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**Bridging Global
Free Zones Together**

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The Change of Global Supply Chain and
Its Impact on Free Zones and Special
Economic Zones

1 Introduction

The pattern of the global supply chain has been fundamentally changed since COVID-19 due to the transportation crisis. Even after the pandemic, new risks in the global supply chain occurred caused by the US-China conflict, armed conflicts in several regions, export control by some countries, and the climate crisis.

Before the pandemic, Western multinational enterprises (MNEs) built their supply chains worldwide to achieve the most efficiency and profit. They built their manufacturing facilities in the Free Zones (FZs) and Special Economic Zones (SEZs) outside their territory and assembled the imported parts globally. However, as the geopolitical, international trade, and foreign direct investment (FDI) environment changes, the policy priority moved to economic security and domestic economic development from financial efficiency. The US and EU member countries are eager to attract their manufacturing and suppliers' factories to their territory. So, the US and EU governments changed their international trade and industrial policies.

World Investment Report 2023, published by the United Nations Conference on Trade and Development (UNCTAD), shows the recent trends in investment in global value chain (GVC)-intensive industries. The Report explains that "Investment projects in the GVC-intensive industries, where investment trends are affected by exposure to supply-chain risks and restructuring pressures, rose by 5 percent in number and 34 percent in value. The number of announced greenfield projects in electronics and electrical equipment rose by 6 percent. Global shortages for semiconductors prompted several investment megaprojects. The value of greenfield projects in the automotive sector rose by 53 percent, mainly due to projects in electric vehicles."

How does this global supply chain change affect the FZs and SEZs worldwide?

2 The US and EU's New Policy on the Global Supply Chain

The US has focused on an industrial strategy to revitalize the US manufacturing base, strengthen critical supply chains, and position US workers and businesses to compete and lead globally in the 21st century since Trump's Administration. Biden Administration laid out its strategy for improving the resilience of US supply chains for four essential products: semiconductors and advanced packaging; high-capacity batteries, including electric-vehicle batteries; critical minerals and materials, including rare earth elements; and pharmaceuticals and APIs. The US Congress also legislated several acts, such as the 'CHIPS and Science Act of 2022' and 'Inflation Reduction Act of 2022', to strengthen the US supply chain, create jobs, promote economic growth, and attract FDI.

The EU is also strengthening its economic security policy under the 'European Economic Security Strategy' announced by the European Commission on June 20, 2023. The EU tries to reinforce its economic security and reorganize the supply chain through legislation such as the 'Critical Raw Minerals Act (CRMA),' 'European Chips Act,' and 'Net Zero Industry Act (NZIA).' It also tries to achieve its purpose through measures such as the 'Directive on Corporate Sustainability Due Diligence (CSDDD),' 'EU Carbon Border Adjustment Mechanism (CBAM),' and 'Temporary Crisis and Transition Framework (TCTF).'

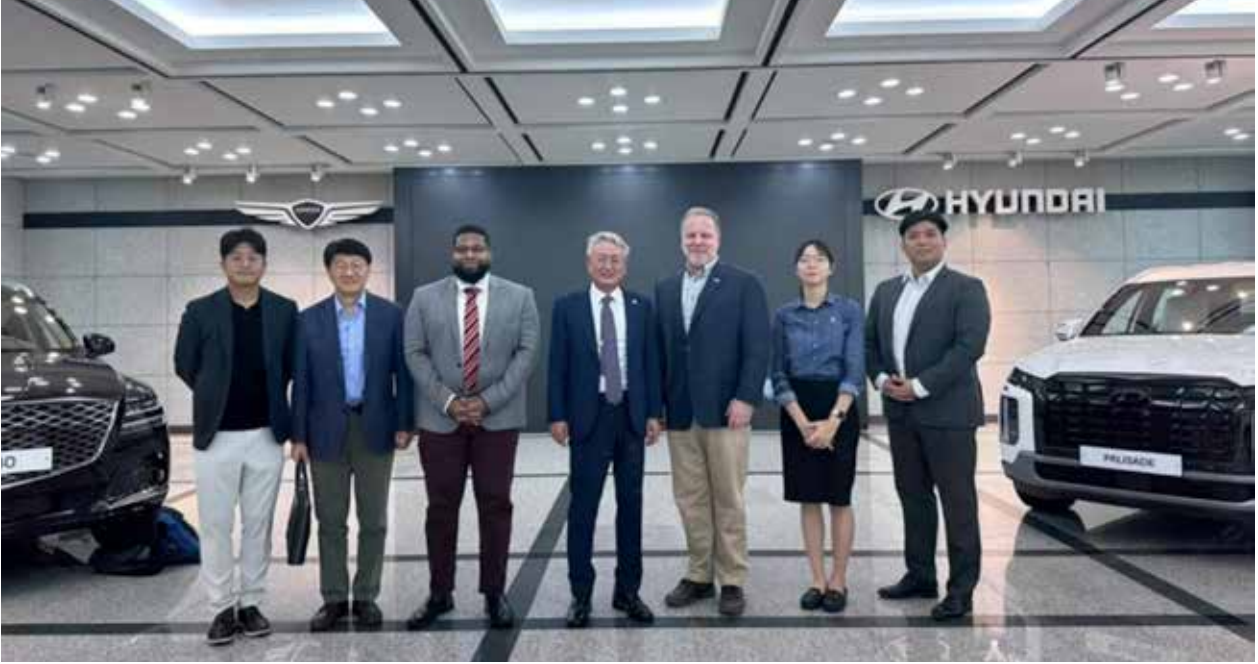
3 Impact on Free Zones and Special Economic Zones Worldwide

Establishing FZs SEZs is intended to attract FDI, create jobs, increase export growth, participate in the global value chain, and achieve economic development. Due to the recent change in the US and EU's global supply chain policy, Western MNEs are building their manufacturing facilities in their territory instead of other overseas destinations. As a result, many FZs and SEZs are affected by this change, and the impacts vary according to the regions.

As the US and EU eagerly try to attract manufacturing facilities to their territory, the FZs and SEZs in the developed economies will be more active and attract more FDI. These regions will benefit the most worldwide.

The World Investment Report 2023 mentioned the following largest projects announced in 2022. The projects' beneficiary countries are the US, India, Ireland, the United Kingdom, and Spain. The details of the projects are as follows:

- 1) Taiwan Semiconductor Manufacturing (Taiwan Province of China) intends to spend more than \$28 billion in developing advanced chips and building plant capacity in the United States;
- 2) Foxconn (Taiwan Province of China) and Vedanta Resources (India) are planning to build one of the first chip factories in India for \$19 billion;
- 3) Intel (United States) has committed to investing a further \$13 billion in its operations in Ireland;
- 4) Hyundai (Republic of Korea) plans to spend \$5.5 billion to build its first dedicated electric vehicle and battery manufacturing facilities in the United States;
- 5) Volkswagen (Germany) plans to spend \$3.3 billion in the United Kingdom for Bentley, its subsidiary, to build its first battery-powered electric vehicle;
- 6) Volkswagen (Germany) will spend a further \$1.9 billion in Spain for SEAT to do the same.



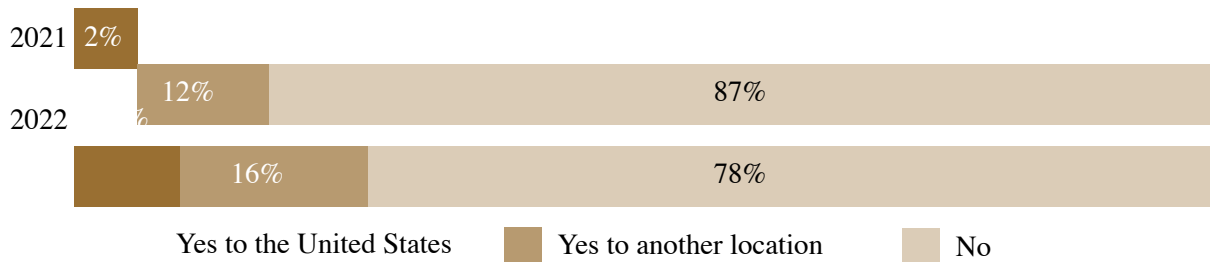
Looking into South Korea's investment in the US, Korean companies and their US-based JV partners have announced \$114 billion in new US investments since the start of the Biden administration. Investments are concentrated in semiconductors, electric vehicles, and battery technology. In the past, Korean companies built their manufacturing facilities in Korea, China, and other regions. As investment in the US increased by more than double Korea's total investment in the US, investment in the other areas decreased as much.



According to the World Investment Report 2019, published by the United Nations Conference on Trade and Development (UNCTAD), China operates 2,543 SEZs out of 5,384, almost half of them as of 2019. China has been the global manufacturing hub for the last couple of decades. The recent changes in the global value chain greatly affected the SEZs in China. Many US companies have moved out of China to the US or alternative locations.

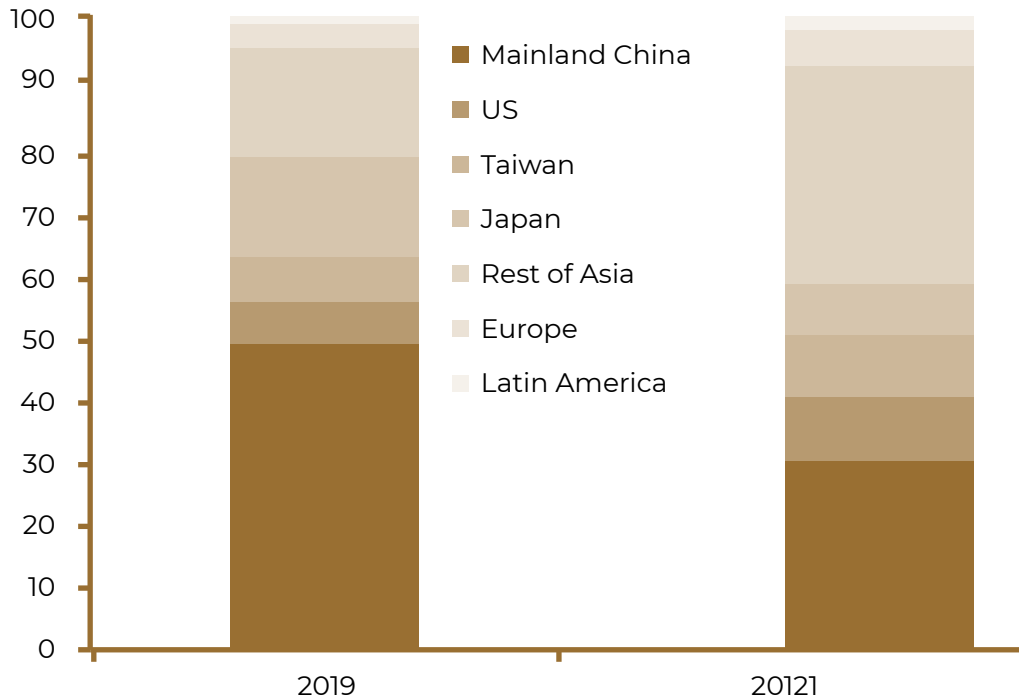
The US-China Business Council's 2022 Member Survey conducted in June 2022 revealed that over the past 12 months, nearly a quarter of respondents had moved segments of their supply chains out of China - a significant jump from 2021 - and the majority doing so are moving them to locations other than the United States: 8% to the US, 16% to another location. Survey responses come from 117 member companies; most respondents are large, US-headquartered multinational companies that have operated in China for more than 20 years. The top reasons cited are COVID-19 shutdowns in China and supply chain resilience⁴.

Has your company moved any segments of its supply chain out of china in the past 12 months?



The core strategic industries moved to the US, such as semiconductors, high-capacity secondary cell batteries, and electric-vehicle batteries. Other sectors moved to SEZs in adjacent Asian countries, such as Vietnam, Indonesia, Thailand, India, and Latin America. So, the FZs and SEZs in Southeast and South Asia will also benefit from the new change in the global supply chain. The chart below compares the number of major Apple supplier facilities, broken down by location, between 2019 and 2021. It shows that the number of supplier facilities in the US, Taiwan, the rest of Asia, Europe, and Latin America increased, while China and Japan decreased.

No. of major Apple supplier facilities, breakdown by location



Source: Apple, Goldman Sachs GIR

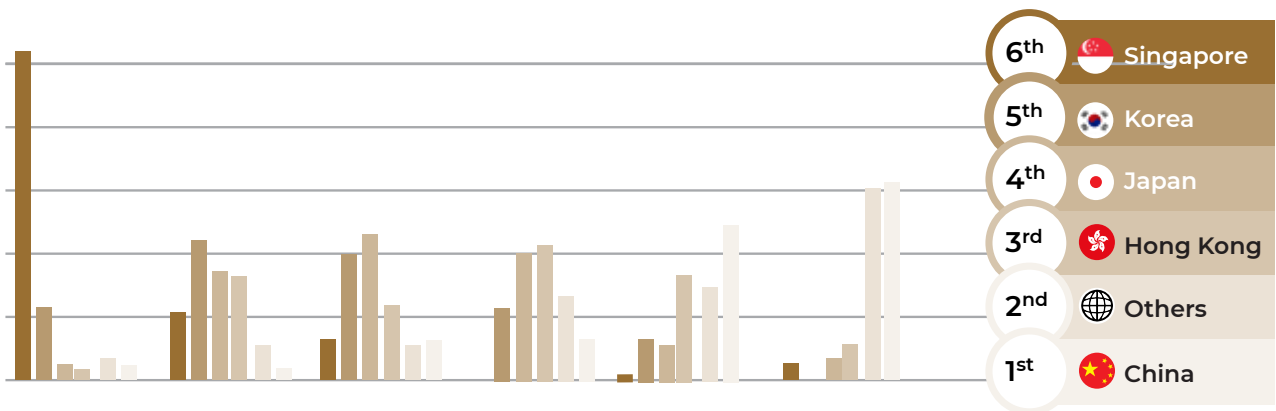
Source: Goldman Sachs, Global Macro Research, Issue 118, May 15

However, China will fill the vacancy with Chinese companies and build its supply chain led by China. Moreover, China will expand its global supply chain to other regions, such as South Asia, Central Asia, Southeast Asia, the Middle East, Africa, and Latin America, by co-developing FZs and SEZs outside China in cooperation with partner countries combined with China's Belt and Road Initiative (BRI). China may also expand its FZs and SEZs to develop the rural area of China as a tool for the economic development of provinces.

