Sustainability/SDG Report

2021 – 22

Introduction

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are 17 SDGs. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change.

UWS Strategy commits us to tackling the UN Sustainable Development Goals as well as becoming a leading University in climate change and resilience through research and enterprise activity. The vision for UWS is to be among the global leaders of excellent, relevant and purposeful research aligned with the UN Sustainable Development Goals.

UWS Vice-chancellor and Vice Principal Research Innovation and Engagement have both signed UN Sustainable Development Goals Accord in 2021, demonstrating the University's commitment to sustainability and building on existing research and education strengths.

SDG 1 – No poverty

ROUTES TO WORK

UWS, Innovate UK and Routes to Work have collaborated on a social value project. Routes To Work is a third sector employability organisation based in North Lanarkshire whose purpose is to support people to achieve their aims and contribute to the economy, to reduce poverty and ensure everyone has a good quality of life.

Routes to Work started their KTP journey with UWS KTP Centre in November of 2020, with their KTP Associate starting towards the end of 2021. The project has enabled Routes to Work to measure the outcomes of their clients' journeys towards, into and during employment, taking into account the social value of the service, both for users and the wider community.

This pioneering approach to social value has been supported through a Management KTP, led by the School of Business and Creative Industries, in collaboration with the School of Health and Life Sciences at the University. The work draws on expertise from a number of academic areas, including management, economics, health and digital marketing.

Routes To Work are now better able to demonstrate the impact of their work via social value measurement, they can now capture the intangible benefits of their work with clients, and utilise this information more broadly to invest in 'what works'. By foregrounding the stakeholder voice, this work moves employability beyond the linear progression expected by funders, into a space where real impact can be measured and understood.

Future predicted benefits are having ongoing data to support Routes To Work, helping them create an evidence base with which to refine and improve the client journey, and help clients celebrate the victories they experience during their journey. Additionally, they can challenge the status quo in employability measurement, influencing policymakers to include more intangible benefits in their measures of success.

Additionally, by being able to quantify the Social Return on Investment of Routes to Work services (£6.89 of value for every £1 spent), we can demonstrate the return to the public purse and the improved value for public sector commissioners.

REAL LIVING WAGE UPDATE

The University became a Real Living Wage employer in 2022 and remains committed to ensuring that pay for staff and those of contractors who regularly work on University premises will never be lower than the independent benchmark set by the Living Wage Foundation.

SDG 2 – Zero hunger

BREAKFAST CLUB

In 2022, UWS launched its Breakfast Club, an initiative that offers free breakfast for students. This runs twice weekly and aims to help students as many continue to struggle with rising food and energy prices. Through the scheme students can access free continental breakfasts at Ayr, Lanarkshire and Paisley campuses on Tuesdays and Thursdays, so long as they can make it to campus between 8.30am and 9.30am.

SDG 3 – Good health and wellbeing

ALZHEIMER SCOTLAND CENTRE FOR POLICY AND PRACTICE (ASCPP)

The Alzheimer Scotland Centre for Policy and Practice (ASCPP) at UWS, a partnership between UWS and Alzheimer Scotland, is world-leading in dementia care, research and practice education. The ASCPP is committed to championing excellence advancing dementia policy and practice through education, applied research and social enterprise in three key activities:

- Applied research for policy and practice
- Education to promote evidence informed practice
- Policy influencing and implementation.

They have recently published their 2021 Report - 'A Celebration of Dementia Education'..

GROUND-BREAKING LONG COVID RESEARCH

The University of the West of Scotland's Long COVID research focuses on improving our understanding of Long COVID. In collaboration with international partners and clinical specialists, the team studies ways of improving symptom management for people with the condition.

As part of the research, which has been funded by the CSO and supported via the Research Excellence Grant the team published the first scoping review of the condition, identifying more than 100 commonly reported symptoms and finding regional differences in how common specific symptoms were. As a follow-up, the group undertook a national survey to better understand the difficulties experienced by Scottish people with Long COVID.

The survey results detailed how pain and fatigue were common symptoms reported by people with Long COVID in Scotland. It also found that those living in areas of high deprivation were more likely to report a higher number of symptoms and that those with caring responsibilities have been particularly badly affected.

As a final part of this work, the group undertook pioneering work tracking people's symptoms immediately after a COVID-19 infection to identify and understand the natural history of recovery and the development of Long COVID.

