Hospitality
(Horesca)

Sectoral study
Trends in terms of occupations
and skills

In collaboration with:

HORESCA
LUXEMBOURG

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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 Hospitality sector, ADEM thanks the *Féderation Horesca* for their collaboration and fruitful exchanges.

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 <u>occupations</u> (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 <u>skills</u> 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 *Skillsdësch* 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 Schlesser
Director of ADEM

Perspective of the Horesca Federation

"The hospitality sector in Luxembourg is composed of almost 3,000 companies employing more than 20,000 people. From small bistros to large hotels and restaurants, this sector has traditionally experienced strong growth and provided opportunities to a multitude of employees.

On average, the hospitality sector recruits 10% of the unemployed at a national level. In 2019, 450 recruitments were for new jobs that had been created.

The Covid-19 crisis has had a strong impact on this dynamism, but at the moment, everything suggests that we should soon find again our cruising speed. The indicators are going in the right direction but many entrepreneurs are struggling to find the right workforce."

François Koepp
Secretary-General of the Horesca Federation

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1. Definition of the sector and key figures

Definition of the sector

For this sectoral study, the sector is defined according to the NACE code, the European Statistical Classification of Economic Activities. The Hospitality sector is defined by the NACE category I – Accommodation and Food Service Activities (restaurants, caterers, pubs).

I			**HÉBERGEMENT ET RESTAURATION**
55			**Hébergement**
55.1			**Hôtels et hébergement similaire**
	55.10	55.100	Hôtels et hébergement similaire
55.2			**Hébergement touristique et autre hébergement de courte durée**
	55.20	55.200	Hébergement touristique et autre hébergement de courte durée
55.3			**Terrains de camping et parcs pour caravanes ou véhicules de loisirs**
	55.30	55.300	Terrains de camping et parcs pour caravanes ou véhicules de loisirs
55.9			**Autres hébergements**
	55.90	55.900	Autres hébergements
56			**Restauration**
56.1			**Restaurants et services de restauration mobile**
	56.10		Restaurants et services de restauration mobile
		56.101	Restaurants
		56.102	Services de restauration mobile
56.2			**Traiteurs et autres services de restauration**
	56.21	56.210	Services des traiteurs
	56.29	56.290	Autres services de restauration
56.3			**Débits de boissons**
	56.30		Débits de boissons
		56.301	Débits de boissons sans spectacle
		56.302	Débits de boissons avec spectacle

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

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

Our analysis in this study is based on the job vacancies declared to ADEM by employers in the Hospitality sector (NACE category I).
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 280 businesses active in Accommodation in 2020[1], 77 have reported vacancies to ADEM. Of the 2,452 Food Activities companies active in 2020[1], 585 have declared vacancies.

Hospitaity sector (NACE: I) - Evolution in number of employers declaring vacancies to ADEM

197	194	220	223	188	135
17	16	23	19	23	26
458	564	580	575	584	424
73	90	98	99	100	77
2015	2016	2017	2018	2019	2020

■ 55 - Accommodation
■ 56.1 - Restaurants and mobile food service activities
■ 56.2 - Event catering and other food service activities
■ 56.3 - Beverage serving activities
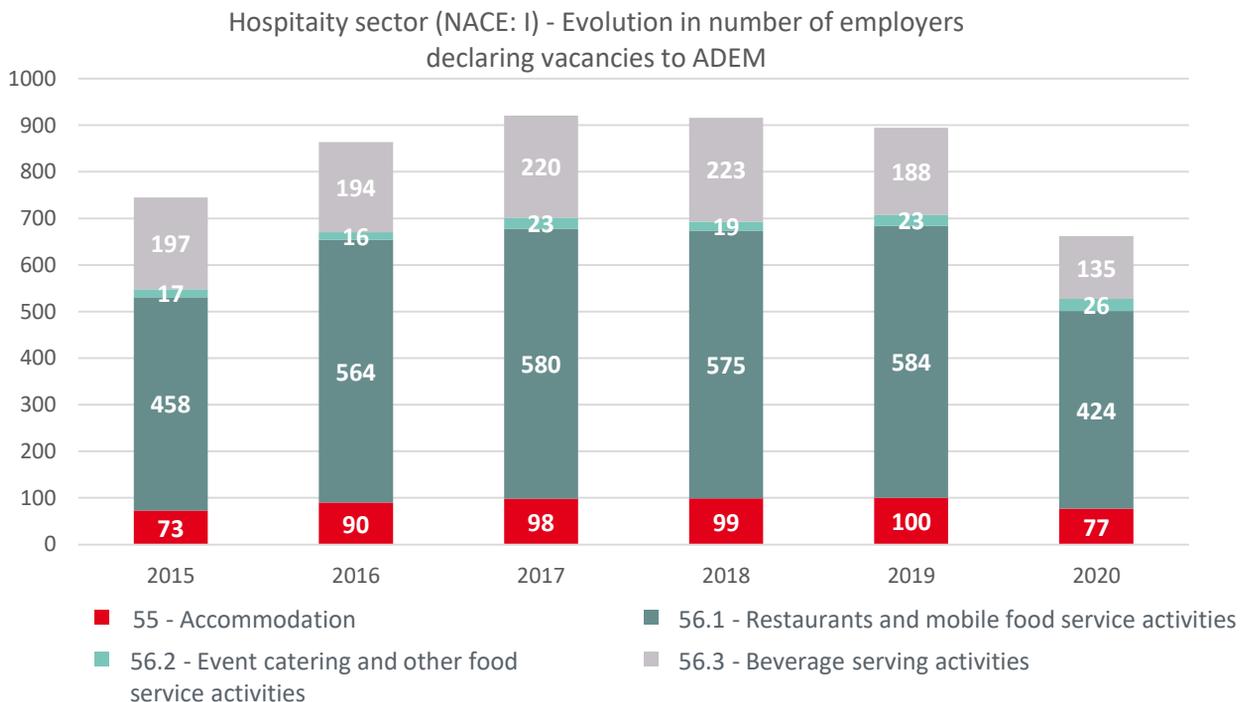
While the number of employers reporting vacancies grew between 2015 and 2017 and then remained fairly stable between 2017 and 2019, there was a significant decline in 2020 due to the Covid-19 pandemic, which limited the overall recruitment needs in the Hospitality sector.
The number of beverage serving employers had already declined in 2019, showing a trend towards consolidation in this area.

Source: job vacancies declared to ADEM, expertise of ADEM employer advisors and the Horesca Federation
[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 declared by these employers, excluding positions related to employment measures. Jobs declared via interim agencies are also excluded as they fall under a different sector.

The growth in declared jobs in the Hospitality sector was significant between 2015 and 2016, particularly due to the positions declared by caterers. This partly reflects the actual growth of recruitment in the sector itself[1], but is also explained by the close collaboration (communication campaigns, recruitment events...) between ADEM and the Hospitality sector — and in particular catering companies — in 2016. These actions strongly increased ADEM's coverage of declared positions in the sector. Between 2017 and 2019, the number of declared vacancies was more or less stable, followed by a significant drop in 2020 due to the pandemic. This had a particular impact on the positions declared by restaurants, but also (to a lesser degree) on the other activities.

Hospitality sector (NACE: I) - Evolution of job positions declared to ADEM
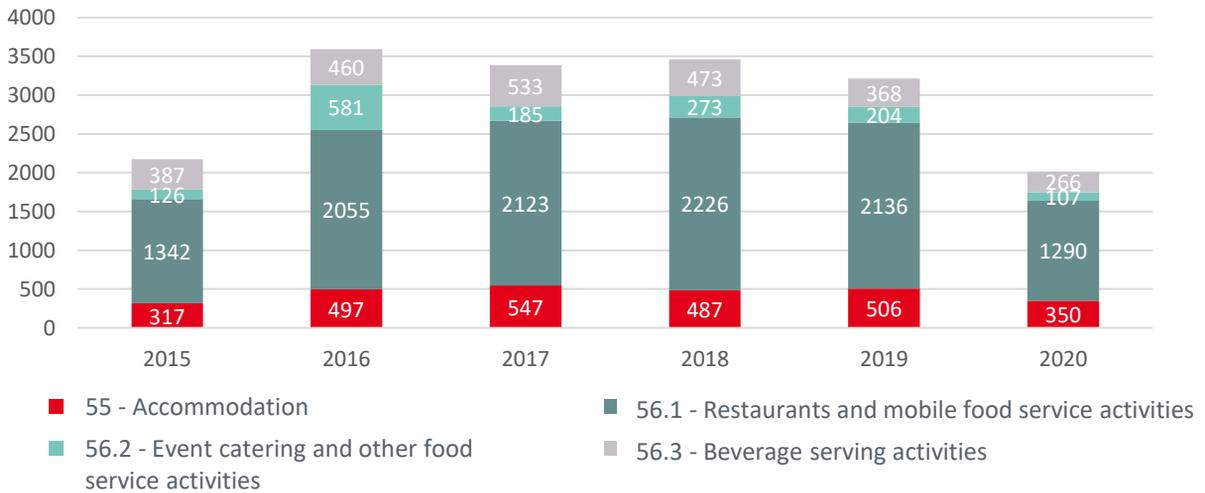
Job positions declared to ADEM (excluding employment measures)	2015	2016	2017	2018	2019	2020
I - ACCOMMODATION AND FOOD SERVICE ACTIVITIES	**2172**	**3592**	**3388**	**3459**	**3218**	**2013**
55 - Accommodation	317	497	547	487	506	350
56.1 - Restaurants and mobile food service activities	1338	2048	2118	2208	2116	1263
56.2 – Event catering and other food service activities	131	590	190	292	228	135
56.3 – Beverage serving activities	386	457	533	472	368	265

By comparison, actual recruitment in the sector (based on the entry declarations that employers make to the Centre Commun de la Sécurité Sociale (CCSS)) was 12,390 in 2018, 12,570 in 2019 and 7,720 in 2020.[1] This difference is explained by the fact that a recruitment is not necessarily preceded by a vacancy publication, and that not all vacancies are declared to ADEM (despite the legal obligation).

