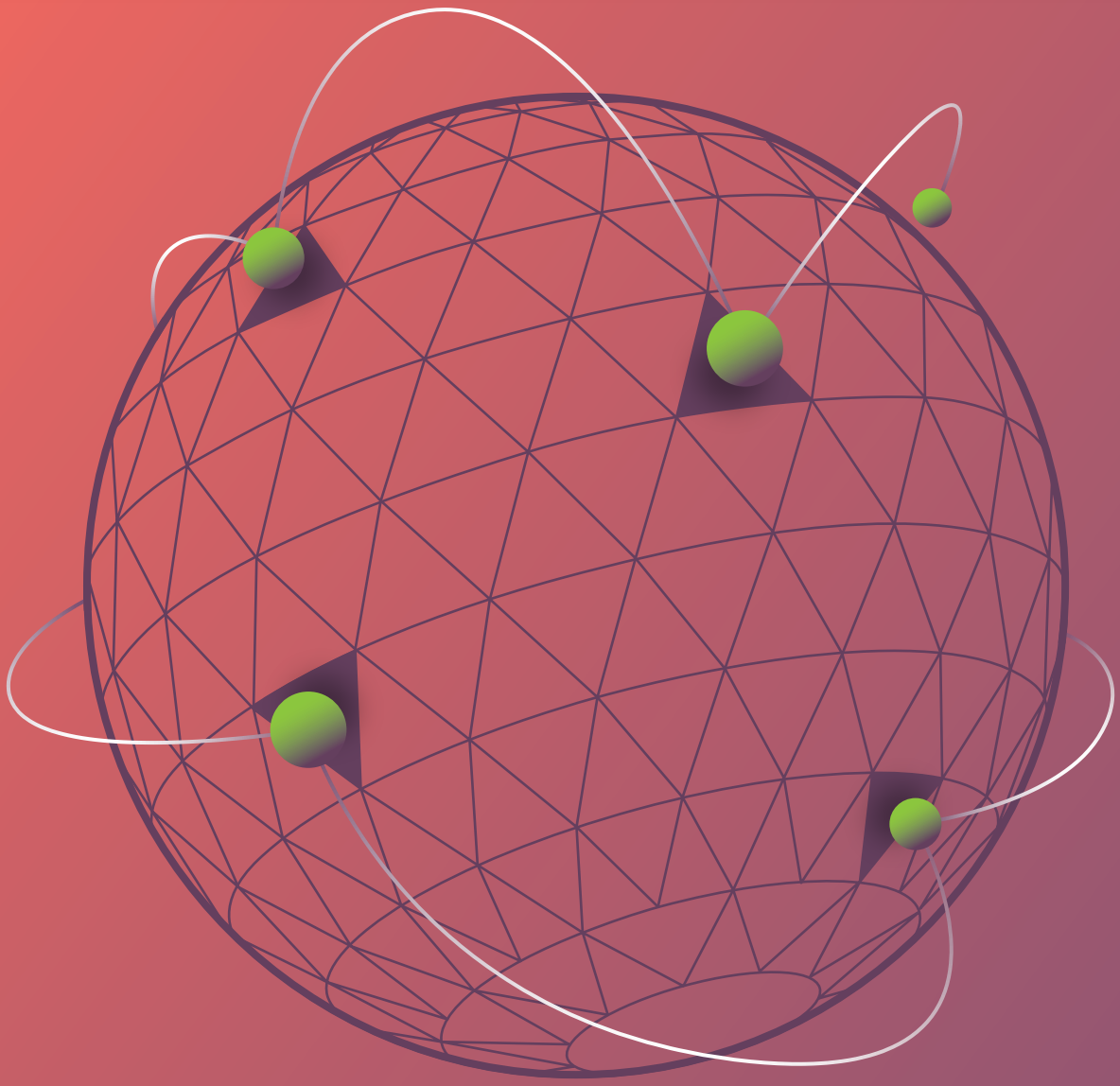
IASP 2022
Seville

39th IASP World Conference
on Science Parks
& Areas of Innovation



Green and digital change powered by innovation

The role of innovation ecosystems

27-30 September | Cartuja Science and Technology Park

Green and digital change powered by innovation at IASP Seville: thematic overview

Science parks and areas of innovation are spaces where new thinking builds solutions to solve current challenges, and with climate change, there are an abundance of challenges to meet. That's why at IASP Seville, which took place from 27-30 September 2022, we brought together experts and practitioners from all over the world to explore "Green and digital change powered by innovation: the role of innovation ecosystems".

