

Construction

Sectoral study

Trends in terms of occupations
and skills

In collaboration with:



With contributions from:



November 2021

Introduction (1/2)

In an increasingly complex labour market, driven by technological, environmental and societal transitions, the skills gap is a major concern for governments, businesses and society as a whole.

In-depth analyses of the trends in occupations and skills of the Luxembourgish labour market are crucial in order to better understand, anticipate and address this skills gap. In this context, the Ministry of Labour, Employment and the Social and Solidarity Economy (MTEESS) and the Public Employment Service (ADEM) have initiated sectoral studies, which are part of ADEM's Future Skills Initiative and the partnership for employment between ADEM and the Luxembourg Employers' Association (UEL).

Work conducted in the ADEM/UEL partnership working groups has confirmed the lack of data (comprehensive and of good quality) on skills in demand and available in Luxembourg (and in the Greater Region), both in public administrations and in the private sector. ADEM currently has the richest data on this subject, stemming from the job vacancies that are declared by companies and from matching indicators between vacancies and jobseekers. It should be noted that this data is limited to the job vacancies actually declared to ADEM, which does not cover all the vacancies in Luxembourg, despite the legal obligation to declare every vacancy. Our sectoral studies are therefore not pretending to be representative of the Luxembourgish labour market as a whole; they are a first attempt at a granular and extensive analysis to create more transparency on this particular market.

The sectoral studies cover seven sectors: 1) finance, 2) industry, 3) construction, 4) hospitality/horesca, 5) commerce, 6) transport and logistics, and 7) crafts. In order to validate the conclusions from the analyses (especially given that the data is not comprehensive of the whole market), ADEM collaborated with the corresponding employers' organisations that represent each sector. For this sectoral study of the Construction sector, ADEM thanks the Fédération des Artisans for its collaboration and fruitful exchanges, as well as the Institut de Formation Sectoriel du Bâtiment (IFSB) and the Competence Centres GTB/PAR for their contributions.

Introduction (2/2)

Each sectoral study includes 1) an introductory chapter with the definition of the sector's scope and an overview of key figures, 2) a summary of qualitative trends in the sector (technological, societal and other), 3) an analysis of trends in occupations (key occupations, growing and declining occupations, shortages) with a list of occupations to be prioritised and audiences to be targeted for reskilling/upskilling, 4) an analysis of the in-demand skills in the sector's job offers, and 5) a glossary.

The target readers of these studies are both employers, who will find a benchmark of the situation and trends in their sector, and employees/jobseekers who will be able to better adapt to these trends.

The findings of our studies should help us to:

- introduce new instruments to address the skills gap;
- define and implement targeted training/upskilling/reskilling actions;
- guide career choices;
- develop the national skills strategy (which is currently handled by the *Skillsdäsch* with the support of the OECD).

These sectoral studies are only a starting point. They will of course have to be complemented by and confronted with other analyses carried out through new ADEM collaborations or by different actors in the ecosystem.



Isabelle Schlessler
Director of ADEM

Perspective of the Fédération des Artisans

"ADEM's role goes beyond the classic matching between employers and jobseekers. Analysing the job market in all its aspects, anticipating trends and upgrading the skills of jobseekers, in collaboration with the players in the sector, are only some of the challenges that ADEM is already facing.

This present analysis is very important because it helps to quantify and qualify the lack of manpower, which is the main obstacle to the development of craft businesses. The construction sector, in particular, is facing major challenges. We need to build quickly while respecting energy performance standards and ensuring the level of quality that is required in Luxembourg.

Sustainable and circular construction, prefabrication, urban farming as well as technologies such as digitisation towards BIM, robotics and artificial intelligence will be the DNA of tomorrow's construction industry.

To succeed in the face of these challenges, companies need a sufficient number of qualified workers. ADEM is a strategic partner in this recruitment and qualification effort. The sector is therefore asking to continue or even intensify the good cooperation between ADEM on the one hand and the GTB/PARADUR Competence Centres and the IFSB on the other.

This sectoral study is based on the declarations of open vacancies by companies, which cannot yet accurately reflect the sector's labour needs. We will have to make companies aware of the need to declare all their positions, not only from the point of view of putting employers and jobseekers in touch with each other, but also with the aim of having a realistic view of the sector's labour and skills requirements. This is an effort to which the Fédération des Artisans will try to contribute."



Ernest Pirsch
*President of the Fédération des
Artisans*

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1. Definition of the sector and key figures



Definition of the sector

(for the purposes of this sectoral study)

For the purposes of this sectoral study, the sector is defined according to the NACE code, the European Statistical Classification of Economic Activities. The Construction sector is defined by NACE category F and includes both *construction of buildings* (including development of building projects), *civil engineering* (construction of roads, railways, utility infrastructures and other civil engineering projects such as water projects) and *specialised construction activities* (demolition and site preparation, electrical, plumbing and thermic installation, finishing work and other specialised construction activities such as roofing).

F CONSTRUCTION

41 Construction de bâtiments

41.1 Promotion immobilière

41.10 41.100 Promotion immobilière

41.2 Construction de bâtiments résidentiels et non résidentiels

41.20 41.200 Construction de bâtiments résidentiels et non résidentiels

42 Génie civil

42.1 Construction de routes et de voies ferrées

42.11 42.110 Construction de routes et autoroutes
42.12 42.120 Construction de voies ferrées de surface et souterraines
42.13 42.130 Construction de ponts et tunnels

42.2 Construction de réseaux et de lignes

42.21 42.210 Construction de réseaux pour fluides
42.22 42.220 Construction de réseaux électriques et de télécommunications

42.9 Construction d'autres ouvrages de génie civil

42.91 42.910 Construction d'ouvrages maritimes et fluviaux
42.99 42.990 Construction d'autres ouvrages de génie civil n.c.a.

43 Travaux de construction spécialisés

43.1 Démolition et préparation des sites

43.11 43.110 Travaux de démolition
43.12 43.120 Travaux de préparation des sites
43.13 43.130 Forages et sondages

43.2 Travaux d'installation électrique, plomberie et autres travaux d'installation

43.21 43.210 Installation électrique
43.22 43.220 Travaux de plomberie et installation de chauffage et de conditionnement d'air
43.29 43.290 Autres travaux d'installation

43.3 Travaux de finition

43.31 43.310 Travaux de plâtrerie
43.32 43.320 Travaux de menuiserie
43.33 Travaux de revêtement des sols et des murs
43.331 Pose de carrelages
43.332 Pose de revêtements en marbres et autres pierres naturelles
43.333 Pose de revêtements en d'autres matériaux
43.34 Travaux de peinture et vitrerie
43.341 Travaux de peinture
43.342 Travaux de vitrerie
43.39 43.390 Autres travaux de finition

43.9 Autres travaux de construction spécialisés

43.91 43.910 Travaux de couverture
43.99 43.990 Autres travaux de construction spécialisés n.c.a.

Source : <https://statistiques.public.lu/catalogue-publications/nace/PDF-NACE-2.pdf>

Definition of the sector

(with reference to the craft business permit regime)

The Construction sector is defined in the Law on business licences of 2 September 2011 and its Grand-Ducal Regulation of 1 December 2011. The regulation includes a list of 31 construction activities, divided into List A (10 regulated activities) and List B (21 regulated activities). List A activities are broader and require a “Brevet de Maîtrise” diploma or an equivalent qualification, while a DAP / CATP diploma or equivalent is sufficient for access to a List B activity.

On the basis of this definition, the Chambre des Métiers prepares statistics on the sector, based on the craft businesses affiliated to the Chambre des Métiers.

Secteur de la construction

Liste A

- entrepreneur de construction et de génie civil
- entrepreneur d'isolations thermiques, acoustiques et d'étanchéité
- installateur chauffage-sanitaire-frigoriste
- électricien
- menuisier-ébéniste
- entrepreneur de constructions métalliques
- installateur d'ascenseurs, de monte-charges, d'escaliers mécaniques et de matériel de manutention
- charpentier-couvreur-ferblantier
- carreleur-marbrier-tailleur de pierres
- peintre-plafonneur-façadier

Liste B

- entrepreneur de terrassement, d'excavation, de canalisation, d'asphaltage, de bitumage, poseur de jointements, ferrailleur pour béton armé
- entrepreneur de forage et d'ancrage
- entrepreneur paysagiste
- fumiste
- confectionneur de chapes
- installateur d'enseignes lumineuses
- recycler d'équipements électriques et électroniques
- poseur, monteur et restaurateur d'éléments préfabriqués et de parquets
- entrepreneur de pompes funèbres
- fabricant-poseur de volets et de jalousies
- fabricant de panneaux de signalisation et de plaques d'immatriculation
- constructeur de fours de production
- installateur de mesures de sécurité en altitude
- ramoneur-nettoyeur de toitures
- monteur d'échafaudages
- poseur-monteur de fenêtres, de portes et de meubles préfabriqués
- poseur de systèmes de protection solaire
- nettoyeur de bâtiments et de monuments
- vitrier-miroitier
- constructeur-poseur de cheminées et de poêles en faïences
- décorateur d'intérieur

Source: [Chambre des Métiers website](#)

Key figures of the sector

(with reference to the right of establishment for craftsmen)

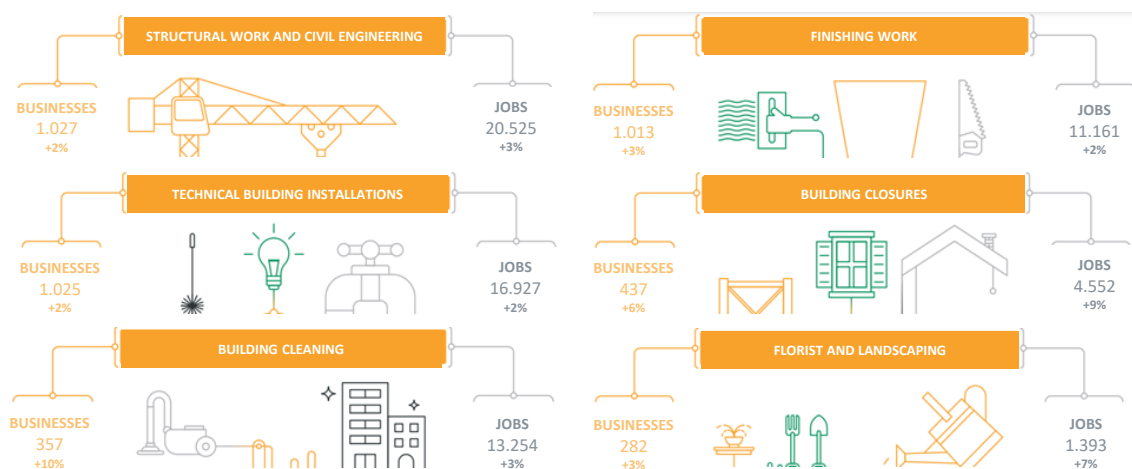
In 2020, the Construction sector consisted of 4,036 companies and 70,473 jobs (65,064 employees and 5,409 self-employed or family helpers). Both figures have been growing continuously since 1990. Employment has increased by +41% over 10 years (49,959 people employed in 2010), while the number of companies has increased by +43%.

Employment is characterised by an imbalance between men (77% of employees) and women (23% of employees) and a strong dependence on cross-border workers (rate of 53% in 2020). Half of them come from France (50%), followed by those from Germany (29%) and Belgium (21%). Of the 4,036 companies, the vast majority (68%) are micro-enterprises (<10 employees). Small companies (10-49 employees) employ 26% of the sector's employees and medium-sized companies (50-249 employees) employ 5%. Less than 1% of companies have more than 250 employees.

Categorisation of 'Construction' into clusters

Since 2018, the 31 construction activities have been reorganised into 6 clusters of more homogeneous activities (as part of the total 16 clusters of the Craft sector). The illustrations below show the key figures of the 6 clusters in question.

For a more detailed explanation of the activities and occupations in the construction industry grouped under each of the clusters, the web page indicated below provides more information. The cluster "Technical fittings of the building" also includes the installer of electronic equipment and the installer of alarm and security systems (two occupations that belong to group 5 "communication/multimedia/entertainment"). The cluster "Florist and landscaping" includes the florist (an occupation that is included in group 6 "art and miscellaneous craft activities"). The funeral director is not included in these specific clusters (but in the cluster "Arts and Crafts").



