

EPFL Alumni

Career Survey January 2022

Executive Summary

This survey is joint work between the EPFL Alumni Department and the EPFL CAPE Center (Centre d'appui à l'enseignement) and has been conducted by Dr. Paola Colzani, Mrs. Leïla Ojeh and Dr. Isabelle Sarrade.

Table of Content

1.	<i>Objective & Methodology</i>	3
2.	<i>Who are our Alumni?</i>	3
3.	<i>What do they do professionally?</i>	7
4.	<i>What is their seniority level, salary and occupational rates?</i>	9
5.	<i>Workplace and mobility</i>	15
6.	<i>Entrepreneurship</i>	17
7.	<i>Current role, satisfaction and EPFL studies</i>	18
8.	<i>Continuing education</i>	21
9.	<i>Conclusion</i>	23
10.	<i>Appendix OFS Salary Table</i>	24

1. Objective & Methodology

The purpose of this study is to learn more about the professional situation of graduates from EPFL and their perception of EPFL education with the following 4 main goals: (1) measuring the socio-economic impact of EPFL, (2) advising students on career options after their studies, (3) adapting the curriculum to the needs of the professional world and (4) improve career services to better serve our Alumni.

An online survey was conducted between December 2021 and January 2022 to learn more about the professional situation of graduates from EPFL and their perception of EPFL education. The population surveyed includes 25'655 Alumni, who graduated between 1980 and 2019 and who were successfully reached via email. Out of them, 3288 (the 11.9%) responded to our online survey in a complete manner making our sample representative of the Alumni population of reference in multiple dimensions (degree, year of graduation, section and gender).

2. Who are our Alumni?

The number of Alumni has increased steeply throughout the years: the 72% of the Alumni population and the 76% of our respondents obtained their last degree in the last 20 years and more than half are less than 41 years old.

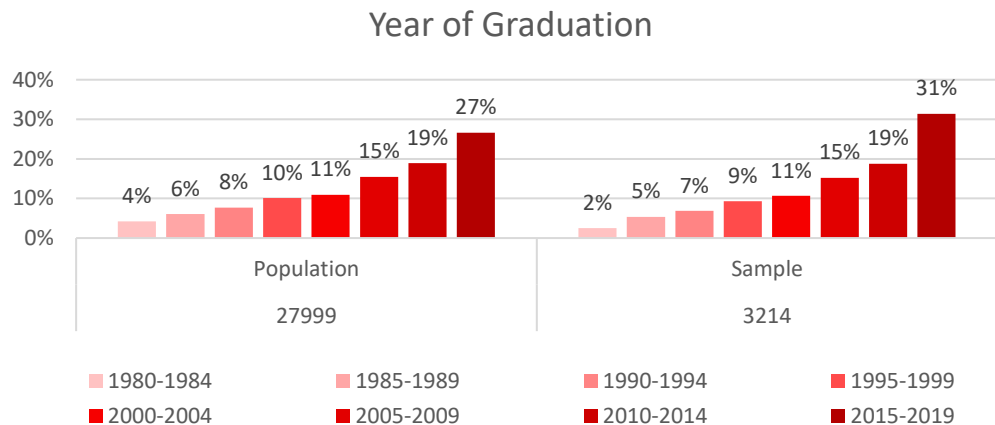


Figure 1: year of graduation, percent, n=3214

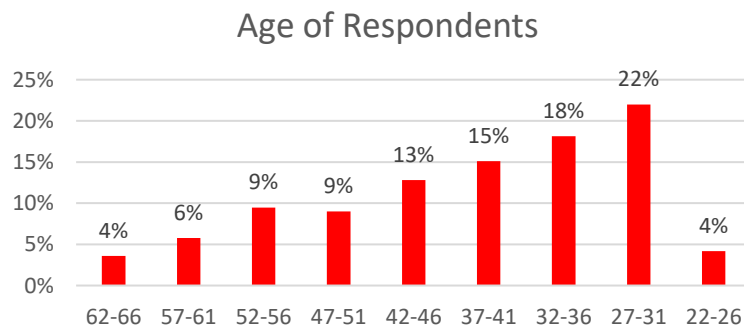


Figure 2: age of respondents, percent, n=2763

The sections with the highest number of graduates in the Alumni population are AR (12%), PH (10%), EL (9%), MT (9%), and IN (9%) and the smallest MTE (1.3%) and IF (0.4%). The proportion differs slightly in the respondents but all sections are adequately represented.

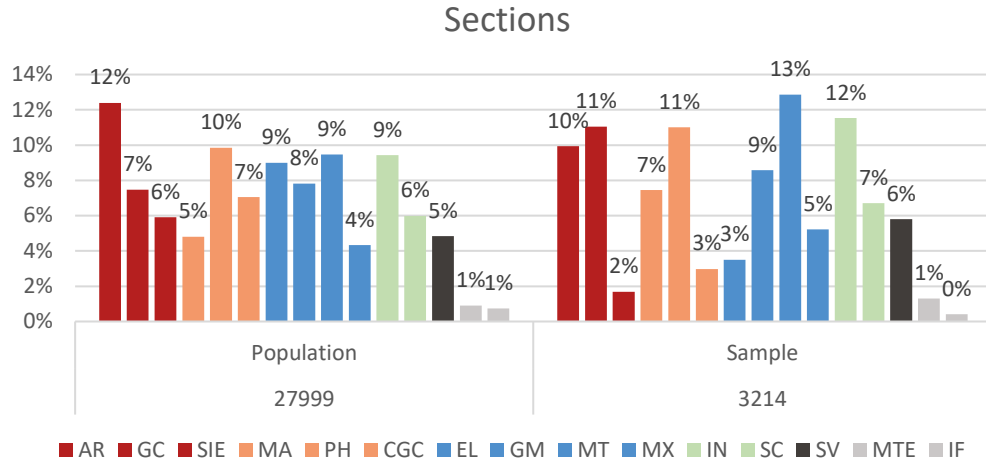


Figure 3: respondents by section, percent, n=3214

The majority of Alumni obtained as last title a Master or Diploma (63%) then a PhD (27%), a Bachelor degree (4%) or an Executive Education degree (5%). In our respondents Master have higher representation (74%), PhDs slightly lower (21%) and Executive Education (1%) did not allow to achieve representativeness and has been excluded.

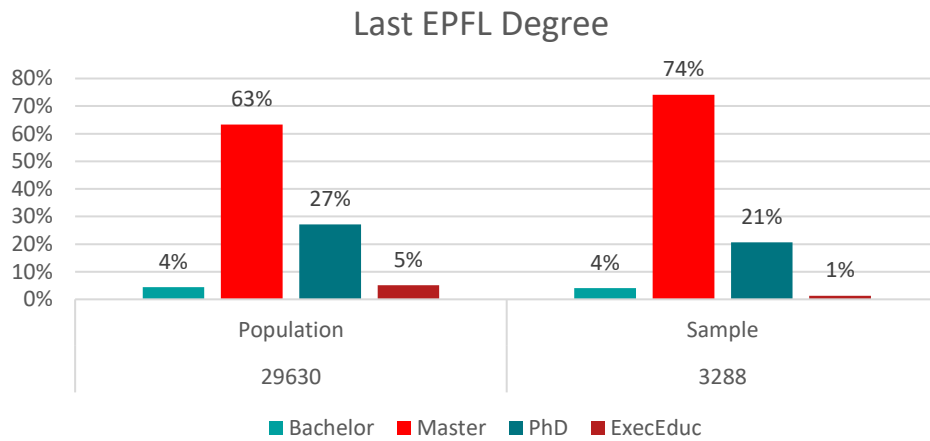


Figure 4: respondents by degree, percent, n=3214

Women represent 20% of the total population but their proportion has strongly increased from 8% in the 80s to 27% in 2019 although strong disparities still exist by sections.

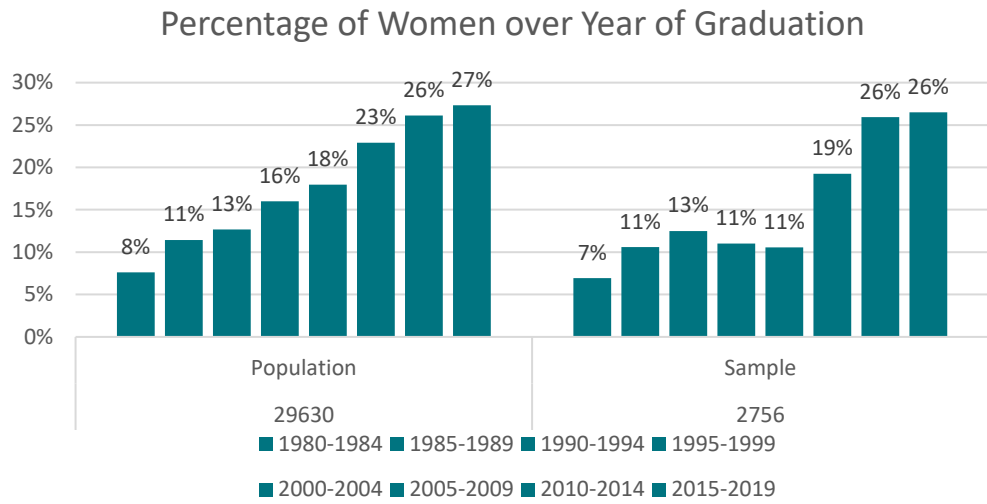


Figure 5: Women over year of graduation, percent, n=2756

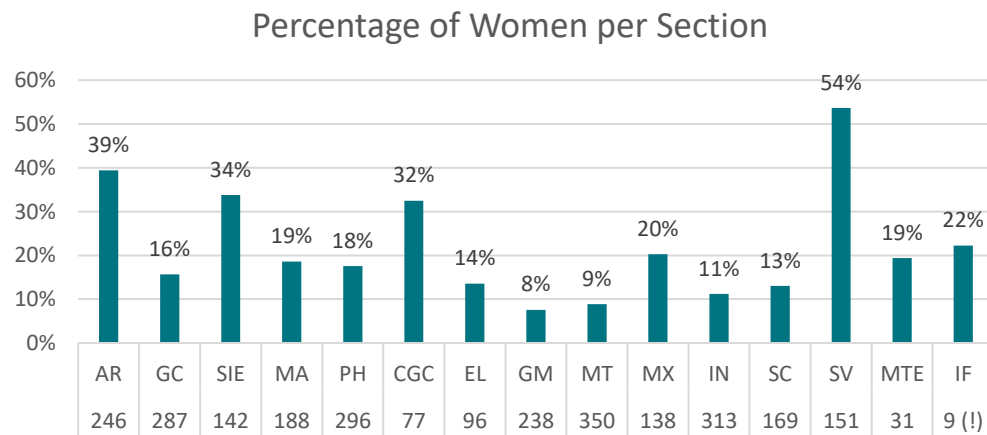


Figure 6: Women per Section, percent, n=2756

It is interesting to see how international EPFL and its Alumni network is, with 68 nationalities represented in our sample and 136 in our total population. Swiss citizens represent 58% of our total population while Europeans are the second largest group with 29%. The Rest of the World represent 10% with 5% from Australasia, 4% from Middle East and Africa, 1% from North and Latin America. Outside Switzerland, the top nationalities are France, Italy, Germany Spain, Belgium.