Source: job vacancies declared to ADEM, expertise of ADEM employer advisors and the Horesca Federation
[1] https://statistiques.public.lu/catalogue-publications/repertoire/2020/repertoire-entreprises-luxembourgeoises.pdf

Focus on 2020: context of the pandemic

As the Hospitality sector has been heavily impacted by the Covid-19 pandemic, it is interesting to take a closer look at the evolution of the number of job positions declared by these employers over the period from January 2020 to May 2021.

The following graph illustrates (especially for restaurants) the drop in vacancies in March and April of 2020, the partial recovery in summer and autumn 2020, the second drop in winter 2020/2021 and the gradual recovery from spring 2021 onwards.

Hospitality sector (NACE: I) – Evolution of job positions declared
to ADEM during the Covid-19 pandemic
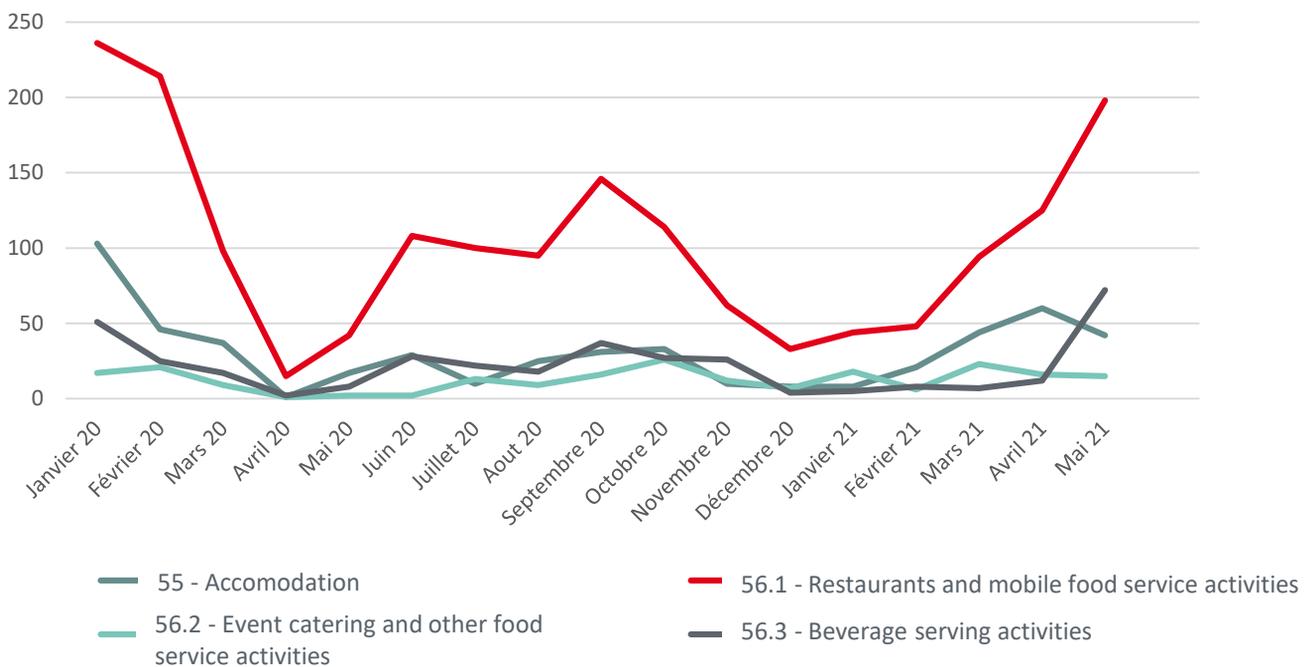
- 55 - Accomodation
- 56.1 - Restaurants and mobile food service activities
- 56.2 - Event catering and other food service activities
- 56.3 - Beverage serving activities

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

2. Sectoral trends

Experts' perspectives

ADEM's employer advisors for the Hospitality sector

"With the recent health crisis, the floods in July 2021 and the general uncertainty in the Hospitality sector, it seems difficult to give a perspective on future trends, especially when the professionals are mostly focused on organising the recovery of their activities.

Despite these challenges, many managers remain optimistic that there will be a significant recovery in work once the restrictions are lifted. New investors (especially in hotels and restaurants) have seized the opportunity to conclude good business deals in the Grand Duchy.

The use of QR codes for presenting menus, the expansion of the home delivery network, ordering via smartphones, social media presence, menu changes to attract new customers and renovations are just some of the innovative ideas that have emerged from these challenging times. These technological trends, as well as the ability to adapt and the courage to keep an open mind, will remain important for the Hospitality sector in the future.

Given the flow of people towards other sectors during the health crisis, labour shortages will be high for the foreseeable future."

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"Hotels, restaurants and cafés have been heavily impacted by the health crisis and a number of businesses have still not recovered. But it is reasonable to assume that the vast majority of cafés and restaurants will very soon return to their pre-crisis level. For the city hotels, we will have to be a little more patient.

The hospitality sector is a sector of the future that will continue to grow in the coming years. Companies will need labour and will continue to hire.

While in other sectors digitalisation, robotisation and artificial intelligence require new skills and even threaten existing employees, the traditional hospitality professions are resilient to change and can therefore be seen as a stable benchmark in a changing world.

At present, 80% of job vacancies are for traditional kitchen and service positions. The sector is looking for qualified and low qualified people. In some cases it is also possible to offer a short training course which is sufficient to find a permanent job.

The Horesca Federation gives companies the possibility to communicate their job vacancies on its website. The results show that many entrepreneurs have difficulties in recruiting the right people. This is a trend that can also be seen in our neighbouring countries and in the retail and craft sectors.

However, the hospitality sector offers many opportunities."

Dave Giannandrea, editor-in-chief, Fédération Horesca

Main trends (1/2)

Technological trends
- Online booking portals (booking.com, resto.lu, etc.) and review portals (tripadvisor.com, Supermiro, etc.)
- Strong presence on social media: aesthetic photos, interaction with customers, online menus...
- Hotels: data analysis (big data), personalisation of services, applications and chatbots
- Robotics in fast-food kitchens
- Rather traditional sector, with less technological impact than other sectors (even hotels in Luxembourg are evolving slower than abroad; automated/contactless check-in has not yet materialised)

Societal trends
- Food habits: declaration of allergens and calories, vegetarian and plant-based options, healthier and locally sourced food
- Coffee shop culture: more interest in coffee itself, use as a place of work
- Ghost kitchens: a restaurant whose sole source of income is home delivery
- DIY food boxes (Hellofresh, foodbox.lu, etc.)
- Home cooking service (private cook at home)
- Hotel and car rental vs Airbnb and Uber
- *Wakanz doheem / Staycation* (especially in the pandemic)

Environmental trends
- Reduction of waste (food, packaging, etc.), emissions, water consumption
- Circular economy, reuse (Ecobox, etc.)
- Local origin: "Hausgemaacht" label
- Sustainable travel, ecotourism, nature-based travel

Sources: research, expertise of ADEM employer advisors and the Horesca Federation

Main trends (2/2)

Economic trends
- Multiple impacts of the pandemic on restaurants: closures, fewer potential customers in business centres due to working from home, potential decrease in purchasing power of customers
- Impact of the pandemic on the hotel industry: closure of activities, drop in tourism (-60% in 01-05/2020 compared to 01-05/2019)
- The hotel business is often linked to real estate investment (and therefore depends on the evolution of real estate prices)
- Consolidation in the café/pub sector

Legal / regulatory trends
- Pandemic legislation, health measures, short-time work
- Hygiene standards (HACCP)
- Labour law (working hours, sunday work, etc.)

Employment trends
- High dependence on cross-border workers and foreign residents[1]
- Many workers see the Hospitality sector as a gateway to the Luxembourgish labour market
- High staff turnover, especially in catering: hard work, difficult hours, below average wages
- Caterers: seasonal work

Sources: research, expertise of ADEM employer advisors and the Horesca Federation
[1] https://adem.public.lu/fr/marche-emploi-luxembourg/faits-et-chiffres/statistiques/igss/Tableaux-de-bord.html

3. Occupation-level analysis

Occupation-level analysis: method

The aim of this chapter is to analyse the composition of the job vacancies in the Hospitality 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 Hospitality sector (cf. page 9). This excludes employment measures and vacancies reported by temporary work agencies ("agences d'intérim") and private recruitment agencies, 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 Horesca to confront our data with their knowledge of the reality of the sector. This collaboration 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 Hospitality sector (over the 2015 - 2020 period) across the different categories of occupations (according to level 2 of the ROME classification).

Kitchen professions (cooking + dishwashing) account for about half of the recruitment in the sector (48% based to the jobs declared to ADEM), followed by service professions in restaurants or cafés, which account for about a third. The remaining share is divided between cleaning professions (5%), hotel reception staff (2%), delivery driving professions (2%), hospitality management professions (2%), housekeeping professions (2%) and food trade professions (2%). The sector is strongly dominated by its traditional core occupations, with comparatively very little demand for support occupations (administrative, IT, commercial, etc.).

