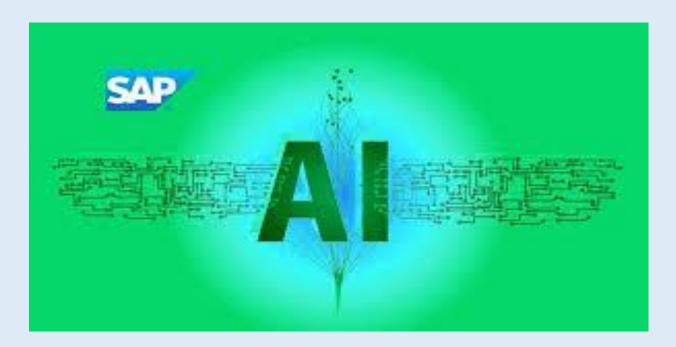


# INFOTAINMENT EDGETM

Thursday, October 5, 2023 (Daily E-booklet on Artificial Intelligence, VR, Tech, Robotics, Coding, Global Affairs, Health, Science & Finance)

# **SECTION 1 – TECH BUZZ**

### ARTIFICIAL INTELLIGENCE



#### **SAP Unveils AI Solutions**

SAP SE has revealed its latest advancements in artificial intelligence (AI) technology, aimed at transforming how organizations enhance their workforce potential. This announcement was made at the annual SuccessConnect event held at the Venetian Convention Center in Las Vegas.

- The innovation signifies a significant expansion of AI capabilities, now integrated across
  the entire SAP SuccessFactors Human Experience Management Suite. This integration is
  designed to elevate the employee experience and influence various decisions related to
  human resources, including talent recruitment, internal mobility, learning, and
  performance management.
- This new wave of AI-driven solutions for HR aligns with SAP's strategic vision of establishing a forward-looking enterprise AI ecosystem. These SAP SuccessFactors solutions are part of a broader SAP portfolio, one of the most extensive suites of business applications available. Over 26,000 customers utilizing cloud solutions from SAP can leverage the SAP Business AI technology, ensuring their relevance, reliability, and responsibility in a rapidly changing world.

- According to Aaron Green, Chief Marketing & Solutions Officer at SAP SuccessFactors solutions, SAP, the incorporation of AI capabilities within their solutions places a strong emphasis on prioritizing people and their experiences. This collective power of AI opens up new realms of potential, enhancing performance and operational efficiency for both individuals and organizations.
- During the SuccessConnect event, SAP showcased several AI capabilities, all set to be universally accessible this month. One notable feature is Generative AI, which assists people leaders and recruiters in crafting job descriptions. Additionally, it aids employees in discovering personalized learning recommendations, enhancing their career growth and development.
- Joule, SAP's natural-language, generative AI copilot, plays a crucial role in expediting
  work processes and improving business outcomes securely and compliantly. Within SAP
  SuccessFactors solutions, Joule streamlines the employee experience by simplifying tasks
  such as approving time-off requests and updating personal information. Further
  enhancements, including functionalities like clocking in and out and viewing pay
  statements, are slated for release in early 2024.
- Another significant offering is the talent intelligence hub within SAP SuccessFactors solutions, serving as an AI-powered engine for an organization's learning and talent strategy. Integrated into the SAP SuccessFactors HXM Suite, this hub creates a comprehensive skills portfolio for each employee, drawing insights from various data sources, including performance feedback and dynamic teams. With this hub, organizations can unify recruiting, onboarding, learning and development, performance management, and succession planning using a single skills model. Employees have the ability to record their aspirations, motivations, styles, and preferences, while managers can view, add, and update skills and attributes for their team members. This tool enhances visibility into skills coverage and gaps across teams, guiding future workforce planning.
- Renowned global HR industry analyst, Josh Bersin of The Josh Bersin Company, praised SAP's leadership in the HR tech market. He emphasized that SAP's next-generation AI offerings enable organizations to efficiently hire, develop, and upskill employees on a large scale. SuccessConnect, which attracts both in-person and virtual attendees, serves as a platform for business, IT, and HR leaders to exchange successful strategies for creating a future-ready workforce and ensuring a profitable business. By empowering individuals with intelligent technologies, including AI, organizations can tap into the full potential of their workforce, responding to new opportunities with agility, creativity, and purpose.

