



European Construction Sector Observatory

Country profile **Finland**

October 2020



In a nutshell

Over the 2010-2019 period, Finland **GDP growth** has decelerated, albeit remaining positive. Specifically, in 2019, GDP reached EUR 229.7 billion, representing a growth of 1.0% compared to EUR 227.5 billion in 2018 and a growth of 9.1% compared to EUR 210.6 billion in 2010.

In parallel, the **volume index of production** in the Finnish broad construction sector increased by 13.4% between 2015 and 2019. This growth was partially driven by a 15.8% increase in the volume index of production in the construction of buildings over the same reference period. In contrast, the volume index of production in the civil engineering projects experienced a 2.8% decline over the 2015-2019 period.

Volume index of production in the construction of buildings between 2015 and 2019

↑ 15.8%

Total turnover of the Finnish broad construction sector reached EUR 58.4 billion in 2017. Further, in 2019¹, it grew to EUR 69.4 billion, representing a 63.4% increase since 2010. This was driven by an increase in the turnover of the narrow construction (+74.0%), real estate activities (+64.9%), architectural and engineering activities (+50.8%) and manufacturing (+32.1%) sub-sectors over the 2010-2019 period.

Total turnover of the broad construction sector between 2010 and 2019

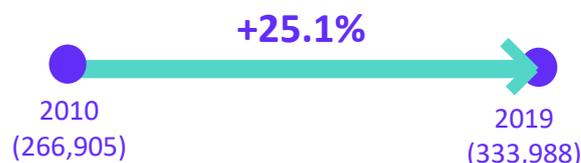
↑ 63.4%

The **gross operating surplus** of the broad construction sector reached to EUR 8.4 billion² in 2017³, representing a growth of 34.2% since 2010. Additionally, the **gross operating rate**⁴ of the broad construction sector, which gives an indication of the sector's profitability, stood at 14.4% in 2017, slightly lower than 2010 level (14.8%). This may be partly explained by the increase in construction cost and

particularly input materials and labour costs, which grew by 8.8 ip and 6.3 ip respectively over the 2010-2017 period.

In terms of employment, there were 333,988 **persons employed** in the broad construction sector in 2019, representing a 25.1% increase since 2010. This was mainly driven by the increase in the number of persons employed in narrow construction (+32.9%), real estate activities (+28.9%) and architectural and engineering activities (+23.6%) sub-sectors since 2010. However, the number of persons employed in the manufacturing sub-sector decreased by 9.8%.

Number of persons employed in the Finnish broad construction sector



The **number of households** in Finland experienced a continuous increase, reaching 2.7 million in 2019, which is 8.0% higher than in 2010. Fuelled by continuously declining **mortgage interest rates** since 2011 (0.9% in 2019), housing loans to households experienced a continuous growth. These factors contributed to a strong housing demand, which drove the housing index price up (+4.0% between 2015 and 2019), especially regarding the price for new dwellings (+9.1% in the same time period). In addition, household debt in Finland has been increasing and has exceeded the EU-28⁵ average. In order to tackle this issue, in early October 2019, the Ministry of Finance proposed to limit to 60.0% of the loan to value ratio (selling price ratio) applicable to housing companies. In addition, the government also started preliminary work in January 2020 to establish a comprehensive credit registry by 2023

In order to further strengthen transport **infrastructure**, the Finnish government is currently developing a national transport system. This effort is led by the parliamentary steering group and is expected to materialise in 2021.

Total investment in non-residential construction and civil engineering between 2015 and 2019



18.3%

The persisting labour shortage in the economy, including in the broad construction sector, impedes development, especially taking into account the ageing construction workforce. This suggests a need for investing in skills and VET programmes. To address this issue, the government plans to increase public investment in skills and education, and other areas (R&D infrastructure) in the next few years.

Furthermore, the global COVID-19 pandemic has added to existing challenges in the Finnish construction sector, with the growth projections for the sector being revised to -4.0% for 2020. In March 2020, around 9.0% of the employers in the construction sector in Finland reported facing a considerable impact on their financial situation, such as worsening in late payments and hindrances in procuring raw materials. Several work sites have been closed, with suspension or cancellation of construction projects, due to emergency measures.

The impact of the pandemic in the Finnish broad construction sector was less important than expected in the first six months of 2020, although overall projections for the year remain weak. However, following the gradual reopening of the economy in the second half of 2020, coupled with several construction and infrastructure projects lined up for the country in 2021, the Finnish construction sector is expected to recover from the current adversity.

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Key figures

Construction market

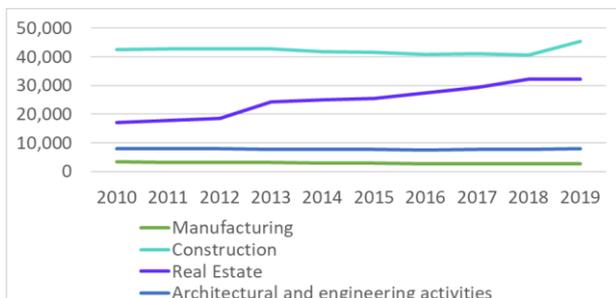
The number of enterprises in the broad construction sector totalled 88,046 in 2019, representing an increase of 24.5% since 2010.

This was mostly driven by an 88.9% increase in the number of enterprises in the real estate activities sub-sector over the 2010-2019 period. It was followed by the narrow construction and architectural and engineering activities sub-sectors, which number of enterprises increased by 6.6% and 0.3% respectively over the same period. Conversely, the manufacturing sub-sector witnessed a decline of 19.9%.

In 2019, the narrow construction sub-sector accounted for 51.4% of the total number of enterprises in the broad construction sector, followed by the real estate activities (36.6%) the architectural and engineering activities (8.9%) and the manufacturing (3.0%) sub-sectors.

Number of enterprises in the real estate activities sub-sector between 2010 and 2019 **↑ 88.9%**

Figure 1: Number of enterprises in the Finnish broad construction sector between 2010 and 2019



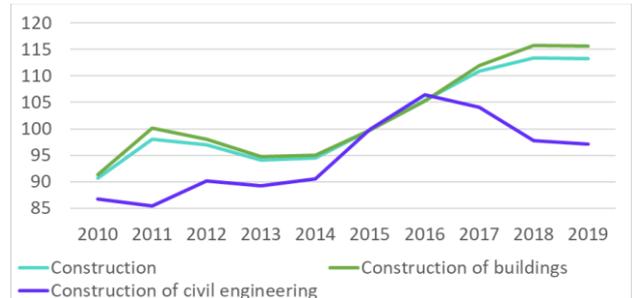
Source: Eurostat, 2020

Over the period 2015-2019, the **volume index of production** in the broad construction sector increased by 13.4%. This was driven by a growth of 15.8% in the production of construction of buildings partially offsetting a 2.8% decline in the production

in the construction activities of civil engineering over the 2015-2019 period.

Volume index of production in the construction of buildings between 2015 and 2019 **↑ 15.8%**

Figure 2: Volume index of production in the Finnish construction sector between 2010 and 2019 (2015=100)



Source: Eurostat, 2020

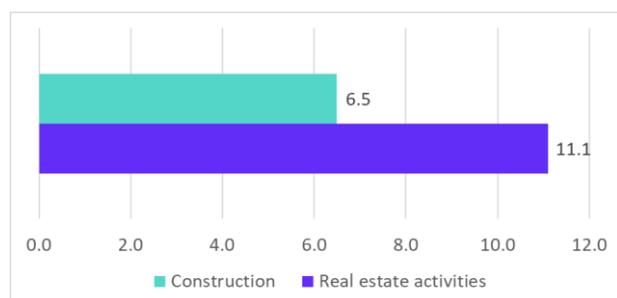
The total value added at factor cost⁶ of the broad construction sector amounted to EUR 25.0 billion in 2019, representing a 58.5% growth since 2010⁷.

This was mainly driven by the narrow construction sub-sector, which value added increased to EUR 15.3 billion in 2019, representing a growth by 87.9% since 2010. It was followed by the architectural and engineering activities sub-sector, which increased to EUR 3.0 billion in 2019, registering a 58.4% increase since 2010. The real estate activities and manufacturing sub-sectors also increased to EUR 4.8 billion and EUR 2.1 billion in 2019 respectively, representing increases of 21.6% and 9.1% from 2010 levels.

Overall, the narrow construction sub-sector accounted for 60.9% of the total value added at factor cost in the broad construction sector in 2019. It was followed by the real estate activities (19.1%), architectural and engineering activities (11.8%) and manufacturing (8.2%) sub-sectors in 2019.

The **share of gross value added** of the broad construction sector in the GDP was 19.7% in 2017⁸, higher than the EU-27 average (16.4%). In 2019, the share of gross value added of the narrow construction and real estate activities sub-sectors stood at 11.1% and 6.5% respectively (Figure 3).

Figure 3: Gross value added as a share of GDP in the Finnish broad construction sector in 2019 (%)



Source: Eurostat, 2020

Finland comprises of five regions namely Länsi-Suomi, Helsinki-Uusimaa, Etelä-Suomi, Pohjois-ja-Itä-Suomi and Åland. The gross value added is spread unequally over these territories. The gross value added by Helsinki-Uusimaa region in the narrow construction sub-sector increased by 38.7% over the 2010-2017 period, the highest among the regions. This was followed by Länsi-Suomi (+29.0%) and Pohjois-ja-Itä-Suomi (+23.8%). In the real estate activities sub-sector, the gross value added by Länsi-Suomi increased by 35.2% over the 2010-2017 period. This was followed by Pohjois-ja-Itä-Suomi and Helsinki-Uusimaa, which increased by 33.5% and 33.4% respectively over the same period.

The regions Helsinki-Uusimaa and Länsi-Suomi collectively accounted for 57.8% and 59.4% of the total gross value added in the narrow construction and real estate activities sub-sectors respectively in 2017.

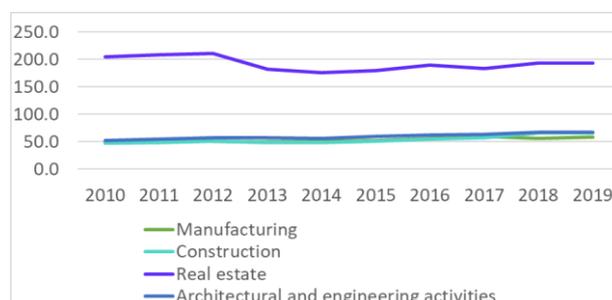
Productivity

The **apparent labour productivity**⁹ in the Finnish broad construction sector has increased from EUR 59,164 in 2010 to EUR 68,367 in 2017 (+15.6%)¹⁰, being well above the EU-27 average of EUR 50,079. This growth is also reflected in all the sub-sectors until 2019. Labour productivity in the narrow construction sub-sector grew by 41.6% between 2010 and 2019¹¹, reaching EUR 66,278. This was followed by the architectural and engineering activities sub-sector, which increased

by 28.3% in the same period, reaching EUR 67,342. Similarly, the manufacturing sub-sector increased by 27.9% over the same reference period, reaching EUR 58,189. Conversely, labour productivity in the real estate activities sub-sector, though being the highest in comparison to the other sub-sectors, decreased by 5.7% over the period 2010-2019, reaching EUR 193,604 (Figure 4).

Labour productivity in the narrow construction sub-sector between 2010 and 2019 **↑ 41.6%**

Figure 4: Labour productivity in the broad construction sector in Finland between 2010 and 2019 (EUR k)



Source: Eurostat, 2020

Turnover and profitability

Total turnover of the broad construction sector in 2017 amounted to EUR 58.4 billion, representing a growth of 37.6% over the period 2010-2017. Further, in 2019¹² it increased to EUR 69.4 billion, representing an increment of 63.4% since 2010. This growth was mainly driven by the narrow construction sub-sector which increased by 74.0% over the 2010-2019 period. It was followed by the real estate activities, architectural and engineering activities and manufacturing sub-sectors, which increased by 64.9%, 50.8% and 32.1% (respectively) over the same period. Overall, the narrow construction sub-sector accounted for 60.6% (i.e. EUR 42.0 billion) of the total turnover in the broad construction sector in 2019, followed by the real estate activities (18.0%, i.e. EUR 12.5 billion) manufacturing (13.6%, i.e. EUR 9.4 billion) and architectural and engineering activities (7.8%, i.e. EUR 5.4 billion) sub-sectors.

Turnover of the broad construction sector between 2010 and 2019

↑ 63.4%

The **gross operating surplus** of the broad construction sector amounted to EUR 8.4 billion¹³ in 2017¹⁴, a 34.2% increase compared to the 2010 level. This was primarily driven by 83.8% increase in the architectural and engineering activities sub-sector, followed by the narrow construction (+57.6%), manufacturing (+32.0%) and real estate activities (+13.2%) sub-sectors over the same period. Overall, the real estate activities sub-sector accounted for the highest share (43.4%) of the gross operating surplus in the broad construction sector.

Gross operating surplus of the broad construction sector between 2010 and 2017

↑ 34.2%

At the same time, the **gross operating rate**¹⁵ of the broad construction sector, an indicator of the sector's profitability, stood at 14.4% in 2017, slightly lower than in 2010 (14.8%), but below the EU-27 average of 16.6% in 2017¹⁶. Real estate activities remained the most profitable sub-sector, with a gross operating rate of 36.3% in 2017, followed by the architectural and engineering activities (11.6%) and the narrow construction sub-sectors (9.8%). Last, the manufacturing sub-sector registered a gross operating rate of 8.8% in 2017.

The **construction cost** index has also been on an increasing trend since 2015. Over the 2015-2019 period, the construction cost index increased by 4.1%. This growth was mostly driven by a subsequent rise in input prices for materials (+5.2%) and labour cost (+3.1%) over the same period (Figure 5).

Figure 5: Construction cost index for residential buildings between 2010 and 2019 (2015=100)



Source: Eurostat, 2020.

Employment

In 2019¹⁷, there were 333,988 **persons employed** in the broad construction sector, representing a 25.1% increase since 2010. The narrow construction sub-sector employed 230,179 persons, comprising 68.9% of the total construction workforce in 2019. It was followed by the architectural and engineering activities sub-sectors which employed 13.1% (43,867 persons), 10.6% (35,301 persons) and 7.4% (24,641 persons) in 2019.

