IASP
International Association of Science Parks and Areas of Innovation

NATIONAL ASSOCIATIONS OF SCIENCE PARKS AND AREAS OF INNOVATION (NASPs)

This document provides the framework for creating and developing a National Association of Science Parks and Areas of Innovation based on the workshop held in KACST (Saudi Arabia) on March 3, 2024

Josep M. Pique (IASP)

Carina Rapetti (La Salle)

Ebba Lund (IASP)

Khalid Aldakkan (KACST)

Fayez Alsabahan (KACST)

Adriana Faria (Anprotec)

Soledad Diaz (APTE)

Anders G Nilsson (SISP)

Lhing Witthayaweerasak (Thai-BISPA)

AGENDA

1.- NATIONAL ASSOCIATIONS OF SCIENCE PARKS AND AREAS OF INNOVATION

A National Network of Science Parks and Areas of Innovation can work as a door opener for nurturing a robust national innovation ecosystem. These kinds of networks act as hubs for cutting-edge Science & Technology Parks (STPs), technology hubs, incubators, Areas of Innovation (AOIs) and Innovation Districts (IDs) fostering collaborations between universities, research institutions, and industry of the different innovation spaces on a national level. Other approaches can be more informal structures, for instance in countries where the number of science parks and other organised innovation spaces[1] is too low for an actual network to be needed or make sense, and where key actors (usually the bigger parks and districts) instead lead and coordinate initiatives for a joint national innovation agenda. In such cases, the coordinating STPs/IDs would make sure to include and engage smaller innovation spaces on an ad hoc basis. Both approaches can work and be efficient in their own right, especially if also looking beyond the national boundaries and engaging internationally too. For instance, a network like IASP also has regional chapters that can work as additional forums and structures for countries with few innovation spaces. The National Networks can be vital in orchestrating national agencies and actors, developing synergies and aligning activities between them and the government, positioning the country internationally, attracting global talent, companies and investment, and stimulating the national cooperation, thereby enhancing a nation's competitiveness in the international arena. By providing a supportive environment for startups and established firms, they catalyse technological advancements, knowledge, and economic growth. Moreover, they play a key role in regional development, supporting their members in creating high-quality jobs and driving technological innovation that benefit society at large. The network should be a cornerstone in realising a nation's vision for a knowledge-based economy, embodying its commitment to scientific excellence and innovation leadership.

A National Network of Science Parks, Areas of Innovation and Innovation Districts is key for three main reasons:

1. **Policy Alignment:** The network aligns and promotes policies with government, industry, and universities, fostering a conducive environment for research and development, and bridging the gap between academia and industry in order to activate local ecosystems of innovation.

2. **Coordination at a National Level:** It enables the synchronization of activities and areas of research activities across various science parks and innovation ecosystems, ensuring a unified approach to innovation and resource optimisation.

3. **International Connectivity:** It connects national activities with global networks, enhancing international collaboration, knowledge exchange, and keeping the country abreast of global technological advancements and trends.

[1] Organised Innovation Spaces (OISs). Throughout the paper, we use the term 'Innovation Spaces' as an umbrella term for the different models we refer to. For more information, see: Sanz, L., Klofsten, M., Van Dinteren, J. and Jansen, P., A Taxonomy of Organised Innovation Spaces, Battiston, A. and Fazio, A. editor(s), Publications Office of the European Union, Luxembourg, 2023, doi:10.2760/628200, JRC134965. https://publications.jrc.ec.europa.eu/repository/handle/JRC134965

Creating a **National Association of Science Parks and Areas of Innovation (NASP)** is an ambitious and impactful project. It will play a crucial role in fostering a robust national innovation ecosystem, supporting technology transfer, and promoting collaboration between academia, industry, and government.

By aligning policies, coordinating at a national level, and connecting with global networks, such a network can significantly enhance a nation's innovation capabilities and economic competitiveness. The establishment of a NASP requires a strategic approach involving the definition of vision and objectives, formation of a governance structure, development of valuable programmes and services, and strong stakeholder engagement. Additionally, it necessitates a solid legal and financial framework, effective communication and advocacy efforts, and continuous benchmarking and improvement. By leveraging international best practices and tailoring them to local contexts, a NASP can accelerate innovation, research, and economic development, ultimately contributing to a knowledge-based economy.

