

## TOP 10 MARKETS

## Balanced Scenario

1	Dusseldorf
2	Antwerp
3	Rotterdam
4	Brussels
5	Hamburg
6	Venlo
7	Amsterdam
8	Lille
9	Paris
10	Liege

## Distribution Scenario

1	Antwerp
2	Rotterdam
3	Dusseldorf
4	Brussels
5	Hamburg
6	Amsterdam
7	Liege
8	Venlo
9	Lille
10	Frankfurt

## Manufacturing Scenario

1	Kiev
2	Istanbul
3	Bratislava
4	Upper Silesia
5	Sofia
6	Antwerp
7	Lille
8	Budapest
9	Dusseldorf
10	Prague

Source: Colliers International

# Top European Logistics Hubs

## MARKETS THAT WERE ANALYSED



The enlargement of the European Union, continual infrastructure development and the growth of a consumer mass market in CEE are contributing to redefine distribution patterns in Europe and supporting the development of new freight traffic routes. These developments are in turn impacting European logistics markets and leading to the emergence of new industrial and distribution hubs. Some of these hubs are in competition with more established centres in Western Europe as alternative locations for undertaking pan-European distribution activities or for setting up a manufacturing business.

Against this evolving background, we look at how the most mature and emerging logistics and industrial centres in Europe compare with each other against a series of key parameters that typically play a determining role in site selection for manufacturing and distribution activities, whereby the onus is on road-based distribution. Our key findings include:

- > “Blue banana” hubs remain the ideal platform for pan-European distribution activities for the majority of the European consumer market. .
- > Some of these hubs, such as Liege and Lille, offer a good balance between market access maximization and competitive operational costs.

- › Northern Italy also offers good growth potential for distribution activities, especially given the expected increase in freight traffic through northern Adriatic ports.
- › From a distribution perspective, Western Europe’s dominance will be increasingly challenged by some CEE hubs, such as Prague or Bratislava, as the centre of Europe gradually shifts to the east.
- › Eastern Europe is the best location for low cost manufacturing but its distribution benefits remain of a local or sub-regional nature.
- › Strategically located hubs in Turkey and Russia, such as Istanbul or Moscow, are increasingly integrated in the global supply chain and will gain further importance as trade links with the Far and Middle East strengthen.
- › In our analysis, Southern Europe has no clear competitive advantages, but this might change on the back of structural reforms being implemented in some countries.

Overall, each hub should be considered for its specific merits, as cities within the same region might not be equally suitable depending on the business needs.

The factors considered in this study are categorised into six different groupings:

- 1. Infrastructure & Accessibility** – scores each location in terms of accessibility to European ports/market entry points, and the quality of existing transport infrastructure.
- 2. Market Access** – the size and depth of the surrounding catchment area in terms of both population, GDP and forecast GDP growth.
- 3. Operational Base Costs** – basic operational costs including comparable labour, rental and land costs.
- 4. Labour Market Capacity** – size of working population and volume of unemployment.
- 5. Logistics Competence** – specialised workforce and logistics indices.
- 6. Business Environment** – ease of doing business.

In addition to looking at the corresponding ranking for each of the categories listed above, we have analysed the relative attractiveness of each city according to three main scenarios. Each scenario applies a different weighting per category, highlighted below, to derive the results represented in this report:

- I&A** Infrastructure & Accessibility
- MA** Market Access
- OC** Operational Base Costs
- LMC** Labour Market Capacity
- LC** Logistics Competence
- BE** Business Environment

**1. Balanced**



**2. Distribution**



**3. Manufacturing**



**BALANCED SCENARIO  
TOP 20 MARKETS**

1	Dusseldorf
2	Antwerp
3	Rotterdam
4	Brussels
5	Hamburg
6	Venlo
7	Amsterdam
8	Lille
9	Paris
10	Liege
11	Istanbul
12	Frankfurt
13	Milan
14	Bratislava
15	Prague
16	Munich
17	Lyon
18	Upper Silesia
19	Budapest
20	Barcelona

Source: Colliers International

**BALANCED SCENARIO: NORTHERN EUROPE BEST IN CLASS**



Rotterdam Port

Our simulation shows that in a hypothetical situation where decisions would be almost indistinctly determined, for example, as much by costs as by accessibility or workforce-related considerations, traditional hubs in northern Europe would be the uncontested winners. Dusseldorf came in first and virtually all Belgian and Dutch cities form part of the top ten under the assumptions made in this scenario. Looking at the profile of each of these cities, it is clear that they tick more boxes than other locations in Europe. Although, as one may expect, most of these cities generally score relatively low in terms of cost, they generally boast an excellent level of infrastructure, a favourable business climate and a developed logistics market. They also benefit from proximity to major European seaports and airports and the largest consumer markets. They can also tap into a vast and relatively skilled workforce pool.

**DISTRIBUTION SCENARIO: THE DOMINANCE OF THE “BLUE BANANA”**

For companies active in distribution activities, the proximity to final consumers and the presence of a reliable and developed infrastructure network to deliver goods on time are paramount. In the distribution scenario, we therefore attribute a higher weighting to the “Market Access” (45%) and “Infrastructure & Accessibility” (25%) dimensions. The results are somewhat expected and similar to the “balanced” scenario, with the “Blue Banana” cities dominating the top positions. Antwerp tops the table, followed closely by Rotterdam, Brussels, Dusseldorf and Hamburg. The first non-Belgian-Dutch-German city is Lille in 9th position.

**DISTRIBUTION SCENARIO  
TOP 20 MARKETS**

1	Antwerp
2	Rotterdam
3	Dusseldorf
4	Brussels
5	Hamburg
6	Amsterdam
7	Liege
8	Venlo
9	Lille
10	Frankfurt
11	Paris
12	Munich
13	Lyon
14	Prague
15	Milan
16	Le Havre
17	Bratislava
18	Rijeka/Koper
19	Bologna
20	Istanbul

Source: Colliers International

**BLUE BANANA**



These cities are strategically located at the economic heart of Europe, which spans the conurbation of cities stretching from the Netherlands, Belgium, Western and Southern Germany down to Switzerland and Northern Italy. Being the most densely populated and richest area in Europe, it is the logical choice for those companies seeking to reach the largest number of customers as quickly and readily as possible.

