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I'm Alex Ritzen and in the early hours of Thursday, the 12th of October, these are our main stories. International calls for Israel to allow the residents of Gaza humanitarian essentials following days of airstrikes.

Civilians are not to blame for what Hamas has done. They didn't do anything wrong.

We are actively working on this with our Egyptian and our Israeli counterparts.

The Hamas controlled territory still has no power. We hear from both Israelis and Palestinians.

That is the sound we hear every night. Did you hear that?

We will see a new level of violence. Unfortunately, I think that the Hamas and also us have never really been in this kind of situation. Hundreds of thousands of Israeli troops mass close to Gaza in preparation for a ground offensive following Saturday's deadly attack by Hamas. Also in this podcast, the worst air quality in the world is now in the Brazilian Amazon due to deliberately started forest fires and the exponential rise of the artificial intelligence robots. Six days after Palestinian gunmen stormed out of Gaza and killed at least 1200 Israelis, people in the territory are now living with Israel's retaliation, the most punishing retribution it's ever meted out for an attack by Hamas. And an impending ground war will only make life even more unbearable. Israeli fighter jets hit another 200 Hamas targets on Wednesday and parts of Gaza have been reduced to rubble. As you heard in our earlier podcast, the sole power station has now run out of fuel and stopped working, leaving more than 2 million Gazans without electricity unless they have functioning generators. The United Nations Secretary General Antonio Guterres has called for crucial supplies to be allowed into Gaza and for people taking captive on Saturday to be freed. I call for the immediate release of all Israeli hostages held in Gaza. About 120,000 Palestinians are now sheltered in 92 UNRWA facilities across Gaza. UN premises and all hospitals, schools and clinics must never be targeted. UN staff are working around the clock to support the people of Gaza and I deeply regret that some of my colleagues have already paid the ultimate price. An Egyptian security official has told the BBC that they are directly involved in urgent discussions with the UN and the US to achieve a humanitarian truce to allow aid and food in. In a moment we will hear from our correspondent

in Jerusalem on some big developments there, but first this report from our correspondent Dan Johnson. It begins in Gaza. You see these sounds are the sounds of missiles. The birds are even scared. We're all scared here. This is Gaza's bombardment described by one of its youngest

witnesses shared via social media. That is the sound we hear every night. Did you hear that? I'm scared. I'm about to cry from how terrifying this is. I was scared for my brother. I hugged him tightly, telling him it's going to be okay. Children are casualties of this conflict in Israel and in Gaza and Nadine Abdul Atif, only just a teenager, carries the heavy weight of war. Imagine a 13 year old having to show the world how much we are suffering. I should be in school learning. My legs are shaking. My hands are shaking. My whole ward is shaking. When she last spoke to us, Khalud Nasser was showing the world Gaza's unexpected beauty on Instagram. Now she sent his voice notes fearful there'll be nothing left. In fact, the beautiful image of Gaza that I used to photograph and document over the past years and show to the world is now marked with the gray color, destruction, the smell of smoke and blood, the corpses of children and civilians and their destroyed houses where they have got the best of memories and dreams. Right guys? What is our favorite game that we like to play together? Sonny. 50 miles up the coast in Israel, I met another family holding each other tight. This is precious time for Moa Numburg. They call this my getaway bag. He's a marketing executive for Red Bull who's now getting ready to do his duty as a reserve tank technician. We will see a new level of violence. Unfortunately, I think that also the Hamas and also us have never really been in this kind of situation. In the first two days, my hatred was for everyone, but I know that also a lot of Palestine on the other side of suffering as well. There are a lot of innocent people there, but at the end of the day, you know, you have to choose your sign. When you are faced in the eye of evil, you need to react and you need to react strong and Israel will prevail. This is one of the police stations that's now a missing persons bureau. Relatives are gathering here. They're giving over details of their loved ones and offering up DNA samples in hope that they can get a match, that they can at least get some news. They've registered more than 500 cases here already. Efrat Hermel Sahr is one of the volunteers here, a social worker. The bodies that the police is getting in the shape that it's very hot, so there's no humanity here in any aspect. It's a terror. We're hoping, we're hoping, we're trying to hold the hope, but we know that for many. As we're speaking, a family has just emerged. Clearly having received the worst possible news.