The following provides a breakdown of these layers, working as the building blocks when looking to create a NASP:

1. Defining Vision and Objectives:

- Establish a clear vision for the association. This might include promoting innovation, supporting technology-based enterprises, facilitating research and development, etc.

- Define specific objectives and impact indicators such as networking opportunities, advocacy for policy changes, or resource sharing among members.

2. Membership and Governance Structure:

- Determine the membership criteria: which type of projects would you like to cover? For example, focus on STPs and/or incubators, or a wider scope such as IASP, which also includes areas of innovation and innovation districts? Already existing projects and (national) government strategies will help you determine this. Consider including science and technology parks, areas of innovation and innovation districts.

- Establish a governance structure. This typically includes a board of directors, a management team, and various sub-areas focusing on specific tasks (e.g., policy, membership, finance).

3. Programmes and Services:

- Develop programmes and services that add value to members. This could include training and development programmes, research and data services, networking events, and collaborative initiatives.

- Consider special initiatives like innovation awards, technology transfer facilitation, soft landing initiatives, or partnerships with international bodies.

4. Stakeholder Engagement:

- Engage with key stakeholders from government, industry, and academia to understand their needs and expectations from the association.

- Foster collaborations and partnerships with these stakeholders for mutual benefit.

5. Legal and Financial Framework:

- Ensure compliance with legal requirements for establishing and operating a non-profit association in your country.

- Develop a sustainable financial model, considering membership fees, government grants, the business community, sponsorship, and service charges.

- Write and register your Constitution for your members to know the inner rules of the association.

6. Communication and Advocacy:

- Develop a strong communication strategy to promote the association's activities, successes, and impact.

- Engage in advocacy to influence policies and regulations that impact science and technology parks, areas of innovation, innovation districts, and their resident companies.

7. Benchmarking and Continuous Improvement:

- Benchmark against best practices from established national and international associations.

- Implement a system for continuous monitoring and improvement of the association's activities and impact.

It is important to adapt the strategies based on the specific context and needs of the country where the national network is being set up. Building strong networks and learning from existing associations and successful models can provide invaluable insights and support as you move forward with this initiative.

Where a country has sufficient critical mass of innovation spaces to create a National Network of Science Parks and Areas of Innovation, such platform becomes a key player in fostering a robust national innovation ecosystem.

2.- IASP AS GLOBAL NETWORK OF SCIENCE PARKS AND AREAS OF INNOVATION

The **International Association of Science Parks and Areas of Innovation (IASP)** can be a valuable resource and sounding board in the creation and launching of a National Association of Science Parks and Areas of Innovation (NASP). Due to their different areas of influence (international vs. national) the two types of networks complement each other, with many STPs/AOIs/IDs being members of both types of association thus multiplying their networking opportunities. IASP offers a wealth of resources, connections, and expertise that can significantly contribute to the success and sustainability of a NASP. Here are several ways in which IASP can assist:

1. Networking and Collaboration

- Global network: IASP provides a vast global network of science and technology parks, areas of innovation, innovation districts, and other organised innovation spaces. This network includes international experts, practitioners, and policymakers.

- Collaborative opportunities: Engaging with IASP can help a NASP connect with these stakeholders, facilitating international collaboration, joint projects, and partnerships.

2. Best Practices and Knowledge Sharing

- Events and conferences: IASP organises numerous events, conferences, and workshops where members share best practices, experiences, and insights.

- Knowledge transfer: Accessing this knowledge can guide the development of your NASP based on successful models and lessons learned from around the world, ensuring the adoption of proven strategies and methodologies.

3. Training and Capacity Building

- Professional development: IASP offers various training programmes and capacity-building initiatives tailored for professionals involved in the management of organised innovation spaces.

- Skill enhancement: These programmes can help the NASP's team to gain the necessary skills and knowledge to effectively operate and manage the science parks and areas of innovation within your national network, enhancing their overall competency and effectiveness.

4. Policy Advocacy and Guidance

- Policy engagement: IASP actively engages in policy discussions related to science, technology, and innovation.

- Guidance on frameworks: The association can provide valuable guidance on policy frameworks, regulatory aspects, and advocacy strategies, helping the NASP to create a supportive environment for STPs/AOIs/IDs at the national level.

5. Access to Funding and Investment

- Investor connections: IASP can facilitate connections with potential investors, funding agencies, and international organisations interested in supporting innovation ecosystems.

