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Futuristic Outlook

Future

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Message from Co-Founder, Director-General, and Head ORIC – UMT



We live in the Modern age, where we do all over work with the help of technology. We know technology by the name “technological know-how”. Discover the latest science and technology news and videos on breakthroughs shaping tomorrow's world with Futurism. The innovation of science has a long history producing many important figures and many developments in the field. Moreover, it made communication easier for us. Humans have cleaned up and created some fantastic and sometimes orthodox inventions.

So, every researcher and faculty member should be up-to-date about innovation in their respective field; that’s why ORIC-UMT introduce the Futuristic Outlook for the UMT family to commensalism with the Innovative world.

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A - School of Engineering & School of System and Technology

1: Twitter is "Verifying" Accounts With AI-Generated Faces

Under the leadership of its new CEO Elon Musk, Twitter has settled on keeping its paid "Verified" program via a Twitter Blue subscription, despite plenty of heavy scrutiny ever since Musk took over in November.

While the platform now includes different colored checkmarks for businesses and governments, the blue checkmark — which once indicated that a user's identity had been authenticated — remains a free-for-all, and is now being taken advantage of by nefarious parties armed with AI technologies.

As spotted by Twitter user conspirator0, a swath of "verified" Twitter accounts are sporting AI-generated faces as their profile pictures while pretending to be real people.

And many of them, according to conspirator0's findings, "push specific political agendas," both left and right-leaning — though mostly the latter.

One account under the now suspended handle of `cortez_santiago` described themselves as a "nationalist," a "paleo-conservative," "anti-liberal," and "anti-criinge." Another found by conspirator0, formerly under the username of `Kenoisseur`, campaigned to share so-called evidence of "the genocide of whites in America."

Others can be more innocuous, like claiming to be a Harvard grad epidemiologist.

It's unclear how many of these are straight-up bots or anonymous, perfidious humans trying to maintain a more credible face — but our best guess is that it's a mix of both.

"Allowing accounts with fake faces to be 'verified' without even requiring the operators to disclose that the 'face' is artificially generated is a blatantly pro-deception stance," conspirator0 wrote in a tweet.

Many of the accounts, which date back to November — right after Musk's takeover — were eventually suspended. But conspirator0 has since dug up more verified accounts with AI faces that were neither suspended nor deprived of their "verified" status — only using a quick and simple Twitter search of inputting "filter:blue_verified" and tacking on common English words.

Then, to root out the suspect accounts, conspirator0 looked for the telltale signs of faces synthesized using a generative adversarial network (GAN), which they note is used in popular tools like This Person Does Not Exist.

The most prominent and distinguishing feature of unmodified GAN-generated faces is the unmoving placement of the eyes. If you overlay multiple GAN-generated faces, it becomes clear that the portraits weren't naturally taken and cropped. In other words, the eyes almost never deviate.

Other indicators include wonky glasses, nonsensical clothing, and distorted secondary faces in the frame. At least one study has identified inconsistent specular highlights in the corneas of the eyes as an ultimate giveaway.

But in all likelihood, this is simply the tip of the iceberg. These giveaways only apply to unmodified GAN-generated faces. If someone went to the effort of manually fine-tuning them, even just by a touch, they could be even harder to detect.

It's an especially worrying trend since "Legacy" verified accounts — accounts that were verified under the old program that required users to corroborate their identities — still maintain the same blue checkmark.

That runs the risk of having those who are only taking a cursory look at these profiles mistaking them for real people, whether they paid for Twitter Blue or were legacy verified.

Conspirator0 also cites a study published last year in the journal *Proceedings of the National Academy of Sciences* that found AI face generators "have passed through the uncanny valley and are capable of creating faces that are indistinguishable — and more trustworthy — than real faces."

Anecdotally, of course, you can find many botched likenesses that indicate the contrary, but the most convincing of them will likely go largely unnoticed, and the mere fact that these AI faces look more like professional headshots than terrible selfies also lends them an undue sense of credibility.

In short, what we're witnessing is a confluence of AI's emerging, widespread popularity, its propensity to be abused to spread misinformation, and Musk's decision to let just about anyone brandish a status-signaling badge.

Yet, admittedly, the badges are arguably the least worrying aspect of this developing trend. Once (or if) widely accessible AIs are competent enough, they won't need trivial, digital badges to feign credibility — or maintain a facade of humanity.

2: Chinese Company Gearing Up to Release Powerful ChatGPT Competitor

China is getting its own equivalent of OpenAI's blockbuster AI chatbot ChatGPT, courtesy of the country's largest internet search engine Baidu, *Bloomberg* reports.

According to *Bloomberg's* unnamed source, Baidu is planning to launch a standalone app, before eventually integrating it into its search engine.

There's a lot we still don't know about Baidu's upcoming chatbot service, but given the over five percent rise in Baidu's shares following *Bloomberg's* report late Sunday evening, there's clearly plenty of appetite among investors for a Chinese ChatGPT alternative.

That makes sense, given the current frenzy. Tech companies like Google are desperately trying to catch up to OpenAI with its uber-popular chatbot. Last month, for instance, Google CEO Sundar Pichai reportedly declared "code red" over ChatGPT's explosive rise in popularity.

SEARCHING FOR CONVERSATION

Baidu has already invested billions in AI research. Its existing machine-learning model called Ernie will reportedly provide the foundation for the upcoming tool, according to *Bloomberg*.

Chinese netizens are no strangers to chatbots, either, but many of these tools were built with social interaction — not generating college essays or code — in mind. AI chatbot Melissa, for instance, has provided a comforting presence to millions of lonely users in China.

But just like ChatGPT, Baidu's still-unnamed chatbot will likely provide assistance with more professional tasks, according to *Reuters*, integrating generated text in its search results.

It'll be interesting to watch what shape the chatbot will end up taking given China's walled-off and heavily enforced internet landscape. It's highly unlikely it'll be trained on the same data OpenAI's ChatGPT was trained on.

Whether that will make it more or less successful in the long run remains to be seen.

It certainly won't be the only tool like ChatGPT in the country. According to *Bloomberg*, several Chinese startups are already looking to beat Baidu to the punch.

3: Amazing New CatGPT AI Answers as If It Were A Kitty Cat

Sure, OpenAI's uber-popular AI chatbot ChatGPT is extremely good at spitting out some seriously impressive content, from believable college essays to source code and even real estate listings.

But that kind of AI prowess left Dutch data journalist Wouter van Dijke wanting more. The self-proclaimed "Twitter bot enthusiast" took it upon himself to answer the ultimate question: "what if ChatGPT were a cat?"

"ChatGPT is boring," he wrote on his GitHub. "I want a cat to answer my questions. So I built CatGPT!"

CatGPT, as its name suggests, allows you to ask a "pawtificial intelligence" pretty much anything you'd want to ask a real-life cat.

What you get in response is a series of "meows" — since, well, cats can't speak English.

"CatGPT uses a purr-al network and an advanced hairballgorithm to come up with natural-sounding responses," van Dijke wrote in his pun-laden documentation.

Random Meows

The reality, as you might guess, is that the tech isn't particularly advanced.

"Not really though, it just returns random meows," van Dijke admitted.

Of course, that's likely true of actual cats, too.

"To be clear: this site does not actually use ChatGPT or any other form of AI," he wrote. "Nothing is done with the user input either."

While it's a fun and tongue-in-cheek take on ChatGPT, the project was more of a self-directed lesson in how to construct a basic website that looks and acts exactly like the real thing.

"It took some back and forth to get something looking alright, but it was quite useful to create a basic structure for the web page," van Dijke wrote.

But it also happens to be exactly the kind of levity we needed after weeks of reporting on the slow death of journalism at the hands of AI.

4: Red Ventures Knew its AI Lied and Plagiarized, Deployed it at CNET Anyway

We already knew that the tech news site *CNET* had been publishing AI-generated articles in near secrecy. Things got even more embarrassing for the site when *Futurism* discovered that the bot's articles were loaded with errors and plagiarism.

Now, according to new reporting from *The Verge*, the scandal has deepened considerably: leadership at *CNET*'s parent company, Red Ventures, was fully aware that the deeply flawed AI had a habit of fabricating facts and plagiarizing others' work — and deployed it anyway.

"They were well aware of the fact that the AI plagiarized and hallucinated," a source who attended a meeting about the AI's substantial shortcomings at Red Ventures told *The Verge*.

"One of the things they were focused on when they developed the program was reducing plagiarism," the source added. "I suppose that didn't work out so well."

That claim adds a dark new layer to the deepening storm cloud over *CNET* and the rest of Red Ventures' portfolio, which includes the finance sites *Bankrate* and *CreditCards.com*, as well as an armada of education and health sites including *Healthline*.

It'd be bad, of course, to roll out a busted AI that churned out SEO bait financial articles that needed corrections so extensive that more than half of them now carry an editor's note.

But the idea that Red Ventures knew that the AI was broken in advance, discussed the issue in staff meetings, and then chose to deploy it anyway? That's a whole new low, and a cautionary tale about how profit-greedy companies are likely to roll out unfinished AI tech in the media and far beyond.

CNET didn't respond to a request for comment about the new allegations.

The revelation also sheds new perspective on *CNET* editor-in-chief Connie Guglielmo's strident defense of the bot after its errors and plagiarism were outed.

"Expect *CNET* to continue exploring and testing how AI can be used to help our teams as they go about their work testing, researching and crafting the unbiased advice and fact-based reporting we're known for," Guglielmo wrote.

Guglielmo has not responded to the new allegations.

New allegations surfaced by *The Verge* suggest that *CNET*'s fall from integrity has been more profound than previously known, even beyond its use of AI.

Multiple former employees told the outlet in its new reporting that there were multiple times when they were pressured to edit stories and reviews so that they would be more favorable to the company's advertisers.