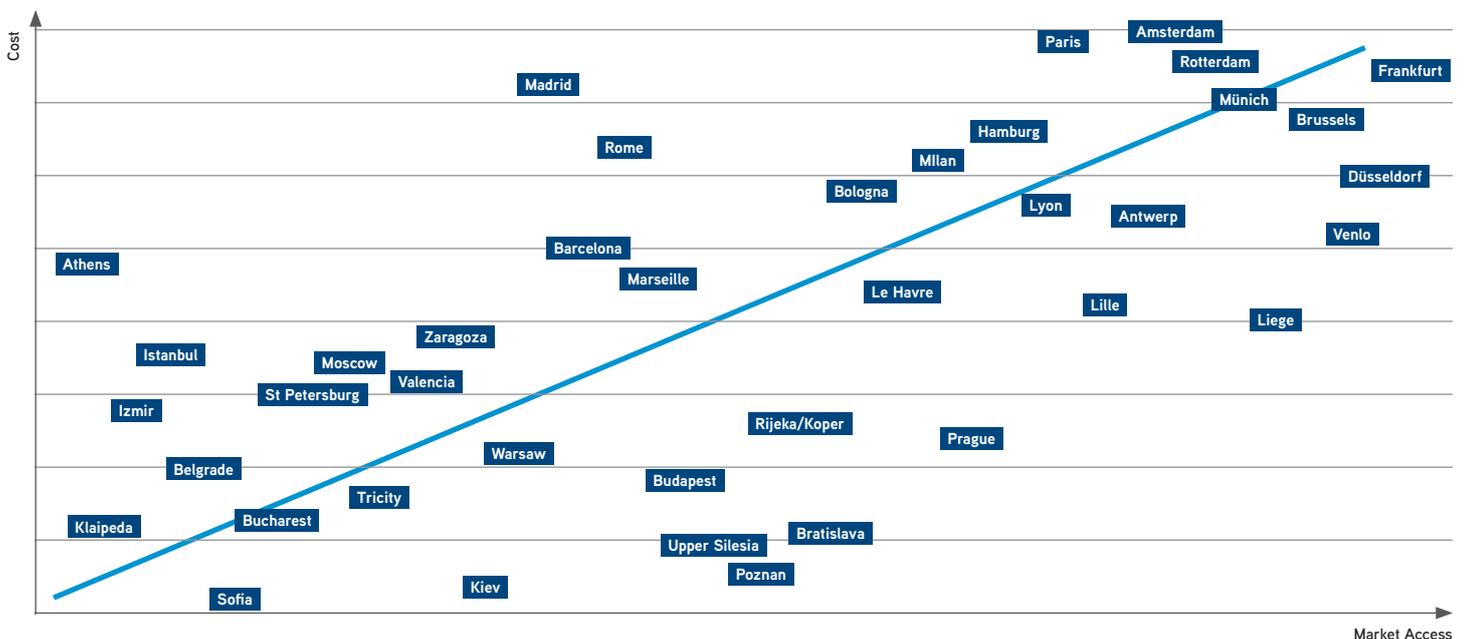
From Antwerp, for example, approximately 143 million people can be reached by lorry within 9-hours. This number increases to 153 million from Liege, 163 million from Dusseldorf and to 190 million people from Frankfurt, which posts the highest population within its catchment among all the cities considered, equal to three times the size of the UK’s population. In terms of GDP, this amounts to over 6,000 billion euros—three times the nominal GDP of France.

The high score of most “Blue Banana” cities in this scenario has also to do with their privileged position near some of Europe’s largest freight airports and seaports, which function as gateways towards non-EU markets and through which a large proportion of the goods leaving or entering the continent transit. For many companies, having their distribution centres located not too far away from these points of entry is an important factor deciding a location. This obviously does not mean locating necessarily on the port site itself. For instance, cities such as Dusseldorf (4th) and Liege (7th) benefit from lying on the corridors through which a large volume of freight unloaded in Antwerp, Rotterdam and Amsterdam ports makes its way towards the inland of the continent.

Outside Western Europe, the city that obtained the best score under a distribution-driven scenario is Prague (14th), followed by Bratislava (17th). From the former, a consumer base of more than 150 million people is reachable in 9-hours, which amounts to a GDP of approximately 4,000 billion euros, against a national GDP for Czech Republic of 130 billion euros. The potential appeal of both cities also stems from the lower cost of inputs, such as labour and real estate, with rents for prime distribution space in Bratislava 25% lower than the average for Western Europe and employee remuneration averaging just a third of the compensation payable in the Netherlands.

The apparent cost-market access trade-off is clearly illustrated by the following chart. Cities offering a particularly good compromise between cost and market access include, from the highest to the least expensive, Venlo, Lille, Liege, Prague, Bratislava, Upper Silesia (Katowice) and Poznan. Examples of recent lettings testify the appeal of these cities from a distribution point of view: giant e-retailer Amazon for instance has recently announced it will open a new 90,000 sq m distribution centre in Lille's region, Nord-pas-de-Calais, its fourth in France. Compared to other French logistics areas, Nord-pas-de-Calais boasts cheaper warehousing costs and a relatively abundant supply of land relative to denser urban areas. It also has an advantage of being situated at the crossroads of freight routes connecting Northern Europe, Southern Europe and the British Isles, due to its location near the Channel Tunnel.