Source: [Chiffres-clés de l'Artisanat 2020, Chambre des Métiers](#)

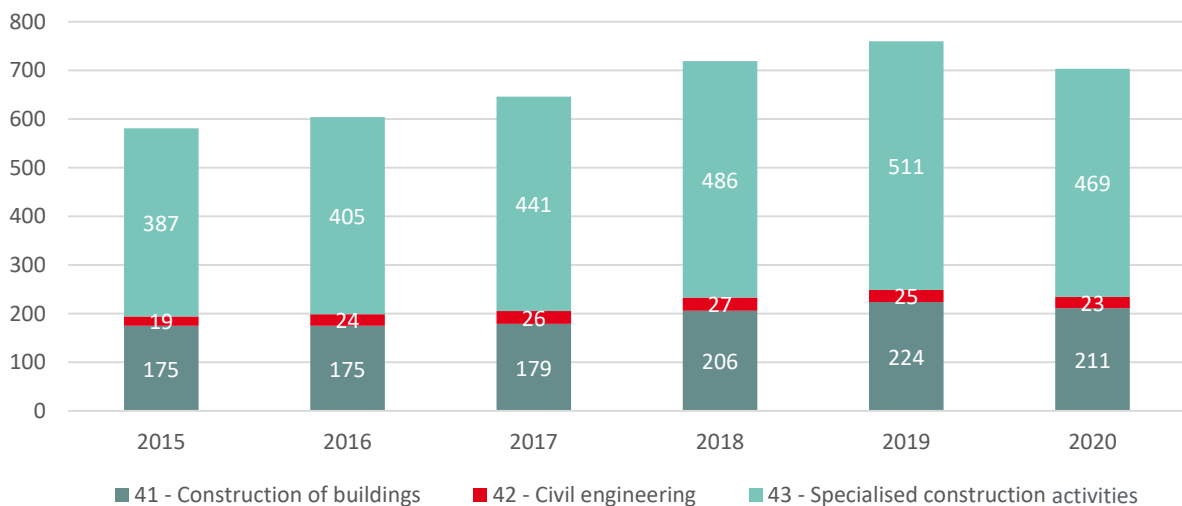
ADEM's key figures of the sector (1/2)

Our analysis in this study is based on job vacancies reported to ADEM by employers in the Construction sector (NACE category F).

The following graph illustrates the number of employers in the sector who have reported job vacancies to ADEM, and the evolution of this number over the 2015 - 2020 period.

Of the approximately 4,600 companies that existed in the sector in 2020¹, 703 reported vacancies to ADEM, most of which were in the area of specialised construction activities, followed by construction of buildings.

Construction Sector (NACE: F) – Evolution in number of employers declaring vacancies to ADEM



Employers who declared vacancies to ADEM	2015	2016	2017	2018	2019	2020
F - CONSTRUCTION	581	604	646	719	760	703
41 - Construction of buildings	175	175	179	206	224	211
42 - Civil engineering	19	24	26	27	25	23
43 - Specialised construction activities	387	405	441	486	511	469

Overall, the number of employers reporting vacancies had been growing since 2015, but declined slightly in 2020 in the context of the pandemic (shutdowns and slowdowns in some activities, higher prices and lack of raw materials).

Source: job vacancies declared to ADEM

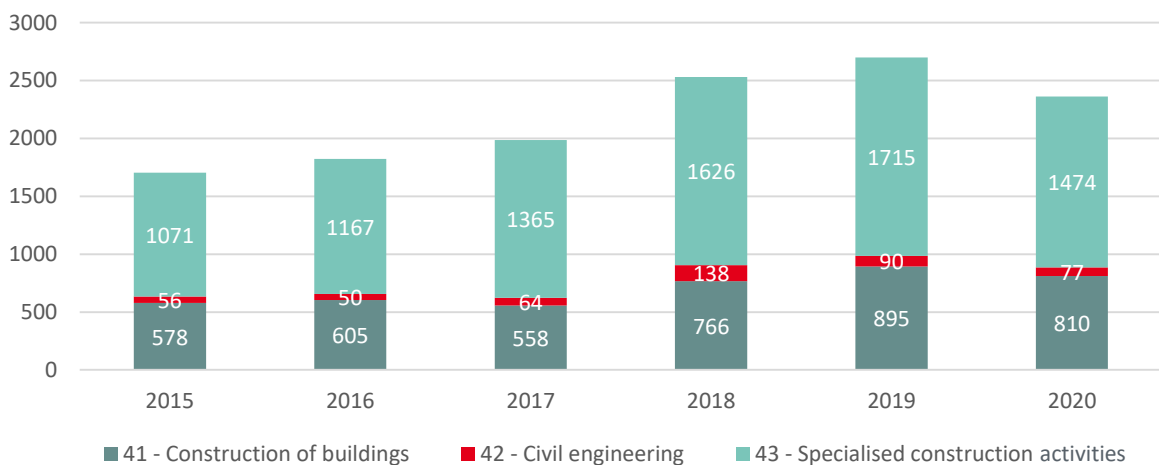
¹ <https://statistiques.public.lu/catalogue-publications/repertoire/2020/repertoire-entreprises-luxembourgeoises.pdf>

ADEM's key figures of the sector (2/2)

Let us now look at the evolution of the number of job positions reported by these employers, excluding jobs related to employment measures. Jobs declared via interim agencies are also excluded as they fall under another sector.

Growth has been steady since 2015 (and strong in 2018), followed by a drop in 2020 due to the pandemic, which impacted recruiting needs in all three construction sub-sectors (less than in hospitality however, but more than in industry or the financial sector for example).

Construction Sector (NACE: F) – Evolution of job positions declared to ADEM



Job positions declared to ADEM (excluding employment measures)	2015	2016	2017	2018	2019	2020
F - CONSTRUCTION	1705	1822	1987	2530	2700	2361
41 - Construction of buildings	578	605	558	766	895	810
42 - Civil engineering	56	50	64	138	90	77
43 - Specialised construction activities	1071	1167	1365	1626	1715	1474

By comparison, actual recruitment in the sector (based on the entry declarations that employers make to the Common Centre for Social Security (CCSS)) was 13,810 in 2018, 14,920 in 2019 and 13,980 in 2020.¹ This difference is explained by the fact that a recruitment is not necessarily preceded by a vacancy declaration, and that not all vacancies are declared to ADEM (despite the legal obligation).

Source: job vacancies declared to ADEM

¹ <https://adem.public.lu/fr/marche-emploi-luxembourg/faits-et-chiffres/statistiques/igss/Tableaux-interactifs-flux-emploi.html>

2. Sectoral trends



Experts' perspectives

ADEM's Employer Advisors for the Construction sector

"The entities active in the construction sector (companies, operators, craftsmen) are evolving in an increasingly competitive industry.

With a construction volume of 7,403,000 m³ in 2018 in Luxembourg, the construction sector is characterised by its dynamism. While the number of construction remains high, new imperatives are being taken into account, such as ecology and sustainability.

The use of buildings is changing in a context where environmental concerns, especially energy concerns, are becoming more and more important.

Candidate versatility is at the heart of companies' demands as is the search for qualified personnel.

The sector will face three major challenges that will require the continuous training of workers throughout their careers with increasingly targeted demands:

- The use of digital technology in the building industry
- Building life cycle assessment and the circular economy
- Smart and bio-based materials."



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"For years, surveys among our members have confirmed that the lack of manpower is the main obstacle when it comes to the development of craft companies, especially construction companies. This shortage relates to all profiles and all levels of qualification, starting with planning and management functions, down to operational profiles on the building sites and support tasks. This shortage is combined with the relative ageing of the workforce and massive retirements over the next five years, as well as a systematic brain drain towards public employers. Construction will remain a labour-intensive sector in the long term although digitalisation, automation and artificial intelligence may make certain tasks easier and provide valuable assistance in managing construction sites.

At the same time, the sector is changing as it adapts to standards related to energy efficiency, renewable energy, sustainable construction, rethinking urbanisation and the principle of a circular economy. In order to prepare for and master all of these challenges, the construction sector will need a sufficient number of workers with various qualifications. Alongside initial and continuous vocational training, a recruitment strategy at the Greater Region level and beyond, the activation of jobseekers and professional retraining will be essential issues in which ADEM is a key actor."

Main trends (1/2)

Technological trends

- Smart city: according to the study on the [Third Industrial Revolution](#) (2016), Luxembourg will have to transform its 140,000 residential buildings, 5,000 commercial and industrial buildings and its infrastructure into smart and digital buildings and networks via the Internet of Things
- BIM/FIM (Building Information Modeling): producing a digital representation of a physical resource throughout its life cycle, based on intelligent models and cloud platforms
- 3D printing, more in prefabrication than on construction sites
- Robotisation of certain tasks, e.g. [robot dog that takes measurements](#)
- Digitisation of construction plans
- Urban mining and circular construction techniques: considering the built environment as a potential source of materials

Societal trends

- High population growth and increased pressure on available land/housing
- Interest in sustainable materials and solar/photovoltaic cells
- Smart homes: more interest from customers to integrate KNX technology in their daily life (shutters, lights, refrigerator, heating...)
- Transition from a linear economic model to a circular economy
- Customers' expectation to build faster and cheaper (trends of 'cubic' houses), which will condition the way of building in the future → more prefabrication (the sector is becoming more industrial, more standardised, more efficient)

Legal / regulatory trends

- More standardisation in construction
- European Circular Economy Action Plan and National Circular Economy Strategy
- Increased energy efficiency regulations for buildings (EU directives 2012/27/EU and 2010/31/EU)
- A European directive could regulate the use of computers in smart homes (charging time for electric cars, use of washing machines only in the evening, etc.)
- Safety at work: protection against falls, reduction of risk, protective clothing...
- Health checks on buildings

Main trends (2/2)

Environmental trends

- Retrofitting to increase the energy efficiency of buildings
- Use of more sustainable building materials such as wood
- Advances in solar cells (converting solar energy into heat) and photovoltaics (converting solar energy into electricity)
- Climate change creates more demand for the installation of air conditioning systems (private households and offices)
- Reduction of (industrial) waste on construction sites, separation of materials, reuse and reconditioning of building materials and components (towards a circular economy), recycling of construction and demolition waste

Economic trends

- Very dynamic and strongly growing activity, as a result of population and economic growth
- Construction shut-down in March-April 2020 due to the pandemic, but production recovered quickly to its 2019 level ¹
- The construction price index rose by 4.3% between October 2020 and April 2021 (mainly due to the sudden surge in the price of building materials) ²
- Over one year, prices in residential construction were up by 5.2%, with an acceleration in housing sales prices (around +14% over one year in the first half of 2020, compared with +10% in 2019)^{1,2}
- More centralisation and integration in activities ("one-stop-shop", general contractors)
- Temporary disruption of materials in the context of the pandemic

Employment trends

- Lack of labour: the 1st obstacle for the development of construction companies
- High dependence on cross-border workers (and foreign residents), gender imbalance and ageing employed population ³
- Difficulty in recruiting new generations, work is considered arduous
- Competition from municipalities for experienced/qualified employees
- Use of temporary employment agencies and personal contacts to find a job/employee (i.e. a large number of invisible job vacancies⁴)
- Merging of functions (e.g. a plumbing and heating installer will also install the elements of a smart home) → requires more versatility
- The work is becoming more complex, the need for qualifications is increasing (need to 'academise' the profession)

Sources: desk research, exchanges with FDA, CDC GTB/PAR and IFSB

¹<https://statistiques.public.lu/catalogue-publications/note-conjoncture/2020/PDF-NDC-02-20.pdf>

²<https://statistiques.public.lu/catalogue-publications/economie-statistiques/2021/10-2021.pdf>

³ <https://adem.public.lu/fr/marche-emploi-luxembourg/faits-et-chiffres/statistiques/igss/Tableaux-de-bord.html>

⁴<https://liser.elsevierpure.com/ws/files/11784714/Working%20Paper%20n%C2%B046>

3. Occupation-level analysis



Occupation-level analysis: method

The aim of this chapter is to analyse the composition of the job vacancies in the Construction sector in terms of occupations, trends (growth, decline, emergence, stability) in these occupations and the degree of talent shortage. All occupations (sector-specific or transversal) recruited by employers in the sector are considered in this analysis.

This analysis is based solely on ADEM data, i.e. job positions declared to ADEM by employers from the Construction sector (cf. page 11). This excludes employment measures and vacancies reported by temporary work agencies ("agences d'intérim"), where we have no information on the employers nor the sector they are attached to.

Vacancies that have not been declared to ADEM are not included in the analysis. We are aware of the limitations of this approach as the vacancies reported to ADEM do not cover all the vacancies/actual recruitments in the market and are therefore not fully representative.

For this reason, we do not draw conclusions on the total number of recruitments in Luxembourg by occupation; we only analyse *relative* figures: the proportion of the different occupations among all jobs declared by the sector, the growth trend of the jobs declared for an occupation, the degree of talent shortage of an occupation by comparing the number of declared vacancies to the number of eligible candidates among jobseekers.

To analyse growth trends, we compare the years when ADEM's coverage rate (of actual market recruitments) remains sufficiently comparable.

Despite these precautions, the relative analyses (proportions, trends, shortages) are still not entirely representative. We have therefore collaborated with the Fédération des Artisans, the IFSB and the Competence Centres GTB/PAR to confront our data with their knowledge of the reality of the sector. These collaborations allowed us to place our quantitative analyses into a context and add qualitative input and explanations.

In the future, and in order to considerably improve the reliability of our studies, it is essential that the rate of job vacancies declared to ADEM increases and corresponds better to the actual reality of the labour market. And this not only for the purpose of finding the right candidates, but also to increase the transparency of the labour market and the possibility to analyse real market needs, trends and shortages.