Hospitality sector (NACE: I) - distribution of declared job positions across occupation categories (2015-2020)

Category	Value
G16 – Kitchen professions (cooking, dishwashing…)	48.5%
G18 – Service professions (in restaurants, cafés, etc.)	32.7%
K22 – Cleaning professions	5.2%
G17 – Hotel reception professions	2.1%
N41 – Road transport professions	2.0%
G14 – Hospitality management professions	1.6%
G15 – Housekeeping professions	1.6%
D11 – Food trade professions	1.6%
Other	4.8%
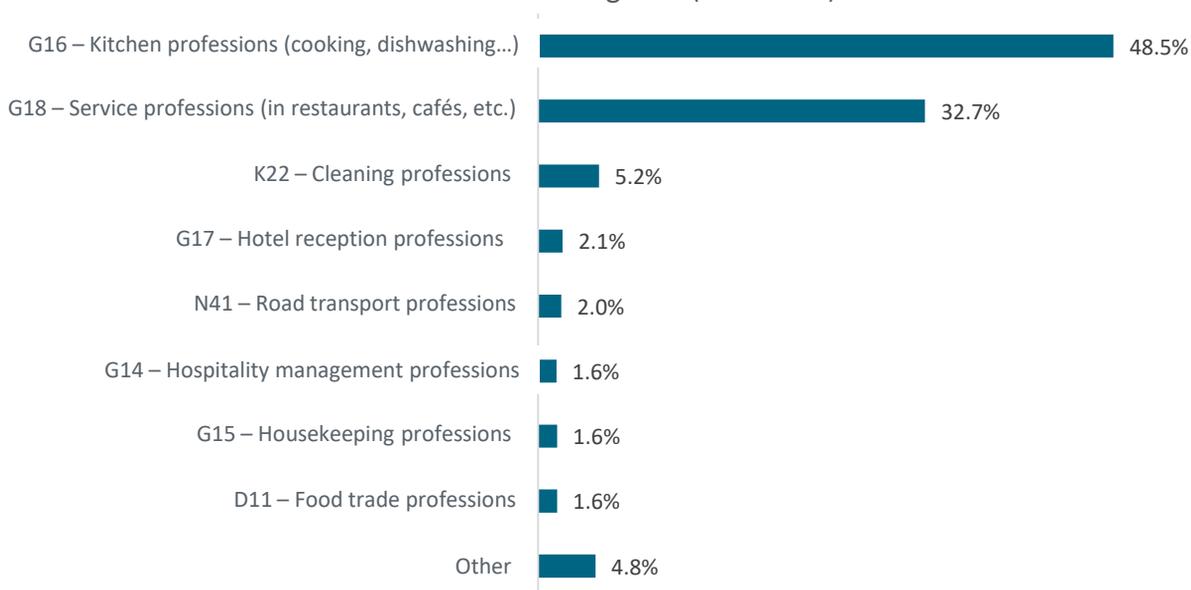
The evolution of this distribution over the years does not show any particular trend.

Categories of occupations	2015	2016	2017	2018	2019	2020
G16 – Kitchen professions (cooking, dishwashing…)	49.0%	48.4%	48.5%	49.0%	47.0%	50.2%
G18 – Service professions (in restaurants, cafés, etc.)	33.3%	30.0%	33.8%	33.0%	34.9%	30.5%
K22 – Cleaning professions	4.1%	10.5%	4.2%	3.8%	3.6%	3.3%
G17 – Hotel reception professions	2.0%	1.3%	2.5%	2.7%	2.1%	1.5%
N41 - Road transport professions	1.4%	1.6%	1.7%	2.1%	2.4%	2.6%
G14 – Hospitality management professions	1.1%	1.7%	1.4%	1.1%	2.1%	2.0%
G15 - Housekeeping professions	1.5%	1.6%	1.8%	1.4%	1.9%	1.2%
D11 - Food trade professions	1.7%	1.0%	1.1%	2.2%	1.7%	2.2%
Other	5.8%	3.9%	5.0%	4.6%	4.2%	6.5%

Most in-demand occupations ("Top 10")

The following illustration shows the "Top 10" 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 two most in-demand occupations were, by far, kitchen staff (cooks, *chefs de partie*, cooking assistants, etc.) with 28%, as well as restaurant service staff (waiters, head waiters, restaurant clerks) with 23%, followed by 3. dishwashers (9%), 4. bartenders (8%), 5. other (canteen and fast-food) staff (7%), 6. cleaning staff (5%), 7. pizzaiolos (3%), 8. head chefs (2%), 9. hotel reception staff (2%) and finally 10. delivery drivers (2%)

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

G1602 - Kitchen staff, 27.7%

G1605 - Dishwashing, 9.0%

G1801 - Café-bar service, 8.4%

G1603 - Other hospitality staff, 7.3%

K2204 - Cleaning activities, 5.1%

G1803 - Restaurant service, 22.7%

G1604 - Pizza or crepe preparation, 2.5%

G1601 - Kitchen management, 2.1%

G1703 - Hotel reception, 1.9%

N4105 - Short-haul driving and delivery, 1.8%
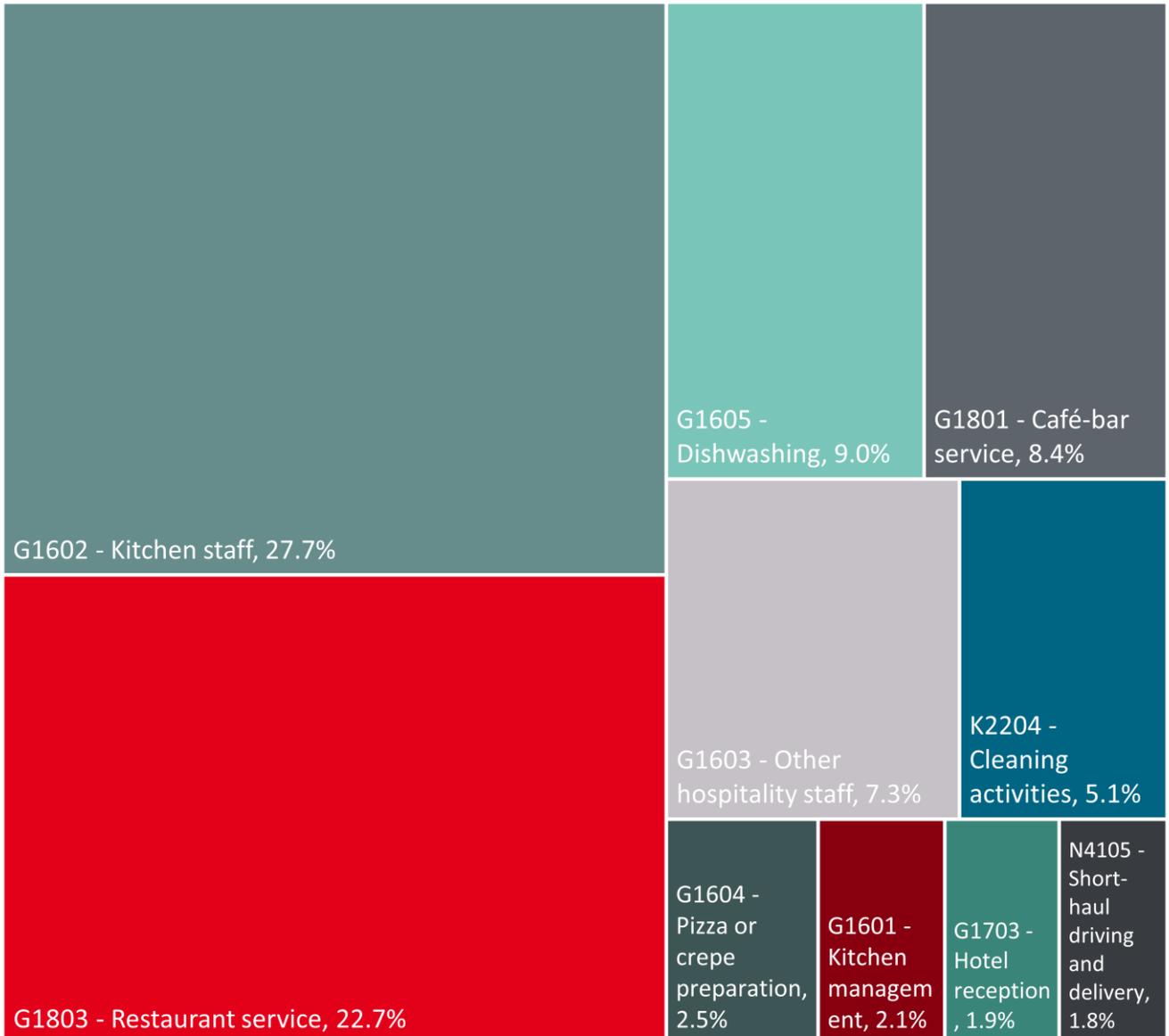
Source: job vacancies declared to ADEM

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

FACILITONS L'EMPLOI

Growing occupations (1/3)

Following the analysis of the distribution, we consider the trends (growth, decline, emergence, stability) of the different occupations recruited in the Hospitality sector, starting with growth.

The following illustration shows the 7 occupations for which a growth trend in the demand from employers has been identified, based on the vacancies reported to ADEM.