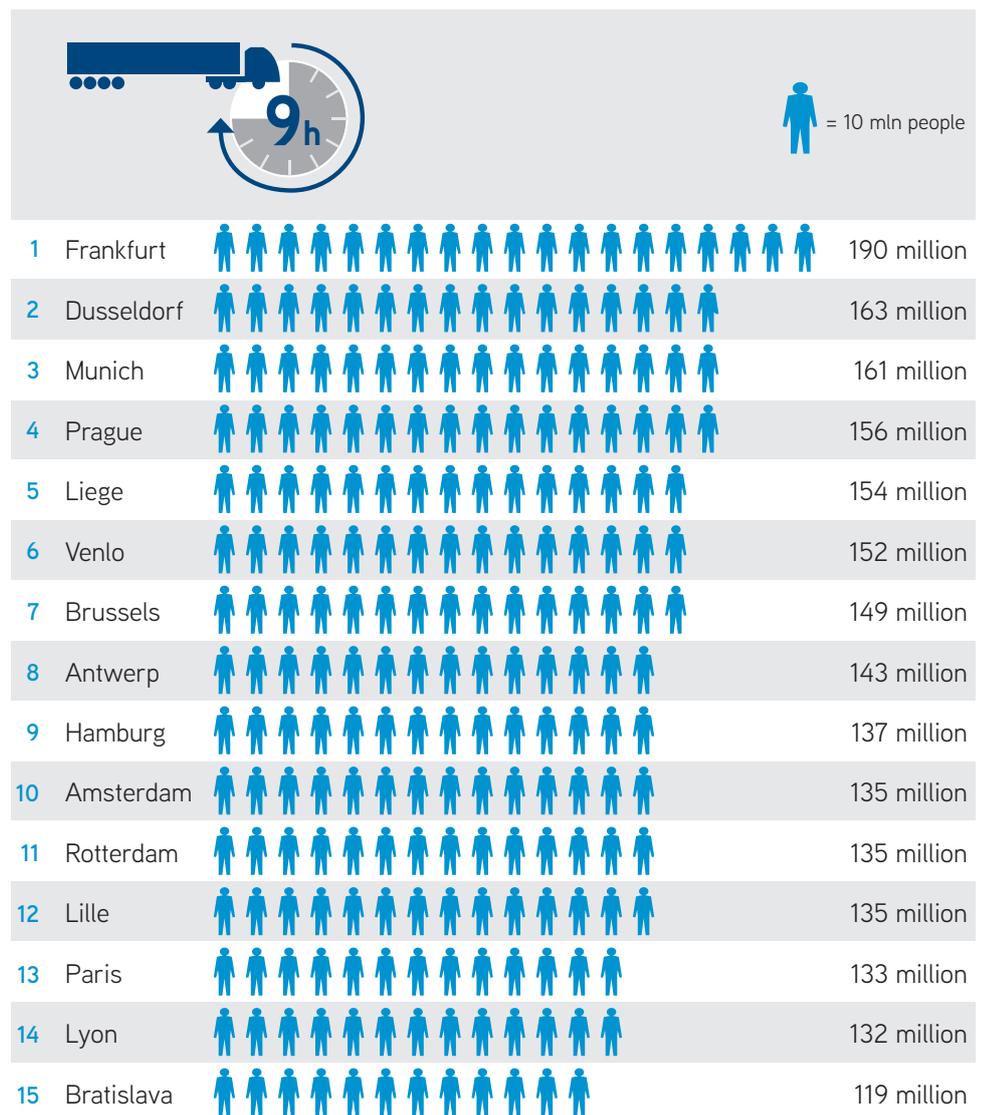
CORRELATION BETWEEN COST AND MARKET ACCESS



Source: Colliers International

Our analysis shows that a further shift eastward entails a further reduction in total costs, but equally comes with reduced market access, which is assumed as a crucial dimension under this scenario. As Central and Eastern Europe’s (CEE) economies grow further, increasing GDP/capita rates in CEE, the rationale for having more than one pan-European centre – both inside and outside the “Blue Banana” will gain more credence. There is already a need for certain goods to be distributed to the markets of CEE, and for manufactured product to be distributed back into the production lines of Western European companies but infrastructure and market access issues remain a constraint limiting the genuine capacity for CEE hubs to act as a competitor to more established Western European hubs within the “Blue Banana”. These locations complement each other, particularly for operators looking to a supply-chain platform with which to cover pan-European markets.

TOP 15 POPULATION CATCHMENTS PER CITY



Source: Colliers International

**MANUFACTURING SCENARIO TOP 20 MARKETS**

1	Kiev
2	Istanbul
3	Bratislava
4	Upper Silesia
5	Sofia
6	Antwerp
7	Lille
8	Budapest
9	Dusseldorf
10	Prague
11	Venlo
12	Izmir
13	Poznan
14	Liege
15	Moscow
16	Bucharest
17	Brussels
18	Hamburg
19	Belgrade
20	Warsaw

Source: Colliers International

**MANUFACTURING SCENARIO: LOOK EAST**

As much as accessibility matters for distribution-related activities, cost is typically viewed as one of the main determinants of location decisions in the manufacturing sector, which tends to be more labour intensive than logistics and distribution. The prominence of cost as a key consideration is easily illustrated by the historic off-shoring of manufacturing from high-cost countries to lower-cost geographies although there are signs that this trend is reversing, as cost advantages dwindle.

Compared to the previous scenarios, we've also given a higher weighting to the capacity of the local market to meet workforce requirements (measured as a combination of volume of workforce and unemployed) and to the regulatory environment, as companies are more likely to be drawn to countries offering a higher degree of protection to their investment (which is typically higher in the case of manufacturing as opposed to logistics).

Perhaps unsurprisingly, the higher part of the table is dominated by cities in CEE and neighbouring countries to the east (e.g. Ukraine), with only six Western European cities featuring in the top-20, in order: Antwerp (6th), Lille (7th), Dusseldorf (9th), Venlo (11th), Liege (14th), Brussels (17th).