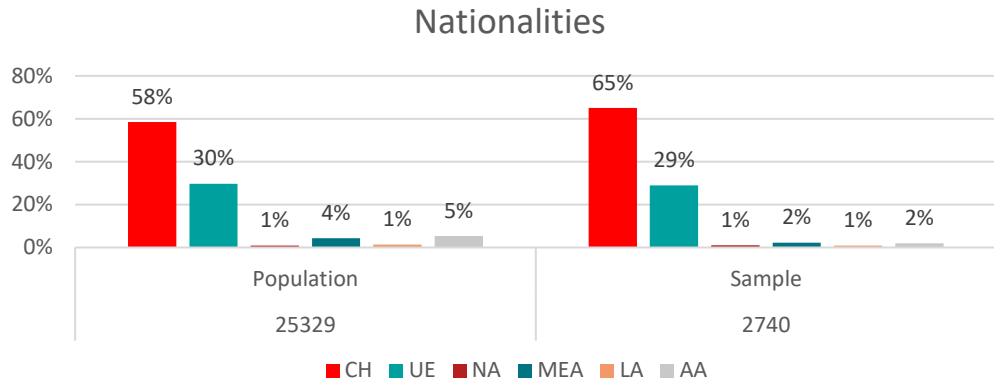


Figure 7: Nationalities by region, n=27

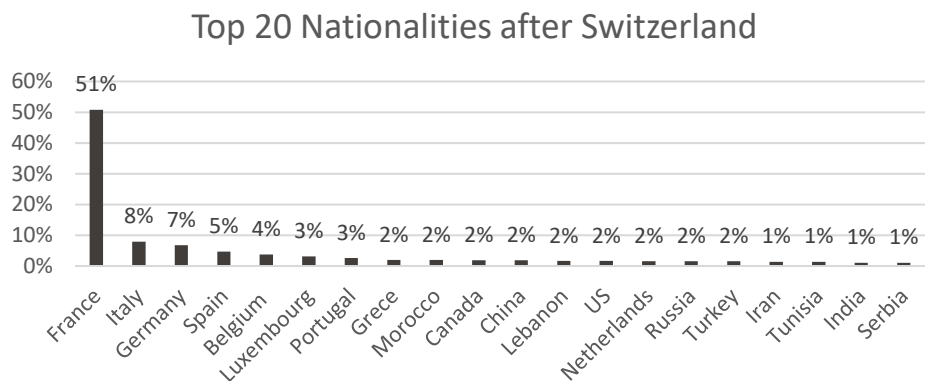


Figure 8: Top 20 nationalities, Switzerland excluded, percent, n=858

80% of our respondents speak 2 or more languages, the top three being French (95%), English (89%) and German (50%).

47.6% of our graduates completed part of their EPFL curriculum abroad doing an exchange year, their Master project abroad or else. This number is significantly lower for older graduates (11% in the 80's) showing the trend towards higher mobility and internationalisation of education.

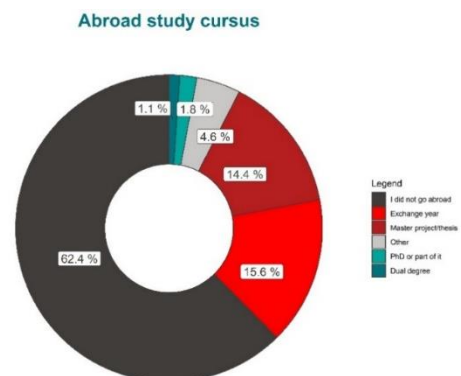


Figure 9: Abroad study cursus, percent, n=3189.

3. What do they do professionally?

The 95% of our respondents has a paid activity with the 78.6% being employed in a permanent position, 8.3% as independent and only 1% is unemployed and looking for a job.

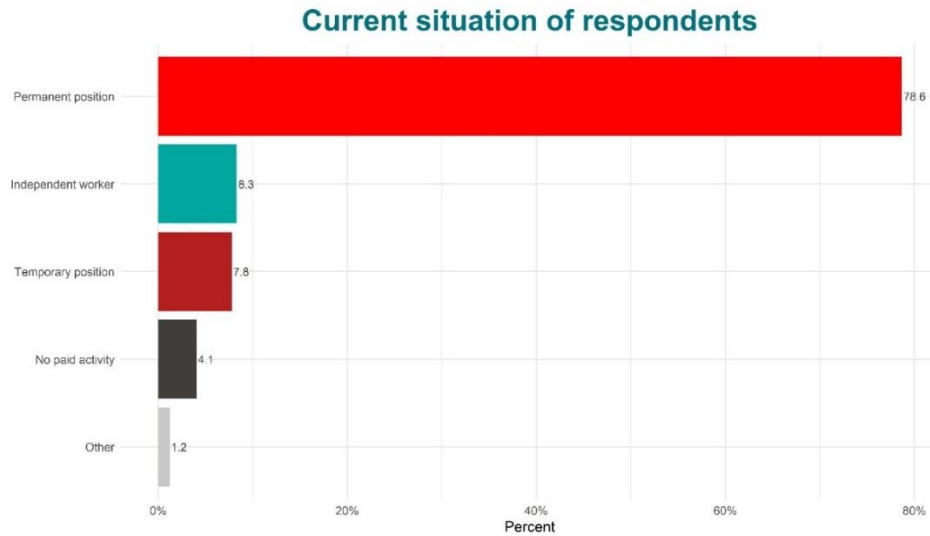


Figure 10: current situation of respondents, percent, n=2902, %. No paid activity includes retirement and unemployment, on top of those who decide not to work.

Most of our respondents (72%) work in the private sector, 23% work in the public sector while 5% in the non-profit field. Approximately half of our respondents work in a large organisation (>1000 employees) and 40% in an SME (10-250 employees).

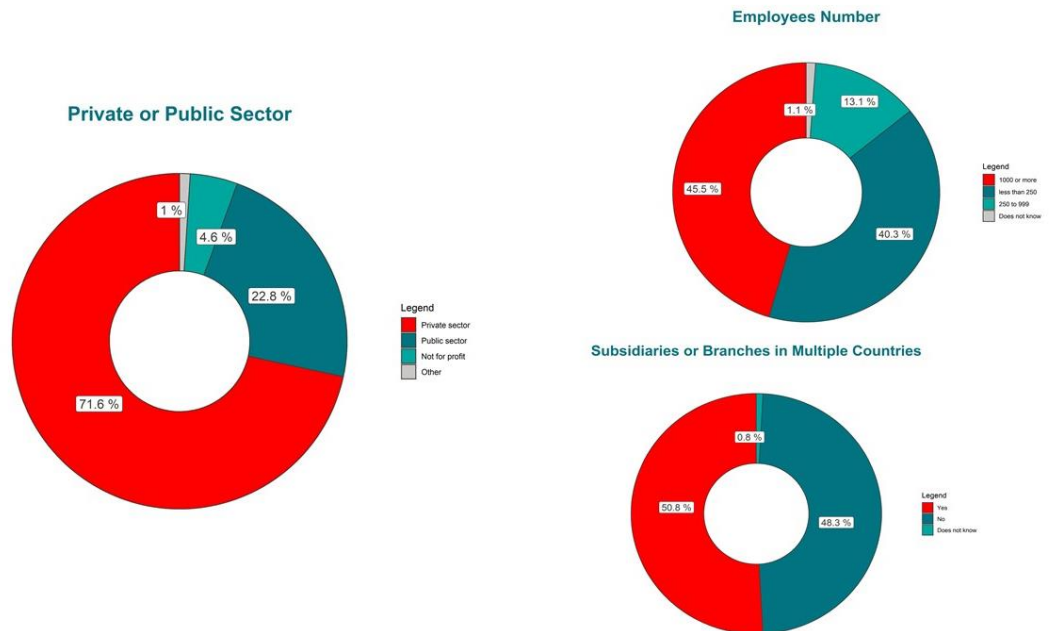


Figure 11: Type of enterprise, percent. Private or Public sector, left, n=2860; Employees number, top right, n=2860; Subsidiaries or Branches in Multiple Countries, n=2860.

The sectors or industries where our Alumni work are highly fragmented but the top 5 are: IT (13.8%), Higher Education (8.2%), Architecture (7.9%), Finance (7.6%) and Construction (7%) – showing the diversity of careers.