Growing occupations in the Hospitality sector

Restaurant service (G1803)

Kitchen staff (G1602)

Dishwashing (G1605)

Hotel reception (G1703)

Housekeeping staff (G1501)

Short-haul driving and delivery (N4105)

Food and beverage sales (D1106)
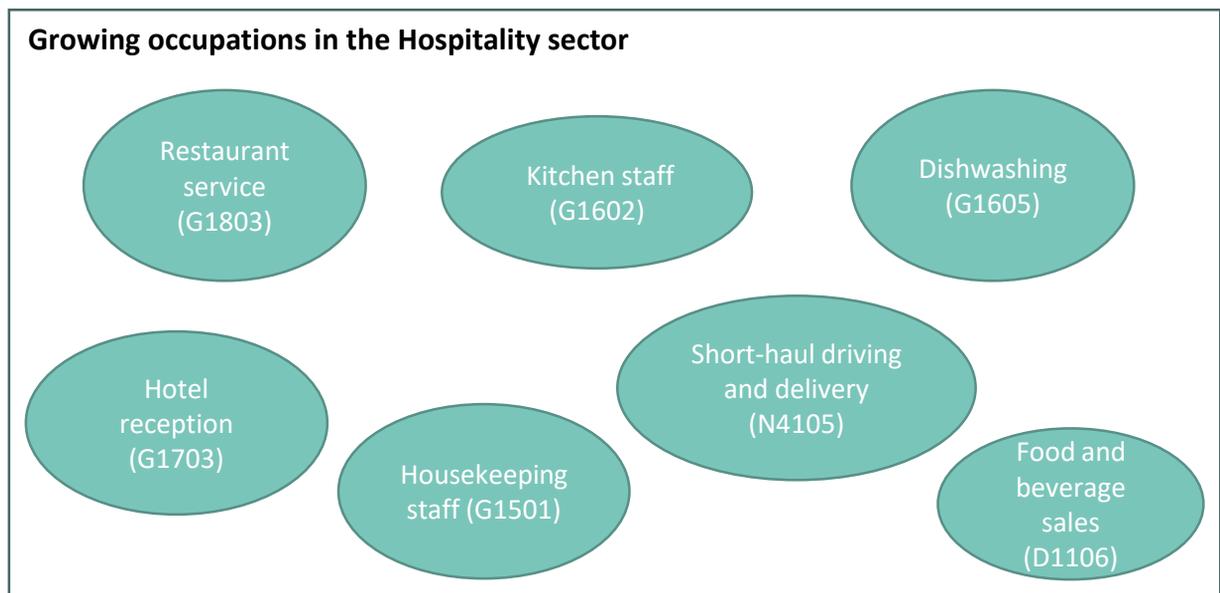
Three indicators have been considered for this list:

1. the evolution of the occupation's proportional share among all the jobs declared by the sector;
2. the evolution of declared job positions (illustrated by the Trendline);
3. the contribution to growth between 2015/2016[1] and 2019, i.e. the rate by which the occupation contributed to the growth of all jobs reported by the sector between 2015/2016[1] and 2019 (this indicator takes into account both the growth trend and the importance of this occupation to the sector).

The year 2020 was excluded from the growth analysis because of the particularities in the context of the pandemic (the trends specifically linked to the pandemic are treated separately in this chapter).

The data for the three indicators is detailed on the following pages for the 7 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.

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[1] As ADEM had a low coverage rate (of reported jobs in the sector) in 2015 and a relatively high one in 2016, an average of the number of reported posts in 2015 and 2016 was taken, to facilitate the comparison with the year 2019.

Growing occupations (2/3)

Restaurant service (G1803)
(waiters, *chefs de rang*, restaurant clerks…)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
21.69%	20.51%	22.49%	23.10%	25.64%	22.70%

Trendline [1]

2015	2016	2017	2018	2019
471	737	762	799	826

Contribution to growth [2]

+66.1%

Restaurant service occupations grew over the 2015 - 2019 period, both in terms of volumes of positions (trendline) and in terms of their proportional share among all the sector's reported positions. Given their weight in the sector (p.18), their contribution to the growth of all reported jobs in the sector was very large - at 66%. In 2020, their proportional share decreased compared to other occupations in the sector (due to the pandemic, which was marked by home delivery).

Kitchen staff (G1602)
(cooks, *chefs de partie*, cooking assistants)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
27.03%	26.89%	27.27%	27.09%	28.19%	31.20%

Trendline [1]

2015	2016	2017	2018	2019
587	967	924	937	907

Contribution to growth [2]

+38.7%

For kitchen staff, the number of reported jobs grew between 2015 and 2016 and then remained stable. The rate of proportional share in the sector remained fairly stable, but increased in 2020 compared to other occupations that were more affected by the pandemic. These occupations contributed 39% to the growth in job positions in the sector between 2015/16 and 2019.

Dishwashing (G1605)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
8.10%	7.43%	9.24%	10.09%	10.33%	8.05%

Trendline [1]

2015	2016	2017	2018	2019
176	267	313	349	333

Contribution to growth [2]

+33.2%

Jobs for dishwashers (and kitchen helpers) were growing over the 2015 - 2019 period, both in terms of volumes and proportional share. In 2020, the proportion has declined relative to other occupations in the sector (due to the pandemic, which was marked by home delivery).

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

[1] Illustration of the evolution of the volumes of job positions declared between 2015 and 2019 (excluding 2020)

[2] Contribution of the occupation to the growth of all job positions declared by the sector, between 2015/2016 (average) and 2019

Growing occupations (3/3)

Hotel reception (G1703)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
1.66%	1.17%	2.21%	2.57%	1.99%	1.44%

Trendline [1]

2015	2016	2017	2018	2019
36	42	75	89	64

Contribution to growth [2]
+7.4%

Despite trends of automation in hotel receptions abroad, this trend has not yet materialised in Luxembourg. The number of reception positions was growing between 2015 and 2018, then slightly decreased in 2019 (the contribution to growth remained positive). In 2020, this occupation has lost in proportion, probably due to the pandemic.

Housekeeping staff (G1501)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
0.78%	0.81%	1.00%	0.90%	1.37%	0.79%

Trendline [1]

2015	2016	2017	2018	2019
17	29	34	31	44

Contribution to growth [2]
+6.3%

The number of positions for housekeeping staff in hotels has grown in 2015 - 2019, both in terms of volumes and proportion. In 2020, their proportional share has decreased compared to other occupations in the sector (due to the pandemic).

Short-haul driving and delivery (N4105)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
1.20%	1.36%	1.51%	2.05%	2.21%	2.33%

Trendline [1]

2015	2016	2017	2018	2019
26	49	51	71	71

Contribution to growth [2]
+10%

For delivery drivers in the restaurant industry, the number of positions was growing steadily (both in terms of volumes and proportional share) between 2015 and 2019. Even during the pandemic, this occupation experienced an increase in proportion due to the high demand for home delivery. This occupation contributed 10% to the growth in job positions in the sector.

Food and beverage sales (D1106)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
0.51%	0.28%	0.38%	1.13%	0.75%	1.19%

Trendline [1]

2015	2016	2017	2018	2019
11	10	13	39	24

Contribution to growth [2]
+4.0%

Food sales occupations are mainly represented in the Commerce sector, but also in the Hospitality sector for establishments that offer both restaurant service and food product sales. The number of positions for these occupations has grown, especially from 2017 to 2018. In 2020, their proportion increased compared to other occupations in the sector.

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

[1] Illustration of the evolution of the volumes of job positions declared between 2015 and 2019 (excluding 2020).
[2] Contribution of the occupation to the growth of all job positions declared by the sector, between 2015/2016 (average) and 2019

Declining occupations

In the Hospitality sector, no occupation has been significantly declining in terms of volumes of reported job positions.

Other hospitality staff (corresponding to fast-food and canteen workers) have however significantly declined in proportion compared to other occupations in the sector. This could potentially be explained by automation trends in fast food chains.
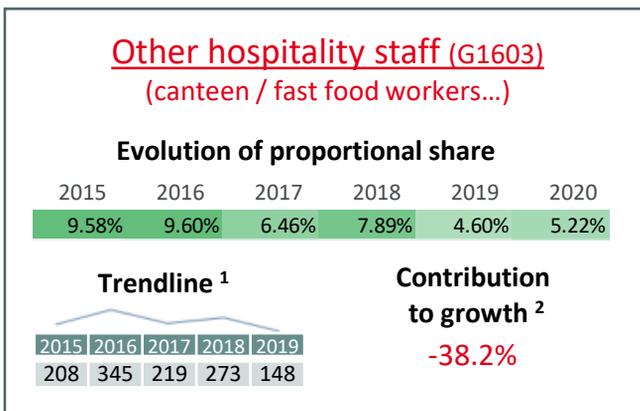
Other hospitality staff (G1603)
(canteen / fast food workers…)

Evolution of proportional share

2015	2016	2017	2018	2019	2020
9.58%	9.60%	6.46%	7.89%	4.60%	5.22%

Trendline [1]

2015	2016	2017	2018	2019
208	345	219	273	148

Contribution to growth [2]

-38.2%

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

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 slightly emerged in the Hospitality sector job vacancies: management control (financial analysis), organisational consulting (project management), commercial strategy, IT and supply chain organisation. 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 this sector (even in other occupations).

		Declared positions				
	2015	2016	2017	2018	2019	2020
Management control (M1204)		1		4	1	1
Organisational and management consulting (M1402)		2	2	3		3
Commercial strategy (M1707)		3	5	4	1	2
IT systems (M18)			4	3		2
Supply chain management (N1301)				1	3	1

To complete this quantitative analysis (which remains limited and does not necessarily capture all the trends), we add a qualitative dimension based on exchanges with experts in the sector (Horesca Federation and ADEM employer advisors). On the basis of these exchanges, another occupation is emerging: the barista (specialized in the preparation of coffee drinks), due to increased popularity of coffee shops in Luxembourg. This occupation is not yet included in the ROME reference system and this trend could therefore not be captured in the quantitative analysis.

As for the rest, the Hospitality sector remains a very traditional sector, with no big trends in new occupations or functions.

