



**TRADE & INDUSTRIAL POLICY STRATEGIES**

**DRAFT OF THE SOUTH AFRICAN  
MEDICAL DEVICES MASTERPLAN – VALUE CHAIN 2024**

**ANNEXURE 4B: CASE STUDY – DEVELOPMENT OF  
MEDICAL DEVICES VALUE CHAIN IN COSTA RICA**

## **Introduction**

The medical device case studies are explored to investigate how South Africa can successfully compete with other countries globally, or what interventions South Africa can implement to succeed in the medical devices/medtech industry. They inform South Africa on how other countries have built capacities and capabilities in their medical devices/medtech value chains. They provide an understanding of the medical devices industry by highlighting the successful country's comparative and competitive advantages that enable it to be competitive. This will reveal where South Africa needs to improve to catch-up.

### **1. Key Takeaways**

This case study highlights Costa Rica's successful development of its medical devices value chain and its efforts to upgrade within this industry. Some key points and takeaways from the case study are as follows:

#### **2.1 Historical Background**

In the 1990s, Costa Rica strategically targeted the global medical devices industry to attract foreign direct investments (FDIs) and develop local manufacturing capabilities. This export-oriented FDI-driven strategy was supported by Costa Rica's investment promotion agency, CINDE, which provided services to attract investors and troubleshoot issues for foreign companies.

#### **2.2 Impact of Investment Promotion Policies**

Investment promotion policies, coupled with establishing Free Trade Zones (FTZs), led to an influx of investments in the medical devices sector. This resulted in steady growth in exports, reaching US\$1.7 billion in 2014, and the creation of approximately 19000 jobs by 2014 (World Economic Forum, n.d).

Costa Rica has attracted more than 70 medical device companies (Lo, 2018), including major multinational players such as Baxter, Medtronic, Allergan, Boston Scientific, and Hologic (Investment Monitor, 2021; Health Tech World, 2022).

The country offers powerful fiscal incentives, including tax exemptions, to new medical technology firms operating within its FTZs.

## 2.3 Diversification

Costa Rica has successfully diversified its economy, moving from primarily agricultural exports to high-tech and service-based sectors, including medical devices. In 2017, medical devices became Costa Rica's top export, surpassing the agricultural sector (Lo, 2018). The precision and medical equipment sector now accounts for a significant portion of the country's exported goods.

The country's strategy for economic diversification started in the late 1990s and early 2000s when it targeted medical devices as a key sector for growth. This assisted the country to build resilience and vulnerability to economic shocks.

## 2.4 Factors Attracting Investment

**Fiscal incentives:** Costa Rica's FTZ incentive system offers tax exemptions to medical technology firms, allowing them to operate tax-free for several years.

**Skilled workforce:** High standards of education and academic alliances have led to a well-prepared and trainable workforce, suitable for a highly regulated industry like medical devices.

Costa Rica's productivity in the medtech sector has steadily increased, with higher output per employee.

**Investment in education and training:** Costa Rica has invested significantly in education, dedicating at least 8% of its gross domestic product (GDP) to education, ensuring a steady supply of science, technology, engineering, and mathematics (STEM) graduates. Collaborations with universities and technical institutions help meet the industry's evolving talent needs.

**Geographic location:** Proximity to the United States and Europe, its main export destinations, as well as a network of free trade agreements, makes Costa Rica an attractive location for medical device manufacturing and export. The country has a network of free trade agreements with around 50 different countries, providing access to a large portion of the global GDP.

**English proficiency:** The population has a high level of English fluency, which attracts US-originating companies.

**Industry growth and diversification:** Over the years, Costa Rica's medical device industry has expanded and diversified its product offerings. This includes a shift from disposable devices to a wide range of medical and surgical instruments, therapeutic devices, diagnostic equipment, and more.

**Government stability and support:** Costa Rica's political stability and commitment to attracting foreign direct investment have provided a conducive environment for the medical devices sector. The government has maintained stable incentive systems that support the industry.

**Research and Development (R&D):** Costa Rica has been increasing its sophistication in medical device manufacturing and expanding its participation in the pharmaceutical and health sectors. The country is focused on digitisation of medical devices and leveraging existing incentives for R&D.

**Adapting to Technology Trends:** The industry recognises the importance of digital technology, artificial intelligence (AI), and cybersecurity in healthcare. It is exploring how to leverage connected technologies and machine learning in next-generation medical devices.

**Continued Growth:** Costa Rica aimed to increase its annual medical device export value from around US\$3 billion to US\$5 billion by 2020, with the expectation of achieving this ambitious goal based on the sector's growth trajectory.

**Resilience during the COVID-19 pandemic:** The medical device industry in Costa Rica remained operational during the pandemic, demonstrating resilience and stability, with export growth during the COVID-19 pandemic. Some companies shifted production to Costa Rica due to the availability of talent. Costa Rica has become a hub for the production of medical devices, making it attractive to companies looking to nearshore their operations. The country offers a wide range of experienced local suppliers, promoting supply chain versatility.

**Future growth:** Costa Rica anticipates growth in health startups, especially in areas like dental and cardiology, as well as in diagnostics. The country is poised to play a leading role in the global medtech industry.

## Summary

Overall, Costa Rica's success in developing its medical devices/medtech value chain can be attributed to a combination of factors, including strategic government policies, fiscal incentives, investment in education, geographic advantages, and a commitment to diversification, and research and development. This holistic approach has allowed Costa Rica to become a prominent player in the global medical device industry.

## References

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