Although many US and Western MNEs have moved out of Russia since the Russia-Ukraine war, they are looking for new locations that can still offer easy access to Russia. While they are not abandoning the Russian market, they want to move their operations to third countries with convenient shipping routes to the Russian market. For this reason, Asian FZs and SEZs with airports and seaports adjacent to Russia would be the best destinations and have a lot of potential. South Korean industrial parks in free trade zones near a port or airport will be one of the good alternatives.

Recently, in March 2024, the American Chamber of Commerce in Korea (AMCHAM Korea) published 'Korea as an Asia-Pacific Regional Headquarters Report.' In this report, AMCHAM Korea explained that, in light of the evolving geopolitical landscape involving China, coupled with Korea's robust infrastructure, strategic geographic proximity to sizable consumer markets, well-established supply chain infrastructure, and the shifts in international tax regulations (e.g., BEPS Pillar Two), Korea emerges as an optimal destination for MNCs seeking to establish Asia-Pacific Regional Headquarters (APAC RHQ).

This report also mentioned that, according to the AMCHAM Business Survey 2024, Korea is ranked as the second most preferred APAC RHQ destination, following Singapore. The survey results indicate a noteworthy ascent in Korea's APAC RHQ rankings, signifying an improved standing compared to the past. Interestingly, the survey highlights a decline in the preference for Hong Kong and China as APAC RHQ locations, attributed to geopolitical concerns and economic uncertainties, a trend accentuated by the challenges posed by the COVID crisis, including stringent lockdowns prompting expats and businesses to reconsider their presence in China.



Source: AMCHAM Korea, Korea as an Asia-Pacific Regional Headquarters Report

Establishing FZs and SEZs is very active in the Middle East due to the abundant oil money and economic diversification strategy, which aims to transform from oil-dependent industries to other sectors. As those FZs and SEZs pursue to be the business hubs of the Middle East and North Africa (MENA), they may succeed in building their global supply chain. So, the number of FZs and SEZs in MENA will grow and become more active in attracting investment from global MNEs.

For example, according to the Korean news media Pulse by Maeil Business News Korea, sixteen small and medium-sized enterprises (SMEs) from South Korea with technologies in eco-friendly vehicles, renewable energy, medical and bio, information technology (IT), and light and heavy industries signed an agreement with the Royal Commission for Jubail and Yanbu (RCJY) forming a local joint venture (JV) and securing land for production in November 2023. Jazan is one of the new Special Economic Zones designated by the Saudi government in May 2023, alongside Riyadh, Ras Al-Khair, and King Abdullah Economic City. Korean SMEs are expected to contribute to the kingdom's economic and industrial structural reform⁵.



Many African countries wish to establish FZs and SEZs as tools for economic development. Due to the limited budget for these projects, they try to attract foreign investment from Western countries and China. As most countries, including the US and China, would like to build their supply chains to secure critical minerals, materials, and rare earth elements in Africa, investment in African FZs and SEZs in the above sector by the global MNEs will increase.

As the FZs and SEZs in Latin America and the Caribbean that signed the Free Trade Agreement (FTA) with the US can enjoy the benefits of the FTA, they may still attract FDI from the US or other countries that wish to supply the US market.

The primary purposes of current FZs and SEZs are to attract FDI, participate in the global value chain, and develop their economies. So, all the FZs and SEZs compete with one another to achieve their purposes. They do not consider increasing global trade and investment a top priority.

Moreover, if the developed countries try to build their supply chain centered on their own countries due to the change in supply chain policy, their investment will move to their territories from FZs and SEZs in other countries. This will result in a decrease in FDI into FZs and SEZs worldwide.

How can we solve this problem? How can we make FZs and SEZs more active and increase international trade and investment?

Firstly, the respective FZs and SEZs need to reshape their FDI attraction strategy to adapt to the change in global supply chain patterns.

Secondly, this problem may be resolved by cooperation among FZs and SEZs in a nearby region or a similar value chain. We need to discuss this issue and draw solutions for collaboration among interested FZs and SEZs worldwide. The World FZO could be a good platform for this discussion.

¹ United Nations Conference on Trade and Development, *World Investment Report 2023*, July 05, 2023, 22

² The White House, *EXECUTIVE ORDER ON AMERICA'S SUPPLY CHAINS: A YEAR OF ACTION AND PROGRES (2022,02) 10*, <https://www.whitehouse.gov/wp-content/uploads/2022/02/Capstone-Report-Biden.pdf>

³ United Nations Conference on Trade and Development, *World Investment Report 2023*, July 05, 2023, 22

⁴ The US-China Business Council, *2022 Member Survey*, 15

⁵ Yang Yeon-ho and Choi Jieun, "Korean SMEs ink deals for facility construction at Saudi industrial park," *Pulse by Maeil Business News Korea*, December 4, 2023



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Enhancing Special Economic Zones
Management through an Adapted
Balanced Scorecard Methodology

Abstract

Special Economic Zones (SEZs) are pivotal in enhancing national economic strategies, driving investment, fostering innovation, and expediting economic development. Despite their significance, SEZs often grapple with sustainability, governance, and performance measurement challenges. The Balanced Scorecard (BSC), a strategic management tool, offers a sophisticated framework for addressing these issues by integrating a new fifth dimension—Sustainability—alongside the traditional financial, customer, internal processes, and learning and growth perspectives. This paper explores the adaptation of the BSC to SEZ management, emphasizing the methodology's benefits through the strategic development plan of the Construction Industry Federation (FNEBTP) in Tunisia, and elaborates on the necessity of strategy mapping in the complex, digitalized economic landscape that SEZs operate within.

1. Introduction

Special Economic Zones (SEZs) are designated regions within countries with unique economic laws aimed at enhancing trade balance, investment, job creation, and effective administration. The dynamic and complex economic environments of SEZs necessitate robust management strategies. The Balanced Scorecard (BSC) provides a strategic management framework that integrates various organizational performance metrics against strategic goals, thus enhancing operational efficiency and strategic clarity within SEZs. Given the increasing complexities of global trade, digitalization, and heightened sustainability expectations, SEZs require advanced strategic frameworks like the BSC for holistic management.

The BSC, developed by Dr. Robert Kaplan and Dr. David Norton, is extensively used across industries and increasingly in government and non-profit sectors. It aligns business activities with organizational vision and strategy, enhances internal and external communications, and monitors performance against strategic goals. The usual components of the BSC include:

- Financial Perspective: Metrics reflecting financial performance.
- Customer Perspective: Metrics reflecting customer satisfaction.
- Internal Business Processes Perspective: Metrics reflecting operational efficiency.
- Learning and Growth Perspective: Metrics reflecting organizational improvement and innovation.

2. Adapting BSC to SEZ Management

SEZs are typically established as high-growth hubs that capitalize on advanced technologies and liberalized trade regulations. However, the integration of digital technologies poses both opportunities and challenges in managing these zones. The digitalization of economic activities necessitates SEZs to adopt sophisticated data management systems, cybersecurity measures, and digital compliance standards, all of which complicate the business model.

Additionally, sustainability challenges require SEZs to not only focus on economic outcomes but also integrate environmental and social governance (ESG) standards into their operations. These standards necessitate comprehensive strategy mapping to ensure all sustainability goals are aligned with operational practices and stakeholder expectations.

Adapting the BSC for SEZs involves modifying the four traditional perspectives to better reflect the specific objectives and challenges of SEZs, introducing a fifth dimension—Sustainability—to address the dual strategy of serving the general interest while promoting private sector benefits. This gives a Five-Dimensional BSC Framework for SEZs as follows:

- **Financial Perspective:** Focuses on profitability, economic impact, and cost management.
- **Customer/Stakeholder Perspective:** Prioritizes tenant satisfaction, stakeholder engagement, and government relations.
- **Internal Process Perspective:** Boosts compliance, operational efficiency, and service delivery.
- **Learning and Growth Perspective:** Promotes innovation, skills development, and cultural advancement.
- **Sustainability Perspective:** Integrates environmentally sustainable practices, social responsibility initiatives, and economic sustainability efforts.

3. Case Study: The Strategic Development Plan for the Construction Industry Federation in Tunisia (FNEBTP)

The FNEBTP's strategic development plan, supported by the BSC, exemplifies its use as a governance tool to implement its strategy. This non-profit organization effectively measured financial outputs, operational efficiency, member satisfaction, and implemented sustainable practices by extending the BSC's traditional dimensions to include Sustainability. This not only aided comprehensive performance measurement but also aligned economic activities with broader environmental and social goals.

3.1 Summary of the FNEBTP Strategic Development Plan Goals

The FNEBTP's strategic development plan, supported by the BSC, exemplifies its use as a governance tool to implement its strategy. This non-profit organization effectively measured financial outputs, operational efficiency, member satisfaction, and implemented sustainable practices by extending the BSC's traditional dimensions to include Sustainability. This not only aided comprehensive performance measurement but also aligned economic activities with broader environmental and social goals.

Strengthen Organizational Governance:

Improve the internal organizational structure and governance to better support strategic initiatives.

Enhance Member Services:

Increase the range and quality of services provided to members, focusing on training, innovation, and legal support.

Improve Financial Sustainability:

Develop a financial strategy that ensures sustainability through membership fees, partnerships, and governmental support.

Establish Strategic Alliances:

Formulate policies for public construction works, innovation in construction practices, and adherence to environmental standards.

Focused Initiatives supporting the strategic development plan

Think Tank for Public Construction Policies: To advocate and influence public policy related to construction.

Legal and Fiscal Vigilance Center: To provide members with up-to-date legal and regulatory compliance support.

Innovation and Technological Center: To foster innovation in construction through partnerships with educational institutions and technology firms.

Professional Upgrading Program: To enhance the skills and capabilities of professionals in the construction industry.

Organizational Restructuring:

Governance Model: Revise the current governance structure to allow more effective decision-making and operational flexibility.

Operational Teams: Setup dedicated teams for each strategic initiative to ensure focus and specialized attention.

Communication Strategy: Implement a comprehensive internal and external communication plan to engage with all stakeholders effectively.

Examples of Key Performance Indicators (KPIs)

The Balanced Scorecard methodology introduced in the FNEBTP case study emphasizes several KPIs across different perspectives of organizational performance:

1. *Financial Perspective:*

Revenue Growth: Track the increase in total revenue due to new initiatives and increased membership fees.

Cost Management: Monitor efficiency in managing operational costs against budgeted amounts.

2. *Customer/Stakeholder Perspective:*
Member Satisfaction Index: Regular surveys to gauge member satisfaction with services offered.
Stakeholder Engagement Level: Evaluate the effectiveness of interactions with government bodies, partners, and the public.
3. *Internal Process Perspective:*
Project Implementation Efficiency: Time and cost metrics for the rollout of new services and initiatives.
Compliance and Legal Adherence: Regular checks to ensure all operations adhere to the latest legal standards.
4. *Learning and Growth Perspective:*
Employee and Volunteer Training: Number of training sessions conducted and participation rates.
Innovation Index: Number of new technologies or practices adopted within the organization.
5. *Sustainability Perspective (added dimension):*
Environmental Impact: Assess the environmental sustainability of construction projects influenced by the FNEBTP.
Social Impact Measures: Community engagement and impact assessments to measure improvements in industry standards and workforce conditions.

These KPIs will guide the FNEBTP in monitoring its strategic progress, ensuring that it not only meets but exceeds the expectations of its members and stakeholders in the evolving construction industry landscape.

From this predefined logical framework, this is an implementation approach recommended for SEZs:

- *Step 1: Preliminary Assessment*

- Review and map SEZ's strategic objectives and existing management practices.
- Identify key stakeholders including government bodies,

4. Similarities between Construction Industry and SEZ

Both Construction Industry Federation and SEZ management companies operate within structured environments where strategic alignment and operational efficiency are crucial. The use of the Balanced Scorecard in both types of organizations highlights several similarities:

- **Strategic Objectives:** Both focus on enhancing organizational performance, competitiveness, and sustainability. They aim to optimize operations, improve stakeholder relations, and achieve financial stability.
- **Governance and Stakeholder Engagement:** Effective governance frameworks and active engagement with stakeholders are central to their success. This involves regular interaction with government agencies, private sector partners, and the community to ensure aligned interests and objectives.
- **Complex Compliance and Regulatory Environments:** Both operate under complex regulatory environments where compliance with local and international laws is critical. They must navigate these complexities to sustain operations and drive growth.
- **Sustainability Focus:** Incorporating sustainability into their core operations is vital for long-term viability. This includes environmental stewardship, social responsibility, and economic sustainability practices.