The number of persons employed in the narrow construction sub-sector increased by 32.9% over the 2010-2019 period. This was followed by the real estate activities and architectural and engineering activities sub-sectors, which increased by 28.9% and 23.6% over the same period. In contrast, the number of persons employed in the manufacturing sub-sector declined by 9.8% over the same period.

Number of persons employed in the broad construction sector between 2010 and 2019

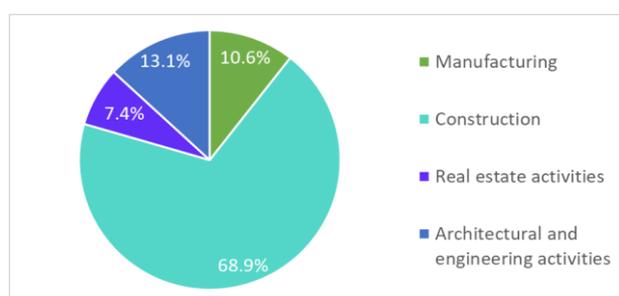
↑ 25.1%

As for employment by **specific occupations** in the manufacturing sub-sector, the number of managers declined significantly by 65.6% over the 2010-2019 period. It was followed by a decline in the number of workers in elementary occupations, as well as plant and machine operators and assemblers by 34.2% and 18.8% respectively over the same period. Conversely, the number of professionals in the manufacturing sub-sector increased significantly by 45.3% over the same period. With respect to the narrow construction sub-sector, there was a significant decline in the number of managers, by 83.0%, over the 2010-2019 period. On the other hand, the number of technicians and associates, the

number professionals, as well as plant and machine operators and assemblers in the narrow construction sub-sector increased by 88.4%, 69.4% and 25.0% respectively over the same period. In the real estate activities sub-sector, the number of technicians and associate professionals increased by 40.0%. Last, the number of clerical support workers decreased by 12.5% over the 2010-2019 period.

The Finnish construction sector plans to discharge about 5,000 workers in 2020 due to an anticipated 2.0% decline in the sector, according to Confederation of Finnish Construction Industries¹⁸.

Figure 6: Percentage of people employed per construction sub-sectors in Finland in 2019



Source: Eurostat, 2020.

The number of **self-employed** workers in the narrow construction sub-sector slightly increased (+2.6%) between 2010 and 2019. They represent 13.6% of the self-employed in the general economy in 2019, slightly above the EU-27 average of 11.9%. In the real estate activities sub-sector, the number of self-employed workers decreased by 15.0% in the

same period, representing 1.2% of the self-employed in the overall economy in 2019.

In parallel, the number of **full-time employees** in the narrow construction and real estate activity sub-sectors increased by 10.5% and 28.5% respectively between 2010 and 2019. At the same time, the manufacturing sub-sector witnessed a decrease of 10.3% in the same period. Similarly, the number of **part-time employees** in the narrow construction and manufacturing sub-sectors increased by 33.3% and 13.0% respectively. Conversely, this number decreased in the real estate activities sub-sector (-12.2%).

In terms of **regional employment**, in the narrow construction sub-sector, Helsinki-Uusimaa recorded the largest increase of 21.1% in the number of persons employed over the 2010-2017¹⁹ period. It was followed by Pohjois- ja Itä-Suomi (+7.0%) and Länsi-Suomi (+5.9%) over the same reference period. Helsinki-Uusimaa, Länsi-Suomi and Pohjois- ja Itä-Suomi accounted for 33.1%, 23.6% and 21.9% share in total number of persons employed respectively in 2017²⁰. Similarly, in the real estate activities sub-sector, Helsinki-Uusimaa recorded the largest increase of 10.2% in number of persons employed over the 2010-2017 period. It was followed by Länsi-Suomi (+3.8%) and Etelä-Suomi (+3.3%) over the same reference period. Helsinki-Uusimaa, Länsi-Suomi and Etelä-Suomi accounted for the highest share in total number of persons employed in 2017 by 42.8%, 20.2% and 18.4% respectively.

2

Macroeconomic indicators

Economic development

In 2019, Finland's **GDP** reached EUR 229.7 billion representing an annual growth of 1.0% and a 9.1% increment since 2010. In 2019, the **potential GDP** of Finland reached EUR 227.7 billion, resulting in a positive **output gap** of 0.9. This indicates a recovery from the crisis period and efficient use of resources.

The economic growth of Finland has been relatively slow since 2017. This is due to declining productivity and an ageing population, along with an employment rate lower than Nordic peers (Sweden and Denmark) in addition to lower productive investment²¹.

The **inflation rate** has slightly decreased annually from 1.2% in 2018 to 1.1% in 2019, remaining below the EU-27 average of 1.4%. This decrease can be attributed to sluggish economic growth with low external price pressures²².

Demography and employment

Finland's **total population** stood at 5.5 million people in 2019. By 2050, the total population is expected to reach 5.3 million, representing a 4.1% decrease in comparison to 2019. The **working age population** accounted for 62.2% of the total Finnish population in 2019, slightly below the EU-27 level (64.6%). The elderly population accounted for 21.8% of the total Finnish population in 2019, slightly above the EU-27 level (20.3%). While the working age population is expected to decrease by 9.3% by 2050, the elderly population is projected to increase by 24.0% in the same period. This clearly indicates a potential increase in demand for elderly infrastructures (hospitals, care homes, access infrastructure), which could in turn provide further opportunities for the construction sector.

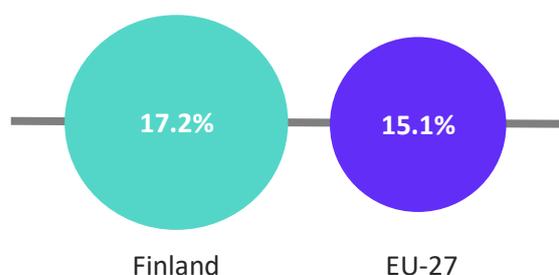
With respect to **unemployment**, the average unemployment rate decreased to 6.7% in 2019, equal to the EU-27 average and lower than the 2010

levels (8.4%)²³. This decrease was partially driven by support of European Social Fund (ESF).

In 2019, the European Social Fund (ESF) supported over 200,000 participants in finding a job. Furthermore, to tackle youth unemployment, it had invested in projects aiming to improve educational outcomes and access to the labour market for over 37,000 participants under 30 years²⁴.

In parallel, **youth unemployment** has experienced a considerable decrease from 21.4% in 2010 to 17.2% in 2019. Despite this decrease, it remains above the EU-27 average of 15.1%. The activity rate in employment is catching up, but the employment figures lie below that of Nordic peers. The underlying factors identified behind this gap are disincentives to work, bureaucracy issues, illness or disability and relatively low regional mobility²⁵.

Youth unemployment rate in 2019

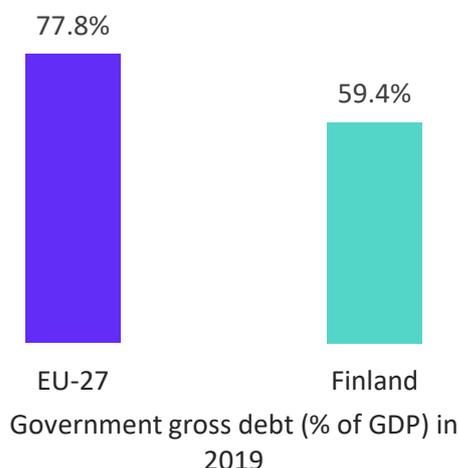


The **net migration rate** has declined by 14.7%, from 13,756 in 2010 to 11,739 in 2018²⁶. As per Statistics Finland, the decline was a result of decreased immigration and increased emigration in 2018 compared to 2017. In total, 31,106 people moved to Finland from abroad and 19,148 people moved abroad from Finland in 2018²⁷.

Public finance

Finland recorded a **general government expenditure** accounting for 53.3% of GDP in 2019, slightly lower than the 2010 level of 53.9%, but above the EU-27 average of 46.7%. **General**

government gross debt in 2019 amounted to 59.4%, higher than in 2010 (46.9%), but well below the EU-27 average of 77.8%. At the same time, the **general government deficit** also increased to -1.1% in 2019 from the 2010 level (-2.5%). However, it lies below the EU-27 average (-0.6% in 2019).



Entrepreneurship and access to finance



Finland ranked 1st in terms of financial stability and 9th in the overall financial system, out of 141 economies, according to the 2019 Global Competitiveness Report²⁸.

As per the report, Finland performed well with regard to the soundness of banks (1st), financing of Small and Medium-sized Enterprises (SMEs) (1st) and venture capital availability (3rd).

Since 2008, the government has made progress by the introduction of several policies on

entrepreneurship. Consultancy and training services for SMEs have been introduced, especially for companies in the early stage. In parallel, measures have been introduced for developing start-up companies, as a result of which, start-ups are attracting more and more venture capital funding²⁹. However, prolonged procedures for obtaining business permits, including environmental permits, and access to finance for seed capital companies are some of barriers entrepreneurs face.

In terms of **access to finance**, in 2019 Finland performed above the EU-28³⁰ average and stood as second-best performer in the EU area. Since 2008, several policy measures have been introduced to improve SME financing, such as growth funding, junior loans and the investment programme for industrial renewal³¹.

As a result, **Loans to non-financial corporations** in the general economy have continuously increased since 2010, growing from EUR 57.5 billion to EUR 90.9 billion in 2019 (+58.0%). Presently, loans to non-financial corporations represent about 40.0% of banks' aggregate loan book to the private sector. Moreover, the low interest rates in the current environment make the affordability of bank credit easy for most of the firms and other clients³².

Despite the government implementing several policy initiatives over recent years, 'Entrepreneurship as a desirable career choice' remains below EU-28³³ average³⁴. In 2018 and the first quarter of 2019, the government did not develop any major policy measures in terms of entrepreneurship³⁵.

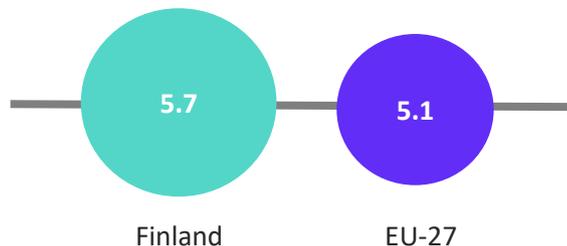
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Key economic drivers of the construction sector

Business confidence

The **consumer confidence indicator** stood at -4.1 in 2019, lower than 2010 level (3.2). This is however above the EU-27 average (-6.2). Likewise, the **industry confidence indicators** reached -3.5 in 2019, below the 2010 level (2.9). This also stood above the EU-27 average (-4.8). On the contrary, the **construction confidence indicator** increased to 5.7 in 2019, higher than the 2010 level of -18.8 the EU-27 average of 5.1.

Construction confidence indicator in 2019



In parallel, the **investment ratio** increased to 22.7% in 2019, slightly higher than 2010 level (21.9%) and EU-27 average (21.7%).

Conversely, the **investment per person employed by industry** decreased annually in 2017³⁶ in the broad construction sector.

The Finnish construction sector has been majorly impacted by the global COVID-19 pandemic, such that projected growth in the sector has been revised downwards to -4.0% in 2020. Depending on the severity of the disruptions, the forecast has a high chance of declining further³⁷.

Domestic sales

The ranking of the **most domestically sold construction products** in Finland has remained constant since 2010. The value of domestic sales has seen some significant increases between 2010 and 2018, particularly for “Prefabricated structural components” (+78.2%), “Ready-mixed concrete” (+38.9%) and “Windows, French windows, etc.” (+6.4%). Conversely, the domestic sale value for “Prefabricated wooden buildings” has decreased (-10.0%). The **top 5 most domestically sold construction products** are presented in Table 1, including a comparison with the most sold in the EU-28. These represented 65.0% of total domestic construction product sales in 2018.

Table 1: 5 Most domestically sold construction products in Finland and in the EU in 2018³⁸

	Finland			EU-27
	Product	Value (EUR m)	Share in construction products domestic sales (%)	Product
1	Prefabricated structural components (group 236112)	810.9	18.4	Other structures (group 251123)
2	Other structures (group 251123)	805.3	18.3	Doors, windows, etc. (group 251210)
3	Prefabricated wooden buildings (group 162320)	453.7	10.3	Ready-mixed concrete (group 236310)
4	Windows, French	402.0	9.1	Prefabricated buildings of

	Finland			EU-27
	Product	Value (EUR m)	Share in construction products domestic sales (%)	Product
	windows, etc. (group 162311)			metal (group 251110)
5	Ready-mixed concrete (group 236310)	305.6	7.0	Prefabricated structural components (group 236112)

Source: PRODCOM, 2020.

Export of construction-related products and services

The ranking of the most exported construction products has witnessed two notable increments in “Doors, windows and their frames, etc.” (+72.7%) and “Marble, travertine, alabaster, etc.” (+21.8%). The **top 5 most exported** construction products from Finland and the EU-27 are summarised in Table 2. Together, the top 5 most exported construction products from Finland made up 62.7% of all construction products exports in 2018³⁹.

Table 2: 5 Most exported construction products in Finland and in the EU in 2018⁴⁰

	Finland			EU-27
	Product	Value (EUR m)	Share in construction products exports (%)	Product
1	Other plywood, veneered panels (group 162118)	308.9	26.1%	Ceramic tiles and flags (group 233110)
2	Other plywood, veneered panels (group 162116)	267.6	22.6	Other structures (group 251123)
3	Builders' joinery and carpentry (group 162319)	157.9	13.3	Fibreboard of wood (group 162115)
4	Prefabricated wooden buildings (group 162320)	59.7	5.0	Doors, windows, etc. (group 251210)
5	Doors, windows, etc. (group 251210)	50.4	4.3	Marble, travertine, etc. (group 237011)

Source: PRODCOM, 2020.

Access to finance in the construction sector



The credit extended to firms in the narrow construction and real estate sub-sectors has witnessed a significant increase over the 2010-2019 period.

The total volume of credit issued by domestic banks to the real estate and narrow construction sub-sectors stood at EUR 52.1 billion in 2019. This represents an annual increase of 28.5% and an increase of 101.3% respectively over the 2010-2019 period. By the end of 2018, around 54.6% of the credit included banks' receivables from firms and housing corporations⁴¹. As per the Mortgage Society of Finland, loans offered to housing companies accounted for 67.0% of the portfolio of total loans disbursed in 2019, and 91.0% originated from customers located in metropolitan areas and growth cities⁴².

