of the year, speaks of reliable AI. Reliability has usually been taken to mean that a system does what it is supposed to do. This week suggests a second meaning: that it remains the property, and under the control, of those who built it.

For a country that intends to deploy AI in 17 strategic fields but builds few of the largest models itself, the second meaning may be the one that matters. A system licensed from abroad is only as reliable as the terms on which it is licensed, and as the security of the company that licenses it.

ENIAC drew 150 kilowatts and filled a room. The engineers who turned it off at 11:45 that night could at least be certain where it was.

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ECONOMY

TEPCO Power Grid and Kyushu T&D Move Against 'Empty Reservations' of Grid Capacity by Data Centres

By Kenji Fukuda | Real Estate & Urban Development

TEPCO Power Grid and Kyushu Electric Power Transmission and Distribution are introducing measures against what the industry calls empty reservations of grid capacity for data centres, Nikkei reports.

Under the measures the deadline for paying the contribution towards construction costs is set at three months.

The problem is a queue. A data centre needs a very large and very reliable supply of electricity, often as much as a small city. A developer must apply to the regional grid company for a connection, and the company then sets aside capacity on its lines and substations.

That reserved capacity is not available to anyone else. Where demand for connections has outrun the grid, as it has around Tokyo and in parts of Kyushu, a place in the queue has become valuable in itself.

Some applicants have reserved capacity for projects that were speculative, duplicated across several sites or never intended to be built by the applicant at all. Genuine projects behind them have been told to wait years.

The construction cost contribution is the applicant's share of the cost of the lines and equipment needed for its connection. Requiring it within a fixed period tests whether a project is real: a developer with land, financing and a customer will pay, and one holding a place on speculation will not.

The two companies cover the two areas where the pressure is greatest. TEPCO Power Grid serves the capital region, including the cluster of data centres at Inzai in Chiba. Kyushu's grid company serves the island where a large semiconductor plant and its suppliers have set off a wave of related investment.

The government's AI action plan, due at the end of the year, depends on the same wires. Every one of the 17 strategic fields it names will need computing capacity, and computing capacity needs connections.

Other grid companies are expected to watch the results. The national body that co-ordinates the transmission operators has been examining how connections for very large new loads should be handled.

For households the issue is indirect but real. The cost of reinforcing the grid for large customers is recovered, in part, through the transmission charges that appear on every bill, and those charges were revised this month.

ECONOMY

Aomori Michinoku, Iwate and Akita Banks in Talks to Combine, in What Would Be Tohoku's Largest Banking Group

By Yuki Saito | Economics & Finance

Aomori Michinoku Bank, the Bank of Iwate and Akita Bank are in talks on a business integration, the morning papers report. If it goes ahead the combined group would be the largest in the Tohoku region.

The three are the leading banks of the three prefectures at the northern end of Honshu.

Aomori Michinoku Bank is itself new. It was created in January 2025 by the merger of Aomori Bank and Michinoku Bank, two rivals in the same prefecture that had first been brought together under a holding company, Procrea Holdings.

The Bank of Iwate, in Morioka, and Akita Bank, in Akita, have each been the main bank of their prefecture for generations.

The logic is demographic. Akita has the fastest-shrinking and oldest population of any prefecture in Japan, and Aomori and Iwate are not far behind. Fewer people means fewer borrowers, fewer depositors and fewer businesses to finance.

A bank's costs do not shrink at the same rate. Computer systems, compliance and branches cost much the same whether the bank is growing or not, and the standard answer is to spread them over a larger balance sheet.

The rise in interest rates has changed the calculation

without removing it. Lending is more profitable than it was, but the bond portfolios that regional banks accumulated when rates were near zero have lost value, and deposits now have to be paid for.

A combination across three prefectures is rarer than one within a prefecture and is easier in one respect: the banks do not compete with each other in their home markets, so the competition authorities have less to object to.

The form of the integration, whether a joint holding company or a full merger, and its timing are not given in the reports.

The Financial Services Agency has encouraged consolidation among regional banks for a decade and has offered subsidies for the cost of merging systems.

For customers little would change at first. Under a holding company the three names, their branches and their account numbers would remain.

ECONOMY

Tankan: Large Manufacturers Improve for a Sixth Straight Quarter, but Large Non-Manufacturers Worsen for the First Time in Five as Oil Bites

By Yuki Saito | Economics & Finance

Business sentiment among Japan's large manufacturers improved for the sixth consecutive quarter in the Bank of Japan's September Tankan survey, published on Thursday.

Sentiment among large non-manufacturers worsened, for the first time in five quarters. The reports cite the high price of crude oil among the reasons.

The survey also found concern about the cash flow of small and medium-sized enterprises, Sankei reports.

The Tankan is the most closely watched survey of Japanese business. Its headline figures are diffusion indices: the share of companies that say conditions are favourable, minus the share that say they are unfavourable.

Six straight quarters of improvement among large manufacturers is a long run. It reflects demand for semiconductors and the equipment that makes and tests them, and a weak yen.

The non-manufacturing result is the newer information. Retailers, restaurants, hotels, hauliers and builders buy energy and cannot easily export their way out of a cost. The war in the Gulf and the disruption of shipping through the Strait of Hormuz have kept crude oil expensive for seven months.

Those companies also face the labour shortage most directly, and a higher minimum wage this autumn.

The remark about small firms' cash flow matters because of where interest rates are. The Bank of Japan's policy rate stands at 1.25 per cent, and long-term rates have been above 3 per cent. Companies that borrowed cheaply for a generation are refinancing at prices they have not seen before.

For the central bank the survey is ambiguous in a useful way. Strong manufacturers argue for continuing to normalise policy. Weakening services and strained small firms argue for patience.

The stock market read only the first half. The Nikkei average rose 2,203 yen on the day.

The detailed tables, including companies' plans for capital spending and their assumed exchange rates, are published on the Bank's website.

ECONOMY

October's Household Arithmetic

By the Economics & Finance Desk

Up: electricity, at every major supplier, for October usage.

Up: city gas, likewise.

Why: the subsidy has ended; grid charges have been revised.

Up: 3,153 food and drink items.

Why: packaging costs and the weak yen.

Down: beer, by about 9 yen a can, since the tax was unified.

Up: low-malt and third-category drinks, by about 7 yen.

Up: the minimum wage.

The yen: 158.37 to the dollar.

On Monday: the Diet takes up benefits and the consumption tax.

ECONOMY



The Tokyo Stock Exchange at Kabutocho. The Nikkei average closed at 68,956.72 on Thursday, up 2,203 yen, its highest in about a month and a half, with Advantest alone adding about 700 yen, Yomiuri reports. (Photo: TG2 (CC))

ECONOMY

Nikkei Leaps 2,203 Yen to 68,956, Its Highest in a Month and a Half; Advantest Alone Accounts for About 700 Yen of the Rise

AI and semiconductor shares lead a second day of gains; the yen weakens to 158.37 to the dollar and the Tankan shows large manufacturers improving for a sixth straight quarter

By Yuki Saito | Economics & Finance

The Nikkei average closed at 68,956.72 on Thursday, up 2,203 yen on the day, in the first full session of the fiscal half-year, Yomiuri reports. It was the index's second consecutive gain and its highest close in about a month and a half.

The rise, of about 3.3 per cent, was led by shares tied to artificial intelligence and semiconductors. Advantest, which makes the equipment used to test chips, rose more than 9 per cent, and that one stock lifted the average by roughly 700 yen.

The session had opened 352 yen higher, at 67,106, as reported in yesterday's edition. The buying that began in chip shares at the opening did not fade; it widened through the day.

Three things were working in the market's favour at once. The Bank of Japan's Tankan survey, released before the opening, showed sentiment among large manufacturers improving for a sixth quarter in a row.

The yen weakened by 1.47 yen to 158.37 to 158.40 to the dollar in Tokyo, which raises the yen value of what exporters earn abroad.

And the first day of October is the first day of the second half for most Japanese companies and institutional investors, when new money is put to work.

The concentration of the gain deserves as much attention as its size. When a single share supplies nearly a third of a 2,200-yen move, the index is saying something about one industry more than about the economy.

The Tankan itself made the same point from the other side. While large manufacturers were more cheerful, large non-manufacturers reported worse conditions for the first time in five quarters, and the survey found concern about the cash flow of smaller companies.

Not every large company had a good day. Nidec, the motor maker whose auditors have declined to give an opinion on its accounts for a second year, held a news conference at which its new president apologised and promised to keep the company listed.

On Tuesday the average had closed at 65,481. Two sessions later it is nearly 3,500 yen higher.

The photograph shows the Tokyo Stock Exchange at Kabutocho.

Trading resumes this morning with the yen within two yen of the 160 level at which it began September, and with the question of how much further five or six shares can carry 225.

ECONOMY

How to Read the Tankan: What a Diffusion Index Is, and Why Six Quarters Matter

By Kenta Sakamoto | Data & Visualization

The Tankan is the Bank of Japan's quarterly survey of business conditions. Its name is an abbreviation of the Japanese for short-term economic survey of enterprises.

It is published four times a year, at the start of April, July and October and in the middle of December.

The Bank sends the questionnaire to roughly 9,000

companies of every size, and almost all of them answer, which is unusual for a voluntary survey and is the source of its authority.

The best-known question asks companies whether business conditions are favourable, not so favourable or unfavourable.

The diffusion index is the percentage answering favourable minus the percentage answering unfavourable. A reading of plus 15 means that optimists outnumber pessimists by 15 percentage points.

The index therefore measures breadth and not depth. It says how many companies are doing well, not how well they are doing.

Results are broken down by size, into large, medium-sized and small enterprises, and by industry, into manufacturing and non-manufacturing. The figure quoted in headlines is the one for large manufacturers.

Companies are also asked what they expect three months ahead, how they see employment, inventories and prices, how much they plan to invest and what exchange rate they have assumed.

The direction of change is watched as closely as the level. Six consecutive improvements among large manufacturers, as in this survey, is a trend. A first deterioration in five quarters among large non-manufacturers is a possible turning point.

The Bank's policy board meets with the survey in front of it, which is why the markets read it as carefully as they do.

ECONOMY

Yen Weakens by 1.47 to 158.37-40 to the Dollar in Tokyo

By Yuki Saito | Economics & Finance

The yen fell by 1 yen 47 sen against the dollar in Tokyo on Thursday, to 158.37-40.

By arithmetic that puts the previous day's comparable level near 156.90.

The move came on a day when Japanese shares rose sharply and the Tankan survey showed large manufacturers in better spirits, neither of which would ordinarily weaken a currency.

The explanation lies more with the dollar and with oil. Japan pays for its energy in dollars, and with crude oil expensive the country's importers are steady buyers of the American currency.

The gap between Japanese and American interest rates has narrowed over the past two years but has not closed. The Bank of Japan's policy rate is 1.25 per cent.

The chart published in yesterday's edition showed the dollar at 162.35 yen at the end of July, at 160.03 on September 1 and at 153.50 on September 9, before the yen's slide resumed.

At 158 the yen is back within two yen of the level at which September began.

A weaker yen is the reason given, with packaging costs, for the 3,153 food and drink price increases that took effect this month.

It is also the reason, with semiconductors, that the

Nikkei average is at 68,956.

The finance ministry has not commented on Thursday's move in the reports available.

ECONOMY

Why One Share Could Move the Nikkei by 700 Yen

By Kenta Sakamoto | Data & Visualization

Advantest rose by more than 9 per cent on Thursday and lifted the Nikkei average by about 700 yen without help. The explanation lies in how the index is built.

The Nikkei 225 is a price-weighted average. It adds up the adjusted share prices of 225 companies and divides by a fixed number.

In such an index a company's influence depends on the price of one share, not on the size of the company. A stock trading at tens of thousands of yen moves the average far more than one trading at a few hundred, even if the second company is larger.

Most of the world's major indices, including the TOPIX in Tokyo and the S&P 500 in New York, are weighted by market value instead.

The consequence in Tokyo is that a small group of high-priced shares dominates the Nikkei. Makers of chip equipment, a clothing retailer and a technology investment group have for years accounted for a large part of its daily movement.

Advantest makes the test systems through which finished semiconductors pass before they are shipped. The most advanced chips used for artificial intelligence require longer and more complex testing, and demand for its machines has risen with them.

When investors want exposure to AI on the Tokyo market, they buy a short list of names, and the Nikkei rises whether or not the other 220 companies have moved.

That does not make Thursday's gain unreal. It makes it narrow.

A better measure of breadth is the TOPIX, or the simple count of rising and falling shares on the Prime market, neither of which is included in the reports available this morning.

The practical lesson for a saver whose fund tracks the Nikkei is that the fund is more concentrated in a few technology shares than its 225 names suggest.

ECONOMY

Electricity and Gas Bills Rise at Every Major Supplier for October Usage as the Subsidy Ends and Grid Charges Are Revised

By Yuki Saito | Economics & Finance

Electricity and gas charges for October usage will be higher at every major supplier, the morning papers report.

Two things account for it. The government's subsidy for household energy bills has ended, and the charges that suppliers pay to use the transmission network have been revised.

The subsidy had been applied through the summer months, when air-conditioning pushes consumption to its annual peak. It took a fixed amount off each kilowatt-hour of electricity and each cubic metre of city gas.

With its removal, a household that uses exactly as much energy in October as it did in September will pay more for it.

The transmission charge, known as the wheeling charge, is what every retailer pays the regional grid company to carry electricity to the customer. It is reviewed periodically and passed through to bills.

October's usage will appear on the bills that arrive in November.

The increase comes on top of fuel costs that remain high. Japan generates much of its electricity from imported liquefied natural gas and coal, and the price of both follows oil.

It also arrives in a month of other increases. Prices have risen on 3,153 food and drink items, and the Tankan survey found large non-manufacturers gloomier for the first time in five quarters, with energy costs among the causes.

The government has not said whether support will return for the winter, when heating demand produces a second peak. It has reintroduced such subsidies in each of the past several winters.

The extraordinary Diet session that opens on Monday will take up benefits for lower-income households and the consumption tax, and energy bills are certain to be raised there.

ECONOMY

The Autumn Round: 3,153 Food and Drink Items Cost More From October

By Grace Park | Food & Restaurants

Prices are rising on 3,153 food and beverage items in October, according to the tally as of the first of the month.

The causes given are the high cost of packaging materials and the weak yen.

October is one of the two months, with April, in which Japanese food makers customarily adjust their prices. The number is a count of products announced by the major manufacturers, and does not include fresh food.

Packaging is a cost that shoppers do not see. Film, trays, bottles, cans and cartons are made from petroleum products, aluminium and paper, and all have become more expensive with energy.

The yen works on the ingredients. Japan imports most of its wheat, soybeans, maize, cooking oil and coffee, and pays for them in dollars. At 158 yen to the dollar each shipment costs more than it did in early September, when the rate touched 153.

The beer tax, by contrast, moved in the drinker's favour on October 1, when the rates on beer, low-malt beer and third-category drinks were unified. Beer became about 9 yen cheaper a can and the cheaper categories about 7 yen dearer.

Wages are moving too. The minimum wage is rising this autumn in every prefecture.

Whether pay keeps up with prices is the question behind the extraordinary Diet session that opens on Monday, which will debate benefits for households earning up to 3 million yen.

The Tankan survey published on Thursday suggests that the companies selling to those households are feeling it. Sentiment among large non-manufacturers fell for the first time in five quarters.

The next customary round of increases is in the spring.

ECONOMY

SBI Securities to Sell Investment Trusts With No Management Fee for the Children's NISA

By Yuki Saito | Economics & Finance

SBI Securities is to sell investment trusts with a management fee of zero for use in the Kodomo NISA, the children's version of the tax-free investment account.

The management fee, known in Japan as the trust fee, is the annual charge deducted from a fund's assets to pay the companies that run, sell and hold it. For index funds it has been falling for years and at the cheapest funds is already a small fraction of one per cent.

Zero is still a different number. A fund that charges nothing is being offered at a loss, and the seller is counting on something else.

What SBI is counting on is time. An account opened for a child may stay with the same broker for decades, and a child who grows up with an account at one firm is likely to open an adult NISA there too.

NISA accounts shelter investment gains and dividends from tax. The system was expanded and made permanent in January 2024, and the number of accounts has grown rapidly since.

The earlier Junior NISA, which closed to new money at the end of 2023, was little used, in part because withdrawals were restricted until the child turned 18.

SBI is the largest online broker in Japan by number of accounts and abolished commissions on domestic share trading in 2023. Its rivals followed.

The same pattern can be expected here. When one large broker offers a zero-fee fund for children's accounts, the others have to decide whether to match it.

For parents the fee matters, but less than it appears. Over the long periods for which a child's account is held, the difference between a very cheap fund and a free one is small beside the difference between investing regularly and not investing.

ECONOMY

The details of the funds, including what they invest in and for how long the zero fee applies, should be checked in the prospectus.

ECONOMY

Markets at a Glance

By Kenta Sakamoto | Data & Visualization

Nikkei 225, Thursday's close: 68,956.72, up 2,203 (Yomiuri). Second consecutive rise; highest in about a month and a half.

Thursday's opening: 67,106, up 352. Tuesday's close: 65,481.

Advantest: up more than 9 per cent; contribution to the average about 700 yen.

Yen, Tokyo: 158.37-40 to the dollar, weaker by 1.47.

Bank of Japan policy rate: 1.25 per cent.

Tankan, September survey: large manufacturers improved for a sixth consecutive quarter; large non-manufacturers worsened for the first time in five.

Nidec: net loss 564.6 billion yen; audit opinion withheld for a second year; new president aims to obtain an opinion in October.

Prices: 3,153 food and drink items up in October. Electricity and gas up at every major supplier for October usage.

Regional banks: Aomori Michinoku, Iwate and Akita in integration talks.

Friday: trading resumes with the yen within two yen of 160.

**BUSINESS**

**Nidec's New President Apologises and Vows to Keep the Listing: About 20 People Tied to Fraud or False Statements Had Worked on Its Financial Reports**

By Yuki Saito | Economics & Finance

Michio Kaida, who became president of Nidec on Tuesday, held his first news conference at the company's headquarters in Kyoto on Thursday and said his mission was to rebuild the company and restore trust in it.

He apologised for a second change at the top in the middle of the company's accounting and quality scandals. His predecessor, Mitsuya Kishida, resigned on September 29 after the company said inappropriate conduct on his part in relation to financial reporting had been confirmed.

The company disclosed that about 20 officers and employees who had been involved in improper accounting, or who had given false explanations to the auditors, had been working on its financial reporting, Sankei and Yomiuri report.

Nidec had removed people implicated in the irregularities from responsibility for the accounts, but acknowledged that the preventive measures had not been fully observed in every case. A representative director, Masayuki Minai, said there had been involvement in practice in some of the countries where it operates.

The audit opinion on the annual securities report for the year to March 2026, filed on September 30, remains a disclaimer: the auditor, PwC Japan, declined to express a view. It is the second year running.

That matters because of where Nidec stands with the Tokyo Stock Exchange. The company has been designated a security on special alert, and to have the designation lifted it must submit a written confirmation of its internal controls by the end of October and satisfy the exchange that they have been repaired. Failure can lead to delisting.

Mr Kaida said the company aims to obtain an audit opinion within October and called keeping the listing its mission at any cost.

The head of PwC Japan, Masataka Kubota, who attended, said a risk remained that people with the authority to make and enforce the rules would step over them.

Mr Kaida is 70 and was a senior managing executive officer before his promotion. The chairman of the board, Soichiro Sakuma, a former vice-president of Nippon Steel and Sumitomo Metal, sat beside him.

Nidec has reported a net loss of 564.6 billion yen for the year, with an impairment charge of 632.1 billion yen. A third-party committee has said that intense pressure for results from the founder, Shigenobu

Nagamori, was one cause of the culture in which the misconduct occurred.