5. Methodology for Implementing an adapted BSC for SEZs

Strategy mapping is an essential preliminary step before setting up the BSC framework. It involves defining clear objectives, understanding the interconnections between different operational areas, and aligning strategic initiatives with overall organizational goals.

Concrete examples from academic references:

These references discuss how strategy maps facilitate the visualization of strategy and objectives, ensuring that each component of the BSC is effectively targeted to meet the overarching goals of an SEZ.

Sustainability of Funding: Measure the proportion of funding coming from non-dues sources to assess financial health and independence.

- *Step 2: Customization of BSC*
Adapt the traditional BSC perspectives to reflect SEZ-specific strategic goals.
Develop relevant metrics for each perspective (e.g., investment attraction rate for the Financial perspective, and tenant satisfaction rate for the Customer perspective).
- *Step 3: Integration and Execution*
Integrate the BSC framework with existing management information systems for real-time performance tracking.
Establish regular review cycles to assess performance, involving key stakeholders in the evaluation process.
- *Step 4: Continuous Improvement*
Use BSC data to identify areas for improvement and refine strategies.
Foster a culture of continuous learning and adaptation to evolving economic conditions.

6. Future prospects on SEZs performance management

Implementing the enhanced Balanced Scorecard (BSC) in Special Economic Zones (SEZs) offers a systemic approach to managing these complex ecosystems efficiently and effectively. This methodology not only helps meet immediate financial objectives but also promotes broad economic, environmental, and social benefits, ensuring long-term sustainability and success. The BSC's adaptability and comprehensive scope make it an indispensable tool in the strategic management of SEZs, transforming potential challenges into opportunities for growth and development.

The effectiveness of SEZs can be significantly enhanced by centralizing the collection and analysis of Key Performance Indicators (KPIs) through a proposed global SEZ database. This initiative would involve:

Development of a Global SEZ Database:

Standardized KPIs: Develop standardized KPIs that reflect critical success factors for SEZ performance, including economic impact, operational efficiency, and sustainability.

Real-time Data Access: Utilize a cloud-based platform to allow SEZs to report and access real-time data, facilitating immediate and strategic responses to trends and challenges.

International Collaboration: Encourage collaboration between international bodies such as the World Bank, UNIDO, and regional development banks to oversee the governance of this database.

Benefits of a Centralized KPI Database:

Enhanced Decision Making: Provide policymakers and investors with up-to-date, data-driven insights to inform better strategic decisions and investments.

Benchmarking and Improvement: Enable SEZs to benchmark against global best practices, identify areas of improvement, and implement effective strategies to enhance performance.

Increased Transparency and Accountability: Improve transparency of SEZ operations, promoting accountability and supporting the achievement of both local and global economic development goals.

Call to Action:

International Bodies: We call upon international economic organizations to take a leadership role in establishing and maintaining the global SEZ database. This central resource would support the strategic management and continuous improvement of SEZs worldwide.

National Governments: Encourage national governments to participate in this global initiative, which would involve sharing data and adopting standardized performance metrics to ensure consistency and comparability across SEZs.

SEZ Operators and Policy-makers: Implement the adapted BSC framework and actively contribute to the global SEZ database, using the insights gained to refine operational strategies and enhance overall zone performance.

Research Institutions and Think Tanks: Continue to study and refine SEZ performance metrics, contributing academic rigour and validation to the KPIs used, ensuring they remain relevant and impactful under evolving economic conditions.

7. Conclusion

The adoption of a unified KPI framework and the establishment of a comprehensive global database for SEZs are not just operational necessities but strategic imperatives. By standardizing how we measure and manage SEZ performance, we can maximize their developmental impacts, foster sustainable economic growth, and more effectively integrate these zones into the global economy. This initiative will require robust collaboration across all levels of governance and management, from local authorities to international bodies. By moving forward together, we can turn the vast potential of SEZs into a palpable global reality, driving progress and prosperity well into the future.



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*Building 'Made in Africa' Brands: A
Catalyst for Economic Growth*

Is it possible for Africa to carve a niche in the global market by fostering indigenous manufacturing industries and creating internationally recognized "Made in Africa" brands? The answer is yes, but also a resolute call to action. Africa's manufacturing sector has the capacity to flourish and differentiate itself internationally. African nations can positively brand their manufactured goods and increase their global competitiveness through investments in infrastructure, technology, and qualified labor. Nevertheless, the promotion of innovation and entrepreneurship in the manufacturing sector necessitates robust legislation, active participation from the private sector, and steadfast governmental commitment.

The Current State of African Manufacturing

Before diving into the potential of building 'Made in Africa' brands, it is essential to understand the current landscape of manufacturing on the continent. While Africa has made significant strides in various sectors over the past few decades, its manufacturing industry still faces substantial challenges. These challenges include limited access to capital, inadequate infrastructure, inconsistent policy frameworks, and a lack of skilled labor.

One of the prevailing issues is Africa's heavy reliance on imported goods. The continent's consumption is overwhelmingly oriented toward foreign-made products, contributing to a trade imbalance that adversely affects local economies. It is not uncommon to find African markets saturated with foreign brands, from consumer electronics to clothing, leaving little room for locally produced goods to gain a foothold.

This overreliance on imports has not only hindered the growth of domestic industries but also left Africa vulnerable to global economic fluctuations, as exemplified by the disruptions caused by the COVID-19 pandemic. As the pandemic strained international supply chains, African countries faced severe shortages of essential goods, such as medical supplies, exposing the fragility of relying on foreign manufacturers. In addition, Africa's dearth of employment prospects and skill development has been exacerbated by its excessive dependence on imports. Opportunities for natives to obtain employment and develop valuable skills in the production process are restricted, as the majority of manufacturing operations occur off-continent. This impedes the overall development of African economies and perpetuates economic dependence.

The Promise of 'Made in Africa' Brands

The concept of 'Made in Africa' brands presents an opportunity to shift the paradigm. Africa's diverse resources, skilled labor force, and burgeoning consumer markets lay a strong foundation for building a thriving manufacturing industry. Indigenous brands can tap into these resources to create products that are tailored to local tastes and needs while meeting international standards of quality.

Furthermore, promoting 'Made in Africa' brands has the potential to reduce the trade deficit by encouraging domestic consumption of locally produced goods. This, in turn, would lead to economic growth, job creation, and a more sustainable future for the continent. Africa is a continent of over a billion people, representing a massive market waiting to be harnessed. By developing 'Made in Africa' brands, countries can transform their manufacturing sectors into engines of economic development.

This transformation would not only create employment opportunities but also attract foreign investment, as the continent's potential as a consumer market becomes more evident. Additionally, by focusing on local production and consumption, African countries can reduce their dependence on imports and strengthen their self-sufficiency, ultimately leading to a more resilient and diversified economy.

Challenges on this disruptive transformation agenda

The path to building 'Made in Africa' brands is not without obstacles. One of the most critical challenges is access to financing. The lack of adequate funding options for entrepreneurs and manufacturers hampers the growth of the manufacturing industry. Financial institutions and governments must collaborate to provide the necessary capital, grants, and incentives to support local manufacturing enterprises. Also, infrastructure expansion is required to provide support for the manufacturing industry. The absence of dependable transportation infrastructure poses challenges for 'Made in Africa' brands, impeding their ability to obtain raw materials and establish distribution channels. Government investments in the improvement of ports, transportation, and logistics systems would foster the growth of domestic manufacturers.

Infrastructure development is another pivotal aspect of manufacturing growth. Adequate roads, ports, and energy infrastructure are vital for the

transportation of raw materials and finished products. The absence of efficient infrastructure results in higher production costs and delayed deliveries, which can be detrimental to the competitiveness of local brands. Consistency in policy frameworks is also essential. Frequent changes in regulations and trade policies can deter investors and manufacturers from committing to long-term ventures. Governments must provide a stable and conducive environment for businesses to thrive, including incentives for research and development, tax breaks, and trade agreements that promote domestic production. In addition to these challenges, there is a need to address skills gaps in the labor force. Many African countries need to invest in education and vocational training to ensure that they have a skilled workforce capable of operating advanced manufacturing technologies. This investment will not only help create jobs but also improve the overall quality of products and enhance competitiveness.

Seizing the Opportunities

The road to building 'Made in Africa' brands and transforming the manufacturing industry is not without its challenges, but there are significant opportunities to be harnessed. These include:

- 1. Demographic Dividend:** Africa has the potential to become a major consumer market, driving demand for a wide range of manufactured goods with its young and growing population. This demographic dividend can be leveraged to attract investment in the manufacturing sector and create job opportunities for the youth, ultimately boosting economic growth. Additionally, Africa's abundant natural resources can also serve as a competitive advantage for the manufacturing industry, providing raw materials for production and reducing dependence on imports.
- 2. Trade Agreements:** The African Continental Free Trade Area (AfCFTA) represents a game-changing opportunity for the continent. By reducing trade barriers and promoting intra-African trade, AfCFTA can provide a vast market for African products. This can lead to increased investment in local industries, job creation, and the development of regional value chains. Furthermore, the establishment of trade agreements with other regions and countries can further expand Africa's export opportunities and diversify its markets, contributing to sustainable economic growth.

- 3. Technology and Innovation:** African nations are increasingly adopting technology and innovation. Leveraging these tools can streamline production processes and improve also enhance competitiveness. In addition, technology and innovation can access to financial services, promote digital entrepreneurship, and facilitate the growth of e-commerce platforms. This can enable African countries to tap into the global digital economy and attract foreign direct investment in the tech sector.
- 4. Global Partnerships:** Collaborations with international partners, whether through foreign direct investment or technology transfer, can provide the necessary expertise and resources to catalyze the sector's growth. These partnerships can foster knowledge exchange and skill development, helping African countries build a competitive advantage in the tech sector. Additionally, international collaborations can create opportunities for cross-border collaborations and market expansion, further driving the growth of the digital economy in Africa.

Deploying Next Steps

To realize the potential of the African manufacturing sector, a strategic approach is vital. Here are some key strategies that African nations can adopt:

- 1. Invest in Infrastructure:** Prioritize investment in infrastructure development, including transportation networks and energy grids. Improved infrastructure can reduce production costs and enhance competitiveness.
- 2. Support SMEs:** Facilitate access to finance for small and medium-sized enterprises, which are often the backbone of the manufacturing sector. Financial inclusion and support programs can stimulate growth.
- 3. Skills Development:** Implement comprehensive education and training programs to bridge the skills gap. This includes vocational training, apprenticeships, and STEM (Science, Technology, Engineering, and Mathematics) education.
h of 'Made in Africa' brands.

- 4. Streamline Regulations:** Simplify and digitize regulatory processes to attract both domestic and foreign investors. Reducing bureaucratic hurdles can make the business environment more conducive to manufacturing.
- 5. Promote Regional Integration:** Actively participate in regional economic communities and the AfCFTA to promote regional trade and integration. This can open up new markets and opportunities for manufacturers.
- 6. Incentivize Research and Development:** Encourage innovation through tax incentives and funding for research and development. This can lead to the creation of unique 'Made in Africa' products.
- 7. Leverage Special Economic Zones:** Establishing Special Economic Zones (SEZs) can be a key strategy for promoting manufacturing in Africa. For instance, Ghana's Meridian Industrial Park is an example of how such conducive business spaces can serve as catalysts for industrial growth in the region. This zone can attract not only local entrepreneurs but also international investors who seek to take advantage of the business-friendly environment. On top of that, it is strategically positioned to tap into the vast market potential of the African Continental Free Trade Area (AfCFTA) and boost the growth of 'Made in Africa' brands.

In sum, the continent's objective of developing 'Made in Africa' brands and a strong manufacturing sector is both achievable and essential. Africa has enormous potential and priceless prospects that, when properly taken advantage of, can result in revolutionary economic growth, despite its difficulties. African countries need to invest in infrastructure, help small and medium-sized businesses, close the skills gap through education and training, simplify laws, encourage regional integration, reward R&D, and make use of Special Economic Zones in order to realize this ambition. The continent may also take advantage of trade accords like the African Continental Free Trade Area (AfCFTA), utilize innovation and technology, build international alliances, and profit from its demographic dividend. Africa can carve a position in the global market, generate jobs, promote economic development, and eventually establish a robust manufacturing sector characterized by globally recognizable "Made in Africa" brands by adopting these tactics and overcoming challenges. The moment for action is now, and communities, businesses, and governments working together can help Africa reach its full potential and become a manufacturing powerhouse on the world stage.



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*Synergy Of The Special Economic Zones,
Industrial Parks, Export
Processing Zones And Logistic
Centers*

1. Industrial Revolution 4.0 and Free Zones

The FNEBTP's strategic development plan, supported by the BSC, exemplifies its use as a governance tool to implement its strategy. This non-profit organization effectively measured financial outputs, operational efficiency, member satisfaction, and implemented sustainable practices by extending the BSC's traditional dimensions to include Sustainability. This not only aided comprehensive performance measurement but also aligned economic activities with broader environmental and social goals.

Many changes are happening nowadays, the beginning of the 4.0 industrial revolution faced the effects of the Covid 19 pandemic. Time will show what impact the pandemic had on the development of 4.0 technologies, but it seems that key areas such as artificial intelligence have accelerated (Artificial Intelligence (AI), Internet of Things (IoT), Robotics, Cloud Computing, Cognitive computers (CC), Cyber systems (Cyber-Physical system - CPS), Big Data, Virtual reality (VR), Advanced security systems, etc.