The trend of using credit lines and overdrafts as a form of loan in the Finnish construction sector has depicted a gradual decline over the period 2014-2019. In 2019, around 27.0% of SMEs had used credit lines or overdrafts as a financing tool⁴³.

According to the Survey on the Access to Finance of Enterprises (SAFE) 2019, Finland performed above the EU-28⁴⁴ average in terms of access to finance. Around 62.0% of SMEs in Finland report of encountering no obstacles, whereas the same in the EU-28⁴⁵ stood at 45.0%⁴⁶. Out of the total SMEs considering credit lines and overdrafts as relevant financing means, the share of SMEs receiving the full amount of the credit in requested stood at 79.0%. This is higher than the EU-28 average of 72.0%. In 2019, around 28.0% of SMEs in Finland applied for loans amounting greater than EUR 1.0 million. This stands significantly higher than the EU-28 average of 17.0%.

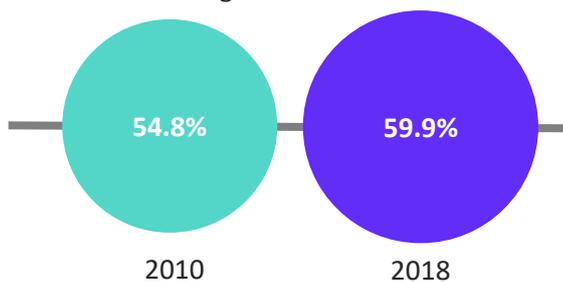
29.0% of SMEs in the Finnish construction sector applied for bank loans in 2019. However, compared to other sectors in Finland, SMEs in the construction sector have the lowest proportion of applicants who received everything they applied for in 2019⁴⁷.

Access to housing

The **number of households** in Finland experienced a continuous increase, reaching 2.7 million in 2019, which is 8.0% higher than in 2010. At the same time, with regards to Finland's **urbanisation rate**, the share of the population living in cities and greater cities also grew continuously, from 54.8% in 2010 to 59.9% in 2018. Housing construction is high mostly due to people relocating from rural to urban areas seeking better lifestyle and career⁴⁸. According to the 2019 report by the World Population Review, around 85.0% of the people living in Finland dwell in or around a major city⁴⁹.

The **mean equivalised net income** has experienced a 19.3% increase since 2010, reaching EUR 28,061.0 in 2019, leading to a higher household purchasing power. This is considerably higher than the EU-27 average of EUR 19,078.0.

Share of population living in cities and greater cities



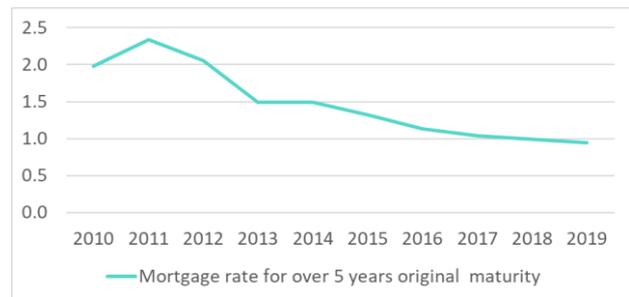
Mortgage interest rates have been declining considerably since 2011 and reached a historical low of 0.9% in 2019 (Figure 7). As a result, housing loans to households have experienced a continuous growth. Indeed, total **outstanding residential loans** have increased by 27.4%, from EUR 76.7 billion in 2010 to EUR 97.8 billion in 2018⁵⁰.

Total outstanding residential loans between 2010 and 2018



27.4%

Figure 7: Mortgage rates for loans for over 5 years original maturity (%) between 2010 and 2019



Source: ECB MFI Interest Rate Statistics, 2020.

The declining mortgage interest rates coupled with increasing housing loans has influenced a rise in the households' **indebtedness**. Household debt in Finland has been increasing and has exceeded the EU-28⁵¹ average. In 2019, it stood at 140.0% of household disposable income⁵². The average size of a housing loan per household unit stood at EUR 102,240.0 in 2019, representing an annual growth of 1.2%. The average amount of interest paid per indebted household dwelling unit stood at EUR 1,130.0, representing an annual decrease of 3.4%⁵³.

In 2019, there were around 1.45 million indebted household dwelling units in Finland, representing 53.0% of the total. The total debt of such households amounted to EUR 126.9.0 billion, a 2.0% increase since 2018. The total interest paid on these debts amounted to EUR 1.6 billion, being 2.0% less than the year before⁵⁴.

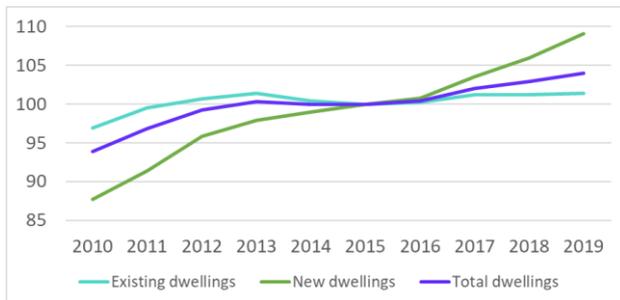
In order to tackle the household indebtedness, in early October 2019, the Ministry of Finance proposed a limit of 60.0% of the loan to value ratio (selling price ratio) applicable to housing companies. Authorities in Finland also started preliminary work in January 2020 to establish a comprehensive credit registry by 2023⁵⁵.

The **housing price index** increased by 4.0% between 2015 and 2019 (Figure 8), driven by a 9.1% increase in the price of new dwellings (in comparison to a 1.4% growth for existing dwellings). This increase was mostly witnessed in bigger cities in comparison to the rest of the country. The disparity in house prices between the bigger cities and the rest of Finland continues to grow⁵⁶.

According to Statistics Finland, the prices of existing dwellings in housing companies in June 2020 increased annually by less than one percent in the Greater Helsinki region, whereas in the rest of Finland, it decreased by 4.0%⁵⁷.

House price index for new dwellings between 2015 and 2019  **9.1%**

Figure 8: House price index in Finland between 2010 and 2019 (2015=100)



Source: Eurostat, 2020.

The residential **building permits** index grew by 19.7% in 2019 as compared to the 2015 level. However, it has decreased considerably since 2017 (-31.1ip)). The indexed value of building permits for ‘one dwelling buildings’ and ‘two and more dwelling buildings’ also increased by 1.4% and 24.5% over 2015-2019 period respectively, but posted a significant decrease from 2017 (-14.8 ip and -35.3 ip respectively). According to Statistics Finland, building permits for the second quarter 2020 (in terms of cubic volume) reduced annually by 31.2%. This decline was primarily due to the decrease in cubic volume permits granted for residential building construction by 22.2%⁵⁸.

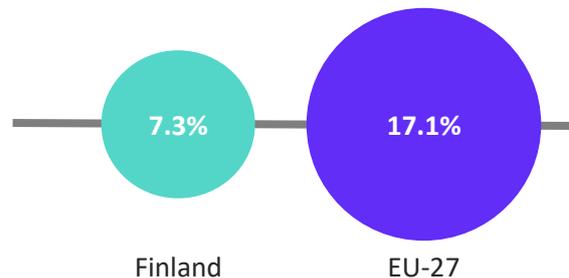
The construction of residential housing also decelerated in 2019. Moreover, the nationwide lockdown in the initial months of 2020 due to the COVID-19 pandemic has caused disruptions in the general economy. These two factors are expected to influence the drop in the supply of new dwellings in 2020 and 2021. This might further build an upward pressure on prices⁵⁹.

Actual **rentals for housing** in Finland increased substantially by 8.5% over the period 2015-2019. It also experienced a 2.0% annual growth in 2019. In larger towns and cities, the rents of non-subsidised rental dwellings have increased most in comparison with 2015. Specifically, in Greater Helsinki, rents

have risen by 8.0% and in the rest of the country by 6.0% from the 2015 levels⁶⁰.

The majority of buildings are **owner-occupied** (71.1% in 2019) in Finland. Furthermore, in 2019, 44.4% of people earning 60.0% or less of the median equivalised income were house owners, while this percentage reached 74.6% for people earning above 60.0% of the median income. Finland’s permanently occupied dwellings reached 2,734,000 in 2019⁶¹. The **overcrowding rate**⁶² in Finland stood at 7.3% in 2018, greater than 2010 level (6.1%), but below EU-27 level in 2018 (17.1%). It further increased to 7.7% in 2019⁶³. In addition, Finland’s **severe housing deprivation rate**⁶⁴ stood at 0.9% in 2018, same as the 2010 level, but below the EU-27 level (4.3%). It stood at 0.9% in 2019 as well⁶⁵. The **housing cost overburden rate**⁶⁶ stood at 4.3% in 2018, slightly above the 2010 level (4.2%), but below the EU-27 average in 2018 (9.6%). It decreased to 4.0% in 2019⁶⁷.

Overcrowding rate in 2018



Tackling the problem of homelessness has been the main focus area of Finnish government since the 1980s. In 1987, there were more than 18,000 homeless people in Finland⁶⁸. However, it has decreased considerably, with 2019 being the seventh consecutive year of decrease. For the first time ever in Finland, the number of homeless people aged below 25 and number of long-term homeless people fell below 1,000. The issue of homelessness is mostly concentrated in large cities^{69,70}.

At the end of 2019, there were 4,600 homeless people living alone, which is 280 less than in 2018. There were around 264 homeless families and couples in 2019⁷¹.

Infrastructure

According to the 2019 Global Competitiveness Report, Finland ranked 22nd out of 141 in terms of its infrastructure⁷². In terms of transport infrastructure, it ranked 27th.

In particular, it performed best in terms of the efficiency of seaport services (3rd), efficiency of air transport services (4th) and efficiency of train services (7th). It scores worst in terms of liner shipping connectivity (75th) and airport connectivity (46th), followed by railroad density (42nd).

According to EU Mobility and Transport, under Investments and Infrastructure, Finland ranked above the EU-28⁷³ average for seven indicators. Particularly, Finland has ranked well in efficiency of train services (2nd), efficiency of seaport services (2nd), efficiency of air transport services (2nd), completion of TEN-T High Speed Rail Core Network (1st) and completion of TEN-T Inland Waterways Core Network (1st)⁷⁴.

In order to further strengthen transport infrastructure and address the current maintenance backlog, the Finnish government has considered a sizeable investment in sustainable transport infrastructure. A new national transport system is planned to be developed in 2020-2021 under the lead of a parliamentary steering group. Sustainable infrastructure investment is also being planned, remarkably to increase labour mobility⁷⁵.

The Finnish government has proposed budget authorities and has planned numerous upcoming infrastructure projects. For instance, the government has planned to invest EUR 30.0 million for basic transport infrastructure management. According to the proposal, this shall be used for road repair work, including the paving of roads, for the year 2020. Besides this, there are projects planned for 2020 which include the improvement of highways, new rail switches and rail repairs, the construction of interchanges and crossways and new transport connections across the country⁷⁶.

4

Key issues and barriers in the construction sector

Company failure

Business demography in the broad construction sector in Finland generally witnessed more **company births** than **deaths** over the 2010-2017 period⁷⁷. Specifically, in the narrow construction sub-sector, company births decreased by 22.3%, over this period, reaching 3,321 in 2017. Company deaths also declined by 35.0%, over the same period, reaching 2,449. As for the real estate activities sub-sector, there was an increase in company births by 96.3% over the period 2010-2017, reaching 9,018. Company deaths however, declined by 25.0% over the same period, reaching 1,958. Company births and deaths in the architectural and engineering activities sub-sector decreased by 20.9% (reaching 667) and 9.7% (reaching 698) respectively over the period 2010-2017.



According to Statistics Finland, the construction sector witnessed the largest number of bankruptcies in 2019. Around 516 bankruptcies were filed, representing 8.4% more than the previous year⁷⁸.

The number of bankruptcies in Finland increased during the first quarter of 2020 even before the global COVID-19 pandemic took place⁷⁹. Since the onset of the pandemic, huge disruptions have been caused in the general economy in Finland. Moreover, the measures taken to contain the spread of the virus, such as imposing lockdown restrictions, have dampened the functionality of Finnish businesses at large.

The survey conducted by the Confederation of Finnish Industries (EK) revealed that around 20.0% of employers feared bankruptcy amid the COVID-19 pandemic. Around 42.0% of businesses were severely weakened and 63.0% believed that their businesses will weaken further. Amid this challenging time, the Finnish construction sector is said to have survived best in comparison with other sectors⁸⁰.

Trade credit

According to the Survey on Access to Finance of Enterprises (SAFE) 2019, 28.0% of SMEs reported using **trade credit** as a source of financing, slightly below the EU-28⁸¹ average of 31.0%. Around 18.0% of SMEs said to have used it in the past six months as compared to the EU-28 rate of 17.0%^{82,83}.

The proportion of Finnish SMEs that applied for trade credit in 2019 stood at 24.0%, less than the EU-28 (32.0%). Around 38.0% of SMEs did not apply because of sufficient internal funds, whereas the same for the EU-28 stood at 35.0%. The share of SMEs that did not apply for trade credit due to other reasons was 30.0%, greater than the share in the EU-28 (26.0%)⁸⁴.

Late payment

In general, SMEs facing late payment issues in Finland were reported to be around 48.0%, slightly above the EU-28⁸⁵ average of 47.0%. Around 10.0% of SMEs reported facing late payment problems regularly in Finland (for EU-28, this was 15.0%), and 38.0% of SMEs reported facing it occasionally (32.0% in EU-28)⁸⁶.

The percentage of punctual payers in Finland stood at 48.1% in 2019 (up from 45.5% in 2018). This is greater than the EU-28⁸⁷ average (44.3%). Almost

half of the companies (51.1%) tended to pay their obligations on average between 1 and 30 days late. The share of Finnish companies falling into the intermediate late payment category (30-90 days) in 2019 stood at 0.6%. There were around 0.2% of companies that took more than 90 days in paying off their obligations in Finland – significantly lower than the EU-28 average of 3.9%⁸⁸.

Specific to the construction sector in Finland, around 35.3% of total operating companies respect the agreed payment duration, i.e. they pay their obligations by the due date. Around 0.2% of the construction companies in Finland take more than 90 days to pay⁸⁹.

As a consequence of late payments, the majority of the Finnish SMEs (around 18.0%) reported an impact on payments to suppliers; and on their production or operations. The late payment issue also delays repayment of loans for around 6.0% of SMEs. These SMEs also had to use additional financing in order to mitigate the effect on operations. Around 5.0% of SMEs reported that this issue affected their investments or ability to recruit⁹⁰.