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

Occupations with no particular trend

For other (significant) occupations in the sector, no particular trend has been identified over the 2015-2020 period, i.e. declared job positions were fairly stable or fluctuated too much to identify a clear trend.
This is the case for pastry chefs, hotel and restaurant managers, pizzaiolos, bartenders, restaurant staff managers/*maîtres d'hôtel* and cleaning staff in the Hospitality sector.

|	
Pastry, confectionery, chocolate and ice cream making (D1104)	Cleaning activities (K2204)
Hotel and restaurant management (G1402)	Restaurant service management (G1802)
Pizza or crepe preparation (G1604)	Café-bar service (G1801)
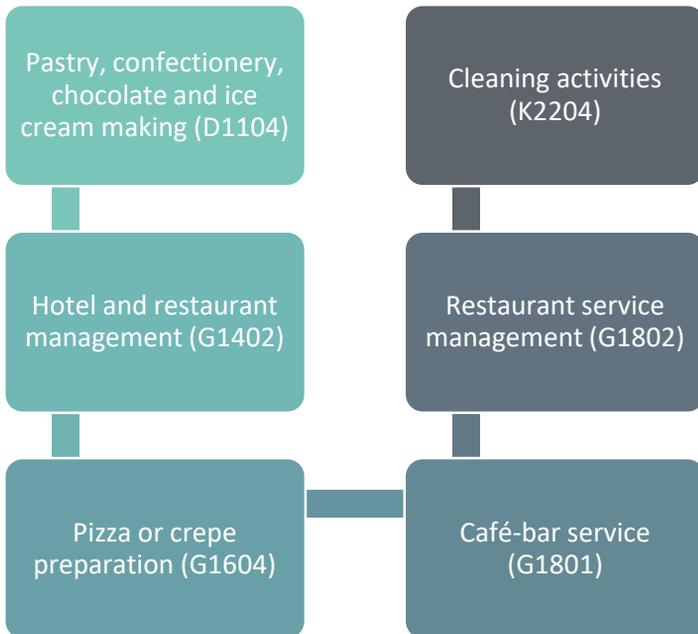
Source: job vacancies declared to ADEM

Impact of the pandemic on occupations

The Covid-19 pandemic has impacted the entire Hospitality sector, with some occupations being more affected than others. The illustration on the right shows the occupations whose proportional share has fallen the most between 2019 and 2020. These are housekeeping (G15) and reception staff (G17) in hotels, and dishwashing (G16) and service staff (G18) in restaurants and cafés.

	Declared positions 2019	2020	Comparison of proportional share in 2020 with 2019
Housekeeping staff (G1501)	44	16	-41.94%
Hotel reception (G1703)	64	29	-27.65%
Dishwashing (G1605)	333	162	-22.09%
Café-bar service (G1801)	249	128	-17.92%
Restaurant service (G1803)	826	457	-11.45%

The following graphs show the evolution of the number of job positions declared for these most affected categories over the course of the pandemic.
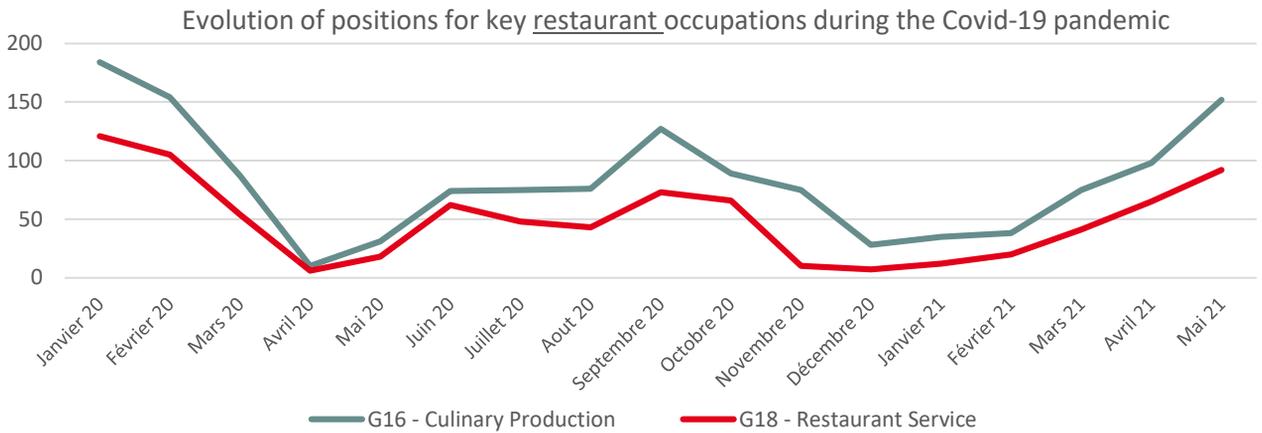
Evolution of positions for key <u>restaurant</u> occupations during the Covid-19 pandemic

— G16 - Culinary Production   — G18 - Restaurant Service

Evolution of positions for key <u>accommodation</u> occupations during the Covid-19 pandemic

— G15 - Housekeeping staff in hotels   — G17 - Reception staff in hotels

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

Occupations with the greatest shortage of candidates

After analysing the growth trends, we now focus on the shortage level for the various occupations recruited in the Hospitality 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 (unmatched vacancies);
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).

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.

From this analysis, we note that for cooking and restaurant service occupations, there are significantly fewer jobseekers than positions (these occupations come with complicated working hours that may not be sufficiently attractive). Despite this, the rate of unmatched vacancies remains relatively low and the average of matches per position remains relatively high compared to what we see in other sectors. This can be explained by the fact that some of the candidates proposed for the positions are not necessarily looking for a job in this occupation, but their profile corresponds to the criteria of the position.

The occupational functions for which the degree of shortage appears to be greatest (on the basis of the three indicators) are listed below. These are mainly cooking functions (*chef de partie*, cook, cooking assistant and second cook) and some service functions (*chef de rang*/head waiter and *commis de restaurant*/restaurant clerk). For regular waiters, the shortage seemed less acute, on the basis of our data.

	Average matches/position (18-20)	Rate of unmatched vacancies (18-20)	Candidates/ position (18-20)
Chef de partie/Head chef (G1602)	2.9	3%	0.4
Cooking assistant (G1602)	4.3	4%	0.4
Cook (G1602)	3.9	3%	0.6
Second de cuisine (G1602)	2.7	5%	0.4
Head waiter (G1803)	4.2	4%	0.7
Restaurant clerk (G1803)	3.9	3%	0.4

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

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" (also due to working hours, location preferences, etc.).

Functions 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 include housekeeping staff and receptionists in the hotel industry, dishwashers and kitchen helpers, bartenders and barmen/barmaids, surface cleaners and food salespeople.

These are mainly lower-skilled occupations.

	Average matches/position (18-20)	Rate of unmatched vacancies (18-20)	Candidates/ position (18-20)
Housekeeping maid/valet (G1501)	10.2	1%	5.7
Hotel receptionist (G1703)	7.1	0%	2.7
Kitchen help (G1605)	7.0	3%	4.7
Dishwashing (G1605)	8.8	3%	2.3
Barman / Barmaid (G1801)	6.0	2%	1.7
Bar waiter (G1801)	5.4	6%	2.1
Surface cleaner (K2204)	9.2	5%	3.4
General food salesperson (D1106)	9.3	2%	5.4

Conclusion of the occupation-level analysis (1/2)

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. This also provides a framework for identifying the target groups to whom training and guidance for upskilling and reskilling should be offered in priority. 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 University[1], 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/Functions	Positions 2018-2020	Trend	Shortage	Risk of automation according to F&O [1]
Kitchen staff (G1602) (cooks, *chefs de partie*, cooking assistants)	2.472	growth	strong shortage	Rather high according to F&O, but we judge that this still seems a long way off
Restaurant service (G1803) (especially *chefs de rang*/head waiters)	2.082	growth	shortage	Rather high according to F&O, but we judge that this still seems a long way off

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

Conclusion of the occupation-level analysis (2/2)

Priority target groups (for upskilling or reskilling)

The following occupations are, based on the data, experiencing a surplus of candidates, a risk of automation and/or a downward trend. Candidates working in these occupations or originating from them (in the case of jobseekers) can be targeted as priority groups in training and guidance for upskilling or reskilling trajectories. The last column of the table provides some examples of potential upskilling/reskilling trajectories. These remain purely indicative and should be evaluated and developed further with the social partners.

Occupations/Functions	Trend	Shortage	Risk of automation according to F&O	Upskilling/reskilling [1]trajectories
Housekeeping staff (G1501)	growth	surplus	moderate	Housekeeping management (G1503), Domestic services (K1304)
Hotel reception (G1703)	growth	surplus	rather high	Hotel and restaurant management assistance (G1401), Hotel and restaurant management (G1402)
Dishwashing (G1605)	growth	surplus	moderate	Kitchen staff (G1602)
Café-bar service (waiters, bartenders) (G1801)	growth	surplus	moderate / rather high	Restaurant service (G1803)
Cleaning activities (K2204)	/	surplus	moderate	Domestic services (K1304)
Food and beverage sales (D1106)	growth	surplus	rather high	Charcuterie – Catering (D1103), Food sales management (D1502)
Other hospitality staff (fast food and canteens) (G1603)	decline	shortage	rather high	Kitchen staff (G1602), Restaurant service (G1803)

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

4. Skills-level analysis

Skills-based 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 - 2021[1]) 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).