Robotic automation is a rapidly evolving technology. In just a few decades, industrial robots have become a common occurrence in factory settings around the world and are only continuing to gain popularity due to their productivity and profitability.

Robotics will continue to transform manufacturing in a number of ways, through connectivity with IoT and BD technology, the implementation of an open automation architecture, and the growing impact of virtual solutions over physical ones. Complex machine robots that are able to work hand in hand with human beings so-called collaborative industrial robots will support human operators in a joint work process.

3D printing represents a huge potential for mass production. This way allows the creation of products that traditional technologies cannot produce. Traditional production technologies are not able to produce extremely complex parts, but 3D printing is. Also, traditional production technologies require the production of tools before the start of production, which increases costs.

There is no doubt that the 4.0 industrial revolution will change the world and with it the way it works and produces. This development can potentially increase income levels and improve the quality of life of people around the world. On the business side, it drastically changes customer expectations, and improves products through constant innovation.

2. Actual situation of existing free zone models

In the 21st century, the convenience of zero customs duty and taxes, which free zones offer, is no longer enough.

As the trend of reducing tariffs in the world is on the rise, the exclusive role of free zones in enabling business exempt from paying customs duties is becoming less and less a key factor in investors decision to operate in zones. Far from the users having no interest from the exemption from paying customs duties, but this benefit is beginning to be equal to other benefits offered by the states in the zones. Exemption from paying various types of taxes is a generally accepted principle in all zones of the world. In this procedure, there is no great damage to state revenues, because, after a certain time, the state will indirectly provide revenues, which it gave up when it could not have them (because there is no business in those areas now).

At this moment, there is a need to apply a new model of free zones that will respond to the challenges of the new industrial revolution 4.0. The necessary flexibility can be guaranteed by a model that will perform a synergy of positive features of all existing free zone models.

In practice, different names for free zones are often encountered (export processing zones; free port zones; trade free zones; non-custom zones, etc.). These names do not represent different names for the same thing but indicate different concepts of free zones depending on their purpose and the types of benefits they provide in business.

The general principle on which the idea of free zones is based is very simple: to provide benefits in the field of fiscal policy in combination with additional incentives at the state and local level. In this way, create attractive places for capital investment, spaces of accelerated development and employment.

3. Special Economic zones

A special economic zone is a separate, uninhabited part of the country's territory where business activity may be conducted under preferential conditions defined in the Act on Special Economic Zones. Special economic zones (SEZs) are areas which are used to attract foreign and domestic investment into a specific part of a country with a view to concentrating economic activities in that area. Farole¹ defines SEZs as follows:

- “Special economic zones are spatially delimited areas within an economy that function with administrative, regulatory, and often fiscal regimes that are different (typically more liberal) than those of the domestic economy. Operating through a variety of different forms – such as export processing zones, economic processing zones, free zones, and foreign trade zones – SEZs aim to overcome barriers that hinder investment in the wider economy, including restrictive policies, poor governance, inadequate infrastructure, and problematic access to land” (Farole, 2011, p. 17).
- SEZs are different from the other parts of a country and this is reflected most strikingly in the impact on individuals who move across their borders. Outside the SEZ, the individual occupies a situation relative to the law that is the same as any other person; inside the SEZ, the individual suddenly becomes subject to a different legal regime, one in which capital is privileged above labour.

In East Asia, as well as in some other parts of the world, an additional level is added to this situation through the spread of advanced capitalism to areas which had been organized according to pre-market modes of living. This great transformation is uneven in nature because of the original unequal distribution of resources according to first nature and then the recreation of nature under human development known as second nature. The term ‘exceptional space’ has also been used to describe a category of areas of physical space in which the legal regime is different from other domestic areas and may be different from international norms and SEZs are part of a subset of this.

Special Economic Zones are widely used in most developing countries and many developed economies. Within these geographically limited areas, governments facilitate industrial activity through fiscal and regulatory incentives and infrastructure. Today more than 500 new SEZs are planned. The SEZ boom is part of a new wave of industrial policy and a response to growing competition for international mobile investment.

There are several types of SEZ². Basic free zones aimed at facilitating trade logistics are most common in developed countries. Developing countries tend to employ integrated zones focused on industrial development, which can be multi-industrial, specialized or focused on developing innovative opportunities. The degree and type of specialization is closely related to the level of industrialization of countries, following the ladder of SEZ development.

¹Farole, Th. and Gokhan Akinci (eds.), (2011). *Special Economic Zones: Progress, Emerging Challenges, and Future Directions*, Washington, D.C.: The World Bank

Many new types of SEZs and innovative zone development programs are emerging. Some focus on new industries, such as high technology, financial services or tourism - that move beyond the trade and labor-intensive production activities of traditional SEZs. Others focus on environmental performance, the commercialization of science, regional development, or urban regeneration.

International cooperation on the development of zones is becoming more frequent. Many zones in developing countries are being built through bilateral partnerships or as part of development cooperation programs (Great Stone - Belarus and Chinese SEZ in Minsk). Regional development zones³ and cross-border zones comprising two or three countries are becoming a feature of regional economic cooperation (Austria/Hungary cross-border Industrial Park Szentgotthárd).

SEZs can make a significant contribution to growth and development. They can help attract investment, create jobs and increase exports - both directly and indirectly, where they manage to build links with the wider economy.

SEZs can also support global value chain participation (GVC), industrial upgrading and diversification.

The 2030 Agenda for Sustainable Development Goals (SDGs) provides an opportunity to develop a completely new type of SEZ: the SDG (Sustainable Development Goals) model area. Such zones would aim to attract investment in activities relevant to sustainable development, adopt the highest levels of ESG standards and compliance, and promote inclusive growth through linkages and spillovers.

² FIAS, (2008). *Special Economic Zones Performance, Lessons Learned, and Implications for Zone Development*, Washington, D.C.: The World Bank Group.

³ Kostić, Č., D. (2011). *Strategy for the Development of Free Zones in the Function of Regional Development*, XVI Scientific Conference Regional Development and Demographic Flows of Southeast European Countries, pp. 316 - 333. Faculty of Economics, University of Niš.

4. Industrial Parks

An industrial park, business park or industrial zone is a modern urban and organizational form of concentration of industrial and other plants in a city. It is a part of the city space intended for industrial production in which a large number of plants are built, which often have a common infrastructure (railway, roads, gas pipeline, electricity, transmission line, water supply, sewerage, telecommunications, airport, etc.). Therefore, the industrial park is not just a functional, larger spatial concept.

Due to the above, industrial parks are planned outside the city zones, or at least on their outskirts, with good traffic connections, both road and rail. If the other traffic junctions are closer, the location is better, and those are airports and (in our case, river) ports.

It is necessary to follow several principles in order to form an industrial park on the new location.

The main infrastructure should be shared, large capacity, and accessible to all users of the space (usually there are more), in order to reduce their costs. This refers to access roads, sources of electricity and, possibly, gas, communication cables, supplying larger amounts of water.

The integration of infrastructure means that everything is in the same place, and that the use by some does not hinder others in meeting their needs. The benefit of all participants should be unambiguous, pre-designed and significant.

The space, as we have stated, should be outside urban areas, in order to reduce the impact on the normal functioning, communication and social life within residential or residential-business units.

Environmental impact control (all environmental parameters) should be performed in the most modern way. It is normal and expected that different industrial parks meet these criteria to different extents, but it is necessary to prescribe in advance the rules that must be followed and the limits that must not be exceeded.

Today, modernly designed and realized industrial parks have become very attractive for some large companies and societies, interconnected because they do not have to worry about going out on the field and making urban plans, because the offered zones already provide for that. This is especially important when it is known today that an increasing number of industrial

companies have been forced to move from urban areas of the city by various measures of the administrative authority. Thus, the development of cities is accompanied by the creation of industrial parks, as one of the most powerful means of municipalities, for better and healthier organization of life of their citizens, but also a good marketing move of cities and regions to attract industry to their space, of course if they want.

Throughout history, until the grouping of certain production activities in the same geographical position, it aimed to satisfy numerous needs of producers and traders, such as the presence of raw materials, labor, transport, customers or other related industrial activities. Historically, this type of regrouping of the same or related activities in a geographical locality is very old, and the main place of regrouping was often a city, which benefited from this economic activity that sometimes created it.

The factors that triggered producers in the same geographical location were very different:

- The presence of a workforce and a large consumer market were essential.
- Transport routes, which were of special importance, both in terms of supply of raw materials and in terms of marketing production. Roman roads, for example, enabled the city at the crossroads to thrive by concentrating production activities.
- Sea or river ports, as an important factor for the concentration of production activities and transportation of raw materials and export of finished products
- The region's wealth of raw materials, which could be channeled to the city by road or river transport network, where the raw materials were transformed into finished products or semi-finished products used on site, are transported to the region. surround or export further.

In modern times, these parks have become an important shift in the concentration of production activities, mainly for quantitative reasons, ie increasing the volume of production, in relation to the work investe. The emergence of industrial parks was influenced by technical innovations.

The development of the transport network also enables the beginning of a significant specialization of cities or regions around several customized and profitable activities.

At the end of the 20th century, the concept of industrial parks⁴ or zones with numerous newly established industrial plants was developed, especially for the needs of industry. These locations were created as a result of political will and appropriate planning development of the territory. For this purpose, large land areas are usually selected at an attractive price near road, rail or sea and river transport. In these parks, favorable tax provisions are introduced to attract users.

In general, these large industrial parks are most often built around the main type of activity, for example petrochemical products or the automotive or aerospace industry, but the advantages of the location also attract industries focused on other production. Concentrations of skilled labor and highly educated researchers engaged in the development of the zone are increasingly participating in the development of such an industrial area.

The post-industrial economy, which is increasingly turning to service industries or high technologies, and large industrial production sites are sometimes abandoned after a significant drop in activity or relocation to more attractive countries, has changed the appearance of some industrial parks. leading to the creation of large technopoles.

When choosing a location for a park, you should compare several possible locations and make a direct choice based on a set of different criteria. Sometimes site selection criteria may already exist in the form of state regulations and guidelines, although these criteria may be specific (based on specific requirements for planning and arranging space for industrial use). Laws or regulations that protect certain vulnerable areas or resources serve as limiting factors and must be included in the criteria used to select the site. Finally, there are general principles for land use planning in ecologically protected areas.

5. Export processing zones

Export processing zone (EPZ), an enclosed part of the territory of the state that provides special benefits for production companies, it is a mean of economic policy⁵ used by the Government to create areas of accelerated development. Foreign direct investment and development of new technologies, have an increasing impact on the international economy. Countries are turning to market economies and struggling for foreign direct investment.

⁴ Kostić, Č., D. (2008). *Free production zones and industrial parks*, Zaječar: Megatrend University, Faculty of Management.

⁵ Kostić, Č. D. (2007). *The role of free zones in the process of restructuring economy of Serbia*, Zaječar: Megatrend University, Faculty of Business Studies.

The essence of EPZ is contained in their basic and simple characteristic: that, by providing special benefits – bussines without custom duty and Vat, for production activities, attracts foreign direct investments, which enable the increase of labor force in the economic and geographic space of the host country.

At the beginning of the new millennium, the role of EPZ in the world economy is growing. At the current moment, the global financial and overall economic crisis of the EPZ plays an important role as an instrument for the fastest attraction of investment in certain areas.

EPZ can be used as an effective tool in certain areas within the area covered by the economic zones to increase business efficiency, attract foreign direct investment, and increase employment.

6. Logistic centers

In area of EPZ it is possible to create one logistics centers⁶ , are no longer just storage places, but today they are part of the supply chain (Supply Chain Management) that extends from suppliers to end customers. Their advantage over other logistics centers (terminals, logistics parks, freight transport centers, distribution centers, freight willage, etc.) is reflected in simplified customs procedures and activities exempt from customs duties and direct taxes (VAT) in the international transit of goods.

Today, logistics in EPZ goes beyond their borders and is included in a network of complex activities that include the organization and execution of all phases of movement of goods between the sender and the recipient. It includes the organization of transport, storage, customs brokerage, preparation of goods for further shipment and distribution to the final recipient in the country and abroad.

Users of modern EPZ remove logistics activities from their activity and direct their business activity to the main activity. Entrusting logistics activities to specialized centers to zone users brings a number of advantages such as: lower costs, reduced investment and faster and safer services in the international supply chain.

⁶ Kostić, Č., D., Simonović A., Stojanović V. (2012), *Construction Of Intermodal Logistics Center As A Support To Regional Development And Improvement Of Cross-Border Cooperation [in:] Regional development and demographic flows of south-east european countries*, edited Lj. Stanković, University of Niš: Faculty of Economics

There are numerous services in the Logistics Center that are directly related to the entry/amount of goods to/from EPZ. Services that in practice take place in particular within zones and in this regard can be considered services directly related to the entry (import) or amount (export) of goods to/from EPZ are activities related to transport:

- measuring the means of transport before and after loading/unloading;
- loading-unloading of goods into the means of transport (truck/wagon/container);
- control of packaging and labeling;
- activities during shipment - delivery: terminal; forwarding; customs clearance; insurance of goods and means of transport, storage on a means of transport;
- activities in the port: port agency, communication with shipowners, collection of containers, removal of containers from the ship, forwarding and customs clearance, loading of containers on a means of transport - truck or wagon;
- activities during transport: parking; unloading in case of unforeseen circumstances;
- freight forwarding services: truck registration, storage of goods, entry of goods for processing, production and filing of customs documents, regular customs clearance, filling in forms, control of loading and unloading, organization of loading/unloading,
- analysis of the condition of the user's goods, keeping records, registration and distribution of the received goods and preparation of accompanying documentation;
- services provided to users in the zone: freight forwarding services related to import, export and entry of goods into the zone; international transport organization services, mediation in domestic and foreign transport;
- services of storage of goods to users who have and who do not have production in the zone, fee for performing activities in the zone, services for one-day storage in a freight vehicle / wagon within the zone;
- It is very important and extremely convenient for users that all activities within the logistics center take place without paying customs duties and VAT.