In March 2020, around 9.0% of the employers in the Finnish construction sector reported facing considerable impact on their financial situation, such as worsening late payments, hindrances in procuring raw materials and obtaining financial aid from institutions/banks, etc. Around 47.0% of employers reported facing somewhat negative impacts⁹¹.

Time and cost of obtaining building permits and licences

According to the World Bank Doing Business 2020 report, Finland ranked 42nd in 2019 with respect to “**Dealing with construction permits**”⁹². This is worse than the year before (34th)⁹³. Although the number of procedures required to build a warehouse⁹⁴ (17) is higher than the OECD high-income average (12.7), the time needed to complete them stands at 65 days, which is lower than the OECD average (152.3 days) (Table 3). Moreover, the cost of completing the formalities to build a warehouse represented 0.7% of the value of the warehouse, below the OECD high-income average of 1.5%⁹⁵.

Table 3: Construction procedures timing and costs in Finland

Procedure	Time to complete	Associated costs
Obtain building permit maps and extract from the Real Estate Office	12 days	EUR 235.0
Obtain official opinion on the connection of the wastewater drain and water pipeline	7 days	no charge
Schedule start-up meeting	7 days	no charge
Obtain extract from the Trade Register	0.5 day	EUR 3.0
Notify the neighbours of the building permit application	1 day	no charge
Obtain report on the height of the intended construction	0.5 day	no charge
Obtain building permit	38 days	EUR 8,867.0
Receive foundation work inspection	1 day	no charge
Receive location inspection from the Real Estate Office	1 day	EUR 1,520.0
Receive structure inspection	1 day	no charge
Receive ventilation inspection	1 day	no charge
Receive sewer and water pipeline inspection	1 day	no charge
Report information to the Finnish Tax Agency	1 day	no charge
Request and obtain water connection	3 days	EUR 4,826.0
Receive fire inspection from the Public Rescue Service	1 day	EUR 200.0
Receive final inspection	1 day	no charge
Obtain occupancy permit	4 days	no charge

Source: Doing Business 2020

Skills shortage

The number of **job vacancies in the narrow construction sub-sector**⁹⁶ increased to 4,270 in 2019 as compared to 1,913 vacancies in 2013⁹⁷, experiencing a 123.2% increase in the 2013-2019 period. The **job vacancy rate** was hence about 2.5% in the narrow construction sub-sector in 2019.

Job vacancies in the narrow construction sub-sector between 2013 and 2018



123.2%

In addition, the **number of tertiary students** in engineering, manufacturing and construction decreased by 22.1%, from 12,223 in 2010 to 9,520 in 2018⁹⁸. This was driven by a decline in both the number of tertiary students in ‘engineering and

engineering trades' and 'manufacturing and processing' of 26.9% and 53.3% respectively over the 2010-2019 period. Conversely, the number of tertiary students in architecture and building increased by 12.4% over the same period.

However, **adult participation** in education and training in the broad construction sector has been increasing since 2010, particularly, in the narrow construction sub-sector. The participation rate increased from 16.8% in 2010 to 21.3% in 2019. In the real estate activities sub-sector, the participation rate was overall higher, but more prone to fluctuations. Indeed, this rate dropped from 30.5% in 2010 to 23.8% in 2014. It then picked up at 31.8% in 2015 before dropping again to 27.1% in 2017. However, after increasing to 35.0% in 2018, it again dropped to 29.6% in 2019.

In Finland, two out of three adults participate in formal or non-formal learning every year. This makes the country's skills development system one of the most successful among the OECD countries. Despite the fact, according to the 2020 OECD report, there is still a gap in learning participation between adults with low basic skills and those with higher skill levels. This further creates labour shortage in the country⁹⁹.

The 2020 OECD report also highlighted challenges on maintaining the current level of continuous learning and of adapting the skills development system. The challenges are lack of upskilling opportunities for adults with vocational qualifications and the lack of availability of short courses relevant to the labour market¹⁰⁰.

The report further recommends developing more tailored educational programmes that aim at improving the motivation to learn¹⁰¹.

This highlights the need for investing in skills that contribute to higher productivity in Finland. The General Government Fiscal Plan 2020-2023 has announced an increment on the total annual expenditure on education by about EUR 518.0 million by 2023, with additional spending above 2020-2023 totalling EUR 455.0 million. Finland's 2020 budget plans a 6.0% increase in expenditure in general, vocational and tertiary education. From 2021, the higher education institutions in Finland will apply new funding models which will foster transitions from education to work¹⁰².



The government plans to introduce a 'continuous learning' reform in vocational education and training and tertiary education to help adult workers address skills shortages. It is planned to begin from 2020¹⁰³.

The 'continuous learning' reform aims at increasing opportunities for people of a working age to participate in 'continuous learning' courses. It encourages them to combine work and study in a flexible manner and promotes learning at the workplace¹⁰⁴. These proposals and planning collectively are expected to benefit the Finnish construction sector, as they shall aid in generating more skilful workers, easier transitioning from education to work and growth in learned professionals.

In general, labour shortages in Finland are persistent. According to the Ministry of Employment and the Economy, there is a shortage of skilled workers in a growing number of professions in Finland. With respect to the Finnish construction sector, shortages for supervisors were listed in 2019. In 2018, there were shortages in an array of construction jobs from steel fixers to engineers¹⁰⁵.

According to the Confederation of Finnish Construction Industries (RT) (CFCI), the number of construction employees grew by around 30,000 over the past four years. However, the sector has projected the shedding around 5,000 workers in 2020 due to an anticipated two percent decline¹⁰⁶. Amid the persisting labour shortage and declining construction sector, the Finnish Immigration Service (Migri) announced that a total of 139 Uzbek construction workers were received and trained since the beginning of the year. According to CFCI, the import of foreign workers could help mitigate worker and skills shortage in the domestic construction sector¹⁰⁷.

Moreover, the onset of the COVID-19 pandemic has further deteriorated the situation of the existing skill shortage in Finland. Several work sites had to face forced closures with the suspension or cancellation of construction projects due to emergency measures. Unemployment rates have further increased due to mass layoffs. Specifically, in May 2020 the monthly unemployment rate spiked to 10.6%, before declining again to 7.7% in July 2020¹⁰⁸.

Sector and sub-sector specific issues

Material efficiency and waste management

Waste management in Finland is advanced but the recycling rate still lies below the EU-28¹⁰⁹ average. This indicates room for improvement for waste management in Finland. The generation of municipal waste in Finland was above the EU average and the recycling rate was 49.0% in 2017, above the EU-28 average of 47.0%. This signifies that the country is sure to achieve its EU 2020 municipal waste recycling target of 50.0%¹¹⁰.

The Finnish government has adopted a **National Waste Plan** which has set out objectives for waste management and waste prevention till 2023, as well as the measures for reaching these objectives. The plan has set detailed targets for four key areas: construction and demolition waste (CDW), biodegradable waste, municipal waste, as well as waste from electrical and electronic equipment¹¹¹.

Specific to Finland's CDW, detailed targets have been set for 2023 by the National Waste Plan and each of these targets is coupled with a set of measures that will help in achieving them. The targets specified are: reducing the volume of CDW; raising the material recovery rate of CDW to 70.0%; increasing the material recovery of CDW while managing related risks; and achieving greater accuracy and correctness in statistics on CDW¹¹².

Finland's National Waste Plan to 2023 is set to impact CDW in a positive way. It will enable intensified reuse and recycling of construction products, which will save unnecessary depletion of natural resources. Moreover, the adoption of new practices in the plan will promote safe material cycles and reinforce the recycled raw materials market¹¹³.

CDW generated in Finland in 2016¹¹⁴ amounted to 2,516 kg per capita, depicting a decrease of 45.2% over the period 2010-2016. Around 1.1% (27 kg per capita) of the total CDW waste comprised hazardous waste. Hazardous waste, however, showed an increment of 800.0% over the period 2010-2016. As per Statistics Finland, the waste generated by the construction sector in 2016, some 1,000 tonnes, amounted to 13,825¹¹⁵.

Construction and demolition waste in Finland between 2010 and 2016  **45.2%**

CDW in Finland is regulated by several acts and decrees, the main ones being the Government Decree on waste 179/2012 and the Government Act 646/2011 concerning the recovery of certain waste in earth construction¹¹⁶. The former addresses the reduction of the quantity and harmfulness of construction and demolition waste. It provides for the separate collection and recovery of CDW in order to reclaim it, according to the Waste Act 646/2011.

Climate and energy

Emissions of greenhouse gases (carbon monoxide and dioxide, methane and nitrous oxides) from activities related to the narrow construction sub-sector and real estate in Finland amounted to a total of 1,177,936.9 and 132,105 tonnes in 2018 respectively. This represents a 23.9% and 35.7% decrease in comparison to the 2010 levels.

The Finnish government plans to amend the country's Climate Change Act by including legally binding **greenhouse gas emission** reduction targets along with other targets¹¹⁷.

5

Innovation in the construction sector

Innovation performance



In the European Innovation Scoreboard 2020, Finland has been classified as an Innovation Leader. Its overall score relative to EU-28¹¹⁸ in 2019 stood at 139.8¹¹⁹.

Finland's strong innovation dimensions are an innovation-friendly environment containing innovators and human resources, while the weaker innovation dimensions are intellectual assets, employment impact and sales impact. Indicators such as lifelong learning, innovative SMEs collaborating with others and public-private co-publications lie well above the EU-28¹²⁰ average. On the contrary, indicators such as employment, fast-growing enterprises, medium and high-tech product exports and private co-funding of public research and development expenditures score the lowest¹²¹.

Noticeable performances of Finland's indicators under the innovation-friendly environment relative to the EU include a sizeable increase in opportunity-driven entrepreneurship (+102.0% in 2019 compared to 2012) and broadband penetration (+85.7% in 2019 compared to 2012) respectively over the period 2012-2019¹²².

Finland's research and development (R&D) expenditure is among the highest in the EU-28¹²³, but it remains much below the national 2020 target of 4.0% of GDP. Moreover, it also lies below Finland's Nordic peers¹²⁴.

To further strengthen the country's research and innovation performance, the Finnish government is considering the implementation of policy initiatives. The government has acknowledged the need of promoting Finland's attractiveness to encourage both foreign and domestic R&D investment¹²⁵.

Business enterprise R&D expenditure (BERD) in the broad construction sector depicts an upward trend,

with levels higher than in 2010 (Figure 9). After dropping from EUR 57.8 million in 2010 to a low of EUR 45.6 million in 2013, BERD in the narrow construction sub-sector increased by 103.4% between 2010 and 2017, reaching EUR 117.6 million in 2017. Conversely, BERD in the professional, scientific and technical activities sub-sector experienced a 10.3% decline in 2017 as compared to 2010, reaching EUR 153.7 million, after recording a significant increase of 35.4% between 2014 and 2015.

BERD expenditure in the narrow construction sub-sector between 2010 and 2017 **↑ 103.4%**

Figure 9: Business enterprise R&D expenditure (BERD) per construction sub-sector in Finland between 2010 and 2016 (EUR million)¹²⁶



Source: Eurostat, 2020.

In parallel, total R&D personnel (full-time equivalents – FTEs¹²⁷) in the broad construction sector followed a trend similar to BERD. Total FTEs in the professional, scientific and technical activities sub-sector experienced a decrease of 16.9% over the 2010-2017¹²⁸ period, going from 1,678 in 2010 to 1,394 in 2017. It was still the highest among sub-sectors. Conversely, total FTEs in the narrow construction sub-sector grew by 50.6% in 2010-2017, rising from 433 in 2010 to 652 in 2017. Real estate activities reported the lowest FTE, in line with BERD, which increased from 9 in 2010 to 10 in 2012¹²⁹.

Total R&D personnel in the narrow construction sub-sector between 2010 and 2017

 **50.6%**

The **number of construction-related patent applications** declined from its highest level in 2013 (81 patents) to the lowest level in 2018 (32 patents) in the broad construction sector. This may be explained by the time gap often observed between R&D investments and patent application realisation.

According to the 2019 EU Industrial R&D Investment Scoreboard, 17 companies from Finland ranked within the top 2,500 companies in R&D ranking globally. Two Finnish 'construction and materials' firms (YIT and Uponor) were listed on the R&D ranking of EU top 1,000 companies in 2019¹³⁰.

Eco-innovation and digitalisation

Being among the most advanced economies in the EU in terms of digital technologies, Finland is also a frontrunner in clean energy innovation. Among one of its objectives for climate action, the Finnish government aims to achieve carbon neutrality by 2035 and become the world's first fossil-free welfare society¹³¹.

Finland has been recognised as a leader in eco-innovation, ranking fourth in the 2018 Eco-innovation index (score of 121) behind Luxembourg (138), Germany (137) and Sweden (132), and well above the EU-28¹³² average (100)¹³³. Finland ranked among the best-performing countries in terms of eco-innovation in the EU. Its ranking in terms of both the EU eco-innovation index and the development and diffusion of environmental technologies is also high¹³⁴.

Finland's capital city, Helsinki, has joined the Net Zero Carbon Buildings Commitment developed by the World Green Building Council. This commitment has been adopted by private companies and local authorities. The commitment pledges that the participants must ensure that their portfolios produce net-zero carbon emissions by 2030¹³⁵.

As more than 50.0% of emissions in the city come from buildings, the authorities have set a range of clear energy efficiency targets aimed at them. The authorities have also launched Climate Watch, an

online tool that helps in measuring the progress on energy efficiency and other climate initiatives¹³⁶.

Helsinki is also preparing for an 'Energy Renaissance' programme aiming to speed up energy renovations made in privately-owned buildings. This will help in minimising the use of heating energy by a considerable amount in the entire building stock by 2035¹³⁷.

According to the **Digital Economy and Society Index 2020**, Finland scored 72.3 in 2020, improving from its 2019 score of 68.1 and lying well above the EU-28¹³⁸ average score of 52.6. Finland's leading performance (prior to COVID-19 pandemic) is due to the excellence in digital public services and the integration of digital technologies. In terms of the integration of digital technology, Finland has shown remarkable improvement as it scored 67.0 in 2020, (6.9 points up from 2019). It also lies well above the EU-28 score (41.4). It ranked 2nd among EU-28 countries in this indicator. This performance was driven by increases in the percentage of companies using electronic information sharing and social media. The share of Finnish companies using the cloud (50.0%) also stood above the EU-28 (18.0%)¹³⁹.