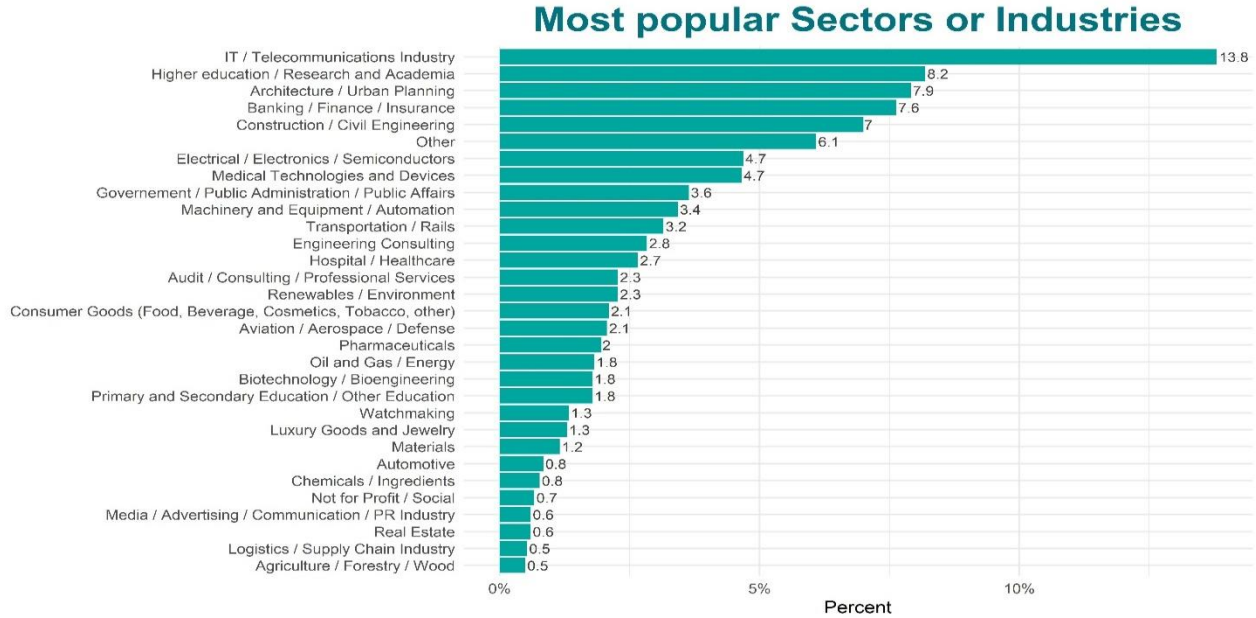


Figure 12: Most popular sector or activities, percent, n=2858.

When it comes to roles or functions, the top answers were IT (12.1%), Engineering (9.8%), R&D (9.8%), Project & Program Management (7.6%), Architecture (6.9%), Management (6.4%) and Academic Research (6.1%). Altogether, more than half work in technology/research related functions, about 20% in management/strategy/functions, while about 5% are active in supply chain and operations.

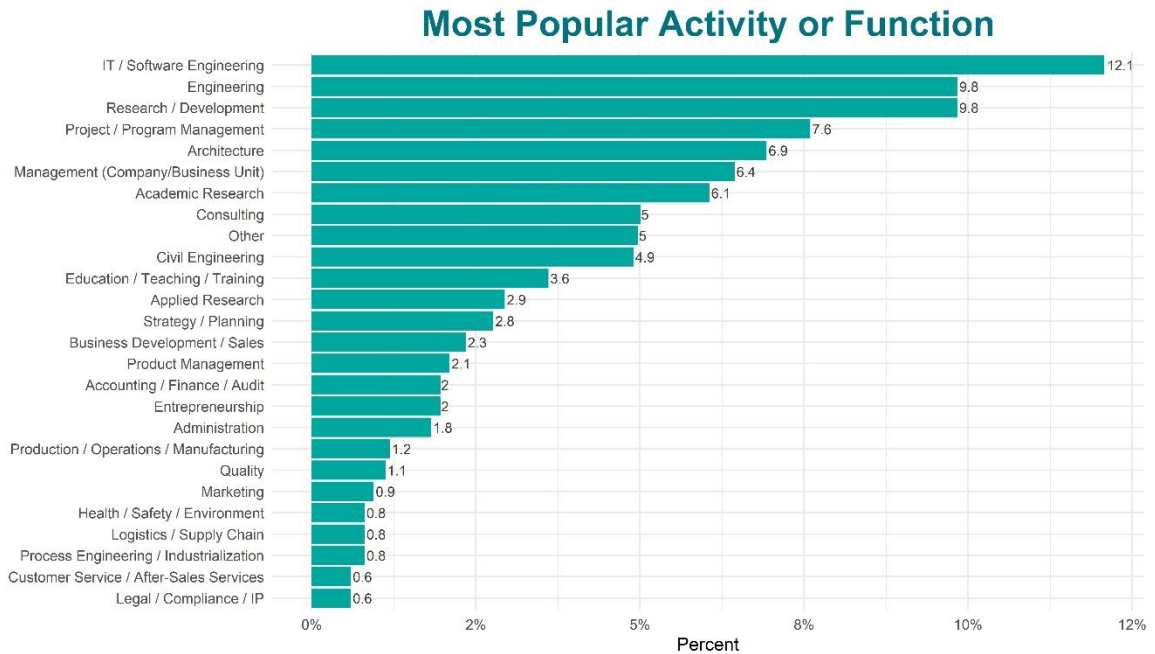


Figure 13: Most popular sector or activities, n=2857, %

4. What is their seniority level, salary and occupational rates?

24% of respondents declare to occupy top management positions (senior/executive manager, top manager, member of board of directors), 29.2% middle management, 3.6% are self-employed while we count 3.5% Professors and 5.3% in research/teaching.

Gender differences are also found in terms of seniority level: men are more likely to be in a top management position (28% of men and 11% of women are top managers) or to be a professor (4% of men against 2% of women). Furthermore, approximately 2/3 of our respondents supervises staff members directly and an additional 20% indirectly.

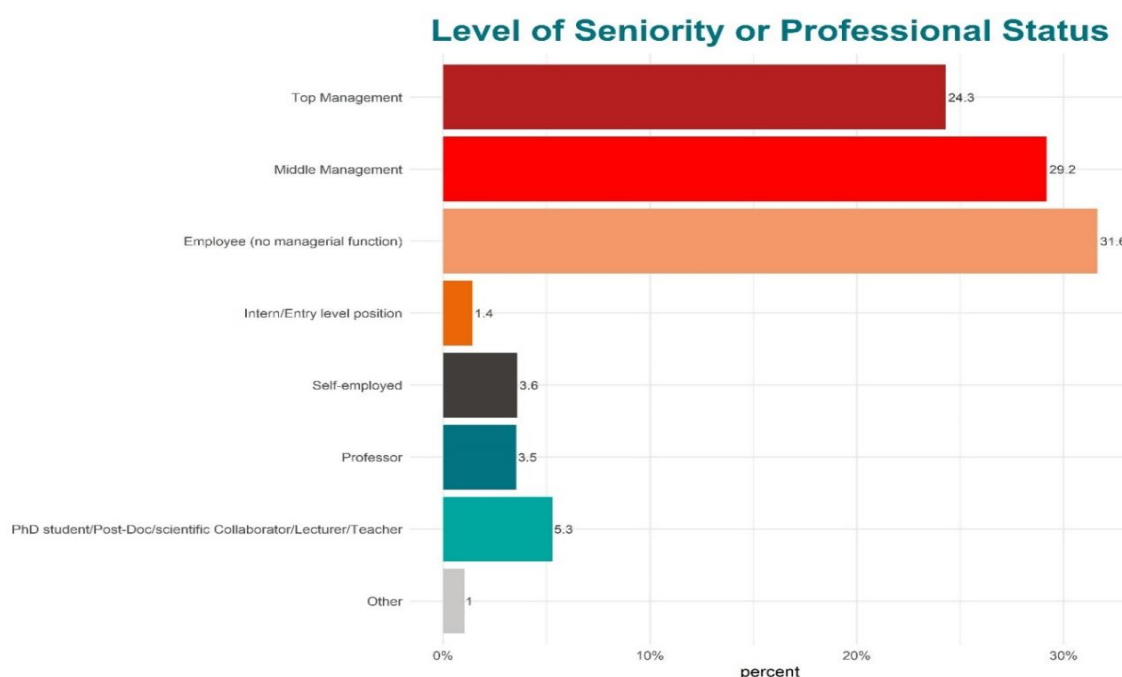


Figure 14: Seniority Level or Professional Status, percent, n=2858. Category "Top Management" includes senior and executive managers, top management and board of directors' members. Category "Middle Management" includes respondents who are self-employed with employee.

The median gross yearly salary lies between 120 and 140 KCHF, higher than the median salary in Switzerland, in 2018 (about 80 KCHF¹) and the median salary of higher education graduates (about 120 KCHF²). 7.2% have salaries above 300 KCHF and 17.1% below 80 KCH knowing that our population is young with 31% of respondents having graduated after 2015.

¹ We take as reference the OFS ESS study (Enquête suisse sur la structure des salaires 2018) according to which the median monthly salary in Switzerland, across sectors, was 6538 Swiss Francs and hence 78456 Swiss Francs per year. Table is reported in Appendix 10.

² The median gross monthly salary for higher education graduates (UNI, EPF) is equal to 9980 Swiss Francs, OFS, ESS Study, table cc-f-20.04.05.03.04. Table is reported in Appendix 10.

