IASP 2023 Luxembourg

40th IASP World Conference on Science Parks & Areas of Innovation

hosted by: technoport® technology business incubator

Megatrends in Innovation Ecosystems

What are the impacts for STPs & AOIs?

12-15 September

Call for Contributions

Introduction

Technoport will host the 40th IASP Annual World Conference on Science Parks and Areas of Innovation in September 2023.

The conference will bring together experts in developing and managing the different components that form innovation ecosystems, such as Science and Technology Parks (STPs), Areas of Innovation (AOIs), innovation districts and hubs, together with technology-based incubators, accelerators, universities and other institutions and organisations that work to support innovation and sustainable economic development in their cities and regions.

To serve their companies and communities, all these innovation-centred projects work closely with city policymakers and a broad range of other public and private partners, such as development and funding agencies, industry associations, chambers of commerce, consultants and developers of innovation spaces, networks, venture capital funds and many more.

Alongside STP and AOI managers, all of these entities and innovation professionals in general are welcome to contribute to this conference, where we will debate the latest trends in our industry's increasingly complex structures for professional innovation support.

Theme and Programme

The programme will be divided into a variety of sessions – retaining both the traditional plenary and parallel sessions on specific topics, as well as more innovative formats - to encourage a dynamic knowledge exchange. All conference sessions will be related to the overall theme for the 2023 IASP World Conference which has been set as:

40th IASP World Conference on Science Parks and Areas of Innovation

Megatrends in Innovation Ecosystems

What are the impacts for STPs & AOIs?

The process of innovation is the design, development and successful introduction of a novelty (product, service) to the market, and many of these new inventions are developed or initiated in innovation ecosystems like science and technology parks (STPs) and areas of innovation (AOIs). Policymakers and innovation practitioners therefore need to take the right decisions in designing, building, managing and developing such innovation ecosystems, which also need to be resilient in an increasingly complex world.

To achieve such a major undertaking, one can use a combination of two different concepts: the megatrends and the scenario building around possible futures.

Megatrends are defined as long-term driving forces that are observable now, can be experienced by anyone despite regional differences, and will most likely have a global impact. They tend to be stable over at least two decades, and robust to temporary setbacks. Examples of such setbacks can be global pandemics or energy and food crises as we recently experienced.

"In a principally unpredictable world, these trends stand out as the only relative certainty we have. The interplay between stable trends and the more unstable forces of change determines the future," explain The Copenhagen Institute for Futures Studies and Pictet Asset Management in their report on megatrends. Experts in this field of research combine these megatrends with studies around 4 possible futures: the possible, the plausible, the probable and the preferred.

Using the notion of megatrends and possible futures when designing, implementing and redefining STPs/AOIs and other global innovation ecosystems is key to future-proofing and ensuring our industry remains at the cutting edge of developing trends.

This conference will consider questions of how STPs/AOIs and their resident organisations are impacted by these megatrends; how they work with them and handle them, and the role they can play in shaping or influencing them. STPs/AOIs around the world each operate in their own local context and within their own regional innovation ecosystem, but they are increasingly connected and they all face the same global megatrends.

How can we ensure that we innovation agents (intermediaries, managers, policymakers), make the best use of these megatrends to ask the right questions when it comes to innovation and/or specialisation? How will STPs/AOIs have to evolve to ensure they can achieve their 'preferred future' and what is that future?

Megatrends and how to approach them

Research organisations like The Copenhagen Institute for Futures Studies have identified several megatrends that they classified under four main pillars: World; People and Society; Technology and Science; and Economy.

Within these pillars, there are 15 megatrends: Globalisation, Population Growth; Environmental change and sustainability; an ageing world; individualisation & empowerment; Focus on health;

Urbanisation; AI & automation; Biotech revolution; Greater interconnectedness; Engineering advances; Network economy; Service economy; Economic growth; and Concentration of wealth.

In an increasingly interconnected world, it is clear that these megatrends are heavily linked. They constitute this *relative certainty* on which many Research, Development and Innovation (RDI) activities are built and designed. The more an RDI activity is connected to several of these megatrends, the more relevant it becomes for the different stakeholders:

- Universities and research organisations can work on breakthrough innovations tackling global challenges, as well as define new educational programmes to train the talent of tomorrow;
- Investors/financiers can identify new investment strategies and opportunities for the future;
- Startups and corporates can identify untapped market needs to innovate in;
- Policymakers can design new favourable legal environments to support such RDI activities and remove frictions within the innovation ecosystems;
- Science and technology parks and areas of innovation can decide on strategic sectors on which to focus their activities.