Finland's score for **digital public services** stood at 87.0 in 2020 (5 points up from 2019), well above the EU-28 average of 72.0. Finland ranked 4th in this category. Despite the strong support for digitisation, there are still disparities among the sectors with obstacles linked to skills and awareness of the benefits digitalisation. The Digital Finland Framework, which supports the effective coordination of sustainable digital transformation in Finland, manages the sustainable digital transformation in Finland. It combines the future prospects, based on global megatrends, and the current Finnish strongholds such as industry sectors with the best digital transformation opportunities. Moreover, the Finnish government used direct capital funding and regional grants to support several digital projects by local authorities in 2018-2022, amounting to EUR 400.0 million. This will link this investment to the Digital Finland Framework¹⁴⁰.

Finland ranked among the top countries in the EU in context of innovation and digitalisation in the construction sector. Although the country lacks a national strategy, the construction sector in Finland has reached a high level of resource and energy efficiency. This has been driven by the wide

acceptance and usage of **Building Information Modelling (BIM)**. Throughout the country, it is now common practice, both in larger infrastructural and small residential projects. Most of the Finnish universities have long started offering Masters and Bachelor degree courses in BIM technologies¹⁴¹.



Among the noteworthy projects using BIM in Finland are the commercial project 'Mall of Tripla' (to be completed in 2021) and the country's largest infrastructure project 'West metro', a 21-kilometre metro network, estimated to be completed by 2020¹⁴².

6

National and regional regulatory framework

Policy schemes

Housing policies in Finland are enforced by the Housing Finance and Development Centre of Finland (*Asumisen rahoitus- ja kehittämiskeskus – ARA*), which comes under the Ministry of the Environment. Presently, there are around 3.0 million apartments in Finland and three out of every 10 of them have been constructed using state subsidies (ARA construction). ARA is also in charge of the Social Housing Policy and promoting ecologically sustainable, high-quality and reasonably priced housing. Finland's central government supports both private and public housing through several programmes. These are: (i) Tax deductibility of the interest costs on mortgages; (ii) State subsidy for the constructor of rental, part-ownership and right-of occupancy housing; (iii) Interest subsidy loans for housing companies; (iv) Generally low property tax & No stamp duty for the first-time buyer; and (v) Rental housing subsidies for low-income residents¹⁴³.

Among the duties of ARA are: ensuring that state subsidies are allocated to residents, residential building corporations function as per the regulations and guidelines applying to state-subsidised housing production and corporations do not enter more income for their owners than the limit permitted by law¹⁴⁴.

ARA is also responsible for financing sheltered and supportive housing with investment grants for special groups. Grants are awarded for construction as well as renovation or acquisition, and they vary from 10.0% to 50.0% of the approved construction or renovation costs. The bigger grants are reserved for apartments with more special housing solution needs¹⁴⁵.



In 2020, ARA agreed to grant a subsidy of EUR 900,000 for housing advice activities, for which municipalities, organisations and corporations are eligible. The maximum subsidy amount is 35.0% of the costs¹⁴⁶.

These subsidies shall be granted to programmes for the purpose of combatting long-term homelessness, supporting immigrant housing programmes and housing advice activities, which benefit to people recovering from mental illness, young people in danger of social exclusion, families and older people¹⁴⁷.

Recently, state-subsidised housing (ARAVA) loans have been replaced by interest subsidy loans in Finland. ARAVA loans are no longer issued, but the housing stock and loan portfolio financed with ARAVA loans continue to exist¹⁴⁸. Moreover, the **ASP savings and subsidy scheme**, designed for first-time homebuyers aged 15 - 39, includes tax-exempt interest and bonus interest on deposits saved for purchasing a home with the interest subsidies paid for the housing loan¹⁴⁹.

Additionally, **right-of-occupancy housing** is a substitute for rented housing and owner-occupied housing. To become entitled, the resident must make a right-of-occupancy agreement and pay part of the purchase price of the apartment as a right-of-occupancy payment. The residents continue to pay a residence charge while living in the apartment¹⁵⁰.

In the wake of the global COVID-19 pandemic, the Finnish Ministry of Environment has set up a working group to follow the situation in the housing and construction sectors and give proposals for

necessary measures. However, the working group has not published such proposals yet.

The Finnish Association of Property Owners and Construction Clients (*Rakli ry*), from the private sector, has brought forward few measures to support the housing and construction sectors amid the pandemic situation¹⁵¹. These include legislative measures which aim to increase new housing construction projects (e.g. reduced value-added taxation on the new construction of rental apartments), to promote carbon-neutral investments (e.g. subsidies for energy efficiency enhancement projects) and state aid to property owners for loss of rental yield due to the outbreak. Among the proposed measures, some do not involve direct financial support from the state, such as streamlining the planning and permitting procedures of construction projects¹⁵².

Building regulations

Currently, two main pieces of legislation govern land use, spatial planning and construction activities in Finland. The **Land Use and Building Act 132/1999** concerns the use of land areas and the building activities conducted on them and aims to create a healthy, safe, comfortable and socially functional living environment. It includes provisions on town planning, municipal building ordinances, plot division, general building requirements and building permits, among others. It also defines some provisions related to the carrying out, supervision, inspection and approval of construction works¹⁵³. The Land Use and Building Act was last amended in 2017 (Act 230/2017). The latter entered into force in May 2017 and aims to streamline planning and construction regulation¹⁵⁴.

The building regulations, which relate to the construction of new buildings, are legally binding and can also be applied to renovation and alteration works under certain conditions. Conversely, building guidelines are not compulsory. The Code's regulations and guidelines cover general areas (e.g. the supervision of construction work, manual maintenance for the care and use of buildings, etc.), aspects related to the strength of the structure's, insulation (thermal, sound, etc.), energy management, structural fire safety, general building planning and housing planning and building¹⁵⁵.

Last, the energy consumption of buildings is regulated by the National Building Code of Finland,

in accordance with the Finnish Land Use and Building Act.

The construction regulations specified that from 2018, all new buildings must have almost zero level of annual energy consumption. With this amendment, Finland implemented the requirements of the Energy Performance of Buildings Directive. This directive requires that in 2021, all new buildings should be almost zero-energy buildings. In the case of public buildings, this requirement had already come into force in 2019¹⁵⁶.

Insurance and liability-related regulations

In Finland it is necessary for a contractor to take out statutory accident insurance, covering occupational accidents for employees under the Accidents at Work and Occupational Disease Act (459/2015). These contracts generally include additional insurance requirements, such as the requirement for a construction building, all risk insurance cover to be taken out by the contractor, etc. Under Finnish General Conditions for Building Contracts 1998, the contractor is responsible for supervision of the construction site and must indemnify it. The insurance must also cover subcontracts and the employer's procurements. Most of insurance companies provide tailored construction insurance¹⁵⁷.

Insurance products covering damage to construction materials, personal injury and related property damage are often taken out. Certain insurance companies provide packages that also consider financial damages, such as loss of income. The damages caused due to intentional or negligent actions are not covered¹⁵⁸.

The acquisition of statutory insurance is under the responsibility of employers carrying out construction work. These include earnings-related pension, health insurance pension, unemployment insurance and accident insurance. The **YSE 1998 General Terms for Building Contracts** (YSE 1998 conditions) require the main contractor to be insured for both the construction works and the materials and supplies acquired for the construction activities, to cover the costs related to the repair of defects or the surety to the owner if the defects are

not reparable. Furthermore, it is also common for contractors to take out additional insurances, such as loss-of-profits insurance, liability insurance or legal expenses insurance¹⁵⁹. In terms of the duration of liability, the YSE 1998 conditions provide for a 2-year guarantee period for buildings, during which the contractor is obliged to repair defects. Following the expiry of the guarantee period, the contractor remains liable for 10 years after handover in case of defects resulting from gross negligence, uncompleted work, unsatisfactory quality or latent defects¹⁶⁰.

The **Housing Transaction Act 843/1994** (*Asuntokauppalaki*), which considers the safeguarding of both housing companies¹⁶¹ and consumers (i.e. buyers of housing shares), also forms the insurance and liability framework. It

requires that security is lodged to protect against interrupted construction or a defect in the construction within the seller's liability¹⁶². Security provisions should cover dwellings in the construction stage and post-completion stage, thus ensuring that the construction and the housing transaction contracts are fulfilled. The security that covers the construction phase takes the form of a bank deposit or a bank guarantee that amounts to at least 5.0% of the overall construction and repair price specified in the construction project, and lasts at least three months after the approval of the building for use by the municipal authority. The security covering the post-construction stage takes the form of bank security, corresponds to a minimum of 2.0% of the total transaction price of shares sold and lasts at least 15 months after the close of the security for the construction phase¹⁶³.

7

Current status and national strategies to meet Construction 2020 objectives

TO 1 – Investment conditions and volumes

Total investment by the broad construction sector¹⁶⁴ has increased from 2010 to 2019. Particularly, investment by the narrow construction sub-sector has increased continuously since 2013, reaching EUR 1.0 billion in 2019. This is 38.1% higher than 2010 levels. Likewise, investment by the real estate activities sub-sector grew by 20.3% between 2010 and 2019 – going up from EUR 15.9 billion to EUR 19.2 billion.

Total investment by the narrow construction sub-sector between 2010 and 2019

↑ 38.1%

Total investment by the real estate activities sub-sector between 2010 and 2019

↑ 20.3%

In parallel, investment in machinery by the narrow construction sub-sector increased from EUR 312.0 million in 2010 to EUR 759.0 million in 2019 (+143.3%). Similarly, investment in machinery by the real estate activities sub-sector increased from EUR 80.0 million in 2010 to EUR 210.0 million in 2019 (+162.5%).

However, investment in intellectual property by the narrow construction sub-sector decreased from EUR 98.0 million in 2010 to EUR 93.0 million in 2019 (-5.1%). Investment in intellectual property by the real estate activities sub-sector also decreased from EUR 31.0 million in 2010 to EUR 28.0 million in 2019 (-9.7%).

Figure 10: Investment by the Finnish broad construction sector between 2010 and 2019 (EUR million)



Source: Eurostat, 2020.

The construction sector, despite being among the sectors exhibiting low labour productivity, remains dominant over other sectors in terms of investment. Finland has the highest level of construction investment (61.0% of the total) in the EU¹⁶⁵.

The investment index in the broad construction sector¹⁶⁶ increased by 18.1% between 2015 and 2019 (Figure 11). In particular, investment in dwellings by the whole economy increased by 18.0% over 2015-2019. Similarly, investment in non-residential construction and civil engineering grew by 18.3% over the same period. In absolute terms, investment in the broad construction sector totalled EUR 33.5 billion in 2018, of which EUR 16.9 billion was invested in dwellings and EUR 16.5 billion in other buildings and structures¹⁶⁷.

Figure 11: Investment index in the Finnish construction sector between 2010 and 2019 (2015=100)



Source: AMECO, 2020.

In addition, total inland infrastructure investment¹⁶⁸ as a share of GDP increased from 0.7% in 2010 to 0.8% in 2017¹⁶⁹. In particular, over the period 2010-2018¹⁷⁰, air infrastructure investment increased from EUR 45.0 million to EUR 245.4 million (+445.3%) and rail infrastructure investment increased from EUR 388.0 million to EUR 491.0 million (+26.5%). Infrastructure investment for roads increased from EUR 890.0 million in 2010 to EUR 1.5 billion (+71.5%) and inland waterways investment increased from EUR 2.0 million to EUR 8.1 million (+305.0%) over the period 2010-2018. On the contrary, sea investment decreased from EUR 69.0 million to EUR 58.3 million (-15.5%) over the same period.

Total investment in air infrastructure between 2010 and 2018

↑ 445.3%

Conversely, the expenditure in infrastructure maintenance for air infrastructure decreased from EUR 240.0 million to EUR 209.1 million (-12.9%) and for road infrastructure from EUR 667.0 million in 2010 to EUR 543.0 million (-18.6%) over the period 2010-2018¹⁷¹. Spending in maintenance for rail infrastructure grew from EUR 195.0 million in 2010 to EUR 221.0 million in 2018 (+13.3%). Similarly, infrastructure maintenance spending for inland waterways grew from EUR 17.0 million to 17.7 million (+4.1%) and for sea EUR 106.0 million to 122.7 million (+15.8%) over the 2010-2018 period.

Total maintenance in road infrastructure between 2010 and 2018

↓ 18.6%

The Finnish government plans to increase public investment in the coming years in infrastructure. Specifically, a sizeable investment is being considered for sustainable transport infrastructure. Besides the new national transport system to be developed by the government, three high-speed railroad lines are being considered. This project is, however, at an early stage of preparation¹⁷².



In June 2020, Finland ranked 8th out of 28¹⁷³ EU member states in terms of the total investment set to be triggered by EFSI as a proportion of GDP¹⁷⁴.

Total financing under the European Fund for Strategic Investments (EFSI) in Finland amounts to EUR 2.0 billion and is set to trigger EUR 11.2 billion in additional investments. Out of this, 33 approved projects financed by the European Investment Bank (EIB), the key actor in supporting infrastructure investment in Finland with EFSI backing, are categorised under infrastructure and innovation projects. Under this category, around EUR 1.8 billion shall comprise the total financing, which is set to generate EUR 7.1 billion in total investments¹⁷⁵.

The Turku Urban Infrastructure was also a project financed by the EIB to the tune of EUR 150 million in Finland in 2019. Investments under this agreement will take place over the 2017-2022 period and include both renovations and new targets¹⁷⁶.

Finland also applied for financial assistance from the European Commission in six upcoming transport projects to promote **Trans-European Transport Network (TEN-T)**. Funding has been sought from the Connecting Europe Facility (CEF). The projects are as follows:

- the planning and upgrading of the Kouvola Kotka-Hamina rail link, for which the Ministry of Transport and Communications is seeking EUR 1.94 billion. The total budget of the project is EUR 3.88 million;
- the development of rail traffic on the rail section Oulu-Laurila-Tornio-Haparanda, for which the Ministry of Transport and Communications is seeking EUR 1.6 million. The total budget of the project is EUR 3.2 million; and

- Finnish non-state actors are also applying for CEF financial assistance amounting to EUR 12.27 million. These projects are primarily related to the need for shoreside electricity to be available at TEN-T ports by the end of 2025.

