



The human factor

People, communities and their innovation ecosystems



Knowledge sharing in virtual times

37th IASP World Conference on Science Parks and Areas of Innovation





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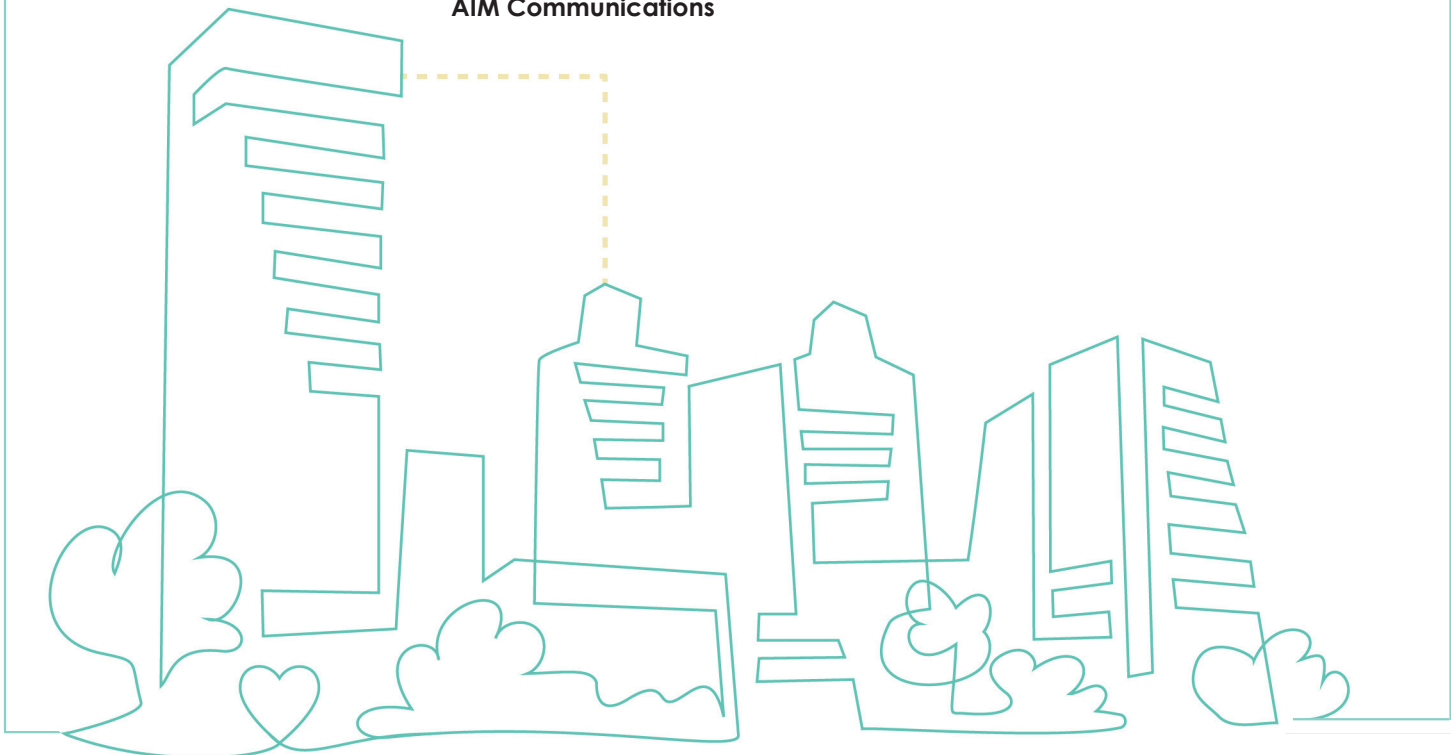
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AIM Communications



Our global community is just a click away

For the first time in IASP history, the global pandemic meant the cancellation of our in-person world conference and a pivot to virtual for our 37th annual meeting of science parks and areas of innovation.

Determined to turn this setback into an opportunity, the IASP team began planning a virtual event which could provide the opportunities to learn, connect with colleagues around the world and exchange knowledge and best practices that our international network has come to expect from an IASP conference.

IASP Virtual 2020 took place on 1-3 December 2020, opened by Chairman Paul Krutko who reflected on the challenging year and the importance of our theme: **'The Human Factor: People, communities and their innovation ecosystems.'**

Over these three full days of knowledge sharing, delegates heard from practitioners, experts and leaders working in innovation communities as they shared their unique perspectives.

Whilst we missed travelling the world, seeing each other and discovering new places and cultures together, we also found the online format could actually be a very positive feature.

For the first time, all our global members were the same distance from our world conference venue,



Ebba Lund, CEO of IASP

and with content just one click away.

In a conference focusing on "The Human Factor", there was naturally a focus on people and talent and how science parks (STPs) and areas of innovation (AOIs) can build community and develop and attract talented individuals, as well as creating quality jobs in their cities and regions.

Fostering a vibrant entrepreneurial eco-system is the foundation of what our industry does, which was a core topic addressed at IASP Virtual.

We focused too on how big corporates and tiny start-ups can benefit from working together, and how innovation ecosystem managers can connect the right partners and enhance collaboration.

IASP Virtual 2020 also took a deeper dive into key regional issues, allowing the virtual audience to travel around the world with panels from Africa, Asia Pacific, Eurasia, Europe, Latin America, North

America and West Asia & North Africa.

City engagement and Living Labs were on the agenda too, comparing different regional approaches to urban innovation worldwide, as well as hearing from some of the world's most emblematic urban innovation hubs.

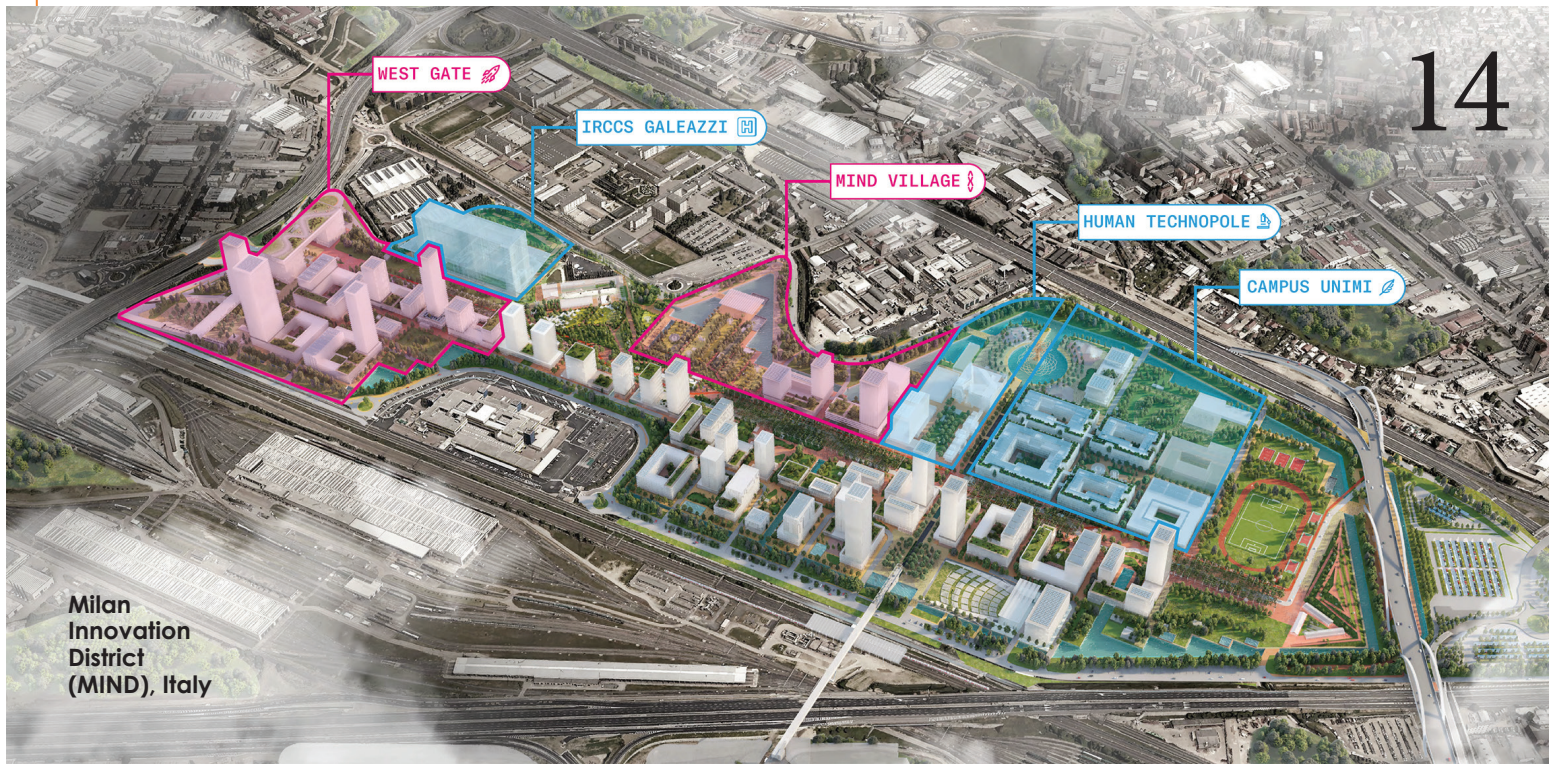
Quickfire interviews and 'fireside chats' with well-known figures in the world of STPs/AOIs added additional human depth to a packed programme, which brought together more than 120 speakers and delegates participating from 61 countries to the 55 sessions.

On the following pages, you can read an overview of all these key topics that we explored at IASP Virtual, and the knowledge sharing which brought our community together for three intense days.

I must extend a huge thank you to all involved: our global membership and conference attendees, the IASP Board and Advisory Council, the wonderful moderators and speakers, our sponsors and knowledge partners, and of course, our little big team, and our PCO Aim Group International who all helped us connect with the world in times of no travel.

Ebba Lund

“Fostering a vibrant entrepreneurial eco-system is the **foundation** of what our industry does, which was a core conference topic



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La Salle Technova Barcelona, Spain

Strategic benefits of working as a team

A sense of community underpins all successful science parks, although it's taken decades for many to realise they are so much more than simply real estate propositions.

Even Wikipedia still informs its global audience they're merely: "A property-based development that accommodates and fosters the growth of tenant firms."

However, if anyone still held such a one-dimensional definition as the 37th IASP World Conference got underway, their mindset would have changed within minutes.

Three speakers underlined the crucial importance of community to the growth of their science parks and offered their personal take on how collaboration should best evolve.

Jernej Pintar, the CEO and head of tech community at Technology Park Ljubljana, revealed how an array of his tenants came together with an impressive sense of purpose during the pandemic.

"Our community spans start-ups, scale-ups and international companies segmented into different verticals, and one of our strongest is health and particularly e-health," he says. "When Covid hit Slovenia, our companies



Mieke de Bruin, of Utrecht Science Park

worked with each other to design, test and then manufacture medical respirators and masks.

"It was remarkable to see them working in partnership at such speed and yet with such precision. It reminded everyone that having a community is always a brilliant, brilliant thing."

● **Lena Miranda**, the CEO of Sweden's Linköping Science Park, moderated the session and asked the speakers to reveal the array of tools and techniques they used to stimulate the development of communities within their parks.

Pintar has been creating networks and encouraging like minds to come together since becoming manager of Slovenia's Centre for Entrepreneurship and Executive Development in 2008, and well understands the long-term strategic benefits.

"We all work with very tech-oriented and creative communities and our companies are the essence of everything we do.

"When you engage with them, it's very powerful. You have their loyalty, their talent, their brands, their collective know-how, and their individual powers of persuasion. Not least of all, you also have their purchasing power.

"Of course, when they start up, purchasing power is small, but as they grow, purchasing power increases which becomes a great benefit when you try to allocate more resources into developing your park, particularly when if you look to attract new external funding."

Vaido Mikheim is project manager at Estonia's Tartu Science Park, and with eight years in the start-up eco-system, and a similar period in manufacturing industry, he's well-placed to act as resident mentor to the park's new ventures.

"Before the benefits of working together were fully realised, everyone acted as separate entities, but when we created a genuine community, the interest in ourselves as a location increased remarkably.

"We held a virtual Start-Up event and it attracted more than 4,500 participants and speakers from dozens of countries. That's the magnifying effect which can be created. People had been sitting inside their own little bubble, but together, we were something bigger which really caught the eye."

Given that Estonia's population is little more than 1.3m, there's also a very pragmatic reason Mikheim places such emphasis on collaboration.