This work tracked people's symptoms each month after their infection to assess how their symptoms, quality of life, cognition, and mental health changed during their recovery. This work provided definitive evidence that recovery from COVID-19 infection takes between 6 and 9 months for many people, while symptoms persist long after that for a small group. This study also provided prospective data showing that fatigue, symptom crashes, and impaired cognition are amongst the slowest to recover.

ACCESSIBILITY IN PARASPORT

Researchers from University of the West of Scotland conducted one of the largest investigations ever undertaken in Scotland, into sport and physical activity participation among people with a disability. A survey – which received more than 500 valid responses from individuals and organisations – suggested that issues such as the cost of participation and equipment, and concerns about losing benefits, were significant barriers. Respondents also cited a lack of self-confidence, and societal attitudes, as major reasons for a lack of participation in sport and physical activity. The study also identified a postcode lottery when it comes to accessing facilities, with geography playing a large role in determining access to opportunities. Those living in rural areas, or north or south of the central belt, found access to activities particularly challenging – with some relying on expensive taxi journeys to access facilities. Academics involved in the study are scheduled to present their findings to a cross-party parliamentary committee, and it is hoped the research can inform policy going forward, alongside approaches taken by sports organisations.

ARTIFICIAL INTELLIGENCE (AI) USED TO DIAGNOSE LUNG DISEASES

Researchers at the University of the West of Scotland have developed an algorithm that can diagnose lung diseases, including tuberculosis and pneumonia, from X-rays with 98% accuracy. The use of AI for automatic diagnosis of lung diseases holds the potential to reduce waiting times in hospitals and relieve the strain on already burdened hospitals.

Infectious diseases affecting the lungs can be particularly hazardous during the winter period. Diagnosing these diseases is typically expensive and time-consuming as multiple tests, including CT scans, blood tests, X-rays and ultrasounds, are usually required. This often leads to long waiting times, which will likely be intensified following the COVID-19 pandemic.

Cutting-edge AI technology developed during the pandemic by UWS, which was used to detect COVID-19 from X-ray images, has now been further advanced to recognize multiple lung diseases within minutes. The research team developed an algorithm that analyzes patients' X-ray images and compares them to a database of thousands of images from patients with pneumonia, tuberculosis and COVID-19. This machine-learning platform uses a deep convolutional neural network algorithm, which is typically used for analyzing visual imagery, to recognize and identify diseases with 98% accuracy.

FREE GYM MEMBERSHIP

At UWS we recognise the transformative power of physical activity and sport in enabling health and wellbeing. We offer FREE gym memberships to all of our students and staff at our UWS operated facilities.

SDG 4 - Quality education

RACIST BULLYING RESEARCH PROJECT

A research project undertaken by academics at UWS found that in the academic year 2020-21, there were 1,198 instances of racially motivated bullying reported in Scottish schools – up from 409 in 2016-17. These are the highest recorded figures to date.

The research explores the impact of racist bullying like this – bullying motivated by prejudice against someone's race, ethnicity, culture, citizenship or religion.

It found that racist bullying increases the risk of poor mental health. It can cause loneliness and lead children to drop out of school. It can result in alcohol and substance misuse.

It also found that young people feel their teachers are dismissive of racist biases and stereotypes. The way teachers handle complaints about racism could be critical for children and young people's mental health.

HOLOCAUST EDUCATION / VISION SCHOOLS SCOTLAND

UWS's Vision Schools Scotland initiative gives school children and teachers across Scotland access to important Holocaust education. Vision Schools Scotland aims to promote excellence in Holocaust teaching by identifying and rewarding schools which embed Holocaust education; creating opportunities for teachers to share good practice of school-based Holocaust education and promoting Continued Professional Learning in Holocaust education to teachers.

ASPIRE

The ASPIRE curriculum delivers core Academic, Personal and Professional Development (APPD) content across a university-wide framework focused on supporting the success of individual student learning. ASPIRE takes a contextualised and holistic approach to embedding and integrating APPD provision within programmes and discipline areas. The credit bearing module is designed to be delivered across SCQF levels 7, 8 and 9 and is based on staged transition pedagogies that acknowledge the impact of movement into, through and on from undergraduate study.

SDG 5 – Gender equality

UWS WOMEN IN LEADERSHIP DEVELOPMENT PROGRAMME

There are ongoing challenges for women in terms of securing leadership roles, particularly at the very top levels of leadership, despite this issue having a high profile for many years.