These projects were planned to start from August 2020, and were estimated to be completed by December 2023. The remaining projects seeking CEF financial assistance are to be discussed at a meeting of the Ministerial Finance Committee¹⁷⁷.

Additionally, EUR 58.3 million was awarded by the EU to Finland for five rail projects in the Connecting Europe Facility (CEF) funding application round. These projects are the Helsinki-Turku rail link, railway design and construction engineering for the Espoo urban railway, improvement of the Pasila-Riihimäki track, improvement of the rail connection between Kouvola, Kotka and Hamina, and the development of rail transport services between Oulu-Laurila-Tornio-Haaparanta¹⁷⁸.

The Finnish government has also announced around EUR 111.0 million of investments for enhancing the country's infrastructure. Out of this, around EUR 40.0 million has been planned for investing in maintenance and repair works of rail and roads in Finland. Besides this budget, the government also proposed a maintenance budget of EUR 40.0 million for the annual transport route¹⁷⁹. Projects to be financed under the budget mentioned above include of a set of rail, road and offshore projects.

The **rail projects** comprise the installation and renewal of equipment for certain projects, as well as the structural improvement and provision of new safety equipment for other projects. In addition to these, the EUR 200.0 million construction of a double track and the renewal of Karjala railway started during the summer 2019 and is expected to be completed in 2023. The **road projects** also include the expansion and improvement of the E18 Turku ring road, Hämeenkyrö bypass project and the construction of a bypass, as well as traffic improvements at Eurajoki and Luvia, and to the south of Laitila. **Offshore projects** include safety equipment installation to the Oulu seaway for 2019 and 2020¹⁸⁰.

Moreover, the Finnish government has set aside EUR 349.0 million for projects in the coming years. These would include the renewing of safety

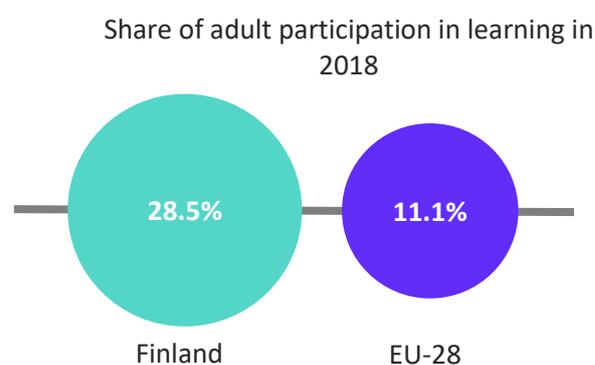
equipment and repairs of bridges in Kouvola and Hamina – Kotka railway; Kotolahti's railyard expansion; the electrification of the Ylivieska – Iisalmi and Siilinjärvi – Ruokosuo railways and changes to safety equipment. A third rail on the Ylivieska – Iisalmi railway; a traffic management system, safety equipment upgrades and the renewal of track model and track technical structures at Joensuu railyard¹⁸¹ are also planned.

Renovation spending in Finland has increased significantly by 53.8%, from EUR 119.0 million in 2010 to EUR 183.0 million in 2018. Renovation spending as a share of household disposable income has been nearly consistent over the period 2010-2018. In 2018, it stood at 0.1%, being significantly below the EU-27 average of 0.9%.



TO 2 – Skills

Finland performs well when it comes to skills, education and training, with several indicators standing above the EU-28 average¹⁸² average. For instance, in 2018¹⁸³, early leavers from education and training in Finland stood at 8.3% (faring better than the 2009 level of 9.9%), lower than the EU-28 average of 10.6%. The country's tertiary educational attainment share reached 44.2% (slightly below the 2009 level of 45.9%), still above the EU-28 average of 40.7%. Finland's employment rate of recent graduates by educational attainment was 81.7% in 2018, in line with that of the EU-28 average of 81.6%. Last, adult participation in learning for Finland reached 28.5% in 2018 (up from the 2009 level of 22.1%), being above the EU-28 average of 11.1%¹⁸⁴. These statistics reflect Finland's aspiration for better education¹⁸⁵.



However, inequalities in terms of education increased in recent years. For instance, regional and gender imbalances are prevalent. The regional imbalance ranges from 51.9% in Helsinki-Uusimaa to 35.3% in Etelä-Suomi (southern Finland) in 2018. Finland's gender gap in 2018 stood at 16.3 percentage points (pp), being as well above the EU average at 10.1 pps¹⁸⁶. These factors collectively impacted skills in the Finnish construction sector in the recent years.

In addressing 2019 country-specific recommendations, Finland has made some progresses in implementing reforms to strengthen skills and inclusion. Higher funding for continuous learning in VET and tertiary education is being initiated. Presently, the reforms of vocational education and training are in their final stages of implementation¹⁸⁷.

As a part of the effort to combat youth unemployment, the country is continuing reforms to its VET system. These reforms aim at making access to VET easier and allowing greater individualisation of people's learning pathways¹⁸⁸.

Among other VET reforms, one adopted by the Ministry of Education and Culture is ***Ammatillisen koulutuksen reformi***. It covers a range of issues, including the elimination of the division between vocational training for youth and adults and a system of continuous admission into VET training. The reform also streamlines vocational qualifications from January 2019 onwards, decreasing their number from 351 to 164. This is expected to provide greater flexibility to students and help them in organising competence development according to their needs and in line with the changing demands in the job market¹⁸⁹.

With respect to VET funding, a new funding system is planned to be gradually rolled out until 2022. Around 50.0% of core funding shall be based on the number of learners. This will aid in forward planning and in ensuring the future provision of VET in all fields and for all learners. Around 35.0% of the funding shall be based on performance or the number of completed qualifications and qualification units. This is meant to steer education providers to target education and qualifications in accordance with competence needs. The remaining 15.0% of the funding shall be allocated based on the effectiveness or learners' access to employment

and the search of further education, as well as feedback from both learners and the labour market¹⁹⁰.

This share of funding aims at encouraging education providers in redirecting education to fields where labour requirement is high, ensuring that education corresponds to the needs of working life and is of improved quality; and providing the learners competences to study further¹⁹¹.

In 2017¹⁹², more than 52,500 new students entered into formal VET programmes in Finland, representing 74.4% of all new upper secondary students. The total enrolment rate of students in VET stood at 70.6% in 2017. This is well above the EU-28¹⁹³ average of 47.8%. In 2018, the employment rate of recent VET graduates improved slightly, increasing to 78.5%, from 77.7% in 2017. However, this stood slightly below the EU-28 average of 79.5%¹⁹⁴.



In 2019, the share of selected students in vocational upper secondary qualification programmes in the Finnish construction sector stood at 85.0%¹⁹⁵.

Specific to the Finnish construction sector, various initiatives to support youth employment have been introduced at the national level. For instance, the **MESTA.net**, has been introduced as an online platform where young people can find information on potential careers across a broad number of professions in construction, real estate and design. Information on available training courses, training providers and training counselling specific to the construction sector are also available. This initiative was launched by an association of all main construction and real estate stakeholders, including the Confederation of Finnish Construction Industries (RT), Finnish Construction Managers and Engineers (RKL) and the Finnish Association of Architects, among others¹⁹⁶.

Similarly, **Nuorille töitä** (Jobs for Young People) was created with the support of the Confederation of Finnish Industries (*Elinkeinoelämän keskusliitto – EK*) to bring together young job seekers and employers. Registered enterprises can submit summer jobs, work or apprenticeships opportunities for young people, who can, in turn, contact them should a position interest them¹⁹⁷.

TO 3 – Resource efficiency/Sustainable construction

Finland is committed to ambitious targets for improving energy efficiency. The energy efficiency agreements, made in collaboration with government and industrial/municipal associations, are a way to fulfil the EU energy efficiency obligations specific to Finland. These agreements aim at improving the efficient use of energy within sectors in the Finnish economy¹⁹⁸.

As per the requirements of Directive 2012/27/EU on energy efficiency (EED), the Finnish government, in 2017, introduced the fourth **National Energy Efficiency Action Plan (NEEAP-4)**. It outlines the actions that will enable Finland to attain the targets detailed in the Government Programme and adopted in the EU for 2030, and to make methodical progress towards achieving an 80.0-95.0% reduction in greenhouse gas emissions by 2050¹⁹⁹.

As per Finland's National Energy Efficiency Action Plan, NEEAP-4, the target for energy-saving effects relevant to the Energy Services Directive in 2020 for the buildings is 19,248 GWh/a. Specific to the central government buildings, in order to achieve the 3.0% renovation target, the energy saving that must be achieved till 2020 amounts to 8,225 MWh²⁰⁰.

In the buildings sector, the key energy efficiency measures laid down in NEEAP-4 relate to heat pumps in terraced and detached houses, the Höylä III energy efficiency agreement and energy performance regulations applicable to new developments. The annual energy savings effect by 2020 is expected to reach 15.0% of the sector's total energy consumption by 2020²⁰¹.

Finland's NEEAP-4 also comprises a new energy-efficiency agreement for local governments, which extends to the year 2025. It was launched on January 2017. A total of 35 local authorities joined the new agreement by March 2017. Relative to the population, the agreement covers around 49.0% of all Finnish local governments. The agreement has laid down six specific measures out of which the ones mentioned below relate to construction and buildings²⁰²:

- to set an energy-saving target of at least 7.5% for the year 2025 and a short-term

target of 4.0% for the year 2020 (Article 5(7)(a)),

- to provide directives for supervising engineering and construction in new developments and renovations (Article 5(7)(a)),
- to perform comprehensive energy audits, including energy audits and follow-up audits in existing buildings, commissioning audits in new buildings and identification of energy-saving potential in energy consumption other than that of buildings (Article 5(7)(b)),
- to organise energy consumption monitoring and the related personnel training and increase the coverage of monitoring that is performed on at least a monthly basis in the building stock and in other consumption (Article 5(7)(b)), and
- to ensure that energy-efficient equipment and systems can be purchased in new developments and renovation projects, regardless of the investment budget²⁰³.

To further support sustainable construction, the Finnish Ministry of the Environment launched a project in 2005 – **Energy Efficient Home (Energiatehokas koti)**. The project aims at providing objective information to the constructors of new detached houses about the choices that will help in achieving, or getting closer to, zero energy in construction. In other words, the programme is aimed at promoting almost zero-energy construction and the objectives of the Energy Performance of Buildings Directive (Article 9). The case studies featured on the website publicise best practices for achieving sustainability in the construction sector. Since its launch, the project has gone through many phases²⁰⁴.



Public instruments support the green transition of the residential sector with two measures categorised under 'grant or subsidy' and 'tax exemption or reduction' policies²⁰⁵.

The first measure 'Energy Subsidies for Residential Buildings' is a subsidy which has been in force since 2003. It has an annual investment budget of

EUR 70.0 million. The purpose of this grant is targeted at improving the energy economy of residential buildings. They cover up to 15.0-25.0% of the approved costs and are awarded by the local authority.

The second measure ‘**KETO-5-TEM Heat pumps for detached, semi-detached and terraced houses**’ is a tax credit which has an implementation period of 2014-2020. It has been implemented by the Energy Authority and the Finnish Heat Pump Association. Since 2001, house owners have obtained tax credit for the cost of installing heating pumps. The acquisition and introduction of heat pumps is actively promoted through information and communication measures financed by ministries, as well as through development projects. Depending on the type of heat pump, the tax credit is worth between EUR 200.0 and EUR 3,500.0. In Finland, heat pumps form a key measure in achieving both the energy 2020 efficiency objective and the renewable energy objective.

With the purpose of attaining a carbon-neutral society by 2035, the Ministry of the Environment in Finland has announced that in conjunction with city authorities, they are seeking a voluntary agreement to cut down emissions from construction sites. This programme, commonly called “**the green deal**”, supports the achievement of the emission reduction targets of the Finnish burden-sharing sector and is integrated into the social commitment to sustainable development²⁰⁶.

The Green Deal aims for 100.0% fossil-free construction sites from 2025, 20.0% of which use electricity, biogas or hydrogen as a source of energy. The government would require 50.0% of them to be electricity, biogas or hydrogen from 2030²⁰⁷.

As Finland is aiming to achieve a carbon-neutral society by 2035, it is developing policies and including legislation for low-carbon construction. This new approach includes normative carbon limits for different building types before 2025. The Finnish Ministry of the Environment has developed an assessment method for this and has decided to develop a generic emission database. The database will include all main types of products and materials, sources of energy, modes of transportation as well as other processes such as site operations and waste management²⁰⁸.

Energy-efficient buildings in Finland are also among the projects to be financed under this investment plan. Specifically, the EIB is providing EUR 150.0 million for funding the new near-zero-energy buildings (NZEB) and renovation investments. This project aims at improving the energy efficiency of existing buildings in the Helsinki metropolitan area. The project will lower CO₂ (carbon dioxide) emissions as well as energy consumption²⁰⁹.

TO 4 – Single Market



Finland has consistently shown a remarkable performance in the metrics of the EU Single Market Scoreboard.

Finland reports an average performance with respect to a number of metrics in the EU Single Market Scoreboard. Finland’s performance regarding the transposition deficit improved from 2018, as it stood at 0.1% in 2019. The transposition deficit for the EU-28²¹⁰ average in 2019 stood at 0.6%. Compared to last year, the conformity deficit increased to 1.1% in 2019, whereas for the EU-28 average, it stood at 1.2%. It experienced an improvement in the number of pending cases under infringement (12 cases where six cases were new, and two cases closed) in 2019 compared to 2018 (eight pending cases). This also lies largely below the EU-28 average (29 cases). However, the country scores slightly lower in terms of compliance with court rulings (27.6 months) as compared to the EU-28 average of 29.5 months. Finland’s average response time currently complies with the 70-day time limit in EU Pilot²¹¹.

Finland continues to perform well in terms of Internal Market Information System. Furthermore, the country’s trade integration in the single market for goods is below the EU-28 average, whereas its trade integration for services is in line with the EU-28 average²¹². The country has established Single Points of Contact which are one-stop shops helping simplify the establishment and expansion of businesses in the Single Market. However, the single market in Finland remains underutilised, especially in services and the country requires to make progress in this area²¹³.

Finland’s performance in Public Procurement was satisfactory.

The Ministry of the Environment has developed criteria for green public procurement. It aims at reducing the climate impacts of buildings: integrating the global warming potential in buildings and climate benefits²¹⁴.