6. Research and Publications

- Research insights: IASP conducts extensive research on trends and developments in the field of science parks, areas of innovation and innovation districts.

- Informative publications: Access to their publications and research findings can inform the design and implementation of a NASP, helping to align strategies with global trends and advancements.

7. International Visibility and Partnerships

- Global exposure: Being a member of IASP provides a NASP and its country with international visibility, showcasing its efforts and achievements on the global stage.

- Partnership opportunities: This visibility opens opportunities for valuable collaboration with peers in other countries, fostering global partnerships and knowledge exchange.

8. Benchmarking and Evaluation

- Performance benchmarking: IASP can assist in benchmarking the performance of science parks and other organised innovation spaces against international standards.

- Comparative analysis: This comparative analysis based on aggregated data can help the NASP identify areas of strength and improvement, ensuring continuous development and adherence to best practices.

- Forming part of IASP's international network in itself offers direct benefits for individual STPs and is a powerful complement to insights and support provided by and for the NASP.

By leveraging the resources and expertise of IASP, a NASP can effectively build a strong foundation for its network of science parks and areas of innovation. The support from IASP in terms of networking, knowledge sharing, training, policy advocacy, research insights, international visibility, and benchmarking will be instrumental in driving the success of a NASP. Engaging with IASP will not only enhance a NASP's capabilities but also position it as a key player in the global innovation ecosystem.

For more information about IASP's resources and services, visit the website at www.iasp.ws.

3.- LEARNING FROM INTERNATIONAL CASES OF NATIONAL NETWORKS OF SCIENCE PARKS

The establishment of a National Network of Science Parks and Areas of Innovation is a complex and multifaceted endeavour that requires careful planning, strategic thinking, and a deep understanding of the innovation landscape. One of the most effective ways to navigate this process is by learning from the experiences of established national networks in other countries. By examining the successes and challenges faced by these international models, we can extract valuable lessons and best practices that can be tailored to fit the unique context of our own national ecosystem.

National network examples such as ANPROTEC in Brazil, APTE in Spain, SISP in Sweden, and Thai-BISPA in Thailand provide a wealth of insights into how to build and sustain a thriving network of science parks and other innovation spaces. These organisations have successfully fostered innovation, facilitated technology transfer, supported startup ecosystems, and enhanced collaboration among universities, industry, and government.

In this section, we will delve into the specific strategies and initiatives implemented by these leading national networks. We will explore how they have structured their organisations, the types of programmes and services they offer, and the ways in which they engage with stakeholders. By understanding their approaches to policy advocacy, capacity building, international collaboration, and other critical areas, you can identify key elements that will be essential for the success of your own National Network of Science Parks and Areas of Innovation.

The goal is to leverage the collective wisdom and proven strategies of these national networks to create a robust, dynamic, and impactful network that can drive innovation, economic growth, and technological advancement in your nation. Through this comparative analysis, we aim to build a foundation of knowledge that will guide the development of effective programmes, foster meaningful partnerships, and ensure the long-term sustainability of a national innovation ecosystem.

3.1.- ANPROTEC - ASSOCIAÇÃO NACIONAL DE ENTIDADES PROMOTORAS DE EMPREENDIMENTOS INOVADORES (BRAZIL)

At the workshop on which this document is based, some lessons from ANPROTEC on National Associations of Science and Technology Parks and Areas of Innovation were shared for benchmarking purposes. Here are the main points:

1. Mission and Vision

- Mission: To serve as a National Network of Innovation Environments that promotes the strengthening of its members in benefit of the economy and society.

- Vision: To be recognised as an essential stakeholder in innovative entrepreneurship based on its leadership of the Innovation Environments Network and the impact it generates for the economy and society.

2. Core Activities and Services

- Qualification: Training and certification programmes, such as Cerne, aimed at improving the management of innovation environments.

- Internationalisation: Initiatives like the India-Brazil Cross Incubation Program and international missions to foster global connections and market access, including a long tradition of special missions to join the IASP World Conferences.

- Policy support: Advocacy and parliamentary advisory to support the legal and regulatory framework for innovation.

- Networking: Conferences, forums, and thematic groups to facilitate networking among members and stakeholders.

- Innovation support: Programmes like Samsung Creative Startups and the Nexos open innovation programme to support startups and innovative projects.