Paper authors are invited to submit proposals for the following sessions:

(Listed in random order, and numbered for the sole purpose of easy reference when submitting proposals: the type of sessions (plenary, parallel, workshop, etc) will be determined after all contributions have been reviewed. The megatrends and sub-trends listed per session are non-exhaustive and indicative only; for more information about individual megatrends, please consult the annex document.

1. Imagining and shaping the future

This session reflects on how organisations of all sorts, and society as a whole, try to imagine the future, and the ways in which individuals and corporations attempt to bring about the future that they want to see.

Policymakers, investors and AOIs/STPs all try to imagine the future to know which sectors and technologies to focus on and prioritise. How do they go about this, and how do their actions end up shaping the future as much as predicting it? If all STPs prioritise a given sector, that's both a reflection of the strength of that sector but also a way of ensuring the said sector stays predominant… How do we ensure that local innovation ecosystems still favour and support diversity and innovation? Where do the next trends come from and how are they set?

When imagining future scenarios, it seems wise to accept that things may end up being different from our predictions, which means that being able to expect the unexpected may be more important than imagining the future. The key word is adaptability: how can STPs and AOIs maximise their adaptability to change and help their businesses to become highly adaptable? What are the key features of adaptability for organisations as well as for individuals?

Main megatrend pillars: *All.* ***Key trends and sub-trends:*** *All*

2. Growth and sustainability: how do we square the circle?

How are STPs and AOIs helping to reach the right balance between sustainability and growth? Do we need a new definition of growth, one that considers the limits of natural resources, an ever-increasing population and the consequences of global warming? Can we decouple growth from resource consumption through circularity, for instance? Authors are invited to weigh up our long-established global focus on growth: with the environmental repercussions of a consumer society with unchecked growth increasingly evident, how can we mitigate its impact? At the same time, we need to address the question of whether companies can survive without targeting growth.

The session will also consider the balance between economic growth and the social impact it may have (the use or misuse of data, for example, is one highly debated topic that might illustrate this potential conflict.) Or is it outside our remit? How can we leverage our influence to keep us on track for the futures we want, rather than one imposed upon us by inaction?

Main megatrend pillars: *World, Economy.* ***Key trends and sub-trends:*** *Population growth, environmental change and sustainability, more extreme weather, rising sea levels, shifting climate zones, declining biodiversity, climate refugees, economic growth, new measures of wealth and growth, concentration of wealth*

3. Restructuring globalisation – new ways to help companies internationalise

The process by which the world is becoming increasingly connected through trade, migration, technology, and culture appears to be a stable trend existing throughout much of modern history. Growing migration, improved global infrastructure, and innovations in communication technologies have thus far proved more powerful than any temporary setback. Helping our companies compete in the local and global marketplace is currently a key goal of many STPs/AOIs, despite recent trade wars, the pandemic and an energy crisis which triggered corporations and governments to rethink and reshape what we used to call global capitalism. In the name of resilience, global supply chains that were driven by lean concepts are being replaced by unproductive stockpiles as insurance against shortages, inflation, and trade frictions.

How must STPs/AOIs reorganise to avoid losing their effectiveness in this new globalisation where the exchange of products and services will change? What are the new strategies to support startups, SMEs and corporates to go global? Should globalisation still be our goal, and if not, what should our new goal be?

Main megatrend pillars: *World, Economy.* ***Key trends and sub-trends:*** *globalisation, improved global infrastructure, greater interconnectedness, network economy, service economy*

4. Feed the world: STPs/AOIs and food security

In the face of population growth and climate change, food security has become a key concern. Climate change carries key risks for ecosystems and cultures, as well as for crop yields, water

availability, biodiversity, and land use on local, regional, and global levels. In addition to this, the trapped Ukrainian harvests destined for export, the pandemic, and the increasing frequency of extreme weather events brutally exposed the global food system's fragility. It is a system that, if unchanged, will have a hard time standing the challenges of climate change and conflicts while the world population is growing and inequalities are increasing. More sustainable and yet highly productive food production is necessary on the one hand, while on the other hand, we need a mindset shift to recognise the limits of the capacities of the food system itself.

What is the role of STPs/AOIs in driving innovation (through technology and business models around production processes, products and services) and behavioural change necessary with producers/consumers so that food scarcity will not become another global existential crisis for humanity? How are we helping companies to innovate in this sector that is so crucial to human survival? We would like to receive case studies and best practices that contribute to long-term food security, and discussions of the different strategies for achieving it.