In addition, Finland is modernising its public procurement system. In September 2019, the merger of two main procurement bodies (Hansel and KL-Kuntahankinnat) in Finland took place. This operation aimed at establishing a single national purchasing body, serving contracting authorities at all levels of the government. Furthermore, this merger is expected to increase efficiency and to centralise procurement expenditure, focusing on larger contracts towards a better uniform system for public tendering²¹⁵.

TO 5 – International competitiveness



Finland ranked 11th out of 141 economies in the 2019 Global Competitiveness Index²¹⁶.

In terms of internationalisation, Finland performed in line with the EU-28²¹⁷ average. It has traditionally been an export-driven economy and, since 2008, a large number of policy measures have been put in place to support the internationalisation of SMEs. As per the SBA Fact Sheet 2019, Finland scored higher than EU-28 average in the involvement of trade community, formalities in procedures, border agency cooperation and share of SMEs with extra EU export of goods. Finland is among the five top scoring countries in border agency cooperation and involvement of the trade community. In the indicators such as information availability, advance rulings, formalities in automation, share of SMEs as extra-EU online exporters and share of SMEs with extra-EU import of goods, Finland was below the EU-28 average. However, there is still potential for improvement in the indicators, such as the proportion of SMEs exporting online, advance rulings and formalities in automation²¹⁸.

Despite the relatively good performance in the indicators above, Finnish SMEs are lagging behind other countries regarding their level of internationalisation. The primary factor explaining this issue relates to sales and marketing, as well as

knowledge of markets, regulation and intellectual property rights issues.

To address some of these issues, the government set up the **Team Finland** network (which brings together all Finnish authorities, publicly funded organisations and other key parties with ties to Finland around the world) and **Business Finland** (it primarily focuses on supporting SMEs internationalisation in Finland)²¹⁹.

As the availability of talent is one of the biggest obstacles to growth and internationalisation in companies, the 'Talent Boost' programme was launched in 2017. In December 2019, the Finnish government passed an ordinance to pursue the programme. It aims to make Finland an internationally attractive place to work, study, carry out research and invest. It also aims to drive internationalisation by the expertise of international specialists and the renewal of Finnish companies and organisations²²⁰.

The **internationalisation of construction products and services** in the Finnish construction sector has experienced a modest increase since 2010. Indeed, the export value of all construction-related products increased from EUR 1.1 billion in 2010 to EUR 1.2 billion in 2018²²¹ (+9.7%), with their share in the total value of production growing from 24.4% in 2010 to 24.9% in 2018. However, the highest value recorded was in 2011 with EUR 1.2 billion. Between 2010 and 2018, the value of exports of architectural services experienced a significant decline, falling by 82.9%, from EUR 1.0 million to EUR 178.9 thousand. In 2019, it decreased further to EUR 42,658, representing an annual decline of 76.2% and a decline of 95.9% since 2010.

Export value of architectural services between 2010 and 2019 ↓ 95.9%

In the context of **inward FATS (Foreign affiliates statistics)**²²² in the narrow construction sub-sector, the value added at factor cost increased by 24.3% between 2010 and 2017²²³. Similarly, turnover increased by 64.3% during the 2010-2017 period. The number of persons employed in 2017 reached 14,870, representing an increase by 4.4%. In the context of **outward FATS** in the narrow construction sub-sector, turnover decreased by 3.6% over the period 2015-2017

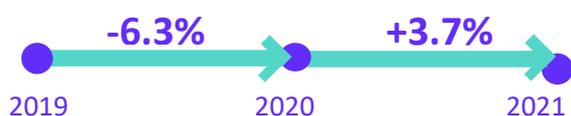
8

Outlook

The Finnish GDP is expected to contract annually by 6.3% in 2020. This contraction is mostly a result of the weak performance of the economy due to disruptions caused by the COVID-19 pandemic and lockdown measures.

However, the economy is expected to grow again by 3.7% in 2021.

Expected GDP growth between 2019-2021



The **volume index of production** in the broad construction sector is expected to decline by 8.2 ip in 2020 and then increase by 5.8 ip in 2021. This will be due to annual declines in the volume index of production in the construction of civil engineering and construction of buildings by 7.7 ip and 7.5 ip in 2020, followed by an annual increase of 5.4 ip and 5.3 ip in 2021 respectively.

Similarly, the **total value added** in the broad construction sector is expected to decrease by 10.2% in 2020 and then increase by 18.5% in 2021. This trend is expected to come from annual declines in the manufacturing (-17.7%) and narrow construction (-10.7%) sub-sectors in 2020 followed by an annual increase in the narrow construction (+26.5%) and architectural and engineering activities (+6.6%) sub-sectors in 2021.

The **number of persons employed** in the broad construction sector is also expected to decrease by 11.0% reaching 297,186 in 2020 and then increase by 19.9%, reaching 356,563 in 2021. This will be

due to annual declines in the manufacturing (-20.4%) and narrow construction (-10.7%) sub-sectors in 2020, followed by increases in narrow construction (+26.4%) and architectural and engineering activities (+6.6%) sub-sectors in 2021.

The outlook for the Finnish **residential housing** has declined, exacerbated by the volatility triggered due to the COVID-19 outbreak²²⁴. Housing loan interest rates slumped by the end of February 2020²²⁵. The construction of new buildings is also expected to decrease due to a fall in demand.

However, **non-residential construction and civil engineering** activities have grown in first half of 2020 and the restrictions imposed did not have much impact on new construction²²⁶. In terms of **infrastructure**, the government has proposed funding for several transport infrastructure projects²²⁷. The government has also planned to increase public investment in infrastructure the coming years. For instance, it has set aside EUR 349.0 million for projects in the coming years, include infrastructure renewal and repairs.

The impact of the pandemic in the Finnish broad construction sector was less important than first expected in the first half of 2020. However, overall projections for the year 2020 are weak with the 2020 output of the sector estimated to be close to the 2019 levels²²⁸. On the mid- to long-term, following the government's policy measures targeting the infrastructure segment, the construction sector is expected to grow again as of 2021.

References

- 1 Please note that this 2019 data is a nowcast - please refer to the methodology notes for further details.
- 2 The total does not include buying and selling of own real estate, renting and operating of own or leased real estate, and real estate activities on a fee or contract basis, since no data is available for this specific activity within the real estate sub-sector.
- 3 More recent data is not available.
- 4 The gross operating rate is the ratio of Gross Operating Surplus to Turnover, and is an indicator of profitability
- 5 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 6 Please note that the share of each sub-sector in the value added of the broad construction sector should not be compared to the shares of the Gross Value Added in the GDP, since the GDP also includes taxes and excludes subsidies
- 7 Please note that this 2019 data is a nowcast - please refer to the methodology notes for further details.
- 8 Data unavailable for subsequent years
- 9 Apparent labour productivity refers to the Gross Value Added per person employed
- 10 Please note that more recent data for labour productivity in the broad construction sector is not available.
- 11 Please note that this 2019 data is a nowcast - please refer to the methodology notes for further details.
- 12 Please note that this 2019 data is a nowcast - please refer to the methodology notes for further details.
- 13 The total does not include buying and selling of own real estate, renting and operating of own or leased real estate, and real estate activities on a fee or contract basis, since no data is available for this specific activity within the real estate sub-sector.
- 14 More recent data is not available.
- 15 The gross operating rate is the ratio of Gross Operating Surplus to Turnover, and is an indicator of profitability
- 16 More recent data is not available.
- 17 Please note that this 2019 data is a nowcast - please refer to the methodology notes for further details.
- 18 Finnish construction sector boom to slow down,
https://yle.fi/uutiset/osasto/news/finnish_construction_sector_boom_to_slow_down/10753247
- 19 More recent data is not available.
- 20 More recent data is not available.
- 21 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 22 Ibidem
- 23 Eurostat, Unemployment Rate – annual data. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_rt_a&lang=en
- 24 Ibidem
- 25 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 26 Data unavailable for 2019
- 27 Net migration to Finland, in clear decline, <https://www.foreigner.fi/articulo/moving-to-finland/net-migration-clearly-lower-in-2018-than-in-the-year-before/20190617131926002189.html>
- 28 The Global Competitiveness Report 2019, http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf
- 29 SBA Fact Sheet 2019 Finland, https://ec.europa.eu/growth/smes/business-friendly-environment/performance-review_en#sba-fact-sheets
- 30 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 31 SBA Fact Sheet 2019 Finland, https://ec.europa.eu/growth/smes/business-friendly-environment/performance-review_en#sba-fact-sheets
- 32 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 33 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 34 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 35 SBA Fact Sheet 2019 Finland, https://ec.europa.eu/growth/smes/business-friendly-environment/performance-review_en#sba-fact-sheets
- 36 More recent data is not available.
- 37 Covid-19 Impact on Construction in Finland, <https://store.globaldata.com/report/gdcn00076cb--covid-19-sector-impact-construction-finland/#tab-list-of-figures>
- 38 Data unavailable for 2019.
- 39 Data unavailable for subsequent years
- 40 Data unavailable for 2019.
- 41 Finnish commercial property market increasingly intertwined with foreign markets, May 2019.
<https://www.bofbulletin.fi/en/2019/2/finnish-commercial-property-market-increasingly-intertwined-with-foreign-markets/>
- 42 Suomen Hypoteekkiyhdistys (2019), Hypo Investor Update. 2019. http://www.hypo.fi/wp-content/uploads/2019/02/Hypo_Roadshow_February2019.pdf
- 43 SAFE Analytical Report 2019, <https://ec.europa.eu/docsroom/documents/38462>
- 44 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 45 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 46 SAFE Analytical Report 2019, <https://ec.europa.eu/docsroom/documents/38462>

- 47 SAFE Analytical Report 2019, <https://ec.europa.eu/docsroom/documents/38462>
- 48 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 49 World Population Review, Finland Population 2019, <http://worldpopulationreview.com/countries/finland-population/>
- 50 Data unavailable for 2019
- 51 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 52 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 53 Largest housing loans in Greater Helsinki, https://www.stat.fi/til/velk/2019/velk_2019_2020-06-18_tie_001_en.html
- 54 Ibidem
- 55 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 56 Ibidem
- 57 Differentiation of prices of old dwellings in housing companies continued as housing transactions picked up in June, https://www.stat.fi/til/ashi/2020/06/ashi_2020_06_2020-07-31_tie_001_en.html
- 58 Cubic volume of granted building permits decreased, https://www.stat.fi/til/ras/2020/06/ras_2020_06_2020-08-25_tie_001_en.html
- 59 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 60 Non-subsidised rents increased most in Greater Helsinki and in Turku, https://www.stat.fi/til/asvu/2020/02/asvu_2020_02_2020-08-06_tie_001_en.html
- 61 Dwellings and living conditions, https://www.stat.fi/tup/suoluk/suoluk_asuminen_en.html#Buildings%20and%20free-time%20residences
- 62 The overcrowding rate is defined as the percentage of the population living in an overcrowded household.
- 63 Eurostat (2018). Overcrowding rates by gender. <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tessi170&plugin=1>
- 64 Eurostat, Severe housing deprivation rate is defined as the percentage of population living in the dwelling which is considered as overcrowded, while also exhibiting at least one of the housing deprivation measures. Housing deprivation is a measure of poor amenities and is calculated by referring to those households with a leaking roof, no bath/shower and no indoor toilet, or a dwelling considered too dark.
- 65 Eurostat (2018) Severe housing deprivation rate by age, sex and poverty status - EU-SILC survey. https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_mdho06a&lang=en
- 66 The housing cost overburden rate is the percentage of the population living in households where the total housing costs represent more than 40 % of disposable income.
- 67 Eurostat, Housing cost overburden rate by age, sex and poverty status - EU-SILC survey. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_lvho07a&lang=en
- 68 The city with no homeless on its streets, January 2019, <https://www.bbc.com/news/uk-england-46891392>
- 69 Homelessness in Finland 2019, [https://www.ara.fi/en-US/Materials/Homelessness_reports/Homelessness_in_Finland_2019\(55546\)](https://www.ara.fi/en-US/Materials/Homelessness_reports/Homelessness_in_Finland_2019(55546))
- 70 Homelessness in Finland 2019, <https://www.ara.fi/download/noname/%7B2B21B6E5-3C0F-4EA0-B7DC-F921D1E7F644%7D/156632>
- 71 Ibidem
- 72 World Economic Forum, The Global Competitiveness Report 2018-2019 http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf
- 73 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 74 Mobility and Transport, https://ec.europa.eu/transport/facts-fundings/scoreboard/countries/finland/investments-infrastructure_en
- 75 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 76 Government's fourth supplementary budget proposal: Support for public transport services, walking and cycling, infrastructure projects across the country, https://valtioneuvosto.fi/-/hallituksen-esitys-neljanneksi-lisatalousarvioksi-joukkoliikenteeseen-kavelyyn-ja-pyoraillyn-tukea-vaylahankkeita-koko-maahan?languageId=en_US
- 77 Data unavailable for subsequent years
- 78 Construction recorded the largest increase in bankruptcies in 2019, <https://www.foreigner.fi/articulo/business/construction-sector-registered-the-largest-increase-in-bankruptcies-in-2019/20200122142320004040.html>
- 79 Bankruptcies up even before coronavirus crisis, https://yle.fi/uutiset/osasto/news/bankruptcies_up_even_before_coronavirus_crisis/11317260
- 80 Corona business survey in Finland: Employers fear bankruptcy and lack of protective equipment, <https://ek.fi/en/current/2020/04/04/corona-business-survey-in-finland-employers-fear-bankruptcy-and-lack-of-protective-equipment/>
- 81 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 82 SAFE Analytical Report 2019, <https://ec.europa.eu/docsroom/documents/38462>
- 83 SAFE Report 2019, <https://ec.europa.eu/docsroom/documents/38442>
- 84 Ibidem
- 85 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 86 SAFE Analytical Report 2019, <https://ec.europa.eu/docsroom/documents/38462>
- 87 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 88 DNB_Payment_Study_2020, https://www.dnb.com/content/dam/english/business-trends/DNB_Payment_Study_2020.pdf
- 89 Ibidem

90 SAFE Report 2019, <https://ec.europa.eu/docsroom/documents/38442>

91 Impacts of COVID-19 on the financial situation of employer companies in Finland in March 2020, by sector, <https://www.statista.com/statistics/1105900/impacts-of-the-coronavirus-situation-on-employer-companies-by-sector-finland/>

92 World Bank Group, Doing Business 2020, Finland, <https://www.doingbusiness.org/content/dam/doingBusiness/country/f/finland/FIN.pdf>

93 Doing Business 2019 Report, https://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2019-report_web-version.pdf

94 The warehouse in this example is defined as a structure for general storage activities, with two stories, above ground and with total constructed area of approx. 1,300 square meters. The ground, on which the warehouse is built is owned by the company that will use it and valued at 50 times income per capita. There are architectural and technical plans prepared for the warehouse, which are also taken into account and counted as procedures if their preparation requires obtaining further documentation or getting prior approvals from external agencies. Finally, in this example the warehouse takes 30 weeks to construct, excl. all delays due to administrative and regulatory requirements.