Gross yearly salary, KCHF

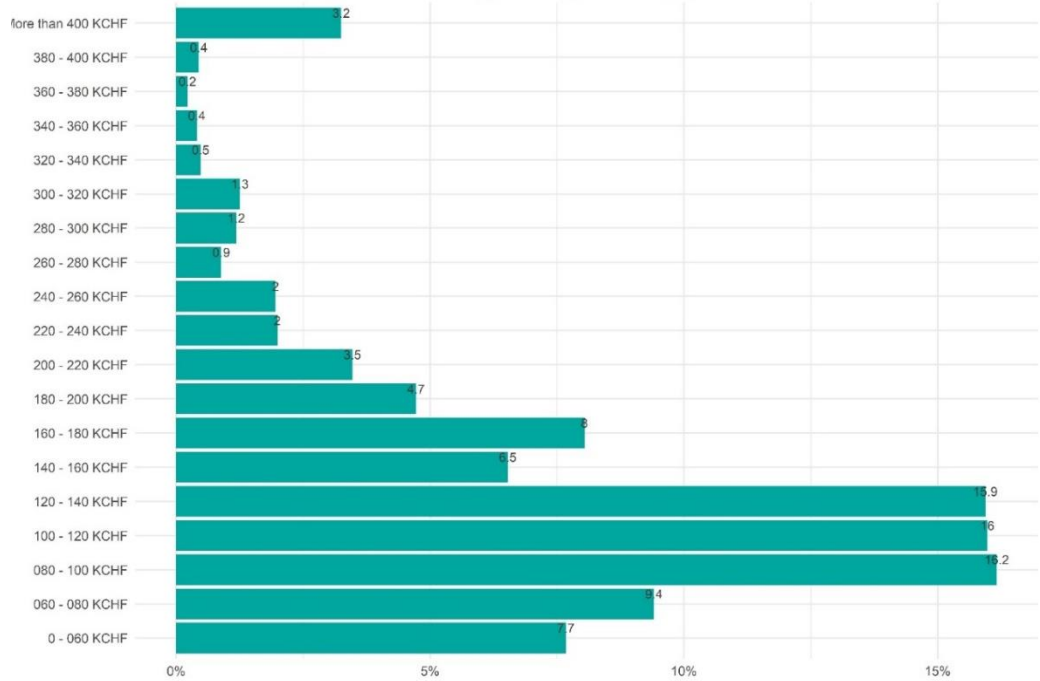


Figure 15: distribution of gross yearly salaries, based on a 100% work rate, in Swiss Francs, n=2710

Salaries increase with age with a median salary of (80-100 KCHF) for early career professionals reaching a median of 160-180 KCHF from 47 years old onwards.

Median Salary by Age

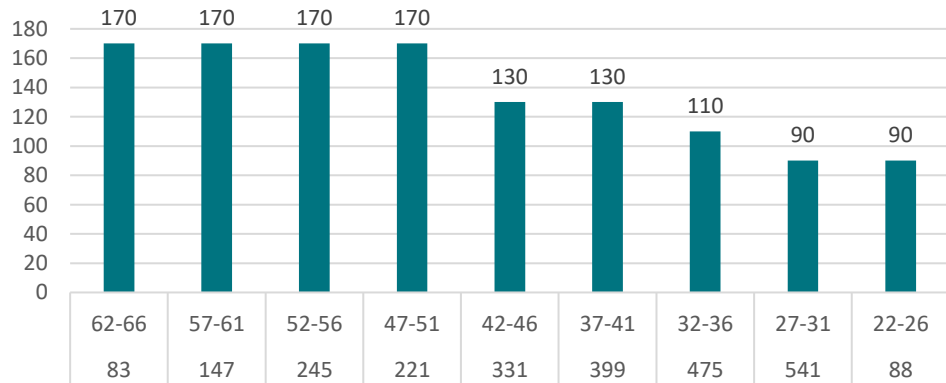


Figure 16: Median salary by Age, n=2530. All differences are **significant** (Kruskal-Wallis test, p<0.01)

The highest salaries are the ones of top managers (median 180-200 KCHF) followed by professors and middle managers (120-140 KCHF).

Median Salary by Seniority Level

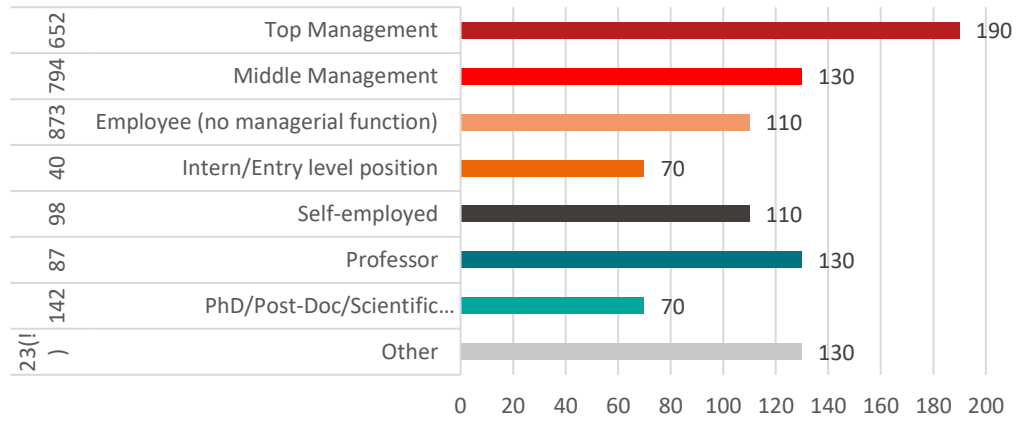


Figure 17: Median salary by Seniority Level, n=2709. All differences are **significant** (Kruskal-Wallis test, $p < 0.01$)

When it comes to sections, graduates in SC (median 160-180 KCHF) and IF (160-180 KCHF) have the highest median salaries while graduates from AR (80-100 KCHF) and SV (80-100 KCHF) are in the low end of the spectrum.

Median Salary by Section

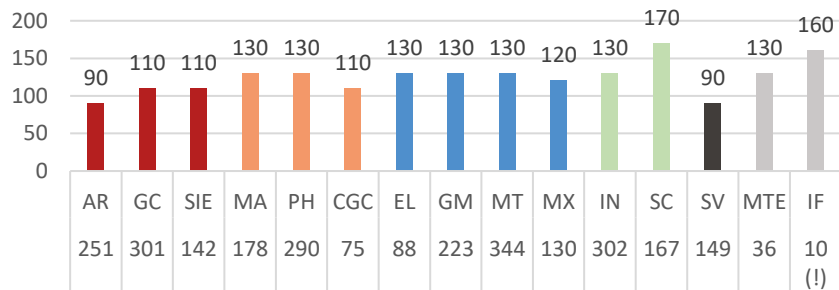


Figure 18: Median Salary by Section, KCHF, n=2686. All differences are **significant** (Kruskal-Wallis test, $p < 0.01$)

The most remunerative sectors are Banking / Finance / Insurance (160-180 KCHF), Luxury Goods and Jewelry (160-180 KCHF) and IT and Telecommunications (140-160 KCHF).

Median Salary by Sector

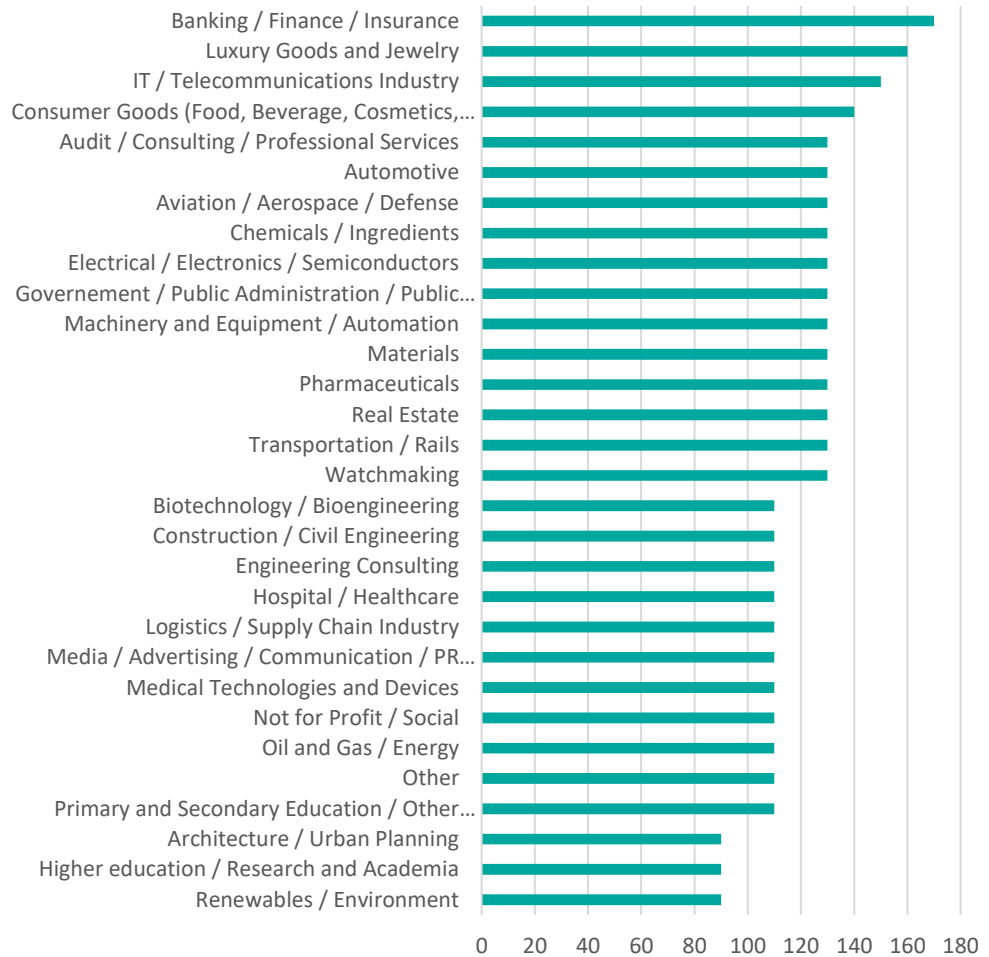


Figure 19: Median Salary by Sector, n=2708. All differences are **significant** (Kruskal-Wallis test, $p < 0.01$)

The most remunerative activities are Management (Company or Business Unit, 200-220 KCHF), Legal / Compliance / IP (180-200 KCHF), and Marketing (160-180 KCHF).