# **Boomi GPT Revolutionizes Integration**

Boomi, the leader in intelligent connectivity and automation, has unveiled Boomi GPT, the inaugural offering in its Boomi AI suite. This groundbreaking addition to the Boomi platform introduces a user-friendly, conversational experience, enabling organizations to leverage the capabilities of generative AI for faster integration and automation.

• In today's competitive landscape, businesses across various sectors are under immense pressure to innovate swiftly and realize their ambitious goals. To stay ahead, IT

- organizations have invested significantly in IT modernization and digital transformation, aiming to enhance operational efficiencies and customer satisfaction. According to IDC, global IT spending is expected to reach 3.25 trillion dollars in 2023 alone.
- However, these efforts often face challenges due to data fragmentation caused by
  disparate systems, lack of data governance, insufficient skilled resources, and increasing
  security and compliance demands. Overcoming these complexities is essential for
  companies to outpace their competitors in a world where speed is paramount. Boomi
  GPT, drawing from insights gained through 200+ million integrations, translates words
  into actionable steps, swiftly connecting applications, data, processes, people, and
  devices.
- Users can interact with Boomi GPT using natural language prompts, instructing the Boomi AI to create integrations, APIs, or master data models. Serving as a knowledgeable assistant or "copilot," Boomi GPT outlines the requested integration or software, which users can accept or modify. This streamlined process significantly accelerates the creation of connections and automations, driving tangible business outcomes.
- Donald Singelyn, Healthcare Solutions Technology Team Lead at Enovis, emphasized the importance of interoperability for their MotionMD® orthopedic software solution. Through Boomi's integration platform, they efficiently integrate with diverse healthcare solutions in numerous hospitals and clinics. Boomi GPT is expected to further enhance their success by expediting their operations.
- Earlier this year, Boomi introduced the Boomi AI suite, a collection of AI-powered tools designed to empower organizations in achieving their strategic goals. Boomi GPT, a product of this vision, harnesses the power of AI to simplify the complex task of building digital connections that modern businesses rely on. Ed Macosky, Chief Product and Technology Officer at Boomi, highlighted the significance of Boomi AI in accelerating and democratizing integration work. By transforming natural language requests into critical integrations and connections, Boomi AI empowers businesses to keep pace with the demands of today's hypercompetitive markets.
- For more information about the Boomi AI suite, visit boomi.ai. Boomi, the pioneer of cloud-based integration platform as a service (iPaaS), has evolved into a leading global software as a service (SaaS) company. With the largest customer base among integration platform vendors and a vast network of partners, including Accenture, Capgemini, Deloitte, SAP, and Snowflake, Boomi helps organizations worldwide manage and orchestrate data while connecting applications, processes, and people for faster, better outcomes.

#### Sachdev Named AI Innovator of 2023

Uniphore, a leading enterprise SaaS company specializing in AI technology, is excited to announce that its Co-Founder and CEO, Umesh Sachdev, has been honored with the prestigious title of AI Innovator of the Year 2023 by the AI Developer World Conference. This accolade stands as a testament to Sachdev's exceptional contributions to the AI and machine learning industry, highlighting his unwavering dedication to excellence in AI. It also underscores Uniphore's commitment to pushing the boundaries of innovation in this field.