We can categorize logistics terminals in three types: port terminals, rail terminals and distribution centers. All three have road and rail access. Port terminals have also maritime or/and inland water access.

Within the port terminals we can distinguish the most substantial terminals in terms of size, traffic and capital requirements. Port terminals are composed by two groups of intermodal terminals (maritime container terminals and barge terminals).

Maritime container terminals – is the most prevalent form of port terminal. It provides an interface between the maritime and inland system of transport. The terminal is used mainly like a buffer while containers wait to be loaded on another ship. Besides its buffer function, the terminal is hosting a wide array of logistical services.

Barge terminals – is the result of the spreading process of containerization of inland river systems. This type of terminal is linked with major deep sea terminals with scheduled barge services. In the maritime container terminal, barges usually have specially designed areas in order to avoid congestion.

Port terminals are linked at the start of the inland intermodal chain with rail terminals. This kind of intermodal terminals can be: satellite terminal – a facility located at a peripheral and less congested site that often performs activities that have become too expensive or space consuming for the maritime terminal. The terminal is linked to maritime terminal through rail shuttle or truck transportation services; load center – an intermodal rail terminal servicing a regional market area; transmodal terminal – an intermodal terminal that is servicing more than a rail network. In this case, the terminal is hosting only a series of transmodal (rail to rail) operations or it can host also the usual logistical services.

Distribution centers are also a category of intermodal terminals, performing an array of value added functions to the freight, with transmodal operations dominantly supported by trucking. They could be grouped in (Rodrigue et al. 2013): Transloading facilities – mainly transfers the contents of maritime containers into domestic containers or trucks. Shipments could be palletized as part of the transloading process; Cross-docking – the contents of inbound loads are sorted and transloaded to their final destinations. This type of terminal is to be found in the last segment of the retail supply chain; Warehousing – a standard function performed by the majority of distribution centers. This acts as a buffer and point of consolidation within supply chain.

Because port terminals, besides rail and road access have also access to maritime and/or inland transportation, the performance indicators used to measure this type of terminals are composed by those used for rail terminals and distribution centers plus a specific category suitable to maritime and/or inland transportation.

7. New model: Synergy and optimal free zone model in 4.0 Industry

The universal model does not exist, so it is necessary to apply one's own - the one that provides the greatest benefit. Drawing on the experience we have with free zones since the 1970s and the growing number of locations that can be industrial parks, the best result would be a symbiosis of special economic zones, industrial parks, export processing zones and logistics centers. Potential investors are offered all benefits in one place - special economic zones to offer in one part, space for industrial activities (industrial park) with a free zone regime equipped with multimodal logistics center. This will give additional attractiveness to the space, while the rest of the industrial park will be intended for business and production for the domestic market.

In free zones, business intended primarily for foreign markets is exempt from customs duties and VAT. Free zone can be formed within the industrial park, where only import/export production programs will be installed. In this way, spaces of accelerated economic development are created, existing facilities and infrastructure capacities abandoned in the transition process (intended for brownfield investments); infrastructurally equipped land for greenfield investments intended for export-oriented production programs with a free zone regime - Free Zone; infrastructurally equipped land intended for greenfield investments intended for production programs oriented to the domestic market and which use several types of business opportunities:

- A SEZ (Special Economic Zone) with state incentives, financial support for investors, zero tax, national employment grants and possibilities offered in national free trade agreements;
- B IP (Industrial Park) with cheap and infrastructure equipment land and municipality incentives (zero municipality tax, facilities for the construction of production facilities, etc.);
- C EPZ (Export Processing Zones) exempt from customs duties and VAT;
- D LC (Logistic Center) with intermodal terminal.

This combination of different purposes and the concentration of all benefits that can be provided (state, local governments and entrepreneurs) provides a flexible system that meets all the potential needs of potential investors where everyone can find for themselves what suits them.

On the current phase of development of free zones, it is possible to perform a New free zone model - all benefits and services in one place 4 in 1 = 4.0

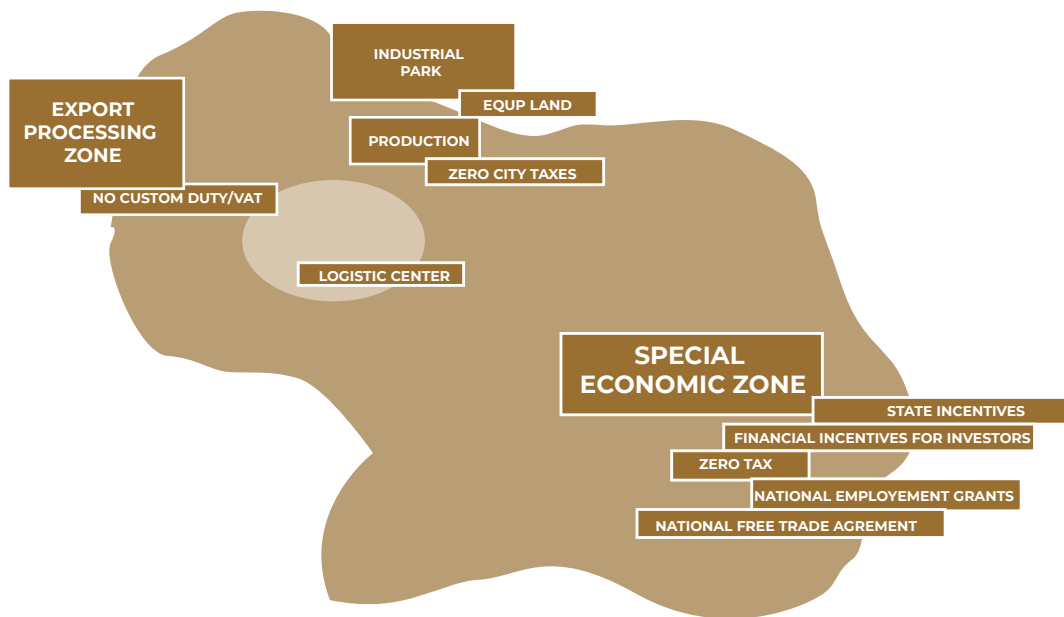


Figure: A new free zone model (authors image)

At the time of the fourth industrial revolution, the new free zone model should summarize all the good features of these three free zone models. Such a model could have the working title "4 in 1" and would imply a synergy of the existing three models.

7.1. Combining business benefits

The condition for the concept of free economic zones, industrial parks and free zones to effectively attract new direct investments is to offer maximum incentives and benefits. In addition to the duty-free and VAT-free business regime, investors can also be offered a set of attractive benefits and facilities at pre-determined locations (all in one place):

- fiscal benefits - exemptions from tax burdens on labor and capital such as taxes:

- Income Tax — a percentage of individual earnings filed with the federal government,
- Corporate Tax — a percentage of corporate profits taken as tax by the government to fund federal programs,
- Sales Tax — taxes levied on certain goods and services,
- Property Tax — based on the value of land and property assets,
- Tariff — taxes on imported goods imposed in the aim of strengthening internal businesses,
- Estate tax — rate applied to the fair market value of property,
- on salaries and corporate income tax, tax credits; existing tax exemptions; accelerated depreciation of fixed assets;
- existing financial benefits - direct financial support to small and large investors; subsidies from the National Employment Service intended for employers;
- special benefits for users of free zones and industrial parks - low prices of services of zone and park operators; unified services of logistics centers (customs brokerage, organization of transport, transshipment, storage ...), low prices for space and land lease, etc.;
- benefits of the local community - offer of municipal land and infrastructure at prices more favorable than the market; exemptions from municipal taxes and duties for the construction and operation of facilities; offering facilities for brownfield investments free of charge, etc.

Integrating all amenities into one-stop services creates a modern type of free zone that can meet the demands of Industry 4.0. In one place, investors are offered unified business benefits:

- Subsidies: a combination of state, regional and local government subsidies;
- Unified business services (free zone, industrial park and logistics center);
- Unified benefits in one place (zero customs and VAT, infrastructurally equipped land, zero city and municipal taxes, financial incentives, etc.);
- Networked zones;
- Efficient administration and diversity of business benefits

The symbiosis of special economic zones, industrial parks, export processing zones and logistics centers is reflected in the overlapping of all types of benefits, state and local, in one place, which makes the whole concept an attractive space for capital investment.

The development of the environment will be influenced by the attraction of new technologies as well as the education of the workforce. Everywhere in the world, free zones contribute to technology transfer. Direct contact with world knowledge promotes the most important factor of development - the human factor. Thus, the development of human resources is achieved through contact with technical, marketing, managerial and other advanced achievements through various types of know-how arrangements. At the same time, logistics operations monitor production activities, which leads to the development of other segments in the services sector. Higher employment activates broad consumption in the region and enables the development of all types of service business and trade activities.

7.2. Networking of free zones in the world

Free zones are an important part of the global supply chain. Almost a third of world trade passes through free zones. At the moment, there are more than ten thousand different types of free zones in the world, which employ close to seventy million people. Connecting free zones with an interactive e-Platform will allow free zones to be part of Industry 4.0. Current, direct access to potential investors and existing zone users to databases, with minimal costs are benefits that can be exploited by free zones. In this way, it is possible to connect the zones with logistics organizations and ports, so that end users would receive all services in one place - from the organization of delivery of raw materials and organization of production to the delivery of finished products to the end customer. New digital tools reflected in cloud computing and big data can create the potential for potential investors to make decisions faster and free zone users to expand and improve their business by using efficient delivery services by providing direct, near-instant access to end-to-end services. users, all with negligible transaction costs.



Illustration: Networked free zones of the world

Direct the development of networked services intended for users of free zones in the direction of:

- Business services (consulting services, marketing, legal and financial services, customs brokerage);
- Support services (support centers for business activities of users);
- Raising the level of knowledge (education and training, cooperation with higher education institutions through various programs, research and development);
- Development of logistics centers (bimodal and trimodal);
- Development of specific services related to free zones (representation in customs procedures in the process of doing business in free zones).

With an integrated approach, all activities as well as the results of these activities are currently available to the user through direct access. The status of raw materials, production activities and finished products of the users of the zone is known at all times, from the departure of raw materials from the supplier's warehouse to the delivered finished products to the customer.

By applying the technologies of 4.0 industry, networked free zones of the world should provide this type of services to both users and potential investors.

7.3. Integration of logistics centers with free zones and industrial parks

The first stage of the integration of transport modes lead to the creation of the maritime container terminals. This is a specially designed area where container ships are loaded and unloaded of their cargo. Because of the difference in the transport capacities of the modes of transport (maritime on one side and all others on the other side), a maritime container terminal acts primarily like a buffer zone, enabling a continuous flux of merchandise to leave or come from/to the hinterland and foreland areas.

The second stage of the process of the development of intermodalism lead to the spreading of the container terminals in inland areas. This resulted in the development of the bimodal and trimodal inland terminals as a new part of the transport system. These terminals have a major role in the transport system, integrating maritime shipping networks and port terminals with the inland freight distribution systems. An inland terminal acts like an inland port. Most frequently, inland terminals are linked to a maritime terminals by a regular rail or barge transport service. These terminals act like distribution centers, depots for containers, warehouses and logistical services providers.

The European Commission defines intermodal freight terminals or transshipment points as locations equipped for the transshipment and storage of Intermodal Transport Units (ITU) like containers and swap bodies. They connect at least two transport modes, which usually are road and rail, although waterborne (sea and inland waterways) and air transport can also be integrated. The efficiency of intermodal freight terminals significantly affects the entire intermodal freight transport chain (EC 2006).

In the last stage of the process, that of the propagation of the intermodal and transmodal operations, the accent is put on the reduction of the number of times a container is handled, as well as the velocity at which intermodal operations are performed. This stage is focused on improving the overall efficiency of the entire intermodal process.

The role of logistics centers from the aspect of environmental protection is of great importance. About 20% of green house gases are the result of transport activities. These emissions contribute to global warming resulting in various effects like sea level rise, agricultural impacts (due to changes in temperatures and rainfall), health impacts

(increase in heat stress, reduction in cold stress, expansion of areas amenable to parasitic and vector borne disease burdens (e.g. malaria, etc.), ecosystems and biodiversity impacts, increase in extreme weather effects, etc. The main greenhouse gases with respect to transport are carbon dioxide (CO₂), nitrous oxide (N₂O) and methane (CH₄).

The issues and opportunities are nevertheless presented here for awareness building and to help the decision markers of the project to understand the emerging additional significant economic benefits that can be derived in Serbia from the fostering of carbon emission reduction in transport projects with the EU.