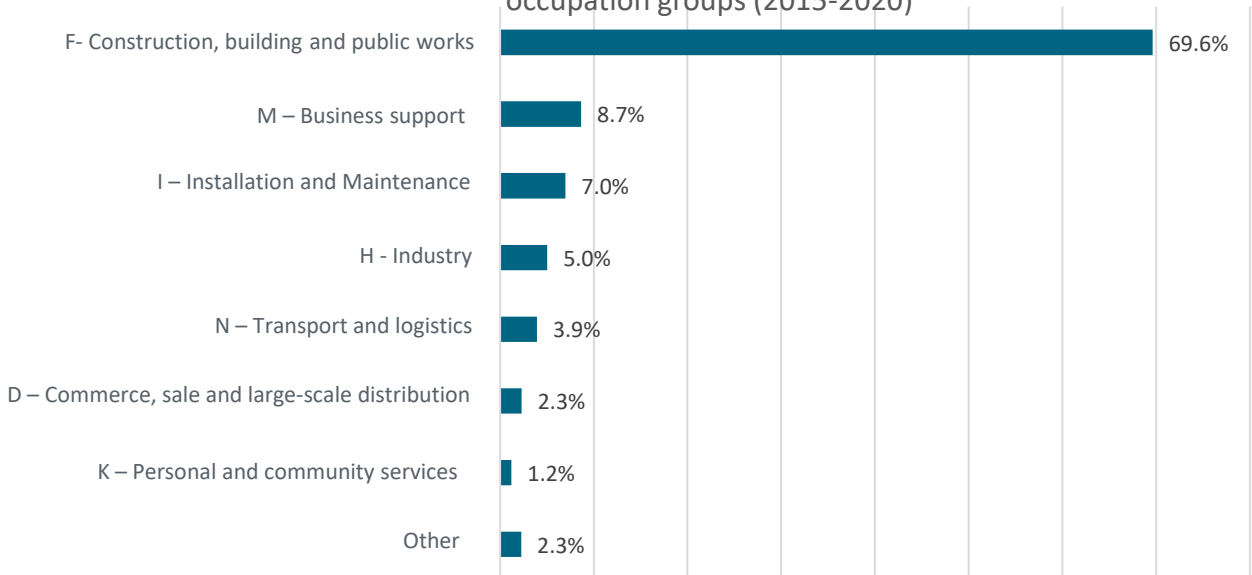
To structure the occupations in our analyses, we base ourselves on the ROME classification, which ADEM has used since 2014 to categorise its vacancies according to a typology of occupations. The ROME classification includes different levels of granularity, and the level used in our analyses varies according to what is considered most useful. For each reference to an occupation ("métier" according to ROME) or function ("appellation" according to ROME) used in this document, a description is provided in Chapter 5.

Distribution across categories of occupations

First, we present the distribution of jobs declared by the Construction sector (over the 2015-2020 period) across the different occupation groups. These categories are based on level 1 of the [ROME](#) classification.

The graph below illustrates a strong dominance of the typical core occupations of the Construction sector, with *construction, building and public works* professions being by far the most significant category (70% of the jobs declared to ADEM). They are followed by *business support* professions (secretaries, accountants, IT specialists, etc.) at 9%, *installation and maintenance* professions (telecom installers, air conditioning installers, etc.) at 7%, *industrial* professions (especially woodworkers and boilermakers) at 5%, and *transport and logistics* professions (warehouse workers, delivery drivers, etc.) at 4%. The remainder is distributed between various professions in *commerce, personal and community services* (cleaning staff, security guards, etc.) and others.

Construction sector (NACE: F) – Distribution of declared job positions across occupation groups (2015-2020)



Looking at the evolution of this distribution over the years, the only particular trend to note is the increase in the percentage of typical core *construction* occupations, to the detriment of the other categories.

Occupation groups	2015	2016	2017	2018	2019	2020
F - Construction, building and public works	67.8%	66.0%	64.6%	70.9%	72.5%	73.2%
M - Business support	9.1%	9.6%	10.0%	7.8%	7.9%	8.2%
I - Installation and maintenance	7.3%	6.4%	8.4%	7.3%	7.2%	5.4%
H - Industry	4.4%	4.9%	7.5%	5.1%	4.3%	4.3%
N - Transport and logistics	4.5%	4.2%	3.8%	4.1%	3.6%	3.7%
D - Commerce, sales and large-scale distribution	3.3%	3.5%	3.0%	1.6%	1.7%	1.6%
K - Personal and community services	1.3%	1.4%	1.0%	1.2%	1.4%	0.9%
Other	2.4%	4.1%	1.7%	2.0%	1.3%	2.6%

Most in-demand occupations ("Top 15")

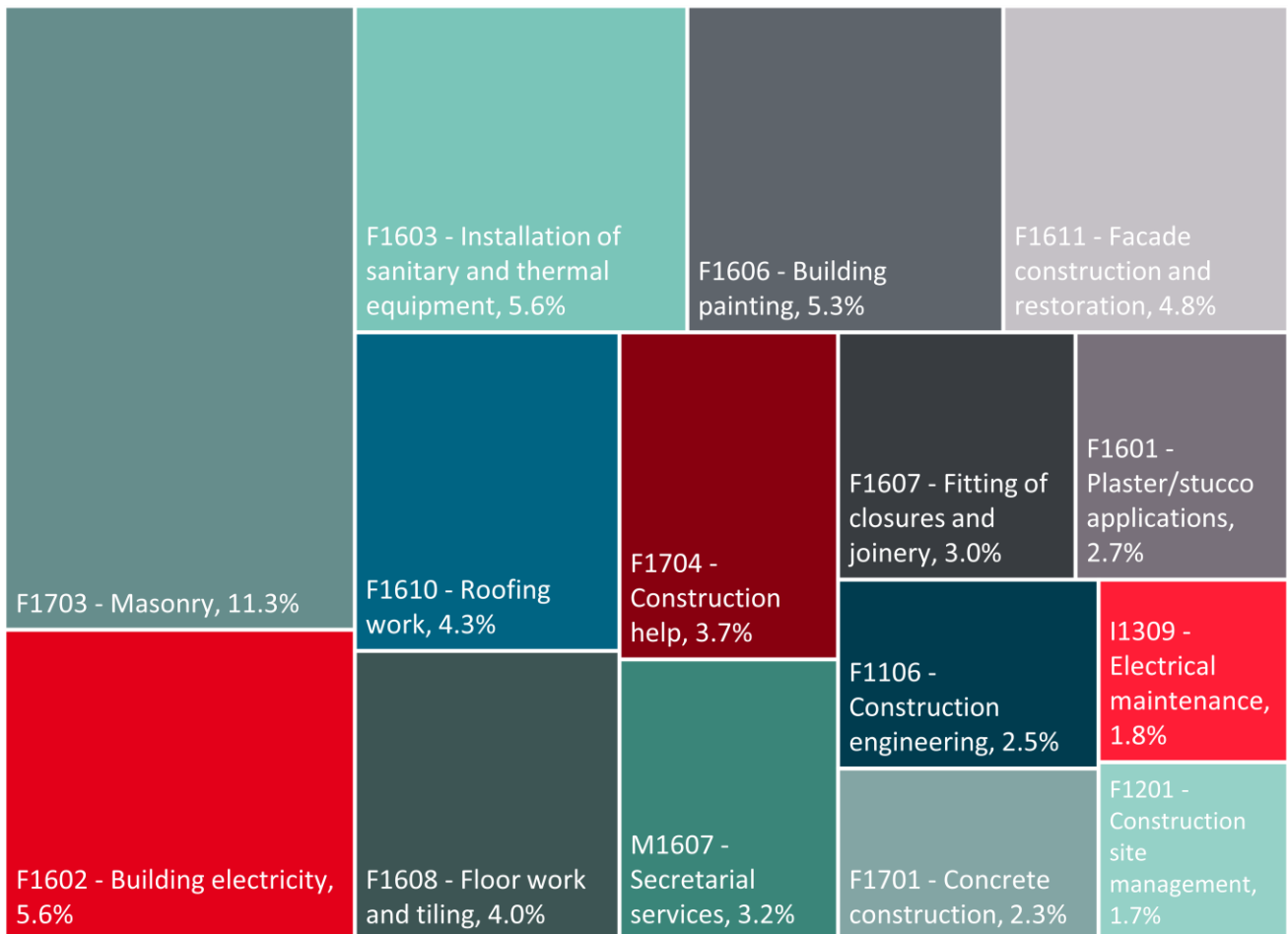
The following illustration shows the "Top 15" most in-demand occupations (level 3 of the **ROME** reference system) as well as their proportional share among all the job positions declared by this sector over the 2015 - 2020 period.

The vast majority of the occupations below are typical construction occupations (with the exception of secretarial work). As turnover is higher in lower-skilled occupations, this may lead to an over-representation of these occupations in the analysis. The most in-demand occupations are stonemasons with 11.3%, followed by building

electricians with 5.6% and sanitary and thermic installers with 5.6%. They are followed by building painters (5.3%), façadiers (4.8%), roof workers (4.3%), floor workers/tilers (4%) and construction helpers ("main-d'oeuvre"), who are in 8th place with 3.7%.

In places 9 to 15 are secretaries (3.2%), fitters of doors/windows (3%), plasterers (2.7%), engineers (2.5%), concrete/formworkers (2.3%), maintenance electricians (1.8%) and construction site supervisors (1.7%).

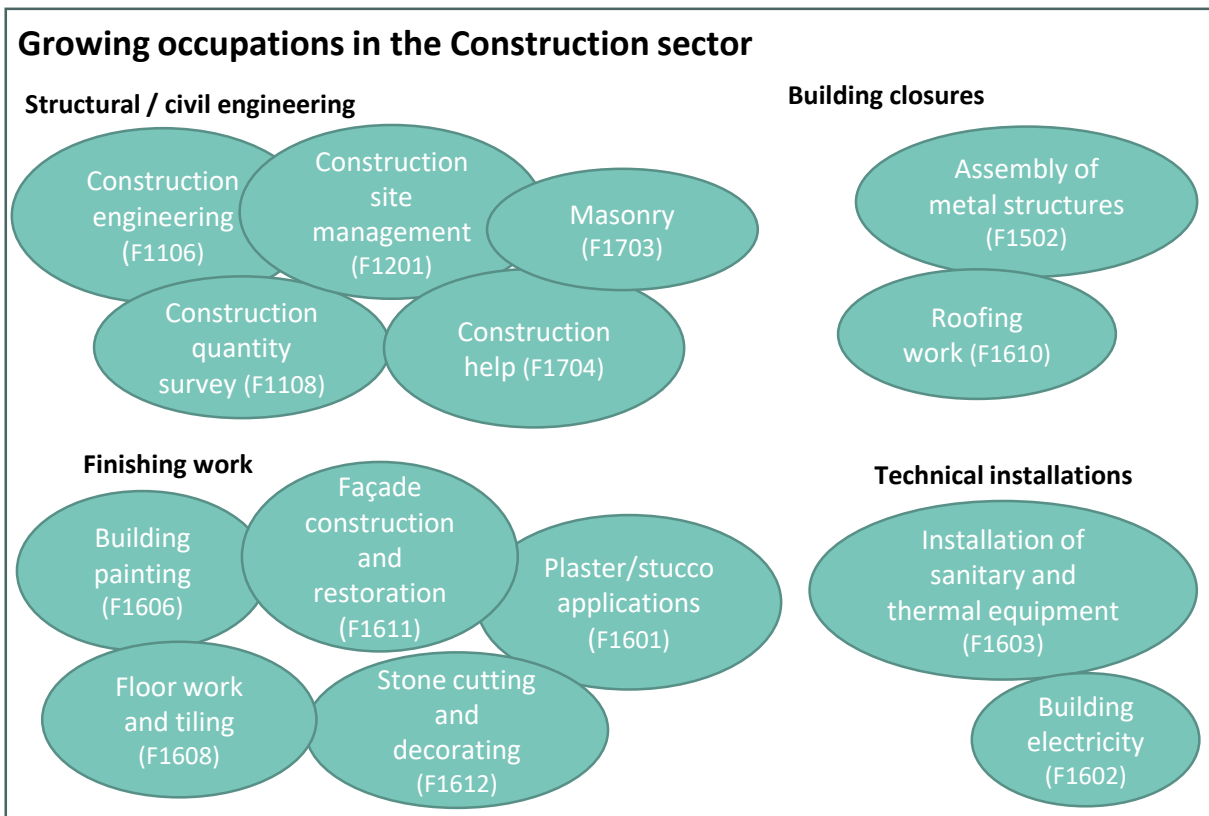
THE OCCUPATIONS MOST IN-DEMAND BY EMPLOYERS IN THE CONSTRUCTION SECTOR (2015 - 2020)



Note: the definitions of the occupations are available in Chapter 5 (ROME Glossary)

Growing occupations (1/5)

Following the analysis of the distribution, we consider the trends (growth, decline, emergence, stability) for the different occupations recruited in the Construction sector, starting with growth. The following illustration shows the 14 occupations for which a growth trend in demand from employers has been identified, based on the vacancies reported to ADEM.