I'm told they have just had confirmation that their son was killed.

Dan Johnson with that report. Before Saturday's attack, Israel was divided as never before, as Mr Netanyahu's government forged ahead with controversial changes to the judiciary, which led to months of protests. Now the country is uniting and the prime minister and the main opposition leader, Benny Gantz, have agreed to form an emergency government which will be sworn in

on Thursday. Mr Gantz has been speaking.

Our standing here together, shoulder to shoulder, is a message to our enemies, and most importantly to all citizens of Israel. At this time, we are all Israel's soldiers. It's time to be together and win. Our correspondent in Jerusalem, John Donaldson, told me what this means. There will be a war cabinet that is set up as part of this, and they're not calling it a government of national unity, but they're calling it an emergency government, and that will be made up of Benny Gantz, Prime Minister Benjamin Netanyahu, the Defense Minister, other senior ministers. And it's significant, really, because what it means is that Benny Gantz is a more centrist figure, and it means that they can put together a government that

has a broader consensus of public support for whatever Israel decides to do next. So it means the government will be able to make difficult decisions more easily. It's also significant because we have probably the most right-wing government in Israel's history, but it's also one of the least experienced. You've got a lot of ministers in there who haven't had long careers and politics, haven't had long careers in the military. You cannot say that of Benny Gantz. He was a former Army Chief of Staff. He was in charge in 2014 when there were thousands of Palestinian casualties then, but he is a voice that could temper, I suppose, some of the more extreme views within the current Israeli government.

The military build-up, though, on the border with Gaza, what do we know about that and about this possibility of a ground offensive? We have had some comments from the IDF today saying that forces amassing on the border, including 300,000 reservists, and that they are ready to take on their mission. So you do get a sense that it is coming soon, but we don't know John Donison with that update from Jerusalem.

The ongoing siege imposed by Israel is leading to desperation in Gaza. There are long queues for bread at bakeries, and the health ministry there says hospitals are overwhelmed and will run out of some medicines in a matter of hours. More than 1,100 people have been killed by Israeli airstrikes in Gaza, and hundreds of thousands have fled their homes in search of safety. On Wednesday, the White House National Security Spokesman John Kirby confirmed discussions were

taking place with Israel and Egypt to help those trapped in Gaza. We support safe passions for civilians. Civilians are not to blame for what Hamas has done. They didn't do anything wrong. I don't have an announcement to make today. I can't tell you a specific route or corridor. I just want to make it clear that we are actively working on this with our Egyptian and our Israeli counterparts. Saudi Arabia's crown prince has said they were making unremitting efforts regionally and internationally to jointly coordinate an end to the ongoing escalation. On Wednesday, it was also confirmed that the UN Security Council will be meeting on Friday to discuss the conflict between Israel and Gaza. Davina Gupta spoke to the human rights lawyer Zaha Hassan, who was the senior legal advisor to the Palestinian negotiating team during their bid for UN membership in 2011. What's her assessment of the situation?

The response to the Hamas attacks are necessary to stop any further loss of civilian life. However, it's unacceptable to bombard indiscriminately the Gaza Strip, residential apartment buildings going down, UN facilities that are sheltering, those who are fleeing the bombing being targeted, medical facilities being targeted. We've heard from the Israeli defense minister that he's going to cut off food and water and essential services under international law. This is collective punishment. It's a war crime. What we need to see now is an international response to pull Israel back within the bounds of international law. But what can that international response be then? Because the US President Joe Biden described Hamas as assault on Israel as an act of sheer evil. What's gotten us here has been a situation of prolonged occupation that has gone on for almost six decades now. And in the case of Gaza in the last 16 years, it's been a siege and blockade over the Strip where every aspect of Palestinian life has been controlled by Israel. That's why it's so easy for Israel to cut off water and food and supplies into the Strip because it has had this chokehold on the people. People can't go in and out of the Gaza Strip. The underlying political