3. Innovation Ecosystems and Environments

The Anprotec members include:

- Science and Technology Parks who provide spaces conducive to innovation and entrepreneurship.

- Incubators and Accelerators who host and support startups, with a significant number associated with universities.

- Smart Cities and Innovation Districts who create comprehensive environments that integrate technology and innovation into urban development.

4. Impact and Reach

- Statistics:

    - Over 350 associated innovation areas.

- 363 business incubators with thousands of jobs and significant revenue generation.
- 57 accelerators and 58 science and technology parks.
- 2,239 startups accelerated.
- Certification: 103 certified incubators under the Cerne model.

5. Sustainability and Environmental Commitment

- Brazil's significant focus on sustainability, with a large percentage of its territory preserved and a high reliance on renewable energy sources.

6. Communication and Social Media

- Extensive communication efforts including website content, social media engagement, and email campaigns to keep members informed and engaged.

7. International Collaboration and Soft-landing

- Soft-landing platform: Facilitates the entry of Brazilian startups into foreign markets and vice versa.

- Cross incubation programmes: Provide a structured exchange of innovative enterprises between Brazil and other countries, offering training, market access, and networking opportunities.

Lessons learnt:

1. Comprehensive support framework: ANPROTEC provides a well-rounded support system covering qualification, internationalisation, policy support, networking, and innovation support.

2. Strategic partnerships: The association leverages international partnerships to enhance global reach and impact.

3. Focus on sustainability: Emphasising environmental sustainability alongside economic and social development.

4. Effective communication: Maintaining high engagement through continuous and effective communication channels.

5. Structured certification and training: Implementing certification models like Cerne to ensure high standards in innovation management.

6. Innovation ecosystem development: Creating diverse and integrated innovation environments including technology parks, incubators, and smart cities.

These lessons from ANPROTEC can be valuable benchmarks for other national associations aiming to foster innovation and entrepreneurship. More detailed information on their specific initiatives is available at https://anprotec.org.br/

3.2.- APTE – ASOCIACIÓN DE PARQUES CIENTÍFICOS Y TECNOLÓGICOS DE ESPAÑA (SPAIN)

Some lessons from APTE (Spanish Association of Science and Technology Parks) on National Associations of Science and Technology Parks and Areas of Innovation were shared for benchmarking purposes. Here are the main points:

1. History and Evolution

- Milestones:

  - 1985: Creation of the first technology park in Spain.

  - 1989: APTE is established with six founding technology parks.

  - 1995: Universities begin promoting science parks.

  - 1998: Significant economic growth during the dot-com boom.

  - 2000: Government aid programme for the development of STPs.

2. Objectives of APTE

- Awareness: Raising awareness about the importance of STPs.

- Best practices: Facilitating the exchange of best and worst practices among members.

- Network building: Establishing a trusted network of innovation managers and stakeholders.

- Lobbying: Engaging in lobbying activities to support the development of STPs.

- Visibility: Enhancing the visibility of Spanish STPs and their contributions to the economy and innovation.

3. Core Activities

- Design of valuable services: Creating services that add value to members and the broader innovation ecosystem.

- Connecting with the innovation ecosystem: Facilitating connections between members and other innovation actors.

- Co-operation projects: Implementing projects that promote cooperation, such as marketplaces, online training, and technology platforms.

- Communication: Disseminating information through magazines, books, news, and studies to keep members informed and engaged.

4. Key Statistics and Impact

- Membership and collaboration:

  - 58 Members: 51 full members, 1 affiliate, and 6 collaborators.

- 22 STPs promoted by universities.

- Collaboration with 44 universities.

- 5,780 companies located in STPs.

- Economic impact of the member parks:

- Turnover: 25.1 billion euros.

- Employment: 150,624 jobs, with 34,190 in R&D.

- R&D investment: 1.5 billion euros (9% of Spain's total).

- Foreign companies: 394.

- Start-up companies: 808.

- Granted patents: 892.

5. Governance Structure

- Commissions:

- Financing Commission.

- Governance Commission.

- Tech Transfer Commission.

- Internationalisation Commission.

- General Management: Overseeing the execution of the annual management and strategic plans.

6. Significant Projects and Initiatives

- APTE Projects:

- Marketplace: Facilitating business opportunities among members.

- Online training classroom: Providing training and development opportunities.

- Spanish Technology Platform for Disruptive Technologies: Supporting the development and implementation of disruptive technologies.