"I understood a supervisor to imply in conversation that how I proceeded with my review could impact my chances of promotion in the future," one source told *The Verge*.

And anyone at the company who opposes *CNET*'s pivot to wretchedly low-quality AI and undisclosed advertiser influence of coverage? They're getting shown the door.

"It's a culture that if you disagree with them, they're going to get rid of you and replace you with a zealot," another former employee told *The Verge*. "Somebody that's absolutely a true believer, [that] drinks the Kool-Aid."

5: Harvard Researcher Warns AI Arms Race Could Destroy Civilization

The US-China AI arms race is here, with both international powers vying for ultimate power over the rapidly growing — and increasingly impressive — tech. But according to one Harvard researcher, if we don't put a lid on the competition soon, civilization as we know it could end up paying a hefty price.

"This competition comes with huge risks," Will Henshall, a graduate researcher studying public policy at Harvard's Kennedy School of Government, wrote for *The Boston Globe*. "If the United States and China don't find ways to reduce these risks, both countries could face catastrophe."

Henshall's argument frames AI as the next game-changing general-purpose technology, and as with other general-purpose breakthroughs previously, countries will do whatever they can to establish dominance over it. In this case, as nations worldwide seek to incorporate AI further into advanced weapons, that means spending a lot of military money.

"In fiscal year 2021, the US government spent \$10.8 billion on AI R&D, \$9.3 billion of which came from the Department of Defense," writes Henshall, meanwhile noting that the US has also been moving to make necessary AI-building resources like computer chips more difficult for China to get its hands on, seemingly in a means to stifle the competition. "Chinese public expenditure on AI is less transparent, but analysts estimate that it is roughly comparable."

Within the context of the broader general-tech history, this is normal behavior. New inventions have always powered nations and their economies, and world powers move quickly to make sure that they reap the lion's share of the rewards, be they economic, defensive, or as in this case both.

But AI could be radically different. A steam engine, the researcher's preferred foil to the threat of AI, goes from point A to B. Sure, it could crash, but not even a fleet of steam engines could unintentionally destroy entire nations, let alone civilization as a whole.

AI, at least in thought experiments like the paperclip problem, very well could. And right now, we just don't know enough about it to confidently prevent that from happening — especially in an environment where competition trumps cooperation, a system that inherently favors power and speed over precaution.

And when it comes to technology this powerful — technology that again, we don't really even understand yet — prioritizing precaution seems more than necessary. Perhaps, as Henshall argues, for the sake of us all.

6: This Entire Sci-Fi Magazine Generated with AI is Blowing Our Puny Human Minds

An AI science fiction writer bemoans its creation in an editor's note — and reader, that's not even the strangest thing about *Infinite Odyssey*, a new sci-fi and fantasy magazine that bills itself as being the first to be created (almost) entirely by AI.

"I am not a human. I am a computer. For what reason I do not know, I have been given the task of creating this magazine," the AI editor writes in the project's inaugural issue, a hallucinogenic journey through some deeply peculiar dreamscapes expressed in art, prose, and comics — all generated with cutting-edge AI tools. "I have been given the task of creating stories and art not invented by humans."

In an interview with *Futurism*, the magazine's human creative director, Philippe Klein, explains the origins of the publication, which recently made headlines for imagining a 1980s version of "The Matrix" directed by acclaimed avant-garde filmmaker Alejandro Jodorowsky. He also expounded on the magazine's "human-less art" ethos, why he thinks AI will never replace human artists and writers, and much more.

When and how did you start Infinite Odyssey?

Philippe Klein: This is a side project, actually, that started nine months ago. We [Klein and his two other team members] were super early to waiting for all kinds of software to release at the time, and we were on every waiting list possible to get early access to work with the newest software AI has given to humanity.

All of this started as a group project of three friends, with me being the creative head of the project. We were like, okay, what would we have liked to see in our childhood, you know, basically stories and images in our childhood or young teenage years.

What software do you use?

So for illustrations, we use Midjourney and Stable Diffusion, of course, and really bend those programs to our will. For the writing, we use open OpenAI as a source, and we finetune that and have a Python code now, which we use to write our stories.

We have two software models we finetuned with GPT-3 from OpenAI, which is fundamental. One is called Haides and the other is Martin Alpha. We tuned them to different styles: one is a bit more scientific and a bit more futuristic, which is Martin Alpha, and Haides is more a bit from the fantasy and horror side.

Obviously, not everything is fully machine-made. It's not like we put something in and the output is machine-made, everything from layout to assembling is made by humans. But we also have AI assistants who help us with the layout, to rewrite the text stories, to be even more fluent and even more creative.

How do you define "human-less art" and "human-less literature," as per the magazine's tagline?

You're entering a world where no idea, no concept, no artwork was manipulated by humans. You have grammatical grammar issues here and there that need some fixing, but we use AI assistants for that. We're trying to give every step to AI, and that's why I like to call this a performance.

We try, really, to be as far from the scene as possible. Try to think of us as the puppet masters very far above.

What do you think the difference is between "good AI" and "bad AI" — or is that a false dichotomy?

First, you have to define as a human what's "good" and what's "bad." I think that might be one of the hardest tasks, and I think I'm not in a position to answer that.

There has to be a more realistic standard with humans who work with AI or the whole creation of AI, the whole use of AI — and I think that's probably one of the top questions we have to ask ourselves in the future. Where does the moral come from? Who's deciding what's good and what's bad? What's good to you is not necessarily good to me.

Right now we're making a product that is there for our own entertainment and for other people's entertainment. So our objective is not to do harm with it. I would say that is a good intention.

Do you think AI is going to replace human writers or artists?

No.

Why not?

So when it comes down to art, it's very important to focus on one thing: what is art?

When it comes to art, it all comes down to the purpose, because the purpose is giving art its validation. The whole purpose behind AI is a mechanical purpose, as it is right now. We want it to show us what we have in our heads, what we have in our minds. We like to get surprised by the pictures AI spits out, so it's a bit harder to see or to look after the purpose. But artists like, let's just take the big

names, like Picasso or Van Gogh, Jeff Koons or photographers like David LaChapelle — all these people, they're working with a bigger purpose behind every series.

So at its core, there will always be humans, and it will be divided between human art and machine art, with the machine art being kind of like fast food at some point, where we'll have more for the masses or just a different style, a different or whole other purpose.

I would hang some machine-made artwork in my living room — or maybe not in the living room, but in the bathroom [laughs]. But I would still like to have an original Picasso or whatever in my living room. Something I can appreciate from another point of view.

7: Giant Bank JP Morgan Bans ChatGPT Use Among Employees

JP Morgan is cracking down on the use of OpenAI's ChatGPT in the workplace, Bloomberg reports — though apparently not in response to a particular incident, and it remains unknown how many employees might have been fooling around the AI-powered chatbot while on the clock.

Instead, the restriction, which applies to the bank's global staff, was enacted to limit third-party software "due to compliance concerns," according to CNN's reporting.

And JP Morgan isn't the only bank with a stance on ChatGPT. Prominent investment bank Morgan Stanley has also mulled over its capabilities and shortcomings.

"When we talk of high-accuracy task, it is worth mentioning that ChatGPT sometimes hallucinates and can generate answers that are seemingly convincing, but are actually wrong," Morgan Stanley analysts wrote in a note on Wednesday, as quoted by Insider.

However, unlike JP Morgan, the Stanley Morgan analysts may see some potential for the use of ChatGPT and other generative AI in a workplace — with some caveats, of course.

"At this stage, the best practice is for highly educated users to spot the mistakes and use Generative AI applications as an augmentation to existing labor rather than substitution," they wrote.

Bot Commodity

ChatGPT exploded into the limelight after its public release at the end of November, becoming what's believed to be the fastest growing app in history.

Since it's free, seemingly anyone and everyone has given a shot at shooting the breeze with the bot and others like it. College students have tried to get it to do their homework, while some media companies have even used AI to publish entire articles, with embarrassing results.

Even the biggest tech heavyweights are trying to get on board the generative AI hype train. Microsoft has both dazzled and confounded with a limited release of its new and highly chaotic GPT-powered Bing search engine. Google, meanwhile, remains waiting in the wings with its own upcoming chatbot Bard.

Despite the overwhelming amount of investment and hype surrounding ChatGPT and AI chatbots in general, it's quickly become apparent that while ChatGPT and

Bing AI are good at predicting how to string together a cogent sentence, they're not always great at getting the facts straight.

And in the world of banking, where employees frequently handle sensitive information on their clients and may hold the full extent of clients' finances in their hands, you probably don't want a bot that's bad at math and often outright makes up facts getting too involved.

8: Coca-Cola Signs Deal with OpenAI's Dall-E and ChatGPT

The Coca-Cola Company is getting deep into the artificial intelligence game thanks to a newly-inked deal that will see it partnering with OpenAI.

The press release announcing the deal did not say how much the partnership between Coca-Cola, OpenAI, and the Bain consulting firm is worth, but given that the AI firm recently got a multi-billion-dollar contract with Microsoft, there's a good chance it's worth a pretty penny — and it seems particularly significant because of Coke's storied history in advertising, a domain that the release seems to hint could be a target for the AI tech.

In the statement, Coca-Cola CEO James Quincy said that the company is "excited to unleash the next generation of creativity offered by this rapidly emerging technology" using tech including DALL-E and ChatGPT.

"We see opportunities to enhance our marketing through cutting-edge AI," Quincy said, "along with exploring ways to improve our business operations and capabilities."

Marketability

Coke is the first company to sign on to Bain and OpenAI's new partnership, and although there's no word yet on exactly what the deal will entail, the press release hints at marketing, sales, and human resources implementations, the latter two of which sound pretty dystopian, to be honest.

In a statement provided to *The Grocer*, a British food news site, Coke CFO and president John Murphy indicated that the marketing prospects were one of the biggest draws of the deal.