The tentative estimation of the economic benefits below is based on:

- i. the number of TEU that are estimated to contribute to enhanced combined transport compared to a no project scenario (incremental approach),
- ii. the expected carbon emission reduction that such combined approach would contribute in avoided emission of tons of CO₂/TEU equiv.,
- iii. the economic benefit defined as economic cost saving to be attributed to the avoided emissions. The expected TEU traffic is as presented earlier and the other two elements are discussed below.

According to a specialized EU study (Assessment of the Contribution of European Combined Transport to Environmental Policy Goals: Reduction of the Transport related CO₂ Emissions to hamper greenhouse effect, 2003, by International Union of Combined Road-Rail Transport Companies (UIRR), Brussels, Nestear, Gentilly, SGKV, Frankfurt and Lugmair, Roitham) using a combined transport chain (road-rail-road) instead of a road only transport can in Europe in average reduce CO₂ emission by around 45 % and that the rail part is reducing the consumption to 40% (rail km compared to road km in combined transport. This means a CO₂ savings of 60% per combined transport facilitated by the logistic centre.

To monetize the economic benefit of CO₂ emission reduction a base value per ton of CO₂ emission avoided need to be considered.

A relevant benchmark for this estimation is the current value of a ton of CO₂ emission avoided under the European Union's Emissions Trading Scheme (EU ETS) as EUA (EU Allowance) or CER (Certified Emission Reduction).

The current price level is around 8 EUR/ton a price partially depressed by the current poor economic outlook of the EU zone. However according to market intelligence companies specialized in the field (Point Carbon or similar), the price of an EU Allowance (EUA) or CERs) could rise to around 25 EUR / ton in 2016. The rationale for such expected increase of price is the estimation that the EU will adopt a 30% reduction target and that new cap-and-trade schemes in the US and in other regions have become more likely, potentially linking up with the EU ETS.

The EUA or CER value is a good indicator for the case the logistic centre could somehow in future phases of the ETS monetizes its effort to promote CO₂ emission reduction through credibly documented proactive facilitation of combined transport.

For the estimation of the economic benefits of the center another approach may also be considered based on the estimated environmental cost of emitting in Europe one ton of CO₂.

8. Logistic centers

The new model of free zones should be designed and developed so that it can follow the requirements of 4.0 Industrial Revolution. The ideal free zone should synthesize all the benefits in one place.

In addition to zero tariffs and taxes, which are implied, modern free zones should offer investors and users integrated services, connectivity via cloud computers with all free zones in the world as well as relevant state institutions and international organizations.

In one place, zone users should be provided with all non-core business services directly and instantly, from marketing information (in the early stage of making an investment decision through obtaining a building and use permit directly to consulting, customs, logistics, security, health and all necessary services).

Free zones thus become a necessary service to their users that connects them with the local community, the state and the whole world.

Free zones thus become a necessary service to their users that connects them with the local community, the state and the whole world.

From a general standpoint, as a logistics base, due to its position, Serbian Logistic Centre Pirot is a good place for a company to locate its operations if wanting to closely and most efficiently serve its EU, SEE or Middle Eastern customers.

Free Zone Pirot can be effectively served by rail from the Black Sea ports, especially Burgas, which is exhibiting significant trade increase in recent years. Furthermore, Thessaloniki can be also reached by rail, with a slightly less effective connection, and in perspective the resolution of the current issues in the Nis and Beograd railway stations will lead to effective rail connections also with the Adriatic ports (e.g. Rijeka, Koper). This might have importance in increasing the supply of future regional distribution centres.

Possibilities of intercontinental and international supplying of the Pirot intermodal centre will increase in the future, together with a substantial increase of its accessibility in the Balkans. Therefore, Pirot can be an ideal candidate for regional distribution in the area. This possibility will be subsequently explored in a detailed feasibility study which will identify potential customers, starting from the supply chains of the customers already established in the Free zone.

The Logistic Center Pirot has the potential to lower green house gases emission and it stimulates greater use of a “combined transport chain” (road-rail-road instead of only road transport) for good either shifted from road to rail at the logistic centre or exported out of Pirot industrial sites.

Precisely the traffic infrastructure is a general condition for the development of the state and the development of traffic has an impact on the development of the economy, on attracting new foreign investments, on better living conditions of citizens. The intermodal terminal will encourage the transport of goods by rail, which will affect the improvement of the railways and railway transport in Serbia, as well as the better connection of the railways with the surrounding railways.



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Dr. Adil Alzarooni

Chairman

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*Economic Zones: Leveraging Venture
Studios for Startup Success*

Economic zones serve not only as a potent strategy for establishing startups but frequently become indispensable for their long-term success. They offer the infrastructure, services, advantages, and market access vital for thriving in a competitive global environment. Nonetheless, to ensure ongoing business viability, zones must embrace innovative strategies or business models.

One such model is the venture studio model, also referred to as a startup studio or venture builder. This rapidly expanding model systematically creates and launches multiple startups. Unlike conventional incubators or accelerators, which mainly assist external startups, venture studios often originate and develop their own ideas, providing financial and non-financial resources, and guidance to transform concepts into fully operational businesses.

Within a venture studio, a founding or core team with diverse skills is assembled to follow this venture-building process:

- Ideation - Brainstorming and researching multiple ideas
- Creation - Selecting ideas based on feasibility and suitability to create minimum viable products (MVPs)
- Validation - Testing various iterations of the MVP with a selected group of users and reallocating resources if an MVP is not successfully validated
- Launch - Refining and successfully launching validated products
- Scale - Increasing resources if the product demonstrates good market fit to facilitate scaling up

The venture studio model offers numerous benefits, such as improved efficiency, higher success rates, and enhanced scalability. According to a report by the Global Startup Studio Network (GSSN), startups originating from venture studios typically achieve 30% higher success rates compared to traditional startups. Approximately 84% of startups emerging from studios successfully raise a seed round, with 72% of them progressing to the series A stage, compared to only 42% of traditional ventures reaching this stage.

Venture Studios vs. Incubators and Accelerators

Various economic zones globally already offer support to startups through accelerators and incubators. So, why should they consider adopting the venture studio model? Here's how the studio model diverges from incubators and accelerators:

1. **Business Model** - A venture studio functions as an entity dedicated to fostering the creation of new startups. It initiates and nurtures multiple startups simultaneously, while incubators and accelerators assist external startups in their growth and development.
2. **Resource Allocation** - Venture studios provide a comprehensive range of resources to budding startups, including financial support, office facilities, and specialized expertise. They also deploy a team of experienced entrepreneurs and engineers to mentor the startup's journey. While incubators and accelerators offer resources like office space, guidance, and networking opportunities, they generally don't offer the same level of financial backing and specialized support as venture studios.
3. **Ownership Structure** - Venture studios usually take an equity stake in the startups they cultivate, whereas incubators and accelerators typically don't assume ownership.
4. **Scope** - Venture studios aim to scale multiple startups simultaneously, while incubators and accelerators focus on assisting one startup at a time.
5. **Objectives** - The main goal of a venture studio is to foster the growth and success of several startups concurrently. In contrast, an incubator aims to guide startups to a stage where they can secure funding, achieve self-sustainability, and eventually scale up. Accelerators concentrate on accelerating the development of startups' products or services and gaining customer traction.

In summary, a venture studio adopts a hands-on approach to incubating and scaling multiple startups, while incubators and accelerators facilitate the growth and development of external startups over time.

Implementing the Venture Studio Model within an Economic Zone

An economic zone can leverage the venture studio model for success in the following ways:

- 1. Build a Startup Studio** - A zone can create its own startup studio featuring a robust founding team dedicated to designing innovative startups aligned with the zone's targeted sectors. Modelled after corporate venture studios, the zone's venture studio can serve as a catalyst for ideation, offering a systematic framework to the creation of pioneering solutions. It can also opt for external ideation, collaborating with founders who introduce their own concepts to the studio.

- 2. Foster an Agile, Entrepreneurial Mindset** – Economic zones can cultivate an innovative ecosystem that fosters the growth of venture studios by providing seamless and cost-effective licensing solutions, facilitating swift initiation of new projects across various sectors and locations.

They can streamline processes to enable venture studio teams to efficiently allocate resources across multiple projects and organize training sessions and workshops to enhance understanding of the venture studio model and its advantages.

Furthermore, zones can support studios in attracting skilled and seasoned entrepreneurs, professionals, and investors to contribute to venture building efforts. They can acknowledge studios or ventures that deliver pioneering solutions.

Zones can also compile and disseminate data, insights, and best practices by assessing the performance of venture studios. Through networking events, they can connect venture studio teams with other studios and companies registered within the zone, fostering opportunities for collaboration.

With a vibrant venture studio ecosystem, an economic zone can attract both local and international investors. This ecosystem can be further strengthened via government incentives; strategic planning by economic zone authorities linking studios to economic growth; and ongoing collaboration between zones and their other ecosystem partners, including educational and research institutions and industry stakeholders.

Strategic Planning: SEZ authorities should develop comprehensive strategies that outline the role of venture studios in achieving economic development objectives. This may involve identifying priority industries, establishing infrastructure and support services tailored to the needs of startups, and fostering collaboration between venture studios, research institutions, and industry partners.

Incentives and Support: Governments can incentivize the establishment and operation of venture studios within SEZs through tax breaks, grants, and regulatory concessions. Additionally, providing support services such as access to affordable office space, mentorship programs, and networking opportunities can enhance the success rate of startups incubated within the zones.

Partnerships and Collaboration: Collaboration between SEZ authorities, venture studios, educational institutions, and industry stakeholders is essential for creating a thriving innovation ecosystem. Public-private partnerships can facilitate knowledge exchange, technology transfer, and market access, driving the growth and sustainability of both venture studios and SEZs.

Monitoring and Evaluation: Continuous monitoring and evaluation are critical to assess the impact of venture studios on SEZ performance and identify areas for improvement. Key metrics may include job creation, investment attraction, startup survival rates, and innovation outputs. This data-driven approach can inform policy decisions and resource allocation to optimize the effectiveness of venture studio initiatives.

It's no secret that Special Economic Zones (SEZs) can play a critical role in a startup's expansion strategy by offering the necessary infrastructure, tax savings and an extensive range of cost-effective services, including banking and financial services, fintech, digital technology, business process outsourcing, and IT outsourcing, consulting, legal and tax advisory services, corporate headquarters, and centers of excellence.

Unveiling Africa's Potential: Africa presents unmatched growth opportunities driven by rapid market expansion, a tech-savvy youth demographic, and increasing connectivity. Our strategic decision to prioritize SEZs enables us to harness this vast potential effectively. Whether focusing on TRIFIC or other SEZs, these zones are custom-tailored to bolster the global expansion endeavors of our companies.

Tax and Financial Benefits: A compelling aspect of our chosen model lies in the array of favorable tax and financial incentives available within SEZs. These incentives hold immense importance for startups, particularly amidst challenging economic conditions and fundraising obstacles:

- Reduced or zero tax on foreign-sourced income immediately increases Net Present Value (NPV), offering a significant financial advantage.
 - Favorable corporate tax rates substantially improve the Income Statement, leading to notable enhancements in net income, especially crucial for demonstrating early profitability.
 - Full exemption from tax on purchases lowers operational costs, freeing up resources for essential growth initiatives.
 - Zero tax on exported services ensures tax-efficient global operations, positively impacting the Income Statement.
 - Complete exemption from taxes on local sales within the SEZ streamlines domestic operations and reinforces the balance sheet.
 - Tax-friendly dividend rates facilitate profit reinvestment, aligning with growth objectives and serving as incentives for investors.
 - Low or zero tax rates on interest income enable effective financial management, particularly in challenging fundraising scenarios.
- Favorable tax rates on management fees and royalties encourage
- strategic investment and innovation.
- Exemptions or reduced rates on capital gains tax provide startups with
- a financial advantage, attracting investors and expanding the investment pool.
- Exemption from stamp duty simplifies administrative processes and
- conserves resources.

These tax incentives seamlessly integrate into various financial assessments conducted during funding rounds, playing a pivotal role in driving our tech startups towards profitability within Africa's demanding economic landscape.

Economic Value Figures for Startups: The substantial economic value figures stemming from these tax savings underscore their significance for startups, particularly amidst Africa's uncertain economic conditions:

- Immediate increase in Net Present Value (NPV) by 6% enhances the financial standing of startups.
- Significant improvement in net income by 38% in year 5 indicates progress towards profitability.
- Increase in excess cash by 27% and retained earnings by 28% by year 5 bolster financial reserves and reflect sustained financial growth.
- Improvements in initial cash balance by 21% in the fifth year and positive growth in operating cash flow by 38% from the fourth to the fifth year fortify the financial foundation.
- Free cash flow records an impressive 38% improvement by the fifth year, showcasing increased financial efficiency.

In summary, expanding into Africa through SEZs is not only effective but also indispensable for startups navigating the challenging global landscape. Creative approaches are essential for survival and long-term sustainability, especially as startups in Africa face greater fundraising hurdles compared to Western markets. SEZs emerge as game-changing solutions, offering a blend of tax incentives, services, guidance, and infrastructure unmatched elsewhere. With SEZs as allies, startups can not only survive but thrive, empowering Africa's entrepreneurial spirit and fostering collective success.

Special Economic Zones (SEZs) have long been recognized as powerful tools for spurring economic growth and development by offering favorable business conditions, streamlined regulations, and targeted incentives. These zones often attract foreign direct investment (FDI), promote exports, and foster innovation. However, ensuring sustained success and competitiveness requires continuous adaptation and innovation. In this context, the emergence of venture studios presents a promising avenue for SEZs to catalyze entrepreneurship, foster innovation ecosystems, and drive economic diversification.