Kiev occupies the highest spot in the ranking, followed by Istanbul, Bratislava, Upper Silesia (Katowice) and Sofia. With an average remuneration per worker of ca. €3,500/annum in the transportation and warehousing sector, Kiev's competitive advantage in our ranking rests to a large extent on the cost of labour. Industrial land values in the Ukrainian capital are also the cheapest in our sample of 40 cities.

**EMPLOYEE COST BY MARKET; €/ANNUM**



Source: Eurostat, various

Employee costs represent people employed in transport and storage sectors.



Istanbul

As well as boasting relatively lower labour costs than most of the other cities, Istanbul stands out for its good level of infrastructure, which will see further improvements as a series of on-going and planned projects in the Istanbul region reach completion. These include the construction of a third bridge linking the European and Asian sides of Istanbul and a new airport, as well as various state-backed projects to increase the industrial and warehousing capacity of the city’s metro area.

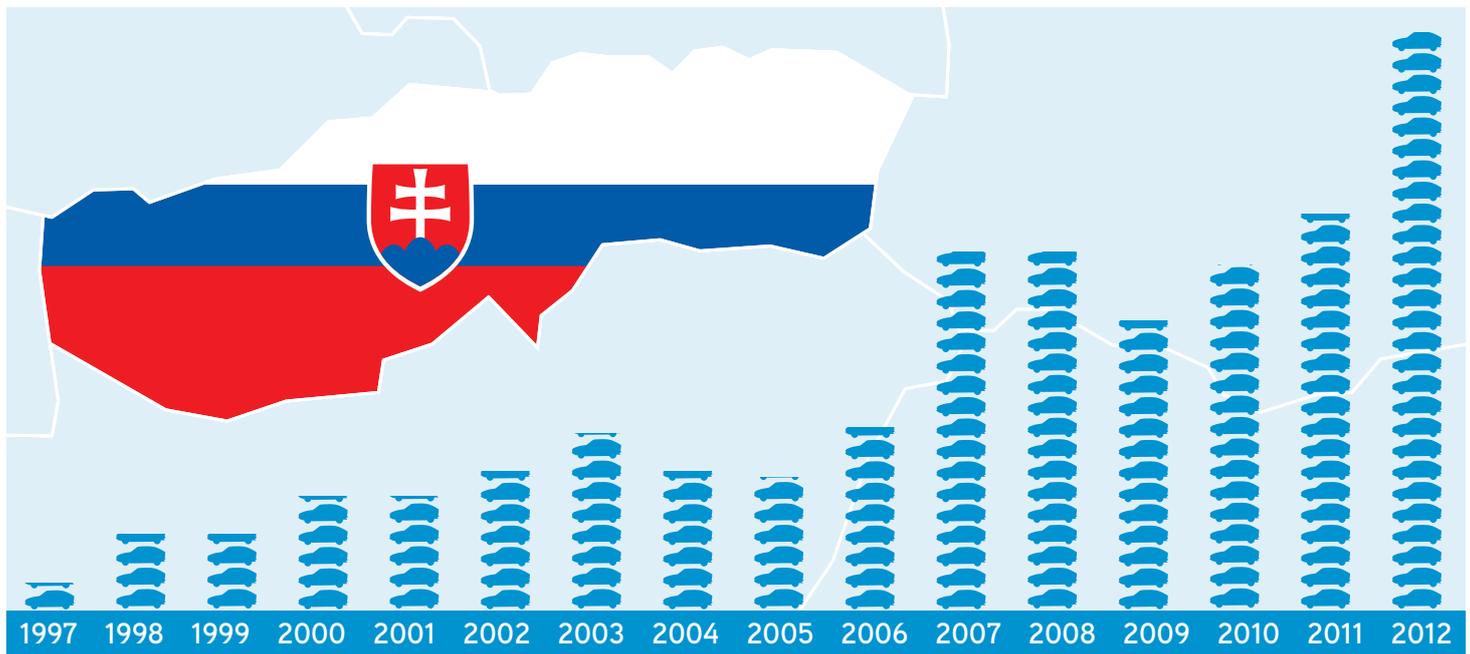
A measure of the growing attractiveness of Istanbul and Turkey towards foreign manufacturing companies is the evolution of FDI (Foreign Direct Investment) for that sector. Official statistics show that this has increased by almost 330% between 2005 and 2011 at the national level, to ca €2,600 million from €604 million. The bulk of this is split between three branches of activity:

1. the manufacturing of refined petroleum products and nuclear fuel
2. the manufacturing of electrical and optical equipment, and
3. the manufacturing of food products, beverages and tobacco.

Turkey’s place in the global supply chain will also be enhanced by the completion of a new port in Candarli, north of Izmir (13th in this scenario), which will have an estimated container handling capacity of 4 million TEUs/year. That would make it the 6th largest container port in Europe when compared to traffic figures for 2011 published by the Port of Rotterdam Authority.

Further down the ranking, Bratislava and the surrounding region has rapidly emerged as a global automotive centre since Volkswagen started car production near the Slovak capital city in the early 1990s. PSA Peugeot Citroën and KIA Motors also have an important presence in the country. Car production in Slovakia is estimated to have increased from ca 42,000 units in 1997 to 925,000 in 2012.