The company is one of the world's largest makers of small precision motors, with factories and customers across Asia, Europe and the Americas.

Its shares fell sharply after the disclaimer was announced. The exchange's decision is expected after the October deadline.

BUSINESS

What a Disclaimer of Opinion Means, and What Nidec Has to Show the Exchange by the End of October

By Yuki Saito | Economics & Finance

An auditor examining a company's accounts can reach one of four conclusions.

The usual one is an unqualified opinion: the accounts give a fair picture. A qualified opinion means they do, apart from a specified problem. An adverse opinion means they do not.

The fourth is a disclaimer. The auditor says it has been unable to obtain enough evidence to reach any opinion at all.

For investors a disclaimer is in some ways worse than an adverse opinion, because it means that nobody independent can vouch for the numbers.

The Tokyo Stock Exchange treats audit opinions as central to a company's fitness to be listed. A company whose internal controls are found to be seriously deficient can be designated a security on special alert.

The designation is a probation. The company keeps trading, but it must overhaul its internal management and, after a year, submit a written confirmation describing the system it now has.

The exchange examines that document and the company behind it. If it is satisfied, the designation is lifted. If improvement is under way but incomplete, the period can be extended. If the exchange concludes that the controls have not been and will not be fixed, the shares are delisted.

Nidec's deadline is the end of October. Its new president has said the company aims to obtain an audit opinion within the month.

The difficulty is the one PwC Japan's chief described at Thursday's news conference: controls are only as good as the willingness of senior people to be bound by them, and at Nidec about 20 people connected with the earlier problems were still involved in preparing the accounts.

Delisting would not close the company. It makes motors that are in computers, cars and appliances around the world, and those businesses would continue. It would, however, remove the shares from the indices, force many institutional holders to sell and leave individual shareholders with stock that is hard to trade.

Toshiba spent two years under a similar designation after its own accounting scandal in 2015 and kept its listing. The comparison is not entirely comforting.

**BUSINESS**

**Times Car: Records of About 6.6 Million Members Taken, Including Images of Driving Licences**

By Ethan Cole | Editor, Technology & Science

Personal information on up to about 6.6 million members of Times Car, the car-sharing service of the Park24 group, has been obtained by a third party, Asahi, Yomiuri and Nikkei CrossTech report.

The data includes names, addresses, images of driving licences and, for student members, student identification.

No leak of credit card information has been confirmed.

The intrusion was detected on September 25.

Times Car is the largest car-sharing service in Japan. Members book a car from a telephone, unlock it at one of the company's parking sites and pay by the quarter-hour. To join, a member must upload a photograph of a valid licence, which is why the company holds so many.

The licence images are the serious part. A name and address can be found in many places. A clear image of both sides of a licence is what many online services, including some financial ones, accept as proof of identity when an account is opened remotely.

The reports warn of exactly that risk: that the images could be used to impersonate members.

The company's notice to members, and the steps it is taking, should be read on its own website and in its own messages. Members should be wary of any message about the leak that asks them to follow a link or enter a password, since a breach of this size reliably produces a wave of fraudulent notices.

The disclosure came on the day the law on proactive cyber defence took effect. Car-sharing is not among the 15 sectors of essential infrastructure covered by the new reporting duty, but the Personal Information Protection Commission must be notified of a leak on this scale and can order corrective measures.

How the intruder got in, how long the data was exposed and whether it has appeared for sale have not been stated in the reports available.

At 6.6 million records the incident is among the larger leaks of personal data from a Japanese company. The largest remains the theft of about 35 million customer records from the education company Benesse in 2014.

BUSINESS

If Your Licence Image Was in a Leak: What Members Can Sensibly Do

By Maya Suzuki | Science & Innovation Desk

A leaked password can be changed in a minute. A leaked image of a driving licence cannot be recalled, and the licence it shows remains valid. That does not mean nothing can be done.

Wait for the company's own notice, and read it on the company's website or in its application. Do not act on an email or text message about the leak that arrives unprompted, however official it looks.

Do not follow links in such messages or enter passwords, card numbers or one-time codes on the pages they lead to. After a large breach, criminals send messages imitating the company to the same people whose details they now hold.

Change the password for the affected service, and for any other service where the same password was used.

Turn on two-step verification wherever it is offered, starting with email, banking and payment applications.

Watch bank and card statements for transactions you do not recognise, and tell the bank or card company at once if you see one.

Be alert to post you did not expect: a card you did not apply for, a contract for a telephone you did not buy, a notice from a lender. These are the signs that someone has opened an account in your name.

If that happens, report it to the police and to the company concerned, and keep the documents.

The national consumer hotline, on 188, can direct callers to their local consumer affairs centre for advice.

A licence that has been physically lost or stolen can be reissued at a licence centre. Whether reissue is available or useful when only an image has leaked is a question to put to the prefectural police.

**BUSINESS**

**McDonald's Halts Sales of 10 Burgers at 91 Hokkaido Restaurants After Beef Patties Fall Short of Its Standards**

By Grace Park | Food & Restaurants

McDonald's has suspended sales of ten hamburger products at 91 restaurants in Hokkaido because beef patties did not meet its standards.

The reports available do not say which standard was missed, whether the fault was found in the company's own checks or by a customer, or when sales will resume.

They do not say that anyone has been taken ill.

The ten products are those made with the affected patties. Items made with chicken, fish or pork are not mentioned in the reports as being affected.

The geographical limit suggests a problem with one batch or one stage of distribution. A chain of this size supplies its restaurants through regional distribution centres, and a fault confined to one island points to a consignment and not to a recipe.

McDonald's operates about 3,000 restaurants in Japan and is the country's largest restaurant chain by sales.

The company has reason to act quickly. In 2014 and 2015 it lost customers for more than a year after a Chinese supplier was found to have used expired chicken and foreign objects were then found in food at several Japanese restaurants. It responded by publishing the origin of its main ingredients.

Suspending a product before the cause is fully established is the conservative course, and it is the one food-safety regulators prefer.

The company's website and ordering application are the place to check what a particular restaurant is serving.

Those with concerns about food already bought should contact the company's customer service line.

BUSINESS

Bridgestone Becomes Formula E's Sole Tyre Supplier, Its First Exclusive Deal in an FIA World Championship Since Formula One

By Oliver Brooks | Sports Desk Editor

Bridgestone is the exclusive supplier of tyres to Formula E, the world championship for electric single-seater racing cars.

It is the first time since its years in Formula One that the company has had sole supply of a world championship run by the FIA, the governing body of world motor sport.

Bridgestone entered Formula One in 1997 and was the only tyre supplier from 2007 until it withdrew at the end of 2010. Its tyres carried Michael Schumacher and Ferrari to five consecutive drivers' titles.

Formula E began in 2014 and has held world championship status since the 2020-21 season. Its races are run on street circuits in city centres, and the series has raced in Tokyo, around the waterfront at Ariake, since 2024.

The championship introduces a new generation of car for the coming season, more powerful than its predecessor and with permanent four-wheel drive.

The tyre is unusual. Formula E has raced until now on a single treaded tyre for all weather, designed to last and built with a high proportion of recycled and renewable materials. Efficiency matters more than outright grip, because every unit of energy lost in the tyre is one not available to the motor.

Those are the properties that matter in a tyre for an electric road car, which is heavier than a petrol car and whose range depends on rolling resistance. Bridgestone has said its motor sport programme is meant to develop technology for sustainable tyres.

The company is the largest tyre maker in Japan and one of the two largest in the world.

Japanese involvement in the series is already substantial. Nissan has competed as a manufacturer since 2018, and Yamaha and Lola entered together more recently.

For Bridgestone the series offers something Formula One no longer does at a comparable price: every car on the grid on its tyres, in the middle of the world's largest cities.

**BUSINESS**

**The Company Behind Thursday's Rally: Advantest and the Business of Testing Chips**

By Ethan Cole | Editor, Technology & Science

Advantest does not make semiconductors. It makes the machines that decide whether a semiconductor works.

Every chip is tested before it leaves the factory, usually twice: once while it is still part of the silicon wafer, and again after it has been cut out and packaged. The tester sends signals in, measures what comes out and rejects the failures.

The company, which is based in Tokyo, is one of two that dominate the market for this equipment worldwide. The other is American.

For most of its history testing was an unglamorous corner of the industry. What changed it is the complexity of the chips used for artificial intelligence.

A processor for an AI data centre contains tens of billions of transistors and is packaged together with stacks of high-speed memory. Testing it takes far longer than testing a conventional chip, and a faulty one that escapes is extremely expensive to discover

BUSINESS

later.

Chip makers have therefore been buying more testers, and more capable ones, for every wafer they produce.

Advantest's share price has risen with those orders, and because the Nikkei average is weighted by share price, the company has become one of the most influential stocks in the index.

On Thursday it rose more than 9 per cent and added about 700 yen to the average.

The business is cyclical. Orders for test equipment have historically swung more violently than the chip market itself, because customers buy heavily when they are adding capacity and stop when they are not.

The share price therefore tells investors what they currently believe about spending on AI. Thursday's answer was that they believe it will continue.

BUSINESS

Business Digest

By the Economics & Finance Desk

TOYODA: Hiroko Toyoda, the mother of Akio Toyoda, chairman of Toyota Motor, has died. She died on September 8, according to the reports. Her husband, Shoichiro Toyoda, the company's honorary chairman, died in February 2023 at the age of 97.

NIDEC: The new president, Michio Kaida, says the company aims to obtain an audit opinion in October and to keep its listing. About 20 people connected with improper accounting or false explanations to auditors had been involved in financial reporting.

TIMES CAR: Records of up to about 6.6 million members, including licence images, were obtained by a third party. No card data is confirmed leaked. Detected on September 25.

ATOMIC ENERGY AGENCY: Unauthorised access to systems at a research reactor site exposed driving licence and other details of 175 people.

BANKS: Aomori Michinoku Bank, the Bank of Iwate and Akita Bank are in talks on integration. The group would be Tohoku's largest.

GRID: TEPCO Power Grid and Kyushu's transmission company set a three-month deadline for construction cost contributions, to deter data-centre developers from reserving capacity they do not use.

MCDONALD'S: Ten burger items withdrawn at 91 Hokkaido restaurants over beef patties that did not meet standards.

SBI: Zero-fee investment trusts for the children's NISA account.

BRIDGESTONE: Sole tyre supplier to Formula E, its first exclusive FIA world championship supply since Formula One.

CHIPS: Toshiba's devices unit is addressing reliability in silicon-carbide transistors; Renesas is adapting gallium-nitride devices for data centres to double-sided cooling; Hitachi High-Tech and ZEISS are deepening work on multi-beam inspection. Details on the technology pages.

ENERGY BILLS: Electricity and gas charges rise at every major supplier for October usage.

TECHNOLOGY

OpenAI Says It Blocked a Hostile 'Distillation Attack' Running Since July 1 and Centred on China's Moonshot AI

By Ethan Cole | Editor, Technology & Science

OpenAI has announced that it blocked what it describes as a hostile distillation attack on its models, one that began on July 1 and that it has traced principally to the Chinese company Moonshot AI, Dempa Shimbun and Impress Watch report.

At its peak, by the accounts available, the operation involved more than 15,000 people and 16,000 records.

Distillation is the practice of training one AI model on the outputs of another. An attacker does not break into the target's computers. It sends the target very large numbers of questions through ordinary accounts, collects the answers and uses them as teaching material for a model of its own.

Done at scale and against the provider's terms of service, it allows a company to acquire in months, and at modest cost, capabilities that took the original developer years and billions of dollars to build.

Moonshot AI is a Beijing company founded in 2023 and is best known for its Kimi chatbot. It has not

responded to the allegation in the reports available.

The accusation is not the first of its kind. Early last year OpenAI said it had evidence that another Chinese developer, DeepSeek, had distilled its models. In February this year Anthropic, a rival American developer, said it had detected and shut down distillation campaigns by three Chinese laboratories, Moonshot among them, conducted through tens of thousands of fraudulent accounts.

What is described as new this time is the duration, three months, and the fact that OpenAI is calling the activity an attack.

The vocabulary matters. Calling it an attack places it beside intrusion and theft, and invites governments to treat it as a security question. The American developers argue that distillation undermines the export controls on advanced chips, since a model trained on borrowed answers needs far less computing power than one trained from nothing.

For Japan the episode arrives in the week the government committed itself to an AI action plan by the end of the year. Japanese companies are for the most part customers of the American models and not competitors to them, and so have an interest in those models remaining worth paying for.

They also have an interest in the rules. A Japanese firm that fine-tunes a licensed model on its own data is doing something every provider encourages. The line between that and distillation is drawn by contract, and the contracts are written in California.

OpenAI has not said, in the reports available, whether it intends legal action.

TECHNOLOGY

Teacher and Student: What Model Distillation Is, and When It Becomes an Attack

By Maya Suzuki | Science & Innovation Desk

Distillation began as a respectable technique and for most purposes still is one.

The idea was set out in a 2015 paper by researchers at Google. A large, slow, accurate model, the teacher, is used to train a small, fast one, the student. The student learns not only the right answers but the teacher's pattern of confidence across the wrong ones, which turns out to carry a great deal of information.

The result is a small model that performs far better than it would if trained on raw data alone. Much of the AI that runs on telephones was made this way.

Companies distil their own models all the time. The compact versions of the well-known chat models are students of the large ones.

The dispute is over distilling someone else's. A provider that sells access to a model over the internet has no way of controlling what a customer does with the answers, except by contract.

All the major providers forbid using their output to train a competing model. Enforcing the ban means spotting the pattern: accounts that ask enormous numbers of questions, systematically covering a subject, in a way no ordinary user would.

Those who do it hide the pattern by spreading the work over thousands of accounts, often opened with false details and routed through intermediaries. This is why the numbers reported in such cases run to the tens of thousands.

Providers respond by detecting the networks, closing the accounts and, increasingly, by altering answers in ways meant to make them less useful as training material.

Whether distillation of this kind is unlawful, as opposed to a breach of contract, has not been settled by any court. The output of an AI model is not clearly protected by copyright in most countries.

The original developers are in an awkward position on that point. Several are themselves being sued by authors and publishers who say their models were trained on copyrighted work without permission.

TECHNOLOGY

Atomic Energy Agency Reports Unauthorised Access at Research Reactor Site; Licence Details of 175 People Leaked

By Maya Suzuki | Science & Innovation Desk

The Japan Atomic Energy Agency has reported unauthorised access to a site connected with its research reactors, and the leak of driving-licence and

other information on 175 people, Yomiuri reports.

The reports available do not say when the access took place, how it was discovered or who is believed to be responsible.

Nor do they make entirely clear what was accessed. The data described, identity documents of the kind collected from visitors and outside researchers, points to a registration or user-services system and not to anything that controls a reactor.

The agency is the state's research body for nuclear energy. It has its headquarters at Tokai in Ibaraki Prefecture and operates research reactors there and at Oarai, which universities and companies use for experiments with neutrons and for testing materials.

Outside users of such facilities must be identified before they are admitted, which is why a research site holds copies of their documents.

The number of people affected is small beside the 6.6 million in the Times Car case disclosed the same day. The significance lies in the institution.

The disclosure came on the day the law on proactive cyber defence took effect, with its duty on infrastructure operators to report signs of attack. The reports do not say whether the agency's case falls under that duty; as a state research body it answers to its supervising ministries in any event.

The agency has been a target before. It has in the past reported malware infections on office computers, none of which, by its accounts, reached control systems.

Reactor control systems are kept separate from office networks and from the internet as a matter of regulation. An intrusion into an administrative system does not imply access to them.

It does, however, give an intruder a list of who visits a nuclear site, with their names, addresses and photographs, and that has a value of its own.

The agency is expected to notify those affected individually.

TECHNOLOGY

One Sensor for AC and DC: AIST's Diamond Quantum Device Shrinks the Current Comparator's Core to Under a Third

By Maya Suzuki | Science & Innovation Desk

The National Institute of Advanced Industrial Science and Technology and its partners have used a diamond quantum sensor to build a single compact current comparator that handles both alternating and direct current.

The core of the device is less than one-third the size of that in a conventional instrument.

A current comparator is a reference instrument. It establishes with very high precision the ratio between two electric currents, and it is what laboratories use to calibrate the meters and sensors that industry relies on.

Conventional comparators come in two kinds, one for alternating current and one for direct, because the physical principles used to detect each are different. The magnetic cores involved are large and heavy.

The diamond sensor removes the need for two instruments. Its sensing element is a defect in the diamond's crystal lattice, a nitrogen atom next to a vacancy, whose quantum state responds to magnetic field. Because every current produces a magnetic field, the defect can measure current, and it responds equally to steady and oscillating fields.

The sensor works at room temperature, which separates it from the superconducting devices otherwise used for the most precise magnetic measurements.

The applications are practical. Electric vehicles, solar inverters, battery storage and data-centre power supplies all mix direct and alternating current and all need them measured accurately, whether to bill for energy or to manage a battery.

A smaller comparator can be taken to the equipment instead of the equipment being brought to the laboratory.

Japan has made diamond quantum sensing a priority within its quantum technology programme, in part because the country is strong in the synthetic diamond material itself.

The work was first reported earlier in the week and is carried again in today's technology coverage.

TECHNOLOGY

Power Chips: Toshiba's Devices Unit Takes On Reliability in Silicon-Carbide Transistors as Renesas Readies Gallium-Nitride for Double-Sided Cooling in Data Centres

By Ethan Cole | Editor, Technology & Science

Two Japanese chip makers have set out moves in power semiconductors, the devices that switch and convert electricity, Dempa Shimbun reports.

Toshiba Electronic Devices & Storage has begun work to address reliability issues in silicon-carbide MOSFETs.

Renesas Electronics is making its gallium-nitride devices for data centres compatible with double-sided cooling.

Both materials are replacing silicon where power is high and losses are costly. Silicon carbide dominates in electric vehicles and industrial drives. Gallium nitride, which switches faster, is moving from telephone chargers into the power supplies of servers.

Silicon carbide's weakness has been durability. The interface between the semiconductor and the insulating layer of the transistor's gate is less perfect than in silicon, and the device's characteristics can drift over years of use. Defects in the crystal can also grow when current flows in reverse through the transistor's internal diode.

Car makers, who must warrant a vehicle for a decade or more, have pressed suppliers hard on both points. A supplier that can demonstrate long-term stability has a commercial advantage that matters more than a small gain in efficiency.

Renesas's move addresses heat. A server rack for artificial intelligence now draws many times the power of a conventional one, and its power supplies must convert that electricity in a small space.

A conventional chip package sheds heat through one face. A package designed for double-sided cooling exposes metal on both, so that heat can be drawn out from above and below, roughly doubling the area available.

Renesas entered gallium nitride in earnest by acquiring the American specialist Transphorm in 2024.

The two announcements belong to the same story as Thursday's stock market. The demand for computing that lifted chip-testing shares also has to be supplied with electricity, and every watt lost in conversion is paid for twice, once as power and once as cooling.

TECHNOLOGY

Hitachi High-Tech and ZEISS Deepen Their Work on Multi-Beam Electron Inspection for Advanced Chips

By Ethan Cole | Editor, Technology & Science

Hitachi High-Tech and ZEISS SMT, the semiconductor arm of the German optics company, are strengthening their development of multi-beam electron-beam inspection for advanced semiconductors.

Inspection is the part of chip-making that finds defects: a missing contact, a bridged wire, a particle. At the most advanced nodes the features are a few nanometres across, well below what light can resolve.

An electron beam can see them. The difficulty is speed. A single beam scanning a wafer point by point would take far too long to check more than a tiny sample.

Optical inspection is fast but increasingly blind to the smallest defects, particularly those buried inside the tall, narrow structures of modern transistors and memory.

A multi-beam instrument attacks the problem directly. It splits the electrons into many beams, dozens or more, that scan in parallel and are detected separately, multiplying the throughput.