Main megatrend pillar: *World.* ***Key trends and sub-trends:*** *population growth, food security issues, environmental change and sustainability, growing climate measures, regenerative agriculture, more extreme weather, growing environmental consciousness*

5. Accelerating the legacy industry's energy transition

The recent push for sustainability is a reaction to environmental change, which includes seeking economic growth without degrading natural resources. Much of the world's production assets will need to be substantially upgraded or entirely replaced to convert them from fossil fuels to renewable ones. Whether we will succeed in this conversion depends on whether we can create a framework that encourages the flow of strategic investments into some of industry's most essential and energy-intensive activities, such as steel, glass, cement, or chemicals. At the same time, alternative energy sources must ramp up to meet the needs of those industries with low-carbon energy.

How can STPs/AOIs contribute to channelling enough investment into developing technologies to enable the legacy industry to transform, while matching the climate protection challenges globally? What is the role of STPs/AOIs in solving the immense technological challenges that will allow the decarbonisation of those energy-intensive sectors?

Main megatrend pillar: *World.* ***Key trends and sub-trends:*** *environmental change and sustainability, more extreme weather, declining biodiversity, growing climate measures, regenerative agriculture, engineering advances, advanced energy technology, AI & automation, machine intelligence, robotics, service economy, platform economy, from manufacturing to service economy*

6. Untapped talent for the future

Access to the right talent is crucial to the success of any innovation ecosystem, and developing, attracting and retaining talent is a key concern for our industry. Shortage of the right talent slows regional development and prevents companies from achieving their full potential, and

STPs/AOIs have long taken it upon themselves to ensure their companies can find the right skilled staff when they need them, but is there more we could do?

It is widely recognised that science and technology fields are predominantly populated by men: how are STPs and AOIs adapting to the social trends of growing individual liberty and the erosion of gender boundaries to access a wider talent pool? With global competition for talent that favours developed countries at the expense of developing economies with young populations which suffer brain drain, should our industry move away from attracting talent to focus more on developing it at local and regional level instead? Can STPs/AOIs work more closely with universities to encourage young people to study fields the companies in their local ecosystem require? Authors are invited to share case studies and best practices for ensuring the right talent for their ecosystem.

Main megatrend pillar: *People & society.* ***Key trends and sub-trends:*** *individualisation and empowerment, erosion of gender boundaries, female empowerment, social media, urbanisation, growing power of cities versus countries, AI & automation, automated education, greater interconnectedness, network economy, service economy,*

7. Collaboration for an ageing population

A combination of improved longevity, improved health at old age, and declining birth rates is causing the world population to age. In an ageing world, where more and more live healthy and active lives well into retirement, we may also be forced to reconsider where we draw the lines between traditional phases of life like youth, adulthood, and old age.

STPs/AOIs are ideally placed to build collaboration models necessary to create the innovative products and services that support active and healthy ageing. Effective solutions require partnerships from different stakeholders and sectors, and authors are invited to share examples of converging approaches and new practices that integrate new technologies; specialised industries or new economic models to serve an ageing population. This is a trend which also presents challenges for our industry, and in this session we want to explore how STPs/AOIs are mitigating the impact of an ageing workforce when finding talent (spreading the search beyond universities, continuous training and development for professionals to cover new emerging sectors, etc), initiatives to ensure the elderly aren't left behind as the pace of tech innovation accelerates, and so on?

Main megatrend pillars: *People & society and Technology & science.* ***Key trends and sub-trends****: an ageing world, improved longevity, improved health at old age, focus on health, commercialisation of personal health, expansion of the concept of health, biotech revolution, medical technology, AI & automation, nanotech, composite materials, manufacturing technologies, network economy, service economy, economic growth, growth in non-monetary wealth, concentration of wealth, decreasing wealth at the disposal of governments.*

8. The value of a creative economy

The creative economy builds on the interplay between human creativity and ideas and intellectual property, knowledge and technology. The creative economy, and its industries

(which include advertising, architecture, arts and crafts, design, fashion, film, video, photography, music, performing arts, publishing, research & development, software, computer games, electronic publishing, and TV/radio) represent an important source of commercial and cultural value.

Today, the creative industries are among the most dynamic sectors in the world economy providing new opportunities for developing countries. The creative economy can help diversify production, build competitive advantage, attract investment, support entrepreneurship and innovation, and promote cultural diversity and well-being. This session will explore the strategies and approaches that STPs/AOIs are employing to support the creative economy, and authors are invited to submit case studies, examples of best practices, and explorations of services tailored specifically to meet the needs of the creative economy.