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[1] The year 2021 includes data until the end of April

Skills-based analysis: Hospitality

Among the 16,172 job vacancies declared to ADEM (2015-April 2021) by employers in the Hospitality sector and including at least a minor job vacancy description, only 9,311 included details (identifiable by text mining) of the skills required. The graph below shows the distribution of these offers over the years considered.
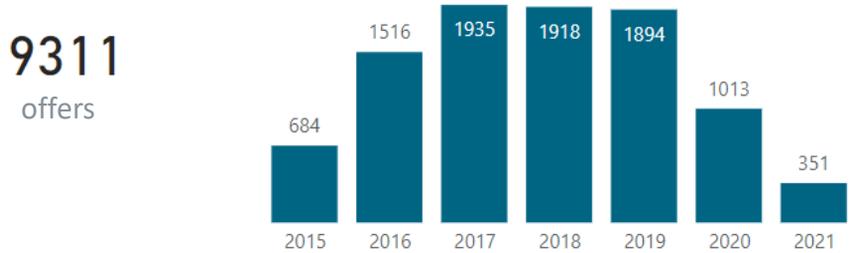
9311
offers

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

Among these 9,311 job vacancies that showed results, we can specify to what degree a specific skill or 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 34% 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 27%.
- **Skills**: the overall rate of vacancies in which at least one mention of a specific *skill* has been identified is around 73%.
- There remain 15% 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 demand for attitudes and values has particularly gained in importance in recent years.

| ESCO 0	2015	2016	2017	2018	2019	2020	2021	Total
⊞	13%	14%	16%	16%	14%	15%	15%	**15%**
⊞ attitudes and values	28%	31%	34%	32%	34%	42%	50%	**34%**
⊞ knowledge	33%	28%	26%	26%	26%	27%	30%	**27%**
⊞ skills	72%	74%	70%	70%	77%	73%	71%	**73%**

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 Hospitality sector and for some key occupations within the sector (as well as the trends in their evolution).

Most in-demand attitudes & values in the Hospitality sector

The graph below presents the attitudes and values that are the most in demand in job vacancies declared by employers in the Hospitality 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 <u>website.</u>

The graph shows, in blue, the percentage of job offers in the Hospitality 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 <u>adapting to change</u> (which is the case in the majority of sectors), with 14% of job vacancies mentioning it. We also observe that job vacancies in the Hospitality sector require less attitudes/values than other sectors on average. The only attitude/value that was requested more in Hospitality was to <u>provide high quality client service</u>.

Top attitudes & values (2015 - 2021)
Hospitality sector

Attitude/value	of offers (all sectors)	of offers (Hospitality)
adapt to change	51%	14%
assume responsibility	31%	8%
work independently	18%	6%
provide high quality client service	4%	6%
apply quality standards	8%	6%
demonstrate enthusiasm	26%	6%
cope with pressure	25%	4%

(ESCO-level 3)

▢ of offers (all sectors)   ▪ of offers (Hospitality)
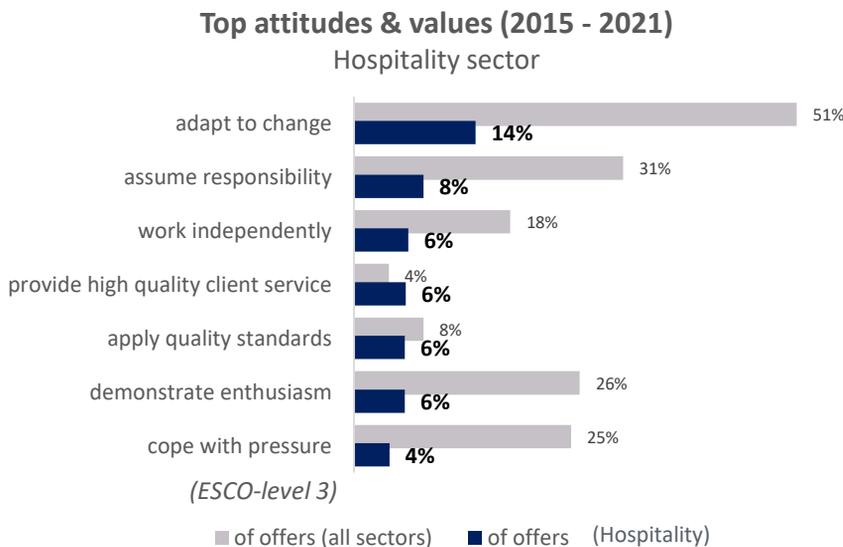
As for the evolution over the years of the demand for the different attitudes and values, we observe a general growth trend in expectations. In 2020 and 2021 in particular, the demand for certain attitudes and values (<u>adapt to change</u>, <u>assume responsibility</u>, <u>client service</u>, <u>demonstrate enthusiasm</u>) has increased strongly.

		2015	2016	2017	2018	2019	2020	2021
<u>Evolution of top attitudes & values</u>	adapt to change	10%	14%	13%	12%	13%	20%	26%
	assume responsibility	5%	6%	8%	9%	9%	10%	13%
	work independently	3%	6%	6%	6%	8%	7%	8%
	provide high quality client service	6%	5%	5%	6%	7%	6%	11%
	apply quality standards	6%	6%	6%	5%	6%	6%	7%
	demonstrate enthusiasm	3%	4%	4%	3%	7%	8%	9%
	cope with pressure	4%	3%	4%	5%	5%	4%	5%

Source: text mining applied to job vacancies declared to ADEM

Most in-demand skills & knowledge in the Hospitality sector

Skills & knowledge were captured at the most granular (skill) level of the ESCO. In the Hospitality sector, the skills to <u>present menus</u>, <u>assist customers</u> and <u>take food and beverage orders</u> were the most frequently requested (in about one third of the vacancies).

Top skills & knowledge (2015 - 2021)
Hospitality sector

Skill	%
present menus	37%
assist customers	35%
take food and beverage orders from customers	26%
use food preparation techniques	16%
think creatively about food and beverages	15%
use cooking techniques	15%
quality standards	9%
use a computer	8%
coffee characteristics	7%
adjust priorities	7%
prioritise tasks	6%
manage time	6%
prepare hot drinks	5%
handle bar equipment	5%
customer service	5%

(Skill level)

The 2015-2021 evolution shows a stable demand for these skills, and even a slight decrease for some. This could mean that these "hard" skills are less explicitly mentioned in job advertisements, unlike the "soft" skills on the previous page.

Evolution of top skills & knowledge

	2015	2016	2017	2018	2019	2020	2021
present menus	33%	36%	35%	37%	42%	38%	30%
assist customers	32%	33%	35%	36%	39%	33%	32%
take food and beverage orders from customers	24%	26%	28%	26%	29%	24%	21%
use food preparation techniques	18%	18%	14%	14%	16%	18%	17%
think creatively about food and beverages	16%	17%	14%	14%	16%	18%	17%
use cooking techniques	16%	16%	13%	13%	15%	17%	16%
quality standards	15%	11%	8%	7%	8%	9%	9%
use a computer	4%	7%	8%	8%	9%	8%	8%
coffee characteristics	9%	8%	7%	7%	7%	6%	4%
adjust priorities	12%	8%	6%	5%	6%	6%	8%
prioritise tasks	12%	7%	5%	4%	6%	6%	7%
manage time	11%	8%	5%	5%	5%	6%	6%
prepare hot drinks	6%	6%	5%	5%	5%	4%	3%
handle bar equipment	5%	6%	5%	4%	5%	4%	3%
customer service	4%	3%	4%	6%	5%	4%	7%

In addition to the above-mentioned top skills, others can be identified as emerging skills, with a growth trend but still not very significant in volumes – these include personal and digital skills.

Emerging skills

	2015	2016	2017	2018	2019	2020	2021
work as a team	3%	4%	4%	4%	4%	6%	10%
communication	1%	1%	3%	3%	2%	5%	6%
develop creative ideas	0%	0%	1%	1%	1%	1%	3%
using digital tools for collaboration and productivity	1%	1%	1%	2%	2%	2%	3%

Source: text mining applied to job vacancies declared to ADEM

Languages and experience required in the Hospitality 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 9,311 vacancies taken into account (2015 - April 2021).

Experience requirements (2015-2021)
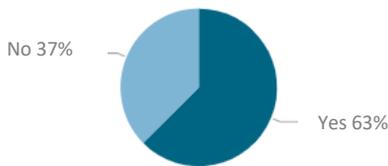
Duration of required experience (2015-2021)
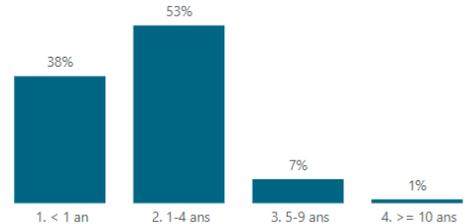
In the Hospitality sector, 63% of the job vacancies explicitly required experience. Half of them (53%) ask for 1 to 4 years of experience and 38% require experience < 1 year. Only 7% of these vacancies require an experience of 5 to 9 years and only 1% require an experience ≥ 10 years. These requirements increased slightly over the 2015 - 2021 period.

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 requested language in the Hospitality sector and appears in 92% of the job vacancies. In the majority of cases (61%), level B ("independent user") is sufficient. For 3% of them it is considered an asset and 6% of the vacancies do not require any knowledge of it.

English is required in 26% of the vacancies and German only in 15%.

While 17% require Luxembourgish (but only 2% for a level C ("proficient user"), 66% of the vacancies do not require the Luxembourgish language at all.

Looking at the evolution of language requirements over time (not illustrated here), we note that the requirements have increased for all languages, but especially for English (considering only vacancies over the last two years, 32% of vacancies specified English as compulsory, compared to 26% over the whole 2015-2021 period).