ZEISS has developed multi-beam electron microscopes for years, originally for mapping brain tissue. Hitachi High-Tech is the leading maker of the electron-beam instruments that chip factories already use to measure the dimensions of their patterns.

The combination pairs the electron optics of one with the factory experience, software and customer base of the other.

TECHNOLOGY

The timing follows the industry’s road map. The newest transistor designs and the bonding of chips face to face create defects that are hidden from above and can be found only with electrons.

The market is contested. The Dutch lithography company ASML sells multi-beam inspection systems, and American and Japanese rivals are developing their own.

For Japan's equipment industry inspection and measurement are an area of strength, alongside coating, cleaning and testing.

TECHNOLOGY

Materials: Sumitomo Metal Mining Pushes Nano-Copper Powder for Bonding Power Chips; Sakai Chemical Weighs More Capacitor Material for AI Servers

By Maya Suzuki | Science & Innovation Desk

Two materials companies are positioning themselves for the same demand, Dempa Shimbun reports.

Sumitomo Metal Mining is concentrating on nano-copper powder for joining power semiconductors to their substrates.

Sakai Chemical Industry is considering an increase in production of materials for the capacitors used in AI servers.

The joint between a power chip and the metal beneath it has to carry both current and heat. Solder has done the job for decades, but silicon-carbide devices run hotter than solder tolerates comfortably.

The current alternative is silver, sintered from fine particles into a solid layer at moderate temperature. It works well and is expensive.

Copper conducts heat and electricity nearly as well at a fraction of the price. The obstacle is that copper oxidises, and fine copper powder oxidises quickly. A nano-scale powder that sinters at low temperature without oxidising first is a matter of surface chemistry, which is what a smelting and materials company is equipped to do.

Sakai Chemical's product is less visible still. It is one of the principal makers of barium titanate, the ceramic powder from which multilayer ceramic capacitors are built.

A capacitor of this kind is a block smaller than a grain of rice, containing hundreds of ceramic layers. An AI server uses them in very large numbers to smooth the power delivered to its processors, and needs types that tolerate high temperature and high voltage.

The capacitors themselves are made largely by Japanese companies. The powder is the stage before that, and the finer and more uniform it is, the thinner the layers can be.

Neither company has announced a figure for investment in the reports available. Sakai Chemical's deliberations were first reported earlier in the week.

TECHNOLOGY

Today in Technology History: At 11:45 p.m. on October 2, 1955, ENIAC Was Switched Off

By Hana Ito | Research & Archive

Seventy-one years ago tonight, at 11:45 p.m. on October 2, 1955, the power was cut to ENIAC at the United States Army's proving ground at Aberdeen, Maryland. It was not switched on again.

The Electronic Numerical Integrator and Computer had been in more or less continuous operation for about ten years.

It was designed at the University of Pennsylvania by John Mauchly and J. Presper Eckert, under a wartime contract, to calculate the firing tables that told gunners how to aim. It was finished too late for the war and was shown to the public in February 1946.

It was a general-purpose machine. It could be set up to solve different problems, and among its first was a calculation for the hydrogen bomb.

The numbers still surprise. ENIAC contained about 18,000 vacuum tubes, weighed some 30 tons, filled a large room and consumed about 150 kilowatts. It could perform 5,000 additions in a second, which was roughly a thousand times faster than the electromechanical machines it replaced.

Programming it at first meant setting switches and plugging cables by hand, work done by a team of six women mathematicians whose contribution went

largely unrecorded for decades.

Its tubes failed regularly, most often when the machine was switched on or off, which is one reason it was left running.

By 1955 it was obsolete. Stored-program computers, which held their instructions in memory instead of in wiring, had overtaken it, and commercial machines were on sale.

Parts of ENIAC are preserved at the University of Pennsylvania, at the Smithsonian Institution and in other collections.

The single chip in a modern telephone contains several billion transistors, each doing the work of one of ENIAC's tubes, and runs on a battery.

TECHNOLOGY

October 2, 1925: In a London Attic, John Logie Baird Sees a Face on a Screen

By Hana Ito | Research & Archive

On October 2, 1925, in a rented attic room in Frith Street in the Soho district of London, the Scottish inventor John Logie Baird transmitted a recognisable moving image of a face by television.

The face was not human. It belonged to the head of a ventriloquist's dummy that Baird used as a test subject and called Stooky Bill.

Baird had been sending silhouettes for some time. What he achieved that day was an image with gradations of light and shade, in which features could be made out.

By his own account he ran downstairs and fetched an office boy from the floor below, William Taynton, who became the first person to appear on television. The boy had to be paid to sit under the hot lights.

The system was mechanical. A spinning disc pierced with a spiral of holes scanned the subject line by line, and a second disc, turning in step, rebuilt the picture at the receiver. The image had 30 lines.

Baird demonstrated it to members of the Royal Institution in January 1926, and in 1928 sent a picture across the Atlantic.

His method did not last. Electronic television, which scanned with a beam of electrons instead of a disc, produced far sharper pictures, and when the BBC began a regular high-definition service in 1936 it tried both systems and dropped Baird's within months.

Japan has its own claim on the electronic line. On Christmas Day 1926, at Hamamatsu, Kenjiro Takayanagi displayed the katakana character for 'i' on a cathode-ray tube, using a mechanical disc at the camera end.

Baird went on to demonstrate colour television and stereoscopic television before his death in 1946.

The building in Frith Street carries a plaque. Stooky Bill, somewhat scorched, survives in a museum.

TECHNOLOGY

A Week of Anniversaries: Hydroelectric Power in 1882, NASA in 1958, the 747 in 1968, the Compact Disc Player in 1982, Rosetta in 2016

By Hana Ito | Research & Archive

The turn of September into October is crowded with dates in the history of technology, and several of them explain the infrastructure in this morning's news.

On September 30, 1882, a waterwheel on the Fox River at Appleton, Wisconsin, began driving a dynamo that lit two paper mills and a house. It is generally counted as the first hydroelectric station to supply customers. Every argument about connecting data centres to the grid descends from it.

On October 1, 1958, the National Aeronautics and Space Administration began work, a year after Sputnik. Civilian space flight, and the Earth-observation data that weather forecasting now depends on, start there.

On September 30, 1968, the first Boeing 747 was rolled out of the factory at Everett, Washington. It made mass intercontinental travel cheap and gave the airline industry the scale it has today.

On October 1, 1982, Sony put the CDP-101 on sale in Japan, the first compact disc player sold to the public. It established digital sound in the home and, with it,

the idea that music was data.

On September 30, 2016, the European spacecraft Rosetta, which had spent two years in company with a comet, was steered to a gentle impact on its surface and its mission ended.

Three other lines run through the week without a single date. The Himawari weather satellites, whose images of the whole disc of the Earth are the basis of every typhoon forecast on these pages, are the descendants of a series that began in 1977.

The satellite positioning signals that were opened to civilian use in the 1980s and made precise in 2000 now guide aircraft, ships and telephones.

And the Linux kernel, first released by a Finnish student in September 1991, runs most of the world's servers, including the ones this week's cyber-defence law is meant to protect.

Today's own dates are Baird's television picture in 1925 and the shutdown of ENIAC in 1955, each described on this page.

TECHNOLOGY

On This Day in Technology: October 2

By Hana Ito | Research & Archive

1925: John Logie Baird transmits a recognisable moving image of a face, that of a ventriloquist's dummy, in London.

1955: ENIAC is switched off at 11:45 p.m. at Aberdeen, Maryland, after about ten years of service.

1946, for comparison: ENIAC had been shown to the public on February 14.

About 18,000: the number of vacuum tubes in ENIAC.

30: the number of lines in Baird's first pictures.

The day before, 1958: NASA begins operations.

The day before, 1982: Sony's CDP-101, the first compact disc player, goes on sale.

Two days before, 1882: the first hydroelectric station supplies customers at Appleton, Wisconsin.

Two days before, 1968: the Boeing 747 is rolled out.

Two days before, 2016: the Rosetta mission ends on its comet.

COURTS

A Voice as 'a Symbol of an Individual's Personality': What the Tokyo District Court Said in the Tsuda Case

By Daisuke Ito | Investigations & Longform

The Tokyo District Court's ruling in favour of the voice actor Kenjiro Tsuda, first reported this week, continues to be examined in the technology press for its reasoning.

The court upheld Mr Tsuda's claim over the imitation of his voice by generative AI, and described a voice as a symbol of an individual's personality.

That phrase is the important one. Japanese law has no statute that protects a voice as such. What it has is a body of court decisions on the rights that attach to a person's identity.

The leading case is the Supreme Court's decision of 2012 in a dispute involving the singing duo Pink Lady. The court recognised that a person's name and likeness can have the power to attract customers, and that the right to exploit that power commercially belongs to the person and is protected as a right derived from personality.

The decision spoke of names and likenesses. Whether a voice is in the same category had not been decided by a court.

By describing a voice as a symbol of personality, the district court has placed it there. A voice that the public recognises as belonging to a particular performer identifies that performer as surely as a photograph does.

The consequence for generative AI is direct. A system that produces speech the public would take for a known actor's is using the thing the law protects, whether or not it was trained on recordings of that actor and whatever the user typed to obtain it.

Voice actors in Japan have campaigned on the issue for two years, as synthetic imitations of well-known performers spread on video-sharing sites. Their industry bodies have asked for legislation.

A district court judgment binds only the parties, and

it can be appealed. As reported in these pages on Thursday, the accounts available do not identify the defendant or set out the remedies granted.

Mr Tsuda is known for a deep, distinctive voice and for roles in animation and in live-action drama, where he also appears on screen.

The government's AI action plan, due at the end of the year, will have to decide whether the question is left to the courts or settled by law.

SOCIETY

Thirty-Six Days of Rain: Central Tokyo's Streak Is the Longest Since Records Began in 1886, and September Was the Dullest on Record on Eastern Japan's Pacific Side

By Emi Kondo | Society & Local News

Rain has now been recorded in central Tokyo on 36 consecutive days, the longest such run since records began in 1886, Yomiuri and Sankei report.

The streak, which stood at 35 days on Wednesday, was expected by some forecasters to end on Thursday, when the capital was given cloud followed by sun. It did not end.

The month just finished has also entered the record books. Sunshine on the Pacific side of eastern Japan in September was the lowest ever measured for the month, and rainfall was 214 per cent of the average, more than double.

The numbers put a figure on what residents of the Kanto plain have lived with since late August: washing that does not dry, mould on bathroom ceilings, commuters carrying umbrellas for the sixth week running.

The pattern behind it is the familiar one of early autumn, made worse. The autumn rain front, which normally drifts across Honshu for a few weeks in September, has lain along the Pacific coast, and two typhoons, No. 25 and No. 26, have fed tropical moisture into it.

Typhoon No. 25 did the most damage. It struck Chiba on September 19 and the ground there has not recovered; the authorities in Chiba and Kanagawa are warning that even light rain could bring down slopes that are already saturated.

Typhoon No. 26, which passed the Izu Islands and brushed Kanto on Thursday, was moving away to the north-east last night and was expected to become an extratropical cyclone this morning.

Relief is not in today's forecast. The map on the weather page gives Tokyo rain, with a high of 19 and a low of 16, and carries the note that Kanto's rain will be cool. Other forecasts are somewhat less wet, with Asahi putting the chance of rain in the capital at 30 per cent.

If rain is recorded at the official gauge in Kitanomaru Park today, the count goes to 37.

The consequences are spreading beyond inconvenience. Requests for roof repairs are running at several times last year's level, the new rice crop is being inspected with urgency, and growers on the plain have had the dullest September on record.

A new typhoon, No. 27, formed near the Mariana Islands on Thursday and is forecast to strengthen and move north. Its track is reported on this page.

SOCIETY

Two Storms in Numbers

By Kenta Sakamoto | Data & Visualization

TYPHOON NO. 26, Thursday night: 1,002 hPa.

Maximum winds: 18 metres a second.

Movement: north-east at 45 km/h, east of Japan.

This morning: expected to become an extratropical cyclone.

TYPHOON NO. 27, CHOI-WAN, 6 a.m. Friday: 990 hPa.

Maximum winds: 23 metres a second; gusts 35.

Movement: west at 15 km/h, over the Mariana Islands.

Forecast: very strong; near the Ogasawara Islands around Monday and Tuesday.

Tokyo's consecutive days of rain: 36.

September rainfall, Pacific side of eastern Japan: 214 per cent of normal.



SOCIETY

Today the forecasts put the high at about 22, according to the Japan Weather Association, or 21 according to Asahi. The map on the weather page gives 19.

Whichever proves right, the fall is eight degrees or more in 24 hours.

The heat came with the typhoon. As No. 26 passed offshore it drew warm, humid air up from the south across the Kanto plain, and when the cloud broke the temperature climbed.

The cold comes with its departure. As the storm moves away to the north-east and becomes an extratropical cyclone, it pulls air down from the north behind it, and Kanto finds itself on the cold side under cloud and rain.

The north feels it more. In Hokkaido highs are below 20 degrees and the wind makes it feel colder still, and in Tohoku highs are around 20, about five degrees lower than on Thursday.

Sudden swings of this kind are when people fall ill. The body adjusts to heat and cold over days, and a drop of eight degrees between one morning's commute and the next catches it unprepared.

The practical advice is a layer that can be put on and taken off, since offices and trains will not have adjusted either.

For households it is the first day of the year on which heating might be considered, in the month in which electricity and gas charges have just gone up.

The longer outlook depends on Typhoon No. 27, now strengthening near the Mariana Islands, and on how much warm air it sends north ahead of it next week.

SOCIETY

### When a Typhoon 'Becomes an Extratropical Cyclone', What Actually Changes

By Maya Suzuki | Science & Innovation Desk

The forecast for Typhoon No. 26 was that it would become an extratropical cyclone this morning. The phrase is often heard as meaning that the storm is over. It does not mean that.

A typhoon is a tropical cyclone. It is warm all the way through, it has no fronts, and it draws its energy from the heat released as water vapour from a warm sea condenses in its towering clouds.

An extratropical cyclone is the ordinary low-pressure system of the middle latitudes. It has a warm side and a cold side with fronts between them, and it draws its energy from the contrast in temperature between the two.

When a typhoon moves north over cooler water and meets the westerly winds and the cold air of the middle latitudes, it changes from the first kind into the second. Cold air wraps into it, fronts form, and its symmetrical shape is lost.

The change is one of structure, not of strength. The agency reclassifies the storm when its structure has changed, whatever its winds are doing.

Some storms weaken as they transform. Others deepen again, because the temperature contrast gives them a fresh source of energy, and a few become more dangerous than they were as typhoons.

The area of strong wind usually grows. A typhoon's worst winds are packed close to its centre. An extratropical cyclone's are spread over hundreds of kilometres, so places far from the centre can be affected.

The rain shifts as well, concentrating along the fronts and on the northern side of the system.

For Typhoon No. 26, which was already at the minimum strength for a typhoon, the practical effects are the strong westerly winds forecast for today and the rain and thunder on the Sea of Japan side of the north.

The agency stops issuing typhoon bulletins once a storm is reclassified. It continues to issue warnings for wind, waves and rain, and those are the ones to follow.

SOCIETY

### Japan's Second Rainy Season: What the Autumn Rain Front Is, and Why It Can Be Worse Than the First

By Maya Suzuki | Science & Innovation Desk

The rains of June have a name known abroad. The rains of September do not, although in Tokyo they are usually the heavier.

In summer the Pacific high-pressure system sits over Japan and keeps the weather hot and settled. As it weakens and retreats in late August, cooler air from the continent pushes south.

Where the two air masses meet, a front forms and tends to stay. This is the autumn rain front, and the period it governs runs from late August into October.

It is the mirror image of the early-summer front. In June the front moves north as summer arrives; in September it moves south as summer leaves.

The difference is the typhoon season. September is the month in which typhoons most often approach Japan, and a typhoon far to the south can feed warm, wet air into the front and produce extreme rain hundreds of kilometres from its centre.

Some of the worst floods of recent decades came about in that way. The Tokai region was inundated in September 2000, and in September 2015 the Kinugawa river burst its banks in Ibaraki Prefecture.

In the capital's climate record, September and October are the two wettest months of the year, ahead of June.

What has been unusual this year is persistence. The rain has barely let up in five weeks, and two typhoons have passed close enough to keep the front supplied.

The result is the 36 consecutive days of rain in central Tokyo, the lowest September sunshine on record on the Pacific side of eastern Japan, and rainfall at 214 per cent of normal.

The front normally retreats south in October as dry continental air takes over. A very strong typhoon moving north next week is not what is needed for that to happen quickly.

SOCIETY

### Yoro Valley's Autumn Colours in Doubt: Typhoon No. 25's Mudslides Damaged the Famous Viewing Spots, and the Trains Are Still Not Running

By Naomi Kato | Culture & Society Editor

The Yoro Valley, the best-known place for autumn leaves in Chiba Prefecture, was hit by mudslides during Typhoon No. 25, and its celebrated viewing spots have been damaged. Train services to the valley remain suspended.

The valley lies in the hills of the Boso Peninsula, where the Yoro River has cut a gorge through soft rock. Its maples turn later than almost anywhere else in the Kanto region, usually from late November into early December, and for that reason it draws visitors after the colours have finished elsewhere.

The season is the area's economy. The inns, the hot-spring baths and the restaurants along the river take a large part of their year's income in five or six weeks.

The typhoon struck on September 19. In the valley the steep sides of the gorge gave way in places, carrying earth and trees down onto the walking paths and into the river.

The paths are the attraction. Visitors walk along the riverbed beneath the trees, past waterfalls, and a path that has been buried or undercut cannot be opened until the slope above it is made safe.

The railway matters as much. The valley is served by a small local line whose single-carriage diesel trains are themselves part of the appeal, and a line through hills of this kind is vulnerable at every cutting and bridge.

The reports do not say when trains will run again or how much of the valley will be open by late November.

There are eight weeks until the leaves turn. That is long enough to clear a path and not long enough to rebuild a slope, and the rain has not stopped: central Tokyo has now recorded 36 consecutive days of it.

The severe-disaster designation that would bring additional state funds for reconstruction in Chiba had not been made at the last report carried in these pages.

Those planning a visit should check with the local tourist association before travelling, and should not enter closed sections. A slope that has failed once is the most likely to fail again.

ELSEWHERE IN TODAY'S PAPER

Nishikori's last match, Page 16.

Editorial: vigilance has to save the next one, Page 20.

SOCIETY

### Loose Ground in Chiba and Kanagawa: Why Even Light Rain Now Calls for Caution

By Emi Kondo | Society & Local News

The ground in Chiba and Kanagawa prefectures has been loosened by Typhoon No. 25 and the rain since, and the forecasters are advising caution even when the rain is light.

The warning sounds excessive until the mechanism is understood. A slope fails when the water in the soil reaches the point at which the particles no longer grip one another. In dry ground a great deal of rain is needed to get there.

In ground that is already full, very little is. The soil cannot absorb more, the pressure of water in its pores rises at once, and a shower that would ordinarily soak in without consequence can be the last increment.

Japan's landslide warnings are based on this idea. They are calculated not from the rain falling now but from an index of how much water the soil is estimated to hold, built up from all the rain of recent weeks.

After 36 consecutive days of rain in central Tokyo and a September in which the Pacific side of eastern Japan received more than twice its normal rainfall, that index is high across the region.

Thursday night's earthquake in north-eastern Chiba, which registered intensity 3, adds a second cause for concern, since shaking can open cracks through which water enters a slope.

The places at risk are the ones the hazard maps already mark: houses beneath steep slopes, at the mouths of small valleys, and on land cut into hillsides.

The warning signs are the same as ever. Small stones falling, cracks in the ground, a rumbling from the hill, water in a stream turning muddy or suddenly dropping, a smell of earth.