- APTENISA: Promoting entrepreneurship and innovation.

- Science and Technology in Feminine: Encouraging female participation in STEM fields.

- Co-operation agreements: Forming partnerships to enhance innovation and technology transfer.

7. Future Directions

- New services: Developing new valuable services for members and the innovation ecosystem.

- Accurate information: Providing detailed and accurate information on the current trends in science and technology parks.

Lessons learnt:

1. Comprehensive support framework: APTE provides a well-rounded support system covering valuable service design, ecosystem connections, cooperation projects, and effective communication.

2. Strategic partnerships and co-operation: Leveraging partnerships and cooperation agreements to drive innovation and technology transfer.

3. Focus on education and diversity: Initiatives like APTENISA and Science and Technology in Feminine highlight the importance of entrepreneurship and diversity in STEM fields.

4. Robust governance structure: A well-defined governance structure ensures effective management and execution of strategic and operational plans.

5. Significant economic impact: APTE's members significantly contribute to the economy, employment, and R&D investment.

6. Proactive policy engagement: Active lobbying and advocacy to support favourable policies for STPs.

7. Future-oriented services: Commitment to developing new services that anticipate the future needs of the innovation ecosystem.

8. Member-driven collaboration and trust: Building a proactive network where members contribute and trust each other is key. Through regular physical and virtual spaces for interaction, APTE fosters collaboration, mutual knowledge, and the creation of tailored services that build a climate of trust among members.

These activities reflect APTE's commitment to fostering an innovative ecosystem within Spain's science and technology parks, and can provide valuable insights and benchmarks for other national associations aiming to foster innovation and entrepreneurship. For more detailed information, you can visit APTE's website.

3.3.- SISP - SWEDISH INCUBATORS & SCIENCE PARKS (SWEDEN)

Some lessons from SISP (Swedish Incubators and Science Parks) on National Associations of Science and Technology Parks and Areas of Innovation were shared for benchmarking purposes. Here are the main points:

1. Mission and Structure

- Mission: SISP aims to drive industry development through member-wide projects and platforms, provide member support with forums for knowledge exchange and joint development, and engage in advocacy work and policy development.

- Structure: Non-profit economic association with 22 employees, connected to various programmes, and a national network of 31 science parks and 32 incubators.

2. Core Activities and Services

- Industry matchmaking: Facilitating connections between startups, scaleups, and established companies in various tech sectors.

- Team development: Providing programmes like STEP for team development.

- Accelerators and Incubators: Supporting startups and scaleups with business development, financing, validation, and access to customers.

- Innovation ecosystem: Collaborating with universities, private sector actors, public organisations, and customers to develop an effective innovation ecosystem.

3. Innovation Support Programmes

- National Incubator programme: Recognised as world-class, with Vinnova's funding aimed at incubators demonstrating excellence and global sustainability goals.

- Equity capital: Significant increase in equity capital availability for companies in incubation.

- Peer review process: Transparent 360-review with peers every three years to analyse strengths, weaknesses, and joint development areas.

4. Impact and Reach

- Statistics from SISP members:

    - Over 70,000 employees in the ecosystem.

    - More than 5,000 companies involved.

    - High survival rates of companies incubated in different cohorts, showing a positive trend in business sustainability (65% before 2010 and 85% in 2019).

5. Collaborative Projects and Initiatives

- Joint development projects: Funded by Vinnova, involving at least three incubators working together, facilitated by SISP.

- Sustainability and equality: Promoting sustainability and equality in the business world, with specific programmes to foster these values.

- Shared learning: Regular physical and online meetups, international travel, and yearly conferences to foster trust, community, and cooperation.

6. Sector-Specific Support

SISP supports its members in their different sectors and technologies:

- Technology sectors: Incubators, accelerators, and science parks support various tech sectors, including biotech, deeptech, foodtech, indtech, mobility/ICT, life science, and more.

- Advanced technologies: Focus on cutting-edge areas like advanced materials, nanotechnology, additive manufacturing, AI, big data, quantum technology, cybersecurity, and digital twins.

7. Future Directions

- Continued development of valuable services: New services to meet the evolving needs of the members of the Swedish innovation ecosystem.

- Innovation grants: Providing grants and financial support to innovative projects and startups.

Lessons learnt:

1. Comprehensive support framework: SISP provides a robust support system through industry matchmaking, team development, accelerators, and shared learning initiatives.