Three indicators have been considered for this list:

1. the evolution of the occupation's proportional share among all the jobs declared by the sector;
2. the evolution of declared job positions between 2015 and 2020 (illustrated by the Trendline);
3. the contribution to growth between 2015 and 2019, i.e. the rate by which the occupation contributed to the growth of all jobs reported by the sector between 2015 and 2019 (this indicator takes into account both the growth trend and the importance of this occupation to the sector).

The data for the three indicators is detailed below for the 14 occupations for which a growth trend has been identified (given that these conclusions are based on our own judgement, we share the data transparently, allowing the reader to draw their own conclusions).

The trend is also based on a view of the past (2015 - 2020 period) and does not take into account possible developments that could influence the trend in the future.

Growing occupations (2/5)

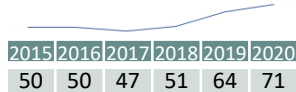
Structural / civil engineering

Construction engineering (F1106)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
2.93%	2.74%	2.37%	2.02%	2.37%	3.01%

Trendline ¹



Contribution to growth ²

+1.4%

Construction engineers (here only in construction companies, excluding engineering studies offices) have experienced growth in recent years (2018-2020), both in terms of volumes (Trendline) and proportion among all the occupations in the sector. However, given their smaller weight (p.19), their contribution to growth remains rather low at 1.4%.

Construction quantity survey (F1108)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
0.94%	0.88%	1.01%	1.30%	1.52%	1.57%

Trendline ¹



Contribution to growth ²

+2.5%

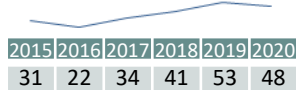
The quantity surveyor occupation has grown steadily since 2015 in terms of proportion and volume. Although this is not a large occupation (1-1.5% of all jobs in the sector), it has contributed 2.5% to the growth in jobs in the sector between 2015 and 2019.

Construction site management (F1201)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
1.82%	1.21%	1.71%	1.62%	1.96%	2.03%

Trendline ¹



Contribution to growth ²

+2.2%

For site supervisors, who are responsible for supervising project implementation through to delivery, there has been a stable growth in terms of volumes and a slight increase in proportion.

Construction help (F1704)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
2.23%	2.80%	2.67%	3.48%	6.48%	3.30%

Trendline ¹



Contribution to growth ²

+13.8%

Construction helpers can perform a variety of simple jobs and are often referred to as the "main d'oeuvre" on construction sites. This occupation has experienced steady growth since 2015 and almost doubled from 2018 to 2019 (which may be an anomaly). This occupation's contribution to growth is also significant between 2015 and 2019 at 13.8%.

Source: job vacancies reported to ADEM, explanations from ADEM employer advisors and the FDA

¹ Illustration of the evolution of the volumes of job positions declared between 2015 and 2020

² Contribution of the occupation to the growth of all job positions declared by the sector between 2015 and 2019

Growing occupations (3/5)

Masonry (F1703)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
13.71%	10.84%	9.71%	11.75%	11.47%	10.50%

Trendline ¹



Contribution to growth ²
+7.6%

Stonemasons are one of the leading occupations in the sector (1st place in terms of proportion, see page 19). Their proportional share has remained fairly stable (i.e., they have grown with the sector as a whole), but the growth in volumes between 2017 and 2019, coupled with their weight, has made their contribution to growth rather high.

Finishing work

Building painting (F1606)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
4.16%	5.32%	5.08%	4.74%	5.56%	6.73%

Trendline ¹



Contribution to growth ²
+7.9%

Painters experienced significant growth, contributing 7.9% to growth between 2015 and 2019. The occupation's proportional share has further increased in 2020 compared to other occupations which might have been more affected by the pandemic.

Façade construction and restoration (F1611)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
4.34%	4.56%	3.67%	4.31%	5.26%	6.27%

Trendline ¹



Contribution to growth ²
+6.8%

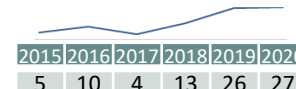
The same is true for the façadier occupation. This occupation grew across all three indicators and demand remained stable in 2020 (i.e., a gain in proportional share compared to other occupations).

Stone cutting and decorating (F1612)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
0.29%	0.55%	0.20%	0.51%	0.96%	1.14%

Trendline ¹



Contribution to growth ²
+2.1%

Stone cutting for exterior construction elements (window facings, paving stones, staircases, etc.), interior construction elements (fireplaces, etc.) or decorative elements (ledges, fountains, benches, etc.) is a smaller occupation that has been growing steadily since 2017.

Source: job vacancies reported to ADEM, explanations from ADEM employer advisors and the FDA

¹ Illustration of the evolution of the volumes of job positions declared between 2015 and 2020

² Contribution of the occupation to the growth of all job positions declared by the sector between 2015 and 2019


Growing occupations (4/5)

Plaster/stucco applications (F1601)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
3.11%	2.80%	2.37%	2.37%	3.00%	2.67%

Trendline ¹



2015	2016	2017	2018	2019	2020
53	51	47	60	81	65

Contribution to growth ²
+2.8%

For plasterers and stucators, we note a growth since 2018 (except in 2020) and an overall positive contribution to growth between 2015 and 2019.

Floor work and tiling (F1608)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
3.40%	4.49%	3.88%	4.44%	3.29%	4.26%

Trendline ¹



2015	2016	2017	2018	2019	2020
58	82	77	113	89	101

Contribution to growth ²
+3.1%

Floor workers (tilers, parquet layers, etc.) have gained in volume and proportional share since 2015 and have contributed positively to the growth in demand.

Building closures

Assembly of metal structures (F1502)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
1.23%	1.31%	1.66%	1.93%	1.55%	1.60%

Trendline ¹



2015	2016	2017	2018	2019	2020
21	24	33	49	42	38

Contribution to growth ²
+2.1%

For assemblers of permanent metal structures (walkways, bridges, etc.) or temporary structures (scaffolding, marquees, etc.), growth occurred between 2015 and 2018, followed by a slight decline. The overall contribution remains positive.

Roofing work (F1610)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
3.40%	4.27%	2.92%	5.30%	4.70%	4.81%

Trendline ¹



2015	2016	2017	2018	2019	2020
58	78	58	135	127	114

Contribution to growth ²
+6.9%

Roofing workers install roofing elements (slates, sheets, etc.) and rainwater drainage systems (gutters). Demand for this occupation increased sharply from 2017 to 2018 and then remained stable.

Source: job vacancies reported to ADEM, explanations from ADEM employer advisors and the FDA

¹ Illustration of the evolution of the volumes of job positions declared between 2015 and 2020

² Contribution of the occupation to the growth of all job positions declared by the sector between 2015 and 2019

Growing occupations (5/5)

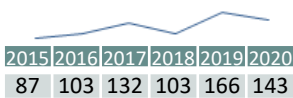
Technical installations

Installation of sanitary and thermal equipment (F1603)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
5.10%	5.65%	6.64%	4.07%	6.15%	6.06%

Trendline ¹



Contribution to growth ²

+7.9%

The occupation of installation and maintenance of sanitary and thermal equipment has a significant proportional share in this sector, which has also increased. The contribution to the 2015/2019 growth in overall positions in the sector is significant with a rate of almost 8%.

Building electricity (F1602)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
4.51%	5.53%	5.74%	7.15%	5.55%	4.89%

Trendline ¹



Contribution to growth ²

+7.3%

With smart homes, the need for building electricians is growing and the requirements are becoming more complex. Demand for this occupation from construction employers increased sharply from 2015 to 2018 and then declined slightly.

Source: job vacancies reported to ADEM, explanations from ADEM employer advisors and the FDA

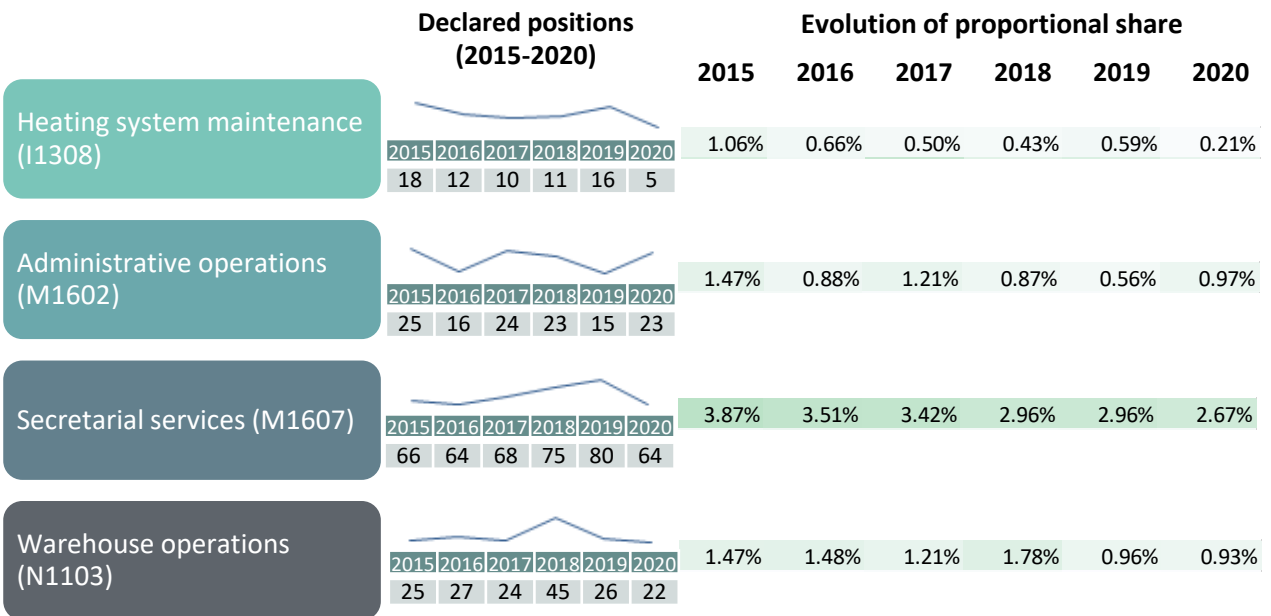
¹ Illustration of the evolution of the volumes of job positions declared between 2015 and 2020

² Contribution of the occupation to the growth of all job positions declared by the sector between 2015 and 2019

Declining occupations

In the construction industry, no occupation experienced a clear decline. The sector is so dynamic that demand for all occupations tends to increase. While there is a trend toward prefabrication of components through more industrial/automated processes (see page 14), there will always be a need for workers on the job site to assemble these components (there might be a decline in demand in the future).

However, some occupations have stagnated and lost in proportion in the sector. This is particularly the case for heating system installers (which could be explained by climate change), administrative and secretarial functions (potentially due to trends in the automation of these tasks) and warehouse workers.



Source: job vacancies reported to ADEM, explanations from ADEM employer advisors and the FDA

Emerging occupations

As for emerging occupations, i.e. occupations which were not or hardly in demand in the sector 5 years ago but which are beginning to appear/increase in job vacancies, our data provides some leads. The following illustration shows some of the occupations that have emerged slightly in the Construction sector job vacancies and that reflect the aforementioned technological and environmental trends (see pages 14 and 15): wood assembly workers (trend towards more wood construction), automatic system installers and IT staff (trend towards digitalisation and smart homes). Commercial strategy and human resources development profiles also seem to be emerging slightly. Even if these occupations are not yet at all significant in the sector, they can give an indication of the skills that are increasing in demand in the sector (even in other occupations).