"Our park is not known on the world map, the European map and maybe not even on the map of Eastern Europe, so we must co-operate as effectively as possible. Acting as a catalyst for the creation of employment and wealth by



Utrecht Science Park, Netherlands. Pictures courtesy of Jelle Verhoeks

our companies helps them, but equally it helps us build our brand and raise our profile."

Mieke de Bruin has spent almost a decade at Utrecht Science Park and is currently its community manager.

It's the largest knowledge campus in the Netherlands, and before Covid would typically attract 50,000 students and 27,000 staff members every day, which makes trying to create a community spirit constantly challenging.

"At the strategic level, we realise trying to glue together all the companies, institutions and universities, and everyone within them, will never be simple or easy, but the words we use to sum up how we work are 'belong, believe and behave'," says de Bruin.

"These are not simply words. We live them, I believe all the people on the campus live them, and as we all repeat them for the long-term, we see a culture of community developing.

"We identify with our park and feel part of it, but also want to have an impact on society and the economy. The campus focuses on life sciences and sustainability, and of course because of the size of everything, there are different

The words we use to sum up how we work are **belong, believe and behave**

bubbles.

"However, to me, that is the essence of community building. You bring together people doing different things from different backgrounds and with different opinions.

"Then you have discussions and new perspectives evolve. We have such meetings every six weeks or so, and they generate really positive results. Not every member of the community has to like all the other members, but you do need a shared vision."

Utrecht's de Bruin also offered a personal insight about which individuals might be best suited to developing such communities.

"I think Covid-19 also teaches us that

even communities are not just a logic thing. How are we seeing community and community building in the future? If you work from home, everybody says it's easier, and it's nice. But, we also believe that we need physical proximity to connect with others. When working remotely it is more me, myself and I instead of the community. So how do we continue building communities? We have to invent new rules."

Moderator Lena Miranda was nodding in approval and concluded the session with a reminder that once successful community builders had been identified, they should be cherished.

"If you looked at similar roles within a corporate structure, it would be called customer care, and the average time someone spends in one organisation is around two years.

"Building a community is great, but it's crucial to then preserve and maintain that sense of togetherness, and continuity is crucial. Take care of your builders and make sure they spend much longer in their roles – for everyone's sake."

Technology Park Ljubljana, Slovenia



Collaborating to solve the big challenges

Transformation comes in myriad forms, but none greater than the spectacular changes which the public and private sector have wrought within the Columbian city of Medellin.

Through the 80s and 90s, its name was synonymous with drug cartels, violence and poverty, and it was dubbed 'the world's most dangerous city'.

Now though Medellin has reinvented itself as an international centre for innovation and industrial collaboration, its once-dysfunctional transport infrastructure wins praise from both commuters and tourists, and it has regained its historic status as one of Latin America's great cities.

Paulina Villa is an architect specialising in strategic urban projects, and innovative public policies, to help shape the city's future, and her passion made the story all the more compelling.

"Medellin is the second largest city of Colombia, with 3.6m people throughout its metropolitan areas, and the huge challenges we once faced are well-known, but we also faced the challenges of globalisation.

"We had first to create a competitive economy, and then use innovation to build a new society. All our stakeholders, including the local government and companies of all sizes, participated in these conversations.



Paul Krutko, president and CEO of Ann Arbor SPARK

"We created a science, technology and innovation plan, showing the road map between the region's potential and market opportunities, and also how we could fill in the gaps.

"We had to create an innovation eco-system from nothing because there was no tradition of such a structure here, and then identified the key pillars to support our growth strategies: talent, capital, infrastructure and the creation of networks."

Medellin's eco-system is now based

on 350 companies from more than 30 countries which have together created 10,000 jobs.

The Covid collaboration which created ventilators in Slovenia (discussed during the previous session) was repeated here on a grand scale.

"We had three design prototypes, from a public university, private university and a start-up, which were then tested, trialled and brought forward to the manufacturing phase," recalls Villa.

"We trained healthcare staff to use the equipment, and then the people came forward to offer trucks, cars and even motor-bikes to move them to hospitals.

"The ventilators became a symbol of the new Medellin, a place where everyone would collaborate to solve the big challenges. If you have a community organised to innovate, you can overcome anything."

A very different story of driving change into dense urban areas came from Gavin Poole, the CEO of London-based Here East, a technology and innovation campus created from the broadcast centres of the 2012 Olympics.

"From the start, we wanted to create a location which could attract global companies to sit alongside international and home-grown start-ups. It was also essential to engage with universities and

MaRS, Toronto, Canada



other institutions to deliver the quality of research which businesses would need.

"We had a natural advantage because the area was a very creative environment and with a strong emphasis on digital technology, as Tech City had been built close by. So far, we have invested £160m into our campus, which we hope will ultimately become the UK's largest innovation district. We kept our development pipeline going throughout the pandemic, but although more than 75% of our space is now signed for, we still have something like 30,000 sq metres to fill."

The International Olympic Committee rates Here East very highly amongst legacy projects spawned by the modern Games.

Poole though considers its greatest achievement has been to connect with its community, and then take people on its journey as it continues to expand.

"We have some 4,500 people working here every day, but from the feedback we receive, no-one considers we just landed in their backyards, or that we built something over which they have no ownership.

"We focus on stimulating collaboration between the companies on our

campus, but are equally committed to creating connections between ourselves and the people of East London."

The third story about supporting innovation against an urban backdrop came from Alex Ryan, from Toronto's MaRS, which provides services and advice to start-ups and high-growth enterprises in the clean-tech, health, fintech and enterprise software sectors.

In both scale and strategic ambition, the discovery district reflects its presence within Canada's largest city.

"We have 1.5 sq ft of real estate here and support 1,400 start-ups, which makes us North America's largest urban innovation hub," says Ryan.

"The mix of tenants is carefully curated so we contain all elements of the innovation ecosystem, from start-ups and growth enterprises to non-profits, global corporates and research hubs."

MaRS is based downtown – between the universities and the financial district, and City Hall and the provincial legislature – underlining its commitment to research, its close ties to the corporate and finance sectors, and its partnerships with local and national government.

"We offer our corporate and

government partners opportunities to participate in our innovation eco-system, appreciate our belief in the importance of start-ups and understand how accelerating the adoption of technology and inclusive innovation helps solve complex challenges," says Ryan.

"As an instance of our partnership approach, we ran a project with Ontario Power Generation, where three of our start-ups were able to solve their problems in workforce planning, inspection, automation and automated monitoring.

"Our belief in inclusive innovation is reflected in our 'Opportunity for All Youth' programme, which will create 40,000 jobs by 2024, by building a coalition of employers to generate access to a new pool of talent and also solving a complex and important social problem.

"Yes, the real estate is important. Yes, the technology is important, but the central role of our hub is to create connections between groups which would not normally come together, and to then accelerate the adoption of innovation for the benefit of everyone within society."

Here East, UK



Designing the future in an evolving world

Debates about how people might best adapt to the requirements of fast-changing workplaces have been running since the onset of the first Industrial Revolution.

However, they became ever-more intense as remote working flourished during Covid, and the focus on sustainability increased sharply at both personal and corporate levels.

The topic of how people and organisations might adopt new employment mindsets, and how their value systems could likewise evolve, was the focus for a particularly intriguing session.

Jordi Albo-Canals is chief scientific officer at Lighthouse DIG, a Massachusetts-based organisation which helps international institutions use applied research to disrupt their tech-based business models through collaboration.

"Trying to design the future is challenging for everyone, because although we're all open to doing things differently, nobody knows all the answers," he admitted.

"However, I think if we consider such elements as vision, understanding, clarity



Filippo Addarii,
managing partner
and CEO of
PlusValue
Advisory

and agility, we can develop insights into what is likely to happen, and to see what might distinguish the winners from the losers, as we look to create new values and develop healthier ways of working.

"Traditionally, education has focused on the harder skills, which you could say are easier to learn, but looking ahead, I see a much greater need for soft skills, the people skills which can deliver exceptional results, but are

● **Filippo Addarii,**
managing partner and
CEO of PlusValue Advisory
Ltd moderated the
session and was eager
to discover how changes
to work practices and
processes during Covid
might evolve in the post-
pandemic environment.

harder to acquire. Of course, robotics and automation will transform many workplaces, but I think that will make empathy, creativity and ethics far more important than they are at the moment."

Albo-Canals suggested the most universal value was trust – for all companies, and for relationships with their employees, clients and consumers.

"I'm often asked what trust looks like, and to me it's made up from empathy, authenticity and logic, regardless of whether you are a leader, the talent or the customer. I also believe we'll see the rapid adoption of purpose-driven values.

"Organisations need to decide their values and communicate them. For instance, Amazon says it wants to be the most customer-centric company on earth – and they probably are.

"There's a debate about how they treat their employees, though they're improving in that respect, but if your values are clear, you have your North Star, and don't have to constantly think about what you are doing.

"I think the time is right for companies to re-evaluate their values and consider how they sit alongside their future perception of themselves."

Albo-Canals cited Mercedes-Benz, which rebranded itself from an automotive manufacturer into a provider of mobility solutions.

"They wanted to innovate within their existing model, do new things, adapt their model to suit the concept of smart cities and offer new products and services. It may also make their current employees and future talent see them differently. The human factor is always crucial."

Jean-Sebastien Bouchard, the CEO of a Canadian tech company which uses gamification techniques to transform organisations and communities, said individuals required several steps to evolve within their professional environment.

The first was to discover the worth of learning, understand how they could have a greater impact if they acquired new skills and realise by themselves the



likely consequences of not doing do.

Using an open environment of business simulation, individuals were then brought together into teams and given challenges which allowed them to realise the limits of their current skills and knowledge and enlighten them about the possibilities for change.

The final stage was for them to become aware of the realities and challenges facing themselves and their organisation, now and into the future, and to embrace the opportunities offered through a programme of continuous improvement.

Balvinder Singh Powar, an associate professor at Madrid's IE Business School, has particular expertise in advanced technology relating to the space industry, aerospace, and drones.

He also specialises in virtual and non-virtual team collaborations and high-performance teams and underlined the critical importance of the human factor in delivering open innovation eco-systems.

"The old-style 'closed-in' approach to innovation is falling from favour, as

“The old-style ‘closed-in’ approach to innovation is falling from favour. . .

it's become accepted that better outcomes are achieved through wider forms of collaboration," he said.

Typically, Powar guides his students to work effectively together on entrepreneurial projects to elevate the learning towards tangible goals.

He uses team science, such as Belbin, which outlines and discovers team roles through psychological questionnaires which help people to fast-track high performance working.

Powar also works as an advisor and consultant to corporates and his book on digital transformation, 'Going Digital', will be published by Pearson in early 2022. He illustrated his conviction

in the power of open innovation by highlighting a project which he helped carry out between the consultancy OPINNO and the global Spanish insurer MAPFRE.

"In open innovation, a larger (typically heritage) company hands over real business problems to start-ups so that they can give fresh responses and solutions in an agile way," he said.

"The result of that collaboration will typically see several new spin-offs launched and even more importantly, there will be a change in company culture.

"In this instance, employees were inspired to think and behave in a more entrepreneurial manner. Young entrepreneurs were also more attracted to work with and for MAPFRE, as they saw a change in the traditional company culture."

Powar concluded his presentation by remarking that culture is key to the effective performance of a company or organisation, both to motivate and attract talent - and to create relevant value.



Creating a community to entice employees

Digital technology gave mobile talent both the platforms to identify new opportunities across the globe, and virtual pathways to locations and potential employers.

The simultaneous adoption of a 'gig economy' mindset by Generation Z increased the pressures on recruitment teams, who must always focus with equal commitment on retention.

Completing the hat-trick of strategic hurdles facing the science park community was the realisation that the previously volatile forces of supply and demand were now a perennial issue.

Understandably, there was a tangible sense of expectation from the audience to discover how the trio of speakers had tackled such challenges.

Erin Koshut is the executive director of Cummings Research Park (CRP) in Huntsville, Alabama. With 300 companies employing close to 27,000 employees and 14,000 students on a campus spanning some 3,800 acres, it's the world's fourth largest science park.

"The power of place became very important for us throughout the pandemic in attracting and retaining talent, through both physical and online strategies," she said.

"We enhanced our infrastructure to



Nihel Chabrak, of the UAEU Science and Innovation Park

improve access for pedestrians and cyclists, and make it easier for folks to explore the park. We have several lakes, so we created new benches and sidewalks around them.

"We have other mixed-use areas which offered kerbside shopping and kerbside restaurants. During the warmer months, we brought in food trucks

● The session was moderated by **Professor Nihel Chabrak, CEO of the UAEU Science and Innovation Park**, a global hub for research, innovation and entrepreneurship created to help the UAE transition into a knowledge economy.

and gave away artisan popsicles to encourage people to visit us.