2. Strategic collaborations: Strong collaboration between members and leading universities, private sector actors, and public organisations to foster a thriving innovation ecosystem.

3. Focus on sustainability and equality: Emphasising sustainability and equality as core values in the business world.

4. Effective peer review process: Regular peer reviews to assess and improve the effectiveness of incubators and science parks.

5. Sector-specific support: Tailored support for various technology sectors, ensuring that startups and scaleups receive relevant and specialised assistance.

6. Global perspective: International collaborations and initiatives to enhance global connectivity and market access for member companies.

7. Innovative funding models: Securing significant equity capital and funding to support the growth and sustainability of startups and incubators.

8. Advocacy of innovation: Engaging with policymakers and public agencies is crucial for influencing national innovation-driven policies. This engagement ensures the shaping of future strategies for long-term ecosystem development.

These lessons from SISP can provide valuable insights and benchmarks for other national associations aiming to foster innovation and entrepreneurship. A detailed list and description of their specific programmes and initiatives are on SISP's website.

3.4.- THAI-BISPA - BUSINESS INCUBATORS AND SCIENCE PARKS ASSOCIATION (THAILAND)

Some lessons from Thai-BISPA (Thai Business Incubators and Science Parks Association) on National Associations of Science and Technology Parks and Areas of Innovation were shared for benchmarking purposes. Here are the main points:

1. Mission and Value Proposition

- Mission: leveraging the capabilities of Thai business incubators and science parks within the national innovation ecosystem and connecting with local and international partners through strategic collaboration.

- Value proposition: Thai-BISPA acts as an ecosystem integrator, focusing on capacity building and strengthening management of business incubators and science parks, building supporting platforms, sharing knowledge, and providing policy inputs to the government and industry.

2. Core Activities and Services

- Capacity building:

    - Training programmes: BI & SP 101, Innovation-Leadership Academy, conferences, seminars, and workshops for knowledge sharing.

    - Certification and accreditation: BISPA Certification, competency guidelines, and local and international awards to ensure high standards.

- Networking and collaboration:

    - Mentor network: Engaging mentors to support incubators and startups.

    - Domestic and international partnerships: Fostering relationships with local and global partners.

    - Angel and VC club: Connecting startups with investors.

- Knowledge sharing:

    - BISPA directory and survey: Providing facts, figures, news updates, and job vacancies to keep members informed.

    - Platforms for collaboration: Virtual platforms for business development and incubation, such as InteGreat, which facilitates work processes and increases management efficiency.

3. Innovation Ecosystem

- Science Parks Network:

    - Regional science parks: Northern, Southern, Northeastern, Lower Northeastern, Western & Eastern science parks, each with multiple university networks.

    - National technology centres: Central hubs supporting the regional science parks.

- Co-incubation programme:

  - Network as a service: Bringing together a network of technology business incubation programmes to assist innovative companies.

  - Soft landing solutions: Helping businesses entering or expanding into new markets with introductions to local business practices, culture, and opportunities.

4. Key Strategies

- Building capacity: Enhancing manpower in innovation management through training and certification programmes.

- Standardisation: Improving the standards of business incubator and science park management in Thailand.

- Connectivity: Connecting knowledge, information, news, people, networks, and collaboration both locally and globally.

5. Impact and Reach

- Network size and influence:

  - Significant reach with numerous network universities and national technology centres.

  - Facilitates interaction and collaboration among various stakeholders in the innovation ecosystem.

- Platform for innovation-driven community:

  - Virtual platforms to support business development and incubation.

  - Tools like Business Model Canvas and Mentor Connect to aid startups and incubators in their growth and development.

Lessons learnt:

1. Comprehensive capacity building: Thai-BISPA offers extensive training programmes, certifications, and workshops to enhance the skills and competencies of innovation managers and incubator staff.

2. Strategic networking and collaboration: Building strong domestic and international partnerships, engaging mentors, and connecting startups with investors through networks like the Angel and VC Club.

3. Robust support infrastructure: Utilizing virtual platforms like InteGreat to streamline business development processes and improve management efficiency.

4. Standardisation and certification: Implementing certification and accreditation programmes to maintain high standards in incubator and science park management.

5. Soft landing programmes: Providing practical solutions for members' foreign and local companies to enter and expand in new markets, facilitating their integration into local business ecosystems.