Language requirements (2015-2021)

Luxembourgish	A	B	C	Total
0. None	66%			66%
1. Asset		10%	7%	0%	18%
2. Compulsory		6%	9%	2%	17%
Total	**66%**	**16%**	**16%**	**2%**	**100%**

French	A	B	C	Total
0. None	6%			6%
1. Asset		2%	1%	0%	3%
2. Compulsory		17%	61%	14%	92%
Total	**6%**	**18%**	**61%**	**14%**	**100%**

English	A	B	C	Total
0. None	64%			64%
1. Asset		5%	4%	0%	10%
2. Compulsory		7%	15%	4%	26%
Total	**64%**	**13%**	**19%**	**4%**	**100%**

German	A	B	C	Total
0. None	74%			74%
1. Asset		5%	5%	0%	10%
2. Compulsory		5%	9%	2%	15%
Total	**74%**	**10%**	**14%**	**2%**	**100%**

Skills profiles of several key occupations (1/3)

Kitchen staff (G1602)

Kitchen staff are the most significant occupation in the Hospitality sector, and one to be prioritised (see page 28) because it is both growing and in short supply.

Top skills

The following graphs show the skills (attitudes and values, skills and knowledge) most in demand for kitchen staff, compared to the average of the Hospitality sector. Quality-related attitudes/values such as <u>applying quality standards</u> and <u>assuring quality of processes and products</u>, but also <u>coping with pressure</u> are more in demand than in the sector in general.

In terms of skills and knowledge, we note mainly job-specific skills (<u>use food preparation techniques</u>, <u>use cooking techniques</u>, etc.), but also personal skills (<u>adjust priorities</u> and <u>manage time</u>).

Top attitudes & values (2015 - 2021)
Kitchen staff (G1602)

adapt to change	14% **16%**
apply quality standards	6% **10%**
work independently	6% **8%**
cope with pressure	4% **6%**
assume responsibility	8% **6%**
demonstrate enthusiasm	5% **5%**
assure quality of processes and products	1% **3%**
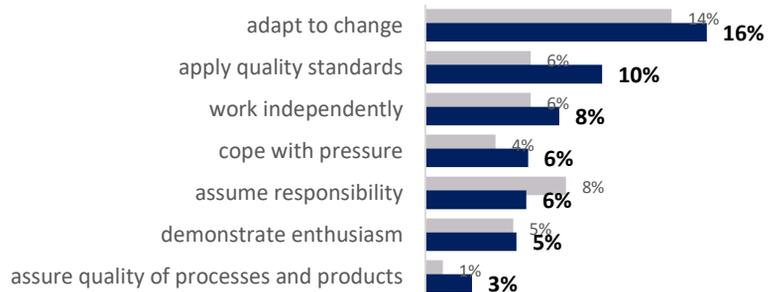
Top skills & knowledge (2015 - 2021)
Kitchen staff (G1602)

use food preparation techniques	16% **35%**
think creatively about food and beverages	15% **33%**
use cooking techniques	15% **31%**
present menus	37% **28%**
quality standards	9% **26%**
adjust priorities	7% **21%**
prioritise tasks	6% **20%**
manage time	6% **18%**
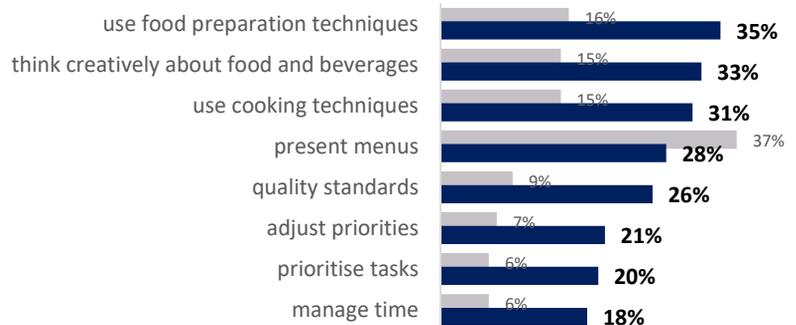
■ of offers (Hospitality)　■ of offers (kitchen staff)

Growing skills

For the skills below (quality, creativity, adapting to change, collaboration...), we note a growth trend over the analysed period, which was particularly strong in 2021 in some cases.

		2015	2016	2017	2018	2019	2020	2021
Job-specific skills	use cooking techniques	32%	31%	28%	29%	34%	34%	39%
	think creatively about food and beverages	32%	33%	30%	30%	35%	35%	39%
	assure quality of processes and products	1%	2%	3%	3%	4%	2%	5%
Personal skills	adapt to change	6%	14%	18%	13%	15%	20%	36%
	assume responsibility	2%	4%	7%	7%	5%	7%	8%
	demonstrate enthusiasm	2%	4%	4%	3%	7%	9%	5%
Interpersonal skills	working in teams	4%	11%	10%	11%	15%	13%	29%
	communication	1%	0%	1%	1%	1%	1%	4%
	teamwork principles		1%	1%	1%	1%	0%	5%

Source: text mining applied to job vacancies declared to ADEM

Skills profiles of several key occupations (2/3)

Restaurant service (G1803)

Restaurant service is another key occupation in the Hospitality sector, one that is both growing and in short supply (especially qualified head waiters).

Top skills

For restaurant service staff, the attitudes/values of providing high quality client service and persistence are more in demand than in the sector average. The other attitudes/values seem to be required less.

In terms of skills and knowledge, job-specific skills such as presenting menus, assisting customers and taking orders are in high demand. The use of computers is also listed in 7th place.

Top attitudes & values (2015 - 2021)
Restaurant service (G1803)

	of offers (Hospitality)	of offers (food service)
provide high quality client service	6%	12%
adapt to change	14%	10%
assume responsibility	8%	5%
work independently	6%	4%
cope with pressure	4%	4%
demonstrate enthusiasm	5%	4%
apply quality standards	6%	3%
persist	0%	1%
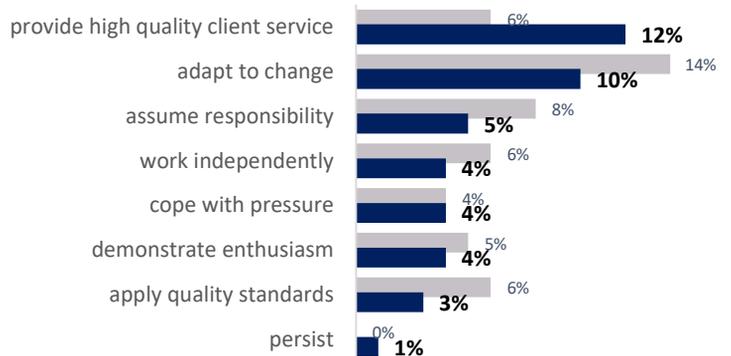
Top skills & knowledge (2015 - 2021)
Restaurant service (G1803)

	of offers (Hospitality)	of offers (food service)
present menus	37%	90%
assist customers	35%	85%
take food and beverage orders from customers	26%	84%
think creatively about food and beverages	16%	13%
use cooking techniques	15%	13%
use food preparation techniques	15%	13%
use a computer	8%	9%

■ of offers (Hospitality) ■ of offers (food service)

Growing skills

For the skills below (customer service, personal skills, use of computers, etc.), a growth or emergence trend has been identified.

		2015	2016	2017	2018	2019	2020	2021
Job-specific skills	provide high quality client service	17%	10%	11%	9%	12%	16%	29%
	apply quality standards	1%	3%	2%	3%	3%	5%	4%
Personal skills	adapt to change	11%	11%	9%	7%	9%	18%	22%
	assume responsibility	4%	4%	5%	4%	6%	8%	7%
	demonstrate enthusiasm	2%	4%	3%	2%	5%	7%	5%
	develop creative ideas				0%		1%	6%
	brainstorm ideas			0%		0%	2%	4%
Interpersonal skills	communication		1%	2%	3%	1%	6%	6%
	working in teams	3%	3%	2%	2%	3%	4%	7%
	supervising a team or group			0%		0%	2%	2%
Digital skills	use a computer	7%	7%	9%	10%	10%	9%	11%

Source: text mining applied to job vacancies declared to ADEM

Skills profiles of several key occupations (3/3)

Hotel reception (G1703)

To cover the Accommodation sector as well, we have selected the hotel reception staff for further analysis.

Top skills

Here, the attitudes/values of providing high quality client service and assuming responsibility seem particularly important, but also to work independently and demonstrate enthusiasm. These are much more in demand than on average for the Hospitality sector (i.e. more than for the restaurant professions).

In terms of skills/knowledge, assisting customers and customer service are at the top of the list, but digital skills (computer use, office software, internet research, etc.) and interpersonal skills (teamwork, communication, etc.) are also in high demand.

Top attitudes & values (2015 - 2021)
Hotel reception (G1703)

	of offers (Hospitality)	of offers (hotel reception)
provide high quality client service	6%	38%
assume responsibility	8%	20%
adapt to change	14%	14%
work independently	6%	11%
demonstrate enthusiasm	5%	11%
cope with pressure	4%	5%

Top skills & knowledge (2015 - 2021)
Hotel reception (G1703)

	of offers (Hospitality)	of offers (hotel reception)
assist customers	35%	65%
customer service	5%	58%
use a computer	8%	23%
office software	2%	17%
work as a team	5%	16%
carry out internet research	0%	11%
communication	3%	11%
use office systems	1%	10%
use microsoft office	1%	10%
provide information	0%	7%

■ of offers (Hospitality)   ■ of offers (hotel reception)

Growing skills

For the skills below (problem-solving, taking responsibility, working with databases...), a growth or emergence trend has been identified.