The Women's Leadership Development Programme (WLDP) has been developed to support women to progress their careers and UWS ran the first ever cohort of the WLDP in 2019. It is aimed at female colleagues who are interested in progressing their career further.

The WLDP provides a platform to assist participants to develop their leadership knowledge, skills and confidence and create a safe environment where self-confidence and skills are nurtured and developed. The WLDP has been very successful with a high percent of participants in cohort 1 -6 having since advanced their careers – not only because they attended the programme, but they advanced their careers because they put their learning into practice and had the will, courage, and desire to go after career enhancing opportunities.

The purpose of the WLDP it is to help women with potential and desire to develop their skills for career enhancement and future leadership roles do so through the programme learning and use it as a starting board for self-discovery and taking ownership of their own personal development.

From 2019 to 2022, 65 participants have completed the WLDP training. Of those who completed the programme in 2022, 22% have since gained promotion. Of those who completed the first year of the programme, 72% have since been promoted.

MENSTRUATION IN ATHLETES RESEARCH

A first-of-its-kind study by researchers at UWS explored the impact of the menstrual cycle on elite sporting performance and players' experiences.

The research found that 93 per cent of the international female rugby players interviewed reported menstrual cycle-related symptoms, with 67 per cent considering these to be performance-impairing.

The menstrual cycle symptoms reported were variable, including painful menstruation, heavy bleeding, anxiety, reduced energy levels, distraction, and reduced motivation.

The research provides the first in-depth insight into elite athletes' experiences of the menstrual cycle in relation to training and competition, and has resulted in several recommendations for elite sporting organisations from UWS researchers.

These include the need for clinicians and support staff in elite sporting organisations to perform menstrual cycle profiling for their athletes, monitor menstrual cycles over time and to continue to develop awareness, openness, knowledge and understanding for both athletes and support staff.

FIRST-OF-ITS-KIND RESEARCH INTO SEVERE HORMONAL MOOD DISORDER

A first-of-its-kind women's health research initiative has been launched by academics at University of the West of Scotland – examining an understudied but severe hormone-based mood disorder.

The condition – premenstrual dysphoric disorder (PMDD) – is an acute form of premenstrual syndrome (PMS), which affects one in 20 women.

Of those with PMDD (approximately 824,000 in the UK), 72 percent will experience suicidal ideation, 50 percent will self-harm, and 33 percent will attempt suicide. On average, it takes 12 years for people to receive a correct diagnosis.

SDG 6 – Clean water and sanitisation

AI TO DETECT UNDERGROUND WATER LEAKS

Artificial Intelligence (AI), developed by University of the West of Scotland and FIDO Tech is helping to secure water supplies for communities across the globe**,** and is saving billions of litres of water being lost from pipeline networks – tackling climate change and addressing several United Nations Sustainable Development Goals.

Around 30% of the world's treated drinking water is lost from pipeline networks before it ever reaches our taps. Through harnessing the power of artificial intelligence, the new technology can accurately detect the location of hidden leaks in underground pipes, eliminating the need to manually excavate ground unnecessarily, and providing the ability to pinpoint the source of water leaks more accurately than ever before.

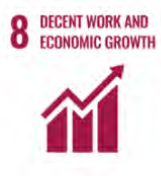
The remote community of Murray Island, in the Torres Strait, Australia, utilised the FIDO AI system, as part of an integrated leak detection strategy which incorporated multiple technologies and partners – including Torres Strait Regional Council and global infrastructure asset management company, Asset Life Alliance – resulting in severe water restrictions being lifted for the first time in more than 20 years.

SDG 7 – Affordable and clean energy

BIOFUEL FROM MICROALGAE

Over the past few decades research has demonstrated the huge potential of microalgae, especially in the production of biofuel. Research led by UWS academics is exploring the potential for microalgae to be used as a biofuel, and is establishing the most suitable microalgae species for large-scale biofuel production that can ultimately rival oil and gas giants and reduce our reliance on fossil fuels.

UWS is currently investigating the production of biofuel from five different species: with a particular focus on *Blue-Green* algae, due to its toxic algal blooms in UK ponds and reservoirs. Research at UWS has shown this species has strong potential for oil extraction, using a novel, environmentally friendly solvent extraction method. A strategic partnership with SEPA to "clean-up" and harvest substantial quantities of algae for biofuel production is soon to be realised.