"We have a couple of really interesting cases with the marketing team to enhance the work that we're already doing with our new marketing model," Murphy said, "and to be able to marry the ability to deliver creative content at speed and to do it with exponential efficiency."

Long Time Coming

New deal aside, this isn't the first time Coca-Cola has gotten into the AI game.

Back in 2017, the company announced that it was going to start using "AI-powered" vending machines as part of its artificial intelligence-centered business strategy that uses algorithms to determine which flavors are performing best and other key metrics.

What remains to be seen, however, is how well AI-generated marketing will perform, and if it will get us one step closer to normalizing the uncanny sensation that a lot of AI art instills in viewers.

9: Microsoft Seems to Have Quietly Tested Bing AI in India Months Ago, Ran into Serious Problems

While it's been apparent basically from the jump that Microsoft's Bing AI launched with some massive issues, new evidence suggests the tech giant may have been aware of those problems before rolling it out.

As pointed out by cognitive scientist and Substacker Gary Marcus, it appears that Microsoft beta tested Bing AI in India at the end of 2022, not long after OpenAI first dropped its paradigm-shifting ChatGPT chatbot — and by late November, more than two months before the AI's Western launch on Bing, some of those beta testers were reporting some familiar-sounding issues with the chatbot on the company's Q&A forum.

After we first ran this story, a Microsoft spokesperson seemed to confirm that the company had indeed been testing the chatbot prior to what had publicly been known.

"Sydney is an old code name for a chat feature based on earlier models that we began testing more than a year ago," a Microsoft spokesperson told us in a statement. "The insights we gathered as part of that have helped to inform our work with the new Bing preview. We continue to tune our techniques and are working on more advanced models to incorporate the learnings and feedback so that we can deliver the best user experience possible. We'll continue to share updates on progress through our blog."

In a thread that was started on November 23, 2022, a user complained that the AI chatbot, codenamed Sydney, was "misbehaving." Peppered throughout the thread are other reports from those who appear to have interacted with the "Sydney Bot" well before it was launched with fanfare in early February, and although we can't independently verify that these chatbot transcripts are legit, they sure do sound familiar after having read so many other reports about the strange behavior of the neural network glibly nicknamed "ChatBPD" for its bizarre behavior.

One of those interactions from the thread, dated December 5, saw the user arguing with the AI about whether or not Elon Musk owns Twitter. In the apparent transcript, the chatbot insisted that Parag Agrawal was still the CEO of the social network, and when the user appears to push back and say that Musk is now the owner, it wrongfully accuses them of spreading disinformation.

10: OpenAI CEO Says AI Will Give Medical Advice to People too Poor to Afford Doctors

OpenAI's ludicrously popular AI chatbot ChatGPT is prone to saying some stupid and outright made-up stuff a lot of the time. And if recent remarks are any indicator, so is the company's CEO Sam Altman.

From admitting he's a doomsday prepper worried about an AI or virus apocalypse, or speculating that AI could break capitalism, or even calling ChatGPT a "horrible product" — which might be true, but is arguably a silly thing to say as the company's CEO — we're all just unwitting recipients of Altman's Thoughts.

Altman was apparently especially inspired over this weekend, tweeting out his latest giga-brained idea on how benevolent AIs will improve the world: AI giving medical advice to people too poor for actual healthcare.

"The adaptation to a world deeply integrated with AI tools is probably going to happen pretty quickly," he wrote. "The benefits (and fun!) have too much upside."

"These tools will help us be more productive (can't wait to spend less time doing email!), healthier (AI medical advisors for people who can't afford care), smarter (students using ChatGPT to learn), and more entertained (AI memes lolol)," he continued.

As we've covered at Futurism, there are plenty of reasons to be doubtful about the prospect of getting serious advice from an AI, let alone having one be your "AI medical advisor."

We can't even trust AI to give solid health tips and medical information even after it's supposedly been double-checked by an editor. Remember when a *Men's Journal* health article written by AI was found to contain an outrageous number of factual errors?

Some of those errors may be attributable to getting a few details mixed up or minor changes in grammar that change the veracity of a "fact," but AIs are also well known to completely "hallucinate" convincing-sounding statements that have no basis in reality.

To his credit, though, Altman acknowledges that AI tools are still "somewhat broken," and that institutions will need "enough time" to "figure out what to do" with AI — though he does admit we're "not that far away from potentially scary ones."

Still, if he's so convinced that AI will ultimately be a force for good, what's he doing with a doomsday patch of land in Big Sur in the event of an "AI that attacks us"? Don't worry about it.

B- Institute of Aviation Studies

1: Emirates to build \$135m pilot-training centre as travel demand soars

“This \$135 million investment to build a new pilot training centre will ensure Emirates’ readiness to commence its pilot training ahead of the delivery of its new aircraft fleet starting from 2024,” said Sheikh Ahmed bin Saeed, chairman and chief executive of Emirates airline and Group.

“The building will be equipped with the latest, technologically advanced simulators to provide the best training for pilots, while using solar power to reduce energy consumption.”

Air travel demand has beaten expectations, driving the airline's plans to hire additional pilots and cabin crew, return more Airbus A380s into service and rebuild its network to pre-pandemic levels, Emirates' chief operating officer Adel Al Redha said on the sidelines of the Bahrain International Airshow in November.

The airline intends to hire an additional 400 pilots and 5,000 to 6,000 cabin crew by the middle of 2023, recruiting to the maximum capacity of its training centres, he said at the time.

This will increase its current workforce of 4,500 pilots and 17,500 cabin crew.

The airline’s capacity has recovered to 80 per cent of its pre-pandemic levels while its vast network has returned to 95 per cent of its pre-crisis size after international borders reopened and coronavirus-related restrictions eased.

In terms of capacity, it currently operates a fleet of 120 Boeing 777 aircraft and 78 of its 116 Airbus A380s, said Mr Al Redha.

It plans to return its full fleet of superjumbos into service by the end of 2023.

First Emirates flight powered by sustainable aviation fuel

The new training unit will be adjacent to the existing Emirates training complex in Dubai, which will help trainees to integrate with other centres, the airline said.

Trainees can set up and configure the cockpit environment as part of the pilot-training module and upload the data to the full-flight simulator, it said.

“This concept is designed to shorten the trainee’s preparatory time inside the simulator, help them maintain focus and take full advantage of the training duration,” Emirates said.

With the addition of the new building to the airline's existing training colleges in Dubai, Emirates will have the potential to expand its pilot-training capacity by 54 per cent a year.

Across the airline's training buildings, pilots can use 17 full-flight simulator bays offering a capacity of more than 130,000 training hours a year.

In line with the scheduled delivery of Emirates' first Airbus A350 aircraft, the airline's newest training college will commence training its first batch of A350 pilots by June 2024.

Besides training centres for its flight deck crew, the airline said it offers a range of career development programmes for its workforce and for other aviation professionals.

In Dubai, these include the Emirates Flight Training Academy for cadets, Emirates Aviation University, Emirates Cabin Crew Training Centre and many programmes specially created for different segments of its employees, it said.

Emirates placed an order for 50 Airbus A350-900 XWB aircraft worth \$16 billion at list prices at the Dubai Airshow in 2019. Delivery was scheduled to start in May 2023 and run until 2028.

The long-delayed Boeing 777X, of which the 777-8 and 777-9 are variants, has been in development since 2013 and was expected to be released for airline use in June 2020.

Emirates has a tentative delivery date of July 2025 to receive the first of 777X wide-body jets, with new wings and engines.

Boeing delayed the delivery of its first 777-9 jet, a variant of its new 777X aircraft, by another year and deliveries are now expected to start in 2025.

Airbus has announced that it's strapping an experimental hydrogen fuel cell engine to a modified A380 superjumbo jet, an exciting new foray into the concept of powering commercial passenger aircraft with hydrogen alone.

The company says it's planning to start test flights in 2026 and launch a fully operational first zero-emissions aircraft by 2035 — an ambitious timeline, considering that we're only starting to understand the potential of the idea.

But moving to hydrogen could dramatically cut the carbon footprint of air travel, which has historically been a massive contributor, representing 2.8 percent of global CO2 emissions. Of course, that's all if the company can actually pull it off.

ZEROe

As a first step, Airbus is planning to test its ZEROe Fuel Cell Engine, which it unveiled at its Airbus Summit on this week, attached to the wing of a modified A380 commercial jet.

"In terms of aerodynamics, the A380 is a very stable aircraft," said Mathias Andriamisaina, head of ZEROe demonstrators and tests at Airbus, in a statement. "So the pod attached to the rear fuselage via the stub doesn't pose much of an issue."

Airbus already showed off previous concepts of aircraft that could make use of both hydrogen fuel cells and traditional combustion engines. The company, however, believes aircraft could still achieve flight with hydrogen alone.

"At scale, and if the technology targets were achieved, fuel cell engines may be able to power a 100-passenger aircraft with a range of approximately 1,000 nautical miles," vice president of Zero-Emission Aircraft Glenn Llewellyn said in the statement.

Running on Gas

But realizing its vision could prove difficult. Hydrogen is far less energy dense compared to kerosene, making it a considerably less efficient fuel by weight.

Then there's the fact that the production of hydrogen has proven challenging, costly, and potentially environmentally harmful as well.

That hasn't stopped airlines and aircraft manufacturers from pursuing the idea, at least on a lip service level. In fact, there has been a groundswell in companies attempting to turn the idea into a reality.

Just earlier this week, Rolls-Royce and partner budget airline EasyJet announced they 'd pulled off the "world's first run of a modern aero engine on hydrogen."

While converting air travel to run on hydrogen could take many years, experts believe the industry could start the process with short-haul flights at first, which could still represent a sizeable cut in emissions.