6. Knowledge sharing and information dissemination: Maintaining directories, surveys, and news updates to keep members well-informed and engaged.

7. Innovation ecosystem development: Coordinating regional science parks and national technology centres to create a cohesive and supportive innovation ecosystem.

These lessons from Thai-BISPA can provide valuable insights and benchmarks for other national associations aiming to foster innovation and entrepreneurship. For a comprehensive understanding of all their projects and initiatives, visit Thai-BISPA's website.

4.- ROADMAP FOR CREATING AND DEVELOPING A NATIONAL ASSOCIATION OF SCIENCE PARKS AND AREAS OF INNOVATION.

The roadmap for creating and developing a National Association of Science Parks and Areas of Innovation (NASP) is a strategic plan designed to establish a robust network that fosters innovation and collaboration across different sectors and projects.

A suggested path when creating a new national network is indicated below:

1. Mapping the Starting Point:

- Inventory of assets: Collect detailed data on existing Science Parks, Technology Parks, Areas of Innovation, Innovation Districts and other innovation agents in the country.

- Performance indicators: Identify key performance indicators (KPIs) for each entity to establish a baseline for future evaluations.

- Research legal frameworks and rules for non-profit organisations in your country.

2. Stakeholder Engagement:

- Positioning the NASP: Define the role and value proposition of the NASP within the national ecosystem, including its benefits for government agencies, universities, industry, and civil society.

- Expectations and needs: Conduct surveys (with KPIs) and meetings with key stakeholders and potential members to understand their expectations and the added value the NASP can provide.

3. Vision and Objectives:

- Common vision and mission: Develop a unified vision and mission statement that aligns with the national vision for economic diversification and innovation.

- Clear goals: Set specific, measurable goals that support the vision, such as promoting innovation, supporting technology-based enterprises, and facilitating research and development.

4. Programmes and Projects:

- Benchmarking models: Study successful models like ANPROTEC (Brazil), APTE (Spain), SISP (Sweden), and Thai-BISPA (Thailand) to identify effective programmes and projects.

- Tailored programmes: Develop tailored programmes that address local needs and opportunities, such as innovation awards, technology transfer facilitation, and partnerships with international bodies.

5. Membership:

- Types of membership: Define different categories of membership (e.g., full members, affiliate members) and the criteria for each, as well as setting the membership fees per category.

- Rights and responsibilities: Clearly outline the rights, responsibilities, and benefits for members.

6. Governance and Management:

- Governance model: Establish a governance structure that includes a General Assembly, Board and Management team, considering different focus areas such as policy, membership, and finance.

- Organisational structure: Define the organisational structure with dedicated personnel and member contributions. Start small and expand as necessary.

7. Communication:

- Communication plan: Develop a comprehensive communication plan that includes brand name, public channels, and key messages tailored to different audiences.

- Engagement strategy: Use various platforms (e.g., social media, newsletters, conferences) to engage with members and stakeholders.

8. Evaluation and Reports:

- Annual evaluation: Implement an annual evaluation process to assess the achievement of goals and overall performance.

- Activity reports: Produce an annual report summarising all activities and achievements of the network and its members.

9. Business Model and Business Plan:

- Financial sustainability: Develop a business model that ensures financial sustainability through membership fees, government grants, sponsorship, and service charges.

- Four-year plan: Create a detailed business plan outlining investments and projected incomes and expenses for the next four years.

10. Constitution and Legal Issues:

- Legal framework: Choose the best legal framework for constituting a NASP, ensuring compliance with all relevant legal requirements.

- Statutes: Draft and finalise the statutes that will govern the NASP's operations and activities.

Key Strategies for Success:

1. Fostering Collaboration:

- Encourage partnerships among STPs/AOIs/IDs, universities, industry, and government to promote innovation and technology transfer. Develop trust between members in order to create win-win situations.

2. Knowledge Sharing:

- Organise national events and conferences to facilitate networking and the exchange of ideas and best practices.

3. Capacity Building:

- Offer training and development programmes to enhance the skills of those involved in managing and operating STPs/AOIs/IDs and incubators.

4. Policy Advocacy:

- Engage in policy discussions to create a supportive environment for innovation and technology development.

5. International Networking:

- Establish global connections to exchange best practices and foster value-based international collaboration, creating opportunities that contribute value back to the NASP.