issues need to be addressed, an end of occupation being the most paramount and an opening up of Gaza so that the people there can live a normal life. Who can play that role? It's going to take the international community coming together to solve this issue once and for all. In the past, the US has played the primary role as peacemaker and facilitator. But given what we've seen in terms of the US response to the situation in Gaza currently where we haven't heard anything but an unqualified support for Israel's right to defend itself, even as I said, apartment buildings and civilian infrastructure is targeted, this is not acceptable because that is just a license for further violence. So what needs to happen is the Arab governments, the European Union and different European countries come together to force both Palestinians and Israelis to make peace. We haven't even been able to get a statement from the State Department spokesperson saying that the denial of food and water and essential basic services to Palestinians is off limits. Zaha Hassan speaking to Davina Gupta. The audacity of Hamas' attack has left Israelis still shaken to the core. None more so than 22-year-old Shia Golan, like hundreds of other young people. She was attending a music festival in the Israeli desert just to the east of Gaza. It was there on Saturday as they parted that the Hamas gunman struck. 250 people were killed. Tim Franks has been hearing her account and a warning. Parts of this interview are disturbing. We were dancing and then there's an alarm of rockets. Then the guards tell us the party is over and everybody needs to go because it's dangerous. I go to get the car and then I pick up my friends and then we drive to the exit and when we turn to the right we saw cars who were shot. So we drive to the left and in the left were terrorists too. So they tell us to turn around and then the car was stuck. We don't have a way out because there is terrorists from the right and from the left. So what did you do? So we get out of the car really quickly and go next to the car. We were like 30 people, 40 people. We were close to the guards. We heard a shooting and then we started to run. One of the guys there, he grabbed my arms and he started to run with me and I lost my friends. I really couldn't go back because there was shooting everywhere and I ran into the woods. I remember that I need to hide. I look at the bushes, I look at the ground and I get really into the ground. I put the bushes on me and I put sand. How much I can hide? I hide. After a few minutes the terrorist was up to me and I hear them. I hear people screaming. I don't know if they catch them because I was hiding. So what did you see? I see the guns, big and black guns. They talking in English and they say get out and take your hands up but I didn't go out because I was so scared. But there was three children next to me that go out and then they shut down and they fell down. I saw the children fall down. I prayed to my god that saved me. It must have been an awful thing to witness. Do you have any idea how old the children were? They were like me. They were like 20, 22. Not children, really children but they were very young. Yes, they didn't did nothing in their

life. It must have been shattering to see three people killed in that way. Yeah. Sorry, I need to breathe. To my boyfriend, to my mommies and location. I told them I need to save them because I'm going to die. I really think I'm going to die but I know that nobody can get here because they're like hundreds of terrorists. After a few hours they're starting to burn everything. I didn't know what to do because if I'm staying there I'm just burned to death but if I go out they're gonna kill me. For first I get out. I just lay there on the dead people and that was a surprise because I lay so hard about one girl that she woke up but I was so happy that there was someone alive with me and I tried I get myself out and her because she's hurt. I don't know how she was enough brave

to run to the car but she did it. I was scared to go out to the cars because it was like everybody can see her there and can shot her. So I jumped to the fire. I get hurt but not so much from the fire. I heard someone starting to scream outside in Hebrew but in first I thought he was a terrorist too and trying to hear if he has kind of accident but he didn't so I get out and I tell him I'm here. He was like me. He was hiding in the tree. He told me the army's already pushed them away and we need to run now.

Sheer Golan speaking to Tim Franks. You're listening to the Global News podcast. Now to other news. Manaus the largest city in Brazil's Amazon region has reported one of the worst air quality levels in the world because of smoke from fires in the surrounding rainforest.

The air is so bad in the city a state of emergency has been declared.

Our America's regional editor Leonardo Rosha told me more.