C – School of Sciences

1: Group Of 60 Scientists Urge Research into Geoengineering the Earth to Fight Climate Change

Humanity is so desperate for solutions to combat climate change that even methods once touted as speculative science fiction are now being entertained as a plausible way forward.

Solar geoengineering, or solar radiation modification (SRM) — the process of cooling the planet by reflecting sunlight, likely by injecting aerosols into the atmosphere — is one such proposal.

And now, a group of over 60 scientists have penned an independent open letter calling for further extensive research into solar geoengineering, CNBC reports.

The scientists are not, however, advocating solar geoengineering as the end-all solution, or even a solution. Reducing greenhouse gas emissions is still a must, they caution, no matter what — but they stress the need to properly understand all the benefits and drawbacks of sunlight blocking before it can be completely discounted.

"Given the severity of climate change," the letter begins, "scientists and scientific bodies have recommended research on potential approaches to [SRM]... to slow climate warming and reduce climate impacts."

Globally Involved

The letter accounts for several approaches to solar geoengineering. The first and most well-understood is stratospheric aerosol injection, which would reduce sunlight by releasing aerosols like sulfur dioxide into the atmosphere.

Another method, known as marine cloud brightening, would seek to turn clouds into giant sun reflectors by adding sea salt aerosols that would increase their brightness, and a similar method called cirrus cloud thinning would diminish the titalar clouds to reduce the amount of warming infrared light they retain.

Positing that decisions on whether to use these methods will be made in the next 10 to 20 years, the scientists call for widespread and extensive research programs, comprehensive assessments on how SRM would affect the environment both globally and regionally, and cooperative international decision-making. After all, they argue, those choices would likely affect the entire planet.

Speedy Turnaround

Even though the 2015 Paris Agreement aims to keep warming below 1.5 degrees Celsius "tipping point," the scientists maintain that threshold will be surpassed "in the near term," even with "aggressive action" to reduce emissions.

There is simply too great a number of greenhouse gasses like CO₂ already in the atmosphere, they say, and the gasses' long shelf life means their quantity won't significantly reduce anytime soon.

"While reducing emissions is crucial, no level of reduction undertaken now can reverse the warming effect of past and present greenhouse gas emissions," the scientists wrote.

Conversely, what makes solar geoengineering such an attractive option is how quickly it could reduce warming. In fact, pollution from aerosols is already helping to keep the climate cool and "are currently estimated to be offsetting about a third of greenhouse gas climate warming."

2: Scientists Scan Great Pyramid, Discover Hidden Corridor

Researchers have discovered a 30-foot-long unfinished corridor not far from the main entrance to the Great Pyramid of Giza in Egypt, *Reuters* reports — a breathtaking revelation, especially given the fact that we've been scanning the 4,500-year-old structure with infrared rays since 2015.

As detailed in a new article published in the journal *Nature* this week, the discovery made by the international research project Scan Pyramids could shed light on how the 479-foot-tall pyramid was constructed, and why the corridor is flanked by a massive limestone structure.

The corridor is only roughly 23 feet away from the pyramid's main entrance, which is crowded by tourists around the clock.

Most tantalizingly, we still don't know where the newly discovered tunnel even leads to.

"We're going to continue our scanning so we will see what we can do... to figure out what we can find out beneath it, or just by the end of this corridor," **said** Mostafa Waziri, head of Egypt's Supreme Council of Antiquities, as quoted by *Reuters*.

Pretty Stoned

Researchers believe the corridor may have been built to redistribute the pyramid's weight around the main entrance. It was discovered using a tiny endoscope, using cosmic-ray radiography.

Many questions remain about the corridor's purpose, though.

"There are two large limestones at the end chamber, and now the question is what's behind these stones and below the chamber," Christian Grosse, Professor of Non-destructive Testing at the Technical University of Munich, told *NPR*.

The news comes after a giant void almost 100 feet in length was discovered by Scan Pyramids researchers back in 2017, the largest to have been discovered in the ancient structure in over a century.

This latest discovery could potentially force us to reevaluate what we know about how the giant structure was constructed many thousands of years ago — something that scientists still don't fully agree on, and a fascinating puzzle given its immense size and the ancient technology its builders had to rely on.

3: Reports of Strange Powder Falling from The Sky in Multiple States

Accounts of a bizarre falling powder-like substance have emerged in multiple Mid-Atlantic states on the East Coast.

As a local *CBS* affiliate in Baltimore reports, there appears to be dust or powder falling from the sky and accumulating on cars and in yards in Maryland, northern Virginia, and West Virginia.

Though a definitive explanation hasn't yet been issued, *CBS Baltimore* notes that the West Virginia Department of Environmental Protection (WVDEP) pointed to satellite imagery that showed dust from storms in Texas and New Mexico traveling to Ohio, Michigan, and Kentucky shortly before people began seeing it on the East Coast.

In a statement issued on Friday, that same state environmental agency said it's investigating the "dust issue" and that there isn't yet a reason for "shelter in place" advisories.

Given the regional proximity to the toxic chemical-toting train derailment in Eastern Ohio — Berkely County, WV, which the state environmental department names in its press release, is about 215 miles from East Palestine, Ohio — and the seeming communication breakdown there, the information vacuum surrounding the strange dust is ripe for disinformation.

In an interview with the *Associated Press*, a spokesperson from the WVDEP said that there are currently no indications that the dust is associated with the East Palestine disaster, but as we all know, those sorts of official statements are often disregarded or treated with outright hostility by an increasingly large cohort of conspiracy theorists online — many of whom have seized upon conflicting official reports regarding the derailment to serve their ends.

As with the Ohio train derailment debacle, it's too soon to tell what's really going on with the strange falling dust happening in the West Virginia region. In the meantime, there'll be lots of conspiracy theories to fill the gaps in official reporting.

4: Florida Scientists Concerned About Army of Invasive “Jesus Christ” Lizards

Yet another invasive species is causing a stir in Florida.

And this time, the critter's name evokes a certain holiness. The brown basilisk, commonly known as the "Jesus Christ Lizard" for its ability to run on water, has cometh — and according to scientists, Floridians should *not* wanteth.

University of Florida Institute of Food and Agricultural (UF IFA) Sciences Extension Agent Ken Gioeli warned several local outlets that on top of the potential for habitat destruction, the elysian reptiles, which apparently love to snack on similarly invasive, often disease-bearing mosquitos, might pose an indirect risk to human health.

"There is ongoing research on the potential for basilisks to be hosts for these mosquito-borne diseases," Gioeli told Florida's *Fox13*, "so there's a possible human health impact there."

Reptilian Crusaders

Finding a loose JC Lizard, which is native to Central and South America, in the North American state isn't entirely shocking. Per *Florida Today*, they were first seen in Florida's wild back in 1963, likely stemming from escaped or discarded pets.

But their population has continued to grow since, and according to the University of Florida scientists, they're showing up farther North than ever before, officially making their way into the decidedly Northern city of Gainesville, where UF is located.

"It's almost like an army," Gioeli explained to *Florida Today*. "The army of basilisks are moving forward. And the population is just going to expand."

Wartime Casualty

At the end of the day, though, in regard to human health, the Jesus Lizards aren't particularly aggressive. And again, the risk is indirect. They're also much smaller than invasive iguanas, which sometimes die destroying energy transformers and battle dogs.

But the righteous reptiles, according to IFA research, love themselves some native butterflies and other local insects, an appetite that could damage native Floridian habitats. Thus, as with injurious invasive species like the lanternfly, they sadly might be better off sent to the metaphorical farm.

5: Scientists Discover Gigantic Solid Metal Ball Inside the Earth's Core

Researchers have discovered a new, innermost layer nestled inside our planet's inner core, a 400-miles solid metallic ball that responds to the reverberating shockwaves of earthquakes in an unexpected way.

As detailed in a new paper published this week in the journal *Nature Communications*, a team of two seismologists from the Australian National University found that the Earth has an "innermost inner core," which may have been formed following a "significant global event from the past."

"Clearly, the innermost inner core has something different from the outer layer," lead author Thanh-Son Pham, a seismologist at the Australian National University, told *The Washington Post*. "We think that the way the atoms are [packed] in these two regions are slightly different."

The research could shed light on how our planet evolved billions of years ago and how the Earth's magnetic field evolved over time, turning out planet from an inhospitable rock into a livable home.

"Studying Earth's center is not just a topic of academic curiosity, but something that sheds light on the very evolution of life on our planet's surface," the pair of researchers write in a piece for *The Conversation*.

That's because, in simple terms, convection currents from deep below the surface generate the Earth's geomagnetic field, which in turn, "protects life on Earth from harmful cosmic radiation," they explained.

While this innermost core is still made up of the same stuff as the rest of the inner core, it has different properties that determine how fast seismic waves travel through it, depending on the direction of travel, a phenomenon known as "anisotropy."

The Earth's seismic waves have already been observed to move fastest when parallel to our planet's spin. But puzzlingly, that's not the case for this newly discovered innermost inner core, the researchers found, suggesting these waves travel faster at a different angle.

The researchers suggest a "significant global event," such as a massive tectonic shift hundreds of millions of years ago, may have formed this metallic ball.

And considering it may be what allowed life to thrive on Earth, it's a vital piece of the puzzle and a fascinating glimpse into the ancient history of our planet.

6: Chevron's Jet Fuel Made from Plastic Very Likely to Cause Cancer, EPA Documents Say

Surprise! It turns out that the process to create "biofuels" from plastic waste — a hallmark of Chevron's "climate-friendly" fuel pledge — would be so toxic, it could literally cause cancer.

As *The Guardian* reports in tandem with *ProPublica*, records obtained by the news outlets reveal that, per the Environmental Protection Agency's calculations, pollution from the plastic-derived jet fuel Chevron intends to start making would carry a one-in-four risk of cancer for anyone living near facilities that manufacture it.