"The numbers weren't huge, but they all helped create a sense of somewhere which was still active and still a great place to come to, despite the pandemic."

CRP's social media teams increased their operations, electronic billboards were placed around town, new videos about its research activities went online directly, and through companies still operating on the park to support their recruitment efforts.

The web-site was significantly revamped to widen its appeal, and a new online directory developed to highlight the range of sectors in which tenants operated.

However, Koshut says the most important element was to partner with the local Chamber of Commerce and its members.

"We leveraged the resources of other organisations which could support our companies, because they were on the front-line in attracting and retaining top talent and researchers.

"Put simply, we realised we had to pivot and figure out the best ways to reach our employees and the companies in the research park, and to support them through the pandemic."

Anna Broeders is the community manager at Linköping Science Park, which is home to around 500 companies employing more than 7,000 people.

"We worked very hard at strengthening our community, because we believe that if people feel good about where they work, they will share that feeling of enjoyment and their sense of belonging with others.

"Our definition of a community is people who see beyond themselves, are open and willing to share their knowledge and experiences, who listen, who are passionate and who believe in what they are doing.

"We explored the ways in which we communicated, and emphasised that Linköping is an attractive place, a great place to live and has a successful and growing economy.

"It's often said that talent attracts talent, but it's equally true that people

Linköping Science Park, Sweden



want to live in places which are much more than simply a place to work.

"We focus on the individual, we don't look at job titles, birthplace or qualifications. We want to attract people who have passion, drive and energy, and want to live within a community which is caring and sharing.

Broeders trained as a talent scout before moving to her current role, and says the park's software developers, coders and other members of the ICT community have been a powerful voice in promoting the park and the town.

Equally, the ultra-competitive market for such talent and in other science niches can't rely on happenstance for groupings to evolve.

"We created a process at the park called 'community as a service', where we stimulate people to meet and work across boundaries and that cross-fertilisation really generates benefits for everyone," says Broeders.

Justyna Ciegotura is deputy director and board member at the Poznan Science and Technology Park, Poland's first technology park which was established in 1995, and hosts 100

“We focus on the individual, we don't look at job titles, birthplace or qualifications

companies from start-ups to established enterprises.

"Before Covid, we began a skills programme to develop links between universities in Sweden which specialised in science and technology, and our tenants as a way of attracting talent to the park and helping companies resolve recruitment challenges.

"We focused very intently on making this a user-driver solution with a human touch. It wasn't about one particular sector, it was designed to be multi-disciplinary. We brought students together and asked them to share perspectives and experiences.

"The more they understood about each other, the greater collaboration

we saw and they became problem-solvers. We then went to our companies and asked them to identify their biggest challenges and set up teams to address them.

"From our shared experiences, we knew which people would be best for each problem, so we then went through a 12-week programme, holding workshops, putting forward ideas and devising potential solutions.

"The companies themselves then selected the best ideas and in most cases they offered the best students one-month internships to see if they could thrive with their environment."

Experienced mentors were selected to lead each team, and the park also brought in sector specialists, which Ciegotura says generated even wider benefits.

"Students could meet corporate managers, which gave them new perspectives for their future careers, and the park was recognised as a valuable and trustworthy organisation capable of understanding and integrating the worlds of academia and business."

Poznan Science and Technology Park, Poland



Location, location, location translates to motivation

Theories about personal motivation have been a growth industry since the 1940s, when psychologist Abraham Maslow proposed his "Hierarchy of Needs" and mused about how "self-actualization" might be best achieved.

The subsequent decades have been awash with ideas about how to attract, engage and retain talent, from plausible and small-scale solutions to grand philosophical visions.

However, the self-evident truth that people are – for better or worse – influenced by place has evolved dramatically in recent years, to form the cornerstone of a belief that architecture can be carefully crafted to be "neurologically sensitive".

Virtual reality experiments have underpinned the intriguing concept, but the first speaker in the session about talent retention needed no artificial aids to make his case.

François Nortje is an architect, urban designer and director with Osmond Lange, an architectural and planning practice based in Cape Town.

He is also manager of the Stellenbosch Bridge initiative, a hugely ambitious project to create Africa's first Smart City on 340 hectares of land alongside the



Carl Viel is president and CEO of Quebec International

N1 highway, devoted to innovation and sustainability.

"I am passionately interested in how the physical environment helps create places which make people feel at home, stay somewhere and enjoy life,

whether in our innovation district or anywhere," said Nortje.

"To understand how the physical environment contributes to retaining talent, we must understand how motivation works. Traditionally, HR departments formulate what they call employee value propositions, including pay, career advancements and a wide range of benefits.

"The campus environment, individual buildings and the space around them are rarely considered, but I believe they should be because they interact with our subconscious minds.

"For true innovation to happen, people must meet and exchange ideas with different people, and whether it's at the professional or social level, different spaces have to be created to enable such interactions, and each space has to be planned in terms of what activities you wish to occur."

Nortje believes architecture has evolved from a stonemason's craft into an academic pursuit, which can stimulate social and creative interventions by design.

"We've applied neurological principles to our new start-up building which is a timber structure with branching tree columns, and also incorporates local natural and cultural attributes.

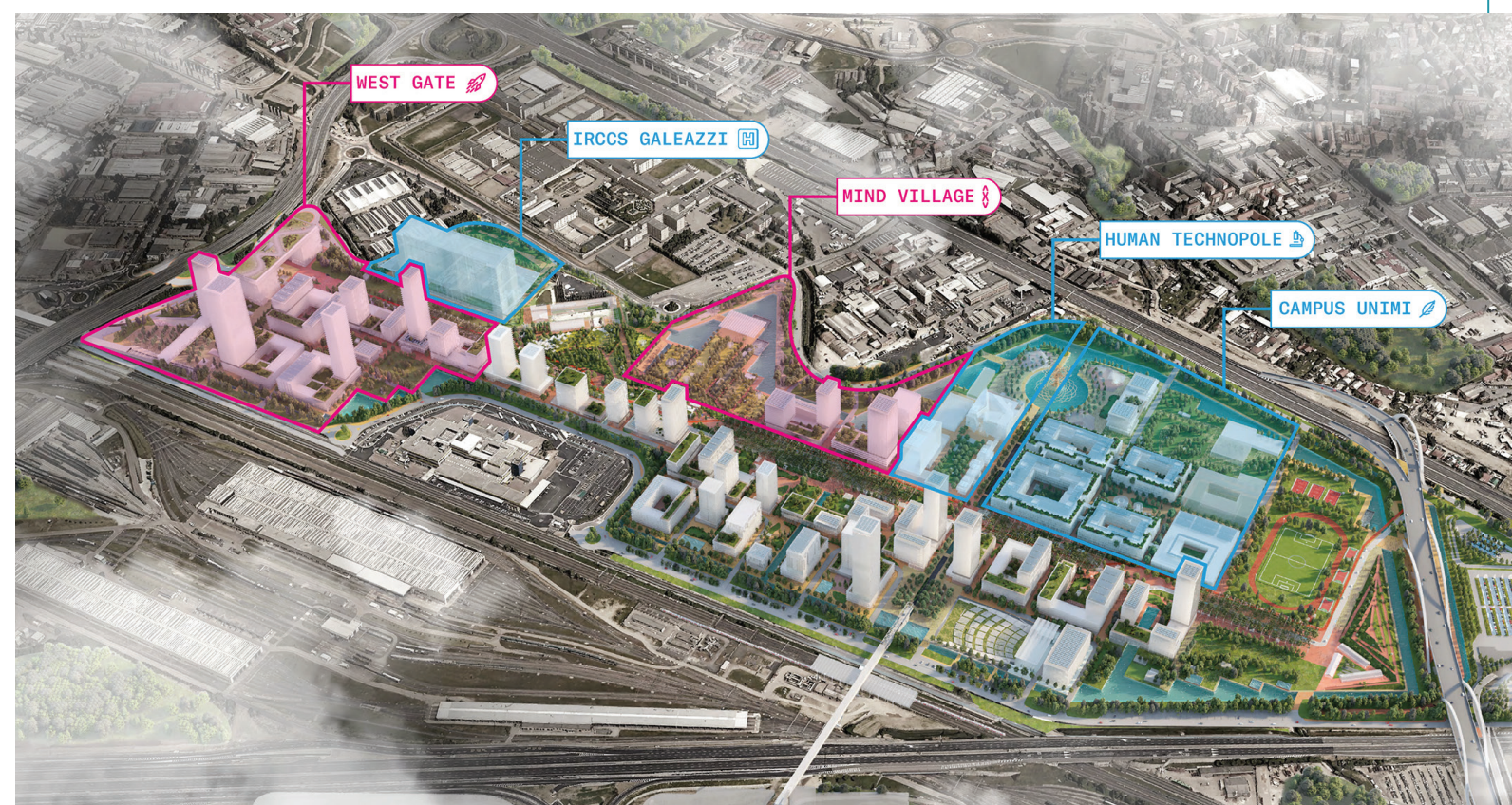
"Our vision is to create an environment which feels like the home of a tribe and each individual feels like a member of that tribe. I believe our talent will experience a sense of belonging, grow to love it and then stay."

Carl Viel is president and CEO of Quebec International, the economic development agency for the Quebec City metropolitan region.

His strategic brief is to support innovation, stimulate exports, increase FDI, support the area's key clusters, and attract and retain international students on a significant scale.

The region faces huge recruitment challenges, as it has a very low unemployment rate, a population tilted towards the

● Jonathan Burroughs, who leads the Cambridge-based Creative Places property consultancy, moderated the session, and was particularly interested to hear how people new to science parks might best be motivated.



Milan Innovation District (MIND), Italy

upper end of the age scale, and a very low birth-rate.

"Our solution was to look overseas, and we have conducted close to 100 international missions and virtual missions over the years, which brought many thousands of skilled workers and many thousand more students to our community," said Viel.

"We began by speaking to companies and organisations across the Quebec City region, to understand their recruitment strategies and skill needs, and provided them with the services and advice they required.

"We created online content in French, English, Spanish and Portuguese to attract workers in key sectors, such as IT, manufacturing, healthcare, food service and gaming, and set up programmes to integrate themselves and their families into our community.

"In just one year we attracted 6,000 students from 75 countries to apply to come here, and we found that international entrepreneurs from our target niches were equally keen to discover more about our region and relocate here.

"The benefits are huge and wide-ranging. Companies are filling their vacancies, our universities and colleges are expanding, the economy is growing faster than predicted, and our city is

I believe our talent will experience a sense of **belonging**, grow to love it and then stay

further strengthening its reputation for diversity of people and of cultures."

The session was completed by a presentation from Alberto Mina, the institutional and international relations director for Arexpo, which owns and is developing the area which hosted Expo Milano in 2015.

The first phase was to establish the Milan Innovation District (MIND), and a subsequent masterplan is now driving the creation of a park dedicated to science, knowledge and innovation, with a focus on life sciences, healthcare, bio-tech, pharma, agri-food and Big Data.

"Our vision is based on the belief that everyone has their own talent, and that we should create a place where

those talents can be expressed, and individuals can flourish and become part of a powerful and creative community," said Mina.

"Data management is already a specialism at MIND, and we are now also focusing on genomics. The Italian pavilion from 2015 has been reimagined as a place for international research into genomics, and we work with the University of Milan to develop next-gen tools and instruments.

"The university is a research institution and will relocate its scientific departments here to give them space to expand and also attract young talent. Together, we are developing new ways to learn and new ways to teach."

Another element of MIND's partnership strategy is a growing relationship with Milan's Galeazzi Hospital, which has an international reputation in orthopaedics.

"We are also working closely with non-profit institutions, local associations and other small enterprises to engage with the existing communities," said Mina.

"Attracting international talent is crucial, but we're equally conscious that the space we are creating must embrace local talent. We want to maximise our social impact, and create a community which is open, inclusive and sustainable."



A bird's eye view of the Stellenbosch Bridge initiative.



TECNOPOUC, Brazil.
Below, Ciudad del Saber, Panama

Keeping the customer satisfied and interested

The legendary inventor Thomas Edison memorably suggested that genius was 1% inspiration and 99% perspiration, to rationalise the long and challenging pathway from bright idea to reality.

Some quibble about the relative percentages, but no-one doubts the basic truth of his astute observation. Without the commitment and support of others, innovative thoughts and clever concepts usually fail to flourish.

Where else then could the Business Incubation section of the conference begin, than with a debate about how entrepreneurs might best be supported?