The advice is to move before the warning becomes an order: to a room on an upper floor on the side away from the slope, or out of the area altogether while it is still light.

Today's forecast map gives rain for Tokyo and Yokohama.

SOCIETY

### Two Weeks After Typhoon No. 25: What Chiba Is Still Waiting For

By Emi Kondo | Society & Local News

Typhoon No. 25 struck on September 19. Thirteen days later the storm that followed it has also gone, and the prefecture that took the worst of the first can begin to count what remains to be done.

The toll at the last report carried in these pages was 13 dead and two missing, with about 4,000 households still without electricity.

The severe-disaster designation, which raises the state's share of the cost of rebuilding roads, rivers and farmland, had not been made at that report. Local governments plan their reconstruction budgets around it.

The ground remains the first concern. Level 4 landslide warnings were in force in parts of the prefecture this week, and the forecasters' caution that even light rain is dangerous has been repeated daily.

The second is water. The closure of the levee at Inbanuma was being reinforced round the clock as the Tone River rose with Thursday's rain.

The third is livelihoods. The rice harvest was under way when the storm struck, and the quality inspections of the new crop are being hurried. In the Yoro Valley the mudslides have damaged the autumn-leaf spots on which the local inns depend, and trains to the valley are still suspended.

The fourth is housing. Requests for roof repairs across the region have been running at more than five times last year's level, and roofers cannot work in the rain that has now fallen on Tokyo for 36 days in a row.

Thursday night added an earthquake, of intensity 3 in the north-east of the prefecture, and the weekend adds the question of where Typhoon No. 27 goes.

Volunteers have been working in the affected districts at weekends. Those intending to help should register through the local social welfare council, which matches volunteers to households, and should

not arrive unannounced.

The extraordinary Diet session that opens on Monday will be asked when the designation will be made.

SOCIETY

### The Circle Is Not the Storm: How to Read a Typhoon Forecast Chart

By Kenta Sakamoto | Data & Visualization

The track graphic for Typhoon No. 27 printed in today's edition carries a note that the storm's centre may not follow the line drawn between the circles. The note is correct, and it points to the most common misreading of these charts.

A forecast chart shows the storm's present position and a series of circles for future times, usually joined by a line.

Each circle is the area within which the centre of the storm is expected to lie at that time, with a probability of 70 per cent. It is a statement about uncertainty.

It is not the size of the storm. A circle that grows larger at later times does not mean the typhoon is growing; it means the forecasters are less sure where it will be.

The line through the centres of the circles is drawn for convenience. The storm is as likely to pass along one edge of the circles as down the middle, and three times in ten it will be outside them altogether.

The area that will actually be affected is shown differently, as a zone around the circles within which storm-force winds may occur.

For a place near the edge of the forecast, the useful figure is the probability of entering the storm zone, which the agency publishes for each region. On Thursday it was 43 per cent for the Ogasawara Islands and 5 per cent or less for the Izu Islands and the Kanto coast, as reported by Weathernews.

Those numbers will change with each update, and they can change quickly when a storm is forecast to turn.

The practical rule is to read the circles as a range of possibilities, to plan for the edge nearest to you, and to check again in six hours.

The graphic supplied for this edition is not the agency's chart, and the line on it lies well to the west of the agency's forecast positions. It is printed as supplied.

SOCIETY

### Magnitude 5.1 Earthquake in North-Eastern Chiba at 9:27 p.m.; Intensity 3 in Ibaraki and Chiba

By Emi Kondo | Society & Local News

An earthquake of magnitude 5.1 struck north-eastern Chiba Prefecture at 9:27 p.m. on Thursday.

Its focus was about 50 kilometres deep. The strongest shaking was seismic intensity 3 on the Japanese scale, recorded in Ibaraki and Chiba prefectures.

The reports available this morning mention no damage or injuries and no tsunami warning.

Intensity 3 is felt by most people indoors. Dishes rattle and hanging lamps swing, but furniture stays where it is.

The area is one of the most seismically active in the Kanto region. Beneath north-eastern Chiba and southern Ibaraki the Pacific plate and the Philippine Sea plate both descend under the plate that carries eastern Japan, and earthquakes at depths of 40 to 70 kilometres are frequent there.

A depth of 50 kilometres spreads the shaking over a wide area while limiting its strength at any one place, which is why a magnitude above 5 produced an intensity of only 3.

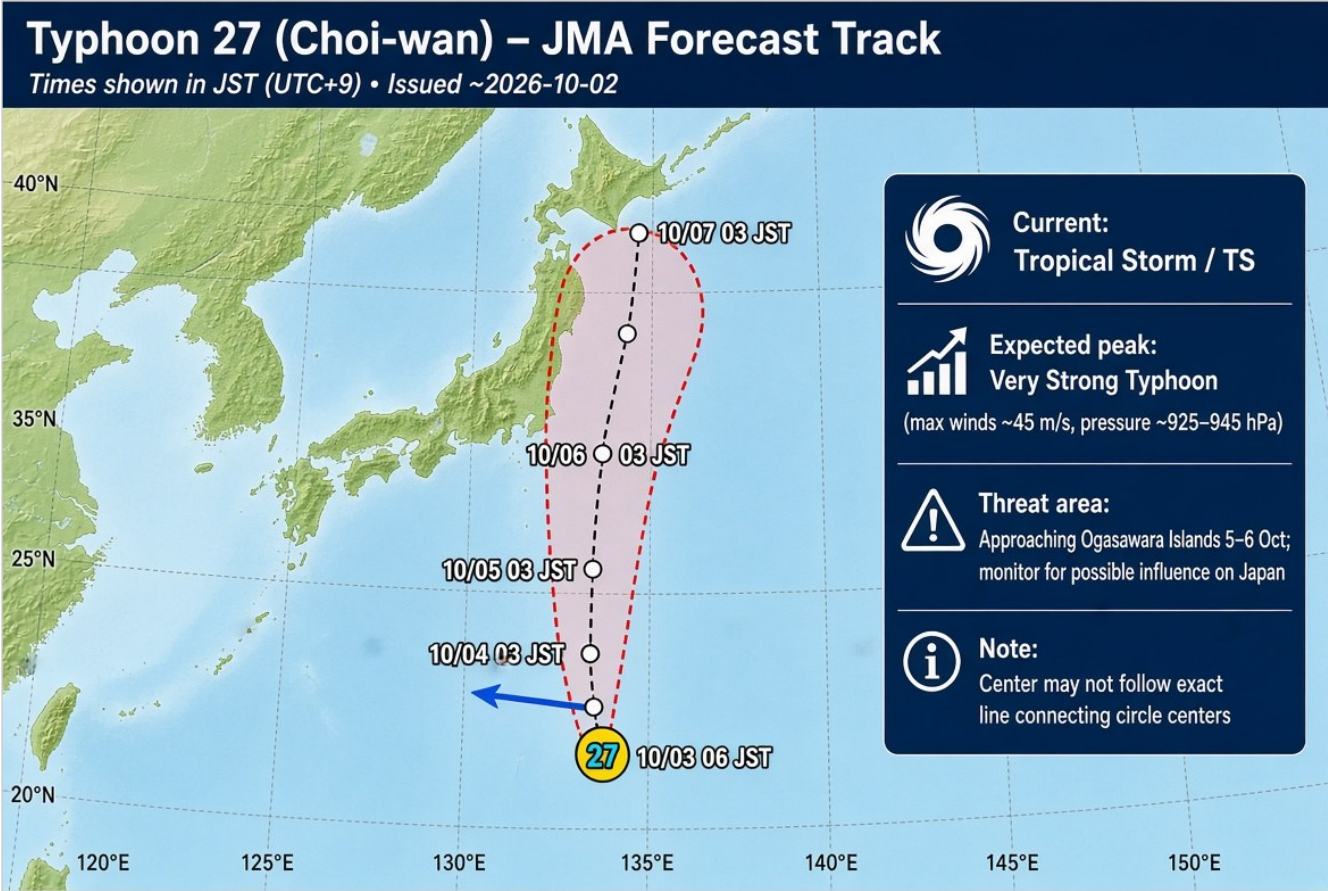
The timing was unwelcome all the same. The ground in Chiba is saturated after Typhoon No. 25 and the weeks of rain that followed, and Typhoon No. 26 had passed offshore only hours earlier.

Shaking can loosen slopes that are already close to failure. The prefecture's warnings about landslides after light rain apply with more force to slopes that have also been shaken.

Residents near steep ground should look for new cracks, for water or mud appearing where there was none, and for trees that have begun to lean, and should leave and report it if they see them.

Aftershocks of similar or smaller size are possible for about a week.

SOCIETY



Track graphic for Typhoon No. 27 (Choi-wan) supplied for this edition. Its text panel gives the storm as a tropical storm expected to peak as a very strong typhoon and to approach the Ogasawara Islands on October 5 and 6. The line drawn on its map lies near 134 to 135 degrees east, well west of the agency's forecast positions near the Ogasawara Islands. Reproduced as supplied.

SOCIETY

## Typhoon No. 27, Choi-wan, Forms Near the Marianas and Is Forecast to Become 'Very Strong' as It Moves North Towards the Ogasawara Islands

By Maya Suzuki | Science & Innovation Desk

A new typhoon, No. 27, formed near the Mariana Islands at 3 a.m. on Thursday, with a central pressure of 998 hectopascals and maximum winds of 18 metres a second. Its name, Choi-wan, was contributed by Hong Kong and means a coloured cloud.

At 6 a.m. today the Japan Meteorological Agency placed it over the Marianas, moving west at 15 kilometres an hour, with a central pressure of 990 hectopascals and maximum sustained winds of 23 metres a second, according to the agency's bulletin as carried by the regional press.

The agency expects it to turn north and to intensify into a very strong typhoon, the second-highest class on the Japanese scale, as it moves through the waters near the Ogasawara Islands.

The Japan Weather Association's forecasters said on Thursday that it would approach those waters around Monday. Weathernews puts it east of the islands on Monday and Tuesday and notes that a storm of that strength can affect the islands without passing directly over them.

What happens after that is uncertain. Most computer forecasts take the storm north over the sea well east of Honshu, Weathernews reports. A minority bring it much closer. The Japan Weather Association's forecasters caution that if the storm takes the western side of its forecast range it could affect the main islands, and that the latest information should be checked.

The graphic reproduced with this article was supplied for this edition. Its information panel agrees with the agency: the storm is currently a tropical storm, is expected to peak as a very strong typhoon with maximum winds of about 45 metres a second and a central pressure of about 925 to 945 hectopascals, and is approaching the Ogasawara Islands on October 5 and 6.

The track drawn on the graphic's map, however, lies along about 134 to 135 degrees east, which is over the Philippine Sea south of Shikoku, and runs north to about 38 degrees by the morning of October 7. The agency's forecast positions reported by tenki.jp lie near 144 to 146 degrees east, close to the Ogasawara Islands and some 1,000 kilometres further east.

The graphic is reproduced as supplied, and its own note says that the centre may not follow the line drawn. Readers should rely on the agency's positions and not on the drawn line.

The Ogasawara Islands lie about 1,000 kilometres south of Tokyo and are reached only by a ship that takes a full day. Residents and visitors there should follow the village's announcements and the shipping company's notices from now.

On the Kanto coast the first effect of a storm at that distance is swell. Chiba and Kanagawa, where the ground is already loose after Typhoon No. 25, have the most reason to watch whether the track shifts west.

The agency updates its typhoon information every few hours.

SOCIETY

## Why No. 27 Is Also Called Choi-wan: How Typhoons Get Their Numbers, Their Names and Their Classes

By Maya Suzuki | Science & Innovation Desk

Every typhoon has two labels, and in Japan the number is the one people use.

The Japan Meteorological Agency numbers the storms of each year in the order in which they form, starting again at No. 1 every January. Typhoon No. 27 is the 27th tropical storm of 2026 in the north-western Pacific.

The name comes from an international list. Fourteen countries and territories around the western Pacific each contributed ten names, 140 in all, and the names are used in rotation regardless of the year.

Choi-wan was contributed by Hong Kong and means a coloured cloud. Japan's ten contributions are all names of constellations.

A name that becomes attached to a disaster is retired at the request of the country affected and replaced.

Strength is classified by maximum sustained wind. A tropical cyclone becomes a typhoon, in Japanese usage, at about 17 metres a second. It is called strong from 33, very strong from 44 and violent from 54.

Size is classified separately, by the radius of the area in which winds exceed 15 metres a second. A storm is large when that radius reaches 500 kilometres and very large at 800.

The two scales are independent. A storm can be small and violent or large and comparatively weak, and the two kinds do different damage.

The forecast for Choi-wan is that it will become very strong, with winds of about 45 metres a second. At that speed the agency warns that travelling trucks can be overturned and that some wooden houses may be destroyed.

Typhoon No. 26, which left Japan on Thursday, was at the other end of the scale: 18 metres a second, barely a typhoon at all.

SOCIETY

## A Thousand Kilometres South and a Day by Ship: The Ogasawara Islands in the Path of Typhoon No. 27

By Emi Kondo | Society & Local News

The islands that Typhoon No. 27 is forecast to approach early next week are part of Tokyo, though they lie about 1,000 kilometres south of the capital.

The Ogasawara group consists of some 30 subtropical islands. Two are inhabited by civilians, Chichijima and Hahajima, with a combined population of about 2,500.

There is no airport. The only regular link is a passenger ship from Takeshiba pier in Tokyo that takes 24 hours each way and sails roughly once a week.

That fact governs everything about a typhoon there. Supplies cannot be rushed in, visitors cannot be flown out, and a patient who needs a mainland hospital depends on a Self-Defense Forces flying boat or helicopter.

When a storm threatens, the ship's schedule is changed, and tourists already on the islands may find their stay extended by a week.

The islands were placed under American administration after the Second World War and returned to Japan in 1968.

They were never connected to a continent, and their plants and animals evolved in isolation. UNESCO inscribed them as a World Natural Heritage site in 2011.

The village is practised at storms, and at waiting for the next ship.

A very strong typhoon is another matter, even there. Winds of 45 metres a second, the forecast peak for this storm, are beyond what trees, signs and temporary structures withstand.

The village office broadcasts instructions by loudspeaker and radio. Visitors should follow them and should not approach the shore to look at the waves.

SOCIETY

## Before No. 27: A Weekend Checklist

By the Society Desk

Check the agency's typhoon information morning and evening. The track will change.

If you are booked to or from the Ogasawara or Izu islands next week, check the shipping company's notices.

Clear gutters and drains now, while it is only raining.

Bring in or tie down anything on a balcony that the wind could move.

Check the hazard map for your address: landslide, flood, storm surge.

Decide where you would go, and by which road, before you need to.

Charge telephones and a spare battery. Keep a torch where you can find it in the dark.

Store drinking water and three days of food that needs no cooking.

If you live below a slope in Chiba or Kanagawa, do not wait for an order to leave.

Check on elderly neighbours.

SOCIETY

## Magnitude 5.1, Intensity 3: Two Numbers That Measure Different Things

By Maya Suzuki | Science & Innovation Desk

Thursday night's earthquake was reported with two numbers, and they are often confused.

Magnitude describes the earthquake itself: how much energy was released where the rock broke. An earthquake has one magnitude, wherever it is measured from.

Seismic intensity describes the shaking at a particular place. One earthquake produces many intensities, strong near the source and weaker with distance.

The magnitude scale is logarithmic. Each whole number represents about 32 times more energy than the one below, so that a magnitude 7 releases roughly a thousand times the energy of a magnitude 5.

Japan's intensity scale runs from 0 to 7, with levels 5 and 6 each divided into lower and upper, making ten steps in all. It is measured by instruments at several thousand sites across the country.

At intensity 3 most people indoors feel the shaking. At 4, most people are startled and unstable objects fall. From 5 lower, furniture may move, and from 6 lower it becomes difficult to stay standing.

The link between the two numbers depends on depth and distance. A shallow earthquake directly beneath a city can produce severe shaking at a modest magnitude. A deep one spreads its energy over a wider area and shakes any one place less.

Thursday's was about 50 kilometres down, which is why a magnitude of 5.1 produced a maximum intensity of 3.

The ground matters too. Soft, wet sediments amplify shaking, and reclaimed land and river plains regularly record higher intensities than the hills beside them.

It is intensity that determines damage, and so it is intensity that Japanese broadcasters report first.

SOCIETY

## Signs That a Slope Is About to Fail

By the Society Desk

Small stones rolling down.

New cracks in the ground or in a retaining wall.

Water seeping from a slope that was dry.

Spring water that suddenly stops or turns muddy.

A stream that falls although it is still raining.

A rumbling in the hill.

Trees leaning or swaying without wind.

A smell of earth or rot.

If you notice any of these, leave at once and tell the municipality.

After Thursday night's earthquake, look again in daylight.

SOCIETY

## Level 3, Level 4, Level 5: What Japan's Disaster Warnings Ask You to Do

By Emi Kondo | Society & Local News

With the ground loose in Chiba and Kanagawa and a new typhoon forming, the five warning levels are worth reading again.

The system was introduced in 2019, after floods in western Japan the previous year in which many people who had received warnings did not leave.

Level 1 is an early notice that conditions may worsen. Level 2 asks people to check their hazard maps and their route to shelter.

Level 3 is the signal for those who need more time. The elderly, people with disabilities, families with small children and anyone who lives in an exposed place should leave at this point.

Level 4 is the evacuation instruction. Everyone in the area named should leave the dangerous place. Since 2021 there has been a single instruction at this level; the older and weaker term, evacuation advisory, was abolished because people had been waiting for the stronger one.

Level 5 means that a disaster has already begun or is about to. It is not a signal to evacuate. By then it may be too dangerous to go outside, and the advice is to protect life where you are, by moving to an upper floor and away from a slope.

The essential point is that Level 4 is the last moment to leave, not Level 5.

A landslide alert issued jointly by the weather agency and the prefecture corresponds to Level 4. It was in force in parts of Chiba this week.

Evacuation does not have to mean a public shelter. A relative's house on higher ground, a hotel, or a safer room in one's own home all count, provided the decision is taken early.

The warnings for each municipality are on the agency's website and on the disaster information applications of the main broadcasters.

SOCIETY

## Today's Cautions

By the Society Desk

Kanto: cool rain. Dress for 19 to 22 degrees.

Chiba and Kanagawa: landslide risk even in light rain.

North-eastern Chiba and Ibaraki: possible aftershocks.

Hokkaido and Tohoku, Sea of Japan side: rain and thunder.

Nationwide: strong westerly winds.

Pacific coasts: swell from Typhoon No. 26.

Ogasawara Islands: follow Typhoon No. 27.

Times Car members: beware of fraudulent messages.

Travellers to Israel via Dubai: check your booking.

