

## Megatrend innovation – which regions are the frontrunners and what does this mean for the markets?



December 2023

### Innovation as driver of economic growth

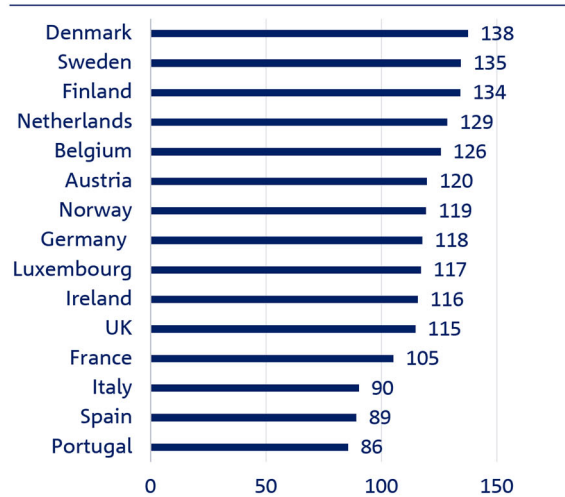
Innovations are a key driver of economic growth, making them a factor in the long-term performance of real estate markets. The latest European Commission assessment of innovation provides interesting results. The study shows which countries and regions in Europe have made the greatest progress in recent years, and which currently take top spot in the innovation ranking.

### Country ranking: northern Europe takes the lead ...

The innovation ranking by country indicates a clear north-south divide for 2023 (see figure 1). Denmark is the frontrunner, followed by Sweden, Finland, the Netherlands and Belgium. Germany is in the midfield, with Spain and Portugal bringing up the rear. But the trend over the past few years (period of change 2016-2023) also reveals that the countries in Northern Europe are frontrunners. Finland is ahead of Norway and Denmark in the ranking of changes (see figure 2).

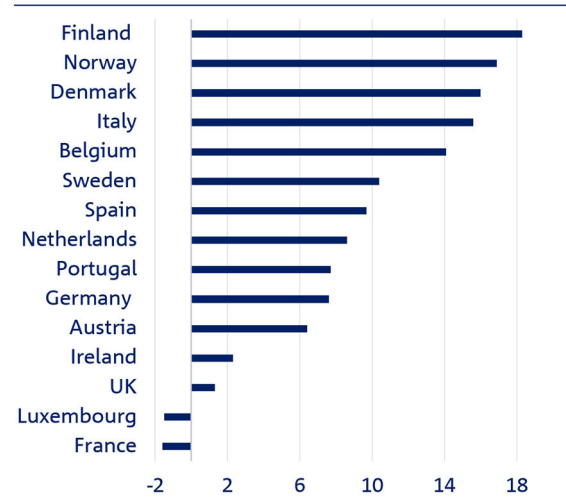
The EU Innovation Scoreboard is a very broadly based assessment consisting of 12 sub-scoreboards. Criteria go from digital transformation up to innovative human capital. The Northern European countries scored particularly well in the sub-indices covering the use of information technology, the networking of innovative firms (start-ups) as well as public and private innovation organisations. These countries also achieve very good results with regard to the number of scientists and scientific studies in the innovation segment.

Figure 1: EU Innovation Index 2023 (selected countries), in index points



Source: European Innovation Scoreboard 2023;  
Graph: Real I.S. AG

Figure 2: Change of index level 2016 vs. 2023 (selected countries), in index points

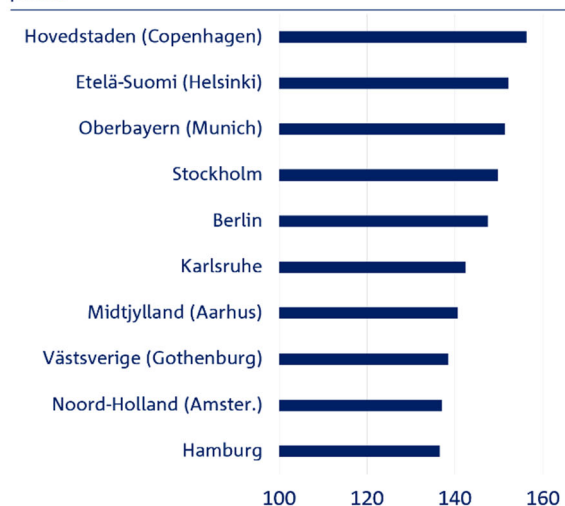


Source: European Innovation Scoreboard 2023;  
Graph: Real I.S. AG

### Regional ranking: many German cities/regions among the top ten

The innovation index is also calculated by the EU on a regional basis (geographical breakdown into NUTS regions). The ranking of the regions, along the same lines as the country ranking presented above, delivers some interesting results. There are four German regions/cities among the top ten: Upper Bavaria (Munich), Berlin, Karlsruhe and Hamburg. The ranking is once again headed by the Nordic countries, such as the Danish region of Hovedstaden (where the Danish capital Copenhagen is located) and Etelä-Suomi (where the Finnish capital Helsinki is located). The Swedish capital, Stockholm, occupies a leading position in the innovation ranking too. Further innovation hubs are the region surrounding the Danish city Aarhus, the Swedish city Gothenburg and the Amsterdam metropolitan area (see figures 3 and 4).