Median Salary by Activity

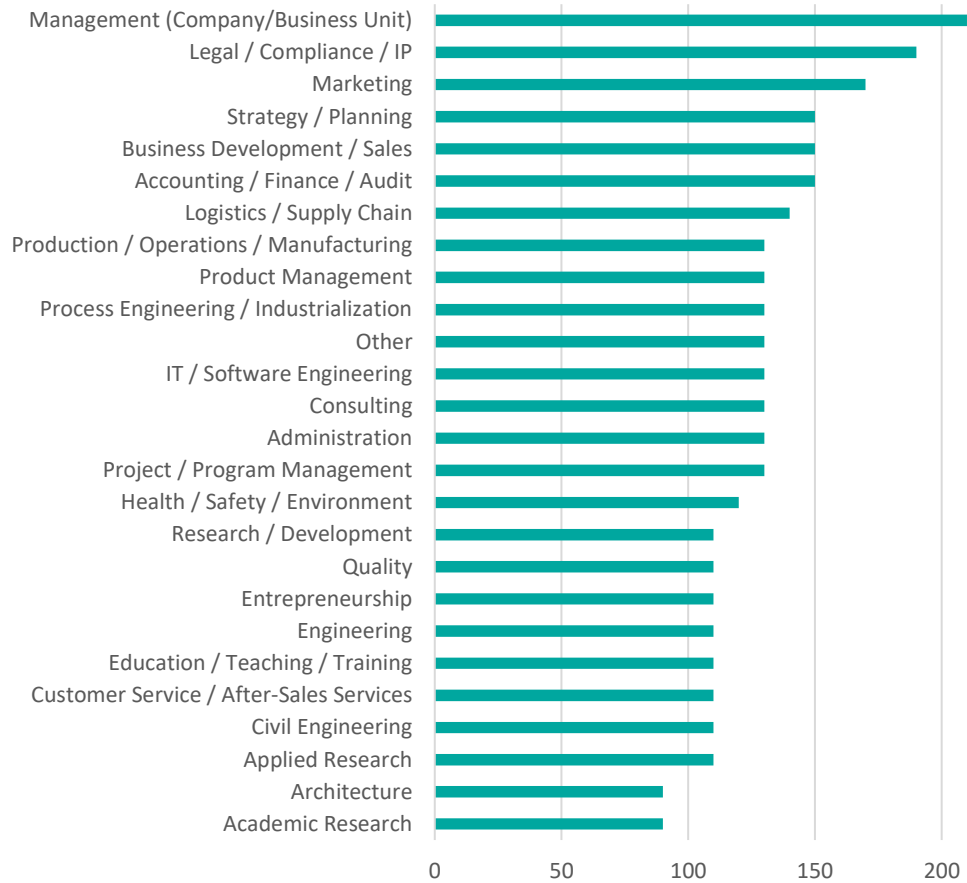


Figure 20: Median salary by Activity, n=2710. All differences are **significant** (Kruskal-Wallis test, $p < 0.01$)

When it comes to gender, the salary gap is high with women earning a median salary of 80-100 KCHF, 30% lower than men who are in the 120-140 KCHF salary interval. For sections close to parity like SV (53% women), AR (39%) or sections like MA (20%) and IN (11%), no gap is observed. The gap is highest for MT (8% women), GC (16%), EL (10%), GM (7%) and SC (13%) probably in relation to the sector, the lower occupational rates and seniority levels.

Median Salary by Section and Gender

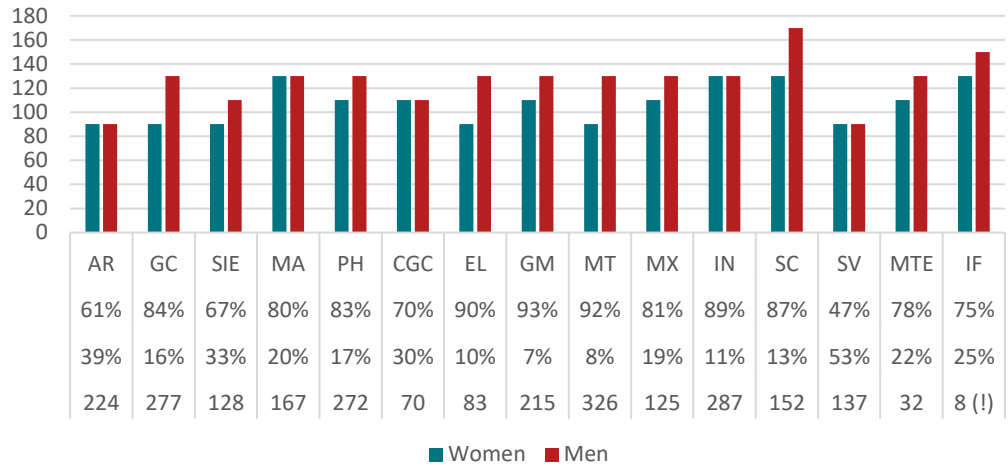


Figure 21: Median Salary by Section and Gender, KCHF, n=2503. All differences among sections remain **significant** (Kruskal-Wallis test, $p < 0.01$). We report the number of observations per section as well as the percentage of men and the percentage of women belonging to each section.

The 84% of our respondents works full time (> 90%-100%) – higher than the Swiss average (82%). 15% works part-time (50%-90%) and less than 1% work part-time less than <50% (7% within the Swiss population).

Here again the gender difference is significant for our respondents and strongly impacted by the arrival of children: without children 90% of men work full time, going to 84% with children. For women, 84% work full time when they have no children while this number falls to 48% with children. This drop happens in the 30-40 years old range, a critical moment for career progression. When compared to the Swiss population, EPFL women engineers contribute much more to the workforce: 68% work full time on average vs 41%.

Work-rate and Gender

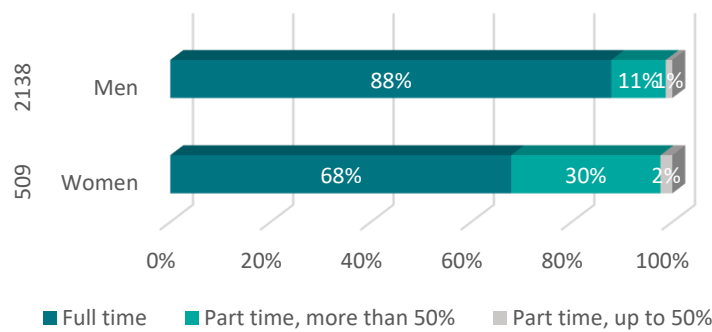


Figure 22: Work rate by gender, n=2647. Differences are **significant** (KW, $p < 0.01$).

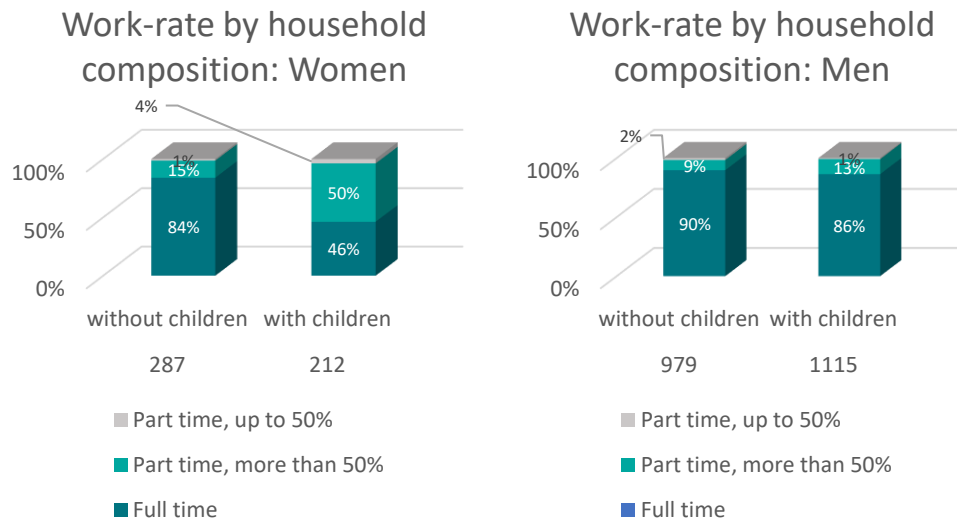
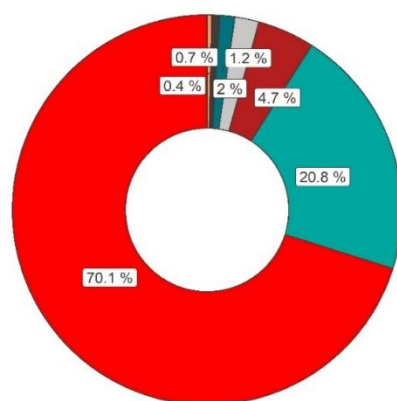


Figure 23: Work-rate by Household composition, women, n=499, Differences are **significant** (KW, p<0.01) and men, n=2094, Differences are **significant** (KW, p=0.0258)

5. Workplace and mobility

Switzerland represents the workplace for the 70% of our respondents. Out of them, the 42% works in Canton Vaud, the 15% in the Canton of Geneva and the 10% in the Canton of Zurich. Master graduates are the ones who are more likely to work in Switzerland (75%), as well as AR, GC, SIE, MA and IF graduates (80% or more of them works in Switzerland). As for other regions of the world, the 21% of our respondents works in Europe and the 5% in North America. In particular, once we exclude Switzerland, most work in France (23%), US (15%) Germany (12%), England (6%) or Canada (6%).

Workplace, Region of the World



Workplace, Swiss Canton

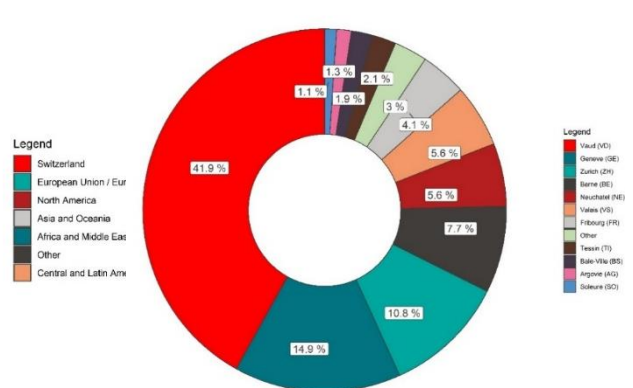


Figure 24: Workplace, Regions of the World, percent, n=2850

Figure 25: Workplace, Swiss Canton, percent, n=1992. Cantons where less than 1% of respondents work are aggregated in "Other".