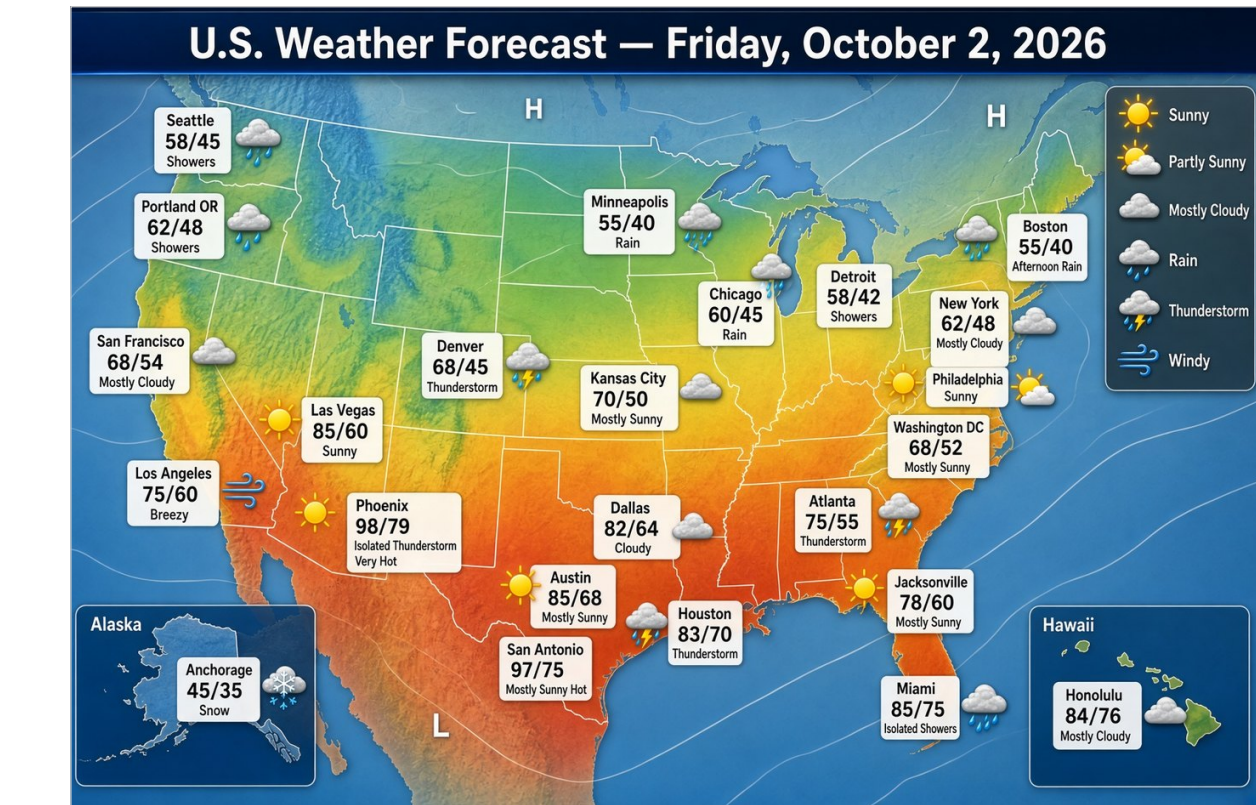
Hokkaido: ten burger items off the menu at 91 McDonald's.

Yoro Valley: paths closed by mudslides; trains suspended.

Ogasawara-bound travellers: check the ship's schedule.

Tokyo: a 37th day of rain is possible.

WEATHER ABROAD



United States weather forecast map supplied for this edition, titled for Friday, October 2, 2026: highs and lows in degrees Fahrenheit. The Philadelphia box carries a condition and no temperatures. Reproduced as supplied.

SOCIETY

Weather Abroad: Rain Across the Northern United States, Thunderstorms From Denver to Atlanta, and 98 Degrees in Phoenix

By Kenta Sakamoto | Data & Visualization

The United States forecast map supplied for this edition is titled for Friday, October 2, 2026, and gives highs and lows in degrees Fahrenheit.

The north is wet. Seattle is given showers at 58 and 45, Portland showers at 62 and 48, Minneapolis rain at 55 and 40, Chicago rain at 60 and 45 and Detroit showers at 58 and 42.

The north-east is cool. Boston is given afternoon rain at 55 and 40, New York is mostly cloudy at 62 and 48, and Washington is mostly sunny at 68 and 52. Philadelphia is marked sunny; its box carries no temperatures.

Thunderstorms are marked at three points across the middle and south of the country: Denver at 68 and 45, Houston at 83 and 70 and Atlanta at 75 and 55.

Texas is divided. Dallas is cloudy at 82 and 64, Austin mostly sunny at 85 and 68, and San Antonio mostly sunny and hot at 97 and 75.

The heat is in the south-west. Phoenix is the map's hottest city at 98 and 79, labelled very hot with an isolated thunderstorm. Las Vegas is sunny at 85 and 60.

California is mild. San Francisco is mostly cloudy at 68 and 54 and Los Angeles breezy at 75 and 60.

Kansas City is mostly sunny at 70 and 50. In Florida, Jacksonville is mostly sunny at 78 and 60 and Miami has isolated showers at 85 and 75.

Outside the contiguous states, Anchorage is given snow at 45 and 35, and Honolulu is mostly cloudy at 84 and 76.

In Celsius the range runs from about 7 degrees for Anchorage's high to about 37 for Phoenix's.

The map marks high pressure over the northern Plains and over the north-east, and low pressure over northern Mexico.

It is reproduced as supplied. Two features are noted: the Philadelphia box has a condition but no figures, and the symbol beside the Phoenix box is a sun although the label mentions a thunderstorm.

SOCIETY

Car Runs Out of Control in Sannomiya, Kobe, Striking Four People; a 21-Year-Old Woman Is Killed

By Emi Kondo | Society & Local News

A car went out of control in the Sannomiya district of Kobe and struck four people. A 21-year-old woman was killed.

The reports available this morning do not give the conditions of the other three, the identity or age of the driver, or the cause.

Sannomiya is the centre of Kobe. Its railway stations, department stores and shopping arcades make it the busiest place in the city, and its pavements and crossings are crowded from morning until late at night.

The police will be examining whether the driver was taken ill, whether the accelerator was pressed in mistake for the brake, whether the vehicle was defective, and whether drink or drugs were involved. Those are the questions asked after every such incident, and no answer to any of them has been

reported.

The district has seen this before. In April 2019 a city bus moved off into a pedestrian crossing in front of the station and killed two people.

Deaths of pedestrians struck by vehicles that have left the driver's control have been a persistent concern nationally. Cases involving elderly drivers have led to changes in the licence renewal system, including cognitive tests and, for some, a driving test.

New cars sold in Japan must now be fitted with automatic emergency braking, and devices that suppress sudden acceleration when the wrong pedal is pressed are being made compulsory on new models.

None of that helps the person on the pavement when the car is an older one, or when the cause is something other than a mistake.

The woman who died has not been named in the reports available.

The Hyogo prefectural police are investigating.

SOCIETY

Hokkaido University Acknowledges 'Systemic Academic Harassment' in Its Faculty of Science

By Naomi Kato | Culture & Society Editor

Hokkaido University has recognised conduct within its Faculty of Science as systemic academic harassment, TV Asahi reports.

The word that matters is systemic. Universities deal regularly with complaints against individual professors. A finding that an organisation's own practices amounted to harassment is of a different order, and rarer.

Academic harassment is the term used in Japan for the abuse of power in teaching and research: a supervisor who withholds guidance, blocks publication, takes credit, assigns work unrelated to research or isolates a subordinate.

The structure of a Japanese university laboratory makes such abuse possible. A laboratory is headed by a professor, under whom associate and assistant professors and students work, and the professor's decisions on space, funds, students and authorship are in practice difficult to challenge.

Earlier press reports described complaints from teaching staff in the faculty who said they had been left without students or a role after the professor above them departed.

The reports available this morning do not set out the full findings, name those responsible or say what measures the university will take.

A finding against a system does not remove the question of individual responsibility, and those affected will want to know who made the decisions and what happens to them.

Hokkaido University is one of the seven former imperial universities and among the country's leading research institutions.

National universities have been under pressure from the education ministry to strengthen their procedures for handling harassment complaints, including the use of outside members on investigating committees.

The university's own announcement should be read for the details.

SPORTS

Nishikori's Last Match: A 4-6, 4-6 Defeat by Tiafoe at Ariake Ends the Career of Japan's Greatest Men's Tennis Player

By Oliver Brooks | Sports Desk Editor

Kei Nishikori played the last match of his career on Thursday afternoon at Ariake, losing 4-6, 4-6 to Frances Tiafoe of the United States in the first round of the Japan Open.

He is 36 and had announced at the end of April that this season would be his last. He chose the tournament he won in 2012 and 2014 as the place to finish.

Tiafoe, the second seed and the world number eight, was never likely to be a sentimental opponent, and was not. Nishikori, playing on a wild card with a ranking of 436, lost his serve first in each set.

In the first the two exchanged breaks before Tiafoe broke again in the seventh game. In the second the American broke in the third game and held from there. Nishikori still produced sharp returns, the stroke on which his career was built, Jiji Press reported, but he could not get back on level terms. He left the court holding a bouquet.

Speaking afterwards, he said that the sense of loss had come over him all at once, the realisation that 30 years of work were ending, and that the sadness was great. But he said he could say he had done everything he could, and was satisfied.

He leaves with 12 tour titles and a record of 452 wins and 233 defeats at tour level. He reached number four in the world, the highest ranking achieved by a Japanese man in the modern era.

In 2014 he beat Novak Djokovic to reach the final of the United States Open, the first man from Asia to play in a Grand Slam singles final. In 2016 he beat Rafael Nadal for the bronze medal at the Rio de Janeiro Olympics, Japan's first Olympic tennis medal in 96 years.

The last years were spent mostly in treatment rooms. He had surgery on his hip in January 2022, and injuries to his left knee and right shoulder followed.

A farewell ceremony is planned for the final day of the tournament, next Tuesday.

Japanese men's tennis had not seen a career like it before. That, and not Thursday's score, is what ended at Ariake.

SPORTS

From Matsue to Number Four in the World: The Career Kei Nishikori Leaves Behind

By Haruto Yamamoto | Sports Reporter

Kei Nishikori was born in Matsue, in Shimane Prefecture, in December 1989, and began playing tennis at five.

At 13 he left Japan for Florida on a scholarship from a fund set up by Masaaki Morita, a former president of the Japan Tennis Association, to send promising juniors to the academy that had produced Andre Agassi and Maria Sharapova. He spoke little English.

He won his first tour title at Delray Beach in February 2008, at 18, as a qualifier ranked 244th. Later that year he reached the fourth round of the United States Open.

An elbow injury then cost him most of a year, the first of the absences that punctuated his career.

He came back to enter the top 20 in 2012, winning the Japan Open in Tokyo, and the top ten in 2014, the first Japanese man to do so.

The summit was the United States Open of that year. He beat Milos Raonic and Stan Wawrinka in consecutive five-set matches, then Novak Djokovic, the world number one, in the semi-final in fierce heat. He lost the final to Marin Cilic.

He reached his highest ranking, fourth, in March 2015, and four times finished a season among the eight players who qualify for the year-end championship.

His game was built on timing. He was smaller than most of his rivals and hit the ball earlier than almost any of them, taking the opponent's time away. His two-handed backhand and his return of serve were among the best in the world.

He was also, for a long time, the best player in the sport in deciding sets, a record that spoke of his nerve and concealed how much those long matches cost his body.

In Japan his effect went beyond results. Courts filled, a generation of juniors took up the game, and a sport that had been a minority interest was shown live in prime time.

He retires with 12 titles, the last of them won at Brisbane in January 2019.

SPORTS

Nine Golds in a Day at the Asian Games Take Japan's Medal Total to 217

By Oliver Brooks | Sports Desk Editor

Japan won nine gold medals, two silver and six bronze at the Asian Games on Thursday, TBS reports, taking the country's total at the Aichi-Nagoya Games to 217 medals with three days remaining.

Judo supplied three of the golds. Narumi Tanioka won the women's 63-kilogram class, Rin Maeda the women's 70-kilogram class and Sotaro Fujiwara the men's 81-kilogram class.

Wrestling supplied two. Yuri Nakazato won the Greco-Roman 97-kilogram class, the first Japanese title in a heavyweight division at the Games in 40 years, and Nonoka Ozaki won the women's 62-kilogram class.

On the cycling track, Kaiya Ota won the men's sprint and Kanta Umezawa the omnium, and Japan also won the women's Madison.

Kurumi Ito won the women's kayak event in canoe slalom.

In skateboarding, Mizuho Hasegawa won the women's park event and Yuro Nagahara the men's, and Yumeka Oda took silver in the women's street.

The athletics programme ended with a bronze for Soshi Mizukubo in the men's 200 metres. The women's squash team also took bronze.

In golf, the Japanese men's team leads after three rounds at 16 under par, with Nakajima and Higa tied for third in the individual standings going into the final round.

The list of winners in the reports is longer than the day's official count of nine golds, which suggests that some of the results carried this morning were decided on Wednesday. The desk has given the names as reported and the tally as TBS gives it.

The men's football final, against South Korea, is on Saturday. The Games close on Sunday.

Japan last hosted the Asian Games at Hiroshima in 1994.

SPORTS

What a Magic Number Is, and Why a Draw Did Not Move It

By Kenta Sakamoto | Data & Visualization

The magic number is the simplest piece of arithmetic in baseball and one of the most often misunderstood.

It is the number of wins the leading team needs to be certain of finishing first, on the assumption that its nearest rival wins every game it has left.

Each win by the leader reduces it by one. So does each defeat of the rival that the number is counted against. When it reaches zero, the title is decided.

Japanese baseball adds a complication, which is the draw. Standings in Japan are decided by winning percentage, with drawn games left out of the calculation.

A draw therefore changes the percentages only by removing a game from the schedule. Whether that reduces the magic number depends on the exact records of the two teams.

On Thursday it did not. Hanshin's number was two before the game and two after it.

The number lights up, in the Japanese phrase, on the day the leader's fate passes into its own hands, and it can go out again if the leader loses enough.

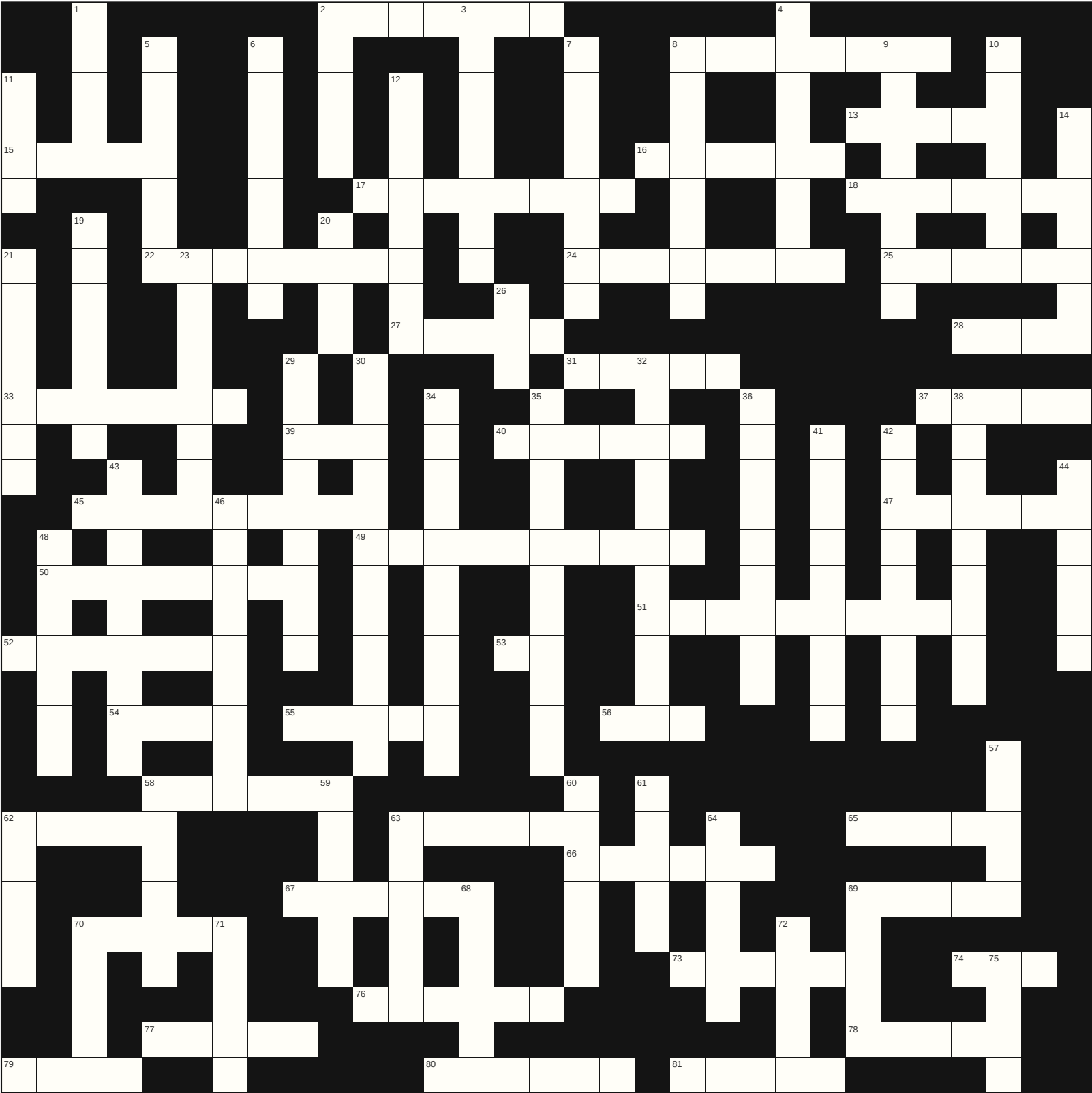
With two remaining, Hanshin cannot win the pennant on the strength of a single result. Two things must go their way, in any combination.

The gap between the teams, quoted as two games, is a different measure. It is half the difference between the two teams' margins of wins over losses.

Both numbers will be out of date by tonight.

CROSSWORD PUZZLE

Today's Professional Puzzle — Constructed by James O'Neill — 88 Words



Solution will appear in tomorrow's edition. Puzzle difficulty: Professional.

ACROSS

2. Tigers with a magic number of two (7)  
8. Home port of the George Washington (8)  
13. Bank of \_\_\_\_, in the same talks (5)  
15. Wrestling gold at 62 kg (5)  
16. Subject of his remarks (6)  
17. Prime Minister with an AI plan due (8)  
18. It also recorded intensity 3 (7)  
22. Men's park gold (8)  
24. Chinese AI company it named (8)  
25. City accused of inflating its figures (6)  
27. Bank in merger talks, and its prefecture (5)  
28. Valley whose maples are in doubt (4)  
31. Defence that became proactive on Thursday (5)  
33. Hero who watches Mayday (7)  
37. Chiha city of data centres (5)  
39. Broker offering zero-fee funds (3)  
40. Title he is one win from (6)  
45. Kobe district where a car struck four (9)  
47. They drew 2-2 in 12 innings (6)  
49. Auditor's refusal to give an opinion (10)  
50. Greco-Roman gold at 97 kg (8)  
51. He put a katakana character on a tube in 1926 (10)  
52. City Megumi was taken from; cloudy at 21 today (7)  
53. Chinese leader who spoke on National Day (2)  
54. Map's warmest, 28 and 24 (4)  
55. A symbol of personality, the court said (5)  
56. At 158.37 to the dollar (3)  
58. They weigh courage and vigilance (6)  
62. Tree of the autumn colours (5)  
63. American who beat him 6-4, 6-4 (6)  
65. Where the flight began (5)  
66. Blue symbol of the abduction campaign (6)  
67. Bank of Japan survey (6)  
69. Judo gold at 70 kg (5)  
70. What a typhoon leaves in the sea (5)  
73. Insurance agent back from Thailand (6)  
74. Street silver in skateboarding (3)  
76. One of four labelled in the cartoon cabin (6)  
77. Voice actor who won in court (5)  
78. Megumi's mother (5)  
79. Capacity reserved and not used (4)  
80. Train one model on another's answers (6)  
81. Beef item that fell short of standards (5)

DOWN

1. Nidec's new president (5)  
2. Plumber who pulled the attacker out (5)  
3. Women's park gold in skateboarding (8)  
4. Island of the 91 restaurants (8)  
5. Name of Typhoon No. 27 (4-3) (7)  
6. Airline of Flight FZ1073 (8)  
7. City whose campaign opens Sunday; rain, 20 and 17 (8)  
8. Island 110 km from Taiwan (8)  
9. Author of The Master of Go (8)  
10. Omnium gold (7)  
11. Armoured since 2001 (4)  
12. Winning pitcher for Nippon-Ham (8)  
14. Go challenger with three wins (7)  
19. \_\_\_\_, nitride, for server power supplies (7)  
20. Tokyo has had 36 days of it (4)  
21. Flight deck (7)  
23. Wisconsin town of the first hydroelectric plant (8)  
26. Kayak slalom gold (3)  
29. He played his last match at Ariake (9)  
30. Box with no temperatures on the U.S. map (12)  
32. Sole tyre supplier to Formula E (11)  
34. Radio that sent 7700 and 7500 (11)  
35. 2015 disaster behind a locked door (11)  
36. Snow at 45 and 35 (9)  
38. ANA captain killed in the 1999 hijack (9)  
41. Chain that pulled ten burgers in Hokkaido (9)  
42. One pan of the cartoonist's scales (9)  
43. Cost behind 3,153 price rises (9)  
44. Largest of the Izu Islands (6)  
46. Islands in the path of No. 27 (9)  
48. Kind of threat the editorial is about (7)  
57. Prefecture shaken at 9:27 p.m. (5)  
58. What police may now neutralise (6)  
59. Sport of a women's team bronze (6)  
60. They saved 180 people (6)  
61. Saudi airport where FZ1073 landed (5)  
62. \_\_\_\_, number (5)  
63. Winning pitcher for Hiroshima (6)  
64. Airspace FZ1073 briefly entered (6)  
68. Average that closed at 68,956 (6)  
69. Banker who bound him with headphone cords (5)  
70. Chemical firm weighing more capacitor material (5)  
71. Kernel released in September 1991 (5)  
72. Opinion on it still withheld (5)  
75. Convenes Monday (4)

SPORTS

The Man Across the Net: Frances Tiafoe, Who Ended a Career and Knew What It Meant

By Haruto Yamamoto | Sports Reporter

The player who beat Kei Nishikori in his last match has a story of his own that is among the better known in tennis.