- Sachdev, a trailblazer in the AI and machine learning domain, has played a pivotal role in driving Uniphore's mission to revolutionize customer and employee experiences through AI-driven solutions tailored for large enterprises. His visionary leadership has been instrumental in the development of cutting-edge technologies at Uniphore, enabling businesses to leverage the power of AI and create more human-centric enterprises.
- Jonathan Pasky, Executive Producer & Co-Founder of DevNetwork, the producer of the AI DevWorld conference & the 2023 AI TechAwards, praised Sachdev's achievements, stating, "Umesh Sachdev is a true AI & machine learning innovator, supporting developers, engineers, and professionals to thrive in the rapidly evolving AI-ML industry. His win at the 2023 AI TechAwards signifies his leading role in the global AI ecosystem's growth."
- Sachdev embarked on his AI innovation journey over 15 years ago when he co-founded Uniphore alongside Ravi Saraogi. Together, they pioneered significant advancements in enterprise solutions, focusing on generative AI, emotion AI, knowledge AI, and workflow automation. Under Sachdev's visionary guidance, Uniphore has emerged as a driving force in reshaping modern enterprises, making them more human-centric and high-performing.
- Annie Weckesser, Chief Marketing Officer of Uniphore, expressed immense pride in Sachdev's well-deserved recognition, emphasizing the award's acknowledgment of his leadership in the AI industry and Uniphore's deep expertise in AI. Weckesser added that Sachdev's vision has propelled their innovation efforts, and they are enthusiastic about continuing to push the boundaries of what is achievable in enterprise AI.
- This prestigious award serves as external validation of Uniphore's innovative approach.
  Recently, the company unveiled a range of groundbreaking products and solutions
  designed to enhance customer and employee experiences. With an unwavering focus on
  delivering cutting-edge technologies, Uniphore continues to empower organizations
  worldwide to harness AI and automation for transformative business outcomes.
- Uniphore will be presented with its AI TechAward during the AI DevWorld 2023 conference, scheduled for October 24-26 in Santa Clara, CA, and October 31-November 2, Live Online.
- The AI Developer World TechAwards winners were selected by the independent DevNetwork AI Advisory Board. The selection was based on criteria such as technical innovation, significant attention and recognition in the AI, machine learning, and data science industries, and widespread adoption and use within AI communities and ecosystems.
- About Uniphore: Uniphore stands as one of the largest B2B AI-native companies,
  offering decades-proven, scalable solutions designed specifically for enterprises. The
  company integrates AI into various aspects of the enterprise that impact the customer
  experience.
- Uniphore's multimodal architecture combines Generative AI, Knowledge AI, Emotion AI, Workflow Automation, and a co-pilot feature to guide users. Uniphore excels in capturing and analyzing voice, video, and text data. As AI continues to advance, the

company envisions a future where the synergy between people, machines, and data will create profoundly human processes and experiences for both customers and employees.

#### VIRTUAL REALITY

#### **Virtual G-SHOCK Metaverse Store**

Casio Computer Co., Ltd. has unveiled plans for an innovative venture into the metaverse, introducing a virtual store dedicated to their renowned G-SHOCK line of shock-resistant watches. Scheduled to launch on October 6, 2023, this virtual store will be hosted on VRChat, a prominent social virtual reality platform. Casio's virtual space aims to cater to the growing trend among younger users who are increasingly embracing avatars and immersing themselves in the metaverse for social interactions and exploration.

- In this digital realm, Casio is introducing the G-SHOCK STORE, a meticulously crafted virtual world designed to foster a unique culture where avatars can be accessorized with stylish timepieces. Casio's decision to venture into this space is motivated by the overwhelming support G-SHOCK has received from users, who appreciate the brand's robustness and distinctive designs. Signifying a groundbreaking collaboration, Casio has entered into a partnership agreement with VRChat Inc., the entity behind VRChat, the world's largest social virtual reality platform. This collaboration marks a significant milestone as it is the very first instance of a watch manufacturer establishing a virtual space within VRChat.
- Within the G-SHOCK STORE virtual world, users will have the opportunity to indulge in a personalized watch customization experience. By combining various components, users can create their unique G-SHOCK watches. Moreover, they can visualize how these creations adorn their VRChat avatars, enhancing their digital personas. To facilitate this customization endeavor, Casio is enabling users to procure digital watch components from the official Casio online shop on BOOTH. This global online marketplace caters to creative pursuits, allowing users to acquire the necessary items to craft virtual G-SHOCK watches for their avatars. These virtual timepieces are intricately linked to the user's local time, enabling them to seamlessly check the time while immersed in the VRChat environment.
- As for VRChat, it stands as a pioneering virtual reality metaverse platform that empowers
  users to assume diverse avatar forms and engage in interactive experiences within virtual
  worlds. The platform has fostered a vibrant community comprising millions of
  individuals, each participating in a wide array of activities within the metaverse spaces
  available on VRChat.
- Casio's foray into the metaverse not only exemplifies the brand's adaptability to
  contemporary trends but also signifies a pioneering move within the watch industry. By
  embracing the metaverse, Casio is providing users with an unparalleled opportunity to
  merge their real and virtual worlds, creating a seamless and engaging experience for
  enthusiasts of both technology and horology.

## **TECHNOLOGY**

#### **Cloudflare One SASE Platform**

Cloudflare, Inc., a leading connectivity cloud company, has announced the general availability of all connectivity components of its single-vendor SASE platform, Cloudflare One. This platform offers a seamless integration of security and networking solutions, addressing the challenges faced by organizations in managing their hybrid workforce securely and efficiently.