EVOLUTION OF CAR PRODUCTION IN SLOVAKIA



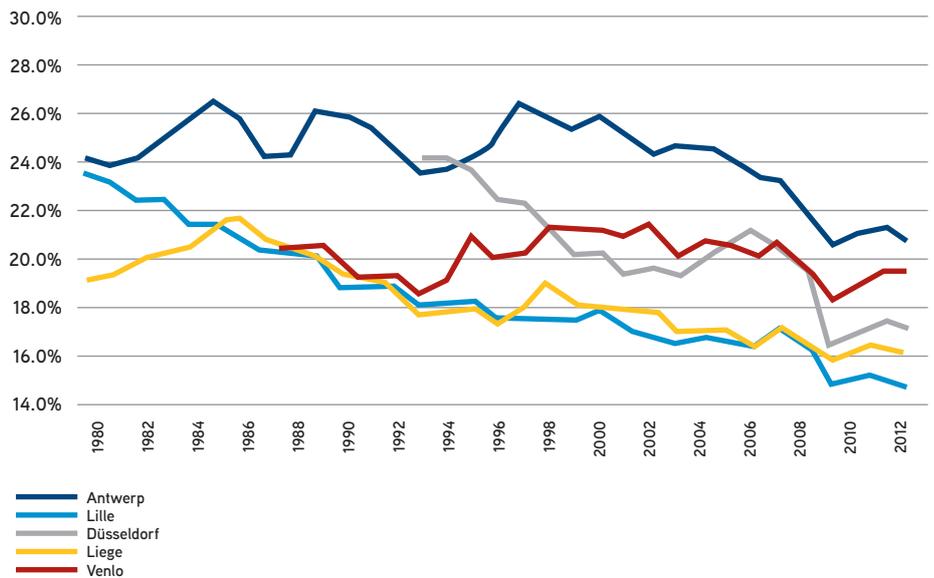
Source: Sario

Often cited regarding BPOs, Polish regions such as Upper Silesia (4th) score well under our cost-driven scenario, despite labour costs here being significantly higher than in Sofia (5th): 9,000 eur vs ca 3,800 eur/annum/worker.

**INDUSTRIAL HERITAGE**

Interestingly, all the Western European cities in the top league have a distinct industrial heritage: some of them have partly managed to preserve it, in some cases by reorienting their specialisation towards higher added value industrial production, not least through publicly-funded incentive schemes. Some, on the other hand, have struggled to cope with competition from typically lower cost geographies and have seen their industrial base thin out.

**MANUFACTURING AS % OF TOTAL GROSS VALUE ADDED FOR SELECTED CITIES**



Source: Experian

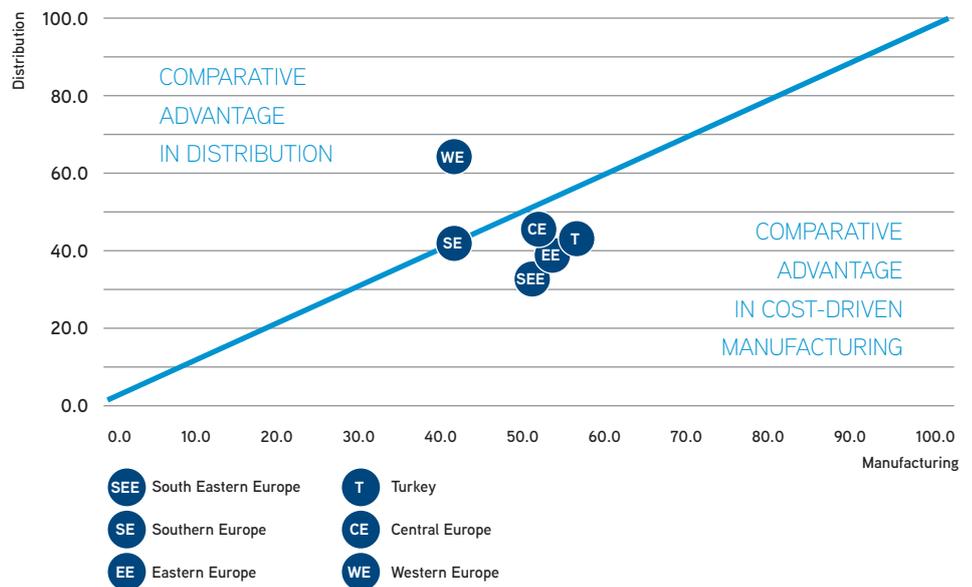
The province of Liege, in Belgium, for example, has historically been an important metallurgical centre in Belgium and Europe. Although metallurgy still remains one of the drivers of local industrial production - with Arcelor Mittal maintaining a notable presence in the area - new “high-tech” industries such as aerospace, biotechnologies and chemistry have also been developing.

The UK also offers some examples of successful industrial transformation. The East Midlands region has gradually seen its production base shift away from coal-mining to car assembly. Sunderland, once a shipbuilding centre in the north-east of England, has become a car assembly platform mainly thanks to investment from Nissan. The ongoing success of the Nissan plant has seen it increase its share of global production and move up the value chain to produce vehicles at the premium end of the scale.

**SUMMARY: THE REGIONAL PERSPECTIVE**

Each hub examined in this study highlights the extent to which certain locations have distinct advantages over others, depending upon the requirements of occupiers. The geographical aggregation of results provides a good overall picture of the relative attractiveness of Europe’s main sub-regions under the scenarios considered.

**AVERAGE SCORE OF EACH REGION IN THE TWO MAIN SCENARIOS**



Source: Colliers International

**WESTERN EUROPE: DISTRIBUTION & HIGH-END MANUFACTURING**

What comes out clearly is Western Europe’s appeal as a platform for pan-European distribution activities, for the reasons previously discussed. Every other region scored higher in our manufacturing scenario, yet Western Europe is starting to see a revolution in the growth of higher-end manufacturing. Particularly for products well suited to the local market.

**CENTRAL & EASTERN EUROPE:  
COMPLEMENTARY DISTRIBUTION & MANUFACTURING**

The sub-region has, by a relatively small margin, the second best overall score for distribution, making it a suitable location for pan-European distribution. As far as manufacturing is concerned, it sits within a pack of four regions best suited to low-cost production led by Turkey but also including South Eastern Europe. Both Western Europe and Southern Europe scored far lower.