Frances Tiafoe was born in Maryland in 1998, the son of parents who had emigrated from Sierra Leone.

His father worked on the construction of a tennis training centre near Washington and stayed on as its caretaker. For some years the family lived in a spare room at the centre, and the boy and his twin brother grew up on its courts.

He turned professional as a teenager and was for a long time described as the future of American men's tennis, a label that proved heavy.

He carried it eventually. He reached the semi-finals of the United States Open in 2022, beating Rafael Nadal on the way, and again in 2024, and entered the world's top ten.

He is 28 and is ranked eighth. He was seeded second in Tokyo.

His game is built on a quick, flat forehand and a heavy serve, with an unorthodox technique that coaches would not teach and opponents find awkward.

He is also among the more demonstrative players on the tour, a man who plays to a crowd.

On Thursday the crowd was not his. He broke serve early in each set and closed out a 6-4, 6-4 win over a player ranked 436th.

The draw gave him the part of the man who ends the home favourite's career, and he is the kind of player who understands what such an afternoon means to the other man.

SPORTS

Edberg, Sampras, Federer, Nadal, Nishikori: The Japan Open and the Court Where a Career Ended

By Oliver Brooks | Sports Desk Editor

The tournament at which Kei Nishikori chose to finish is the oldest and most important men's tennis event in Asia.

The Japan Open has been played since 1972 and has been held at the Ariake Tennis Park on the Tokyo

waterfront since the 1980s. Its centre court, the Ariake Colosseum, has a retractable roof and holds about 10,000 people.

It is an event of the 500 category on the men's tour, the level immediately below the nine Masters tournaments.

Its list of champions reads like a history of the modern game. Stefan Edberg won it four times around the end of the 1980s and Pete Sampras three times in the 1990s.

Roger Federer won it in 2006 and Rafael Nadal in 2010, each on his only appearance. Novak Djokovic won it in 2019.

Nishikori won it twice, in 2012 and 2014. The first of those was the first victory by a Japanese man in the tournament's history, and the second came a month after his run to the final of the United States Open, at the height of his fame.

He played the tournament 12 times in all.

The venue was rebuilt for the Tokyo Olympics, at which the tennis events were held there in 2021 without spectators.

The tournament is played in the week after the women's event in Tokyo and forms part of the Asian swing of the tour, with events in China before and after it.

The final is on Tuesday, when the farewell ceremony for Nishikori is also to be held.

SPORTS

Twelve Innings and No Winner: Hanshin and the Giants Draw 2-2, and the Tigers' Magic Number Stays at Two

By Haruto Yamamoto | Sports Reporter

Hanshin and Yomiuri played 12 innings on Thursday night and finished level at 2-2, Yomiuri Shimbun and the league's records show.

The draw leaves the Central League exactly where it was. Hanshin's magic number for the pennant remains two, and the gap between the Tigers and the Giants remains two games.

A drawn game is a peculiarity of Japanese baseball. Regular-season games that are level after 12 innings end there, and count as neither a win nor a loss.

For the team in front a draw is nearly as good as a win, because it uses up one of the games the pursuer has left. For the Giants, who came into the final week

on a winning streak and needed to beat the leaders, it was an opportunity that passed.

Hanshin could not finish it either. With the number at two, the Tigers still need two results to go their way.

Elsewhere in the Central League, Hiroshima beat Chunichi 5-1, with Tokoda the winning pitcher.

In the Pacific League, SoftBank beat Rakuten 8-2 behind Uwasawa, and Nippon-Ham beat Lotte 3-1, with the win going to Kitayama.

Tonight's schedule has the Giants at Jingu Stadium against Yakult, and SoftBank at ZOZO Marine Stadium against Lotte.

The arithmetic for the Giants is simple and unforgiving. Any combination of Hanshin wins and Giants defeats adding up to two ends the race.

The regular season is in its final days, with the Climax Series to follow.

SPORTS

After the Pennant: How the Climax Series Decides Who Plays in the Japan Series

By Kenta Sakamoto | Data & Visualization

Winning the league pennant in Japanese baseball no longer guarantees a place in the Japan Series. Since 2007 the champions of the Central and Pacific Leagues have had to come through a play-off called the Climax Series.

The top three teams in each league qualify.

In the First Stage the second-placed and third-placed teams meet in a best-of-three series, played entirely at the home of the second-placed team.

In the Final Stage the winner meets the pennant winner. This series is played over a maximum of six games, all at the champion's ground.

The champion starts the Final Stage with one win already credited, as a reward for finishing first. The first team to reach four wins, counting that one, goes through.

The advantage is real. The pennant winner needs three victories in six home games, and the challenger needs four on the road.

Even so, lower-placed teams have reached the Japan Series, and on occasion won it, which is the system's attraction for neutral fans and its irritation for the supporters of champions.

The stakes of the present race in the Central League follow from this. Finishing first is worth the extra win

and six home games.

Hanshin's magic number is two. The Giants, as things stand, would host the First Stage.

The Japan Series, between the two Climax Series winners, is a best-of-seven.

SPORTS

Japanese Gold Medallists in Today's Pages

By the Sports Desk

Judo, women's 63 kg: Narumi Tanioka.

Judo, women's 70 kg: Rin Maeda.

Judo, men's 81 kg: Sotaro Fujiwara.

Wrestling, Greco-Roman 97 kg: Yuri Nakazato.

Wrestling, women's 62 kg: Nonoka Ozaki.

Cycling, men's sprint: Kaiya Ota.

Cycling, men's omnium: Kanta Umezawa.

Cycling, women's Madison: Japan.

Canoe slalom, women's kayak: Kurumi Ito.

Skateboarding, women's park: Mizuho Hasegawa.

Men's park: Yuro Nagahara.

SPORTS

Forty Years On, a Japanese Heavyweight Wins Again: Nakazato Takes Greco-Roman Gold at 97 Kilograms, and Ozaki Wins at 62

By Haruto Yamamoto | Sports Reporter

Yuri Nakazato won the gold medal in the Greco-Roman 97-kilogram class at the Asian Games, the first time in 40 years that a Japanese wrestler has won one of the heavyweight divisions.

Nonoka Ozaki won gold in the women's 62-kilogram class on the same day.

The two results come from opposite ends of Japanese wrestling. Women's freestyle is the country's strongest Olympic sport of the past two decades. Heavyweight Greco-Roman is where Japan has traditionally been weakest.

Greco-Roman is the style in which holds below the waist are forbidden and the legs may not be used to attack or defend. Matches are decided by upper-body strength, by throws and by the ability to turn an opponent on the mat.

At the lighter weights Japan has produced Olympic champions in the style. At the heavier ones the medals have gone, for as long as most coaches can

SPORTS

remember, to Iran, Kazakhstan, Uzbekistan and Kyrgyzstan, countries with deep traditions of wrestling and larger pools of big men.

Forty years back is 1986, when the Games were held at Seoul.

Ozaki's gold was less of a surprise. She is a former world champion at 62 kilograms and won an Olympic bronze medal in Paris at a heavier weight.

The reports available do not give the scores of either final or the names of the beaten finalists.

Japan won eight wrestling gold medals at the Paris Olympics two years ago.

The significance of Nakazato's medal is for the next Olympic cycle. A country that can win at 97 kilograms in Asia has an entry at a weight where it has usually had none.

SPORTS

Judo: Tanioka, Maeda and Fujiwara Win Gold on the Same Day

By Haruto Yamamoto | Sports Reporter

Japan won three judo gold medals at the Asian Games on Thursday.

Narumi Tanioka won the women's 63-kilogram class.

Rin Maeda won the women's 70-kilogram class.

Sotaro Fujiwara won the men's 81-kilogram class.

The three weights are the middle of the judo programme, and they are divisions in which Japan's place has been contested. South Korea, Mongolia, Uzbekistan and Kazakhstan all bring medal contenders to the Games at these weights.

Fujiwara is the best known of the three. He was a world championship silver medallist at 81 kilograms in 2018, at the age of 20, and has been one of the leading Japanese at the weight since.

The reports available do not describe the finals. An Asian Games judo tournament is run in a single day for each weight, with preliminary rounds in the morning and medal contests in the evening, so that a champion fights four or five times.

The individual events are followed by the mixed team competition, in which three men and three women from each country fight at fixed weights. Japan won it when it was first held, in 2018.

Judo was conceived in Japan and has been part of the Asian Games since 1986.

For Japanese judo the Games are a staging post. The world championships and the qualification period for the Los Angeles Olympics of 2028 are what the selectors are looking towards.

SPORTS

Track, Park and White Water: Ota and Umezawa Win on the Velodrome, Hasegawa and Nagahara in the Skate Park, Ito in the Canoe Slalom

By Haruto Yamamoto | Sports Reporter

Six of Japan's gold medals in the latest results from the Asian Games came in three sports that share little except speed.

In track cycling, Kaiya Ota won the men's sprint, the event in which two riders stalk each other around the banking for two laps before racing the last 200 metres flat out.

Kanta Umezawa won the men's omnium, the track's all-round event, in which four different races in a single day are scored on points.

Japan also won the women's Madison, the relay in which pairs of riders hand over by slinging each other into the race.

Japanese track cycling has been rebuilt over the past decade around a national centre at Izu, with foreign coaches, and has become a regular source of world championship medals.

In skateboarding, Mizuho Hasegawa won the women's park event and Yuro Nagahara the men's. Park is the discipline held in a concrete bowl, where riders are judged on the height, difficulty and flow of tricks performed in 45-second runs.

Yumeka Oda won silver in the women's street event, which is contested on a course of stairs, rails and ledges.

Japan has dominated Olympic skateboarding since the sport's debut at the Tokyo Games, and its riders

are strikingly young.

In canoe slalom, Kurumi Ito won the women's kayak. Paddlers race singly against the clock down an artificial white-water channel, passing through gates and incurring penalties for touching or missing them.

The reports available do not give times, scores or margins for any of these events.

SPORTS

Asian Games Football: Japan Meet South Korea for the Gold on Saturday, Sixteen Years After Their Last Title

By Oliver Brooks | Sports Desk Editor

Japan's men play South Korea on Saturday in the final of the Asian Games football tournament.

They reached it by beating Uzbekistan 9-8 in a penalty shoot-out, as reported in yesterday's edition.

The opponent could not be more familiar. South Korea have won the men's tournament at each of the last three Games, and beat Japan in the final at the last two, in Indonesia in 2018 and in China in 2023, each time by 2-1.

Japan's only gold medal in the men's event came in 2010, at Guangzhou.

The men's tournament at the Asian Games is an under-23 competition in which each team may include three older players.

The two federations have approached it differently in the past. South Korea have sent their strongest eligible players, including those based in Europe, in part because a gold medal exempts a South Korean player from military service.

Japan have generally sent a younger group, often university and second-division players, treating the Games as preparation for the Olympic team that follows.

That difference has usually been visible in the result. This time Japan are at home.

Nine rounds of penalties against Uzbekistan suggest a team that does not lose its nerve. They also suggest a team that has played 120 minutes more recently than it would have liked.

The Games close on Sunday.

SPORTS

Kirin Cup: Japan Beat Ecuador on Penalties and Will Play New Zealand in Monday's Final

By Oliver Brooks | Sports Desk Editor

Japan beat Ecuador in a penalty shoot-out in the Kirin Cup and will play New Zealand in the final on Monday, October 5.

The reports available give the outcome without the score in normal time, the scorers or the count of the shoot-out.

It was the second penalty shoot-out won by a Japanese national side in two days, after the under-23 team's 9-8 victory over Uzbekistan in the Asian Games semi-final.

The Kirin Cup is the invitation tournament that the Japan Football Association has staged, with interruptions, since 1978. It brings two or three foreign national teams to Japan for matches that are friendly in status and competitive in practice.

Ecuador are among the stronger sides in South America, a team that qualifies for World Cups from the continent's long and difficult qualifying league and is built on athletic, well-drilled defending.

New Zealand are the leading side in Oceania and played at this summer's World Cup.

For Japan the tournament falls at the start of a new cycle. The World Cup in North America ended in July, and the national team's next competitive objective is the Asian Cup.

Autumn friendlies at this stage are used to look at players who were on the edge of the World Cup squad or outside it.

A penalty shoot-out is an awkward measure of anything, but it is one the national team has had reason to practise. Japan went out of the World Cup on penalties in 2010 and again in 2022.

The final is on Monday.

ELSEWHERE IN TODAY'S PAPER

Nidec's new president vows to keep the listing, Page 10.

SPORTS

Go: Shibano Wins a Third Game in the Meijin Title Match and Needs One More to Take the Title Back

By Naomi Kato | Culture & Society Editor

Toramaru Shibano, the challenger, has won his third game in the Meijin title match and is one win from reclaiming the title.

The Meijin match is a best-of-seven series. Four wins take it.

Shibano has held the title before. He first won it in 2019, at 19, becoming the youngest holder of any of the seven major titles in Japanese go at the time.

He lost it the following year, won it back in 2022 and lost it again.

Each game of the match is played over two days, with each player allotted eight hours of thinking time. At the end of the first day the player whose turn it is writes down a move and seals it in an envelope, so that neither can use the night to analyse a known position.

The games are held at inns and hotels around the country, a tradition that makes the title matches a travelling event.

Meijin means master. In the Edo period it was the title of the single strongest player in the country, appointed for life. The modern tournament, in which the title is contested annually, is sponsored by Asahi Shimbun.

It is traditionally counted among the three most prestigious of the seven titles, with the Kisei and the Honinbo.

Go, like shogi, has been transformed by artificial intelligence. Professionals now study with programs far stronger than any human, and the opening patterns of title matches have changed more in the past ten years than in the previous hundred.

The reports available do not give the score of the series or the date of the next game.

SPORTS

Murakami's White Sox Advance Through the Wild Card Series

By Haruto Yamamoto | Sports Reporter

The Chicago White Sox, the club of the Japanese slugger Munetaka Murakami, have won their Wild Card Series and advanced in the Major League Baseball play-offs.

The reports available do not give the opponent, the scores or Murakami's own figures in the series.

The Wild Card Series is the first round of the American play-offs, a best-of-three set played entirely at the home of the higher-seeded team. The winners go on to the best-of-five Division Series.

Murakami left the Yakult Swallows for the major leagues after the 2025 season through the posting system.

He had been the outstanding power hitter in Japan. In 2022, at 22, he hit 56 home runs, the most ever by a Japanese-born player in a season, and won the Central League triple crown, leading in batting average, home runs and runs batted in.

He was also a member of the Japanese team that won the World Baseball Classic in 2023, where his game-ending hit in the semi-final against Mexico is among the best remembered moments of the tournament.

The White Sox were, not long ago, the worst team in the modern history of the sport. In 2024 they lost 121 games, a record.

That such a club is playing in October two years later is one of the stories of the American season, whatever share of it belongs to its Japanese first-year player.

The Division Series follow.

Games involving Japanese players are broadcast live in Japan in the morning, Japan time.

SPORTS

Games Notebook: Golf Lead at 16 Under, a Sprint Bronze to Close the Athletics, a Squash Bronze, and Three Days to Go

By Oliver Brooks | Sports Desk Editor

GOLF: Japan's men lead the team competition after three rounds at 16 under par. Nakajima and Higa are tied for third in the individual standings. The final

round decides both sets of medals.

The Asian Games admitted professional golfers for the first time at the last edition, and several countries have sent players from the main tours.

ATHLETICS: Soshi Mizukubo won bronze in the men's 200 metres on the last day of the track and field programme.

The sprints have been a Japanese strength since the generation that won Olympic relay medals.

SQUASH: The Japanese women's team won bronze. Squash is to make its Olympic debut at Los Angeles in 2028, which has raised the stakes of every continental competition.

MEDALS: Japan's total stands at 217 after a Thursday of nine golds, two silvers and six bronzes, by TBS's count.

FOOTBALL: The men's final, Japan against South Korea, is on Saturday.

JUDO: The mixed team event follows the individual classes.

CLOSING: The Games end on Sunday. They opened on September 19.

NEXT: The 2030 Asian Games are to be held in Doha, and the 2034 Games in Riyadh.

SPORTS

The Last Weekend of the Aichi-Nagoya Games: Three Days, a Football Final and a Closing Ceremony

By Oliver Brooks | Sports Desk Editor

The 20th Asian Games end on Sunday. They opened on September 19 and have been held across Aichi Prefecture and in Nagoya, its capital.

It is the third time Japan has staged them, after Tokyo in 1958 and Hiroshima in 1994.

The Games are the largest multi-sport event after the Olympics, and in the number of sports they are larger. Alongside the Olympic programme they include disciplines with a particular following in Asia, among them kabaddi, sepak takraw and wushu.

Forty-five national Olympic committees belong to the Olympic Council of Asia, which owns the Games.

Japan's team has won 217 medals with three days to go, after nine golds on Thursday.

The medal table at an Asian Games has been led by China at every edition since 1982. The contest among the rest is usually between Japan and South Korea for second place.

The event that will draw the largest domestic audience is still to come. The men's football final between Japan and South Korea is on Saturday.

The final days also bring the last golf round, in which Japan's men lead, and the mixed team event in judo.

The Asian Para Games follow later in the month in the same region.

The next Asian Games are scheduled for Doha in 2030.

SPORTS

Scoreboard and Fixtures

By the Sports Desk

CENTRAL LEAGUE, Thursday: Yomiuri 2, Hanshin 2 (12 innings, drawn). Hiroshima 5, Chunichi 1 (W: Tokoda).

PACIFIC LEAGUE, Thursday: SoftBank 8, Rakuten 2 (W: Uwasawa). Nippon-Ham 3, Lotte 1 (W: Kitayama).

Hanshin's magic number: 2. Lead over Yomiuri: 2 games.

TONIGHT: Yakult v Yomiuri, Jingu. Lotte v SoftBank, ZOZO Marine.

TENNIS, Japan Open, first round: F. Tiafoe (United States) bt K. Nishikori 6-4, 6-4.