- As businesses increasingly move towards cloud adoption to enhance innovation and stay
  competitive, they often struggle with the complexity of connecting and securing their
  distributed employees, devices, applications, and data centers. Cloudflare's SASE
  offering simplifies this process without compromising performance, a key advantage in
  safeguarding the modern hybrid workforce.
- The shift towards cloud migration brings about complexities, especially concerning security gaps arising from diverse user locations and personal devices. These challenges pose significant risks to corporate data and escalate operational costs. To counter these issues, organizations are turning to single-vendor SASE platforms. According to Gartner®, by 2026, 60% of new SD-WAN purchases will be part of a single-vendor SASE offering, a substantial increase from 15% in 2023.
- Cloudflare One offers flexibility, allowing customers to adopt SASE according to their
  existing setups, whether through native single-vendor deployments with Cloudflare or by
  integrating with their existing SD-WAN deployments. Cloudflare's branch appliance,
  Magic WAN Connector, can be pre-installed on hardware supplied by TD SYNNEX, a
  global distributor and solutions aggregator, or integrated into existing organizational
  environments.
- Enterprise technology leaders face the challenge of connecting thousands of people, devices, clouds, systems, applications, and networks to support the digital imperative the need to work, develop, and deliver everywhere. Cloudflare's branch appliance and networking-as-a-service are built on its connectivity cloud, simplifying deployment for enterprises. These solutions enhance various aspects of business operations:
- **Network and Security Staff Efficiency**: Cloudflare One centralizes policy management and enforcement globally, reducing the time required to connect users, locations, and devices.
- **Enhanced Security Posture**: By reducing the attack surface, Cloudflare One enhances security while simplifying operations through a unified control dashboard.
- Improved Administrator and User Experience: Cloudflare One significantly enhances performance for in-office, remote, or hybrid workers. The platform is backed by Cloudflare's 100% uptime SLA, ensuring continuous business operations.
- **Control Over IT Environments**: Cloudflare One empowers IT leaders by enabling control over traffic sources and destinations, allowing the implementation of Zero Trust security policies.
- Matthew Prince, co-founder and CEO of Cloudflare, emphasized the company's commitment to simplifying network security, providing secure and rapid connectivity for remote employees, offices, data centers, and multi-cloud deployments. He highlighted the

- launch of Magic WAN Connector on Cloudflare One as a significant milestone in enabling secure and efficient business productivity.
- TD SYNNEX, a prominent player in the IT ecosystem, expressed their dedication to
  delivering solutions that drive immediate business outcomes and foster future growth.
  The addition of Cloudflare's latest solution to their portfolio enriches their security
  offerings, allowing customers to navigate critical security and networking
  transformations necessary for safeguarding hybrid workforces efficiently.

# **AUTOMATION**

#### **Stonebranch Online 2023**

Stonebranch, a leading provider of cutting-edge service orchestration and automation solutions, has unveiled Stonebranch Online 2023, an extensive virtual educational forum spanning multiple weeks. Scheduled to run from October 4 to November 2, 2023, this event comprises 11 live webinars designed to enrich the knowledge base of attendees.

- The virtual forum will host a diverse array of sessions featuring prominent industry analysts alongside experts, customers, and partners from Stonebranch. These sessions will delve into a wide range of topics related to IT automation, exploring its ongoing evolution and its pivotal role in driving successful digital transformations. Some of the session highlights include:
- Enterprise Management Associates (EMA) Industry Analysis: This session will shed light on the shift from automation to orchestration in the IT landscape.
- Roche Success Story: Attendees will learn how to maximize the potential of SAP through a SOAP (Simple Object Access Protocol).
- Colgate Success Story: Explore the journey of embracing a Cloud-First SaaS Approach to Orchestration.
- Radiant Advisors & Achmea Success Story: Discover strategies to accelerate MLOps (Machine Learning Operations) through Data Pipeline Orchestration.
- Coop & VIP Success Story: Delve into the various facets of Self-Service Automation and its implementation.
- **Heirloom Computing Partner Focus**: This session will spotlight Mainframe to Cloud Modernization strategies.
- "Stonebranch Online 2023 stands as our flagship event for technology professionals. We are thrilled to present a wide array of sessions encompassing the latest trends and proven automation best practices," remarked Giuseppe Damiani, CEO at Stonebranch. He emphasized the event's relevance for a broad spectrum of professionals, including cloud teams, developers, IT operations specialists, data experts, and platform ops professionals.
- Stonebranch, headquartered in Atlanta, Georgia, specializes in creating IT orchestration and automation solutions that elevate business IT environments from basic task automation to sophisticated, real-time business service automation. Their platform is designed to be user-friendly, contemporary, and secure.
- Through the Stonebranch Universal Automation Platform, enterprises can seamlessly orchestrate workloads and data across various technology ecosystems and silos.