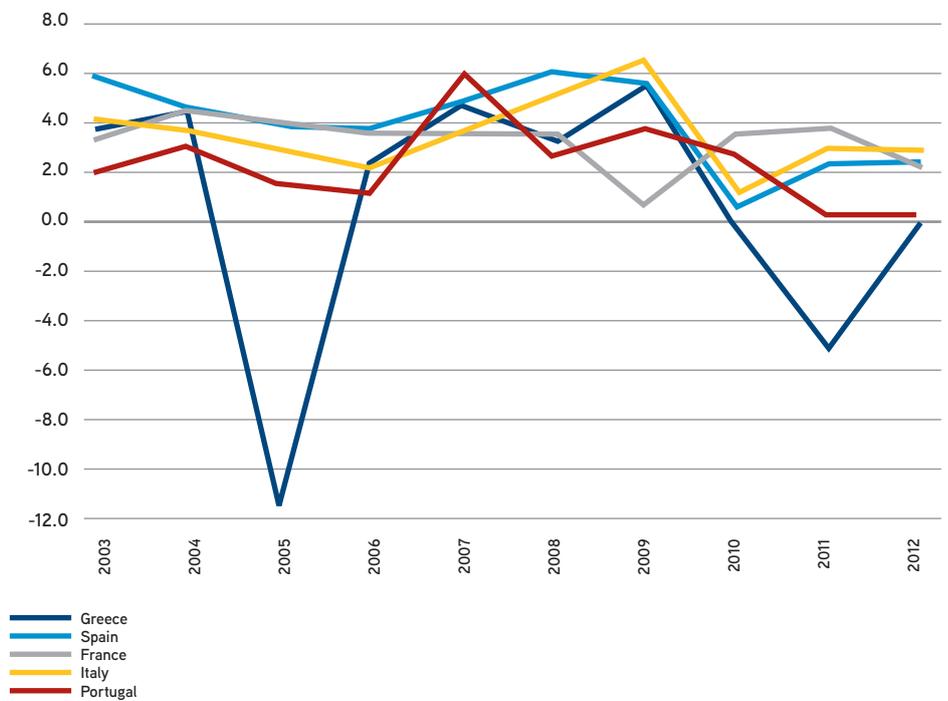
**SOUTH EASTERN EUROPE, EASTERN EUROPE AND TURKEY:  
SUB-REGIONAL/LOCAL DISTRIBUTION AND MANUFACTURING**

Hubs in these territories are best suited to manufacturing, notably lower-cost production of goods for which there is no immediate demand requirement. Given their reduced access to Europe’s concentrations of population and GDP, their only distribution benefits are of a local or sub-regional nature. Russia and Turkey have the added benefits of acting as a gateway for trade reaching Europe from the East, but only as complementary to existing distribution centres in Western Europe and those which have developed more recently in CEE.

**SOUTHERN EUROPE**

All in all, Southern Europe is the region with the lowest total score when looking at the two rankings combined. It equally appears as the region with no clear competitive advantage, be it cost, infrastructure or market potential, over the other regions in both scenarios. Particularly, weak cost competitiveness is typically seen as one of the main structural problems of these peripheral economies. However, data shows that this is gradually improving as unit labour cost falls or is growing more slowly in these countries. In some cases, this might be partly on the back of the measures adopted in some countries in response to the on-going economic crisis in the Eurozone.

**UNIT LABOUR COST INDEX, Y-O-Y VARIATION (%)**



Source: Eurostat

## 482 offices in 62 countries on 6 continents

United States: 140  
Canada: 42  
Latin America: 20  
Asia Pacific: 195  
EMEA: 85

- €1.5 billion in annual revenue
- 104 million square meters under management
- 13,500 professionals

**Bruno Berretta**  
Senior Research Analyst  
TEL +44 207 344 69 38  
EMAIL [bruno.berretta@colliers.com](mailto:bruno.berretta@colliers.com)

**Damian Harrington**  
Director of Research | Eastern Europe  
TEL +358 400 90 79 72  
EMAIL [damian.harrington@colliers.com](mailto:damian.harrington@colliers.com)

**Mark Charlton**  
Head of Research & Forecasting UK  
TEL +44 20 7487 1720  
EMAIL [mark.charlton@colliers.com](mailto:mark.charlton@colliers.com)

### COLLIERS INTERNATIONAL EMEA HEADQUARTERS

50 George Street  
London W1U 7GA  
United Kingdom

TEL +44 20 7935 4499  
EMAIL [emea@colliers.com](mailto:emea@colliers.com)

The information contained herein has been obtained from sources deemed reliable. While every reasonable effort has been made to ensure its accuracy, we cannot guarantee it. No responsibility is assumed for any inaccuracies. Readers are encouraged to consult their professional advisors prior to acting on any of the material contained in this report. This publication is the copyrighted property of Colliers International and/or its licensor(s). ©2013. All rights reserved.