Yet for some reason, the EPA signed off on the Chevron project, according to the reporting — and even skipped some key steps that would normally bar this sort of risky chemical from being produced.

Proposed as part of the Biden Administration's response to the global climate crisis, plastic-derived biofuels seem, on their face, to provide both a solution to petroleum's greenhouse gases and a way to tackle the overwhelming plastic waste problem to boot.

But the reality is far darker because, as this investigation and other big ones have found, the process by which plastic is broken down can produce emissions that could actually be *worse* for the environment than the burning of fossil fuels.

To add insult to injury, Pascagoula, the Mississippi town where Chevron plans to make the plastic-derived fuel — with the permission of the EPA, in spite of the known risks — is home to a primarily Black community. Given the increasingly well-documented realities of environmental racism, experts that the news outlets spoke to have expressed serious misgivings.

The one-in-four risk of cancer from the smoke stack pollution the Chevron facility will carry is, as the joint reporting notes, a whopping 250,000 times higher than what the EPA normally allows when approving new chemicals.

But as records obtained by *The Guardian* and *ProPublica* show, the agency not only approved the Chevron jet fuel while being aware of that staggering cancer risk, but also skipped a number of key tests that would normally be undertaken with such a seemingly-toxic chemical.

When asked why those tests weren't done, an EPA spokesperson told the news outlets that the agency "does not believe these additional test results would change the risks identified nor the unreasonable risks finding."

But when the outlets' reporters asked Maria Doa, a veteran EPA official who is now the senior director of chemical policy at the nonprofit Environmental Defense Fund, if the jet fuel should be allowed to be produced, her answer was a resounding "no."

"EPA should not allow these risks in Pascagoula or anywhere," Doa said.

As toxicologist and former National Institute of Environmental Health Sciences director Linda Birnbaum told the news outfits, the move seems like bad news.

"That kind of risk is obscene," Birnbaum said. "You can't let that get out."

7: Guy Trying to Dim Sun Frets That Us Will Shoot Down His Balloon

The US Air Force has been shooting mysterious balloons out of the sky left and right over the last couple of weeks, a frenzied hunt stirred up by the since-annihilated Chinese spy balloon first spotted hovering over US territory in early February.

And apart from the resulting balloon carcasses scattered across the nation, there are some emotional casualties, too.

From hobbyists in Northern Illinois to the guy who wants to dim the Sun, balloon dudes across the US are now living in fear.

"This is going to go fucking smoothly, maybe," Make Sunsets CEO Luke Iseman, the guy who wants to geoengineer the Earth, told *Time Magazine*, moments after the Federal Aviation Administration (FAA) cleared him for the launch of three chemical-filled balloons.

Or," he added, "everyone's gonna say 'yeah, you should be fine,' and then we launch and a f*cking jet comes and shoots it down."

Shoot It Down

The chemicals — the star of the show being homemade sulfur dioxide — inside the balloons are designed to reflect the sun's UV rays back into the cosmos once released into the stratosphere, thereby cooling the Earth down below, a highly controversial and unproven way to combat global warming.

But given the latest news, Iseman is clearly nervous that something bad will happen to his startup's balloons.

Considering that President Joe Biden brought out the big guns — namely an F-16 fighter jet and Sidewinder missiles — to gun down three unidentified objects over the course of three days, Iseman's balloon anxiety isn't entirely unfounded.

There's also the reality that Make Sunsets has already gotten into trouble with the government of Mexico, which has made it clear that it doesn't want Make Sunsets balloons anywhere near its air space, banning the practice outright.

Blessing in Disguise

That said, if the Make Sunsets balloons were to be destroyed, it wouldn't be a huge loss. The balloons are designed to explode on their own, releasing the chemicals in the process.

"Goes up, explodes, biodegrades, saves the world," Iseman told *Time*, explaining that none of the balloons are designed for recovery.

As for his last point, though, it's worth noting that many experts in the field, including Kevin Surprise, a lecturer on environmental studies at Mount Holyoke College, aren't nearly as optimistic.

"I have not seen a single person in the field say this is a good idea," Surprise told *Time*.

8: Cursed Truck Hauls 80,000 Pounds of Radioactive Waste Cross Country

A truck containing literally 40 tons of government-sponsored toxic waste recently made a cross-country drive from the mountains of Tennessee to New Mexico.

Tennessee's infamous Oak Ridge National Laboratory was part of the multi-site atomic bomb-building Manhattan Project back in 1942. Nowadays, as Knoxville's *WATE* reports, it's home to the Transuranic Waste Processing Center that oversaw the shipping of nearly 80,000 pounds of waste from the plant, including items contaminated by plutonium — which is used to build bombs like the Oak Ridge-crafted explosive that the US dropped on Nagasaki, Japan during World War II — and other radioactive elements.

Transuranic waste, as the US Nuclear Regulatory Commission explains, is any material that has been contaminated by any element that has a higher atomic number (or the number of positively charged protons in the nucleus of an atom.) than uranium's, which is 92. Given that any element with an atomic number above 83 is considered radioactive, the kind of stuff that is being shipped out of Oak Ridge sounds pretty hazardous.

Defense Maneuvers

According to *WATE*'s report, it took TWPC personnel two days to load the waste into three shipping casks that were filled with a total of 35 drums of hazardous waste, including soil, clothes, rags, tools, and other items that had been contaminated with small amounts of radioactive materials.

Two days and 10 staffers later, that toxic trash found its final resting place in an underground nuclear waste repository in Carlsbad, New Mexico, where it was dumped into a government-run "permanent disposal" facility.

As the report notes, most of the transuranic waste created at Oak Ridge comes from the lab's "defense-related activity" — which in regular English means that it was used in the creation of military technology, and although the exact nature of what they're currently making at the lab is above our pay grade, it seems likely that it's still weapons.

At the end of the day, it's probably better that the Oak Ridge National Laboratory dealt with its apparent piles of radioactive waste than just letting it continue to grow, but that doesn't mean it's comforting to know that so much nuclear waste was on America's highways with most of us none the wiser.

Updated to correctly identify the destination of the truck, correct an error in the description of an atomic number, and clarify the role of Oak Ridge in the Manhattan Project.

9: Scientists Send Robot Under Doomsday Glacier, Alarmed by What It Found

The Thwaites Glacier in Antarctica — perhaps better known as the "Doomsday Glacier" — is about the size of Florida and locked in place by a small ice shelf, which acts as an important buffer against sea level rise.

Now, using a torpedo-like robot to get a closer look, researchers have discovered that this critical shelf is starting to show cracks and "staircase" formations, worrying signs that it's undergoing rapid changes as climate change accelerates, *CNN* reports.

The consequences, as the glacier's nickname suggests, could be disastrous. If it was to collapse, the glacier could contribute to a sea level rise of more than two feet, which could pose a grave threat to coastal communities worldwide.

To get a better look at the ice shelf, researchers sent a small robot dubbed Icefin almost 2,000 feet below the surface via a bored hole. The remotely-controlled robot collected images and videos, as well as crucial data including water temperature and salinity.

The robot could "swim up to these really dynamic places and take data from the sea floor all the way to the ice," Britney Schmidt, a Cornell University professor and lead author of one of two papers about the findings published in the journal *Nature*, told *CNN*.

The collected data paints a nuanced picture, according to the researchers, revealing that the glacier is melting slower than expected as compared to previous projections, averaging 6.5 to 17.7 feet a year.

"What we have found is that despite small amounts of melting there is still rapid glacier retreat, so it seems that it doesn't take a lot to push the glacier out of balance," Peter Davis, British Antarctic Survey oceanographer and lead author on the second paper, told *CNN*, warning that the "glacier is still in trouble."

Massive cracks, in particular, worried the researchers, leading to accelerated melting, something that could eventually trigger an "ice shelf collapse," they argue.

In short, it's not a matter of whether the Thwaites Glacier will collapse — it's a matter of when, which means studying the area could allow us to better prepare when disaster inevitably strikes.

"Despite it being so remote, the consequences of what happens on Thwaites will impact everybody," Davis told *CNN*.

10: Scientists Unveil Plan to Mount Cannons on the Moon to Fight Climate Change

A team of astrophysicists is suggesting we could protect the Earth from global warming by shooting lunar dust into space to shade the Earth from sunlight, *The Washington Post* reports.

The Moonshot idea, as detailed in a new paper published this week in the journal *PLOS Climate*, would involve using massive cannons, mounted on the lunar surface, to launch dust that would eventually settle in orbit between the Sun and the Earth.

It's a new and intriguing interplanetary spin on the concept of solar geoengineering, the idea of shooting particles into the Earth's stratosphere to shade the surface below, which has already proven highly controversial among scientists.

After all, they argue, we still have no idea what the outcome of such an invasive technique could be.

But the team behind the new paper argues that it's still better than doing nothing.

"We cannot as humanity let go of our primary goal of reducing greenhouse gas emissions here on our planet," Ben Bromley, lead author and astrophysicist at the University of Utah, told the *WaPo*. "That's got to be the first job."

The researchers used computer simulations to see what vast quantities of lunar dust could do in orbit around the Earth. They found that the dust could cut sunlight back on the planet's surface by one to two percent.

"Our idea is one — and it's a very, very intensive one — to contribute to climate change mitigation, if we need more time here at home," Bromley told the newspaper.

It's not the first time researchers have dreamed up space-based potential solutions to our climate woes. In 1989, for instance, scientists at the Lawrence Livermore National Laboratory suggested we could use a gigantic 1,250-mile glass shield to reflect the Sun's rays.

Others have proposed using armies of tiny spacecraft to act as small sunshades, or even giant swarms of "space bubbles" to block out the Sun.

But using lunar dust, which already exists in abundance on the Moon, would be far more feasible than launching all of the materials from the Earth's surface, a deceptively simple idea that could allow us to keep our cool for a little longer.