The moderator was Diego De Biasio, CEO of Luxembourg-based tech business incubator, Technoport, and vice-president of the European Business & Innovation Centre Network.

Rafael Chanin, an assistant professor at the Pontifical Catholic University of Rio Grande do Sul and who leads the start-up development programme at Brazil's TECNOPOUC began the debate.

"The park was formed in 2003, and is now home to more than 180 organisations, from small enterprises to sizeable companies, employing more than 7,000 people," he said.

"We recognise that the needs of start-ups can change rapidly, and regularly

refine our strategies and model to ensure the environment here is flexible and suited to those needs

"Being connected to our eco-system doesn't require start-ups to be physically present here, because we can add value to them regardless of their location, and they receive our full commitment and support without needing to take part in our programmes."

TECNOPOUC's ambition would have impressed even the famously productive Edison, as it aims to develop 1,000 innovative businesses in the next ten years. Chanin and his colleagues look to provide opportunities throughout the university community, so students are engaged from the start of their studies, and then connected to specialists to explore their entrepreneurial potential, before migrating to hackathons and other events.

A spin-off programme helps graduates transform research into products or services, introduces them to academics and encourages the new partners to work with the park's hubs focused on health, agri-tech, AI and technology.

Simultaneously, existing start-ups are helped to enter their growth phase through a network of advisers and mentors.

"There are obvious benefits of being located in the same physical space, but well before the pandemic, we also developed virtual programmes to work with new enterprises regardless of location," said Chanin.

"I tried many years ago to deliver such programmes, but the technology wasn't quite ready. I think it's time to revisit that approach and see how Technoport can further evolve," said De Biasio.

Next up was Ulrika Malmqvist, CEO of Movexum, a regional incubator in Sweden which has helped more than 100 entrepreneurs and innovators to commercialise their ideas.

"We began operating in 2008 and have become one of Sweden's top-ranked incubators," she said. "Our core objective is to build a powerful value chain across the region from local start-ups to the international business community."

"Our innovation hubs are the first point of access, and we welcome start-ups of any size to our incubation programmes because we must ensure that all people feel welcome."

"Our team of advisers has very broad experiences and backgrounds, to attract more diverse people, and our in-house business coaches then lay the foundations for a new enterprise,

before we add specialist competencies.

"Every start-up has a designated coach, and each new relationship begins with a detailed self-assessment of the entrepreneurs to understand their personal qualities, abilities and ambitions."

Back in 2017, Malmqvist realised only 10% of their entrepreneurs were female, and that the typical client was a male in their 50s.

The incubator's staff were guided about issues around diversity and inclusion, and an advisory board of young entrepreneurs created to provide role models for a new generation. Such work continues, but women now lead 40% of the companies with a presence at Movexum.

Malmqvist also commissioned research to assess the satisfaction levels of both clients and her teams. Intriguingly, the former was 95% and the latter 85%.

"Customer satisfaction is very good, but keeping team spirit up, and striving constantly for new and more effective ways of interacting with each other is a significant challenge," she said.

Completing the line-up of speakers was Cristina Collazos, who manages the start-up investment programme at Panama's Ciudad del Saber. (City of Knowledge) where a redundant US military base has been transformed into a knowledge campus to drive changes into society.

"The Seeds of Knowledge Foundation has been a pioneer in promoting entrepreneurship across Panama since

There are obvious benefits of being located in the same **physical space**, but well before the pandemic, we also developed **virtual programmes** to work with new enterprises regardless of location



2000. It took a long time for people to understand the concept of start-ups and embrace the culture of innovation.

"However, as our eco-system begins to emerge, we have created role models to inspire other people to innovate and provided them with the skills, tools and investment they will require."

"Inevitably though, at this stage of our evolution, our start-ups are running in a different race from their peers in Silicon Valley. There, the focus is on the pace of growth, the speed at which capital can be raised and how quickly users can be acquired. Everything is about speed."

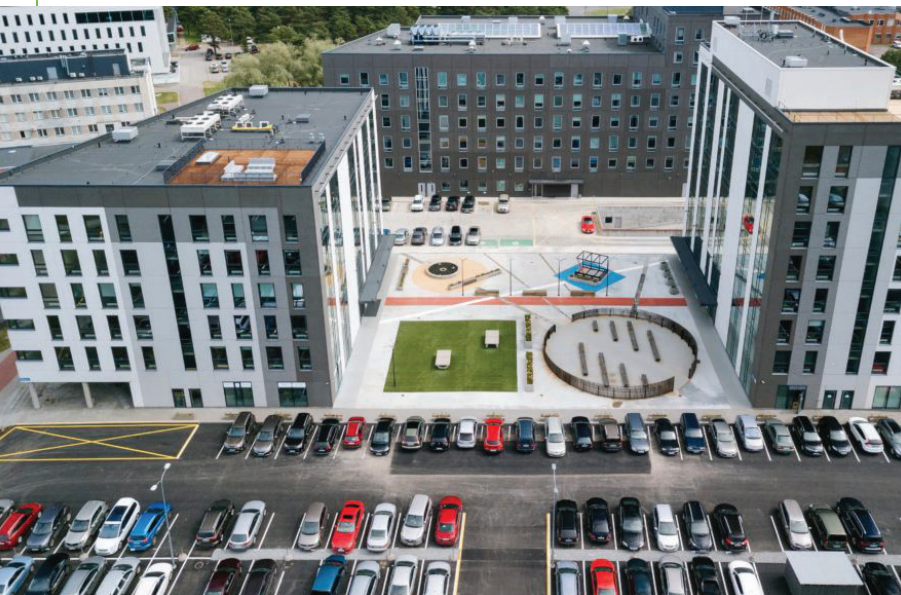
"In Panama though, our start-ups are in a survival race trying to generate enough profit to see another day. In general, we sacrifice speed and pace of growth to generate what I call strong 'creative muscle' within our

entrepreneurs."

Persuading some of the country's elite who left to study and work abroad has been critical to improving the quality of start-ups, as has an education programme.

"We provide scholarships for locals to study overseas, gain experience in a mature eco-system and return. A hybrid programme, where we work to generate a growth mindset and also give them the tools they require to scale-up their enterprises, has proved very productive."

"We also choose start-ups regardless of their sector if they generate benefits for society and promote social change, and look for founders passionate about giving back to their community and realise that business growth is crucial to achieving change and reform."



Estonia's Tallinn Science Park Tehnopol



China's Caohejing Hi-Tech Park



Hong Kong STP, China

Eco-systems: The next generation

The concept of business incubators in which start-ups can evolve and thrive feels modern, but the first was hatched back in the early 1960s.

The closure of a giant industrial plant in the small US city of Batavia left an 850,000 sq ft complex of multi-storey buildings empty – and hundreds of people without work.

The Mancuso family bought the site, realised they could create more value (and jobs) by sub-dividing the space and providing shared services, and the first major tenant was a poultry business needing 80,000 sq ft to house tens of thousands of chickens.

The Batavia Industrial Center still prospers thanks to the far-sighted nous of 'Little Joe' Mancuso, and his model has been adopted worldwide.

First-gen incubators were purely real estate offerings with reactive services, the second featured proactive support and business coaching, and the third included the provision of in-house debt or equity finance and/or channels to external finance.

The second Business Incubation debate considered how a 4.0 model might look, and was moderated by Albert Wong, CEO of the Hong Kong Science and Technology Park since 2016.

"In times of turbulence, it is crucial



Tobias Kirschnick, of Berlin Adlershof

for us all to help keep the momentum around innovation, and our strategies and solutions must evolve at pace within our fast-changing world," he said.

First to speak was Martin Gorosko, head of business development at Estonia's Tallinn Science Park Tehnopol and a member of the Estonian Business Angels Network.

"As we look toward 2030, I think we'll witness a battle of the eco-systems because there'll be global competition

for the next-gen of start-ups, which will challenge all incubation providers," he said.

"We must ensure the Ts & Cs for our start-ups are as convenient as possible and provide even better services for them in terms of access to talent, access to capital and access to markets.

"We'll also see funding mechanisms integrated even more deeply into the 4.0 model, with longer financial commitments to start-ups from the incubators, and more experimental sources of finance integrated within the incubator."

The development of more sustainable products and processes, and adoption of ESG strategies, are now commonplace, and Gorosko believes the trends for deep tech and green technologies will see many incubators redefine their areas of activity.

He also believes global corporations will become more aggressive as they seek to identify innovative start-ups, and that incubators will need to work ever-more closely with such corporates and providers of venture capital.

"Incubators will become melting-pots of entrepreneurial talent. We're already the ones who can link the science, the business, the corporates, the scale-ups, and the funding and investor communities" said Gorosko.

"Now we need to adapt our incubation models really quickly, so we can engage with different types of entrepreneur and become the bridge of choice between science, business and capital."

Next to speak was Guannan Zhu of the Caohejing Hi-Tech Park, home to 3,600 national and international companies, including 130 enterprises set up by Fortune 500 corporations, focused on aerospace engineering, automobile R&D, bio-med, clean energy, and new materials.

"Some countries are seeing a shift in perspectives and policies with regard to new technologies and the entrepreneurs who create and lead such platforms, which may impact on how they perceive innovations," he admitted.

"We remain focused on advanced technologies, but in 2020 we adopted a new model based on the concept of an 'innovation map' which will be the instrument panel for our innovation-driven evolution.

"The park's economy will evolve by featuring new technologies, industries, business types and development patterns. We will also strengthen our brand by building an innovation information service centre to guide the launch of projects and the distribution of resources."

Mr Zhu said disruptive innovation would be embraced as Caohejing moved forward over the coming decade.

"We will promote the restructuring of our innovation organisation, provide brand-new solutions based on technological achievements and their

application within businesses," he said.

"Our current eco-system will evolve into a new community, composed of entrepreneurs, investors, scientists, start-ups and the facilitators, and we will build new infrastructures to support digital transformation."

The final contributor was Tobias Kirschnick, who leads the start-up projects team at Berlin Adlershof, Germany's largest science and technology park, which hosts 14

We're already the ones who can link the science, the business, the corporates, the scale-ups, and the funding . . .

universities and scientific institutes, 1,200 companies, 23,000 employees and 6,500 students on its campus.

The park's origins can be traced back to 1990, when the newly-unified Germany realised that creating an incubation centre for start-ups would make a significant contribution to the establishment of new industries and business structures in its economically weak eastern regions.

"Over the decades almost everything

has changed. The challenges of globalisation, acceleration of knowledge transfer and dramatic contraction of innovation cycles created huge pressures for the people and programmes who supported entrepreneurs," said Kirschnick.

"The rapid development of new services and instruments to incubate start-ups meant the management team had to acquire new skill-sets, and another important step was the reorientation of support staff away from rigid services to providing modern and more flexible tools.

"We adapted to the changing ways in which founders of start-ups and their enterprises work by developing co-working space and setting up the Founders' Workshop offering 20 places a year for scholarship holders.

"The provision of space quickly attracted other innovators, and some people then stayed on after their scholarships and moved into either our incubator or one of our technology centres."

Kirschnick said the management team had created a new innovation programme from the existing accelerator programmes, aimed at medium-sized companies looking to become more innovative.

"We have established a network of modules which can easily be combined, according to the requirements of the company's founders, and then deliver tailor-made support to give them the best chances of success."



Zhongguancun Science Park, China

Team building – bridging the knowledge gap

The importance of collaboration in delivering solutions to urban challenges is well understood, but all too often potential partners have paid little more than lip-service to the concept.

However, the model of using long-term and complex public-private partnerships to construct and operate science parks, and regenerate urban areas, has finally gained traction.

The third Business Incubation debate considered how different forms of partnership were being adopted and what benefits were being delivered.

The session was moderated by Josep Pique, a past president of the IASP, and CEO at La Salle Technova Barcelona, one of Europe's leading incubators for innovative tech start-ups.

Paul Jansen, vice-president of the Innovation Area Development Partnership in the Netherlands, suggested that a desire for knowledge exchange should be at the heart of all partnerships.

"We have built a network of like-minded people and connected many communities which operate within our country's eco-system," he said.



Paul Jansen, vice-president of the Innovation Area Development Partnership in the Netherlands

"Some partnerships are commercial, with urban designers, investors and consultants, but we also have many partners who own or manage innovation hubs, science parks and university campuses, and in most cases

these are semi-public partnerships.

"We see multiple forms of partnership models evolving, not just here but internationally, and the socio-economic elements are becoming increasingly important. The latest trend we have identified is for dedicated eco-system managers being appointed in very specific sectors or niches."

Jansen believes different models will continue to evolve, just as science parks and innovation districts adopted different growth trajectories and operational strategies.