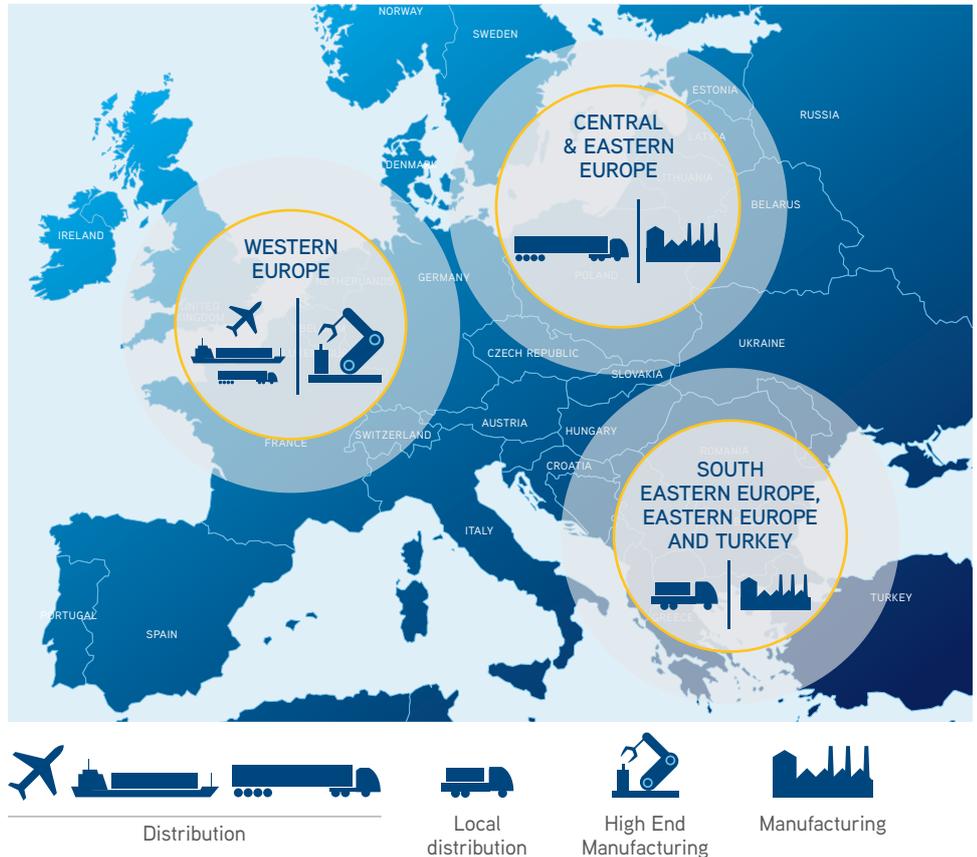


FOUNDING GLOBAL PARTNER



WORLD GREEN BUILDING COUNCIL

### MAIN ADVANTAGE FOR EACH REGION



Whilst the geographical aggregation of results provides a good overall picture of the relative attractiveness of Europe’s main sub-regions under the scenarios considered, this can conceal an ample dispersion of a hubs qualities around the regional mean. For example, in the distribution scenario, Milan, in Southern Europe, ranks 15th, Bologna ranks 19th while Rome lies well below in 35th place. With Amazon due to open a new distribution centre in 2013 only 70 km away from Lombardy’s largest city, this highlights the extent to which each hub should be considered for its specific merits.

Equally, as Europe moves towards rail freight as an alternative and more energy/emissions efficient transport mode, the relative attractiveness of each hub is likely to shift in accordance. For the time being, road distribution will continue to dominate, and location decisions are likely to follow the pattern outlined in this report.

We appreciate that real world decisions as to where to locate a distribution centre or a new production facility are more complex and influenced by a number of additional factors. For example, we have not factored in the various constraints arising from trade barriers which can impact the geographic remit of certain locations to act as distribution or manufacturing hubs. Despite this, our simulations provide a good sense of the relative strengths and weaknesses of the 40 locations considered and of the fundamental merits of choosing one location over another depending on the specific circumstances and priorities.

## APPENDIX

## OVERALL HUB RANKINGS BY CATEGORY

	Infrastructure & Accessibility	Market Access	Operational Costs	Labour Market Capacity	Logistics Competence
1	Rotterdam	Frankfurt	Sofia	Paris	Hamburg
2	Antwerp	Dusseldorf	Kiev	Istanbul	Frankfurt
3	Amsterdam	Venlo	Poznan	Venlo	Brussels
4	Hamburg	Brussels	Upper Silesia	Milan	Paris
5	Istanbul	Liege	Bratislava	Dusseldorf	Istanbul
6	Brussels	Munich	Klaipeda	Madrid	Izmir
7	Valencia	Rotterdam	Bucharest	Rotterdam	Dusseldorf
8	Lille	Amsterdam	Tricity	Amsterdam	Rotterdam
9	St Petersburg	Antwerp	Budapest	Moscow	Amsterdam
10	Dusseldorf	Lille	Belgrade	Brussels	Venlo
11	Le Havre	Paris	Warsaw	Lille	Antwerp
12	Barcelona	Lyon	Prague	Barcelona	Prague
13	Liege	Hamburg	Rijeka/Koper	Antwerp	Warsaw
14	Paris	Prague	Izmir	Upper Silesia	Barcelona
15	Milan	Milan	St Petersburg	Izmir	Zaragoza
16	Venlo	Le Havre	Valencia	Liege	Madrid
17	Rijeka/Koper	Bologna	Moscow	Rome	Munich
18	Lyon	Bratislava	Istanbul	Hamburg	Belgrade
19	Marseille	Rijeka/Koper	Zaragoza	Frankfurt	Milan
20	Moscow	Poznan	Liege	Bratislava	Bologna
21	Izmir	Upper Silesia	Lille	Kiev	Rome
22	Budapest	Budapest	Le Havre	Athens	Budapest
23	Tricity	Marseille	Marseille	Munich	Liege
24	Athens	Rome	Athens	St Petersburg	Sofia
25	Kiev	Barcelona	Barcelona	Valencia	Bratislava
26	Bratislava	Madrid	Venlo	Belgrade	Lille
27	Frankfurt	Warsaw	Antwerp	Lyon	Lyon
28	Bologna	Kiev	Lyon	Marseille	Le Havre
29	Madrid	Zaragoza	Bologna	Budapest	Marseille
30	Sofia	Valencia	Dusseldorf	Bucharest	Tricity
31	Poznan	Tricity	Milan	Bologna	Poznan
32	Warsaw	Moscow	Rome	Warsaw	Valencia
33	Upper Silesia	St Petersburg	Hamburg	Prague	Bucharest
34	Prague	Bucharest	Brussels	Zaragoza	Rijeka/Koper
35	Munich	Sofia	Munich	Le Havre	Klaipeda
36	Rome	Belgrade	Madrid	Tricity	Upper Silesia
37	Zaragoza	Istanbul	Frankfurt	Poznan	Kiev
38	Belgrade	Izmir	Rotterdam	Klaipeda	Athens
39	Klaipeda	Klaipeda	Paris	Sofia	Moscow
40	Bucharest	Athens	Amsterdam	Rijeka/Koper	St Petersburg

Many markets ranked the same under the Environment category. Detailed rankings available upon request.