FOOTBALL, Kirin Cup: Japan bt Ecuador on penalties. Final, Monday: Japan v New Zealand.

ASIAN GAMES FOOTBALL, final, Saturday: Japan v South Korea.

ASIAN GAMES, Thursday: Japan 9 gold, 2 silver, 6 bronze. Total 217 medals.

GO, Meijin title match: Shibano has three wins; four needed.

MLB: Chicago White Sox advance from the Wild Card Series.

CULTURE

CULTURE

'I Watch Mayday': The Television Programme That Taught a Plumber to Pull

By Naomi Kato | Culture & Society Editor

Asked by his prime minister how he had known what to do with the controls of a diving airliner, Yaniv Hayun gave a three-word answer that has made a Canadian documentary series the most discussed television programme in the world this week.

Mayday has been in production since 2003. Each episode takes one air accident or serious incident and reconstructs it: the flight, the moment it went wrong, and the investigation that found out why.

It is broadcast under different names in different countries, Air Crash Investigation in Britain and much of Asia, Air Disasters in the United States, and in Japan on a documentary channel under a title that keeps the word Mayday.

There are several hundred episodes. Japanese accidents are among them, including the loss of Japan Air Lines Flight 123 in 1985, still the deadliest accident involving a single aircraft.

The format has hardly changed in two decades. Actors play the crew in a studio cockpit, the dialogue is taken from the cockpit voice recorder where one survived, and the surviving investigators and occasionally the surviving pilots explain what they found.

Its appeal is not morbid, or not only. The programme is a detective story in which the detectives are engineers, and its consistent message is that accidents have causes and that causes can be removed.

Pilots watch it. So, evidently, do plumbers. A viewer who has seen enough episodes has watched dozens of dramatised stalls, dives and recoveries, and has heard many times the automated voice that says pull up.

That is not training, and Mr Hayun did not claim it was. An airliner that is diving because its nose is down needs its nose raised, and he raised it. Had the trouble been a stall, in which the correct response is the opposite, the same instinct would have made matters worse. He was right about the problem he actually had.

What the episode will say, when it is made, is that the aircraft was saved by a sequence: a captain, a door, a passenger, two more pilots. The programme has always been about sequences.

It usually works backwards from the wreckage. This time there is none.

CULTURE

### The Colosseum at Ariake Says Goodbye: What Nishikori Changed About Tennis in Japan

By Naomi Kato | Culture & Society Editor

The centre court at Ariake has a roof that closes, which this autumn has been a mercy. On Thursday it held a first-round match that the home player was expected to lose and did.

Nobody was there for the result. They were there to see Kei Nishikori hit a tennis ball for the last time in a match that counted.

It is hard now to recall how unlikely his career seemed when it began. Japan had produced one man who reached the top fifty in the professional era. The men's game was assumed to belong to players a head taller, with serves to match.

Nishikori is 178 centimetres tall. He played the giants by standing closer to the ball than they did and hitting it sooner.

What that did in Japan was to change what children thought was possible. Tennis schools filled. A manga about a schoolboy tennis prodigy had been popular for years; now there was an actual one.

He also changed the economics. He became one of the best-paid athletes in the world on endorsements, most of them Japanese, and demonstrated to companies that a Japanese player in an individual global sport was worth backing for a decade.

Naomi Osaka's championships, which came later and were greater, landed in a country that had already learned from Nishikori how to watch tennis at three in the morning.

He was never lucky with his body, and his best years coincided with those of three of the greatest players in history. He won 12 titles. In a different decade it

would have been more.

He said after the match that he was sad and that he was satisfied, and the two did not sound like a contradiction.

The ceremony is on Tuesday. The roof, one hopes, will be open.

CULTURE

### Thirty-Six Days: Autumn Rain in a Country That Has Always Written About It, and Never Had This Much

By Naomi Kato | Culture & Society Editor

Japanese has a word for the long rain of early summer and another for the long rain of autumn, and until this year the second was the minor one.

The autumn rains are supposed to be a passage. They arrive with the first cool mornings, last a week or two, and withdraw in time for the clear, high skies that have been praised as the best weather of the year for as long as anyone has written about weather here.

This year they came in late August and have not left. The official gauge in central Tokyo has recorded rain on 36 consecutive days, which has not happened since the records began in 1886.

September on the Pacific side of eastern Japan had less sunshine than any September on record and more than twice its usual rain.

The literature of the season is not unprepared for rain. The old poetic calendar has a name for it, and the anthologies are full of autumn dusk, wet sleeves and the sound of water on the eaves. Sei Shonagon, listing the best hour of each season a thousand years ago, gave autumn the evening.

But the rain of the classical poets is brief. It falls, and the moon comes out, and the poem is about the moon. Nothing in the tradition quite covers five weeks without a shadow.

The folk remedy is the small white doll that children hang in windows to ask for fine weather, a custom that needs no explanation in any Japanese household. It is usually made on the eve of a school outing. This September it would have had to be made daily.

There is a public holiday built on the assumption of autumn sunshine. Sports Day, on the second Monday of October, began as the anniversary of the opening of the 1964 Tokyo Olympics, a date said to have been chosen because it was reliably fine.

What the city misses is not warmth. Thursday reached 30 degrees. It is light, and the particular clarity of an October sky over the Kanto plain, when Mount Fuji is visible from office windows and the afternoon lasts.

The forecast for today is rain.

CULTURE

### A Holiday That Assumes Blue Sky: Sports Day and the Tenth of October, 1964

By Hana Ito | Research & Archive

A week from Monday is Sports Day, the public holiday that traditionally marks the point in the year when the weather can be relied on. This year that assumption is under strain.

The holiday commemorates the opening of the Tokyo Olympic Games on October 10, 1964.

The date of that opening was chosen with care. The Games had been moved to the autumn to avoid the heat and the typhoons of summer, and October 10 was said to be one of the days on which, by the records, Tokyo was most likely to be fine.

It was. The opening ceremony took place under a clear sky that those who were there still describe, and the skywriting aircraft of the Air Self-Defense Force drew the five rings above the stadium.

The holiday was created two years later as Health and Sports Day and fixed on October 10.

In 2000 it was moved to the second Monday of the month, to make a three-day weekend. In 2020 it was renamed Sports Day, and for the Olympic years of 2020 and 2021 it was moved temporarily to July.

It remains the day on which schools, companies and neighbourhoods hold their athletics meetings, although many schools now hold theirs in May to avoid the lingering heat of September.

This year the question is rain. Central Tokyo has had 36 consecutive days of it, and a typhoon is moving north.

Sports Day falls on October 12.

The autumn rain front usually withdraws in early October, which is why the planners of 1964 were confident. They were working from 70 years of records. The run of rain now in progress is the longest in 140.

CULTURE

### Meijin: Four Centuries of a Title That Once Belonged to One Man for Life

By Hana Ito | Research & Archive

The title that Toramaru Shibano is one game from regaining is older than the newspaper that sponsors it, older than professional go and nearly as old as the Tokugawa shogunate.

Meijin is written with the characters for name and person and is usually translated as master. Tradition holds that it was first applied to a go player when the warlord Oda Nobunaga used it of the monk Nikkai, later known as Honinbo Sansa, in the late sixteenth century.

Under the Tokugawa the title became an office. Four houses of professional go players were supported by the state, and the strongest player among them, if one stood clearly above the rest, was appointed Meijin and given charge of the game.

There could be only one, and often there was none. In more than 250 years fewer than ten men held the title.

The system ended with the shogunate. The last hereditary head of the Honinbo house, Shusai, was the last Meijin of the old kind. His final game, played over six months in 1938, is the subject of Yasunari Kawabata's novel The Master of Go.

After Shusai's death the title lapsed, and the newspapers, which had become the patrons of professional go, turned the great names into annual tournaments.

A Meijin tournament was established in the early 1960s, and since 1976 it has been sponsored by Asahi Shimbun in its present form.

A modern Meijin holds the title for a year and must defend it. A player who wins it five times in succession, or ten times in all, earns the right to call himself honorary Meijin.

The match keeps its old formality. The players sit at a floor board in a tatami room, a recorder notes each move, and play stops for the night with a sealed move.

The analysis in the next room is now done by a computer, which gives its opinion of every move in seconds.

CULTURE

### A Novel About One Game: Kawabata's 'The Master of Go' and the Match That Ended an Age

By Hana Ito | Research & Archive

With the Meijin title match in the news, it is worth recalling that the most famous game of go ever played in Japan is famous because a novelist was in the room.

In 1938 Honinbo Shusai, the last holder of the title of Meijin under the old system and by then 64 and ill, played a retirement game against a young challenger, Minoru Kitani.

The game was sponsored by a newspaper and reported in instalments by Yasunari Kawabata, then in his late thirties and already a noted writer.

It lasted almost six months, with long adjournments for the old master's health, and was played at a series of inns. Each player had 40 hours of thinking time.

The master lost by five points. He died a little over a year later.

Kawabata returned to his reports after the war and reworked them into a short novel, published in the early 1950s. He changed the challenger's name and kept nearly everything else.

The book is about more than a board game. The master stands for an older Japan in which rank and art were inseparable and a game was an aesthetic act. The challenger, scrupulous about rules and time, stands for the modern one.

The turning point of the novel is a sealed move that the master regards as a breach of the spirit of the game, although it broke no rule.

Kawabata, who received the Nobel Prize in Literature

in 1968, is said to have regarded it as his finest work.

The sealed move survives in title matches today, including the one in which Toramaru Shibano now needs a single win.

CULTURE

### Megumi in Film, Animation and Song: How One Family's Loss Became Part of the National Memory

By Naomi Kato | Culture & Society Editor

Megumi Yokota, who turns 62 on Monday, is known to almost every Japanese by a handful of photographs: a girl in a school uniform under cherry blossom, and a young woman in a picture handed over by North Korea.

That familiarity is the result of decades of work by her parents, and of the books, films and songs that grew from it.

Her mother, Sakie, published a memoir in 1999 addressed to her daughter, its title a promise that her mother would rescue her. It has been translated into several languages.

In 2006 two North American film-makers released a documentary, Abduction: The Megumi Yokota Story, which followed the parents through their campaign and was shown at festivals and in cinemas abroad.

In 2008 the Japanese government produced a 25-minute animated film, Megumi, for use in schools. It has been distributed to schools throughout the country and is available online in several languages.

The American folk singer Noel Paul Stookey, of Peter, Paul and Mary, wrote Song for Megumi after learning of the case, and sang it for her parents in Tokyo.

A feature film based on the family's story reached Japanese cinemas in 2021.

The blue ribbon worn by politicians is the simplest of these symbols and the most widespread.

There is a risk in all this, which the family has acknowledged: that Megumi becomes an emblem and stops being a person, a 13-year-old who liked badminton and sang in the school choir.

Her mother's news conferences each October are, among other things, a correction to that. She speaks of a daughter and not of a symbol, and she says the same thing every year because it remains true.

CULTURE

### Tabuk Before Wednesday: A Fortress, a Railway Station and a Town on the Old Pilgrim Road

By Hana Ito | Research & Archive

Until this week most people outside Saudi Arabia had not heard of Tabuk. It has been a stopping place for travellers in trouble for a very long time.

The town lies in the north-west of the Arabian Peninsula on the ancient route between Syria and the holy cities of Medina and Mecca. Caravans of pilgrims from Damascus rested there, and it had water.

It appears in the early history of Islam as the destination of an expedition led by the Prophet Muhammad in the year 630.

The Ottomans built a fort there in the sixteenth century to protect the pilgrim road, and the fort still stands in the middle of the modern city.

At the beginning of the twentieth century the Ottoman government built a railway along the same route, from Damascus to Medina. Tabuk was one of its principal stations.

The Hejaz Railway was meant to carry pilgrims and, not incidentally, troops. It opened as far as Medina in 1908.

It did not last. During the First World War the line was attacked repeatedly by Arab forces working with the British officer T. E. Lawrence, and after the war its southern section was never restored.

The station at Tabuk survives, with its workshops and water tower, and has been restored as a museum. A locomotive stands in it.

The modern city is the capital of a province that reaches the Red Sea and the Gulf of Aqaba, and it is the nearest city to the planned development of Neom. It has a large military base.

On Wednesday it did what it has always done for people crossing the desert who needed to stop.



Editorial cartoon by Taro Suzuki, Staff Cartoonist.

## Heroes Saved the Flight. Vigilance Has to Save the Next One

Taro Suzuki's cartoon weighs courage against vigilance and finds that Wednesday had plenty of the first. Japan should not wait to be as lucky: it should screen the people it trusts with aircraft, ships, grids and data as seriously as it screens the public

By the Editorial Board | Samantha Ortiz, Editorial Page Editor

Taro Suzuki's cartoon above this editorial is, for once, almost entirely a picture of good news. A flydubai airliner is drawn above a desert airfield marked Tabuk. In a cutaway of its cabin sit the people who saved it: a captain at the cockpit door, under a plate that reads 'He opened the door'; two relief pilots at the controls; and four passengers labelled by trade, a plumber, a banker, a businessman and a dentist. A brass plaque above them says: 174 lived.

The rest of the drawing is the argument. To the left is a pair of scales, one pan marked Courage and the other Vigilance. To the right, under the flags of the United States, Israel and Japan, a sign says 'Stay vigilant' in English and in the two characters for keikai, and travellers file through a checkpoint. In the corner lies a passport stamped 'Screen the inside threat'. The caption reads: 'Heroes saved the flight. Vigilance has to save the next one.'

We agree with every word of it, and with the order in which the words come.

### First, the heroes

Honour comes first because it is owed. On Wednesday morning a man lying on the floor of his own cockpit with wounds to his head and both hands reached a switch and unlocked a door. By the account of the passengers who came through it, that single act is the reason 180 people are alive.

Captain Smit Machchhar did not save his aircraft by flying it. He saved it by understanding, while he was being attacked, that he could no longer fly it and that someone else would have to, and by making that possible with the last thing he was able to do. Airlines teach a discipline called crew resource management, which is the art of using every person and every tool available. It has never been better practised.

The passengers did the rest, and it should be said plainly that nothing in a quarter of a century of aviation security had asked them to. Since 2001 the travelling public has been taught to be passive: to queue, to be searched, to sit down, to leave it to the

professionals. A plumber, a banker, an insurance agent and a dentist ignored all of that within about ten seconds, and they were right.

Then there were the two pilots in the cabin, about whom we still know almost nothing, and who did the most technically difficult thing of all. They took over an aircraft in a dive with part of its rudder gone, flew it for more than an hour and landed it. Their airline has not named them. It should, when they are ready.

And there were people who will never be called heroes and who behaved well. The cabin crew fought alongside the passengers. The controllers at Tabuk took the distress call and had the airport ready. Saudi soldiers and nurses met an aircraft full of Israelis with ambulances, tea and the sentence, repeated until it was believed, that they were safe now. In a region at war that is not a small thing, and we do not intend to let it pass unremarked.

### Second, the luck

Now turn the cartoon's scales over and look at the other pan.

Everything that saved Flight FZ1073 was an accident. The captain happened to fall within reach of the door release. The passengers nearest the front happened to include men able and willing to fight. One of them happened to watch a television programme about air crashes. And the airline's roster happened to have put two qualified pilots in the cabin that morning, on their way to fly a different aircraft.

Remove any one of those and the story ends in the desert. Remove the last and it ends there with a plumber at the controls, doing his best.

No security system can be built on that. A system is the thing that works when the brave and the lucky are not on board. Measured as a system, what flew out of Dubai on Wednesday failed at its most basic task, which is to make sure that the people behind the armoured door are the ones who can be trusted there.

This is not a criticism peculiar to one airline or one country. It is a description of how aviation security has been designed everywhere since September 2001.

The entire apparatus, the scanners, the liquids rule, the armoured door itself, faces outward, towards the passenger. The pilot is the fixed point from which the defences are measured.

The Germanwings disaster of 2015 showed what happens when that assumption is false and the door is shut. Wednesday showed what happens when it is false and the door, by a miracle of presence of mind, is opened. In neither case did the system have anything to say about the man in the seat.

### What the passengers teach

There is a lesson here for the public as well as for the state, and it is one that Japan, of all countries, is equipped to absorb.

This is a nation that drills. Schoolchildren practise for earthquakes, offices for fires, whole towns for tsunami. Millions of people have been taught to use a defibrillator on a stranger. The principle behind all of it is that in the first minutes of a disaster the professionals have not yet arrived, and that what ordinary people do in those minutes decides the outcome.

Aviation has been the exception. The safety briefing tells a passenger how to fasten a seat belt and where the exits are. It does not say that if the crew call for help, help is wanted. After Wednesday it would cost an airline one sentence to say so, and the men who went forward on Flight FZ1073 have shown what the sentence is worth.

### The inside threat

Security people call this the insider threat, and they regard it as the hardest problem they have. The outsider has to get in. The insider is in. He has the pass, the uniform, the training and the confidence of his colleagues, and he knows exactly where the defences are because he is one of them.

We do not yet know why the first officer of Flight FZ1073 did what he is accused of doing. The Israeli prime minister says he had been indoctrinated by radical Islamists. The Emirati authorities, who have him in custody and the law on their side, say only that they are investigating whether there was a link to terrorism. The airline asks everyone to wait. We are content to wait for the motive.

We do not need the motive to see the failure. By Israel's own account its rules barred pilots from

countries without diplomatic relations from flying into Tel Aviv, and by the account of Israeli television those rules were not enforced for years. The security service that screens every passenger's bag did not examine the backgrounds of the airline's pilots. A senior figure in the industry told Channel 12 that it could have identified every pilot at the airline in five minutes and chose not to.

That is what the passport in the corner of the cartoon is about. It is not a demand for more queues. It is a demand that the screening point the other way as well.

### What this has to do with Japan

A reader might fairly ask why a Tokyo newspaper gives its front page and its leading article to an incident on a Gulf airline over the Saudi desert. The cartoonist has answered by drawing the Japanese flag beside the American and the Israeli, and by writing his warning in Japanese.

There is also a plainer reason. The war in the Gulf is in its eighth month, the American aircraft carrier that normally sits at Yokosuka is deployed there, and in ordinary times most of the oil that Japan imports comes through the strait where a tanker was hit on Thursday. Japanese travellers change planes in Dubai every day of the year. An attack on the air link between the Emirates and Israel is an attack on the settlement that the alliance is trying to hold together in that region, and Japan has a stake in the settlement even where it has no seat at the table.

The answer is that Japan has been here, twice, and has drawn only half the lesson each time.

In 1999 a man with a knife took over All Nippon Airways Flight 61, killed its captain and flew a Boeing 747 with more than 500 people on board to within a few hundred metres of the ground near Tokyo. The aircraft was saved because a company captain happened to be travelling as a passenger. Japan's response was to tighten screening at airports and access to cockpits: the outward-facing lesson.

In 1982 the captain of a Japan Air Lines DC-8 flew his aircraft into Tokyo Bay while his colleagues fought him for the controls. Twenty-four people died. Japan's response was to improve the medical supervision of pilots: an inward-facing lesson, but a narrow one, concerned with illness and not with intent.

EDITORIAL & OPINION

After Germanwings the transport ministry told airlines to keep two people on the flight deck at all times. That rule would have changed nothing on Wednesday, when there were two people on the flight deck and one of them was the attacker.

So the honest position is that Japanese aviation is protected against the intruder and, to a degree, against the sick pilot, and has no declared defence against the pilot who means harm. It has been spared the test. So had flydubai, until Wednesday.

Five things the government should do

We do not believe the answer is suspicion of every pilot, still less of every foreign one. The hero of this week is an Indian working for an Emirati airline, and the people who saved him were Israelis, and the people who received them were Saudis. Anyone who draws from Flight FZ1073 the conclusion that foreigners should be kept off Japanese flight decks has not read the story. The lesson is about procedures and not about passports.