Sustainable development and the fight against climate change were top of the agenda, with an in-depth examination of the unique capacity of STPs and AOIs to accelerate the pace of crucial innovation.
Speakers and delegates from 60 countries discussed the different strategies they are using around the world to connect universities, the public and private sectors, venture capital, startups and entrepreneurs, innovative corporates, as well as their local community and wider society to drive innovation.

This role as connectors was one of the key themes to emerge from three days of intense knowledge sharing, highlighting the role IASP's global community can play in maintaining sustainable prosperity while also meeting our climate goals.

The acceleration of digital transformation

With digital transformation as a key tool in the fight against climate change, it was naturally high on the agenda at IASP Seville. From digital technologies that help us understand where we are and where we need to get to, to strategies that help companies and communities keep up with the digital revolution, speakers and experts explored the multifaceted impact of digital change.

Keynote speaker Sergio Oslé, president of Movistar+ and COO of Telefonica Spain, kicked off the digital theme with perspectives on the new phase of digitalisation and the exponential rate of takeup of new technology, from 75 years for a global population to adopt the telephone in the early 20th century, to 7 days to adopt Zoom during the pandemic. With a look at the metaverse and 5G that goes "beyond speed", he shared his insights on a digital future connecting both people and devices that is already becoming reality. Industrial processes are already undergoing a profound transformation of connectivity, with 5G opening up new opportunities and efficiencies in e-health, mobility, cargo port logistics, live TV, and more. "Telefonica believes we are truly living a digital transformation, and this is just the tip of the iceberg," he concluded.

His speech came just after the official opening ceremony, which was addressed by local authorities including the President of the Regional Government Juanma Moreno and Mayor of Seville Antonio Muñoz, underlining once more the real-world impact of the innovation that happens in science parks: both recognised the economic and social value of local host, Cartuja Science and Technology Park, and the work they do to support the green and digital transformation.

Infrastructure, architecture and urban planning

The first plenary session featured three cutting edge infrastructure projects leading the way to sustainability in The Netherlands, Canada and in space. At High Tech Campus Eindhoven, three strategic pillars of being environmentally (and wildlife!) friendly, building a diverse community, and accelerating innovation are key to the campus's identity, and it's not just about the buildings at Canada's McMaster Innovation Park, it's about using their own companies' tech innovations to decarbonise the infrastructure and demonstrate that sustainability can be economically viable. And in space, the Nanoracks GWC Science Park in space aims to

make research in this unique environment quicker, easier and less bureaucratic: pioneering experiments in space are already making life-changing discoveries with terrestrial impact, like the development of China's drought-resistant Luyuan-502 wheat. That was brought to orbit on a government-launched satellite, but Nanoracks aims to open this environment to commercial use.

Breakout speakers also explored how buildings and knowledge environments can be designed and optimised to not only be sustainable, but to enable innovation. Architects like IADP's Paul Jansen and Roy Pype, and urban planners like Peter Baird from Perkins & Will, shared their explorations of the physical and social dimensions of innovation ecosystems, and took a look at strategies that STPs/AOIs could adopt to become low carbon or carbon neutral sites, such as climate adaptation at the design stage, cultivating biodiverse landscapes and building with renewable materials.

From this foundation, practitioners presented best practice examples of on-site energy conservation, including water recycling for irrigation in Turkey's Erciyes University Technology Development Zone; biospheres, solar power research and climate-adapted buildings and water treatment at Tech Parks Arizona in the USA, and the optimization of energy consumption of old buildings and reduction of their user's carbon footprint from TVT Innovation in France. Recycling and circularity were a key theme across the board, which JRC's Paolo Canfora considered in more detail in a focus talk on the circular economy and how it can help us close the loop towards sustainability.

Insights from corporates and universities

Broadening the conversation to include not only science parks and areas of innovation, but also some of their key triple helix partners, IASP Seville also featured representatives from IE University and big corporates Airbus and Oracle, who explored how they too are transitioning for a greener future.

All face their own unique challenges: Airbus's Isaac Perez Fafian talked about how the company plans to meet their pledge of net zero carbon emissions by 2050, including operational efficiencies, renewing their fleet to the latest cutting-edge low carbon technology and sustainable aviation fuel. Gonzalo Delacámara, Director of IE's Center for Water and Climate Adaptation, highlighted how important it is to first understand corporate and human behaviour when changing unsustainable systems: "We have really good reasons to make really bad decisions," he said. "So now we redesign the incentives to make good, sustainable decisions." Science parks have a key role to play in developing the mutually beneficial relationships that ensure approaches like the circular economy can be successfully scaled up. From Oracle, Paola Simonian concluded "Data has everything to do with sustainability. We need to adapt, and in order to adapt we must understand where we are, and for that we need to measure. Data is fundamental."