The pictures I've seen are very worrying because it looks like a desert storm fall in a northern European city. It's all very hazy and it's surprising because you are surrounded by rainforest all over the place. It is a city of two million people but it's something that even people from there don't see all the time. What you have there is a situation that's described as hazardous the amount of pollutants in the air and it's part of an ongoing environmental crisis in the area. The Amazon is going through a serious drought the worst possibly in three four decades. The river levels are low fish have been dying in the rivers. Manaus has declared the state of emergency and more than 20 other cities so you have the drought that makes it easier for those people who are destroying the forest to set fire to the rainforest and then you have all this haze caused by the fires and the pollution and the damage to the people. So these fires are deliberately started aren't they? They are by farmers who are clearing the land for agriculture use and it's no point blaming the indigenous people because they use that but in small scale. In forests like that you have to use controlled fires to clear the land but the indigenous groups and small farmers they don't do it in that scale. We had in September more than 25,000 fires in the Brazilian Amazon. It's almost a record high and once they get going it spreads. It spreads it's easy to get out of control but I don't think people feel very worried about that because the more land they think they can get they're happy about that. There's also a problem which is the land in the Amazon is very poor the soil so you can use it for one, two, three years and then you have to clear new lands to continue planting or raising your cattle. Leo Rosha. The head of NATO has said members of the alliance are stepping up support for Ukraine to get through what he said would be another difficult winter. Jens Stoltenberg was speaking after a meeting of Ukraine's allies in Belgium attended by President Zelensky. Here's Danny Aberhardt. President Zelensky continues to push hard for better air defences. It's having some results with pledges from Germany, the UK and the US in this regard but Kiev has many potential targets to defend including energy infrastructure ahead of an expected renewed Russian assault this winter. NATO Secretary General highlighted winter gear from Canada as an example of how member states were helping Kiev ensure its soldiers could continue to fight through the cold. Jens Stoltenberg downplayed concerns that in fighting in the US Congress and the war between Israel and Hamas could affect arms supplies to Ukraine. NATO he said was strong enough to deal with more than one challenge at the same time but a journalist pointed out that Israel was looking to the US for support with air defences and ammunition just like Ukraine and budgetary wrangles in Washington are complicating the picture considerably. Danny Aberhardt. With French troops leaving and the withdrawal of USA the generals who seized

power in Niger have now turned their sights on the UN. They've given its resident coordinator an ultimatum to leave. Africa regional editor Richard Hamilton told me why they'd made this ultimatum. Richard Hamilton. They said it was because of a snub but that they'd not been invited to the United Nations General Assembly in New York last month as well as other international meetings but I think that's an excuse and it's really that Niger is turning its back on western powers and the international community and similar actions were taken in Burkina Faso last year the UN resident coordinator was asked to leave and this year Mali has terminated the United Nations mission so they're following the same sort of pattern and these three countries have formed an alliance. Danny Aberhardt. This comes on top of French troops leaving aid being withdrawn things seem to be going from bad to worse. Richard Hamilton. That's right and what's tragic about it is that Niger was actually making a lot of progress. Jihadist violence had fallen by something like 70% and this was partly because the United Nations had a massive poverty alleviation program and development program they pour millions of dollars of aid into helping the poorest people in Niger and that helped stop people turning towards jihadism and radicalization so the irony is that this will make people more likely to join the Islamists. It's a massive failure and it's really biting the hand that feeds it. Everyone expects Niger to turn towards Russia and get in mercenaries from Wagner but again that could increase radicalization because the Wagner tactics are pretty brutal and just going around killing people indiscriminately would just encourage more people to join the jihadists so Niger is like the last domino in the Sahel that is falling and from a western point of view it's a massive failure and a complete tragedy.

Richard Hamilton. Now let's take you back to last month when samples of an asteroid were parachuted into America while that canister so carefully retrieved from the surface of the asteroid Bennu has been opened up and scientists have now revealed what it contains. Here's Bill Nelson the US Space Agency's administrator. The carbon and water molecules are exactly the kinds of material that we wanted to find. They are crucial elements in the formation of our own planet and they're going to help us determine the origin of elements that could have led to life and I mentioned that one of our missions it's actually in statute is to look for life that's why we're digging on Mars that's why we go out into the far regions of the very beginning. A little then of what the scientists found inside but for more we spoke to our science correspondent Jonathan Amos. Now they haven't got everything out but they've sort of kind of focused