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Help create a compelling vision for a venture studio operating within an economic zone to build transformative startups

Match cross-functional expertise of founders, product leaders, marketers, engineers and operators with financial resources

Bring together a team of high-performers who can create and evolve novel solutions

Embed a marketing department in the studio's development process in order to communicate effectively with target customers

Oversee the conception and launch of new startups from scratch for success and growth

How Economic Zones Can Promote Venture Studios

2. By creating

Integrating venture studios into SEZs can yield significant benefits for both the zones themselves and the broader economies they serve:

Stimulating Entrepreneurship: By providing aspiring entrepreneurs with a supportive ecosystem, access to capital, and expertise, venture studios can encourage more individuals to pursue innovative ventures within SEZs. This influx of entrepreneurial activity can drive job creation, attract talent, and foster a culture of innovation within the zones.

Accelerating Innovation: Venture studios thrive on experimentation and rapid iteration, enabling them to identify promising business opportunities and develop solutions to pressing challenges quickly. Within SEZs, these studios can focus on industries of strategic importance, such as advanced manufacturing, biotechnology, or clean energy, thereby accelerating technological innovation and competitiveness.

Facilitating Knowledge Transfer: SEZs often seek to attract multinational corporations (MNCs) seeking access to new markets or cost-effective production facilities. By co-locating venture studios with these MNCs, SEZs can facilitate knowledge transfer, collaboration, and technology diffusion between established industry players and emerging startups. This interaction can enhance the capabilities of local entrepreneurs, strengthen supply chains, and spur cluster development.

Diversifying the Economy: Many SEZs are heavily reliant on a few key industries or sectors, which can pose risks in the face of economic shocks or technological disruptions. Venture studios offer a vehicle for diversification by fostering innovation across a wide range of sectors and encouraging the emergence of new industries within the zones. This diversification can enhance resilience and mitigate the impact of external shocks on the SEZ economy.

Attracting Investment: The presence of vibrant startup ecosystems within SEZs can attract domestic and international investors seeking high-growth opportunities. Venture studios, with their track record of successfully launching and scaling startups, can serve as magnets for investment capital, further fueling the growth and development of the zones.

Realizing the potential of venture studios within SEZs requires a concerted effort by governments, policymakers, and private sector stakeholders. Key strategies to leverage venture studios effectively include:

Strategic Planning: SEZ authorities should develop comprehensive strategies that outline the role of venture studios in achieving economic development objectives. This may involve identifying priority industries, establishing infrastructure and support services tailored to the needs of startups, and fostering collaboration between venture studios, research institutions, and industry partners.

Incentives and Support: Governments can incentivize the establishment and operation of venture studios within SEZs through tax breaks, grants, and regulatory concessions. Additionally, providing support services such as access to affordable office space, mentorship programs, and networking opportunities can enhance the success rate of startups incubated within the zones.

Partnerships and Collaboration: Collaboration between SEZ authorities, venture studios, educational institutions, and industry stakeholders is essential for creating a thriving innovation ecosystem. Public-private partnerships can facilitate knowledge exchange, technology transfer, and market access, driving the growth and sustainability of both venture studios and SEZs.

Monitoring and Evaluation: Continuous monitoring and evaluation are critical to assess the impact of venture studios on SEZ performance and identify areas for improvement. Key metrics may include job creation, investment attraction, startup survival rates, and innovation outputs. This data-driven approach can inform policy decisions and resource allocation to optimize the effectiveness of venture studio initiatives.

In conclusion, integrating venture studios into Special Economic Zones represents a promising strategy for driving economic growth, fostering innovation, and enhancing competitiveness. By leveraging the strengths of both models, governments and policymakers can create dynamic ecosystems that attract talent, investment, and entrepreneurial activity, ultimately contributing to sustainable development and prosperity.

About the Author

With over two decades of experience in executive management, investments, sales, logistics, IT security and economic zone development, Dr. Adil has served in various leadership positions within UAE government entities as well as family-owned businesses. He holds directorship positions in diverse sectors including healthcare, education, financial services, logistics, media, technology, F&B, FMCG and real estate. Currently, he operates two family offices.

Dr. Adil holds a bachelor's degree in engineering from the Etisalat College of Engineering, an MBA from American University of Sharjah and a PhD in family businesses and business systems from the British University in Dubai. He has co-authored *Economic Zones: The Essentials*.

I have worked for 10+ years' in the field of economic zone development and currently help zones with their growth plans

Currently, I serve as the CEO of two family offices

In 2021, I co-authored the book 'Economic Zones: The Essentials'

I have experience as a board member, director and investor in various sectors, including education, healthcare, media, technology, etc.

Venture studios are rapidly emerging as the preferred partners for startups across the Middle East, with experts estimating an additional potential funding of \$3 billion. The region, already home to approximately 8-10 venture studios, is poised to witness a surge in such enterprises in the near future.

These studios represent a novel approach to startup development, combining structured business mentorship and venture capital to offer comprehensive support throughout the startup lifecycle.

Sandeep Ganediwalla, managing partner of RedSeer Consulting, highlighted the growing prominence of venture studios in the GCC region, citing examples like Sukna Ventures, Glowfish Capital, Enhance, and Agile Ventures. He noted that over 25 startups have already received backing from these entities.

According to a study by RedSeer, the concept of venture studios has gained global traction, with over 600 studios emerging worldwide in recent years. While the GCC region is still in its early stages, venture studios in the MENA region contributed approximately 10% of the funding in 2020.

Sanjeev Kohli, founding partner of Glowfish Partners, emphasized the unique value proposition of venture studios in accelerating business building by providing cross-functional expertise and financial resources from the outset. He anticipated an increasing number of founders opting to partner with venture studios to expedite their entrepreneurial journeys.

Waleed A Alballaa, an investor in Riyadh-based Sukna Ventures, highlighted the rising significance of venture builders in addressing untapped economic potential within the Middle East. These studios offer innovative models for unlocking value pools and have garnered support from both corporates and startups.

Venture studios in the GCC, including Sukna Venture Studio, GlowfishLabs, Agile Ventures, HoneyBee Techventures, and Enhance, are complemented by venture capital (VC) funds like BECO Capital, Faith Capital, and ASA Ventures, which invest in firms at various stages of development.

Anvita Varshney, managing director of AV Capital Partners, underscored the role of venture studios in accelerating startups by optimizing resources and providing access to mentor and investor networks. She emphasized the importance of early-stage support in navigating the challenges of startup growth.

Industry experts distinguish between two studio models: agency builder and venture builder. While agency builder studios offer startup-building services to entrepreneurs with existing ideas, venture builder studios focus on ideation and sectoral specialization, often collaborating with experienced Entrepreneurs in Residence (EIRs).

Venture studios in the Gulf are evolving towards a "studio plus fund" model, combining their operational expertise with financial backing to support more startups through subsequent funding rounds. This transition aligns with industry trends and presents opportunities for further investment, particularly with the support of government-backed initiatives in the UAE and Saudi Arabia.

Startups play a pivotal role in effecting societal change and spearheading economic recovery and sustainable growth. Ahead of Davos 2022, we engaged with the CEOs of Global Innovators and Technology Pioneers to explore their contributions to driving economic recovery and fostering sustainable, responsible growth. Several Technology Pioneers and Global Innovator Unicorns will be participating in the Annual Meeting, offering their insights on addressing the world's most pressing challenges.

Startups serve as catalysts for global and local economic growth, generating value comparable to the GDP of a G7 economy. The unprecedented funding influx in 2021, exceeding \$600 billion, shattered previous records, with the number of unicorns surpassing 1,000 and continuing to grow exponentially. While growth is imperative for startups' survival, it's equally crucial for them to scale responsibly. We sought perspectives from the CEOs of Global Innovators and Technology Pioneers, representing the Forum's communities of high-growth innovative startups, on how they navigate economic recovery while scaling sustainably and responsibly.

'An Impact-Oriented Business Model and a Committed Mindset' Michelle Longmire, Co-Founder and CEO of Medable

Startups and scale-ups thrive by addressing unmet needs. At Medable, our mission revolves around enhancing patient access to clinical trials and effective medications, reflecting our impact-oriented approach. Our success not only expands our market share but also improves public health and instills hope in communities. Our decentralized platform creates a symbiotic relationship: patients gain access to vital clinical trials, while biopharmaceutical companies benefit from streamlined development processes, ultimately producing better medicines and reducing costs. Our business model, rooted in impact, coupled with a committed mindset, enables sustainable and responsible scaling.

'Making a Lasting Change' Tom Plümmer, Founder and CEO of Wingcopter

The drone industry, akin to the automotive sector a century ago, is experiencing rapid growth. With Wingcopter, we've established a unique mass production facility capable of manufacturing thousands of delivery drones annually, creating numerous job opportunities. Through initiatives like our collaboration with Unicef to train young Africans in drone operations, we're not only addressing societal needs but also fostering economic growth and sustainability. By providing fair wages and access to education, we're empowering the next generation to make a lasting impact.

'Remember Your Purpose' Essa Al Saleh, CEO of Volta Trucks

Balancing economic growth and sustainability can be challenging for startups transitioning to scale-ups. At Volta Trucks, our purpose is to create safer, cleaner, and more sustainable cities through electric vehicles. Sustainability is ingrained in every aspect of our business, from using sustainable materials in our designs to partnering with ethically aligned suppliers. Upholding our core values ensures that sustainability remains integral to our decision-making process, driving responsible growth and long-term success.

'Embed Sustainability into Your Business Model' Val Miftakhov, Founder and CEO of ZeroAvia

Sustainability should be inherent to a startup's business model. With the energy transition, opportunities for economic growth intersect with efforts to reduce emissions and improve environmental impact. Investors increasingly scrutinize the environmental, social, and governance (ESG) components of startups. By prioritizing sustainability, startups can thrive in a landscape where responsible growth is paramount, fostering a self-reinforcing cycle of success.

'An Engine of Change' Eynat Guez, Co-founder and CEO of Papaya Global

Technology startups serve as catalysts for societal advancement, creating jobs, stimulating economies, and attracting investment. The tech industry leads in innovation and social responsibility, driving economic recovery while upholding ethical standards. At Papaya Global, we leverage technology to promote equality and social justice in global payroll practices, contributing to a more sustainable future.

'Create a Strong Culture' Julie Gerdeman, CEO of Everstream

Startups cultivate agility and innovation, enabling them to adapt swiftly and operate sustainably. At Everstream, we foster a culture of sustainability and responsibility, attracting like-minded employees and partners. By aligning values and driving innovation, startups can make meaningful contributions to economic recovery and sustainable growth.

'Ingrain Sustainability into the Company's Core DNA' Sean Hinton, Founder and CEO of SkyHive

Startups must integrate sustainability into their core mission from inception. SkyHive exemplifies this approach by leveraging technology to drive economic recovery and sustainability. Early-stage companies have the agility to effect rapid change, making it imperative to embed sustainability into their DNA.

'Generating Social, Financial, and Industrial Value for All' Stefano Buono, Founder and CEO of newcleo

Startups epitomize innovation and opportunity, generating value and driving societal progress. Through initiatives like LIFTT, which supports startups and fosters economic growth, we can create positive societal and economic impacts, paving the way for a more sustainable future.

'Sustainability Holds a Competitive Edge' Aba Schubert, CEO of Dorae

Sustainable practices are integral to startups' success, offering a competitive edge in a dynamic market. By aligning with consumer values and forging public-private partnerships, startups can drive economic recovery while championing sustainability.

'Startups Drive Economic Recovery while Building the Future' Ariel Katz, CEO and Co-Founder of H1

Startups are more than just job creators; they are architects of hope, community, and progress. Post-COVID, startups are no longer confined to traditional hubs like San Francisco, ushering in a new era of innovation and opportunity.

In summary, startups play a transformative role in driving economic recovery and fostering sustainable, responsible growth. By embedding sustainability into their core values and operations, startups can navigate economic challenges while contributing to societal advancement. As agents of change, startups have the potential to shape a more sustainable and prosperous future for all.

What constitutes a Venture Studio?

A venture studio, also termed a startup studio or startup factory, is an entity that aids entrepreneurs in establishing new startups from the ground up. This involves furnishing resources such as funding, office facilities, and specialized knowledge, along with assembling a team of seasoned entrepreneurs and engineers to guide the fledgling startup through its development and expansion phase. The primary objective of a venture studio is to cultivate multiple successful startups concurrently.