	2015	2016	2017	2018	2019	2020	2021
Job-specific skills							
administer appointments				2%	6%	11%	13%
complying with legal and organisational guidelines			4%	5%	6%	5%	13%
Personal skills							
developing solutions		4%		3%	2%	11%	6%
solving problems		4%		2%		11%	6%
assume responsibility		14%	16%	22%	18%	42%	31%
Interpersonal skills							
communication		4%	11%	12%	8%	26%	19%
Digital skills							
use office systems	6%	11%	13%	7%	10%	16%	13%
database			5%	2%	6%	11%	6%

Source: text mining applied to job vacancies declared to ADEM

Conclusion of the skills-level analysis

The text mining approach has enabled us to transform unstructured text into structured data that can be made 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 numerous skills expectations are increasing in the Hospitality sector.

Personal/interpersonal skills stand out as particularly in-demand, next to "hard" skills specific to the respective occupation. 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 ("*appellation*" 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
D1103	Charcuterie - Catering	• *Charcutier* • Butcher-*charcutier*	Prepares and produces charcuterie and catering products (cold starters, hot starters, ready meals) according to the rules of hygiene and food safety. Can sell charcuterie and catering products. Can manage a food retail business (charcuterie, butchery, etc.).
D1104	Pastry, confectionery, chocolate and ice cream making	• Pastry chef • Pastry chef assistant • Biscuit maker • Chocolatier • Confectioner • Ice-cream maker	Prepares and makes pastry, confectionery, chocolate and ice-cream products according to food hygiene and safety rules. May sell pastry, confectionery, chocolate and ice cream products. Can manage a food retail business (pastry, confectionery, chocolate, ice cream, etc.).
D1106	Food and beverage sales	Salesperson for: • General food products • Meat products • Bakery-Pastry • Fish products • Organic products • Wines and spirits • Cheese	Carries out the sale of food products (fresh and non-fresh) in accordance with retail regulations, food hygiene and safety rules and the commercial objectives of the company. Can prepare (cooking, cutting, making trays, etc.) fresh products.

Code	Occupation	Functions	Definition
D1502	Food sales management	Department manager for • Food produce • Fresh produce • Drinks • …	Supervises the flow of sales, sets up commercial operations and coordinates the activities of a team of salespeople and self-service employees in one or more departments of fresh food products (fruit and vegetables, meat, fish, dairy products, etc.) or non-fresh produce (groceries, canned goods, liquids, etc.) in accordance with trade regulations, food hygiene and safety rules and the store's commercial strategy. Can advise customers on the products on the shelves. Can prepare (cut, prepare dishes, etc.) fresh produce.
G1401	Hotel and restaurant management assistance	• Assistant to the management of a hotel establishment • Assistant to the manager of a restaurant	Supervises and coordinates the activities of the ground teams (lobby staff, floor staff, waiters, cooks, etc.) of a hotel or restaurant establishment. Ensures that hygiene and safety standards are applied and carries out the commercial and financial monitoring of the structure, in accordance with the objectives defined by the management. May participate in the reception and service of customers. May establish the rates for the establishment's services.
G1402	Hotel and restaurant management	• Hotel manager • Restaurant manager • Fast food outlet manager	Manages, organises and coordinates all the services of a hotel or catering establishment. Defines the operating rules and commercial policy of the establishment according to profitability objectives, the establishment's quality charter and health and safety standards. May participate in the reception and service of customers.

Code	Occupation	Functions	Definition
G1501	Housekeeping staff	• Housekeeping maid/valet	Carries out cleaning, tidying and maintenance work in rooms, bathrooms and common areas of hotel or tourist accommodation establishments (hotels, cruise ships, etc.), in accordance with the establishment's quality charter and hygiene and safety standards. May take part in serving breakfast. May participate in the cleaning and maintenance of linen.
G1503	Housekeeping management	• Floor manager	Organises and coordinates the activities of the floor staff (chambermaids, valets, etc.) of a hotel or tourist accommodation establishment (hotels, cruise ships, etc.). Checks the conformity of the work carried out according to the establishment's quality charter and health and safety standards. May participate in specific work or services (cleaning, tidying up rooms, breakfasts, etc.).
G1601	Kitchen management	• Head chef • Catering head chef • Kitchen management advisor	Defines, implements and supervises culinary production (menu development, preparation and preparation of dishes, product orders, etc.) in a food establishment, in accordance with food hygiene and safety standards, the establishment's quality charter and budgetary requirements. Controls and coordinates the activities of staff. May create culinary recipes.
G1602	Kitchen staff	• Cook • Cooking assistant • *Chef de partie*/Station chef • *Second de cuisine* • …	Prepares and cooks dishes according to a culinary production plan, the rules of hygiene and food safety and the establishment's quality charter. Can cook a particular type of dish (desserts, fish, meat, etc.). Can prepare dishes and menus.

Code	Occupation	Functions	Definition
G1603	Other hospitality staff	• Fast food employee • Canteen employee • Catering employee • Snack bar employee • Sandwich maker • Ice cream seller • …	Prepares and assembles products (bread, pastries), simple hot or cold dishes (sandwiches, salads, ice creams, etc.) and sells them according to the rules of hygiene and food safety and the establishment's quality charter. May serve dishes at the table.
G1604	Pizza and crepe preparation	• Pizzaiolo • Crepe maker	Prepares, assembles and cooks specific culinary products (pizzas, crepes, etc.) in accordance with food hygiene and safety standards and the establishment's quality charter. May sell and deliver prepared products.
G1605	Dishwashing	• Dishwasher • Kitchen help	Carries out the maintenance and cleaning of dishes, kitchen equipment (pots and pans, cold rooms, floors, etc.) in a commercial or community restaurant according to the rules of hygiene and food safety and the establishment's quality charter.
G1703	Hotel reception	• Hotel receptionist • Hotel reservation agent • Night receptionist • Reception manager • …	Welcomes and informs customers about the conditions of stay, formalities, prices and reception possibilities of a hotel or tourist accommodation establishment according to the quality charter and commercial policy of the establishment. Carries out administrative tasks (reservations, planning, mail processing, etc.) and accounting tasks (invoicing, collection, etc.) for customer files. May supervise and coordinate the activities of the reception staff. May promote the hotel or tourist accommodation establishment (information letters, pricing strategy, etc.).

Code	Occupation	Functions	Definition
G1801	Café-bar service	• Barman/maid • Café waiter / waitress • Manager of a café, bar or brewery • …	Serves hot or cold drinks at the counter, in the room or on the terrace, in accordance with the legislation on the consumption of alcohol. Maintains the glassware, bar equipment and premises in accordance with the rules of hygiene and the regulations for public access buildings. May sell additional products (tobacco, lottery tickets, etc.). May operate a bar, café or brasserie.
G1802	Restaurant service management	• Restaurant staff manager/*Maître d'hôtel* • Room manager • Banquet manager	Welcomes, seats and advises customers in a restaurant. Supervises the service in the dining room (organisation, coordination of the team, etc.) in accordance with the establishment's quality charter and food hygiene and safety standards. May carry out the wine service and the finishing of dishes.
G1803	Restaurant service	• Restaurant waiter/waitress • Head waiter • Restaurant clerk • *Chef de rang*	Carries out the operations of serving dishes (setting up tables, welcoming customers, taking orders, etc.) in a restaurant according to the establishment's quality charter and the rules of food hygiene and safety. Can prepare simple dishes. Can coordinate a team.
K1304	Domestic services	• Domestic worker	Carries out the housekeeping of the home of one or more individuals, according to the instructions of the person or organisation employing them. May carry out occasional major cleaning work or support services for individuals (children, elderly people, etc.). May coordinate the activities of household staff.

Code	Occupation	Functions	Definition
K2204	Cleaning activities	• 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.
N1301	Supply chain management	• Logistics manager • Supply chain manager	Defines and implements organisational schemes for all or part of a logistics chain of physical flows of goods, from the purchase of raw materials to the distribution of finished products. Designs steering and management tools (procedures for monitoring orders, circuits and information systems, etc.) enabling the routing of products to be traced between the various actors in the logistics chain (producers, suppliers, transporters, distributors, etc.) with the aim of rationalisation and optimisation (quality, profitability, deadlines, safety). May be specialised in one phase: supply (inbound logistics), distribution (outbound logistics), etc. or organise operations in a particular field (humanitarian, national defence, etc.). May manage a team or a logistics department.
N4105	Short-haul driving and delivery	• Delivery driver • Warehouse driver • Dump truck driver • Food delivery driver • …	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.).

Code	Occupation	Functions	Definition
M1204	Management control	• Management controller (incl. financial controller, investment controller, business controller) • Controlling manager	Organises and controls the economic management (definition of objectives, activity indicators, performance measurement, etc.) of an organisation (company, subsidiary, local authority, etc.) and optimises its financial profitability in accordance with the strategic choices decided by the management bodies and regulations (commercial, fiscal and financial). May carry out prospective studies of the organisation's results. May coordinate a team.
M1402	Organisational and management consulting	• (Organisational) project manager • Head of sustainability and CSR - Corporate Social Responsibility • Head of quality	Advises and assists company managers in developing strategies for transformation, adaptation and change management. Designs organisational and managerial change processes (human, technological, financial, IT, quality, safety, etc.) according to the expected objectives. May coordinate the activities of a team or manage a department.
M1707	Commercial strategy	• 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	Occupation group: • M1801 - IT administration • M1802 – IT expertise • M1803 – IT management • M1804 - Telecoms network design and development • M1805 – IT development • M1806 – IT consulting • M1810 – IT architecture	

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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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