"In the early years, everything was about infrastructure and facilities, which we could call the hardware, and there's since been a much greater focus on the networks, communities and entrepreneurial dynamism of locations.

"However, managing all these different components and giving the right attention to each, is crucial. Governance structures, ownership models and access to finance will vary, but managing everything effectively and productively is a requirement everywhere.

"It asks a great deal of the skills and competencies of the people asked to manage science parks and other centres of innovation.

"Just as we recognise the different forms of partnership, it's equally important to understand what all the stakeholders expect, and ensure each partnership is created and managed to achieve its specific goals.



La Salle Technova Barcelona, Spain

Communication and precision are absolutely key."

The second speaker was Zhou Teng, who leads international development at the ZGC Software Park (Zpark) in China's Silicon Valley, which focuses on software R&D and IT outsourcing.

"In China, as you know, there are challenges about the connectivity between science and technology and the wider public, so we are creating a new form of park based on a partnership which brings the technological and human factors together," he said.

"We carry out regular surveys among the companies and clusters based here, and they're very popular because they're a way to connect everyone, hear different views and test what people think about the environment and the services and support we provide.

"Previously, there was an intense focus on providing finance to growing companies, and also helping start-ups and smaller enterprises to grow through our incubators. We established an alliance between all our incubators so people could learn from each other.

"We are maintaining that focus, but now also looking to create a more comfortable environment here in the widest sense."

The Zpark houses a large community

of highly-educated people with an average age of under 30, and establishing a programme of activities and events to bring them together outside work is now a core strategic element.

"Life is about more than just working and studying, and we want to create an environment which is both integrated and diverse. Social activities are very important and so is broadening access to the park. We seek to balance the various elements here, and it is appreciated," said Teng.

"It's great to hear that you are creating a community beyond the hours of working," said Pique. "We all love our work, but we also need to enjoy our lives and it's wonderful to hear about how the park's model is evolving."

Anita Tregner, an adviser to the European Commission and senior adviser to the META Group, completed the formal element of the debate before a lively Q&A session.

"We have seen the rise of a generation of entrepreneurs who are disruptors, and we're now seeing a shift from traditional to disruptive eco-systems where a dynamic and entrepreneurial culture interacts with other talent and different forms of knowledge," she said.

"There are an increasing number of start-ups across all sectors, which is stimulating our cities and our regions to

develop start-up friendly policies, and also much more transparency and data-sharing alongside new and more flexible forms of procurement programmes.

"However, are we all doing as much as can to support these trends, or do we need a different type of leadership to suit these times?

"The new eco-systems tend to be internationally focused rather than regionally, are driven by diversity and collaboration, and often underpinned by new forms of funding and finance.

"The new challenges are how we can better connect all these actors, and how to work with these knowledge-intensive companies to continue the very fast pace of innovation, which is much quicker than anything we have previously experienced."

Tregner is a great believer in the merit of challenge-based innovation, where specialists, policy-makers, funds, corporates, intermediaries and service providers come together to identify and tackle the major issues facing society.

"We should showcase the communities, cities and regions which are creative and productive, entrepreneurs will be attracted and everyone then works together to develop innovative solutions which ultimately means better services for citizens."

Life is about more than just working and studying, and we want to create an environment which is both **integrated** and **diverse**

Size doesn't matter when combining talents

The notion that partnerships between international corporations and fledgling start-ups can bring benefits to both parties is self-evident.

However, the pathway is rarely easy, not least as the cultural and systemic differences which form the basis for attraction can equally be hurdles to progress.

The concluding debate in the conference's Business Innovation segment looked at how such challenges could be overcome, and was moderated by Faruk Inaltekin, general manager of the Bilkent cyberpark and chairman of the Association of Turkish Technology Parks.

"Typically, we expect to see technical knowledge and an agile mindset come from the small company, and capability in production and logistics, plus experience and greater access to finance, come from the larger, but let's all learn from the expertise of our speakers," he said.

Bjorn Westling, the director for SME relations, innovation management and

strategy at Johanneberg Science Park got the discussion underway.

"We have great examples in Sweden of how large corporations established innovation hubs or accelerators to foster relationships with start-ups and SMEs, but some sectors are lagging, including real estate and construction," he said.

"We specialise in sustainable urban development and our stakeholders include the university, the city of Gothenburg and 13 firms, the majority of which are in those sectors.

"In 2019 we developed a 'Small meets Large' programme to create innovation opportunities by bringing those companies together with start-ups and SMEs in our networks."



Robert Alderson, a patent attorney with the Helsinki-headquartered IP law practice, Berggren Oy,

The process included an innovation audit to understand what large companies expected and ensure management buy-in, an analysis of the opportunities, capacity, capabilities and needs of the smaller firms and a matchmaking service to identify potential partners and bring them together.

"The most challenging element is usually driving collaboration forward," admitted Westling. "The 'not invented here' syndrome is one obstacle, there are often IP issues, and we often see conflicting time scales.

"We identified the key challenges, set up

a structure of support and coaching to help overcome them, and have experienced a range of outcomes, including prototypes, proof of concept, JVs and new products brought to market.

"As a practical instance, we helped a real estate company collaborate with a small IoT firm to create a network of connected smoke alarms in their residential buildings and they built a new business model around this innovation.

"The success of our pilot projects makes us believe that our 'Small meets Large' programme is now a well-functioning and powerful process which can be widely replicated."

Aline Figlioli, a research fellow in managing open innovation for SMEs at the University of Brighton's Centre for Change, Entrepreneurship and Innovation Management (CENTRIM), highlighted the challenges facing small enterprises.

"It's often difficult to identify the right channels through which to approach multi-nationals, and it can be very time-consuming for SMEs to start and progress a new relationship.

"Start-ups can also become an acquisition target for the larger partner or find themselves over-ridden by their decision-making process.



Bilkent Cyberpark, Turkey

"CENTRIM led the INSPIRE project, with a consortium of international partners, to investigate how SMEs could best devise, adopt and implement open innovation strategies to better engage in productive partnerships with larger firms."

The venture was underpinned by lengthy research into how small companies from different sectors, and in different phases of their growth cycles, managed their approach to open innovation, what challenges they faced and how they overcome them.

Figlioli said some 120 companies were studied to ensure that the resultant methodology was soundly based.

"We then created a handbook and visual tools classifying the main issues SMEs could face, what they would require to succeed and how they might fill gaps in their resources or knowledge.

"The INSPIRE framework allows them to identify what stage of the innovation journey they have reached, and to prepare for progress. They can use self-assessment tools to see what resources they will need for their next phase.

"The methodology is designed to be very flexible and intuitive, so will filter the best tools to deliver the optimum outcomes for each user."

Robert Alderson, a US and European patent attorney with the Helsinki-headquartered IP law practice, Berggren Oy, completed the line-up.

"SMEs who protect and exploit their IP rights are more likely to experience high growth, but open innovation is complicated and a journey of multiple phases in which companies can get stuck.

"To be successful, the various stakeholders must be connected via appropriate bridge-makers, and I believe science and technology parks (STPs) and areas of innovation (AOIs) are uniquely suited for that role.

"Although they are primarily business-orientated, they typically have decades of experience in interacting with various types of entities and cultures and are also inspired by a broader vision of the economic, social and innovation system.

"All these elements need putting

together for an open innovation model to succeed and it's important IP management is thought about from the outset and in a systematic way, or there's the potential for delays and disputes."

Alderson believes it would make strategic sense for STPs and AOIs to consider providing IP support and a basic check-list – perhaps as a high-value service – before collaborations get underway, so confidentially agreements are in place.

"If an SME has know-how or a trade secret, but discusses that knowledge with a large corporation, protection is lost. Within a confidentiality agreement, the parties can freely discuss their ideas, whilst still maintaining ownership of what their contributions to a project might be.

He also suggests an analysis of existing patents, in the area to be covered by a potential partnership, would be very useful for both parties.

"The process could be achieved via an in-house IP manager or a third-party one, but does need to be done - and to be updated regularly."

Johanneberg Science Park, Sweden



Global connections in a worldwide crisis

The IASP Africa Division president, Ms Hauwa Yabani, CEO of the Abuja Technology Village in Nigeria, opened the session by highlighting the impact of the pandemic.

"Some business sectors in the Africa region faced total collapse, but others were almost overwhelmed by the opportunities for innovation which were created," she said.

"The technology which played a central role during the pandemic also makes it possible for knowledge to be more easily shared, and for international connections to be easily established and sustained.

"Open innovation doesn't recognise boundaries, and I am confident that as the pandemic retreats, we will see more innovation and the development of new technologies which will be highly beneficial."

Alan Boshwaen, CEO of the Botswana Innovation Hub and a former president of the IASP Africa Division, took up Yabani's theme by recollecting how the pandemic had impacted his science and technology park.

"At one level, our business model was devastated because we had relied significantly on real estate and generating revenue by hosting companies and entrepreneurs who were working within the innovation eco-system," he said.

"As elsewhere, when the pandemic continued for month after month, the inability of people to simply come together also had a very significant impact.

"However, and ironically, Covid also created immense new opportunities and a sense of urgency, particularly around the delivery of services and the use of digital channels.

"A fresh momentum was created and also fresh hope that innovation will become much more central to our national agenda. I'm very pleased by the upsurge of interest from both public and private sector, and very excited about the possibilities."

Pieter Holl, CEO of the Innovation Hub in Pretoria, said a key element of his

team's work during the pandemic had been to focus on programmes which could enhance the skill-sets of the new generation.

"We have also been reaching out to as many schools as possible, to foster that spirit of entrepreneurship in pupils which will be better prepare them for life, and instill in them an understanding about the importance of innovation," he said.

"Another crucial area is addressing issues around energy, because lockdown reminded us all that there is a great deal of inequality regarding the provision of energy, not just in South Africa but across the continent.

"We're focusing on smart industries

"I am confident that as the pandemic retreats, we will see more **innovation** and the development of **new technologies** which will be highly beneficial

to help drive economic recovery and growth, and on green technologies. We're a state-owned entity, but we are also an enabler and are keen to assist with macro-economic interventions wherever possible.

"I also think the pandemic made more companies realise the benefits of remote working, accelerate their progress toward digitalisation and increase the pace at which automation is introduced."



Hauwa Yabani, of the Abuja Technology Village in Nigeria.

John Tanui, CEO of the Konza Technopolis Development Authority in Kenya, agreed that innovation and technology were very attractive concepts to young people, but pointed out that infrastructure investment would be crucial to the economic recovery.

"We are setting up, for instance, a research institute which will play a critical role in our eco-system, but will also be important for the region and the rest of Africa," he said.

"We are also progressing well with the second phase of our National Data Centre which will be a digital platform for the region and are linking it to innovation hubs across Kenya.

"We recognise that we need to connect our innovation spaces to help fast-track innovation as a country, but that will only occur once the various elements of the national eco-system are fully connected."

"It's great to hear about the immense opportunities to accelerate development, how you are positioning yourselves within your national innovation eco-systems, and particularly how you are looking to help our young people," said Yabani.

"Our conversations indicate very clearly that we will not return to the 'old normal' because it wasn't normal, but that our science parks can help build a new normal for Africa."

● The session was moderated by Dr McLean Sibanda, regional managing director of Bigen Global Ltd and a former president of the Africa Division.

Necessity is driving healthy collaborations

The IASP Asia Pacific Division president, Ms Suwipa Wanasathop, the National Science and Technology Development Agency vice-president for Thailand Science Park, opened the discussion by focusing on the rapid evolution of health-related technology.

"The pandemic forced countries to realise that self-sufficiency in healthcare solutions and medical supplies is a necessity, and stimulated collaboration between scientists, researchers, enterprises and entrepreneurs," she said.

"I believe that science parks and areas of innovation can become heroes in the post-pandemic environment by fostering fruitful relationships amongst players in the healthcare and hi-tech eco-systems. We facilitate the sharing of knowledge, research and data, support technology transfer activity and speed up partnerships using open innovation to solve specific challenges.

"In the Asia-Pacific region, we can help create new technology businesses come forward and evolve in strategic sectors, such as health and wellness, food and agriculture, tourism and logistics.

"We can also explore cross-border opportunities, working together to promote innovation and economic development by tapping into each other's strengths. Let's all build stronger networks to help our entrepreneurs grow."

Janekrishna Kanatharana, executive director of Thailand's Eastern Economic Corridor of Innovation, and a former president of the Asia Pacific division, said his organisation had been designed as a hybrid model.

"We have a nucleus which looks and feels like a science park, but we operate across the whole region, so although we focus on such core sectors as bio-tech, bio-med, aerospace and food innovations, we also work with local communities. We are eager to ensure that the local population has access to advanced technologies which they can use to improve their quality of life.