## GEOGRAPHIC COVERAGE

This report covers 40 cities /regions across Europe. For some regions, the most representative/central location has been used as a reference where a precise location was needed to perform calculations

## GROUPINGS AND METRICS

All the cities included in the analysis are scored against a series of individual metrics, which form part of broader categories. The number of variables comprised by each of these groupings varies. The composition of each grouping and a description of the metrics included and the measurement adopted are provided in this section:

### INFRASTRUCTURE & ACCESSIBILITY

- › **Quality of infrastructure:** measures the quality of trade and transport related infrastructure. It is based on the “Infrastructure” component of the Logistics Performance Index 2012 compiled by the World Bank. Only available at country level.
- › **Air freight capacity of airports within 1-hour:** total annual freight volume handled by all the airports reachable within 1-hour drive time from the city in question (assuming a speed of 80/km/h). Latest figures available (typically 2011-2012).
- › **Container capacity of seaports within 1-hour:** total volume of containers traffic (in x1,000 TEUs) handled by all seaports reachable within 1-hour drive time from the city in question (assuming a speed of 80/km/h). Latest figures available (typically 2011-2012).
- › **Container capacity of seaports within 2-hour:** total volume of containers traffic (in x1,000 TEUs) handled by all seaports reachable within 1-hour drive time from the city in question (assuming a speed of 80/km/h). Latest figures available (typically 2011-2012).
- › **Rail accessibility:** measure the degree of accessibility by rail and specifically whether each of the hubs considered is on a rail freight corridor.

## MARKET ACCESS

- › **Current GDP:** total annual nominal GDP for 2012 enclosed within the area reachable within a 9-hour drive time, at a speed of 80km/h. Nine hours is the maximum permissible drive time per day for lorry-driver under European legislation. Delays due to traffic jams and customs have not been taken in account. Total GDP has been worked out by matching up the catchment for each city/region to the most appropriate NUTS2 and NUTS3 regions. NUTS data have been sourced from Experian. For non-European countries, regional GDP data has been derived using a combination of sources, including IMF’s WEO Database (October 2012) and data from national bureaus for statistics.
- › **Population:** total population reachable in 2012 within a 9-hour drive time, at a speed of 80km/h, from the city/region in question. The same method used to estimate current nominal GDP applies.
- › **GDP in 2017:** projected total nominal GDP in 2017 contained within the 9-hour catchment. Estimates have been obtained by applying IMF’s country-level GDP growth rates forecast up to 2017 to 2012 GDP data for NUTS2, NUTS 3 or equivalent regional subdivisions (see above). Data aggregation has been performed using the same method as described above.

## OPERATIONAL BASE COSTS

- › **Rental cost:** top open-market tier of rent that could be expected for unit larger than 10,000 sq m designed for logistics and distribution purposes (typically 6 to 12 metre ceiling heights), of the highest quality and specification (Grade A) in the best location in the market. All loading is dock-height.
- › **Land cost:** Top price payable for a sq m of land for logistics/ industrial use, in the best location, excluding taxes and any other extra charges.
- › **Labour cost:** total annual direct remuneration in euro for employees working in the “Transport & Storage” sector, as defined by Eurostat. Direct remuneration includes basic salary plus bonus and allowances. It does not include indirect costs, such as social contributions and taxes. The data for EU countries have been extracted from Eurostat’s 2008 Labour Cost Survey. For cities outside the EU, labour cost has been estimated integrating a variety of sources such as national labour market statistics, in-house expert opinion, etc.. Where regional data was impossible to obtain/derive, national level data has been retained.

## LABOUR MARKET CAPACITY

- › **Workforce:** total volume of the workforce - in million - reachable within 1-hour drive time from the considered city, assuming a speed of 80 km/h. Values are based on Experian's workforce data for NUT2 and NUT3 regions. Where regional workforce data was not available, estimates have been derived from population statistics available via national statistical institutes and other sources.
- › **Unemployment:** total volume of people unemployed within the 1-hour catchment described above. Values for cities in EU are based on Experian's workforce and unemployment figures for NUT2 and NUT3 regions. For cities outside the EU, estimates are based upon a variety of sources (national statistical offices, labour market survey, etc.).

## LOGISTICS COMPETENCE

- › **Labour market specialisation:** measures the portion of people employed in the "Transport & Storage" sector, as defined by Eurostat, in the workforce total, in %. For cities belonging to the EU, this has been calculated by dividing Eurostat's latest regional figures (2010) on employment in the "Transport & Storage" sector by total workforce data for 2010 provided by Experian for the corresponding regional units. The area the data refers to do not necessarily match the catchment utilised for estimating workforce and unemployment. Values for non EU-cities were estimated based on a variety of sources. For some cities, national average data was considered.
- › **Logistics competence:** measures the competence and quality of logistics services (e.g. transport operators, custom brokers). It is based on the "Logistics competence" component of the Logistics Performance Index 2012 compiled by the World Bank. Only available at country level.

## BUSINESS ENVIRONMENT

- › **Ease of doing business:** Index created by the World Bank that measures various aspects of a country's regulatory environment. These include, among others, the easiness to register a new business and enforcing contracts and the degree of investor protection. A high ranking on the ease of doing business index means the regulatory environment is more conducive to the starting and operation of a local firm.

## SCORING AND WEIGHTINGS

Each city/region included in the study has been given a score on a scale of 0-100 for each of the factors described in the previous section. Scores for larger groupings have been obtained by aggregating sub-scores through a weighted average.

## SCOREBOARDS

Scoreboards are available on demand.