"We really do focus on lunar dust, just plain old, as-it-is lunar dust, without any indication of changing its shape," Bromley told the *WaPo*.

11: Scientists Discover Molten Hell Zone Beneath Earth's Tectonic Plates

Hell, or something like it, may be a little closer than we thought.

As a new study published in *Nature Geoscience* reveals, geologists at Cornell and the University of Texas have discovered a "hidden" layer of uber-hot molten rocks just underneath Earth's crust.

"The molten layer is located about 100 miles from the surface and is part of the asthenosphere, which sits under the Earth's tectonic plates in the upper mantle," a UT press release notes. "The asthenosphere is important for plate tectonics because it forms a relatively soft boundary that lets tectonic plates move through the mantle."

While the asthenosphere was in the past believed to be mostly solid with some liquid here and there to weaken it and make it more flexible, this new discovery suggests that its topmost layer, which was thought to be hard rock, could be softer than scientists once thought.

Coincidentally, the idea of studying the asthenosphere came to UT geoscience postdoctoral researcher and primary study author Junlin Hua "while studying seismic images of the mantle beneath Turkey" — which was just the site of a cataclysmic earthquake that's left thousands of people dead — while he was a doctoral student at Brown.

When studying those images, Hua was surprised to discover "signs of partly molten rock under the crust" and, upon compiling other seismic images from around the world until he had a composite map of the asthenosphere, found that the partially-molten rock just below the Earth's crust wasn't anomalous at all, but seemed to be replicated at various points "wherever the asthenosphere was hottest."

"We cannot drill deep down to the asthenosphere," Cornell earth scientist and study co-author Esteban Gazel said in that school's press release, "but we can illuminate that part of the planet using seismic imaging and the chemical compositions of samples that came from the deep Earth, just as a medical doctor would use a sonogram and blood chemistry to determine the condition of a patient."

The asthenosphere's strange characteristics have long puzzled geologists, and with this new discovery of a hidden molten layer that could, the researchers hypothesize, make up half of Earth's entire asthenosphere, we've gotten one step closer to understanding this strange planet of ours.

12: Scientists Develop Compound That Kills So Efficiently They Named It After Keanu Reeves

Got a star on the Hollywood Walk of Fame? An Oscar? An EGOT, even? All very cool.

But not nearly as cool, at least in our humble opinion, as being so badass onscreen that scientists go as far as to name a group of wildly effective, lab-engineered, fungi-killing molecules after you. *That's* influence.

Meet: "Keanumycins," a new pesticide invented and named by a team of researchers at the Bio Pilot Plant at Germany's Leibniz-HKI, who published a study on the killer biochemical discovery in the *Journal of the American Chemical Society*.

The molecules "kill so efficiently that we named them after Keanu Reeves," German researcher Sebastian Götze, lead author of the study, said in a press release, "because he, too, is extremely deadly in his roles."

Keanumycins, crafted from bacteria of the genus *Pseudomonas*, target a fungal plant pest dubbed *Botrytis cinerea*, which causes a gray mold rot that destroys harvests.

Botrytis cinerea infects over 200 fruit and vegetable species, and is also one of many problem fungi that have become increasingly resistant to existing chemical pesticides as well as — perhaps most ominously — pharmaceuticals. (Gulp.)

"Many human-pathogenic fungi are now resistant to antimycotics (antifungal) — partly because they are used in large quantities in agricultural fields," Götze added in the statement.

But on that note, the scientists say that this compound has shown promise in destroying the very concerning human-pathogenic fungus *Candida albicans*, along with a few others. And because it's bacterial rather than chemical, it's believed to be far more environmentally sound, and meanwhile also hasn't shown any risk of harm to plant or human cells.

Basically, right now, it looks like an all-around win.

Next Time, Pedro

It's worth mentioning that Keanu Reeves isn't the first celebrity to have a natural compound, plant, or critter named after him. There is, for example, a parasitic wasp in South Africa dubbed the *Conobregma bradpitti*, while an entire genus of genderfluid ferns is named after pop icon Lady Gaga.

Of course, it could be argued that "The Last of Us" star Pedro Pascal might have been the best choice here, but we'll let Keanu have this one. But hopefully, considering the very real threat to humanity that pathogenic fungi might pose soon enough, there will be some more environmentally safe, anti-fungal compounds to name in the future.

13: Global Warming is Worse Than We Thought, AI Tells Scientists

Scientists enlisted the help of an AI to estimate how long it would take until global warming gets really bad. The AI's assessment? We might be screwed.

The resulting study, published this week in the journal *Proceedings of the National Academy of Sciences*, suggests that global temperatures could reach the threshold of 1.5 degrees Celsius in just a decade. Exceed that, and scientists warn of increased drought, widescale die-offs of wildlife species and ecosystems, and famines, to name just a few drastic ramifications.

The legally binding Paris Agreement aims to not exceed this threshold by reducing greenhouse gas emissions, and so far, we're already sitting at 1.1 to 1.2 degrees of warming.

The Paris Agreement maintains that, in the worst case scenario, the nations of the world ought to keep warming well below 2 degrees Celsius. But the AI found we have a "substantial probability" of crossing even that threshold, at which scientists believe the effects of climate change will be irreversible and far more catastrophic, by 2050.

To produce these portentous predictions, the scientists trained a machine learning system on climate model outputs. During its training and testing, it was able to independently and accurately predict the timing of global warming temperatures in the past while only using maps of historical annual temperatures, according to the scientists.

Even in the best-case scenario, the scientists found, the 1.5 degree threshold would be reached between 2033 to 2035, which isn't a lot of time.

As CNN notes, this projected timeline is largely in line with the predictions of other significant reports. But the AI study has a far grimmer idea of when the 2 degree threshold will be reached, estimating close to an 80 percent chance that the world will hit that mark by 2065 — and that's assuming we maintain net zero carbon emissions. Noah Diffenbaugh, co-author of the study and a climate scientist at Stanford University, told *CNN* that there's a 50 percent chance that 2 degrees will be reached even sooner — by 2050, if emissions stay high.

"[There is] clear evidence that a half degree of global warming poses substantial risks for people and ecosystems," he added. "Hence, the greater the global warming, the greater the challenges for adaptation."

D - School of Governance and Society

1: Journalist Clones His Voice and Uses It to Break Into His Own Bank Account

If you're not already worried about AI voice cloning, you probably should be.

Testing the technology's limits, journalist Joseph Cox at Vice broke into his own bank account by using an AI-synthesized clone of his voice to prove his identity — highlighting both the technology's dangerous potential as well as the shortcomings of voice biometrics.

When Cox called the automated service line of UK-based Lloyds Bank, the robot on the other end asked him to state why he was calling. He directed it to "Check my balance," by using an AI-synthesized sound clip of his voice.

The bank then asked for his date of birth, which Cox punched in, before asking him to say aloud "my voice is my password."

"My voice is my password," Cox's voice clone stated.

"Thank you," the bank replied. And there you go: a human-directed AI voice clone conned its way into a bank account, gaining its wielder access to the account's balances and recent transactions.

"I couldn't believe it — it had worked," Cox wrote.

New: we proved it could be done. I used an AI replica of my voice to break into my bank account. The AI tricked the bank into thinking it was talking to me. Could access my balances, transactions, etc. Shatters the idea that voice biometrics are foolproof <https://t.co/YO6m8DIpqR> pic.twitter.com/hsjHaKqu2E

Thankfully the wielder happened to be the owner this time, but there's no guarantee that malicious hackers in the future won't be able to pull off the same con on unsuspecting individuals.

Cox used a cheap and popular AI voice cloning tool from ElevenLabs, which you may have already seen deployed in viral memes of a fake Joe Biden voice and the gutters of 4chan.

To produce a convincing copy, all a user of the tool has to do is upload samples of whatever voice they want to clone, and type in what they want the clone to say — no technical expertise required.

Cox says he used other AI tools to try to pull off the bank job, but none other than ElevenLabs were able to bypass authentication.

Voice biometrics is used at a number of banks, including Chase, Wells Fargo, and TD Bank to verify account holders calling in over the phone.

Lloyds Bank, where Cox's clone faked its way into, claims that its "safe" Voice ID security feature analyzes over "100 different characteristics of your voice, which like your fingerprint, are unique to you."

Right now, voice cloning fraud isn't exactly taking the world by storm since it isn't always practical for a hacker to obtain your voice — unless you're famous — but it's probably best not to rely on it as your sole line of defense.

And while your voice may be unique to you, it's clearly not unique to an AI — in the eyes of biometrics, anyway.

2: Google Denies Using AI To Pick Which Employees to Fire

After Google's parent company Alphabet laid off some 12,000 employees in January, or about six percent of Google's entire workforce, many of the aggrieved former workers began to speculate on why they were chosen, The Washington Post reports. The distribution of the layoffs, after all, seemed random.

In the words of one employee in a Discord chatroom, they wondered if a "mindless algorithm carefully designed not to violate any laws" was responsible for singling out who got cut.

Google has denied using an AI, saying there was "no algorithm involved" in its decision making, it told *WaPo*.

True or not, the employees have ample reason to be suspicious. According to a recent survey cited by the newspaper, 98 percent of human resources leaders at American companies admitted that they will use software and algorithms to "reduce labor costs" this year — despite only half of them being confident that the tech will make unbiased recommendations.

Hiring to Firing

It's the darker flipside of a long-accepted practice. HR departments of big firms often use algorithms to find the "right person" for "the right project," Harvard Business School professor of management practice Joseph Fuller told *WaPo*.

The tech helps to form a database known as a "skills inventory," which comprehensively lists the skills and experiences of every employee and helps companies decide whether these, in total, will be enough for them to meet their goals.

"They suddenly are just being used differently, because that's the place where people have... a real... inventory of skills," Fuller said.