	Declared positions					
	2015	2016	2017	2018	2019	2020
Wood assembly (H2201)	2	2		3	5	6
Installation and maintenance of automatic systems (I1302)	1			1	2	2
Human resources development (M1502)				5	2	1
Commerical strategy (M1707)	2	1	1	2	6	3
IT systems (M18)	6	4	8	5	10	11

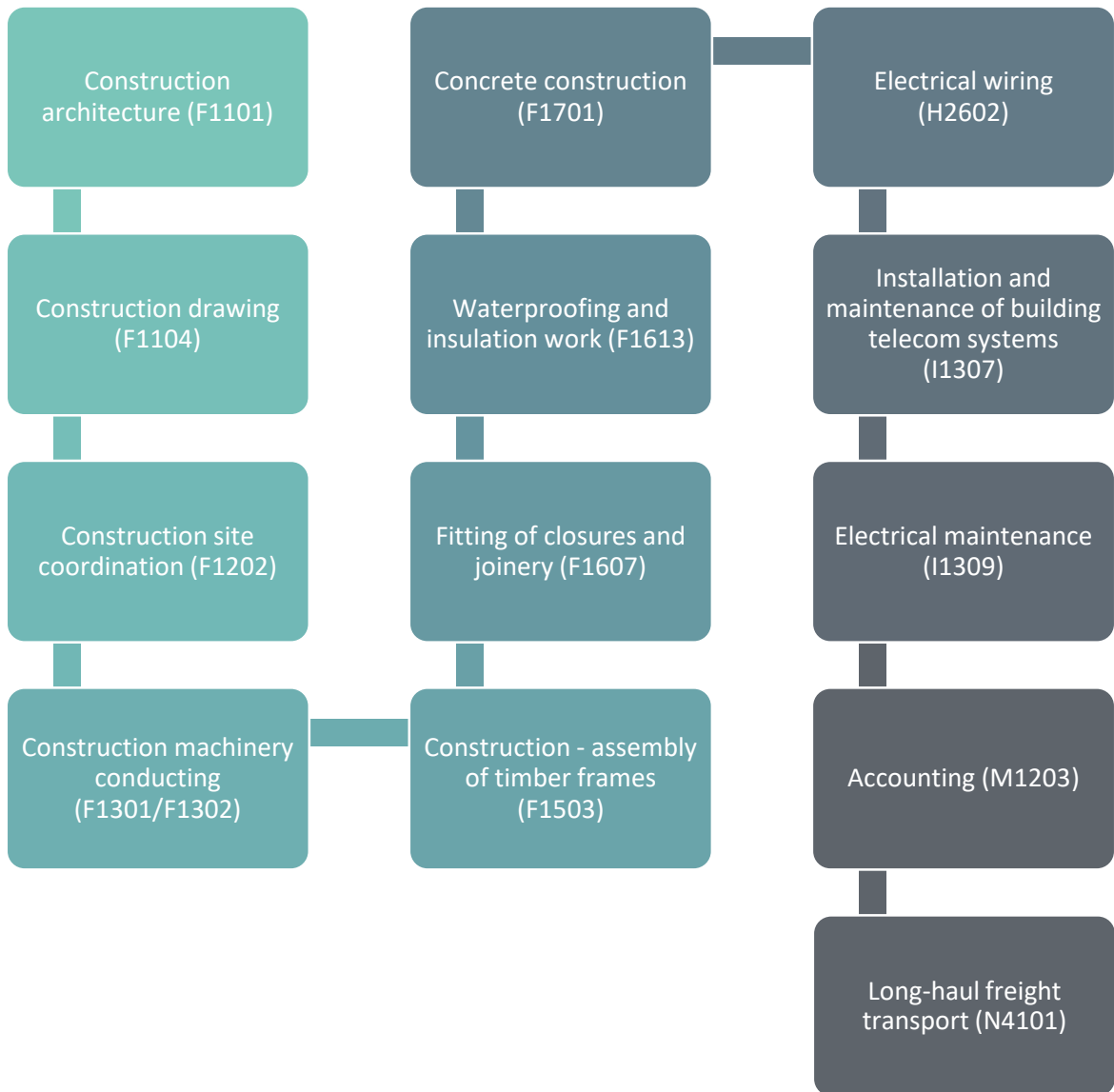
It should be noted that the existing ROME codes are quite fixed in time and are not always granular enough to capture all of the emerging trends.

This is why we added a qualitative dimension to this analysis based on exchanges with experts in the sector (FDA, IFSB and CDC GTB/PAR). According to them, other emerging *functions* (rather than *occupations*) are those of the **BIM** expert (among engineers, architects, sometimes site managers), experts in **sustainable materials**, controllers of **health aspects**, **assemblers and disassemblers** of prefabricated elements (**circular economy**), **waste/material managers**, programmers for **smart homes** and increasingly **versatile** profiles (sanitary-heating installers who master the smart home installations, for example). ADEM's employer advisors have noted that the function of **archaeological excavation** workers is also emerging.

Occupations with no particular trend

For other (significant) occupations in the sector, no particular trend has been identified over the 2015-2019 period, i.e., declared job positions were fairly stable or fluctuated too much to identify a clear trend.

This is the case for the occupations below.



Source: job vacancies declared to ADEM

Occupations with the greatest shortage of candidates (1/2)

After analysing the growth trends, we now focus on the shortage level for the various occupations recruited in the Construction sector. To assess the degree of shortage, three indicators are taken into account for the 2018 - 2020 period:

1. the average number of matches (= definitive proposals of candidates by ADEM advisors) made per declared position;
2. the rate of declared job vacancies to which no suitable candidates (among the available jobseekers) could be proposed;
3. A direct comparison between registered jobseekers registered under this specific occupation (candidates) and the number of positions reported for the occupation (across all sectors).

Example	Average matches/position (18-20)	Rate of unmatched vacancies (18-20)	Candidates/position (18-20)
	0.7	26%	0.6

These three indicators provide a complementary perspective on the level of shortage. The candidates/position comparison shows how many jobseekers are theoretically looking for a job in this occupation compared to the number of declared positions (an indicator below 1 indicates a basic lack of hypothetical candidates for the occupation). On the other hand, the average of the matches and the rate of unmatched vacancies give an indication of the (mis-)match of qualifications/skills between positions and candidates.

Occupations that are not significant in the sector at all (i.e. very few declared positions) are excluded from the shortage analysis.

The occupations for which the degree of shortage appears to be strongest (based on the three indicators: very few matches on average, high rate of unmatched vacancies, candidates/position < 1) are listed on the following page.

These include planning occupations (drawers, engineers, quantity surveyors), second-oeuvre occupations (assemblers of metal structures, plasterers/stucators, fitters (of partitions, false ceilings, etc.), fitters of closures (windows, doors, blinds, etc.), floor workers, stone cutters and carpenters), as well as installation occupations (air conditioning technicians, building telecom technicians).

(Other occupations may also be experiencing labour shortages, but the list of occupations on the next page is limited to those that appear to be most affected).

Source: job vacancies declared to ADEM, expertise of ADEM employer advisors and the FDA

Occupations with the greatest shortage of candidates (2/2)

		Average matches/position (18-20)	Rate of unmatched vacancies (18-20)	Candidates/position (18-20)
Planning	Construction drawing (F1104)	1.8	22%	0.8
	Civil engineerint (F1106)	2.3	14%	0.5
	Construction quantity survey (F1108)	2.4	20%	0.4
Second-oeuvre	Assembly of metal structures (F1502)	1.8	21%	0.4
	Plaster/stucco applications (F1601)	1.5	23%	0.3
	Assembly of fixtures (F1604)	2.1	19%	0.4
	Fitting of closures and joinery (F1607)	1.5	26%	0.5
	Floor work and tiling (F1608)	2.2	24%	0.6
	Stone cutting and decorating (F1612)	1.9	32%	0.3
	Carpentry (H2206)	1.5	36%	0.7
	Installation and maintenance of air conditioning and refrigeration (I1306)	1.2	24%	0.5
Installation	Installation and maintenance of building telecom systems (I1307)	2.3	13%	0.6

Source: job vacancies declared to ADEM, expertise of ADEM employer advisors and the FDA

Occupations with a surplus of candidates

Attention: there might still be a skills shortage

In contrast, some occupations have a surplus of candidates, i.e. more jobseekers are registered for the occupation than there are declared positions.

This does not mean that employers do not experience shortages in these occupations. A surplus of candidates that theoretically fit the vacancy does not exclude a shortage in terms of skills, and employers may still have difficulty finding "the right candidate".

Occupations with a surplus of candidates (as well as a rather high average matches/position rate and a lower rate of unmatched vacancies) are listed below.

These are mainly occupations that require fewer specialised skills, such as construction helpers, cleaners, receptionists, administrative staff, warehouse workers and delivery drivers.

	Average matches/position (18-20)	Rate of unmatched vacancies (18-20)	Candidates/position (18-20)
Construction help (F1704)	5.6	6%	1.7
Cleaning activities (K2204)	6.0	5%	3.5
Reception activities (M1601)	11.4	0%	4.1
Administrative operations (M1602)	9.9	0%	4.4
Secretarial services (M1607)	7.3	3%	1.8
Warehouse operations (N1103)	5.7	3%	2.4
Short-haul driving and delivery (N4105)	4.9	5%	3.5

Source: job vacancies declared to ADEM, expertise of ADEM employer advisors and the FDA

Conclusion of the occupation-level analysis

On the basis of the preceding analysis, we are now able to draw some cautious conclusions on which occupations should be given priority in career guidance, initial and continuous training and talent attraction.

These conclusions are based on the trend (growth, decline, stability, emergence) and the level of shortage identified for the occupation. Since these are strictly based on the past however (2015-2020), it is useful to add a third, more future-oriented dimension: the risk of automation of the occupation.

This indicator is here based on a study conducted by researchers at Oxford University¹, which estimated (in 2017) the risk of automation for 702 different occupations (according to the SOC benchmark, used in Anglo-Saxon countries). The method of this study and the results are certainly debatable, but it is still the most comprehensive and granular analysis of the automation risks for such a variety of occupations. To use this study, we have therefore linked our ROME occupations to the closest SOC occupation. Given the limitations of this study, we have not used the precise figure for the risk of automation but rather a classification (high, low, moderate, etc.), which should only give an indication of the potential future evolution of the occupation.

Priority occupations

The following occupations, which - on the basis of our analysis - are experiencing a shortage and/or a growth trend, and are not too strongly under risk of automation in the near future, can be considered as priority occupations in career guidance, training (initial and continuous) and talent attraction.

Occupations	Positions 2018-2020	Trend	Shortage	Risk of automation according to F&O ¹
F1106 – Construction engineering	186	growth	shortage	low
F1108 - Construction quantity survey	111	growth	shortage	rather high
F1201 - Construction site management	142	growth	slight shortage	rather low
F1502 – Assembly of metal structures	129	growth	shortage	rather low
F1601 - Plaster/stucco applications	206	growth	shortage	moderate
F1602 - Building electricity	448	growth	slight shortage	rather low
F1603 - Installation of sanitary and thermal equipment	412	growth	slight shortage	rather low
F1604 - Assembly of fixtures	146	/	shortage	rather low
F1606 - Building painting	434	growth	balanced	moderate
F1607 – Fitting of closures and joinery	248	/	shortage	rather low
F1608 – Floor work and tiling	303	growth	shortage	moderate
F1610 – Roofing work	376	growth	slight shortage	moderate
F1611 - Façade construction and restoration	400	growth	slight shortage	moderate
F1612 - Stone cutting and decorating	66	growth	shortage	moderate
F1703 - Masonry	858	growth	slight shortage	moderate

(In the other sector studies, there is also a list of occupations considered "at risk" and where people working in these occupations should be targeted for upskilling and reskilling. In the Construction sector, however, no such occupations were identified - explained by the general growth of the sector)

¹ Frey, C.B., Osborne, M. (2017): The future of employment: How susceptible are jobs to computerisation? Technological Forecasting and Social Change, Volume 114. FACILITONS L'EMPLOI

4. Skills-level analysis



Skills-level analysis: method

The job vacancies declared to ADEM contain a wealth of information regarding skills required by Luxembourg-based companies. This information exists mainly in an unstructured format (as job descriptions). The only structured data that exists in a comprehensive and reliable way are the languages and level of experience required. In order to make use of this unstructured data, ADEM decided to collaborate with an external provider (based in Europe) who has developed a text mining (automated text analysis) approach to extract structured data on the skills mentioned in the job vacancy descriptions. This model is widely used by the European Commission in its [Skills-OVATE](#) project and has proven to be sufficiently reliable for this type of analysis.

However, it should be noted that text mining techniques are still in a development phase and may generate errors or miss certain information. A distinct advantage is the ability to analyse large volumes of text in a very short amount of time and at a low cost.

The model also works in different European languages (English, French, German...).

In May 2021, ADEM shared the descriptions of 142,000 job offers (years 2015 - 2021¹) with the provider and obtained the results in June 2021. 1.28 million mentions of specific skills were identified in these job offers.

For a majority of the identified skills, the service provider has made the link with the [ESCO](#) skills reference framework. This makes it possible to analyse the skills according to a hierarchy of granularity and different categories (Attitudes & Values, Skills, Knowledge). The ESCO hierarchy

also has some limitations (e.g. overlaps between attitudes & values and skills & knowledge, hierarchy choices that are sometimes difficult to understand...) but has the advantage of being a granular and internationally recognised reference framework.

Language skills are excluded from the text mining analysis because ADEM possesses structured (more reliable) data on languages that was analysed separately.

The results give an indication of the skills in demand by Luxembourg-based companies, by sector (NACE) and by occupation (ROME), as well as the evolution of this demand over time. It should be noted, however, that a job vacancy advertisement does not necessarily provide a complete picture of the skills that are actually required to perform a job: it is often written in a particular way to appear more attractive and therefore rarely includes the less "marketable" skills (e.g. stress management) nor the more technical skills of the job which might appear obvious.

While this data will be used for more in-depth analysis, ADEM takes advantage of these sectoral studies to give a first overview of the skills advertised by the sector and for some key occupations in this particular sector (as well as trends in the evolution).

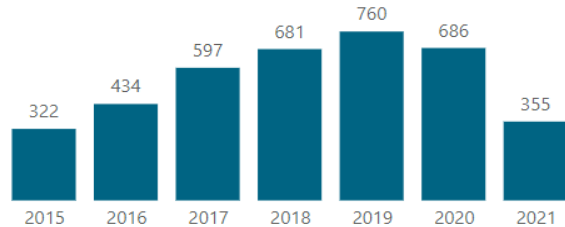
¹ The year 2021 includes data until the end of April

Skills-level analysis: Construction

Among the 10,693 job vacancies declared to ADEM (2015–April 2021) by employers in the Construction sector and including at least a minor job vacancy description, only 3,835 included details explicitly mentioned skills (identifiable by text mining). The following graph shows the distribution of these offers over the years.