However, we do not push technology onto them, we want them to embrace it as their own knowledge grows.

"In terms of our operations, we are closer to industry than academia, although we do have relationships with universities and schools because our job is to connect people, and we support entrepreneurs to help them grow their business based on innovation."

Shigekata Mizuno, managing director of the Kyoto Research Park in Japan, said a particular focus was to stimulate the creation of new enterprises in the local region.

"The government has designated Kyoto as one of four hub cities to create an eco-system for start-ups, and we

"Science parks and areas of innovation can become **heroes** in the post-pandemic environment by fostering fruitful **relationships** amongst players in the healthcare and hi-tech eco-systems

expect many to come forward from collaborations between universities and entrepreneurs in the field of advanced research, such as IP technology and robotics," he said.

"We have also gained approval to engage in public-private partnerships, which will increase the opportunities to attract investment to our park.

"We have established a series of programmes, including one to train teams how to perform better during



Suwipa Wanasathop, the National Science and Technology Development Agency vice-president for Thailand Science Park

'pitch contests' and another to help foreign students get visas, and others are being developed."

Mohammed Ali Mohammed, research director of Pakistan's National Science & Technology Park, said it was one of the world's newest parks, having only been inaugurated in December 2019, but already housed 30 hi-tech companies, more than 40 start-ups and tenants from seven countries.

"We also have a strong and fast-growing knowledge base which has more than 600 qualified researchers working across 60 different disciplines.

"We are very rigorous when selecting companies, because we have a very strong focus on advanced technology, in automotive, agriculture, health, energy, education and finance.

"The provision of services is the defining factor in the success of every park, and we are very proud of the support and facilities we provide for our tenants. During the depths of the pandemic, we gave companies a 50% rebate on the cost of our services which helped them survive.

"We are ambitious and have lots of space to grow. The government has designated 60 acres as a special economic zone, and our ultimate goal is to have some 500 hi-tech companies and 300 start-ups in a multi-sectoral cluster over the next six to eight years."

● The session was moderated by Herbert Chen, vice-president of China's Tsinghua University Park (TusPark) and the vice-chairman of IASP.

Uniting companies to accelerate evolution

The IASP Eurasia Division president, Oleg Movsesyan, director of the Moscow State University Science Park, began by reflecting on how its tenants responded to the pandemic.

"We were very actively involved right from the start, by offering a range of potential solutions from health-tech to digital and also helping deliver virtual infrastructure projects in the field of innovation eco-systems," he said.

"For example, with the Moscow Innovation Cluster, a platform created to unite more than 60,000 companies from here and in different regions of Russia.

"It was very useful in identifying and bringing together enterprises and organisations involved in lab testing, prototyping and vaccine production. We were also able to assist companies in other sectors accelerate their development during Covid.

"I know similar activities and collaborations were happening in other countries in this region, and it will be great to hear about them, and discover what is planned for 2021 and further ahead."

Aksar Sembin, general director of Kazakhstan's Almaty Tech Garden, said that in the short-term many technology companies had focused on delivering innovations to make life easier for people during the second wave of Covid.

"We all had to work at a national level during extraordinary times and help each other to survive. Our strategic focus is now about transforming our physical and digital infrastructure in preparation for post-pandemic economic growth.

"Inevitably, there are significant challenges, but we are steadily implementing solutions based on new technologies and artificial intelligence into pilot projects.

"Digital platforms are enabling us to work at distance, which will be equally important as we move forward.

"In one sense, it is challenging to create greater and stronger remote connections with people, but in another, it is great to see that the need for such connections is now understood."

Vladimir Davidovich, director of the Minsk City Technopark in Belarus, admitted that many SMEs had been unable to survive the pressures of Covid, especially those employing three to four people.

"It is very rare that we have start-ups, most are established enterprises when they come to us, and the bulk of tenants are not in the science park eco-system and serve customers overseas," he said.

"However, because our tenants are small, they can respond very quickly when they receive resources, so we expect to see rapid growth as the pandemic begins to ebb.

"Unfortunately, there are still very few instances of investment by venture capital, although there are signs of

Our strategic focus is now about transforming our physical and digital infrastructure in preparation for post-pandemic economic growth

activity by angel investors.

"It is good though to see proposals to renovate redundant industrial space in Minsk, and hopefully those projects will receive government support to allow them to progress."

Renat Batyrov, CEO of Moscow's Technopark Skolkovo LLC, was very bullish about the quality of the tenant which the park was able to attract, and their prospects for revenue growth.



Oleg Movsesyan, IASP Eurasia Division president, and director of the Moscow State University Science Park, Russia.

"Money is not the only barometer of success, of course, the development of new technologies has been at the heart of our foundation's strategy since it was established," he said.

"However, it's been tremendous to see the employment growth by our tenants.

"We helped them fill some 300 vacancies in the first half of 2020 and expect another 400 people to be in place by the start of 2021.

"Some companies will always close or relocate, and our offices are not the cheapest around, but the number of tenants who moved or delayed their expansion plans was very small. I must admit, we had expected business to be tougher.

"During the depths of Covid, we allowed tenants who were struggling to survive to delay their rental payments for as long as they wished, and without penalties.

"The government's subsidies to support innovation were also very important in keeping companies afloat.

"It's very welcome to see the number of business angels growing, from both non-professional investors and syndicates, and we now have around 300 such investors within our community, when not so long ago we had none."

● The session was moderated by the Finnish tech entrepreneur Pekka Viljakainen, an adviser to Russia's Skolkovo Foundation.

Relentless pressure to find new solutions

The president of the IASP's European Division, Lena Miranda, CEO of Sweden's Linköping Science Park, highlighted the crucial role of collaboration in addressing global challenges.

"The 2030 agenda for sustainable development set out by the United Nations focused our attention on multiple goals to which we are all trying to find solutions," she said.

"The challenges are so complex that no single individual, enterprise or country could hope to solve them. Our innovation communities must collaborate to find new solutions, and increase co-operation between academia, society, business, and science.

"We need to support and scale-up our start-ups, and help existing companies refresh their business models, technical solutions and service offerings.

"We must also connect more deeply to entrepreneurs and innovators and help them identify new research and knowledge."

Mai Louise Agerskov, CEO of Denmark's INCUBA, stressed that science parks needed to evolve to maintain their pre-eminence on the innovation landscape.

"We are still way ahead, partly down to our links with academia and the support we offer businesses, but as in all sectors, the pressures for change are relentless," she said.

"We must ensure we are providing the right real estate and the right networks, as some locations are catching up. In Europe, we're seeing a lot of private actors entering the science park space.

"Some business founders who have made successful exits are creating co-working space and offering some services which we provide. The adoption of remote working also raises more questions than answers.

"One of the basic ideas of science parks was co-location, but it is harder for companies to retain talent if they work from home, and does a company's DNA begin to dissipate if you don't have employees together for long enough to relate to each other and the company?"

Stephen Taylor, director of innovation at Italy's AREA Science Park, agreed that parks were evolving and would continue to do so.

"Our activities have expanded far beyond the confines of the campus in recent years. We're very much focused on the innovation end of the spectrum rather than the fundamental science coming from research centres," he said.

"We're working with government at local, regional and national levels, and working on regional and European projects to use our network to add more and more value, which going forward will be one of the key drivers.

"Co-location was absolutely necessary when science parks were born in the 60s, 60s and 70s, but now, although the concept is not irrelevant, it's not the only aspect which is relevant.

The challenges are so complex that no single individual, enterprise or country could hope to solve them

"I see parks evolving in the near future by exploiting innovative technology and platforms to explore all points of contact we can find, be that physically, virtually or digitally."

Mia Rolf, CEO of Sweden's Ideon Science Park, continued the theme by recalling how her team's operations had changed during the pandemic.

"The greatest impact was from going to probably 80 physical events



Lena Miranda, IASP European Division president and CEO of Sweden's Linköping Science Park.

a year, to having half that number of digital webinars directed at smaller audiences," she recalled.

"There is a shift towards digitalisation, and we must create new types of space where employees of companies can work and relax, but I see that as an opportunity to attract more companies and new talent from across the globe. We should not be afraid of change.

"We have evolved our model to address the trend of demand-driven innovation, and focused our strategy towards the UN's global goals which Lena mentioned.

"Now we are looking to identify deep-tech solutions to the huge challenges of climate catastrophe and sustainability. At the same time, we recognised that some of our physical space needed upgrading to modern standards, so we made the required investment.

"The governments in Scandinavia are really pushing to be CO2 neutral by 2030, and if we work on innovations which address the global agenda, we receive financial support."

● The session was moderated by David Rowe, the founder and managing director of Warwick Enterprise Ltd and an advisory board member to IASP.

Collective force to think outside the box

The president of the IASP's North American Division, Sylvain Ouellette, an adviser to Technopark Montreal, said the challenges of Covid had underlined the merit of collaboration.

"It has been a painful time for us all, and the pandemic has not yet finished impacting on our lives," he said.

"However, it has been impressive to see how members have come together as a collective force, not least to tackle the multiple challenges wrought on us by climate change.

"Science was our greatest ally during the pandemic and will continue to be as we collaborate to address the many issues relating to sustainability in all its forms."

Regina Garza, a director of Mexico's Tecnía Parque Tecnológico y de Innovación, said her team focused on bringing companies and students together to encourage the latter to develop more entrepreneurial mindsets.

"There hasn't been a tradition of innovation in our region, and so although we are building incubation space and accelerator space, and working on technology transfers, the greatest challenge is making people think differently," she said.

"We have dedicated a lot of time and resource into educating our students and researchers, and encouraging them to think about how they might create new companies. It hasn't been easy, as the federal government has had its own challenges.

"We have business coaches and more than 30 mentors, and work with outreach programmes from MIT, and at the same time, we are trying to make connections with providers of venture capital so they can become involved with our community."

Josée Fortin, director-general of Canada's Sherbrooke Innopole, said her organisation was working with hundreds of start-ups and SMEs, as well as more established enterprises.

"We have a great location, just 30 minutes from the US border and less than 100 miles from Montreal, so very easy to

access major markets in North America and have excellent infrastructure and multiple initiatives designed to meet the needs of our entrepreneurs," she said.

"We have more than 600 scientists working here, around 40,000 students, five industrial parks, two science parks, a technopark and also two excellent universities, four colleges and other academic institutions.

"Ten years ago, we decided to focus on five key sectors: advanced manufacturing, information technology, clean-tech, nano-tech and life sciences. We've developed multiple international partnerships and collaborations, which have really helped our companies create new products.

“Science was our greatest ally during the pandemic and will continue to be as we collaborate to address the many issues relating to sustainability in all its forms

"Commercialisation of research has been crucial to Sherbrooke's success, and when we look to fund start-ups or established companies we often do so through syndicates with our partners from Quebec province."

Carol Stewart, an associate vice-president at Tech Parks Arizona, said her location was established more than 25 years ago, and now had 2m sq ft of wet and dry lab space occupied by 6,000 employees.



Sylvain Ouellette, IASP North American Division president and adviser to Technopark Montreal, Canada.

Traditionally, there had not been many start-ups based there, although she had focused on increasing that number since arriving from Canada's University of Waterloo, where she had been the founding director of its research and technology park.

Stewart said the latest expansion project was to deliver 1.5m sq ft of office and lab space at the University of Arizona (UA) 'Tech Park at The Bridges', on a 65-acre site in Tucson.

"This had been 15 years in the making, so it was great to see steel coming out of the ground and the president's vision is that this park will become the UA's commercialisation hub.

"I came from a very mature eco-system in the Waterloo-Toronto corridor, which is very similar to Tucson-Phoenix. However, Arizona is probably ten years behind Ontario, so it's been a real joy to come down here and accelerate the development of its eco-system.

"People had really struggled with how to support start-ups and stimulate entrepreneurship, but by introducing some instances of best practices and learning from previous experiences, we've been able to progress quickly in a very short amount of time."

● The session was moderated by **Bill Sproull, president and CEO of the Texas Economic Development Partnership and Chamber of Commerce.**

Covid crisis kick-starts networking strategies

The president of the IASP's Latin American Division, Fernando Amestoy of Uruguay's Parque Científico y Tecnológico de Pando, began the debate by asking speakers to consider innovation in its widest context.

"The science and technology parks in this region are platforms for the development of science, but they also have a social dimension as well as an economic dimension," he said.

Argentina's Esteban Cassin, a labour psychologist who specialises in technology transfer, innovation, business development and the training of entrepreneurs, said driving innovation throughout Latin America was always challenging as there were so few science parks.