Top 10 workplaces outside of Switzerland

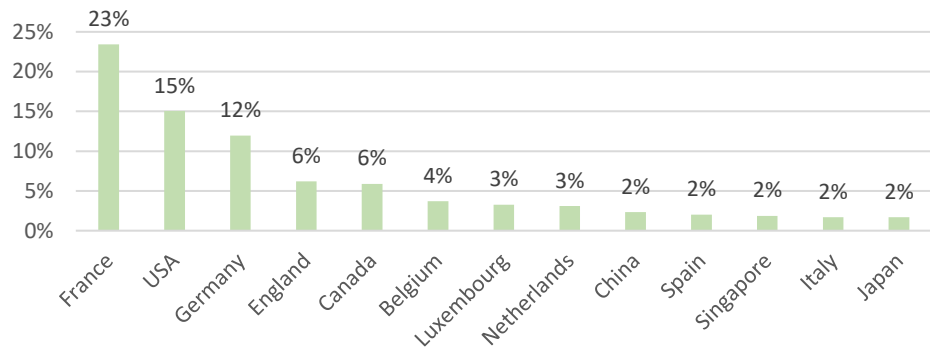


Figure 26: Workplace, top 10 states, Switzerland excluded, percent, n=645

Workplace by Section

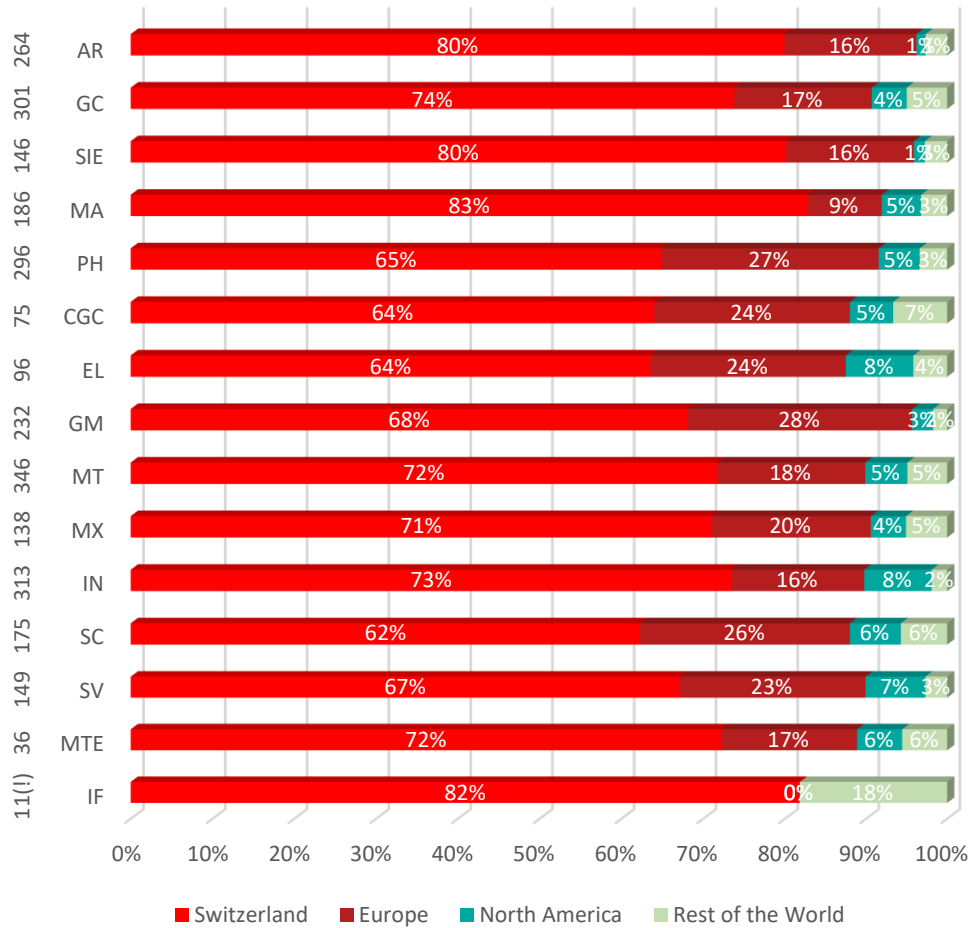


Figure 27: Workplace by Section, n=2764.

Mobility: Nationality and Workplace

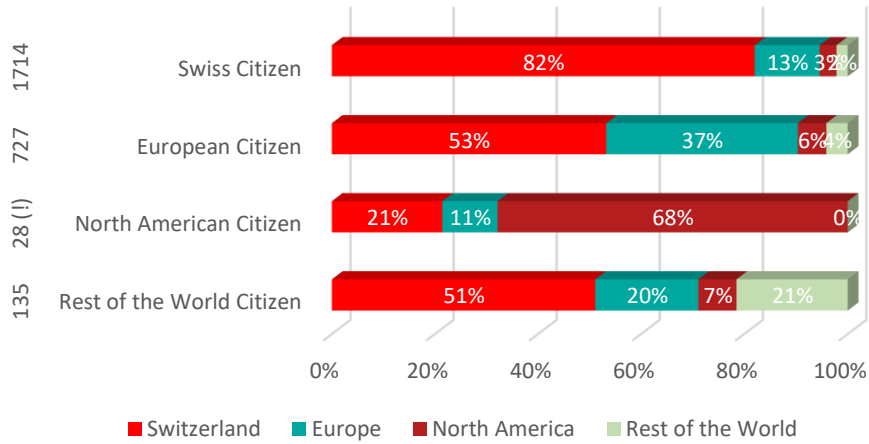


Figure 28: Mobility: Nationality by Workplace comparison, n=2604.

6. Entrepreneurship

The 21% of our respondents has created or founded a firm at some point in their career.

The majority of these firms (63.5%) have less than 10 employees, 24.2% are SMEs (less than 250 employees) and the smallest portion (2.3%) have more than 250 employees.

Among sections, graduates that are more likely to start a company are from AR (46%) and MTE (43%). It is also interesting to see that the percentage of entrepreneurs increases with age but that 24.5% of EPFL are less than 31 years old. When it comes to gender, 23% of entrepreneurs are men and the 13% are women, significantly lower.

Percentage of Entrepreneurs by Section

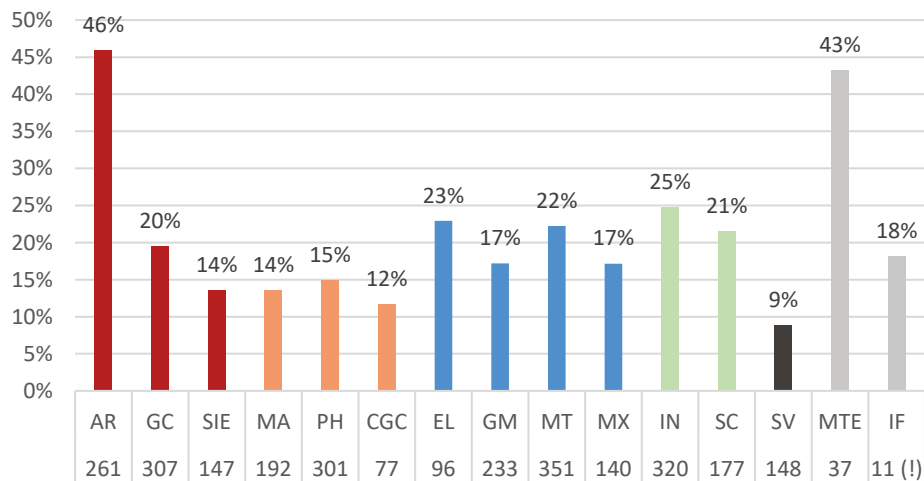


Figure 29: Percentage of Entrepreneurs by Section, n=2798. All differences are **significant** (Kruskal-Wallis test, $p < 0.01$).

Percentage of Entrepreneurs by Age

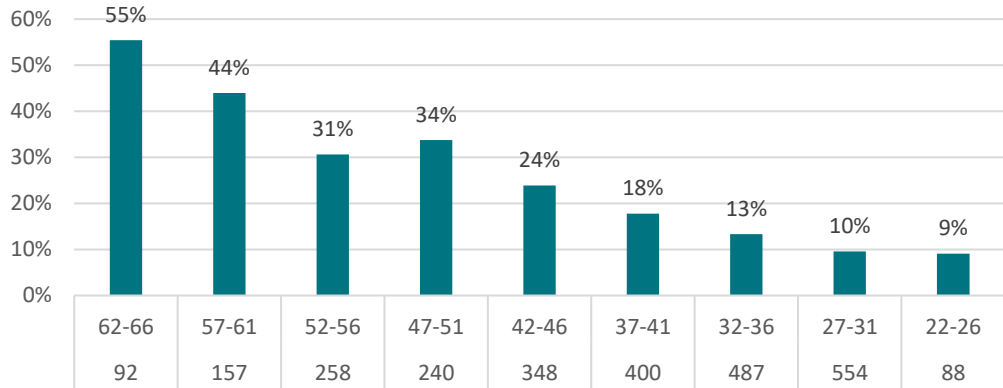


Figure 30: Percentage of entrepreneurs per year of birth, n=2624. Percentages of entrepreneurs differs **significantly** by age (KW, $p < 0.01$).

7. Current role, satisfaction and EPFL studies

Only 14% of our respondents declare that their role is not related at all to their EPFL studies. Approximately the 42% say it is strongly related both by position and sector, 20% by role or sector and 24% declares it is partially related.

The correlation is strongest for AR (67%) and IN (62%), followed by IF (55%) and GC (53%). On the contrary, the sections whose graduates are covering a role that is the least related to their EPFL studies are PH (31%), GM (21%), MA (19%), EL (18%) and MT (17%).