SDG 8 – Decent work and economic growth

UWS GRADUATE APPRENTICESHIP PROGRAMME

UWS's Graduate Apprenticeship programme provides employers in Scotland with a fully-funded pathway for current employees and new recruits to achieve degrees.

By investing in their staff through Graduate Apprenticeships, employers are developing their workforce and supporting staff to build their skills to industry and professional standards.

UWS has developed five Graduate Apprenticeships:

- BSc (Hons) IT: Software Development
- BEng (Hons) Engineering Design & Manufacture
- BEng (Hons) Civil Engineering
- BA (Hons) Business Management
- BA Early Learning & Childcare

Over 96 students participated in Graduate Apprenticeships at UWS in 2021/22.

Participants of the Graduate Apprenticeship Programme have been:

- shortlisted in the Graduate Apprentice Rising Star category of the Scottish Apprentice Awards 2019
- Won the Apprentice Ambassador of the Year Award at Scottish Apprenticeship Awards 2022
- Won 4 Incorporation of Hammermen of Glasgow Awards (2018, 2019, 2020, 2023).

GRADUATE DEVELOPMENT PROGRAMME

Our two-year Graduate Development Programme provides opportunity to UWS graduates to join the University within various departments to gain valuable career skills and experience.

As part of their development, graduates are paired with a mentor and who provide sessions to the graduate on a one-to-one basis, with a minimum of 4 sessions to be undertaken across each year. Those who are selected to mentor a graduate are also asked to attend a 'Being a Mentor at UWS' training workshop to ensure that the key principles of mentoring are being followed.

UWS CONTRIBUTES TO AYRSHIRE 5G INNOVATION REGION SUCCESS

UWS played a part in securing £3.8 million of UK Government funding for Ayrshire.

Working in tandem with the three Ayrshire Councils as well as Ayrshire College, The Scotland 5G Centre and National Manufacturing Institute Scotland secured a winning bid from the Department for Science, Innovation and Technology (DSIT).

The funding will be used to build on technologies at strategic Ayrshire Growth Deal sites in Irvine, Prestwick and Moorfield with The Scotland 5G Centre (S5GC) Innovation hub located in HALO (Kilmarnock) serving as the catalyst for 5G innovation where testing can happen in a 5G private network environment. The enhanced 5G and wireless coverage will make these key strategic sites even more productive and desirable to investment, helping provide significant economic benefits for the local area.

The pan-Ayrshire bid is just one of two projects in Scotland and ten across the UK to win Department for Science, Innovation and Technology funds to transform regions with new cutting-edge 5G and advanced wireless technologies.

SDG 9 – Industry, innovation and infrastructure

UWS PIONEERS ALAMADA CENTRE

The University of the West of Scotland is using Research Excellence Grant funding to establish and support the development of a new ALMADA Centre. Research undertaken by the Centre is part of the Horizon EU-funded RAPID project, led by Dr James Riordan, which has developed autonomous aerial and maritime drone technologies that deliver a significant increase in productivity during the maintenance and inspection of bridges, ship hull surveys, and more.

ALBASENSE

University of the West of Scotland spinout AlbaSense has announced its plans to disrupt the £2.5 billion global thin film and sensor industry. AlbaSense, based within UWS's Institute of Thin Films, Sensors and Imaging (ITFSI) will develop low-cost, high-performance thin film optical coatings and photonic sensors, using exclusive patented processes. Thin films are a layer of material ranging from fractions of a nanometre to several micrometres, and form a key component in a wide range of applications, including autonomous photonic-based gas sensors, medical devices such as breath analysers, non-contact thermometers and advanced imaging systems. AlbaSense will license core IP, including three patents, from UWS on a worldwide exclusive basis. Through ITFSI, AlbaSense is already working with Glenrothes-based Semefab Ltd – a leading manufacturer of microelectronics and micro electro-mechanical systems (MEMS).

SDG 10 – Reduced inequalities

DHARAVI PROJECT

An innovative project involving the University of the West of Scotland's Creative Media Academy established a state-of-the-art multi-media facility in one of the world's largest slums.

Dharavi, Mumbai – which is one of the most densely populated urban areas on the planet - is often depicted as dangerous and is constantly under threat of redevelopment and demolition.