- Stonebranch's global presence ensures comprehensive support and assistance for clients across the Americas, Europe, and Asia.
- Their clientele includes some of the world's most prominent institutions in finance, manufacturing, healthcare, travel, transportation, energy, and technology sectors.

# **SECTION 2 – GLOBAL AFFAIRS**

#### **EUROPE**

#### **ARMENIA-RUSSIA**

Armenian legislators took a significant stride by approving a crucial measure to join the International Criminal Court (ICC), a move that has heightened tensions with their traditional ally, Moscow.

- Russia criticized this decision, deeming it "wrong" to ratify the treaty that would pave the
  way for Armenia to become a member of the court. The ICC, headquartered in The
  Hague, had previously issued an arrest warrant for President Vladimir Putin in March,
  accusing him of offenses related to the war in Ukraine and the unlawful deportation of
  children to Russia.
- Ursula von der Leyen, the chief of the European Union, lauded the Armenian lawmakers' vote, emphasizing that this step marked a shrinking of opportunities for autocrats like Putin, alluding to the ICC's arrest warrant against him. It's noteworthy that ICC members are expected to apprehend the Russian leader if he enters their territories.
- This vote underscores the widening gap between Moscow and Yerevan, the capital of Armenia. Armenia's frustration with the Kremlin has mounted due to its perceived lack of action regarding Armenia's longstanding conflict with Azerbaijan. In recent events, Azerbaijani forces swiftly took control of the breakaway region of Nagorno-Karabakh, where Russian peacekeepers are stationed, leading to the surrender of Armenian separatist forces that had maintained control over the mountainous region for decades. This development has further strained the already fragile relations between Armenia and Russia.

#### NORTH AMERICA

#### **UNITED STATES**

A historic and tumultuous event unfolded in the US House of Representatives as Kevin McCarthy, the Speaker of the House, was removed from his position. This unprecedented move came as a result of a fierce rebellion led by far-right Republicans who accused McCarthy of breaking promises and collaborating too closely with Democrats.

• This internal power struggle among Republicans has revealed the deep divisions within the party, especially in light of the upcoming 2024 presidential election. Remarkably,

- former President Donald Trump, who is likely to be the party's candidate, is facing legal challenges, making him the only former or current president to be indicted criminally.
- This ousting of McCarthy marked the first time in the 234-year history of the House of Representatives that a speaker was removed from office. Although the support for this action mainly came from a small faction of staunch right-wing Republicans, the House is nearly evenly split. With some Democrats joining forces with the eight rebel Republicans instead of supporting McCarthy, he had no chance of retaining his position.
- In the aftermath of the vote, McCarthy, reflecting on his time as the 55th speaker of the House, expressed his feelings to the media. He acknowledged the honor of serving in this role and emphasized the challenges of making tough decisions in governance, even when they are not easy. Despite his removal, McCarthy affirmed his belief in choosing governance over grievances, indicating his resolve to prioritize the greater good over internal party disputes. He also made it clear that he did not intend to seek re-election, closing this chapter of his political career.

#### MIDDLE EAST

#### **SYRIA**

In the northeastern region of Syria, Abdullah al-Mohammed tends to his farm, adjusting a sizable solar panel amidst a landscape scarred by years of conflict. This solar panel is one of many that have emerged over time, a testament to the resourcefulness of farmers striving to overcome electricity shortages in this war-torn area.