How is your role related to your EPFL studies? By Degree, n=2854

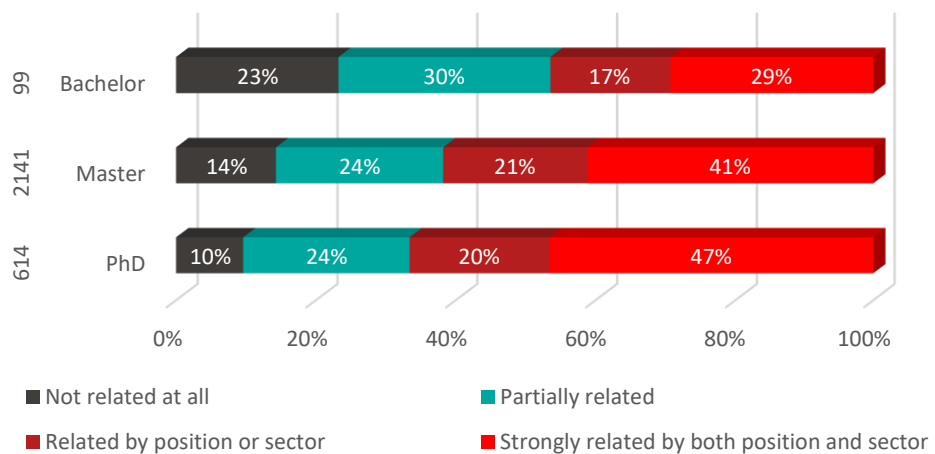


Figure 31: how are the current roles covered related to EPFL studies, by degree, percent, n=2854.

How is your role related to your EPFL studies? By Section

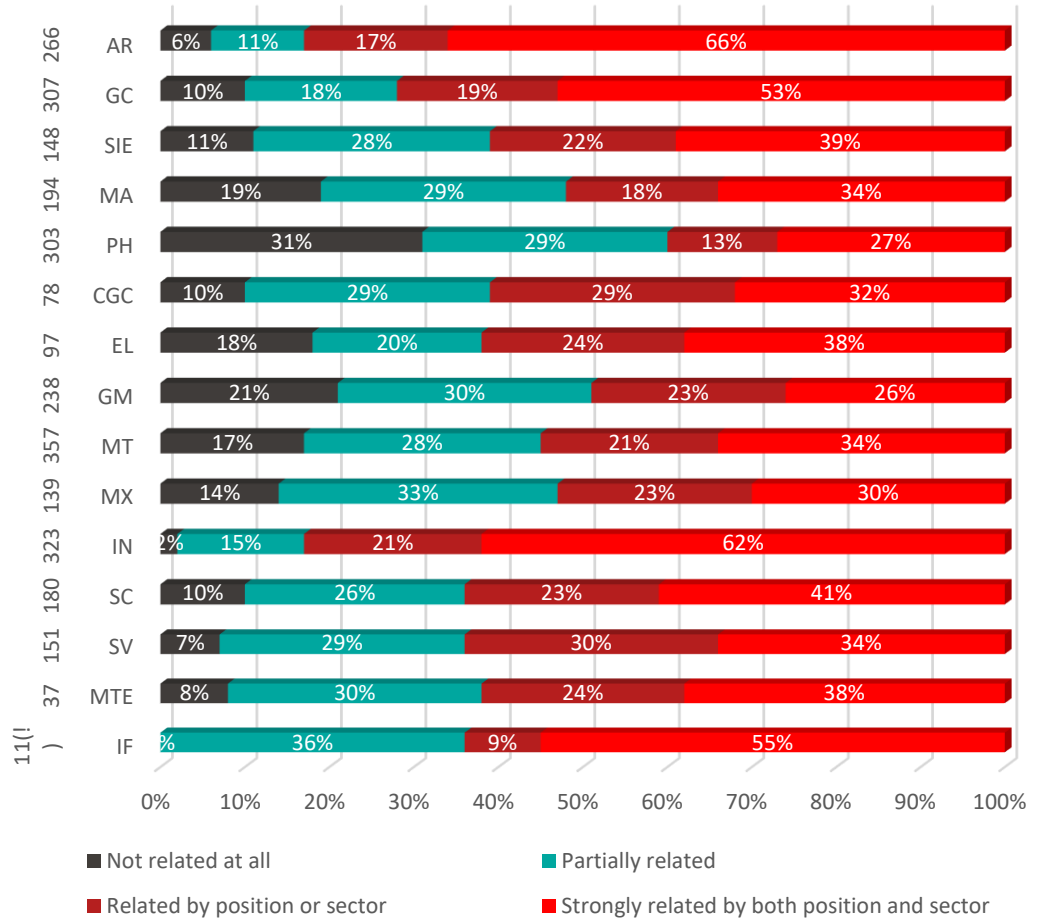


Figure 32: how are the current roles covered related to EPFL studies, by section, percent, n=2829.

More than 92% is satisfied with their job

The 92% of our respondents is globally satisfied with their job, out of which more than a half is very satisfied. We register very little discontent regarding the object of one's job (94%) and autonomy and responsibility level (94%), but a little less on salary (81%).

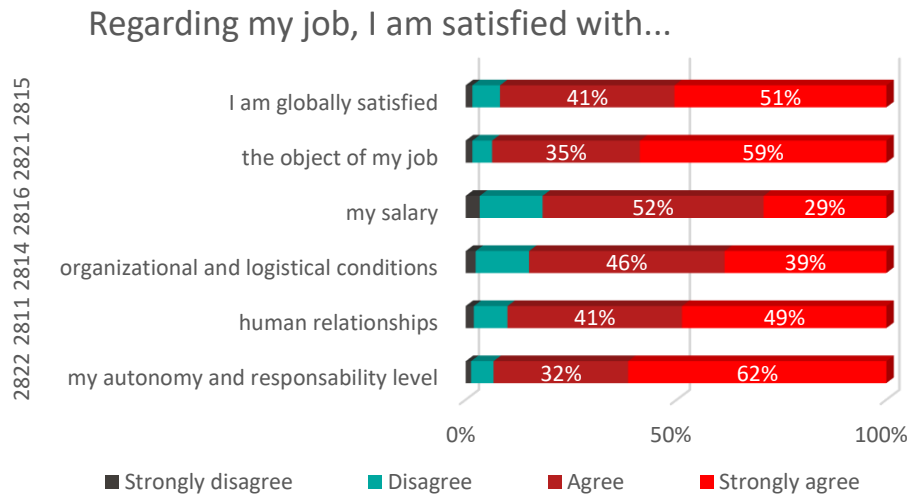


Figure 33: Level of satisfaction with one's job, percent, n=2822 (yet some people did not reply to all the sub-questions: respondents per question are indicated to the left).

High recognition of the EPFL Diploma on the job market

60% of our respondents say the EPFL Diploma is highly recognized on the job market and 36% say it is mostly recognized. By region, Switzerland scores the highest (63%) followed by Europe (57%). However, in North America and in the Rest of the World, recognition is positive but could be improved.

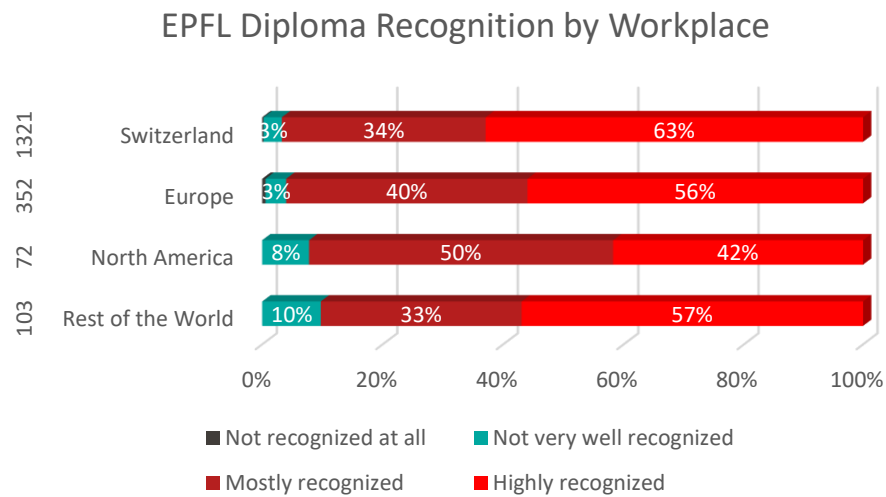


Figure 34: EPFL Diploma recognition, by Workplace percent, n=1848

The 89% of our respondents would recommend EPFL, out of which 72% would absolutely recommend it. Only the 10% would recommend EPFL with some reservations and approximately the 1% would not recommend it.

Among the top skills acquired at EPFL, the most popular ones are analytical and problem-solving skills, followed by related technical skills and basic science skills. The top skills they would recommend future students to develop are project management, time management, communication and interpersonal skills.

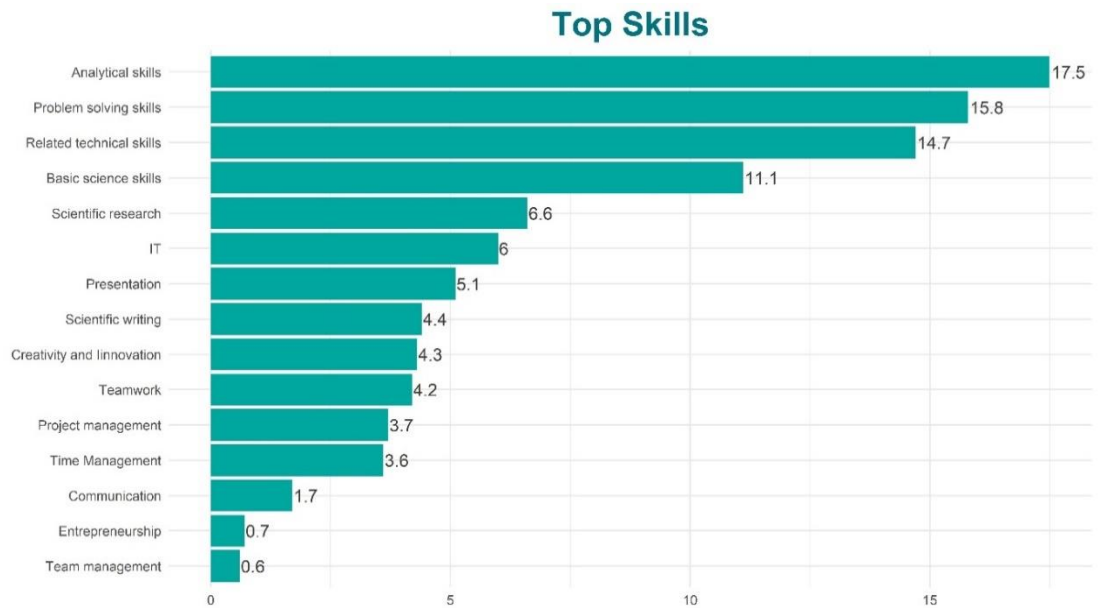


Figure 35: Top skills acquired at EPFL, multiple choice possible, percent, n=1931.