a camera on what they can see and it's very very black it kind of looks like cold dust and they've been able to do some initial tests just taken some little fragments particles that were hanging around that they could get at and it is what they were hoping for so this material is carbon rich it's about five percent carbon by mass and it's also heavily laden with water bearing minerals what we call hydrated minerals clay minerals and so they have got an abundance of material it is stupendous. In that clip we heard Bill Nelson says this sample takes us a step closer to finding out how life on earth began does it well the young earth was a sort of hot boiling place and it would have driven off all of its volatile chemistry so how come when you look around at the earth today we see an awful lot of water 70 percent of planet earth is covered in water the oceans it's raining where I am today where's all that water come from it should have been driven off early in earth's history so the ideas are that may be asteroids like Bennu way

way back four and a half billion years ago delivered some of the water we now see around us to our planet that's where it may have come now if that's true then if you went to an asteroid like Bennu and brought back a sample you'd find a lot of minerals that contain water and that's what we see in this sample another idea Alex is that yes maybe life was kick started on earth by asteroids delivering key carbon rich chemistry organic chemistry as we call it and so if you go to a place like Bennu you grab a sample you bring it back what you expect to find you expect to find complex carbon molecules and that's precisely what we're seeing in these initial results from the Bennu sample so it's all pointing in that direction but they've got a lot of work to do our science correspondent Jonathan Amos for much of this year we've been reporting on how artificial intelligence could transform our lives next month the British government is hosting a global safety summit discussing the risks of AI though no one is in any doubt that it can benefit humans from climate change to dealing with pandemics Evan Davis has been finding out how by visiting google deep mind part of the google alphabet empire in central london that is actually amazing personal tell us who you are so my name is raya hadsel i'm a vp of research at google deep mind so what we've just been looking at is two small robots tackling each other a bit falling over a lot but actually really adept at getting back up again and getting back into the game some of us have seen videos of robots boston dynamics a company in the us that's programmed robots to do great dances and things like that this is a little difference isn't it it's very different because we haven't programmed any of this in at all they've really learned similarly to what a child does you're going to learn from imitation and you're going to learn from your own experience and you're going to learn from an external reward like saying yeah you got the goal do it you know try to do it again what do they consist of they've got little cameras in their head is that right is that what i can see there that's right they've got cameras they've got a number of different joints so they can control their arms three joints on their legs the torso as well so a number of sensors and also small motors we're really trying to understand how robots can control not just those low-level motors but actually put that together into behaviors and even strategies for winning the game but more broadly some of these things are used in a lot of other areas for instance in understanding biology human language and and other areas all right well we've left the football playing robots we've come just a few meters down the road into another building into the deep mind library if you're thinking lots and lots of books that's not guite what it's like it's a rather minimalist rather elegant library with a few books on some shelves but i'm here with push meet coley vp for research at deep mind and push meet you can talk through some of the other things that are going on here in particular on biology what can a i do much better than human intelligence so if you look at the amount of data scientists across the world are generating and gathering about a world there is no one single human who can comprehend it all and so we definitely need these tools which have these amazing abilities to not only pass this information but try to make sense of it right let's take the biology because you have achieved something already at deep mind alpha fold give us the headlines of what alpha fold was what problem

it solved okay proteins are essentially the molecular machines that make us stick they are Lego blocks of life and we don't know how they all sort of work we made this amazing advance which

allowed people to find the structure of these proteins in a in a way that has never been

done before what have you done with that knowledge we made this available to scientists all across the world and they have been using it for so many different applications from developing new vaccines

to thinking about what are the basic molecular processes that are happening in ourselves is biology perhaps the most exciting area for ai i yeah biology is a personal favorite i think within the scientific community it has been a revolution in fact people have come to us and said well i was working on this particular protein for the last 10 years alpha fold came and i could find the prediction and i'm now thinking what should i do next that report by evan davis and that's all from us for now but there'll be a new edition of the global news podcast later if you want to comment on this podcast all the topics covered in it you can send us an email the address is globalpodcast at bbc.co.uk you can also find us on x formerly known as twitter at global news pod this edition was mixed by nick randall and the producer was emma joseph the editor is karen martin i'm alex ritzen until next time goodbye