Cities as living labs and decarbonising industry

The need for data to understand where we are was highlighted with look at Madrid as an ecosystem of innovation from Alfonso Vegara at Fundación Metropolis, who analysed how the city contributes to the digital solutions of the future. Exploring strategies for innovation ecosystems to move towards carbon zero, Endesa's Rafael Sánchez explained how eCity Seville will use the island of Cartuja as a demo site for the city of the future, and a living lab to test smart mobility and energy solutions.

Outside of cities, STPs and AOIs are building partnerships and working closely with legacy industry, with examples from Johanneberg Science Park's Hanna Paradis of co-creation in western Sweden on the region's journey to develop fossil-independent industry based on renewable and recycled raw materials. Efforts at European level were also highlighted by Juan-Carlos Ciscar of JRC, who took a look at adaptation policies and mitigation of greenhouse gas emissions, stressing the key role of innovation to reduce heat-related human mortality, coastal floods, labour productivity losses and ecosystem losses.

Definitions and a historical overview

We also like to consider the theoretical and academic dimension of our industry at IASP conferences, and Luis Sanz, president of IASP's Advisory Council shared work in progress on the latest taxonomy of innovation ecosystems being prepared by the EU's Joint Research Centre in collaboration with IASP, IADP and Linköping University, that will help us better define and understand the variety of different but related environments that fall under the science park/area of innovation umbrella.

The history of our industry also offers valuable insights into our future, and Mary Spaeth presented a historical overview of 20 years of past conference papers. It took a look at some of the seminal material written by both academic researchers and STP practitioners between 1999 and 2009, and asked if practitioner data should be given more weight when forming policy and strategically designing innovation environments.

Digital goes real world: smart cities and digital skills

Speakers from Japan, Brazil, Pakistan and Thailand explored smart cities and smart districts, presenting case studies where the digital meets the real-world, including new mobility solutions that bring about behavioural change with new technologies – gamification to accelerate the adoption of sustainable transport, and using data to understand community needs.

Increased digitalisation also brings human challenges: not everyone has equal access to the online space and the skills and employment opportunities it offers. A panel on future-proof jobs and upskilling shared examples from London, UK and Recife, Brazil on how innovation ecosystems are helping disadvantaged populations to access education and develop the skills they need to participate in the new digital economy, how Sweden is using lifelong learning to narrowing the digital skills gap in the market, and insights on recruiting and retaining the Gen Z digital workforce in China and ASEAN. Questions from the audience highlighted that it's not just young people with digital skills their companies need, but also experienced managers with real-world workplace competencies and the ability to collaborate.

Digital supporting collaboration; collaboration supporting digitalisation

Collaboration went hand in hand with digitalisation: after all, digitalisation isn't an end in itself, but a means to help people work more effectively together, share resources more efficiently, and connect remotely. That's another reason STPs and AOIs are helping their companies and communities to go digital. Digital platforms have a key role to play in enabling startups and corporates to work together and learn from each other. B2B matchmaking events aren't new, but STPs and AOIs are going about them in new ways, helping big and small companies to make a personalised connection.

As well as the digital world supporting collaboration, collaborations are also helping to increase takeup of both that digital world and the rollout of green initiatives. Mikel Landabaso, of the European Commission's Joint Research Centre, was just one of the speakers to point out the value of co-creation, observing that: "Innovation is seeds planted in a garden, where these seeds draw energy from the interactions and interdependencies that happen in innovation ecosystems," as he explored some of the policy tools the public sector can use to facilitate these interactions.

Helping companies and communities go digital

A greener society needs greener companies, many of whom use digital innovations to tackle the climate crisis. Deeptech is a sector with a long lab to market cycle, making it challenging for them to find investors, and IASP Seville heard about new approaches to supporting them at European level and connecting them with corporates and investors. Accelerators also offer increasingly individualised support: "You can't just put them in a room and close the door and say, it's a match," said Rawad Chammas about their A2 Accelerator experience at Berlin Adlershof, emphasising the need for collaboration to meet the biggest

challenges.

IASP Seville also heard how parks are helping companies increase the use of AI in sectors like agriculture, where it can assess livestock health, as well as in long distance drones, a pre-school teaching platform, supermarket product placement. Innovation programmes like Ignite Sweden are helping companies bring digital products to the market that can map and reduce heat loss in commercial and industrial buildings, and use big data to understand community needs. Collaborations between startups, corporates and the STPs and AOIs supporting them have been key to all these digital success stories.

As IASP Vice President Lena Miranda observed in the closing panel, it's not tech that's solving our problems worldwide, it's the way people come together and collaborate to find solutions.
And that, we hope, is what IASP conferences help them to do.