Main megatrend pillars: *People & society; Technology & science.* ***Key trends and sub-trends****: individualisation & empowerment, creative/transformative economy, AI & automation, Immersive technology, growth of knowledge, service economy, from product to service, network economy, social media, crowdfunding, crowdsourcing, crowd-creation,*

9. Cities as crucibles for innovation

Massive growth in urban populations is predicted throughout the 21st century, with urbanisation as a global phenomenon that will occur most rapidly in the Global South, which will be home to a majority of the world's biggest cities in 2100. Urban areas are becoming larger, more complex, and interconnected, and it is in cities that some of the most important global challenges of our century will need to be solved.

STPs and AOIs have a crucial role to play in this process, in both shaping how these growing cities will look and in using them as crucibles of innovation where the solutions of tomorrow are developed and tested. As connectors who work closely with city authorities and other key stakeholders, our industry is already helping deliver the smart cities of the future, and this session will explore how parks and AOIs are leading the development of new urban transport and mobility solutions, bringing the right people together to solve energy challenges, helping streamline waste management, and generally making the most of the urban environment as a testbed or living lab.

Main megatrend pillar: *People & society.* ***Key trends and sub-trends****: Urbanisation, growing urban and inter-urban infrastructure, cities as crucibles for innovation, greater interconnectedness, smart cities/smart homes, service economy,*

10. The long road from lab to market: the challenges facing deeptech solutions

Not all innovations can make the leap from lab to market at the same speed, and some of the most important solutions to current challenges arose from sectors we consider deeptech, requiring many years of specialised research. Some of the new technology and innovation identified as key megatrends are among those that take longer to come to market, including AI & Automation, engineering advances, greater interconnectedness and big data, which are

drivers for sectors like Biotech and Digital Health; the new space economy; the financial industry or industry 4.0, many of which must also contend with regulatory hurdles before they can come to market. This session will explore the strategies that STPs/AOIs adopt to support the validation, development and growth of such inventions with longer development cycles and higher financing needs versus more mainstream innovation.

What kind of programmes and services have STPs/AOIs put in place for these sectors, and what do they focus on? Examples could include incubation and acceleration strategies and services to support deeptech companies from all sectors on their journey through necessary regulatory oversight to profitability. Contributions that discuss new commercial opportunities and business models in specific deeptech sectors (space economy and biotech being two key examples) are also welcomed.

Main megatrend pillar: *Technology & science.* ***Key trends and sub-trends:*** *AI & automation, biotech revolution, greater interconnectedness, engineering advances, new manufacturing technologies, aerospace tech*

11. Corporates – from market leaders to innovation enablers

STPs and AOIs have longstanding relationships with the big corporates as anchor tenants and key players in their local ecosystem, but these relationships are taking on new importance in the light of the megatrend that sees a concentration of corporate wealth. With decreasing wealth at the disposal of governments, how has STP/AOI cooperation with corporates changed as they grow ever more powerful? We need the resources of corporates to enable innovation and change, and they play an increasingly active role in supporting the growth of small, agile startups who can provide them with the solutions they need.

Paper authors are invited to share lessons learned from this type of collaboration, including strategies to ensure positive outcomes for all partners despite disparities of size and power, and to submit contributions which explore open innovation, joint ventures and other strategies used by STPs/AOIs to leverage the power of corporates to foster innovation.

Main megatrend pillar: *Economy.* ***Key trends and sub-trends:*** *Concentration of wealth, decreasing wealth at the disposal of governments, concentration of corporate wealth, network economy, service economy,*

12. Our industry in the new economy: STP and AOI models for tomorrow

The digitalisation of society gives rise to new peer-to-peer processes and value creation in decentralised networks operating both on local and global scales. The network economy stands in contrast to the logic of the industrial market economy, in which products and services are provided in a top-down manner and where decision-making power is concentrated at the top of the hierarchy. Instead, the network economy relies on flat structures and collaboration. Prime examples are the sharing economy, crowdfunding, and crowd creation, as well as the open source/open content movement.

How have STPs/AOIs themselves adapted over the years to survive and keep ahead of these trends, and how will they continue to change?

This session invites discussion of the models we might see in the future, and how science parks and areas of innovation might be governed and financed in light of trends towards increasing concentration of corporate wealth, and decreasing public sector wealth. New models are proliferating, from triple to quadruple and quintuple helix, public-private partnerships, special economic zones, and hybrid spaces (with virtual, physical or a mix of working relationships): which are best suited to meet today's challenges, and why? How can STPs/AOIs manage our facilities and ensure we provide the most relevant services to our end customers? What strategies can we deploy to prioritise the flexibility and adaptability of our organisations and people to cope with the scenarios the future may bring? What are the most important features and skills to have, and how should STPs and AOIs implement and reinforce them?