- Solar energy has emerged as a crucial lifeline for these farmers, offering hope amidst the dual challenges of drought and power scarcity. However, this surge in solar adoption comes at a price, as some experts caution about the environmental repercussions in this once-fertile region.
- Mohammed, a 38-year-old farmer from the village of Al-Haddadiya in Hasakeh province, epitomizes the determination of these agricultural communities. Facing diminishing groundwater reserves, he remains resolute in his efforts to rejuvenate the land. With a backdrop of cotton fields, he meticulously adjusts his solar panel to capture the sun's energy, essential for powering irrigation systems that support a variety of crops ranging from vegetables to wheat, barley, and cotton.
- The dire need for a consistent power supply is evident in Mohammed's daily struggle. He now relies on pumping groundwater from depths of around 60 meters (nearly 200 feet), a significant increase from just a few years ago when 30 meters sufficed. This escalation underscores the region's growing challenges, magnified by rising temperatures and the specter of drought looming every three years.
- According to a report from iMMAP, a Washington-based non-profit organization specializing in data analysis, northeastern Syria has experienced a temperature increase of 0.8 degrees Celsius (two degrees Fahrenheit) over the past century. This alarming rise in temperature, coupled with the cyclical droughts, necessitates innovative solutions like solar energy adoption. Despite the undeniable benefits, concerns persist regarding the environmental impact of this burgeoning solar boom.

• In the face of adversity, farmers like Abdullah al-Mohammed continue to harness the power of the sun, not merely as a source of energy but as a symbol of resilience in a region striving to reclaim its agricultural heritage amidst the challenges of climate change and conflict.

#### **AFRICA**

#### LIBERIA

In a Liberian classroom, young individuals between the ages of 18 to 25 engage in a powerful exercise: they take turns drawing images that depict their deepest fears as they prepare to vote for the very first time.

- Among these young artists is one who sketches a poignant scene: a man lies on the ground, tears streaming down his face, while his neighbor stands over him, brandishing a weapon of crime. This artwork, titled "war," encapsulates the prevalent concern shared by many: the dread of a return to violence.
- This fear lingers just beneath the surface in a nation marked by the haunting memories of consecutive civil wars. From 1989 to 2003, these conflicts ravaged Liberia, claiming the lives of over 250,000 people.
- As Liberia approaches presidential and parliamentary elections scheduled for Tuesday, the overarching aspiration of the major political parties is to ensure a tranquil and peaceful electoral process.

# **SECTION 3 – MIXED BAG**

#### HEALTH

# **Lung Cancer Screening Breakthrough**

Researchers from University College London (UCL), the University of California, the University of Cambridge, and the Alan Turing Institute have developed a cutting-edge machine learning model that could revolutionize lung cancer screening and potentially pave the way for personalized disease detection. The team is optimistic that this breakthrough could lead to early identification of various diseases.

- In the UK, more than 43,000 individuals are diagnosed with lung cancer annually. To address this alarming statistic, the government announced a targeted lung cancer screening initiative in England for individuals aged 55 to 74 who are current or former smokers. These individuals will undergo assessments based on their GP records, and those deemed high risk will receive specialized scans every two years.
- The research team utilized data from 216,714 smokers in the UK Biobank and 26,616 participants in the US National Lung Screening Trial to create a new model for lung cancer risk assessment. The model incorporated three key predictors: age, smoking

duration, and "pack years," a measure of tobacco exposure. By calculating the likelihood of an individual developing and succumbing to lung cancer within five years, the model achieved impressive results. Subsequent testing on data from the US Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial demonstrated the model's ability to predict lung cancer with 83.9% sensitivity and predict deaths from the disease with 85.5% sensitivity.

- Dr. Thomas Callender, a senior clinical research fellow of respiratory medicine at UCL, highlighted the potential impact of the research, stating that screening high-risk individuals could save lives. The machine learning approach simplifies the process of identifying those at high risk, offering a promising path toward widespread implementation of personalized screening for various diseases.
- The findings have been published in the journal PLOS Medicine. Cancer Research UK's director of evidence and implementation, Naser Turabi, emphasized the significance of early diagnosis in improving survival rates for lung cancer patients. Turabi underscored the importance of optimizing the lung cancer screening program, welcoming the study's contribution to enhancing the screening process.
- The UK government, led by Prime Minister Rishi Sunak, announced a lung cancer screening program costing £270 million annually. This program aims to provide a lifeline to thousands of families by making 992,000 scans per year accessible to 325,000 newly eligible individuals. The initiative is expected to reach 40% of eligible individuals by March 2025, with the goal of achieving 100% coverage by March 2030.
- Machine learning, a subset of artificial intelligence, is transforming healthcare. In
  addition to the lung cancer screening initiative, the NHS is utilizing machine learning to
  expedite the detection of lung cancer in suspected patients by reading chest X-rays. These
  advancements signify a promising future in early disease detection and personalized
  healthcare.