6. Recognition and Awards:

- Implement programmes to recognise and reward outstanding achievements within the network.

7. Tailored Service Design and Continuous Feedback:

- Design and adapt services based on member needs through regular feedback, ensuring relevance and agility in response to emerging trends within the innovation ecosystem.

8. From Startups to Corporate Innovation:

- Help members encourage both startups and large companies in driving innovation processes, complementing traditional technology transfer, to enhance national competitiveness and foster a dynamic innovation ecosystem.

9. Lean Organisational Model:

- Start with a small, focused team and expand as needed, ensuring efficient resource use and targeted growth, with careful selection of key personnel.

10. Proactive and Trust-Based Membership:

- Encourage proactive participation and trust within the Association by creating regular spaces for members to connect, fostering collaboration and tailored service design.

By following this roadmap, parameters for success, and leveraging best practices from international examples, the NASP can effectively foster innovation, support technology transfer, and promote collaboration among academia, industry, and government, ultimately contributing to the nation's economic and technological advancement.

5.- CONCLUSIONS

Adapting Best Practices to the National Context:

Adapting and learning from the experience and best practices of national networks of other countries (such as ANPROTEC, APTE, SISP, or Thai-Bispa) to launch a National Network of Science Parks and Areas of Innovation involves a thoughtful and strategic approach. The following steps outline how to effectively apply these practices to the unique context of each nation:

1. Understand the Local Context:

- **Action**: Conduct a thorough analysis of the local scientific and technological landscape, identifying existing research and technology parks, innovation districts, hubs, incubators, and areas with high potential for growth.

2. Engage Stakeholders:

- **Action**: Establish collaboration with key stakeholders, including government agencies, academic institutions, private sector companies, and research organisations. Understanding their needs and expectations is crucial for the success of the initiative.

3. Align with National Vision and Policies:

- **Action**: Ensure that the establishment of the National Network of Science Parks aligns with the national vision and policies related to science, technology, and innovation. Work closely with relevant government bodies to integrate the initiative into existing frameworks.

4. Customise Best Practices:

- **Action**: Tailor the best practices learned from other National Associations of Science Parks to fit the cultural, regulatory, and economic context of the nation. Consider factors such as local business practices, legal frameworks, and funding mechanisms.

5. Government Support:

- **Action**: Collaborate closely with government entities to secure support for science parks and other innovation spaces. This may include tax incentives, grants, and streamlined regulatory processes to encourage the growth of innovation ecosystems.

6. International Collaboration:

- **Action**: Foster international collaboration by engaging with organisations like IASP and establishing partnerships with science parks and innovation associations worldwide. This can bring in expertise, investment, and opportunities for global collaboration.

7. Education and Skill Development:

- **Action**: Develop programmes to enhance the skills of individuals working within the STPs/AOIs. This includes training in entrepreneurship, technology commercialisation, and research methodologies tailored to the national context.

8. Positioning, Promotion, and Marketing:

- **Action**: Promote the NASP nationally and internationally. Showcase success stories, research breakthroughs, and opportunities available within the STPs/AOIs/IDs to attract talent, investment, and partnerships.

9. Measurement and Evaluation:

- **Action**: Implement a robust monitoring and evaluation system to assess the impact of STPs/AOIs/IDs on innovation, economic growth, and research outcomes. Regularly review and adjust strategies based on performance metrics.

10. Capacity Building and Training:

- **Action**: Work with local educational institutions to develop programmes that contribute to the capacity building of professionals and researchers involved in the National Network of Science Parks.

Combining international best practices with a deep understanding of the local context and needs can help to create a robust National Association of Science Parks and Areas of Innovation that accelerates innovation, research, and economic development in the country. This strategic approach will ensure that the network not only fosters technological advancements but also drives sustainable economic growth and improves the quality of life for the nation's citizens.

Building a National Network of Science Parks and Areas of Innovation, taking cues from organisations like ANPROTEC, APTE, Thai-BISPA, and SISP, involves implementing several key strategies to ensure the creation of a robust and dynamic innovation ecosystem that supports technological development and fosters economic growth. In terms of a non-profit organisational structure, IASP can also support with insights, as can other national networks from around the world. In collaboration, by IASP, this paper is focused on the organisations who spoke at the workshop hosted by KACST in Saudia Arabia (April 2024). Other national networks of STPs can be seen at www.wainova.org.