***Main megatrend pillars**: Economy, People & society. **Key trends and sub-trends:** greater interconnectedness, interdependence of systems, network economy, service economy, crowd creation, peer-to-peer and open source, decreasing wealth at the disposal of governments, concentration of corporate wealth*

***** See below for the technical specifications on how to submit your contribution *****

TECHNICAL SPECIFICATIONS

How to submit your paper and video

Submission to speak at IASP 2023 is open to everyone. Authors do not need to be members of IASP, and participation from a variety of organisations and sectors is welcomed. Submissions consist of a short paper and a video summary.

Submission rules:

Please read carefully the rules below before submitting your paper.

- Papers can only be submitted online through the official conference website
- Authors are required to submit the following per paper:

1. **Executive Summary:**
   Each paper should begin with an Executive Summary of no more than 150 words.

2. **Paper:**
   The total length of each paper should have a minimum of 1,500 and a maximum of 3,000 words (plus tables, graphs or illustrations). Figure and tables should be attached in the designated box. Only jpg format images are permitted. All notes and references should be as footers at the bottom of the text body field.

3. **1m video:**
   All papers should be accompanied by a 1-minute video presenting the executive summary. If you have multiple authors, the video should be recorded by the person who would speak at the conference. This video will form part of the evaluation process and may also be used in conference promotional material.

   Professional recording is not required; speakers should feel free to record on Zoom or similar platforms or on a smartphone. If recording with a smartphone, always film with the phone held horizontally, around 1.5 metres away from the speaker so that most of your upper body is in the frame and use the main camera. Please contact IASP if you have any questions about the video.

   You can find a few examples of effective videos here, here and here.

   Authors are required to upload the **video link only, not the actual file**.

- Word or PDF papers are not accepted. You are required to fill in the online submission form with title, main author, co-author(s), presenter and respective affiliation(s)
- Use single line spacing in the text, tables and figures
- TITLE: Capitalise the entire title. Spell out words. Do not use abbreviations.
- Maximum number of characters permitted for the title: 200
- Authors must select 1 of the 12 available sessions for which they wish to submit their papers.
- The author is responsible for the submission of the paper according to the instructions and in the deadline. Please double check your grammar and word count before submission

Acknowledgement of receipt of your submission will be sent to your e-mail address immediately upon submission. If you do not receive the e-mail, your submission was not completed, and your paper needs to be re-submitted. Please note that acknowledgement of receipt of your paper submission does not mean that your paper is accepted by the Steering Committee of the IASP World Conference.

Language:

The official language of the Conference is English. All papers and videos must be written and presented in high-standard English.

Deadline and submission:

The submission must be made **by 10th February 2023** through the online submission system that will be available at www.iaspworldconference.com from January onwards. Only papers and videos submitted via the online submission system will be considered.

Selection of papers:

Papers will be evaluated by the conference Steering Committee. The Committee will select the final papers that best contribute to the theme and desired discussion at the conference, based on the clarity and relevance of their argument. The Steering Committee reserves the right to adjust the tentative sessions and decide which session a paper is assigned to. Authors will be notified after **8th May 2023** of whether their paper has been selected for inclusion in the 40th IASP World Conference on Science Parks and Areas of Innovation.

The contributions will be evaluated according to the following criteria:

- The relevance of the paper to the session for which it is intended
- The clarity and effectiveness of argument
- The scope of the analysis and the level of generalisation
- The originality of the topic and/or approach
- The proficiency of the English language

Given the limited number of speaking opportunities at the conference, some of the papers that are approved by the review panel may not be allotted time for an oral presentation at the conference, but may be included in the conference proceedings - a digital publication widely read by conference delegates and our innovation community as a whole.

If selected for presentation or publication, the main author will also benefit from a discounted registration fee to attend the conference.

Selected papers should NOT be read verbatim to the audience; instead, the most important aspects that the author wishes to highlight should be presented, leaving a substantial part of the allotted time for questions and comments from the audience and discussion of the proffered conclusions.

Depending on the session format for which the paper is approved, visual aids such as Power Point can be used. Further details and guidance related to the conference session and/or proceedings will follow after the paper review.

Submission Timeline

Submission of papers and videos	10th February 2023
Notification to authors	8th May 2023 onwards

Other information

Conference dates: 12-15 September 2023. Follow updates at https://iaspworldconference.com/.

For any questions related to your paper submission please contact the Organising Secretariat at iasp2023luxembourg@aimgroup.eu.

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