"They have a tough time to consolidate their own eco-systems, as with few exceptions they are not very mature or dynamic, and also operate within socio-political environments where economic growth is typically low," he said.

"However, they can definitely be part of the solution to our current problems and challenges because of their ability to bring together universities, entrepreneurs, research laboratories, companies, investors and start-ups.

"The technological revolution which is transforming how we think, govern, live and teach, is challenging current business models and forcing transition to new, predominately digital and highly dynamic ones.

"By providing incubator space and accelerators, science parks can use open innovation and collaboration to create new alliances for the benefit of the economy and society. However, with the exception of Brazil, Latin America is still some way from Industry 4.0."

Susana Kakuta, the CEO of Brazil's Parque Tecnológico de São Leopoldo (TECNOSINOS), admitted the country still faced significant political and economic challenges, but agreed that it did have a good number of established technoparks and incubators.

"Covid has accelerated the process of innovation in some sectors, particularly technology and health, and the number of collaborations between companies and academia has also increased significantly," she said.

"Before Covid, we did not see many start-ups considering health to be an attractive sector for them, but obviously that changed very rapidly as entrepreneurs realised its potential.

"We now see many new projects operating in a very focused way to deliver new solutions, and it has been a great time for companies which can respond very quickly to market demand.

"More people and enterprises are joining our alliance, and we are all

“The science and technology parks in this region are platforms for the development of science, but they also have a social dimension as well as an economic dimension

working together to foster innovation throughout Brazil's eco-system. Interest in robotics, automation and AI continues to grow quickly.

"Of course, there are issues around business development, social and economic change, and productivity, but I am confident that we will find the right answers and deliver new and effective solutions."

Alejandro Carbonell, director of innovation at Panama's Ciudad del Saber (City of Knowledge) provided context about his campus – in Panama



Fernando Amestoy, of Uruguay's Parque Científico y Tecnológico de Pando and IASP Latin American Division president.

City and within sight of the Miraflores locks of the country's famous waterway – before explaining how it fought back against the Covid crisis.

"We have developed a true innovation eco-system of more than 250 organisations, ranging from NGOs and technology companies to science labs and universities, and from academic research programmes to government institutions, and of course, many entrepreneurs," he said.

"Our campus is managed by the City of Knowledge Foundation, which is a non-profit organisation, and most of our income comes from the tenants of our 200 buildings, so the pandemic and then lockdown had a heavy impact on our companies and ourselves.

"Many were unable to pay their rent, so we put into action a plan to retain as many as possible, to provide economic support and also use our networks to promote those who were hardest hit, our entrepreneurs.

"We created events to build connections between entrepreneurs, retailers, banks and larger companies, to raise their profile, enable them to meet potential clients and sign commercial deals.

"We also created a free online marketplace allowing our companies and entrepreneurs to sell their products and services, and to reach new clients even during the depths of lockdown."

● The session was moderated by **Jorge Audy of Brazil's Parque Científico e Tecnológico da PUCRS (TECHNOPUC)**

Adapting frameworks to grow and survive

The president of the IASP's West Asia North Africa Division, Lamiae Benmakhlouf, director-general of the Technopark Morocco, highlighted the region's consistent growth.

"It has been wonderful to see new parks, incubators and innovation districts come into existence over the last 17 years which are now flourishing," he said.

"Just as one example, the number of members working in science and technology in Iran has shown a tremendous increase.

"Of course, the challenges facing relatively new organisations are different from those which are long established, so I am eager to hear the different experiences of our speakers."

Néjiba Bouzaiane, business development director of Tunisia's Telpin Software Systems, cited the impact of the government's Start-up Act. "Having a new legal framework which underlines commitment to start-ups, and sets out ground rules for collaboration between all stakeholders within our entrepreneurial eco-system is a great benefit," she said.

"We've already seen several success stories, which have raised millions of dollars, particularly in the field of artificial intelligence, although the number of start-ups which have received loans has been limited because of the procedures and eligibility rules.

"However, during the pandemic we saw tremendous collaborations between engineering companies and hospitals – to design and manufacture, for instance, ICU beds, oxygen equipment and respirators – which had not previously happened.

"We also saw SMEs adapt their business models and switch into online commerce to survive and grow. The new legislation governing crowd-funding will also be useful for start-ups, as it's been a struggle to persuade people here to accept that concept."

Hussain Al Mahmoudi, CEO of the UAE's Sharjah Research, Technology and Innovation Park, said his

organisation was a manifestation of the government's aspiration to create a knowledge-based economy.

"Its strategic vision is to deliver innovation across a wide range of sectors from healthcare and space to education, transport and logistics," he said.

"Each city and each emirate has its own approach, and different cities have different forms of hub for innovation and technology research. In Sharjah, we adopted this approach a long time ago and are known throughout the region as the capital of education.

"We have 22 universities and more than 47,000 students, and the mantra for our park is to evolve a thriving triple helix environment, based on collaborations between government, academia and

Our park is to evolve a thriving triple helix environment, based on collaborations between government, academia and the private sector

the private sector.

"Our core objectives are to attract talent and stimulate enterprise, translate fundamental research into applied science and commercialise it, and develop companies to support the government's economic aspirations.

"Our clients want so much more than basic real estate facilities. They want cloud computing capabilities, block chain infrastructure and AI capabilities to help them grow and compete internationally."

AminReza Khaleghian, director-



Lamiae Benmakhlouf, IASP West Asia North Africa Division and director-general of the Technopark Morocco. (Division president at time of the event).

general of Iran's Pardis Technology Park, said his organisation was migrating from a traditional science park into an innovation district, by providing residential and recreational space, and developing collaborations with universities, research centres and laboratories.

"We are also introducing support for the family members of people who work here and bringing bank branches into the area to provide funds. I think our government can have a key role too, in providing facilities and infrastructure, and perhaps tax exemptions via a form of free zone," he said.

"At the same time, the management team must change its approach as we evolve. We are effectively creating a new city here, so either the management have to change their approach, or we have to change the management.

"It is also important for us to attract people who can lead innovation programmes and projects. We already have four universities based here, five industrial zones and many research centres.

"Our links with academia are strong and developing, so around 40% of our members are ventures established by professors and other senior academics looking to transfer their research to the hi-tech companies based here, and commercialisation will be a strategic focus as we evolve."

● The session was moderated by Dr Mostafa K. Eghbal of Iran's Isfahan Science & Technology Town.

Taking a closer look at community and the human factor

The conference theme, 'The Human Factor. People, communities and their innovation ecosystems' was the catalyst for debates around a wide array of topics.

As well as the focus on community building and people in the workplace, IASP Virtual also took a closer look at the specific experiences of female talent in innovation communities, in a conversation moderated by Dolores Cortés from Buenos Aires Innovation Park, Argentina.

After a greeting from Women in IASP subnetwork coordinator Evdoxia Kouraki (Johanneberg Science Park, Sweden), she was joined by Lourdes Cruz (Málaga TechPark, Spain), Carol Stewart (Tech Parks Arizona, USA) and Martha Leal (PIIT, Mexico), all members of the subnetwork, which explores initiatives in STPs & AOs that nurture female talent, encourages more girls to enter STEM fields, and highlights the importance of creating a built environment which takes accessibility and women's needs into account.

For instance, it should be obvious that urban architecture with dark underpasses which don't look safe at night, versus a well-lit campus with on-site childcare are two sides of the same coin when it comes to engaging female talent.

However, perhaps they wouldn't be the first human factors considered when planning an innovation ecosystem. You know what they say about the devil and the details.

A similar easy-to-overlook human factor crops up in the latest applications of Artificial Intelligence, which Yves Lostanlen, from Element AI, Canada, explored with Peter Kurzwelly (AI Sweden).

Both work at the cutting edge of this fast-developing technology, and their discussion included reflections on ethical and trustworthy AI, assessing the human rights impact of how it is used, and



Marco Baccanti is past President of IASP

the role of innovation ecosystems as a crucible for testing its human dimension.

"We have a lot of 'soft' scientists, anthropologists and sociologists, who are extremely important when you're building this technology, making sure that you have the human in the loop very early on," said Lostanlen.

"We are not only building this technology by engineers and for engineers, we are building this technology for people."

Any conversation about people inevitably leads to individuals and their personal journeys, and two sessions with IASP CEO Ebba Lund provided insights into the careers of two long-standing friends of IASP.

Marco Baccanti is past President of IASP and a true cosmopolitan. He has worked in the STP industry in his home country of Italy, in Dubai, and is now based in Adelaide, Australia.

The value of such an international journey was also highlighted by Torben Orla Nielsen from the Innovation Centre Denmark, USA, who moved from his native Denmark to South Korea and on to his current location, within the dense start-up ecosystem in Boston and Cambridge.

Although the online format prevented delegates and speakers meeting face to face, there were still opportunities for the human connection that is the real heart of an IASP World Conference.

Light-hearted and quick-fire interviews paired innovation ecosystem managers from different countries so they could get to know each other, and share personal details with delegates, almost as if they were at a physical event.

With questions ranging from how they came to work in our industry, what they studied, to their hobbies and interests, reflections on their own countries and their international experience, the interviews helped to break the ice and create a tangible sense of community.

Nothing can replace meeting in person for building that sense of community, but IASP Virtual still found ways for delegates to mingle and connect with people around the world even in a year when they couldn't travel to see one another.

A spatial video chat platform let delegates find each other on a map and video chat either in a group or privately.

An MC was also on hand to launch polls and questions to get an insight of where people were from, the weather in their part of the world, their favourite music and other smalltalk just like at any in-person networking event.

These are difficult times for keeping international networks at full speed and making new connections, but speakers and delegates at IASP 2020 Virtual managed to do so, bringing this global community together despite the challenges.

Whole-city approach has become the norm

Although they are much more than simple real estate propositions, innovation eco-systems are still fundamentally connected to their location, not least by working with and for their cities, their regions and the people who live there.

However, their influence increasingly stretches beyond their science park or innovation district. Close relations with local governments have become the norm and are leading to whole-city innovation initiatives.

Stephanie Wade, Lead for Innovation and Design at Bloomberg Philanthropies, USA, highlighted some of the most successful examples of how innovation is being used to improve city government work, listen to communities, and improve the lives of citizens.

"Can cities innovate? They innovate like crazy," she told McLean Sibanda (Bigen Global, South Africa).

As well as nurturing home-grown entrepreneurs, science parks also work hard to attract global high-tech companies to locate in their region.

René Buck (BCI Global), a business

consultant with 30 years' experience in helping multinationals make such location decisions, talked to Lourdes Cruz about the approaches which STPs and AOs can employ to emphasise their specific value propositions.

"What do science parks and innovation areas offer?" he asked rhetorically. "They offer the environment where companies come to co-operate because interesting people with the same mindset are just on the other side of the street."

Making a destination attractive to investment and talent is also the mission of city convention bureaus, who have faced a huge challenge under the pandemic and the subsequent international travel restrictions.

Jane Cunningham from the BestCities Global Alliance moderated a conversation with representatives of three world cities: Beverley Williamson (Melbourne Convention Bureau, Australia), Kit Lyketoft (Copenhagen Convention Bureau, Denmark), and Denitsa Arabadzhieva (Singapore Exhibition and Conventions Bureau).

They reflected on the eventual return to the in-person meetings that allow us to explore innovation hot spots, and the hybrid events that many STPs and AOs adopted to bring people together.

The speakers believe the future may well see a 'best of both worlds' model combining digital and physical interactions and agreed that STPs have an important role in discussions about the attractiveness of cities.

The pandemic pushed many organisations to make changes that might not have otherwise happened, or which might have taken much longer to be rolled out, such as sustainability initiatives. Companies also saw the opportunity to explore a wider definition of sustainability.

Moderator Malin Rogström, CEO of Sandbacka Science Park, Sweden, explored how technology, business development, HR, education and construction can all be considered sustainable, as well as the role of innovation eco-systems in advancing the UN's sustainability development goals.



Stephanie Wade, Lead for Innovation and Design at Bloomberg Philanthropies

She held an intriguing conversation with Harri Palviainen from Business Joensuu, Finland, Eric Vachon representing Atlanpole in France, and Daan Wortel (The Sustainability Factory, The Netherlands).

"It comes down to each individual, when you create innovation, you create new products, you create new services. You need to touch the values of the people. It's the deeper theme," said Palviainen.

"You cannot put it on top of your innovation and product by marketing. It needs to be a real thing, so that it's really a sustainable product. It's not a story, but it's a concrete thing."

Human-centred living labs can be another smart way to attract and retain talent to a particular location.