3835

offers



It should be noted that in the Construction sector, the rate of job vacancies without (identifiable) skills information is higher than for other sectors.

Among these 3,835 job vacancies that showed results, we can specify to what degree a specific skill or a category of skills has been identified (at least once).

The graph below shows these rates for the different categories of the ESCO classification (at their highest hierarchy level: ESCO 0):

- **Attitudes and values:** in 44% of the job vacancies, at least one mention of an *attitude* or *value* was identified.
- **Knowledge:** the overall rate of vacancies in which at least one mention of a specific *knowledge* has been identified is around 69%.
- **Skills:** the overall rate of vacancies in which at least one mention of a specific *skill* has been identified is around 67%.
- There remain 5% of vacancies in which a skill has been identified that was not linked to the ESCO framework (this data is excluded from the analysis hereafter).

The three categories fluctuated but generally increased in importance, particularly in the skills category.

ESCO 0	2015	2016	2017	2018	2019	2020	2021	Total
+	2%	3%	4%	4%	6%	5%	5%	5%
+ attitudes and values	39%	48%	41%	45%	47%	45%	43%	44%
+ knowledge	63%	67%	72%	65%	72%	68%	69%	69%
+ skills	65%	61%	63%	61%	72%	73%	74%	67%

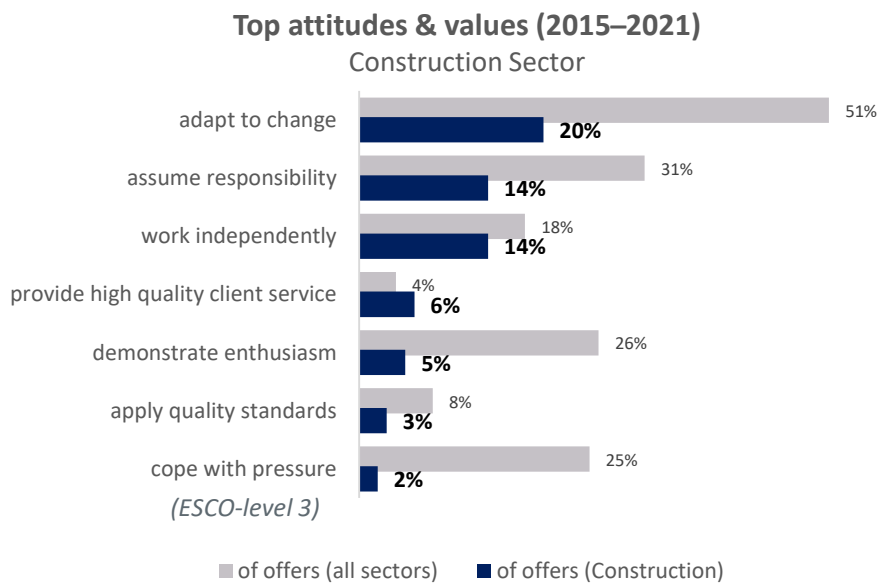
The remainder of this chapter presents the most in-demand skills (distinguishing between "attitudes & values" and "skills & knowledge") mentioned in the job vacancies of the Construction sector and for some key occupations within the sector (as well as the trends in their evolution).

Most in-demand attitudes and values in the Construction sector

The graph below presents the attitudes and values that are the most in demand in job vacancies declared by employers in the Construction sector over the 2015 - 2021 (until April) period. These skills are captured at the ESCO level 3 and the definitions can be found on the classification's [website](#).

The graph shows, in blue, the percentage of job offers in the Construction sector in which the skill was mentioned and, in grey, the percentage of all job offers (across all sectors) in which the skill was mentioned.

The most in-demand value/attitude was adapting to change (which is the case for the majority of sectors), with 20% of job vacancies mentioning it. We also note that job vacancies in the Construction sector generally require less attitudes/values than other sectors on average (with the exception of providing high quality client service).

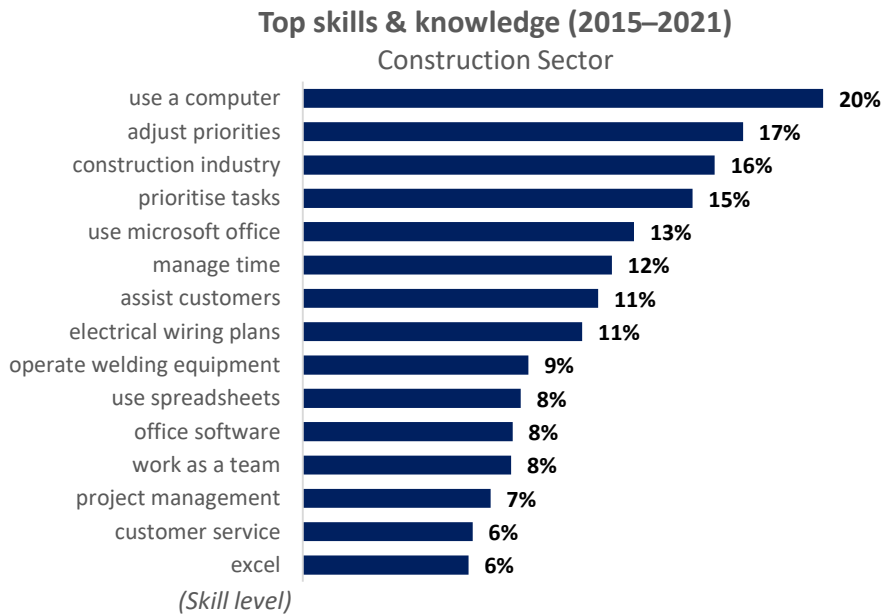


As for the evolution over the years of the demand for the different attitudes and values, we observe a growth in the demand for assuming responsibility and working independently.

Evolution of the top attitudes & values		2015	2016	2017	2018	2019	2020	2021
		adapt to change	22%	26%	18%	19%	18%	17%
assume responsibility		12%	12%	12%	11%	15%	16%	16%
work independently		7%	12%	13%	14%	17%	18%	12%
provide high quality client service		2%	2%	2%	3%	2%	2%	1%
demonstrate enthusiasm		0%	1%		0%	2%	2%	2%
apply quality standards		2%	3%	4%	4%	4%	3%	3%
cope with pressure		3%	2%	2%	2%	1%	1%	3%

Most in-demand skills and knowledge in the Construction sector (1/2)

Skills & knowledge are also captured at the more granular skill-level of the ESCO. In Construction, skills such as using a computer, adjusting priorities and knowledge specific to the construction industry are mentioned most frequently. It is likely that vacancy descriptions in management and planning jobs (engineers, etc.) contain more detailed information (necessary for the text mining analysis) and that the skills identified in these positions (such as using a computer) are therefore over-represented in our analysis.



The analysis of the evolution shows a general growth in demand for the majority of these skills since 2015. The use of computers/software, priority management, teamwork and project management have increased particularly.

		2015	2016	2017	2018	2019	2020	2021
<u>Evolution of top skills & knowledge</u>	use a computer	14%	18%	17%	16%	21%	24%	25%
	adjust priorities	14%	12%	12%	15%	20%	20%	23%
	construction industry	8%	10%	15%	13%	21%	18%	18%
	prioritise tasks	11%	12%	11%	12%	17%	18%	20%
	use microsoft office	10%	11%	13%	10%	13%	15%	15%
	manage time	12%	9%	9%	10%	13%	13%	17%
	assist customers	10%	12%	12%	10%	12%	11%	12%
	electrical wiring plans	9%	10%	9%	13%	11%	11%	9%
	operate welding equipment	8%	7%	8%	8%	12%	7%	9%
	use spreadsheets	6%	9%	9%	7%	9%	9%	9%
	office software	5%	7%	7%	7%	8%	10%	11%
	work as a team	7%	8%	6%	5%	8%	10%	12%
	project management	6%	6%	6%	7%	7%	9%	9%
	customer service	7%	4%	7%	6%	7%	5%	9%
excel	5%	7%	6%	6%	6%	7%	7%	

Most in-demand skills and knowledge in the Construction sector (2/2)

In addition to the top skills mentioned on the previous page, others can be identified as emerging skills (having a growth trend, but still not very significant in volume).

Emerging skills

<u>Quality-related skills</u>	2015	2016	2017	2018	2019	2020	2021
follow company standards	4%	4%	4%	4%	5%	4%	5%
quality standards	6%	7%	6%	5%	7%	5%	8%

Management skills

perform planning	5%	4%	4%	3%	5%	7%	8%
manage budgets	1%	0%	2%	1%	1%	4%	3%

Problem-solving skills

develop strategy to solve problems	1%	1%	1%	1%	3%	2%	3%
create solutions to problems	2%	3%	3%	2%	5%	5%	5%
analyse problems for opportunities	1%	0%	1%	1%	2%	2%	2%

Interpersonal skills

communication	5%	5%	4%	4%	6%	6%	6%
teamwork principles	3%	2%	2%	2%	3%	5%	5%
delegate activities	3%	3%	2%	2%	2%	2%	4%
provide leadership		0%	0%		0%	1%	1%
plan teamwork	4%	5%	5%	6%	7%	7%	7%

Digital skills

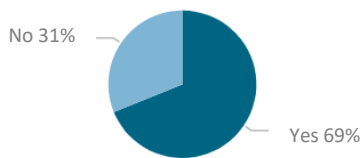
use office systems	5%	6%	5%	4%	6%	8%	7%
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It can be noted that the demand in the "typical" (technical) construction skills remained relatively stable, based on the text mining results, and the emergence of certain skills was observed more in the categories of quality, management, problem-solving, interpersonal and digital skills.

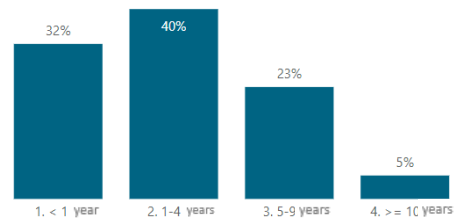
Languages and experience required in the Construction sector

Alongside the unstructured data extracted by text mining, the job vacancies also include structured data on the languages and years of experience required for the position. This data is analysed hereafter based on the 3,835 vacancies taken into account (2015 - April 2021).

Experience requirements (2015-2021)



Duration of required experience (2015-2021)



In the Construction sector, 69% of job vacancies have explicitly required experience in the field. Of these, most (40%) ask for experience of 1 to 4 years (32% require experience < 1 year, 23% of the vacancies require experience of 5 to 9 years, and only 5% require experience ≥ 10 years). These requirements have considerably increased over the 2015-2021 period: Looking only at the vacancies from the past two years, 76% required experience, of which 27% required 5-9 years experience and only 26% required < 1 year experience).

Language proficiency is structured according to the [CEFR](#) (Common European Framework of Reference for languages) levels, which captures the requirements for the three official languages (Luxembourgish, French and German) as well as English.

French is the most in-demand language in the sector (mastery of Portuguese is unfortunately not captured here). 91% of the vacancies require knowledge of French, and 34% even require a C level ("proficient user"). 4% consider it an asset and 4% do not require it at all.

German is compulsory in 44% of the vacancies, Luxembourgish in 33% of the vacancies and English in 17% of the vacancies.

We have also noted that the requirements for German and Luxembourgish decreased over the 2015-2021 period, while the requirements for French slightly increased (especially in terms of the level required).

Language requirements (2015 - 2021)

Luxembourgish	A	B	C	Total	
0. None	45%			45%	
1. Asset	10%	10%	1%	21%	
2. Compulsory	8%	18%	7%	33%	
Total	45%	19%	27%	8%	100%

French	A	B	C	Total	
0. None	4%			4%	
1. Asset	2%	2%	0%	4%	
2. Compulsory	14%	43%	34%	91%	
Total	4%	16%	45%	34%	100%

English	A	B	C	Total	
0. None	71%			71%	
1. Asset	6%	5%	0%	12%	
2. Compulsory	4%	10%	3%	17%	
Total	71%	11%	15%	4%	100%

German	A	B	C	Total	
0. None	38%			38%	
1. Asset	8%	9%	1%	18%	
2. Compulsory	8%	24%	12%	44%	
Total	38%	16%	33%	13%	100%

Skills profiles of several key occupations (1/3)

Construction engineering (F1106)

One occupation to be prioritised, with both a growth trend and talent shortages (see page 31), are construction engineers.

Top skills

The following graphs show the skills (attitudes and values, skills and knowledge) most in demand for engineers, compared to the average of the Construction sector. We note that the demand for attitudes/values is considerably higher in this occupation than for the rest of the sector. Assuming responsibility, adapting to change and working independently are most in demand, but demonstrating good manners (being professional) is also required.

In terms of skills/knowledge, project management skills were identified in half of the vacancies. On top of this came digital skills, knowledge of construction industry, but also management of priorities, time and teams.

Growing skills

The following skills were identified as growing (or even newly emerging).