First, the Ministry of Land, Infrastructure, Transport and Tourism should ask every Japanese airline, and every foreign airline that flies here, a single question and publish the answers: how is a pilot vetted before he or she is given command of an aircraft carrying Japanese passengers, by whom, and how often thereafter? We suspect the answer in most cases is once, at hiring, by the company. That was the answer at flydubai.

Second, vetting should be continuous. Japan last year put into force a law creating a security clearance system for people who handle sensitive economic information, with periodic re-examination. The state now appears to take more formal care over who reads a document about semiconductor supply chains than over who is alone with the controls of an aircraft carrying 400 people. The clearance law offers a model: checks that are repeated, that are conducted by the state and not only by the employer, and that the individual consents to as a condition of the role.

Third, the people best placed to notice that something is wrong are colleagues, and they need somewhere to take what they notice. Pilots are reluctant to report one another, for honourable reasons and for the practical one that a report can end a career. Several countries have built confidential peer-support programmes for pilots' mental health since Germanwings. Japan should have one that also covers conduct, run by pilots, with a guarantee that a concern raised in good faith is examined quietly and fairly.

Fourth, the cabin should be trained for the case that actually occurred. Cabin crew in Japan are drilled in evacuations, medical emergencies and unruly passengers. They should also know what to do when the sounds of a struggle come from the flight deck: who calls whom, who goes to the door, and how off-duty crew in the cabin are identified and summoned. The crew of Flight FZ1073 had to work that out at 34,000 feet.

Fifth, Japan should use its alliances. The flags in the cartoon are the right ones. The United States has screened airline workers against intelligence watch-lists for two decades. Israel knows more about aviation security than any country on earth and has just learned, painfully, where its own system had a hole. Information about people who should not be on a flight deck is exactly the kind of thing allies exist to share, and the information-sharing arrangements that Tokyo has spent ten years building for defence ought to carry it.

None of these measures is expensive. None requires new technology. All of them require the ministry to admit that the armoured door solved one problem and created the conditions for another.

And one thing to propose abroad

The law under which the Emirates will try this case is called the Tokyo Convention, because it was signed here in 1963. Japan has a standing in the law of the air that it seldom uses.

It should use it now. The international standards on aviation security are set by the International Civil Aviation Organization in Montreal, and they already require background checks for people who work in the secure parts of airports. They say much less about how often a pilot's standing is re-examined, and almost nothing about whether one country tells another what it knows. A first officer hired in one state, licensed in a second and flying into a third falls between all three.

A Japanese proposal that flight-crew vetting be recurrent, and that states share adverse findings about licence holders as they already share findings about unsafe aircraft, would be modest, practical and difficult for anyone to oppose in the week after Flight FZ1073. It would also be a contribution from a country that is more often a taker of aviation rules than a maker of them.

Not only aircraft

The passport in the cartoon says 'the inside threat', not 'the pilot'. The cartoonist has chosen the wider phrase, and the week's other news shows why.

On Thursday the laws on proactive cyber defence took effect. The police and the Self-Defense Forces may now disable a foreign server that is attacking Japan, and 258 operators of essential infrastructure must report the signs of an attack. We have supported those laws for years and we are glad to see them in force.

They face outward. On the same day a car-sharing company disclosed that the licence images of 6.6 million members had been taken, and the atomic energy agency reported an intrusion at a research reactor site. How those intruders got in has not been said. But investigators of data breaches regularly find that they began with someone who already had access: an employee, a contractor, an account that should have been closed.

On Thursday, too, the transport ministry was reported to be preparing to take three ships, one of them a large passenger vessel, out of service for reasons that include drinking on duty. That is the insider problem in its most ordinary form. Nobody attacked those ships. The people entrusted with them were not fit to be.

And at Nidec, the motor maker fighting to keep its stock exchange listing, the company admitted that about 20 people involved in falsifying accounts or misleading auditors had gone on working on its financial reports. The auditor's chief put the general principle better than we can: the risk that remains is that the people with the authority to make the rules will step over them.

An aircraft, a ship, a power grid, a database and a set of accounts are different things. The weakness is the same in each. We build walls against strangers and hand the keys to people we have stopped looking at.

The objection

The objection to all this is that it is corrosive. A society in which everyone in a responsible job is continuously watched, and in which colleagues are encouraged to report one another, is not the society most Japanese want to live in. Trust is not a weakness of this country. It is one of its strengths, and the reason so much here works so well.

We take the objection seriously, and we think it mistakes what is being asked. Trust that is never examined is not trust. It is habit. The captain of an airliner already accepts regular medical examinations, simulator checks, alcohol tests before flying and a recorder that captures every word he says at work. He accepts them because the stakes justify them, and he is not insulted. A periodic security check, conducted by the state with his consent, is the same kind of thing.

There is a second objection, which is that such checks will be used against people for their religion or their origin. That danger is real and it is a reason to write the rules carefully, not a reason to have none. A check should concern conduct, association with violent organisations and statements of violent intent. It should not concern how a person prays. The colleague who told Israeli television that the first officer prayed a great deal and would not shake hands with women was describing piety, which is not a warning sign. Tens of millions of people are devout and harm no one. What a vetting system has to find is the wish to kill, and that is not a religious observance.

The word on the sign

The Japanese word in the cartoon, *keikai*, is usually translated as vigilance. It is the word on the signs in railway stations before a summit, and in the warnings issued when a river is rising. It carries a sense that the English does not quite have: of a watch that is kept as a duty, calmly, by people whose job it is.

That is what is needed, and it is the opposite of panic. Japanese travellers should continue to fly, including through Dubai. The chance of meeting what the passengers of Flight FZ1073 met is vanishingly small, and the conduct of the people on that aircraft is

the best advertisement for human beings that the week has to offer.

But the government is not a traveller. Its job is not to be brave on the day. Its job is to do the dull work beforehand, so that the day does not come: to ask who holds the keys, to ask again next year, and to make it possible for the person in the next seat to say that something is wrong.

The scales in the cartoon are level. Suzuki has drawn courage and vigilance as equal weights, and that is a generous reading of this week, in which courage did all the work.

The captain is in hospital in Abu Dhabi and his embassy says he is recovering well. A hundred and seventy-four passengers are at home. On Monday the Diet convenes, and the transport minister will be available for questions. Someone should ask him the one that matters: on a Japanese aircraft, who would have opened the door?

ANALYSIS

ANALYSIS: Two Economies in One Survey: What the Tankan Tells the Bank of Japan, and What It Tells the Diet

By Yuki Saito | Economics & Finance

The September Tankan describes two economies that share a currency.

In the first, large manufacturers have reported better conditions for six quarters in succession. Their customers are abroad or are building data centres, their revenues benefit from a yen at 158 to the dollar, and their shares on Thursday lifted the Nikkei average by more than 2,200 yen.

In the second, large non-manufacturers have reported worse conditions for the first time in five quarters, and smaller companies are worried about cash. Their customers are households, their costs are energy and wages, and a weak yen hurts them twice, through the price of fuel and through the price of everything imported.

The Bank of Japan has one interest rate for both.

The case for raising it further rests on the first economy, where sentiment has improved for a year and a half. A policy rate of 1.25 per cent is still low by the standards of other advanced economies.

The case for waiting rests on the second. Small firms that borrowed at almost nothing are refinancing at rates they have never paid. If the survey's concern about their cash flow turns into failures, the damage will be in exactly the regional economies that can least absorb it.

The talks among three Tohoku banks reported today are a symptom of the same pressure seen from the lender's side.

For the Diet, which convenes on Monday, the survey sharpens a choice the government has tried to avoid. Income-linked benefits and a consumption tax cut support the second economy. They are paid for, in the end, by the first, or by borrowing at a long-term rate above 3 per cent.

The household's own survey arrives this month in the post: higher electricity and gas charges, and 3,153 dearer items at the supermarket.

A stock index at its highest in six weeks is not evidence against any of this. It is the first economy, measured alone.

The honest summary is that Japan is doing well at making things the world wants and less well at paying for its own daily life, and that the two facts are connected by the exchange rate.

ANALYSIS

ANALYSIS: Megumi Yokota at 62: The One Clock in Japanese Diplomacy That Cannot Be Negotiated

By William | Senior Political Analyst

Diplomacy usually assumes that time is available. Positions soften, leaders change, and what cannot be agreed this year may be agreed in ten.

The abduction issue is the exception. It has a clock, and the clock is the lives of the parents.

Sakie Yokota is 90. She is the last living parent of any of the officially recognised abductees who have not returned. When she said this week that she would continue until her daughter comes back, she was describing the only timetable that matters to the

families.

North Korea understands this perfectly. Its position, that the matter was settled in 2002, costs it nothing to maintain, and each year that passes removes a witness.

Japan's leverage has narrowed. Sanctions are already near their limit. Pyongyang has found other partners since 2022, and its need for Japanese money, which was the foundation of the 2002 summit, is less than it was.

What Tokyo retains is the alliance. American presidents have raised the abductees with the North when there has been contact, and the families have made sure that each new administration hears from them directly.

That is one reason a Japan-first foreign policy is also an alliance-first one. On this issue there is no route to Pyongyang that does not run through Washington.

The prime minister has said she is ready to meet Kim Jong Un. The offer has been made by each of her predecessors for a decade, and the North has not taken it up.

The risk for any government is that the annual ritual, the blue ribbon, the rally and the statement, comes to stand in for a policy. The families have said as much, with increasing bluntness.

Monday is Megumi's birthday and the first day of the Diet session. Members will wear the ribbon. The measure of their seriousness is what they are prepared to ask the government to do that it has not already tried.

POLITICS

Five Dark Patterns Worth Recognising

By the Politics & Policy Desk

False scarcity: 'only a few left', with nothing to show how many.

False urgency: a countdown that restarts when the page is reloaded.

The roach motel: easy to subscribe, hard to cancel.

The pre-ticked box: an extra you did not choose, already chosen.

Drip pricing: fees that appear at the last step.

Confirm-shaming: a refusal button worded to embarrass you.

Disguised advertising: a paid placement dressed as advice.

What to do: slow down. Urgency favours the seller.

Take a screenshot of the claim before you pay.

Consumer hotline: 188.

SOCIETY

The Day in Figures

By the Data Desk

68,956.72: the Nikkei average.

158.37: yen to the dollar.

36: days of rain in Tokyo.

5.1: magnitude, north-eastern Chiba.

217: Japan's medals at the Asian Games.

6.6 million: member records taken from Times Car.

258: operators under the cyber reporting duty.

62: Megumi Yokota's age on Monday.

2: Hanshin's magic number.

180: people on Flight FZ1073.

SPORTS

Sport This Weekend

By the Sports Desk

Tonight: Yakult v Giants, Jingu.

Tonight: Lotte v SoftBank, ZOZO Marine.

Saturday: Asian Games football final, Japan v South Korea.

Saturday and Sunday: the last medals of the Asian Games.

Sunday: the Games close.

Monday: Kirin Cup final, Japan v New Zealand.

Tuesday: Japan Open final and the Nishikori ceremony.

Pending: Hanshin need two.

Pending: Shibano needs one.

In America: the White Sox are through to the Division Series.

EDITORIAL & OPINION

CORRECTIONS AND CLARIFICATIONS

The Japan Morning Post corrects errors of fact as soon as they are identified. Correction requests may be sent to [corrections@japanmorningpost.com](mailto:corrections@japanmorningpost.com), giving the date, page and headline of the article concerned.

Today's lead headline counts 180 people on Flight FZ1073: 174 passengers, 27 of them children, and six crew, as given in the Indian press. Statements by the Israeli and Indian prime ministers use the figure of 174, the number of passengers. Both figures are correct for what they count.

Accounts of the flight differ on several points and the differences are given in the report. The depth of the first plunge is put at about 14,000 feet by one reading of the tracking data and about 17,000 by another. The passengers give the length of the struggle with the first officer variously as 20 to 25 minutes, 50 minutes and 55 minutes. The two off-duty pilots are described as British, as European, and as a South African and a New Zealander. The motive, the weapon and the first officer's name have not been published by any authority. The description of the event as an attempted attack is that of the Israeli government and of the passengers; the airline has confirmed an altercation on the flight deck, and Saudi Arabia's Interior Ministry that the first officer assaulted the captain.

Yesterday's edition reported the forecast that the capital's run of rainy days would end on Thursday at 35. The reports available this morning count 36 consecutive days, a record since 1886. Yesterday's weather map gave Tokyo a high of 24 for Thursday; the reports this morning give 30.0 degrees for central Tokyo. The map was printed as supplied. Today's map gives Tokyo rain at 19 and 16, while the Japan Weather Association gives a high of about 22 and Asahi 21; the map is again printed as supplied and the difference is recorded on the weather page.

The track graphic for Typhoon No. 27 supplied for this edition draws the storm's path along about 134 to 135 degrees east. The Japan Meteorological Agency's forecast positions, as reported by [tenki.jp](http://tenki.jp), lie near 144 to 146 degrees east, close to the Ogasawara Islands, which is the area the graphic's own text names. The graphic is reproduced as supplied and readers are asked to rely on the agency's positions.

The notes supplied for today's sports pages give the skateboarders who won the men's park event and silver in the women's street event as Izuru Nagahara and Yumemi Oda. The riders compete as Yuro Nagahara and Yumeka Oda, and those spellings are used. The same notes list eleven Japanese gold medallists while giving Thursday's count as nine golds, by TBS's tally; the names are printed as reported and the difference is noted in the report. Where the notes say that Nakajima and Higa advance to the individual tournament at T3, the edition reads this as tied for third place after three rounds.

The notes supplied for the technology pages date the release of Sony's CDP-101 compact disc player to September 1. It went on sale on October 1, 1982, the date given in yesterday's edition and used again today. The measure by TEPCO Power Grid and Kyushu's transmission company is described in the notes both as a payment deadline extended to three months and as a deadline of three months; it is reported as a three-month deadline.

Nidec's auditors' disclaimer is described in the reports as the second in consecutive years; one business publication counts three consecutive disclaimers. The figure of two years is used. The reports give the date of Hiroko Toyoda's death as September 8 without further detail, and none is added. The Bank of Japan's Tankan is reported by direction, without index figures, which the reports available do not include.

The photograph of the aircraft at Tabuk on the front page was supplied without a photographer's credit.

THE WEEK AHEAD

FRIDAY, OCT. 2: Typhoon No. 26 becomes an extratropical cyclone east of Japan; strong westerly winds; cool rain in Kanto. Trading resumes with the Nikkei at 68,956.72 and the yen at 158.37. Yakult v Giants at Jingu; Lotte v SoftBank at ZOZO Marine. El Al and Arkia's flights for Israelis in Dubai, subject to authorisation. SATURDAY, OCT. 3: Komeito's convention confirms Mitsunari Okamoto as leader. The Asian Games football final, Japan v South Korea.

SUNDAY, OCT. 4: The Asian Games close. The Yokohama mayoral campaign opens. MONDAY,

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**PAGE DESIGN & PRODUCTION:** Daniel Foster

1-2-3 Otemachi, Chiyoda-ku, Tokyo 100-0004 | [www.japanmorningpost.com](http://www.japanmorningpost.com) | [newsdesk@japanmorningpost.com](mailto:newsdesk@japanmorningpost.com)

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OCT. 5: The extraordinary Diet session convenes, with income-linked benefits and the consumption tax cut. Megumi Yokota's 62nd birthday. Typhoon No. 27 forecast near the Ogasawara Islands. The Kirin Cup final, Japan v New Zealand. TUESDAY, OCT. 6: The final day of the Japan Open and the farewell ceremony for Kei Nishikori. OCT. 9 TO 28: the period under discussion for the suspension of three Tokai Kisen vessels. END OF OCTOBER: Nidec's deadline with the Tokyo Stock Exchange. OCT. 27: Israel's general election. PENDING: the severe-disaster designation for Chiba; the Emirati investigation of Flight FZ1073; the government's AI action plan, due by the end of the year.

TYPHOON, RAIN AND EARTHQUAKE ADVISORIES

Typhoon No. 26 was moving north-east at 45 km/h over the sea east of Japan on Thursday night at 1,002 hPa with maximum winds of 18 m/s, and was expected to become an extratropical cyclone this morning (Mainichi Shimbun). Strong westerly winds follow it, with rain and thunder on the Sea of Japan side of Hokkaido and Tohoku ([tenki.jp](http://tenki.jp)). Swell persists on Pacific coasts.

Typhoon No. 27 (Choi-wan) formed near the Mariana Islands at 3 a.m. on Thursday. At 6 a.m. Friday it was over the Marianas moving west at 15 km/h at 990 hPa with maximum winds of 23 m/s. It is forecast to turn north, to become very strong and to move through the waters near the Ogasawara Islands around Monday and Tuesday. Follow the Japan Meteorological Agency's typhoon information, updated every few hours.

Chiba and Kanagawa: the ground is loose after Typhoon No. 25 and caution is advised even in light rain. North-eastern Chiba and Ibaraki: a magnitude 5.1 earthquake at 9:27 p.m. on Thursday, depth about 50 km, seismic intensity 3; check slopes and retaining walls in daylight. Tokyo: 36 consecutive days of rain. Yoro Valley: mudslide damage to the autumn-leaf paths; train services suspended.

MARKET REFERENCE

Tokyo, Thursday: Nikkei 225 closed at 68,956.72, up 2,203, a second consecutive rise and the highest close in about a month and a half, led by AI and semiconductor shares; Advantest rose more than 9 per cent and added about 700 yen to the average (Yomiuri Shimbun). Thursday's opening: 67,106. Tuesday's close: 65,481. Yen: 158.37-40 to the dollar, weaker by 1.47. Bank of Japan policy rate: 1.25 per cent. Tankan, September survey: large manufacturers improved for a sixth consecutive quarter; large non-manufacturers worsened for the first time in five quarters, on high crude oil prices among other factors; concern about small firms' cash flow (Sankei News). Nidec: net loss 564.6 billion yen; impairment 632.1 billion; audit opinion

withheld; about 20 people linked to improper accounting or false explanations had worked on financial reporting; the new president aims to obtain an opinion in October. Prices: 3,153 food and drink items up in October; electricity and gas charges up at every major supplier for October usage as subsidies end and transmission charges are revised. Banks: Aomori Michinoku, Iwate and Akita in integration talks. Grid: TEPCO Power Grid and Kyushu's transmission company set a three-month deadline for construction cost contributions from data-centre applicants (Nikkei). Corporate: Times Car, about 6.6 million member records taken; McDonald's, ten burger items suspended at 91 Hokkaido restaurants; SBI Securities, zero-fee funds for the children's NISA; Bridgestone, sole tyre supplier to Formula E.

PHOTOGRAPHS IN THIS EDITION

Front page: flydubai Flight FZ1073 at Tabuk after landing, with passengers leaving by the rear stairs and part of the rudder missing (supplied image); Captain Smit Machchhar in an undated photograph (Photo: WPM Productions); Yaniv Hayun on his return to Israel (Photo: WPM Productions). International: military aircraft over the White House during September's state visit, a file image (White House Official). Politics: Prime Minister Sanae Takaichi at the rostrum of the House of Representatives, a file image (Photo: WPM Productions). Economy: the Tokyo Stock Exchange at Kabutocho (Photo: TG2 (CC)). Society: track graphic for Typhoon No. 27, supplied for this edition. Weather: Japan forecast map for Friday, October 2, supplied for this edition. Weather Abroad: United States forecast map for Friday, October 2, supplied for this edition. Editorial page: cartoon by Taro Suzuki, Staff Cartoonist.

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TOMORROW'S EDITION

Saturday's edition carries the latest from the investigation of Flight FZ1073 and the condition of its captain; whether the capital's rain reached a 37th day; the track of Typhoon No. 27; Friday's close in Tokyo; the Giants at Jingu and Hanshin's magic number; the eve of the Asian Games football final and of Komeito's convention; and the Saturday maps.

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