Speakers Marc Sanderson (Malaga City Council, Spain) Hilde de Vocht (High Tech Campus Eindhoven, The Netherlands), and Komal Doshi (Ann Arbor SPARK, USA), discussed how such initiatives were the perfect opportunity for cities and STPs/AOs to collaborate and embed innovation.

They talked to moderator Robin Daniels (Redpill Group, UK), about how their innovation eco-systems and city governments worked together to test real world solutions, drove innovation, stimulating the creation, implementation, and validation of new ideas, and helped create places where talented people wanted to live.

Core mission: to bolster resident companies

The formal debates and ad-hoc discussions at IASP Virtual built a holistic vision of how our innovation communities can foster an even broader entrepreneurial culture.

The President of IASP's Advisory Council, Luis Sanz, moderated a panel where Jean-François Balducci (Atlanpole, France), André Domin (Technologiepark Heidelberg, Germany) and Deepanwita Chattopadhyay (IKP Knowledge Park, India), examined wide-ranging issues around culture and human capital.

They agreed that STPs and AOs had evolved into an integral part of their eco-systems, contributed powerfully to shaping them, and were now creating the kind of places where entrepreneurial and innovative people wanted to work.

As well as the cultural dimension, another well-established mechanism for creating viable businesses is tech transfer. Many science parks offer this service to help turn research and data into market-ready products, and the European Commission's Competence Centre on Technology Transfer (JRC) is the recognised reference point for expertise on such activities for the European Union.

Hans Boumans (TNO, the Netherlands), Gianluca Carenzo (HIT - Hub Innovazione Trentino, Italy) and Carlos Blanco (UC3M, Spain), explored this crucial activity.

"You want to generate technologies and companies, but also to capture some societal benefits and economic growth for the region, and the eco-system in which they were born, not just see them fly off to Silicon Valley," admitted the JRC's Alessandro Fazio, who moderated the debate.

The core mission of science parks and areas of innovation is, of course, to support their resident companies, through good times and bad, and the impact of the pandemic made work more challenging for everyone.

However for some sectors it was a time of opportunity, none more so than life sciences and med-tech.

Charlotta Gummeson (Sahlgrenska Science Park, Sweden) led a

conversation about how innovation communities are helping the sector to collaborate with others to accelerate the creation of new products and services.

Taking part were André Domin (Technologiepark Heidelberg, Germany), Fabrizio Conicella (OpenZone, Italy – both managers of STPs (like Sahlgrenska) with a strong life sciences' focus – and Dominic Vachon from the leading Canadian life sciences company AdMare BioInnovation.

However, it wasn't only STP and AOI managers and big corporates who told their stories. Small resident companies from a range of sectors stepped into the spotlight to talk about their experiences.

Enterprises from other diverse business environments talked to start-up guru Thomas Prexl (Heidelberg Technology Park, Germany) about how they pivoted to come up with new business models, innovative ways of working and new product lines that will last beyond the pandemic.

Impressively, SalonScale, based at Innovation Place, Canada, grew its revenue by 100% during Covid, when most of their customers were forced to



Deepanwita Chattopadhyay, IKP Knowledge Park, India

close.

Nanjing Voice of Hand Information Technology (China) took their sign language translation online, supporting the deaf under lockdown.

Serbia's Hola Systems, which develops interactive touch screens, re-engineered their designs to provide non-contact temperature measurement and disinfection of users' hands.

From the UK, Graphene Composites adapted their tech to make coronavirus-killing ink for personal protective equipment, whilst Russia's VDK adapted its industrial equipment to produce a patented surface sanitiser for roads, infrastructure, city squares, water and air.

Other companies chatted to Jernej Pintar, comparing notes about how they coped, and the support they got from the science parks where they are based, even when they weren't physically on site.

Wootzano, a robotics company who make artificial skin for robots, talked about the challenges they faced working remotely, as did TinyEye from Canada, an education SAAS supplier for speech-impaired youngsters.

Turtle Shell Technologies, an eHealth company from India, which makes a contactless device placed under a mattress to track heartbeat, respiration, sleep, stress, cardiac contractions, and Danish waste management specialist Wastehero also shared stories of their entrepreneurial journeys and how their STPs and AOs had helped them flourish and grow.



Charlotta Gummeson, Sahlgrenska Science Park, Sweden



Hilde de Vocht High Tech Campus Eindhoven, The Netherlands

Psychological factors hindering innovation

As well as experts and practitioners in the science park industry, IASP Virtual took a look at some of the human factors which help companies succeed from a business perspective.

Spain's IE University joined the conference as a knowledge partner, and its academics had particularly valuable conclusions to share.

Keynote speaker Lee Newman (USA), Dean at IE School of Human Sciences and Technology in Spain, explored how innovation as a process can lead to competitive advantage for teams, companies and nations.

As innovation community leaders know all too well, truly continuous innovation can be very difficult to sustain, and Newman discussed some of the subtle psychological factors that are often obstacles to innovation and proposed several behavioural mindsets to help overcome them.

"Innovation requires doubting yourself and considering that maybe there is a better way. We want to be facilitating mindsets that allow us to track for

potential change. In many cultures we avoid conflict, and that's not good, because positive conflict is a critical driver of innovation," he said.

Several speakers mentioned the importance of strong networks and human connection when it comes to surviving a crisis, something which Dr Daria Tataj knows all about.

As the World Economic Forum's digital leader and advisor to the EU Commission on People, Planet and Prosperity, she is an expert in the science of networks, which she described as "a safety net to innovate and grow with a sense of purpose".

Using survey data from IASP members around the world, she analysed the 'network IQ' of innovation ecosystems.

"My conclusion is that in all parameters, you as science park managers and eco-system builders, you utilise networking more than other cohorts and with a higher effectiveness."

Such external perspectives shed valuable light on the science park industry, helping leaders and managers

to reflect on – and make the most of – their strengths.

It always bears repeating that innovation communities aren't just about real estate, although two other speakers from the Madrid-based academic institution offered an intriguing take on the subject.

Concepción Galdón, IE University's Social Innovation Director and David Goodman, Associate Dean at IE School of Architecture and Design, said even bricks and mortar can enable innovation and collaboration, as well as advancing the crucial sustainability agenda.

They touched upon the idea that designs should be related to local environmental conditions and also use local materials, but also pointed out that new technology doesn't always make for more sustainable buildings.

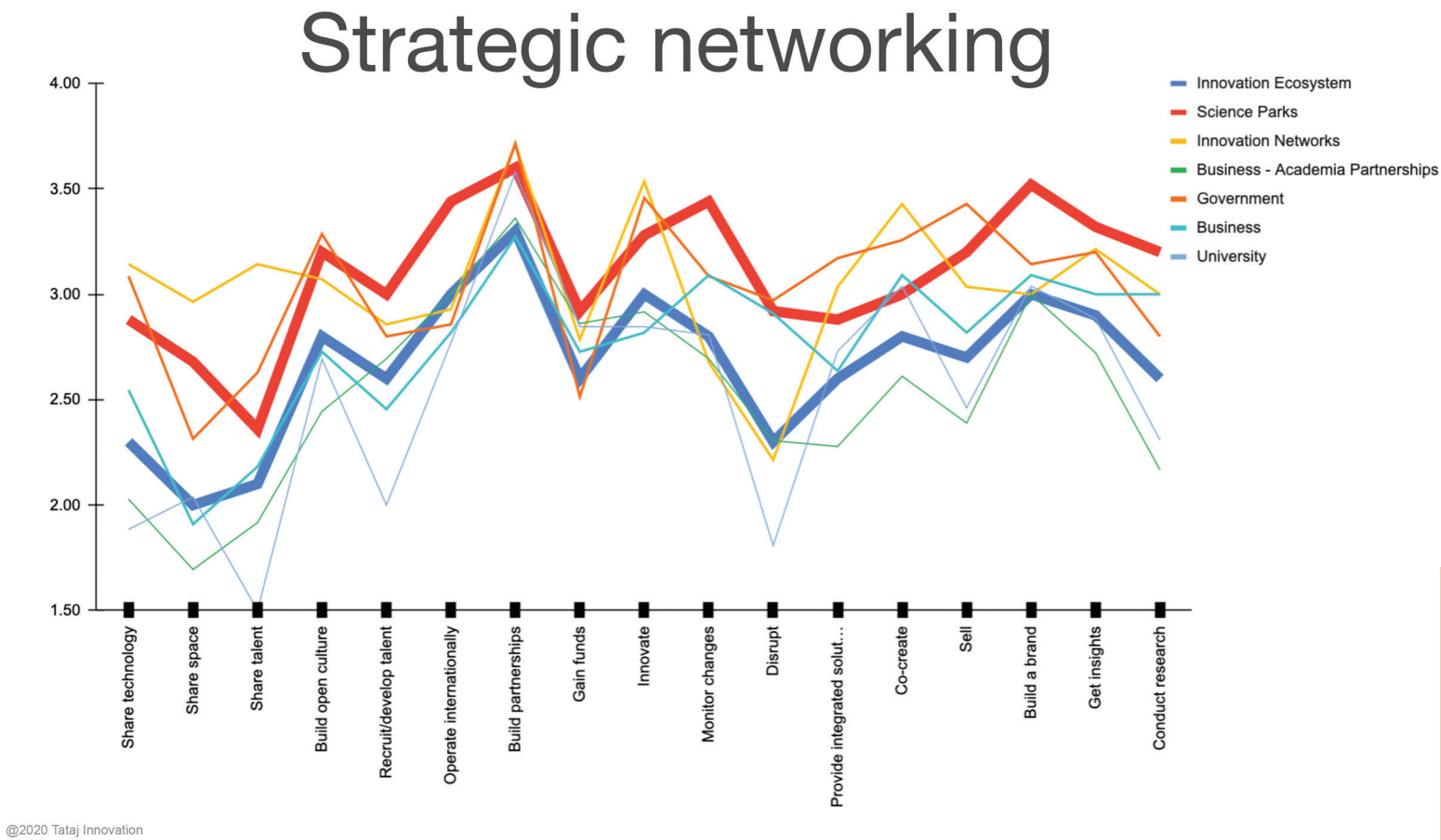
"We could argue that sustainability has taken many steps back because of the new technologies available to us," suggested Goodman, who explicitly connected architecture with wider efforts to increase sustainability.

"The responsibility of architects is to work within initiatives and ideas that come from outside architecture, and very often it's governments or corporations or individuals that ask architects to do something," he said.

"Architecture and design are tools for social inclusion, but I think they can only really be effective if they have support from outside the discipline."

This same holistic mindset was equally in evidence when Salvatore Majorana, CEO of Kilometro Rosso in Italy, spoke to serial tech entrepreneur Joshua Novick.

The latter founded



Lee Newman, Dean at IE School of Human Sciences and Technology at time of the event, now Dean of IE Business School



and grew Antevenio from a garage start-up to a multinational quoted on the Paris Euronext Stock Exchange.

After exiting his shareholding position with the company, he now focuses on mergers and acquisitions in the technology and media sectors, advising companies on key elements such as earn-outs, non-compete clauses, exclusivity and more.

Novick began his entrepreneurial journey by studying the unlikely subject of philosophy. Their conversation took in the value of a location close to universities for access to talent – "the fact that it was you just a few blocks away meant they could even come in at lunchtime and work. And you could really attract some really good talent that way," – investing in AI and the importance of collaboration and the human factor in running a successful business. "I don't believe in authoritarian leadership; you have to get your hands dirty, help people, and work together," he concluded.

This human-centric focus of leadership was at the heart of the presentation by Nick Van Dam,

In many cultures we avoid conflict, and that's not good, because **positive conflict** is a critical driver of innovation

Chief of the IE Center for Corporate Learning Innovation and a member of the IE Center for Health, Wellbeing and Happiness.

He delivered the closing keynote address, pulling together the core

themes of the conference with a look to the future and thoughts on how to develop a positive leadership mindset.

Van Dam explored the practices which help leaders be confident and realistic about the challenges they face, become more effective at solving problems, and more persevering in the face of challenges – skills that everyone leading an innovation project has needed to hone over the last year.

"You should always look to inspire people to create caring environments, where different communication channels are available, and where you have open and frequent discussions," he said.

"When you develop people, you coach people, you give feedback; when you are humble, resolve conflicts and celebrate and reward success, then you are building trust.

"If you can do all of that, you have the recipe for building high-performing teams and creating an amazing culture in your organisation."

SPEAKERS AND MODERATORS

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NAME	ORGANISATION	ROLE	COUNTRY	NAME	ORGANISATION	ROLE	COUNTRY
Esteban Cassin		Advisor	Argentina	Martha Leal González	PIIT Parque de Investigación e Innovación Tecnológica	Director of Planning	Mexico
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SPEAKERS AND MODERATORS

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