Business skills

- project management
- office administration
- follow company standards

Digital skills

- use a computer
- use office systems
- office software
- microsoft dynamics

Personal skills

- perform planning
- assume responsibility
- work as a team
- tolerate stress
- demonstrate good manners

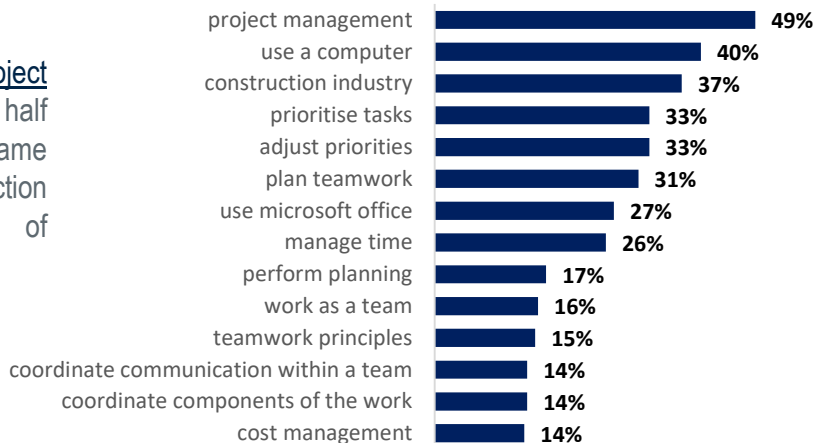
Top values & attitudes (2015 - 2021)

Construction engineering (F1106)



Top skills & knowledge (2015 - 2021)

Construction engineering (F1106)



	2015	2016	2017	2018	2019	2020	2021
project management	42%	46%	45%	46%	37%	55%	69%
office administration			3%	3%	2%	9%	14%
follow company standards	5%		6%	5%	2%	2%	7%
use a computer	21%	21%	39%	26%	39%	58%	59%
use office systems		4%	9%	3%	11%	25%	21%
office software			12%	15%	11%	13%	21%
microsoft dynamics		4%			11%	11%	14%
perform planning	16%		12%	8%	20%	26%	28%
assume responsibility	16%	21%	9%	15%	35%	38%	31%
work as a team	21%	4%	6%	18%	13%	15%	34%
tolerate stress						9%	10%
demonstrate good manners		4%	3%		7%		10%

Skills profiles of several key occupations (2/3)

Masonry (F1703)

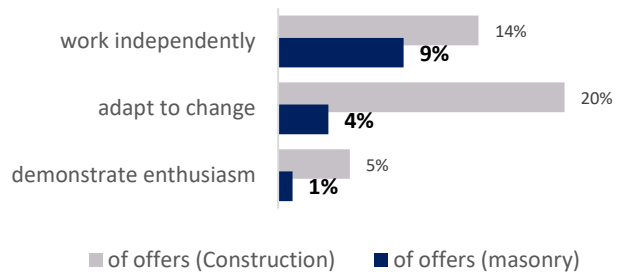
Stonemasons were identified as a key occupation (see page 19) and one that needs to be prioritised (see page 31).

Top skills

We find that only three values/attitudes stand out: working independently, adapting to change and demonstrating enthusiasm. They are also less in demand than for the sector as a whole.

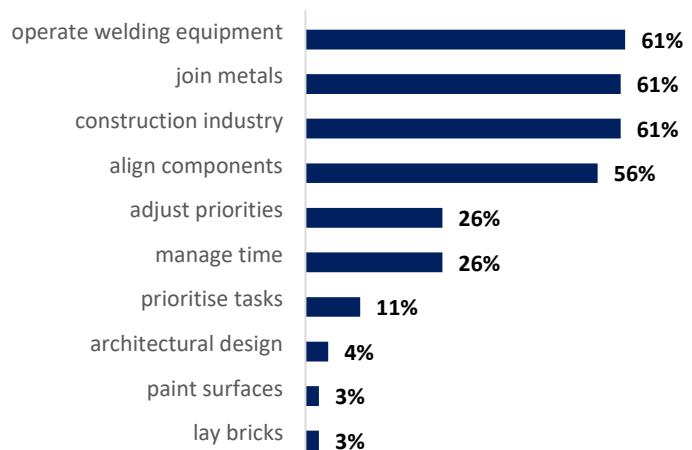
Top values & attitudes (2015-2021)

Masonry (F1703)



Top skills & knowledge (2015-2021)

Masonry (F1703)



Skills and knowledge that stand out are specific hard skills for this occupation, such as operating welding equipment and joining metals, but also personal skills such as time and priority management.

Growing skills

While the majority of skills have remained rather stable over the 2015-2021 period, the following skills have been identified as growing (or even newly emerging):

	2015	2016	2017	2018	2019	2020	2021
Organisation adjust priorities	25%	11%	33%	17%	29%	21%	43%
manage time	25%	11%	33%	17%	29%	21%	43%
prioritise tasks	6%		13%	17%	4%	7%	29%
working in teams			7%		4%		14%
supervision of persons							7%

Skills profiles of several key occupations (3/3)

Building electricity (F1602)

Electricians are another key occupation (see page 19) that must be prioritised (see page 31).

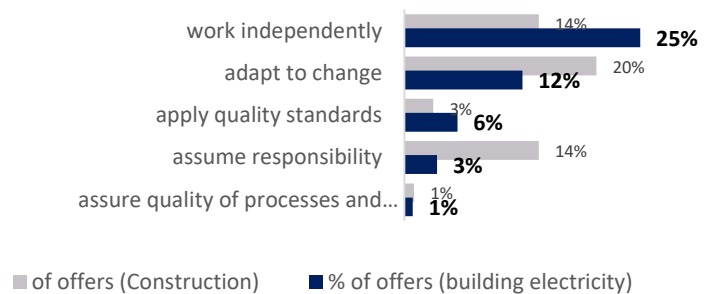
Top skills

For electricians, working independently particularly stands out as an in-demand value/attitude (much more than for the sector on average). Another attitude/value that is important here is the application of quality standards and assuring quality of processes and products.

Required skills and knowledge include electrical wiring and maintenance skills, priority management, computer and precision skills.

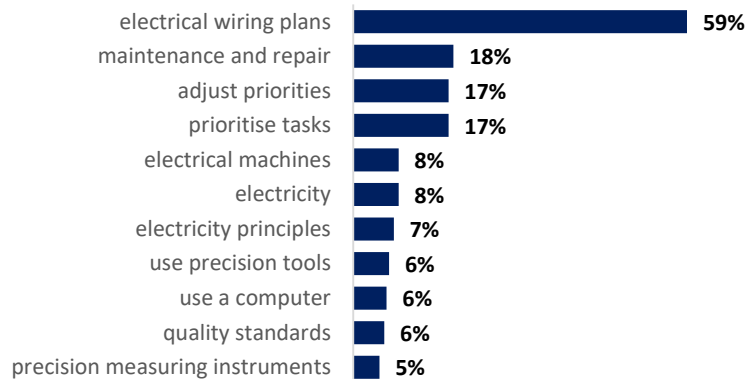
Top values & attitudes (2015 - 2021)

Building electricity (F1602)



Top skills & knowledge (2015-2021)

Building electricity (F1602)



Growing skills

For the skills below, a growth trend or an emergence has been identified.

	2015	2016	2017	2018	2019	2020	2021
Job-specific skills	precision measuring instruments		6%	3%	6%	5%	13%
	join metals			2%	6%	8%	
	operate welding equipment			2%	6%	8%	
	construction industry			2%	6%	8%	
Organisation	adjust priorities	23%	15%	9%	18%	18%	20%
	plan schedule			3%	2%		3%
	coordinate communication within a team		4%	3%	2%		3%
	coordinate components of the work		4%	3%	2%		3%

Conclusion of the skills-level analysis

The text mining approach has enabled us to transform unstructured text into structured data that can be put to use. Although a job advertisement generally does not provide a complete image of the skills actually required to do a job, it contains insightful information on what skills the employers in Luxembourg decide to put on the forefront. Given that a job advertisement is often a projection of the company into the near future, it also provides insights into future requirements.

Based on the analysis in this chapter, we can observe that skills expectations are increasing in the Construction sector.

Personal/interpersonal and digital skills stand out as particularly in-demand, and to a lesser extent also skills specific to the occupation or to the Construction sector. It is important to note that in our analysis, job-specific skills are probably underestimated compared to transversal skills, both because the text mining model finds it easier to identify transversal skills that appear more often in general and because job advertisements tend to mention transversal skills more often whereas job-specific skills might be considered an obvious requirement for a specific job.

These results of our skill-level analysis can be used to enrich the current training offer in Luxembourg, for example by integrating more transversal skills into the various existing trainings.

However, for the reasons mentioned above, these results need to be complemented by other analytical methods and with qualitative input from experts on the different occupations.

The results will also enable employers in the sector to reflect on the role of these skills in their company, and jobseekers to position themselves during the job application process (CV, cover letter, job interview) in relation to these skills.

5. Glossary of ROME occupations



Glossary of ROME occupations

This glossary aims to facilitate the understanding of all ROME labels used in the document. It includes, per ROME occupation, examples of functions (“*appellations*” in the ROME terminology) as well as a definition. The [ADEM website](#) enables the user to search for all ROME occupations and to find further details, such as typical activities and required skills. The ROME code in the table refers directly to the ROME page for that occupation.

Code	Occupation	Functions	Definition
F1101	Construction architecture	Architect, of: <ul style="list-style-type: none"> • buildings • landscapes • urban planning 	Carries out the design and study of a development or construction project according to the environment and regulations. Establishes the configuration of a building or a space (outline, sketch etc.) and defines the appropriate technical possibilities. Coordinates and follows up the realisation phases of the work. Carries out research and market development activities. May coordinate a team or manage a department.
F1104	Construction drawing	Drawer of: <ul style="list-style-type: none"> • Buildings • Infrastructure/VRD • Landscapes • ... 	Studies and produces plans or drawings for construction projects, renovations, and interior and/or exterior works according to the technical and adopted architectural solutions and the regulations. May coordinate a team.
F1106	Construction engineering	<ul style="list-style-type: none"> • Civil engineer • Structural engineer • Project manager in construction • ... 	Develops construction projects, studies technical processes, construction methods and costs. Carries out the execution study of the work and carries out the technical and economic monitoring of the site. May coordinate a team or a project.

Code	Occupation	Functions	Definition
F1108	Construction quantity survey	Quantity surveyor in <ul style="list-style-type: none"> • Buildings • Electricity • ... 	Carries out measurements and establishes the quantity and estimate of work to be carried out within the framework of a construction operation. May prepare the work execution files and carry out the follow-up of the construction sites.
F1201	Construction site management	<ul style="list-style-type: none"> • Construction site supervisor/manager 	Organises and monitors the various technical (equipment, materials, etc.), human (internal and external to the company) and financial (construction methods, etc.) resources required to run a construction site, from the project phase to delivery, in accordance with deadlines and safety regulations. Negotiates and contracts services with the client.
F1202	Construction site coordination	<ul style="list-style-type: none"> • Construction site team leader / foreman 	Prepares, organises and monitors the day-to-day running of one or more construction sites in accordance with safety standards. Coordinates the work of the company's internal and external teams in accordance with deadlines.
F13	F1301 - Crane conducting F1302 - Conducting earth-moving and quarry machinery		
F1502	Assembly of metal structures	<ul style="list-style-type: none"> • Team leader in steel construction Assembler of: <ul style="list-style-type: none"> • cladding • tents • cranes • pylons • scaffolding • metal constructions 	Assembles a permanent metal structure (construction of buildings, footbridges, bridges, etc.) or a temporary one (scaffolding, grandstands, tents, etc.) made up of prefabricated elements, usually pre-assembled on the ground, in accordance with safety regulations.

Code	Occupation	Functions	Definition
F1503	Construction-assembly of timber frames	<ul style="list-style-type: none"> • Carpenter 	Draws plans, creates and assembles wooden structures (frameworks, boat hulls, wooden house frames, etc.) manually or using woodworking machines according to safety rules. May carry out the installation and final assembly of structures made on site. May coordinate a team and manage a department.
F1601	Plaster/stucco applications	<ul style="list-style-type: none"> • Plasterer • Stucator 	Produces interior or exterior decorative elements (cornices, rosettes, columns, etc.) in liquid plaster, staff, stucco, lime, etc., on new buildings or in renovation work. May assemble partitions, install insulation and carry out restoration work. Can coordinate a team and manage a department.
F1602	Building electricity	<ul style="list-style-type: none"> • Building electrician • Electric meter technician 	Carries out installation and commissioning work on electrical equipment in domestic, tertiary and industrial buildings in accordance with safety regulations. Can wire and connect very low voltage installations (telephony, computers, alarms, etc.). Can carry out repair and maintenance work.
F1603	Installation of sanitary and thermal equipment	<ul style="list-style-type: none"> • Installer of sanitary equipment • Plumber • Installer of thermic equipment • ... 	Prepares and installs all the elements necessary for the complete installation of sanitary and thermal equipment (gas, oil, coal, wood, solar, etc.) in accordance with safety regulations. Regulates and commissions installations and carries out repairs. Can install ventilation and air conditioning systems for domestic use. Can intervene in the installation and maintenance of swimming pools.

