Modernizing Heidelberg through industrial upgrading and diversification

Region: Europe and Central Asia
Themes: Local Economic Development
Sustainable Development Goals:
- Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable
New Urban Agenda Commitments: Sustainable and Inclusive Urban Prosperity and Opportunities for All

Summary
This case highlights Heidelberg's development in advancing sustainable urban economic development through the process of industrial upgrading and diversification of its economic base.

Background and Objective
Heidelberg is a dynamic city with a mixture of traditional and contemporary tourism, culture, science and technology, and education. The city has a population of approximately 160,000 of which 56,000 are estimated to have immigrated – many of whom are scientists or students. In combination with Mannheim and Ludwigshafen, the city makes up part of the Rhine-Neckar metropolitan region, a polycentric area serving as a key driving force in the German economy aiming to be one of the most attractive and competitive regions in Europe. With a strong scientific presence, Heidelberg is also home to Germany’s oldest university and hosts a number of internationally renowned research institutes and research-based companies, thus making it a high-quality place to live and work with strong economic foundations. Heidelberg is an international tourist destination receiving over 3 million tourists annually. It has 18 museums and is famous for its traditional red roof houses which perfectly preserve the style of the Medieval Ages. The Neckar River divides the city into the north and the south banks, with greenways running parallel which offer leisure areas for local people. The two parts of the city are connected via several bridges, the most famous of which is Karl-Theodor-Brucke, built in the 18th century. Steeped in history, Heidelberg aims to preserve these relics and the cultural identity of the city, as reflected by the city’s local cultural identity preservation programme which includes approximately 1,000 protection objects and 2,100 individual buildings. Founded in 1386, Heidelberg University is an important landmark and pillar of the city, and the oldest university in Germany. The university campus is fully integrated into the old city in that there are no gates, walls or clear boundaries, creating a strong academic presence and reinforcing the prestige of Heidelberg as an academic city. Renowned writers and thinkers including Ernst Bloch, Martin Heidegger, Max Weber and Hannah Arendt all lived, taught and studied at the university, and it is this rich history that attracts a great many tourists every year. As of 2017, a total of 56 Nobel Prize winners and 19 Leibniz Prize winners once studied, taught or conducted research at the university. In the 18th and early 19th centuries, romantic literature was born in the city, and even today a large number of philosophers and sociologists live here. The United Nations Educational, Scientific and Cultural Organization (UNESCO) awarded Heidelberg the title of ‘City of Literature’.

Heidelberg is home to 45,000 students from all over the world as well as a great many publishers, bookshops (1.5 per 10,000 inhabitants on average) and renowned translators. Heidelberg ranks third among all German cities in terms of per capita investment in cultural activities by public organizations (USD 295 per capita, USD 42.5 million in total). The important segments of the creative economy are book publishing (one-third of all creative professionals) and software. Its proportion of cultural and creative industries in overall economics is higher than other cities, with 75 per cent of its revenue coming from literature and publishing. Currently, over half of Heidelberg’s working population are employed in culture-related industries. However, the development of the local economy has faced great challenges with the economic system over reliant on the tourism industry and its status as a university town. The homogeneous industrial structure reduced sustainability of the city’s economy, which led to difficulties in raising the income level for local residents. Urban expansion and economic diversification thus became the common choice of local government, businesses and citizens.

Actions and Implementation
Each area of Heidelberg contains its own unique characteristics and it is this diversity that makes the city vibrant and attractive. The long and narrow old city – the cradle of Heidelberg – is surrounded by city roads that intertwine with nature, whilst Weststadt contains many examples of residential buildings from the reign of Wilhelm. Bahnstadt is a railroad town and currently the largest Passivhaus colony, while other districts such as Handschuhsheim are comprised of combinations of less urbanized areas and life science research institutes with Rohrbach formerly known as a wine village. In terms of rental
Although Heidelberg initially faced a lack of economic sustainability and resilience due to the composition of its industrial structure, the process of industrial diversification through the integration of creative industries was key to laying the foundations for the emergence of additional industry, creating a more heterogeneous and resilient economic base. Despite its position as a traditional tourist city, Heidelberg quickly ushered in economic recovery following the outbreak of COVID-19 due largely to the introduction of a series of emerging industries in recent years. Other cities with varied resource endowments can therefore use the example of Heidelberg as a reference for industrial diversification based on local characteristics and foundations. Heidelberg has seen significant transformation throughout its history and the city has undergone an extensive process of industrial development and diversified industry integration. Where Heidelberg first developed a business conference and exhibition industry based on local assets and cultural heritage, this was followed by the incorporation of biomedicine and other emerging industrial clusters due to the advantages created by science and technology talent from the local universities and industrial bases. The progression in knowledge and technology has strongly influenced life in the city, and has been key in bolstering the capacity and sustainability of Heidelberg’s local economy and the wider Rhine-Neckar metropolitan region. In particular, knowledge and innovation among urban and regional industries aims to innovate the spatial compositions of industry, unlock and provision key resources, and drive the advancement of technology and economies to boost the competitiveness of regional industry. Consequently, in an era in which knowledge, technology and innovation are the powerhouses that enhance competition between quaternary industries and therefore, economies, it is important to understand the role of such industry in boosting economic growth and competitiveness. Heidelberg's high-quality industrial clusters and cross-regional coordination strategy help accelerate the city's development. Whilst industrial diversification is a gradual process following the formation of important sectoral clusters and regional partnerships, Heidelberg has achieved significant transformation through its strategic approach to economic diversification and collaboration with international partners. The city has successfully integrated diverse industries such as biotechnology, life sciences, and creative industries to foster innovation and economic growth. This diversification has not only enhanced Heidelberg's competitiveness but also contributed to the development of a more resilient and diversified economic landscape. The city's strategic initiatives, including partnerships with renowned institutions and companies, have played a crucial role in its success. In conclusion, Heidelberg serves as a compelling example of how cities can effectively diversify their economies through strategic planning and collaboration, leading to sustainable and resilient development.
of specialized industries, it is necessary to build a cross-regional cooperation network to further accelerate industrial development. According to relational economics, industrial innovation and upgrade is dependent on local and external knowledge combined; neither local nor external resources can be overlooked. Cross-regional cooperation in the traditional sense emphasizes the optimal allocation of material factors to promote economic growth. Although the role of technological factors is valued, it emphasizes the importance of technology in driving economic growth in an exogenous way. Cross-regional innovation cooperation states that intellectual capital formed by knowledge spill-over and human capital flow will directly impact the cost of new knowledge capital in a region, thus making technology an endogenous driver of regional economic growth. Facilitating cross-regional innovation cooperation will greatly improve a city’s ability to acquire external knowledge resources and establish new knowledge networks so as to improve the city’s economic momentum and economic growth potential.