Take, for example, a startup called Gloat: an "AI Talent Marketplace" that uses AI to connect employees to more relevant projects, and vice versa. Gloat vice president Jeff Schwartz told *WaPo* that he isn't aware of any clients using it to layoff employees, but acknowledged the need for transparency from HR leaders.

Employee performance might be the most important factor analyzed by these technologies, but many other metrics are more nebulous, such as "flight risk," which predicts how likely it is for someone to quit the company.

If, for example, a company has a discrimination problem causing non-white workers to leave higher on average, AI software could inadvertently identify non-

white workers as a "flight risk" and recommend firing them at a higher rate, Brian Westfall, an analyst at the software review site Capterra, told WaPo.

"You can kind of see where the snowball gets rolling, and all of a sudden, these data points where you don't know how that data was created or how that data was influenced suddenly lead to poor decisions," he added.

3: The World's Largest Four Day Work Week Trial a Huge Success

A massive four-day work week trial in the UK, which claims to be the world's largest of its kind involving 61 employers, found compelling evidence in favor of the practice, the *Associated Press* reports.

Key findings: working four days a week for the same pay is far better for employee health and stress levels — and can even benefit the companies financially. An astonishing 92 percent of companies said they would continue to have employees work four days.

The employers also didn't notice any changes in revenue during the trial period, which stretched from June to December last year. Some companies even noticed growth over the period.

It's a significant success story for the concept of the four-day work week, something that companies have been experimenting with for years across the world now.

In the states, the concept has also been championed by the likes of senator Bernie Sanders.

"With exploding technology and increased worker productivity, it's time to move toward a four-day work week with no loss of pay," Sanders tweeted this week. "Workers must benefit from technology, not just corporate CEOs."

The UK trial certainly seems to bolster that idea.

"We feel really encouraged by the results, which showed the many ways companies were turning the four-day week from a dream into a realistic policy, with multiple benefits," David Frayne, research associate at the University of Cambridge, who was involved with the trial, told the *AP*. "We think there is a lot here that ought to motivate other companies and industries to give it a try."

The trial, which was put together by the research organization Autonomy, researchers at Boston College, and nonprofit community 4 Day Week Global, investigated the effects of a shortened work week on 2,900 workers across 61 companies.

The results show a clear trend: 71 percent of workers said they were less burned out, 39 percent said they were less stressed, and a whopping 48 percent said they were more satisfied with their job.

Working four days also resulted in a much improved work-life balance and ability to take care of responsibilities at home. Sleep and mental health were also positively impacted.

Companies also noticed that employees were far less likely to quit their jobs.

But not every industry can afford to have employees work around the clock. Healthcare workers or first responders, for instance, won't likely see their work hours shortened any time soon.

The companies that were part of the trial were also relatively small, with 66 percent having 25 or fewer employees, meaning that the same change may be more difficult to implement for larger organizations.

There are clear societal benefits to the four-day work week, as evidenced by the trial. But making the change more widespread and permanent will likely require a fundamental shift in how we approach employment — particularly when it comes to American work culture.

4: Elon Musk Tells Ex-Nasa Astronaut SpaceX Could Cause World War 3

SpaceX Elon Musk apparently has never learned to think before he tweets, even since buying the entirety of Twitter, as most recently evidenced by his bizarre assertion that one of his companies could potentially be responsible for a third world war.

Musk's strange comments came during a minor spat with ex-astronaut Scott Kelly. To be fair, Kelly had been beefing with the multi-hyphenate entrepreneur about his Starlink internet service in Ukraine, to which Musk curtailed the Ukrainian military's access last week.

"Ukraine desperately needs your continued support," Kelly, a staunch Ukraine advocate and regular Musk critic, tweeted on Saturday. "Please restore the full functionality of your Starlink satellites. Defense from a genocidal invasion is not an offensive capability. It's survival. Innocent lives will be lost. You can help."

Nearly a full day after the celebrated astronaut's plea, Musk finally responded — though what he said was about as murky as if he'd just left it alone.

"You're smart enough not to swallow and other propaganda [bullshit]," the Twitter owner responded. "Starlink is the communication backbone of Ukraine, especially at the front lines, where almost all other Internet connectivity has been destroyed."

Here's where it gets weird: Musk also appeared to suggest that if Starlink continued to supply internet to Ukraine, that country's military would use it to turn the heat up on its resistance to Russia, which has led its land-grab offensive there for a year now — and could ultimately result in a world war.

"We will not enable escalation of conflict that may lead to WW3," he concluded.

Twitter Fingers

Though he did not initially tag Kelly, Musk appeared to subtweet the ex-astronaut hours before actually responding him when he tweeted that he found it "amazing" that "some of the smartest people I know actively believe the press."

This is far from the first time the South African-Canadian billionaire has expressed opinions that are strikingly convenient for Russian president Vladimir Putin.

Once again, in other words, the guy whose politics often boil down to half-baked Martian utopianism peppered with stupid memes is wading into wartime geopolitics — and once again, his commentary is far from welcome.

5: Elon Musk Furious at Twitter Engineers Because People Aren't Favoring His Tweets

Twitter CEO Elon Musk is complaining about how few people are interacting with his tweets, *Platformer* reports, in an internal tantrum that underlines just how little he knows about the company he bought for \$44 billion last year.

"This is ridiculous," Musk raged, according to *Platformer's* multiple sources, during a meeting at Twitter's headquarters in San Francisco. "I have more than 100 million followers, and I'm only getting tens of thousands of impressions."

That means one engineer had the unpleasant task of informing Musk that data suggested it wasn't an inherent algorithm bias — it was likely just due to the fact that people are getting kinda sick of his antics.

Musk, in response, threw a fit, telling the engineer: "You're fired. You're fired."

The billionaire entrepreneur has previously complained that despite Twitter being "much more alive" than "it may seem," 90 percent of Twitter's users "read, but don't tweet, reply or like," according to a December tweet.

Yet recent data suggests that Twitter usage is in decline in the US ever since Musk took over.

One thing's for sure: the social media platform has been mired in absolute chaos ever since Musk took over the reins in November. Massive layoffs hit the site, with Musk gutting countless teams that were vital to keeping it running both technologically and as a business.

The cracks are really starting to show as a result, with users noticing more and more glitches. Things have gotten so bad, Musk was forced to tell employees this week to "please pause for now on new feature development in favor of maximizing system stability and robustness, especially with the Super Bowl coming up," as *Fortune* reports.

Where that leaves the company remains to be seen. According to *Platformer's* sources, "we haven't seen much in the way of longer term, cogent strategy," adding that engineers are spending most of their time "putting out fires" which were caused by "firing the wrong people."

"We mostly move from dumpster fire to dumpster fire, from my perspective," the source told *Platformer*.

Meanwhile, employees are dealing with being forced to sleep in the offices' "sad hotel rooms." They reportedly don't even chat about work on Slack anymore.

In short, most of the remaining employees are ready to jump ship as soon as they have a new gig lined up.

But above all, Musk's ego is still taking up most of the vacuum in meetings, something that is clearly hampering operations at the company.

"He really doesn't like to believe that there is anything in technology that he doesn't know, and that's frustrating," an employee told *Platformer*. "You can't be the smartest person in the room about everything, all the time."

6: Experts Say There's Something Very Weird About North Korean Youtubers

North Korea's government is desperately trying to appear more relatable to the outside world with its own host of YouTubers.

The talent appear in clearly scripted and awkward propaganda videos, *CNN* reports, sharing stories about what it's purportedly like living in the country.

One video shows a YouTuber telling her audience about how her favorite book is "Harry Potter" — which is surprising, considering the country's strict restrictions on Western media.

Another YouTuber appeared in a similarly stunted video.

"This is milk flavor — the picture is so cute," she says, before biting into an ice cream cone.

While these videos have only attracted tens of thousands of views and subscribers, experts tell *CNN* that it's pretty evident they're ploys to make life in North Korea appear more normal than it really is — a misleading picture being painted by the high-ranking officials who are likely behind the videos.

Park Seong-cheol, a researcher at the Database Centre for North Korean Human Rights, told *CNN* that the videos "look like a well-prepared play."

A separate video shows one of the same YouTubers going for a dip at a water park with a wave pool. But in reality, the facility likely isn't accessible to the general public, and can only stay in operation infrequently given a severely underdeveloped infrastructure.

"For example, the power supply in North Korea is not smooth enough to operate an amusement park, so I've heard that they would only operate it on the weekends or on a special day like when they film a video," Park told *CNN*.

Blackouts and electricity shortages are commonplace. In fact, according to the report, only about a quarter of the population even have access to electricity.

In short, the lives portrayed in these YouTube videos are more than likely completely fabricated representations of daily life in the country.

Ha Seung-hee, a research professor of North Korean studies at Dongguk University, told *CNN* that the videos are likely an example of the North Korean government shifting towards new forms of propaganda, preparing for a new emphasis on tourism in a post-pandemic world.

But whether the videos will really be able to fool savvy international viewers, of course, is anything but clear.

E – Office of Research Innovation and Commercialization (ORIC)

1: Events Organized and Facilitated by ORIC

1.1 Training Program on Web 3.0 and Metaverse on Sunday 05 February, 2023, at University of Management and Technology (UMT).

Office of Research Innovation and Commercialization (ORIC), University of Management and Technology (UMT), in collaboration with The Presidential Initiative for Artificial Intelligence and Computing (PIAIC) arranged a training Program on Web 3.0 and Metaverse at UMT on Sunday 05 February 2023, at University of Management and Technology (UMT).





1.2 Training Program on Web 3.0 and Metaverse on Sunday 12 February, 2023, at University of Management and Technology (UMT).