Compound 13 Lab was originated by UWS graduate Dr Ben Parry, whose PhD research between 2011 and 2014 began UWS's engagement with Dharavi's communities. From 2015, supported by three successive grants from the UK's Global Challenges Research Fund, Professor Graham Jeffery and Dr Ben Parry set about changing perceptions, establishing the pioneering multimedia Lab in partnership with ACORN Foundation India.

TACKLING RACISM ON CAMPUS

UWS has pledged to act against racism in all its forms; signing AdvanceHE's sector-wide declaration against racism. 19 universities and 25 colleges across Scotland made the decision to sign this declaration. This landmark commitment from Scotland's universities and colleges to support a declaration against racism was endorsed by the Scottish Funding Council (SFC) and the Minister for Further Education, Higher Education and Science.

SDG 11 – Sustainable cities and communities

SMART CITIES RESEARCH

University of the West of Scotland's contribution to the future of engineering and smart cities has been spotlighted as part of a major campaign launched by the Institution of Civil Engineers (ICE).

The Future of Engineering campaign, which focuses on 'putting the smart into cities' and 'inspiring future engineering', attempts to explore the world of engineering and the pivotal role it plays in shaping our urban environments.

UWS has been featured within the 'putting the smart into cities' element, which includes a powerful documentary, highlighting the work led by Dr James Riordan and Professor Muhammad Zeeshan Shakir at the University, and their teams of researchers.

Both are pioneering ground-breaking technology using artificial intelligence and automation, including the use of autonomous drones to improve city connectivity, and using artificial intelligence and sensing technologies to monitor city environments and predict future issues.

SDG 12 – Responsible consumption and production

ECO-FRIENDLY TEXTILE SANITATION

An award-winning collaboration between UWS and Advanced Clothing Solutions (ACS) utilises eco-friendly processes to sanitise used clothing and textiles, significantly strengthening the circular economy and offering the potential to unlock $700bn revenue generation for sustainable fashion organisations, globally. This project is helping to protect our natural environment, directly contributing to a reduction in landfill waste from textiles.

SDG 13 – Climate action

UWS CARBON CHAMPIONS PROGRAMME

University of the West of Scotland is leading a project to deliver support and training to enable organisations across South Ayrshire to meet the national Net Zero goals, and position South Ayrshire as a national leader in green working practices. Thirty participating organisations accessed fully funded consultancy and training to support plans for decarbonisation and improved sustainability, becoming 'Carbon Champions' and skilled auditors, able to recognise challenges and opportunities for improvement in their own organisations, and influence change. The project is funded by the National Community Renewal Fund.

SUSTAINABLE CAMPUSES THAT INSPIRE

UWS's award-winning Lanarkshire campus is a sustainable space and is one of the UK's greenest educational environments. It's an energy neutral development, powered by 100% renewable energy from a nearby windfarm. UWS Lanarkshire benefits from a range of important environmental features, including rainwater harvesting technology, back-up, on-site photovoltaic panels, a building management system, electric car charging points and even compostable cutlery.

COP26

During the COP26 conference, held in Glasgow, UWS organised a range of Climate Change related events. These events brought together colleagues from across the institution to raise awareness of the Climate Emergency while working with key partners. This began with a COP26 mini-series, held online by UWS academics, to showcase research on climate related topic such as energy and waste management, agriculture and sustainable development. This was followed by student led events, working with key academics and partners, to highlight and showcase UWS research as well as key climate change issues within the local community.

SDG 14 – Life below water

NEW WARNINGS ON PREVELANCE OF SIGHT-THREATENING BUG ISSUED

Global research by University of the West of Scotland, in collaboration with UNSW Sydney and the University of Technology Sydney, found increased levels of *Acanthamoeba* in coastal seawaters within New South Wales.

The research, published in the Science of The Total Environment journal, highlights the prevalence of *Acanthamoeba* in the environment and the need for more public awareness. *Acanthamoeba* infects

the cornea, the clear outer layer at the front of the eye. It feeds on bacteria and corneal cells, leading to inflammation and damage to the cornea – a condition called *Acanthamoeba* keratitis (AK).

Infection is difficult to eradicate due to the absence of drugs that can kill *Acanthamoeba*. It can lead to vision loss, with around one quarter of AK patients ending up with vision impairment or becoming blind, particularly amongst contact lens users.