Code	Occupation	Functions	Definition
F1604	Assembly of fixtures	<ul style="list-style-type: none"> • Partition fitter • False ceiling fitter • Drywall assembler • ... 	Assembles prefabricated panels (chipboard, laminate, plasterboard) according to safety rules. Assembles and installs partitions, linings, floors or false ceilings to correct the geometric or acoustic characteristics of a room, insulate a building or arrange an interior for various purposes (shops, etc.). Can fit out kitchens, stands and prefabricated modular buildings.
F1606	Building painting	<ul style="list-style-type: none"> • House painter • Decorative painter • Painter's helper • ... 	Carries out the finishing and embellishment of surfaces by applying paint, resin, varnish, after manual or mechanical preparation of the supports. Installs wall coverings (wallpaper, fabrics, etc.). May lay floor coverings (carpet, linoleum, etc.), glass, etc.
F1607	Fitting of closures and joinery	<ul style="list-style-type: none"> • Fitter of closures and joinery • PVC carpenter • Aluminium/PVC fitter • Locksmith • ... 	Prepares and installs all interior and exterior closures made of wood, metal, aluminium, PVC (doors, windows, shutters, walls, blinds, fences, garage doors, etc.) according to safety regulations. Can install and adjust automatic closing systems. Can maintain, repair and replace installed elements and their locking systems.
F1608	Floor work and tiling	<ul style="list-style-type: none"> • Tiler • Parquet layer • Flooring worker • Stone covering fitter • Mosaicist • ... 	Coats any horizontal or vertical surface by sealing, gluing or fixing rigid elements (tiles, earthenware, ornamental stones, etc.) in accordance with safety regulations. Can install parquet floors and carry out fitting work.

Code	Occupation	Functions	Definition
F1610	Roofing work	<ul style="list-style-type: none"> • Roofer • Roofer's helper • Photovoltaic panel installer • Zinc worker 	Prepares and installs roofing elements (slates, tiles, sheet metal, etc.) to protect all types of buildings from water, in the context of new or renovation work, in accordance with safety regulations. Carries out the protection of projecting parts and installs rainwater drainage systems (gutters, etc.). Can carry out simple carpentry work. Can supervise a team.
F1611	Façade construction and restoration	<ul style="list-style-type: none"> • Façadier 	Prepares the substrate and applies or sprays waterproofing and cladding products for the maintenance, renovation and embellishment of facades, walls and terraces in accordance with safety regulations.
F1612	Stone cutting and decorating	<ul style="list-style-type: none"> • Stonecutter 	Carves and decorates, within the framework of new or renovation work, exterior construction elements (window facings, paving stones, staircases, etc.), interior elements (fireplaces, etc.) or decorative elements (cornices, fountains, benches, etc.) made of natural minerals (sandstone, granite, limestone, slate, etc.) in accordance with safety regulations. Can sculpt and engrave, lay shaped elements on sites and carry out stone protection or restoration work. Can coordinate a team or manage a department.
F1613	Waterproofing and insulation work	<ul style="list-style-type: none"> • Insulator • Waterproofer • Asphalter • Industrial insulation fitter • ... 	Carries out the waterproofing and insulation of roofs, terraces, walls or facades of residential buildings, individual houses and industrial buildings, in accordance with safety regulations. May carry out thermal insulation of heating, air-conditioning and ventilation installations and equipment by means of insulation work. Can carry out repair work in the context of rehabilitation projects.

Code	Occupation	Functions	Definition
F1701	Concrete construction	<ul style="list-style-type: none"> • Formworker • Concrete worker • Ironworker / Steel fixer • Prefabricated element assembler 	Carries out the construction of all buildings made by means of a mould and metal reinforcements embedded in a mass of concrete, according to the requirements of implementation and safety rules. Carries out the formwork and assembles the prefabricated elements of concrete, reinforced concrete or prestressed concrete constructions. Can manage a small team and take charge of the supply of a site.
F1703	Masonry	<ul style="list-style-type: none"> • Stonemason • Bricklayer • Chapist • Fireplace and stove fitter 	Builds walls, facades, partitions, by masonry of supported elements (breeze blocks, bricks, stones, plaster tiles, etc.) according to safety rules. Builds horizontal structures (screeds, slabs, etc.), makes various formwork and reinforcement elements, seals and insulates premises. May build special structures such as swimming pools, funeral monuments, etc. May be responsible for supplying, tidying and keeping the site clean. May manage a small team.
F1704	Construction help	<ul style="list-style-type: none"> • Construction site labourer • Concrete cutter 	Prepares the ground, tools and materials needed to carry out construction, repair or maintenance of buildings, of roads or highways, of ports or waterways, in accordance with safety rules. Can carry out various simple jobs.
H2201	Wood assembly	<ul style="list-style-type: none"> • Wood assembler • Furniture assembler 	Assembles in series elements in wood and associated materials (seats, framework elements, panels, veneers, etc.) from machined or cut parts according to safety rules and production requirements (quality, costs, deadlines, etc.). Can carry out machining operations. Can coordinate a team.

Code	Occupation	Functions	Definition
H2206	Carpentry	<ul style="list-style-type: none"> • Carpenter 	Shapes and assembles, individually or in small series, wooden parts intended for fitting out (partitions, etc.) or for construction (windows, etc.), manually or using machines, in accordance with safety rules. Carries out the installation and final assembly of structures produced on site. May design new fittings or joinery, restore old structures. May specialise in the manufacture of barrels and casks. May coordinate a team and manage a structure.
H2602	Electrical wiring	<ul style="list-style-type: none"> • Industrial equipment electrician • Electrical equipment fitter 	Assembles electrical or electromechanical elements inside cabinets, equipment, materials or on various supports (frames, panels, etc.). Connects them according to safety rules and regulations. Can insert a sub-assembly into an electrical appliance and complete its assembly. Can install an assembly (cabinet, appliance, etc.) at the customer's premises. May coordinate a team.
H2902	Boilermaking - sheet metal work	<ul style="list-style-type: none"> • Boilermaker • Sheet metal worker • Industrial metalworker 	Manufactures welded structures by shaping and assembling sheet metal, tubes and profiles of various dimensions, in accordance with safety regulations. May coordinate a team.
I1302	Installation and maintenance of automatic systems	<ul style="list-style-type: none"> • Electromechanic in automatic systems • Automatic systems maintenance technician • ... 	Installs and adjusts automatic systems or automated industrial systems and carries out their maintenance (preventive, curative, etc.), in accordance with safety rules. May coordinate a team.

Code	Occupation	Functions	Definition
11306	Installation and maintenance of air conditioning and refrigeration	<ul style="list-style-type: none"> • Refrigeration and air conditioning installer • Refrigeration and air conditioning repairer • Refrigeration and air conditioning service technician 	Carries out the installation, commissioning and maintenance of refrigeration installations (commercial refrigeration, industrial refrigeration, etc.) or air conditioning and air conditioning equipment (direct expansion, secondary cooling circuits, centralised, etc.), in accordance with safety rules and regulations. Can work on professional kitchen installations. Can carry out repair work on heating installations.
11307	Installation and maintenance of building telecom systems	<ul style="list-style-type: none"> • Security, alarm and fire detection systems installer • Low voltage telecom, satellite dish and antenna installer • ... 	Carries out maintenance, repairs, assembly and installation of telecommunication or low voltage technology equipment (anti-intrusion alarm, fire alarm, access control, intercom, video surveillance, etc.), in accordance with safety rules and regulations. Works on equipment (telephone exchanges, etc.), configuration software or communication networks. May advise, train and assist users, on site, by remote maintenance or remote assistance.
11308	Heating system maintenance	<ul style="list-style-type: none"> • Heating and air conditioning repairman/woman 	Carries out the commissioning and repair of heating installations (building boilers, steam or hot water production in industrial environments, industrial furnaces, cogeneration equipment, etc.), in accordance with safety rules and regulations. May carry out equipment installation operations. Can monitor heating installations and carry out repair work on refrigeration or air conditioning installations.

Code	Occupation	Functions	Definition
I1309	Electrical maintenance	<ul style="list-style-type: none"> • Maintenance electrician • ... 	Carries out preventive or corrective maintenance on electrical equipment or installations, based on electrical diagrams or layout plans, in accordance with safety rules and regulations. May carry out installation or modification operations on electrical equipment. May coordinate a team.
K2204	Cleaning activities	<ul style="list-style-type: none"> • Surface cleaner • Cleaning team leader 	Carries out cleaning and maintenance operations on surfaces, premises and equipment on service and industrial sites in accordance with health and safety regulations. Can carry out surface renovation operations (plastic floors, carpets, marble, etc.). Can coordinate a team.
M1203	Accounting	<ul style="list-style-type: none"> • Accountant • Fund accountant • Accounting clerk 	Records and centralises the commercial, industrial or financial data of an organisation in order to draw up balances of accounts, profit and loss accounts, balance sheets, etc. in accordance with legal requirements. Checks the accuracy of accounting entries and reports on the economic situation of the organisation. May carry out activities relating to payroll and personnel management. May coordinate the activity of a team or manage an organisation.
M1502	Human resources development	<ul style="list-style-type: none"> • Recruitment manager • Career managers • Human resources development manager • Corporate training manager 	Implements the recruitment or training policy according to the strategic orientations of the organisation and the targeted development objectives. Participates in the development of the company's employment policy. May coordinate a team or manage a department.

Code	Occupation	Functions	Definition
M1601	Reception activities	<ul style="list-style-type: none"> • Receptionist • Information desk clerk 	Welcomes, informs and directs people at the reception area (station, company, etc.) or at the switchboard and issues passes, badges, tickets, invitations, etc. Can manage mail (collection, distribution, etc.), simple administrative tasks (filing, computer entry, typing of pre-established letters, etc.). May coordinate a team.
M1602	Administrative operations	<ul style="list-style-type: none"> • Administrative clerk 	Carries out routine administrative work (checking documents, typing and formatting pre-established letters, following up on administrative files, etc.) according to the organisation of the organisation or department. May be in charge of reprography and archiving activities. May be responsible for the reception of the organisation.
M1607	Secretarial services	<ul style="list-style-type: none"> • Administrative assistant • Secretary • Legal secretary 	Carries out the administrative processing of files (typing letters, formatting documents, etc.) and transmits information (e-mail, notes, faxes, etc.) on behalf of one or more departments or a manager, depending on the company's organisation. May take charge of the complete follow-up of files (maintenance contracts for equipment, the organisation, etc.). May coordinate a team.

Code	Occupation	Functions	Definition
M1707	Commercial strategy	<ul style="list-style-type: none"> • Commercial director • Sales manager 	Defines and implements the company's commercial strategy according to economic profitability objectives. Manages a department and coordinates a team. May organise and develop international sales activities or a type of e-commerce sale.
M18	IT systems	<p>Occupation group:</p> <ul style="list-style-type: none"> • M1801 - IT administration • M1802 – IT expertise • M1803 – IT management • M1804 - Telecoms network design and development • M1805 – IT development • M1806 – IT consulting • M1810 – IT architecture 	
N1103	Warehouse operations	<ul style="list-style-type: none"> • Warehouse worker • Warehouse assistant • Packing machine operator • Shipping logistics employee • Stock manager • Order picker 	Carries out reception, storage, stock-keeping, order preparation and dispatch operations for goods, products, raw materials, etc. in accordance with quality procedures, health and safety rules and deadlines. Can carry out handling operations using light handling equipment (pallet truck, hand truck, trolleys, shopping trolleys, etc.) or self-propelled machines (forklift truck, etc.). Can carry out specific operations (packaging, simple assembly, packing, supplying production lines, etc.) and carry out sales operations at the counter.

Code	Occupation	Functions	Definition
N4101	Long-haul freight transport	<ul style="list-style-type: none"> • Truck driver • Dump truck driver • ... 	<p>Drives a heavy road vehicle (maximum total weight authorised - greater than 3.5 tonnes) in order to transport goods (products, vehicles, etc.), over medium or long distances, in accordance with labour and road transport regulations and customer satisfaction requirements (deadlines, compliance, etc.). Carries out operations related to transport (securing loads, issuing documents, checking goods, etc.). May carry out loading/unloading operations and follow-up maintenance on the vehicle.</p>
N4105	Short-haul driving and delivery	<ul style="list-style-type: none"> • Delivery driver • Warehouse driver • Dump truck driver • Food delivery driver • ... 	<p>Delivers or collects goods, parcels, materials, waste, etc. from a predefined route and within a restricted geographical area. Carries out the delivery route using a light vehicle or a heavy goods vehicle in accordance with road transport regulations and customer satisfaction requirements (deadlines, quality, etc.). Carries out operations related to the delivery (route, loading/unloading of goods, issuing of delivery documents, etc.). May carry out specific operations (preparing orders, assembling furniture, collecting money, carrying meals, etc.).</p>

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Future Skills Initiative Advisor



ADEM launched the Future Skills Initiative in October 2020 as a framework that integrates the various projects related to the anticipation and development of future skills with the aim of employment preservation. This initiative is based on three pillars:

1. Conduct and contribute to national and sector-level studies on labour market developments and skills shortages,
2. Introduce new upskilling/reskilling programmes for jobseekers,
3. Raise awareness among employers when it comes to the importance of workforce planning (which includes proactively investing in the skills and employability of their employees) and develop a new programme to support employers in upskilling/reskilling their employees.

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