Figure 3: Top 10 locations in the EU ranking 2023, in index points



Source: Regional Innovation Scoreboard 2023;  
Graph: Real I.S. AG

Figure 4: Map of the top 10 locations



Source: Regional Innovation Scoreboard 2023;  
Graph: Real I.S. AG

### Focus on selected cities: Karlsruhe und Aarhus

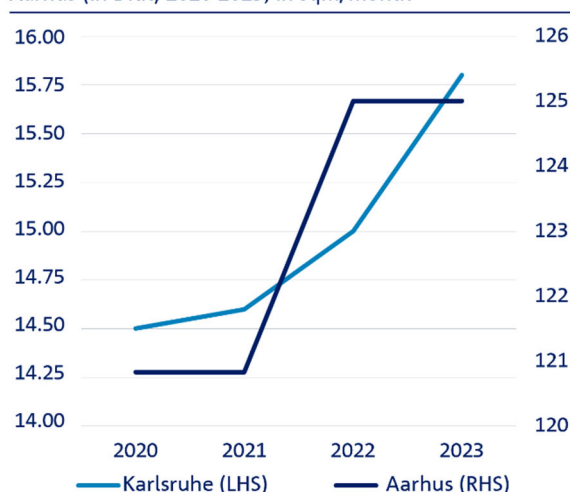
What impact does the innovation ranking have on the property markets? As a matter of fact, innovative regions/cities are also drivers of employment and growth. Although other factors also play an important role, innovation locations should also outperform over the long term with regard to demand for space and rental growth for property. The two cities Karlsruhe in Germany

and Aarhus in Denmark have been selected for an analysis of the connection between innovation ranking, economic growth and development of the office real estate market.

**Karlsruhe** represents a successful blend of tradition and innovation. Situated on the Upper Rhine, the city is best known for the Federal Constitutional Court and the Federal Court of Justice. Karlsruhe has now also become established as a centre of innovation. The Karlsruhe Institute of Technology with its 40,000 students and the establishment of highly regarded research institutes have played a major part in this. Research focuses on microsystems technology and nanotechnology. This has an influence on the property market as well. Demand for office space has been triggered by the public administration for many years. Today, there are also many innovative research and service companies among the active market participants. The positive performance of the market is reflected in prime rents, which have increased continuously in recent years. At EUR 14.50/sqm p.m. in 2020, they had risen to EUR 15.80/sqm p.m. by 2023 (see figure 5). Together with a vacancy rate of around 5%, this produces an attractive rental market. Until 2027, the forecast vacancy rate of 4.8% should be 1.2 percentage points below the average level of the other B cities (source: Bulwiengesa 2023). The office market in Karlsruhe continues to be well positioned in terms of its outlook. It also offers scope for further innovation drivers as a result of a well-filled pipeline for new construction, including projects such as KA3 and K6.

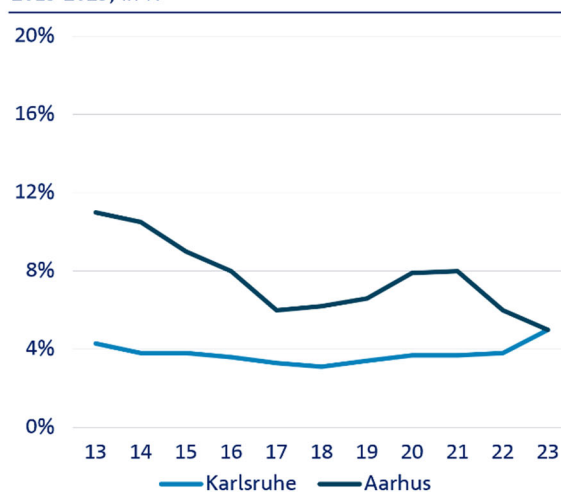
**Aarhus** is part of the Midtjylland region. Having seen an increase in the innovation index of around 17 percentage points (2016-2023), it is one of the most attractive regions in Denmark alongside Nordjylland. It is not only the second-largest city in Denmark, but also one of the oldest, located close to Aalborg in the north and Herning in the west. The city of Aarhus has the highest concentration of students in northern Europe because of the excellent reputation of its university. In particular, the Crypto Programming course of studies, is rated as one of the world’s three best courses, according to surveys. This attracts students from all over Europe and also research institutes and experts. The talent pool provides excellent opportunities for synergies. Especially companies from the Big Data, IoT (Internet of Things) and Data Science sectors have opened their offices in Aarhus. Several start-up companies have been founded in the last five years and more than 8,500 new jobs created. The innovative edge over other regions is also reflected in demand for office space in Aarhus. Figure 6 shows that, as a result of high demand, the vacancy rate for offices has fallen from around 11% in 2013 to 5% at present.

Figure 5: Prime rents (office) in Karlsruhe (in euro) and Aarhus (in DKK) 2020-2023, in sqm/month



Source: Colliers 2023, Bulwiengesa 2023; Graph: Real I.S. AG

Figure 6: Vacancy rate (office) in Karlsruhe and Aarhus 2013-2023, in %



Source: Colliers 2023, Bulwiengesa 2023; Graph: Real I.S. AG

## Identifying hidden champions as innovation locations

Innovations are key drivers of growth in economy and on real estate markets. The latest European Commission assessment of innovation provides more transparency in relation to the level of innovation of countries and regions in Europe. The results and rankings can help identify locations that can be referred to as *hidden champions*. Besides major cities, there are medium-sized and smaller cities that may not be in the focus of investment strategies but have potential for becoming innovation hubs. Examples are the two aspiring cities Karlsruhe and Aarhus.

Kind regards

The Real I.S. Research team

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