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Dr. Mustafa M Khdair

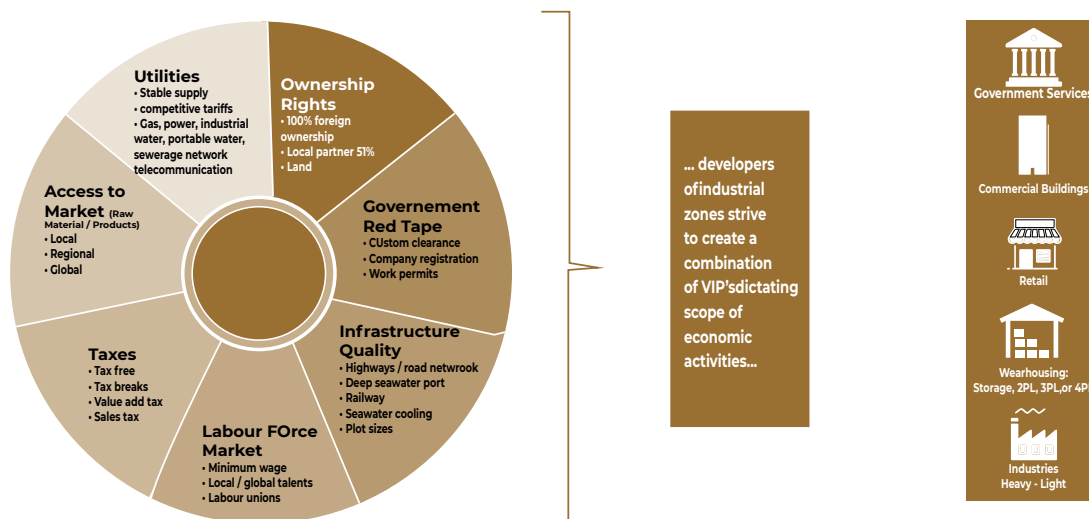
Senior Advisor, Business Development

Mitacs - Canada

*The Evolving Role of Special Economic
Zones in the New Era of Innovation*

The Ultimate Goal: Economic Development

Economic development is at the top of any country's priorities, and Special Economic Zone (SEZ) development is chosen to be part of the execution strategy to achieve medium- and long-term targets. The most common goals that SEZs have across the globe are to increase employment, promote exports, attract foreign investment, gain access to technology, increase the standard of living, and, collectively, achieve economic development. This has especially been found to be the case in the Asian region, where the rapid economic development of several countries has been partly facilitated by SEZs. Additionally, to identify their most effective role in interconnectedness and integration, SEZ development proved to be a significant feature of the globalization phenomenon. SEZ covers a broad range of more specific zone types, including Free Trade Zones (FTZ), Export Processing Zones (EPZ), Industrial Estates (IE), Free Zones (FZ), and Urban Enterprise Zones.



SEZs offer economic laws that are different from the country in which they are situated. To realize their vision, SEZ operators compete by creating the most compelling value proposition to attract investments to their sectors of focus. Their value propositions encompass all business aspects throughout the investment lifecycle, starting with defining a set of differentiating ownership rights, impactful financial incentives, high-standard infrastructure, cost-effective utilities, access to the labour force, and streamlined government services. SEZ development is certainly an investment in the future where governments take the risk while aspiring to achieve the sought-after economic development objectives. This approach depends on investors' success in their own ventures and collectively contribute to the overall ecosystem, breeding more success by attracting new emerging economic activities. With that in mind, it is a long-term commitment on both sides, where the interdependence of all stakeholders represents a key success factor in SEZs' return on investment. It is, therefore, critical to adopt the most effective execution strategy that minimizes the risk of investment failures or interruptions.

What is Industrial Clustering?

One of the approaches in establishing successful SEZs is by creating industrial clusters, a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities. These clusters often extend downstream to buyers and customers and laterally to manufacturers of complementary and supplementary products.

The idea of clustering is both complex and simple; the combined actions of companies, suppliers, related industries, and institutions create a unique business environment. The most critical component of its success in the manufacturing industry is the attraction of an anchor investment(s) along the vertical supply chain of the sector in focus. For example, in steel, it can start at the iron ore mining stage upstream, or it can begin at steel production, where flat or long steel products open opportunities for further mid- and downstream conversion and manufacturing activities serving myriad of B2B and B2C activities such as home appliances, building materials, oil and gas structures.

Clustering Approach



Horizontal Integration

Synchronized Approach to Develop Industrial Cluster

- **Develop Infrastructure to enable attracting ANCHOR Investment**
- **Partner with ANCHOR tenant to promote cluster**
- **Secure financing to support front-end out cash flow**

An example of an anchor in a steel cluster would be Nippon Steel Corporation, the largest producer of crude steel in Japan and the third largest in the world with 44.37 million tons of production in 2022. It operates integrated steel plants that produce steel sheets, bar and rod materials, structural steel, pipes and tubes, railway, automotive and machinery parts, titanium, stainless steel, and steel slag. These products feed into several applications in different sectors, namely the automotive, energy, infrastructure, consumer electronics, and metal design.

The aluminium industry demonstrates another typical example with bauxite mining and refining at the top of the supply chain, followed by aluminium smelting, which triggers investments in many aluminium-based products manufacturing, feeding the automotive, food and beverage, machinery and equipment, and packaging industries, to name a few.

Canada has an annual production of 3.2 million metric tons of aluminium, making it the fourth-largest producer of primary aluminium in the world. In Québec, eight smelters feed aluminium in different forms to 1,400 processors serving 923 manufacturer customers. The ecosystem enabled the development of 684 specialized suppliers, 76 equipment manufacturers, and 132 recyclers. The evolution of the industry was also driven by eight research, development, and training centres.

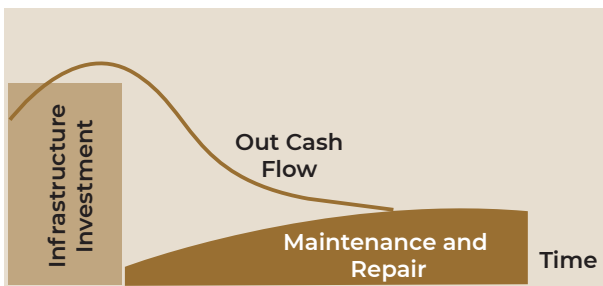
There are several players whose contribution was key to this overall global success, such as Rio Tinto Aluminium, Alcoa, Alouette, and Extrudex Aluminium, representing the anchor's role by smelting aluminium, while the midstream aluminium processors include many equipment fabrication investments such as STAS, Mecfor, Dynamic, and Advanced Dynamics.

From the above examples, clustering is meant to foster collaboration, knowledge sharing, and solid business integration by bringing together diverse stakeholders. These collaborative efforts led, over the years and in different locations worldwide, to prosperity and economic development within the globalization environment of interdependencies between industries and countries alike.

SEZ Developers and Investors are of the Same Mindset

For SEZ developers, the starting point is to ensure that the executive team has the same mindset as their clients, i.e., the investors. It is all about long-term vision realization, the ability to manage large-scale investment, and adaptability to regulatory and industry changes. On the ground, SEZ development commences with frontloading investment in infrastructure construction projects to show commitment in supporting early movers of investors, which will attract more investments in the following years. It is only with persistence that SEZ success will be achieved by delivering the targeted return on investment, as land or commercial facilities selling or leasing progressively increase revenue and build a positive cash flow position over the years.

SEZ developers, besides trying to secure their government’s funding support, also consider procuring project finance or other financing instruments to ensure investor support is sustainable, robust, adaptive to ecosystem changes, and continuous. Additionally, part of SEZs’ early investment is the launch of effective marketing campaigns in targeted markets, and business development engagement endeavors to outperform competition in an already crowded space. The first few years of SEZ development are the most crucial, and if successful, the next stage is more about sharpening the saw of the leadership team’s capabilities in building long-term relationships with clients and the industrial cluster-specific business community.



...high front capital investment in long-term assets, needing access to project-finance for out cash flow support



...with time, success breeds success leading to drop in marketing and promotion budget while revenue grows year-on-year...

SEZ’s Evolving Role Engaging all Stakeholders

The long-term relationship between SEZ operators and their clients representing the different industrial clusters entails a unity of purpose and destiny. As industries evolve and each member's unique cluster’s ecosystem evolves, the SEZ’s environment is requested to follow suit. This is to prevent SEZ’s value proposition from eroding with time as business priorities and industry-specific requirements change, thus demanding agile adaptation and refocusing of efforts to where it matters most.

For example, the introduction of the electric vehicle caused a major disruption in the automotive industry and has not only impacted the assembly plants and their multi-tier suppliers but also created a new industry, namely battery manufacturing, with high demand for critical minerals. A situation that is driving governments to review current mining regulations and laws to ensure controlled operation of mines as they concurrently support the next wave of change in both the automotive and mining sectors.

This new position emerged with challenges in other areas, such as the reskilling of the labour force and developing infrastructure to enable the smooth transition of consumers as they gradually shift to electric vehicles. Although this situation presents itself as a challenge, governments are seeing the economic development opportunity within it and are competing to attract global players to act as anchor investors to lead the revised version of the automotive ecosystem and enable building strong interdependencies with mining companies and relevant suppliers.

As a current case to explore in Canada, the automotive industry contributes \$20 billion to Ontario's provincial GDP, created over 125,000 direct jobs, and an additional 400,000 employment opportunities in aftermarket and dealership services. By hosting five original equipment manufacturers, the province boasts a unique ecosystem of world-leading vehicle assemblers, parts manufacturers, and research centres with over a century of experience. The sector focuses on emerging technologies, advanced manufacturing processes, and electric, autonomous, and connected vehicles as means to achieve a production target of 400,000 electric vehicles and hybrids by 2030.

Along with this vision, combined efforts of the federal government and the Ontario provincial government recently concluded the attraction of Volkswagen's EV battery plant. Generous incentive was offered represented in \$13 billion subsidies over the next decade to entice Volkswagen build its massive \$7 billion electric-vehicle battery plant in southern Ontario. It is expected that 3,000 employment opportunity and thousands of spin-off jobs will be created by this investment which represents a significant step toward advancing electric vehicle technology and boosting the local automotive industry. The deal involved governments offering incentives and local economic development authority to facilitate infrastructure development and enable the provision of all resources for the realization of this strategic investment.

The spillover, of course, is beneficial to the mining sector, where critical minerals can be supplied from Ontario, such as cobalt and nickel. This may also trigger new mining exploration activities to identify new resources for lithium hydroxide, which could potentially be found in the province.

This case shows the urgency to move to support a key sector as it adapts to technological advancements not only to prevent a downturn in the economy but also to ride the new wave for further growth aspirations and beyond. Although relatively large in comparison with most SEZ-sized deals around the world, it does demonstrate how the role of governments and SEZs should rise to the occasion of sectoral disruptions and turn the same into economic development opportunities.

Research & Development and Innovation in Industrial Clusters

Research and development (R&D) has been long recognized as an effective way to increase economic growth. It involves the process of creating and implementing new technologies or improving on existing ones. This is done through the accumulation of knowledge, which then transitions into innovative activities. The result will be increased competition and efficiency in the market. As it is highly valuable, the allocation of R&D activities tends to be with resource-abundant multinational companies. They can be enticed to conduct R&D activities within special economic zones. This will often have spillover effects on the host country's economy.

Innovation has also been proven to increase the competitiveness of an industry, either by simply catching up with best practices that are already known or by pushing out the frontier of knowledge and best practices to invent entirely new methods and products. The rapid transition from low competitiveness to high competitiveness is a driving force for industry participants. This is due to the growing awareness of the strong link between technology and competitiveness, which reinforces the focus on innovation.

Adopting the industrial cluster approach increases communication and cooperation between its member firms, leading to greater investment in R&D and innovation, with many firms choosing to specialize in a particular segment of the industry. This manifests how the clustering business environment affects competition by driving innovation in the field. The net result would be a complete shift in the entire industry to new methods of production, ultimately resulting in the creation of new generations of existing products.

The Role of Academia

In today's world, information technology, artificial intelligence, machine learning, and manufacturing execution systems are just a few examples of where innovators' focus is to take current operational performance to the next level or create new solutions or products that are changing how the world operates. With that in mind, engaging talents from postsecondary education institutions enjoying current thinking and application of science is a must. Time and time again, the role of scholars is proven to be pivotal in boosting R&D and innovation which consequently contributes to educational programs' review for improvement opportunities. Knowledge management is a key workstream in any R&D or innovation initiative, and with the engagement of universities and colleges, postsecondary education will inevitably evolve to cater for industry requirements, and accordingly, prepare the next generation of leaders and skilled workers as they join the workforce.

As SEZs host different industrial clusters, it is imperative to assume that SEZ operators are to cater for a conducive environment to enable investors to collaborate in R&D and innovation initiatives. This can be strengthened by establishing research centres with funding support from industrial cluster members to provide the needed research infrastructure. Universities and colleges, on the other hand, create participation opportunities for students at all levels and refine their capabilities as they build up a country's talent pipeline. It is key to build bridges between all stakeholders to collaborate in achieving the overarching goal of economic development, including the creation, and matching of high-quality jobs requirements.

With the current technological advancement represented by the readily available artificial intelligence tools, entrepreneurs are thriving in their applications across different sectors such as healthtech, fintech, agtech, and edutech. It is a great opportunity for SEZs to host incubators and support entrepreneurs as they embark on the fact-finding mission of addressing local, regional, or global issues in their fields of interest. This is certainly a unique ecosystem that entails the engagement of government departments, angel investor networks, the banking industry, business advisory centres, and others.

In summary, SEZs' role is evolving in alignment with the development within the different industrial sectors of the economy. New opportunities are arising for them to be matched by further fostering the SEZ value proposition and the economic development process. With technological advancement emerging at a high speed coupled with open resources and global accessibility, developing countries can leverage this current environment to drive economic development forward, assuming the role of facilitators who engage all relevant stakeholders to collaborate towards reaching their common goal. Academia has proven over the years that it fuels R&D, trains talent, collaborates with industry, and drives innovation, thus benefiting society. Building the future for the next generation is in the minds of all, and involving talents at local universities and colleges is instrumental for them to contribute as they emerge to lead the future.



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