95 World Bank Group, Doing Business 2020, Finland, <https://www.doingbusiness.org/content/dam/doingBusiness/country/f/finland/FIN.pdf>

96 Data for real estate activities not available.

97 Data unavailable for the period 2010-2012

98 Data unavailable for subsequent years

99 Finland: continuing learning reform in support of low-skilled adults, <https://www.cedefop.europa.eu/en/news-and-press/news/finland-continuing-learning-reform-support-low-skilled-adults>

100 Ibidem

101 Ibidem

102 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>

103 Ibidem

104 Ibidem

105 Labour shortages striking more sectors, says ministry, https://yle.fi/uutiset/osasto/news/labour_shortages_striking_more_sectors_says_ministry/10711656

106 Finnish construction sector boom to slow down, https://yle.fi/uutiset/osasto/news/finnish_construction_sector_boom_to_slow_down/10753247

107 Finland departs 140 Uzbek construction workers over forged training documents, https://yle.fi/uutiset/osasto/news/finland_depports_140_uzbek_construction_workers_over_forged_training_documents/10873164

108 Monthly unemployment rate in Finland from January 2019 to July 2020, <https://www.statista.com/statistics/523862/finland-monthly-unemployment-rate/>

109 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose

110 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>

111 From recycling to a circular economy The National Waste Plan 2030, <http://julkaisut.valtioneuvosto.fi/handle/10024/160889>

112 From Recycling to a Circular Economy National Waste Plan to 2023, http://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160889/SY_01en_18_WEB.pdf?sequence=1&isAllowed=y

113 Ibidem

114 Data not available for subsequent years

115 Mining and construction increased the total amount of waste in 2016, https://www.stat.fi/til/jate/2016/jate_2016_2018-08-31_tie_001_en.html

116 See more information at [https://www.ym.fi/en-US/The_environment/Legislation_and_instructions/Waste_legislation/Waste_legislation\(3832\)](https://www.ym.fi/en-US/The_environment/Legislation_and_instructions/Waste_legislation/Waste_legislation(3832))

117 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>

118 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose

119 European innovation scoreboard 2020, <https://ec.europa.eu/docsroom/documents/41874>

120 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose

121 European innovation scoreboard 2020, <https://ec.europa.eu/docsroom/documents/41874>

122 Ibidem

123 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose

124 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>

125 Ibidem

126 Data regarding business enterprise R&D expenditure in the real estate activities was not available for the years subsequent to 2012

127 A Full-Time Equivalent (FTE) is a unit to measure employed persons in a way that makes them comparable, although they may work a different number of hours per week. The unit is obtained by comparing an employee's average number of hours worked to the average number of full-time workers. A full-time person is therefore counted as one FTE, while a part-time worker gets a score in proportion to the hours worked.

128 Data not available for subsequent years

129 Data for 2013, 2014, 2015 and 2016 unavailable.

- 130 The 2019 EU Industrial R&D Investment Scoreboard, <https://iri.irc.ec.europa.eu/sites/default/files/2020-04/EU%20RD%20Scoreboard%202019%20FINAL%20online.pdf>
- 131 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 132 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 133 The Eco-Innovation scoreboard and the Eco-Innovation Index, https://ec.europa.eu/environment/ecoap/indicators/index_en
- 134 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 135 Helsinki to unleash energy efficiency potential in buildings, <https://agreenerlifeagreenerworld.net/2019/12/11/helsinki-to-unleash-energy-efficiency-potential-in-buildings/>
- 136 Ibidem
- 137 Ibidem
- 138 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 139 Digital Economy and Society Index (DESI) 2020, Finland, <https://ec.europa.eu/digital-single-market/en/scoreboard/finland>
- 140 Ibidem
- 141 BIM Europe: adoption and implementation levels – PART 2, <http://biblus.accasoftware.com/en/bim-europe-adoption-and-implementation-levels-part-2/>
- 142 Ibidem
- 143 Housing stock constructed with state subsidies, https://www.ara.fi/en-us/ARA_housing_stock
- 144 Ibidem
- 145 Housing for special groups, http://www.asuminen.fi/en-US/Housing/Housing_for_special_groups
- 146 Subsidy for housing advice, https://www.ara.fi/en-US/Housing_finance/Other_subsidies/Subsidy_for_housing_advice
- 147 Ibidem
- 148 Rented housing legislation, https://www.ym.fi/en-US/Housing/Legislation_and_instructions/Legislation_on_rental_living
- 149 Owner-occupied housing legislation, https://www.ym.fi/en-US/Housing/Legislation_and_instructions/Legislation_on_owneroccupied_housing
- 150 Right-of-occupancy housing, http://www.asuminen.fi/en-US/Housing/Rightofoccupancy_housing
- 151 7. What long-term measures are discussed or adopted to support the construction industry? <https://cms.law/en/int/expert-guides/cms-expert-guide-to-covid-19-impact-on-construction-industry/finland>
- 152 Ibidem
- 153 Ministry of the Environment, Land Use and Building Act. http://www.ym.fi/en-us/Land_use_and_building/Legislation_and_instructions/The_Land_Use_and_Building_Act
- 154 See more information at https://www.ym.fi/fi-FI/Maankaytto_ja_rakentaminen/Lainsaadanto_ja_ohjeet/Maankaytto_ja_rakennuslaki/Kysymyksia_ja_vastauksia_muutoksista_maankaytto_ja_rakennuslakiin
- 155 Ministry of the Environment, The National Building Code of Finland. http://www.ym.fi/en-us/Land_use_and_building/Legislation_and_instructions/
- 156 Ibidem
- 157 Construction and projects in Finland: overview, [https://uk.practicallaw.thomsonreuters.com/1-637-5172?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/1-637-5172?transitionType=Default&contextData=(sc.Default)&firstPage=true)
- 158 Ibidem
- 159 International Comparative Legal Guides, Construction & Engineering Law 2016 – Finland. July 2016. <https://www.iclg.co.uk/practice-areas/construction-and-engineering-law/construction-law-2016/finland>
- 160 European Liability Insurance Organisation Schemes 2, Official records, Liability and Insurance regimes on 28 EU Member States, 2015. <http://www.elios-ec.eu/sites/default/files/european-liability-and-insurance-regimes-mapping.pdf>
- 161 A housing company, also known as housing cooperative, is a legal entity that owns one or more residential buildings and apartments. When buying an apartment, buyers actually purchase shares of the housing company, proportional to the size of the apartment. The shareholders are thus joint owners of the housing company.
- 162 Finnish Competition and Consumer Authority, Housing defects. <http://www.kkv.fi/en/facts-and-advice/defects-and-delays/asuntokaupan-virhe/uuden-osakehuoneiston-virhe/>
- 163 European Liability Insurance Organisation Schemes 2, Official records, Liability and Insurance regimes on 28 EU Member States, 2015. <http://www.elios-ec.eu/sites/default/files/european-liability-and-insurance-regimes-mapping.pdf>
- 164 This includes total investment by the construction and real estate sub-sectors, defined as gross fixed capital formation, i.e. acquisitions minus disposal, of total fixed assets (e.g. machinery and equipment, vehicles, dwellings and other buildings).
- 165 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 166 This includes total investment (i.e. gross fixed capital formation) in dwellings and non-residential construction and civil engineering by investors in the general economy (e.g. industry, financial and non-financial services, households, agricultural sector, etc.).
- 167 The indicator gross fixed capital formation in non-residential and civil engineering refers to the Eurostat indicator «Other buildings and structures»
- 168 According to OECD, Inland infrastructure includes road, rail, inland waterways, maritime ports and airports and takes account of all sources of financing, <https://data.oecd.org/transport/infrastructure-investment.htm>
- 169 Data unavailable for subsequent years

170	Data unavailable for subsequent years
171	Data unavailable for subsequent years
172	European Commission, Country Report Finland 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN
173	As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
174	Investment Plan results, Breakdown of results by country and sector from the European Fund for Strategic Investments, https://ec.europa.eu/commission/strategy/priorities-2019-2024/jobs-growth-and-investment/investment-plan-europe/investment-plan-results_en
175	Investment Plan: Finland, Latest results from the Investment Plan, https://ec.europa.eu/commission/strategy/priorities-2019-2024/jobs-growth-and-investment/investment-plan-europe/investment-plan-results/investment-plan-finland_en
176	Finland: City of Turku and EIB sign EUR 150 million financing agreement, https://www.eib.org/en/press/all/2019-027-city-of-turku-and-eib-sign-eur-150-million-financing-agreement
177	Finland applies for EU financial assistance for several transport projects, https://www.lvm.fi/en/-/finland-applies-for-eu-financial-assistance-for-several-transport-projects-1033243
178	Finland receives significant EU funding – EUR 58.3 million for rail projects across the country, https://vnk.fi/en/-/10184/finland-receives-significant-eu-funding-eur-58.3-million-for-rail-projects-across-the-country
179	Infrastructure Investments for Finland in 2019, http://www.innoconnections.com/news/infrastructure-investments-for-finland-in-2019.html
180	Ibidem
181	Ibidem
182	As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
183	Data unavailable for 2019
184	Education and training monitor 2019 – Finland, https://ec.europa.eu/education/sites/education/files/document-library-docs/et-monitor-report-2019-finland_en.pdf
185	Vocational education and training in Finland: short description, https://www.cedefop.europa.eu/files/4176_en.pdf
186	Education and training monitor 2019 – Finland, https://ec.europa.eu/education/sites/education/files/document-library-docs/et-monitor-report-2019-finland_en.pdf
187	Ibidem
188	VET in Finland: making a good system better, https://www.cedefop.europa.eu/files/2019-10-14_press_release_vet_opinion_survey_finland-en.pdf
189	Education and training monitor 2019 – Finland, https://ec.europa.eu/education/sites/education/files/document-library-docs/et-monitor-report-2019-finland_en.pdf
190	Vocational education and training in Finland: short description, https://www.cedefop.europa.eu/files/4176_en.pdf
191	Ibidem
192	Data not available for subsequent years
193	As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
194	Vocational education and training in Finland: short description, https://www.cedefop.europa.eu/files/4176_en.pdf
195	Key figures on vocational education and training in Finland, https://www.oph.fi/sites/default/files/documents/key_figures_on_vocational_education_and_training_in_finland.pdf
196	TheMESTA.net, http://themesta.net/
197	Nuorille töitä, http://www.nuorilletoita.fi/
198	Energy Efficiency Agreements, https://energiatehokkuussopimukset2017-2025.fi/en/agreements/
199	Finland's National Energy Efficiency Action Plan NEEAP-4, https://ec.europa.eu/energy/sites/ener/files/documents/fi_ neeap_2017_en.pdf
200	Ibidem
201	Ibidem
202	Ibidem
203	Ibidem
204	Energiatehokas koti -hanke, https://www.energiatehokaskoti.fi/ajankohtaista/energiatehokas_koti_-hanke
205	Accelerating energy renovation investments in buildings, https://publications.jrc.ec.europa.eu/repository/bitstream/JRC117816/accelerating_energy_renovation_investments_in_buildings.pdf
206	Finland starts targeting emissions in the Construction Sectors, https://bellona.org/news/eu/2020-05-finland-starts-targeting-emissions-in-the-construction-sectors
207	Ibidem
208	Reduced carbon footprints of buildings: new Finnish standards and assessments, https://journal-buildingscities.org/articles/10.5334/bc.30/
209	Ibidem
210	As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
211	Finland - The Single Market Scoreboard - European Commission, https://ec.europa.eu/internal_market/scoreboard/docs/2020/07/member-states/fi_en.pdf
212	Ibidem
213	SBA Fact Sheet 2019 Finland, https://ec.europa.eu/growth/smes/business-friendly-environment/performance-review_en#sba-fact-sheets
214	Reduced carbon footprints of buildings: new Finnish standards and assessments, https://journal-buildingscities.org/articles/10.5334/bc.30/

Country Fact Sheet Finland

- 215 European Commission, Country Report Finland 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0525&from=EN>
- 216 The Global Competitiveness Report 2019, http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf
- 217 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 218 SBA Fact Sheet 2019 Finland, https://ec.europa.eu/growth/smes/business-friendly-environment/performance-review_en#sba-fact-sheets
- 219 Ibidem
- 220 Talent Boost programme, <https://tem.fi/en/talent-boost-en>
- 221 Data not available for subsequent years.
- 222 Inward FATS describe the overall activity of foreign affiliates resident in the compiling economy. A foreign affiliate within the terms of inward FATS is an enterprise resident in the compiling country over which an institutional unit not resident in the compiling country has control.
- 223 Data unavailable for subsequent years.
- 224 KTI Market Review, spring 2020: Outlook for the Finnish property market weakens due to the COVID-19 crisis, <https://kti.fi/en/kti-market-review-spring-2020-outlook-for-the-finnish-property-market-weakens-due-to-the-covid-19-crisis/>
- 225 Coronavirus hits an already weak Finnish housing market, <https://www.globalpropertyguide.com/Europe/Finland/Price-History>
- 226 Construction sector more active in 2020 than expected, to fall in 2021, <http://www.dailyfinland.fi/business/17769/Construction-sector-more-active-in-2020-than-expected-to-fall-in-2021>
- 227 Government's fourth supplementary budget proposal: Support for public transport services, walking and cycling, infrastructure projects across the country, https://valtioneuvosto.fi/-/hallituksen-esitys-neljanneksi-lisatalousarvioksi-joukkoliikenteeseen-kavelyyn-ja-pyorailyyn-tukea-vaylahankkeita-koko-maahan?languageld=en_US
- 228 Construction sector more active in 2020 than expected, to fall in 2021, <http://www.dailyfinland.fi/business/17769/Construction-sector-more-active-in-2020-than-expected-to-fall-in-2021>