# **Nobel prize in Physics**

# Trio wins physics Nobel for illuminating electrons

The Nobel Prize in Physics for this year has been awarded to Pierre Agostini from France, Ferenc Krausz from Hungary-Austria, and Anne L'Huillier who holds citizenship of both France and Sweden.

- Their groundbreaking research, which involves using ultra-quick light flashes to study electrons within atoms and molecules, earned them this prestigious recognition. The technique they developed utilizes pulses measured in attoseconds, a unit so incredibly short that there are as many attoseconds in one second as there have been seconds since the universe came into existence over 13 billion years ago.
- This revolutionary research has enabled scientists to observe rapid movements and changes in particles, which were previously impossible to track. The potential applications of this discovery are vast, spanning across the fields of electronics and medical diagnostics. The Royal Swedish Academy of Sciences compared their process to

- the rapid fluttering of a hummingbird's wings, which appears as a blur to the human eye but can be slowed down and examined through high-speed photography.
- Anne L'Huillier, a professor at Lund University in Sweden, is a significant figure in this achievement. In 1987, she made a pivotal discovery involving the transmission of infrared laser light through a noble gas, leading to subsequent breakthroughs in the field.
- She became the fifth woman in history to be awarded the Physics Prize, following in the footsteps of Marie Curie (1903), Maria Goeppert Mayer (1963), Donna Strickland (2018), and Andrea Ghez (2020). L'Huillier expressed her gratitude and emphasized the importance of encouraging more women to pursue careers in science.
- Pierre Agostini, a professor at Ohio State University in the United States, and Ferenc Krausz, a director at the Max Planck Institute in Germany, collaborated on isolating light pulses lasting only a few hundred attoseconds, laying the foundation for their groundbreaking research. Krausz was particularly moved by the news, expressing his astonishment and emphasizing the importance of determination and persistence in scientific endeavours.
- Their achievement comes on the heels of the Nobel Prize in Medicine, awarded to
  messenger RNA researchers Katalin Kariko and Drew Weissman for their contributions
  to mRNA technology, which paved the way for Covid-19 vaccines. The scientific
  community eagerly awaits the announcements of the Chemistry Prize, followed by the
  Literature and Peace Prizes, with the Economics Prize concluding the 2023 Nobel season.

#### **ECONOMY**

#### Russia's economic woes mount

Russia's currency experienced a decline against the dollar, indicating further weakening of the country's economy amidst prolonged conflict in Ukraine. The ruble crossed the psychological threshold of 100 to the dollar on the Moscow financial exchange, a level it briefly touched in August. This situation raises concerns about reduced purchasing power for Russians, who now have to pay more for imported goods.

- Initially, the ruble had plummeted to 150 against the dollar in February 2022 during Moscow's assault on Ukraine. However, it recovered partially due to government efforts to minimize the impact of Western sanctions and prepare the economy for war. Despite these measures, the currency has been sliding in recent months due to increased imports and reduced exports. Central bank governor Elvira Nabiullina had already warned in September about slowing growth in the country for this year and the next.
- As of Tuesday, the ruble's exchange rate was 100.11 against the dollar and 104.65 against the euro. The Russian government attempted to downplay concerns, stating that they were implementing measures to ensure the stability of the country's financial system. Kremlin spokesman Dmitry Peskov assured the public, stating that there was no reason to worry and that fluctuations were normal. He emphasized that excessive attention to the dollar exchange rate was outdated, given the ruble zone the country operates within.
- In an effort to bolster the currency and combat inflation, which remained above the target of four percent with prices rising by 5.15 percent in August, the central bank increased its

benchmark interest rate to 13 percent. Additionally, recent plans for a significant rise in defense spending have raised anxieties about government finances. The revenue from oil and gas exports continues to be impacted by sanctions, further straining the economic situation.

• President Vladimir Putin responded to the crisis by instructing both the government and the central bank to take actions to stabilize the currency. He attributed the rising consumer prices to the weakening ruble, underlining the urgency of the situation.

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