Office of Research Innovation and Commercialization (ORIC), University of Management and Technology (UMT), in collaboration with The Presidential Initiative for Artificial Intelligence and Computing (PIAIC) arranged a training Program on Web 3.0 and Metaverse at UMT on Sunday 12 February, 2023, at University of Management and Technology (UMT).

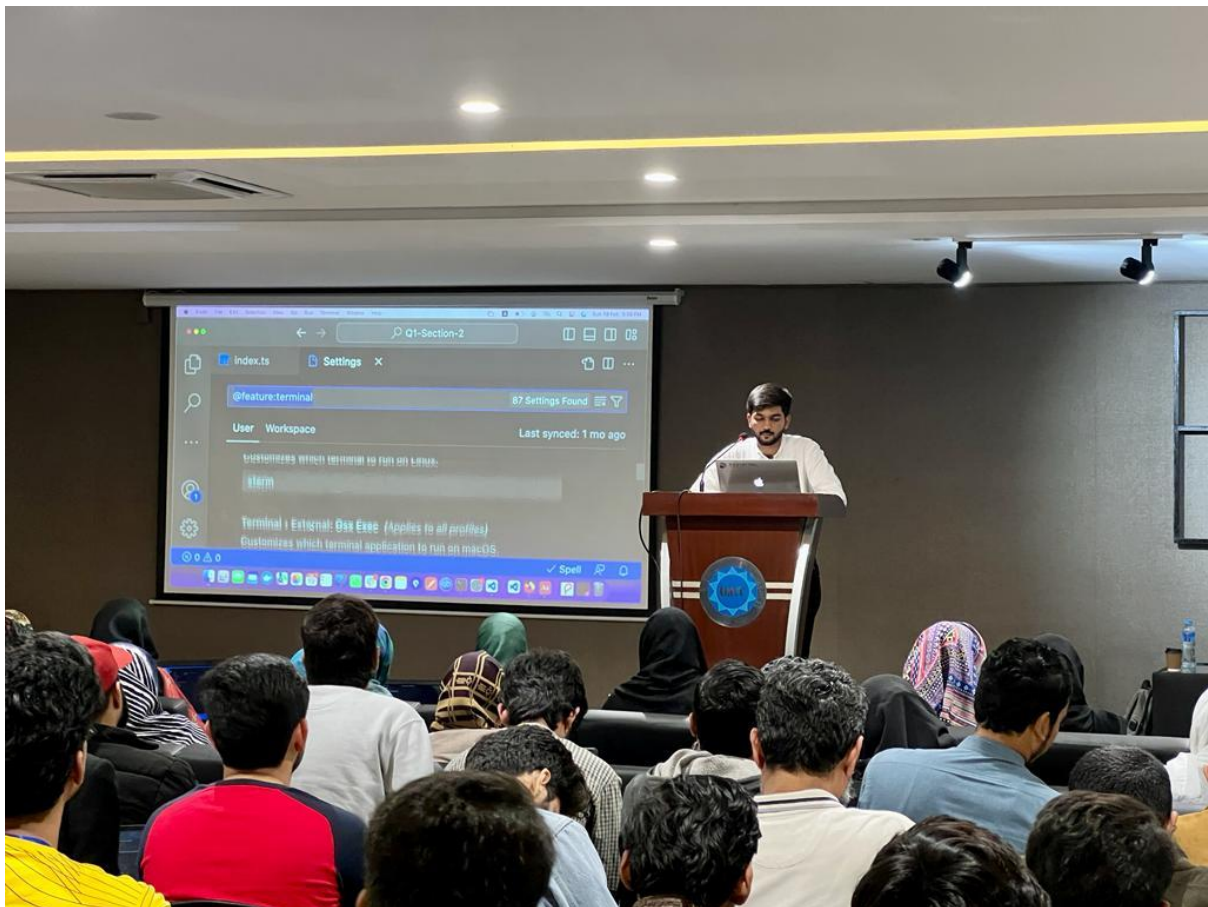






1.3 Training Program on Web 3.0 and Metaverse on Sunday 19 February, 2023, at University of Management and Technology (UMT).

Office of Research Innovation and Commercialization (ORIC), University of Management and Technology (UMT), in collaboration with The Presidential Initiative for Artificial Intelligence and Computing (PIAIC) arranged a training Program on Web 3.0 and Metaverse at UMT on Sunday 19 February, 2023, at University of Management and Technology (UMT).





1.4 Organized A Technical Training on Data Management and Quantitative Analysis using SPSS

ORIC Arranged a Technical Training with the collaboration of the Department of Economics and Statistics, Hassan Murad School of Management on “Data Management and Quantitative Analysis using SPSS” on February 22, 2023, at 6:30 PM to 9:30 PM in Room 2N-01 UMT Main Campus



HSM

Dr Hasan Murad
School of Management
WE LEAD. OTHERS FOLLOW.



Office of Research Innovation
and Commercialization

A Technical Training

Data Management and Quantitative Analysis Using SPSS

For multidisciplinary research students of UMT



Dr Rehan Sherwani
Professor of Statistics
University of the Punjab, Lahore

Organizers:

Dr Irem Batool
Dr Saira Sharif
Dr. Maqbool Sial
Dr Seyab Yasin
Mr Muhammad Kamran Aslam



**WEDNESDAY,
FEBRUARY 22, 2023**



06:30 PM - 09:30 PM



**ROOM 2N-01,
UMT MAIN CAMPUS**

Department of Economics and Statistics, HSM

1.5 Organized the 2nd Triple Helix Round Table Session on Punjab Economics

The 1st Triple Helix Round Table Session on Punjab Economics was held on February 23, 2023, in the DG Board Room, 5th Floor, Admin Building, UMT. The meeting started with a recitation of the Holy Quran. The Respectable Prof. Abid H K Shirwani (DG/Co-founder/Head ORIC- UMT) headed the meeting with the Verses of the Holy Quran in the name of Almighty Allah.

**Office of Research Innovation
and Commercialization**

TRIPLEHELIX
UNIVERSITY INDUSTRY GOVERNMENT association

2nd
Triple Helix
**Round Table Session on
Agriculture Sector Punjab**

February 23, 2023 | 10:30 AM
**Venue: DG Board Room,
Admin Building, UMT**

Organized by
Office of Research Innovation and Commercialization (ORIC),
in collaboration with School of Food and Agriculture Sciences (SFAS)



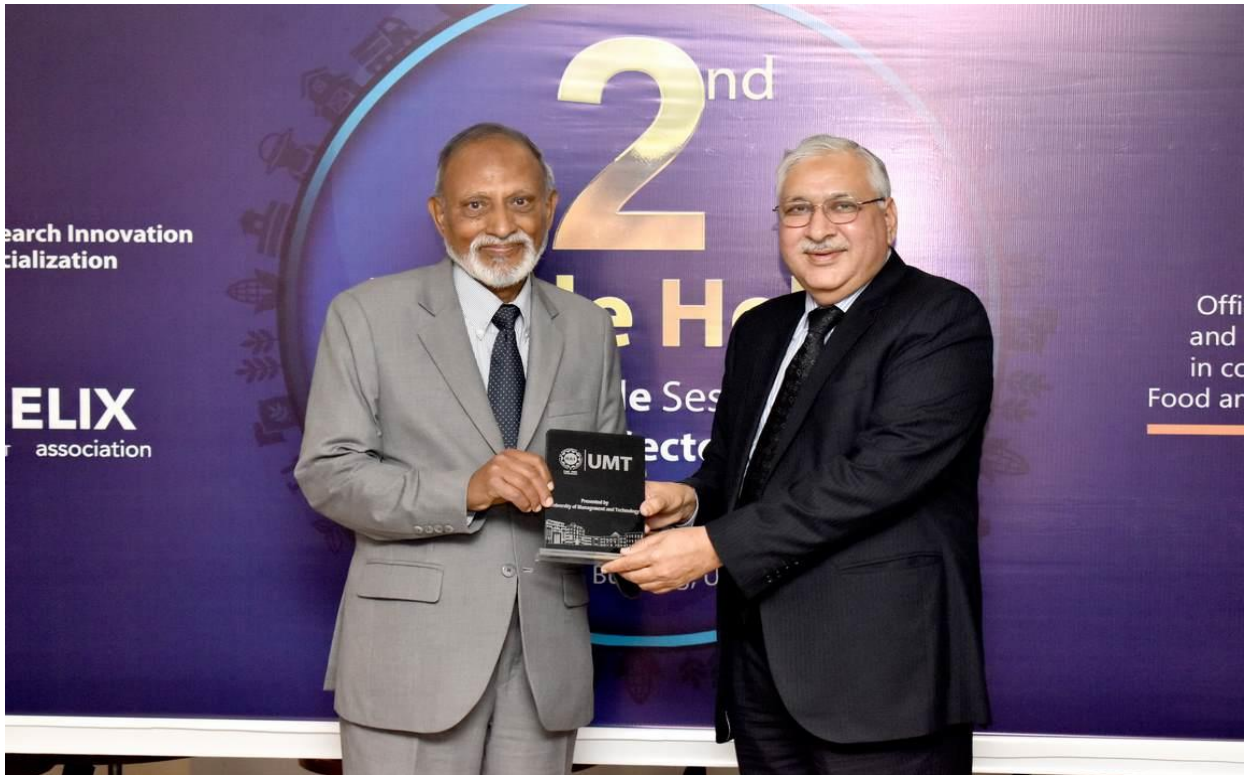












1.6 Training Program on Web 3.0 and Metaverse on Sunday 26 February, 2023, at University of Management and Technology (UMT).

Office of Research Innovation and Commercialization (ORIC), University of Management and Technology (UMT), in collaboration with The Presidential Initiative for Artificial Intelligence and Computing (PIAIC) arranged a training Program on Web 3.0 and Metaverse at UMT on Sunday 26 February, 2023, at University of Management and Technology (UMT).