UWS was selected to take part in the study due to the University's significant experience of studying the behaviour of the microorganism, which, following more than 13 years of ground-breaking research led by UWS's Professor Fiona Henriquez, resulted in the University discovering an effective preventative treatment for the condition.

SDG 15 – Life on land

DIGITAL DAIRY CHAIN

A £21 million digital dairy project – involving University of the West of Scotland – aims to decarbonise the dairy industry and create 600 new jobs. Led by Scotland's Rural College (SRUC) from its Barony campus, the project will see partners across South-West Scotland and Cumbria focussing on developing a fully integrated and traceable dairy supply chain.

This landmark project will not only help to reduce carbon produced by the dairy industry, it will develop and retain a skilled and innovative workforce in the region. It is hoped that the Digital Dairy Chain will eventually lead to the creation of more than 600 jobs and generate £60m a year of additional value.

SDG 16 – Peace, justice and strong institutions

PRESERVING INTANGIBLE CULTURAL HERITAGE

UWS is working with Historic Environment Scotland (HES) to find solutions in preserving Scotland's intangible cultural heritage – aspects of our culture which do not exist in physical form, but as passed down through generations. This includes things like folklore, traditional music, oral history and practices such as peat cutting.

SDG 17 – Partnerships for the goals

UWS-OXFAM PARTNERSHIP

The UWS-Oxfam Partnership brings together the academic expertise from UWS, the social justice and anti-poverty campaigning strengths of Oxfam Scotland, and the local knowledge and capacities of a wide range of civil society organisations. This partnership conducts research and informs policy debates with the overarching objective to work together for a more equitable and sustainable Scotland.

INTERNATIONAL CENTRE FOR INTEGRATED CARE

In 2017, the University of the West of Scotland (UWS) established the International Centre for Integrated Care as a global centre of excellence in leading people-centred integrated care, and as the home of IFIC in Scotland.

In 2020, IFIC and UWS refreshed their partnership and, with the Health and Social Care Alliance Scotland (the ALLIANCE), agreed a new Memorandum of Understanding.

The three strategic partners bring their collective expertise to a shared mission:

Co-creating a healthier future with individuals and communities by developing courageous and compassionate leaders and practitioners with the knowledge, skills and confidence to design, deliver and evaluate people-centred integrated care.

ALIGNING RESEARCH TO THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

Strategy 2025 promises UWS will become a stand-out university committed to tackling the UN Sustainable Development Goals as well as a leader in climate change and resilience through research and enterprise activity. The University's long-standing commitment to sustainability is shown through both the commitment to be net zero in operations by 2040 and through the signing of the Sustainable Development Goal Accord which commits UWS to reporting annually on work towards embedding the UN Sustainable Development Goals through learning and teaching, research, leadership, operations, and engagement activities.

At UWS, sustainable practices and initiatives are implemented and monitored through both our Sustainability Working Group and Shaping Communities and Society Steering group. Sustainability is considered through all investment requests and the University is making changes to ensure we are a responsible global citizen in our everyday operations. We recognise that the world is facing a climate emergency and we all have a part to play in reducing the impact of climate change. We are investing in creating more sustainable and environmentally friendly campuses and working to reduce our emissions to meet our net zero target. Our award-winning Lanarkshire campus, opened in 2018, was built to be environmentally sustainable, and the concept and action of reducing and minimising consumption is a key driver in our capital planning processes, in our investment and in our ways of working. People of all ages around the world, including many of our students, have stood up for climate action and we believe we have an obligation to the communities we serve to act now.

RESEARCH AT UWS

UWS is a member of The Conversation and UWS academics have published on the news platform throughout 2021-22.

In AY21-22, UWS academics published:

- 29 articles by 19 different authors
- With 633,583 reads from 226 different countries/locations

Top 5 articles:

- COVID is caused by a virus - so why are researchers treating it with antibiotics? (Mostafa Rateb, 177,582 reads in 21/22)
- Real estate in the metaverse is booming. Is it really such a crazy idea? (Theo Tzanidis, 69,735 reads in 21/22; 71)
- Six big digital trends to watch in 2022 (Theo Tzanidis, 37,518 reads in 21/22)
- No PCR, no problem: how COVID can be diagnosed with X-rays (Naeem Ramzan, Gabriel Okolo; 34,650 reads in 21/22)
- The Batman: Same old hypermasculine heroes, sexualised women and disfigured baddies (John Quinn, 31,773 reads in 21/22)