8. Continuing education

About 22% of respondents have completed other post graduates education inside or outside EPFL from continuing education degrees in a university (CAS, MAS...) to an MBA, other Executive Masters or short trainings.

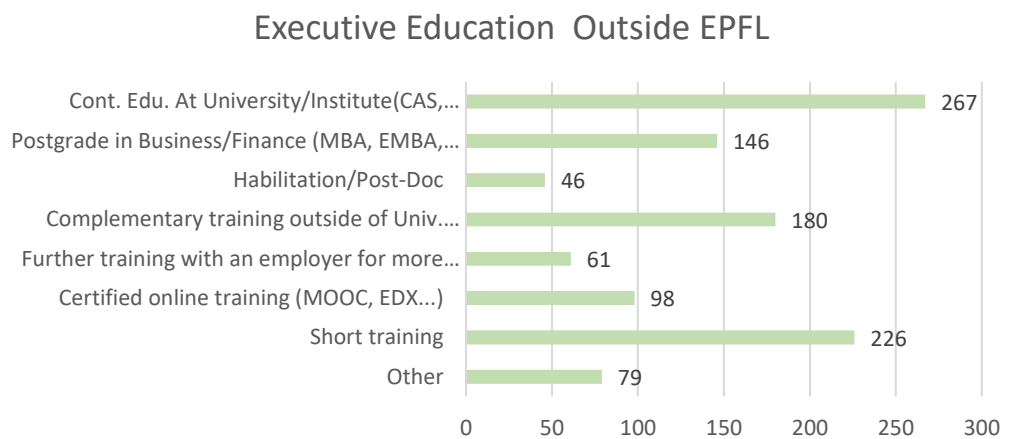


Figure 36: Executive Education outside of EPFL, multiple answers possible, n=642.

We have asked respondents whether they would be interested in continuous learning and 67% of them showed interest, the preferred topics being Leadership and Management (13%), Project Management (11.3%), Business/Strategy/Board Management (10.1%), followed by Innovation/Entrepreneurship (8.1%), IT/Computer/Digital trainings (7.6%) and Sustainability and Environment topics (7.2%). Only the 10% of our respondents declares not to be interested in continuous trainings showing the potential for continuous learning for EPFL.

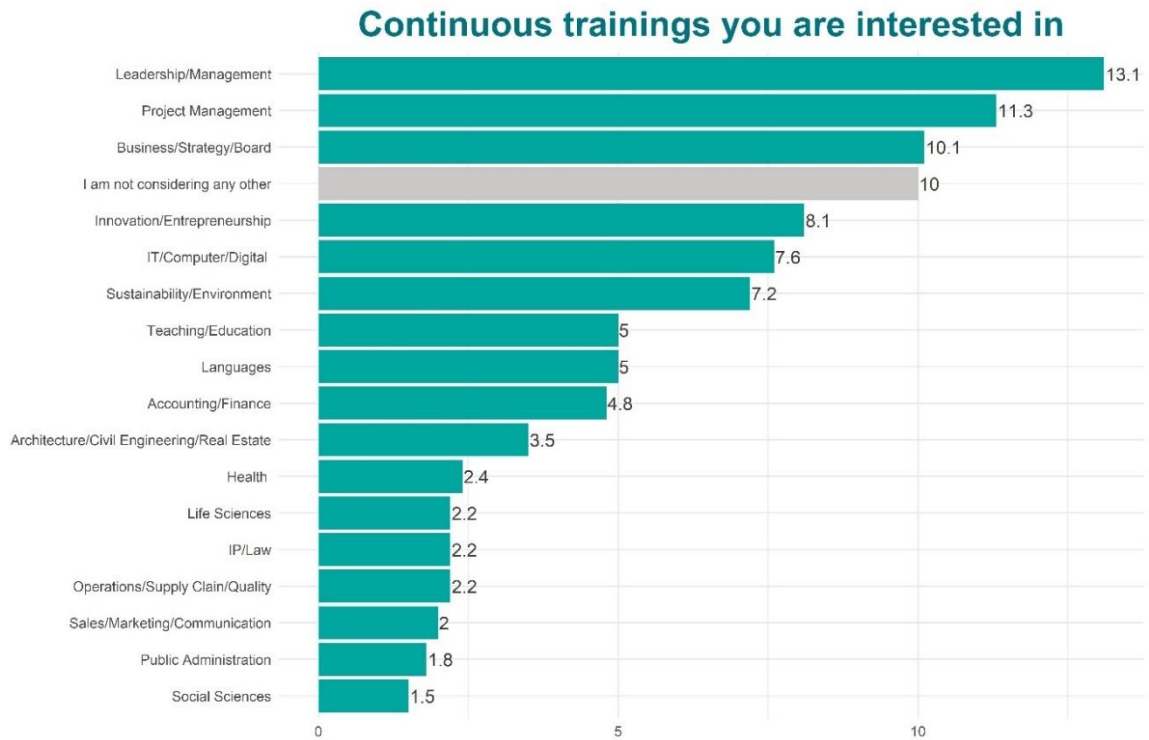


Figure 37: what kind of continuous training would you be interested in, multiple answers possible, percent, n=2508.

9. Conclusion

Our survey allowed us to gain extensive information about the current professional situation of EPFL graduates and measure the socio-economic impact of EPFL. It also helped gather great insights on the perception of EPFL's education to adapt future curricula to the needs of the professional world.

We observe that our Alumni contribute highly to the economy with 95% of them being currently professionally active and with very low unemployment rates. Their engineering or architecture trainings enable them to embrace multiple career paths. Many remain active in Research / Technology highly contributing to driving innovation both in industry and academia, others transition to senior management roles in diverse industries and many have shown entrepreneurship during their career, founding a firm and creating jobs.

Overall our Alumni seem to thrive in their careers with 24% reaching Top Management and 3.5% professor roles. Their median salary is higher than the median salary in Switzerland, and the one for higher education graduates and the vast majority is satisfied with their job.

They value highly their EPFL education and recommend their Alma Mater because of the level of education obtained and its reputation. According to them, the EPFL diploma benefits from high recognition in the job market, especially in Switzerland and Europe, although it could be strengthened in North America and in the Rest of the World.

The key skills they acquired at EPFL are science and engineering related and they recommend to students to develop more soft skills during their studies such as communication, interpersonal skills, project and time management and teamwork.

In terms of continuous learning, many have completed their EPFL studies with other postgraduate or professional trainings and a majority expressed an interest in the following topics: management and leadership, innovation, entrepreneurship, communication and interpersonal skills, IT/computer/digital as well as sustainability and environment. This represents a key opportunity for EPFL to develop further its continuing education offer.

The gender gap stands out in the study and remains a key challenge and opportunity. First in number of women studying engineering but also in career progression with lower salary, underrepresentation in Top Management and part time work with arrival of children. These women represent a key pool of talent and pipeline for the economy and it is important to think how EPFL, its Alumni and society can support them to fully contribute. The efforts to attract more women to study at EPFL should be pursued further, but also support young female graduates at all stages of their studies and careers through network and training. But this is not enough – a strong engagement from policy makers and senior leaders will be needed to achieve this transformation.

Finally, another key impact of EPFL is its international dimension with 136 different nationalities represented in its Alumni population. The majority of our Alumni currently work in Switzerland (70%), in Europe (21%), and North America. International students represent an important source of talents and diversity for Switzerland but also a high-quality network of ambassadors across the world that should be nurtured. How can EPFL and its Alumni best support them to integrate the labor market in Switzerland and abroad?

We thank our Alumni for sharing this precious information and for being such great ambassadors and wish them a lot of success in their lives and career.

10. Appendix OFS Salary Table

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Salaire mensuel brut et différence salariale entre femmes et hommes selon la formation, en 2018

	Salaire mensuel brut standardisé Médiane, en francs			Salaire féminin en % du salaire masculin	Différence salariale entre femmes et hommes en %
	Femmes	Hommes	Total		
Secteur privé					
Total	5 651	6 600	6 248	85.6	14.4
Haute école universitaire (UNI, EPF)	8 627	10 941	10 047	78.9	21.1
Haute école spécialisée (HES), HEP	7 467	9 588	8 764	77.9	22.1
Formation prof. supérieure, écoles sup.	7 223	8 582	8 058	84.2	15.8
Brevet d'enseignement	6 431	6 993	6 695	92.0	8.0
Maturité	5 791	6 679	6 232	86.7	13.3
Apprentissage complet (CFC)	5 398	6 161	5 882	87.6	12.4
Formation acquise en entreprise	4 572	5 541	5 223	82.5	17.5
Sans formation professionnelle complète Secteur privé et secteur public (Confédération, cantons, districts, communes, corporations) ensemble	4 428	5 270	4 845	84.0	16.0
Total	6 067	6 857	6 538	88.5	11.5
Haute école universitaire (UNI, EPF)	8 770	10 831	9 980	81.0	19.0
Haute école spécialisée (HES), HEP	7 982	9 727	8 888	82.1	17.9
Formation prof. supérieure, écoles sup.	7 423	8 668	8 152	85.6	14.4
Brevet d'enseignement	8 545	9 071	8 721	94.2	5.8
Maturité	6 271	7 016	6 659	89.4	10.6
Apprentissage complet (CFC)	5 550	6 260	5 992	88.7	11.3
Formation acquise en entreprise	4 688	5 598	5 290	83.7	16.3
Sans formation professionnelle complète	4 484	5 307	4 882	84.5	15.5

Le salaire brut mensuel standardisé est calculé sur la base d'un temps de travail normalisé de 4 semaines 1/3 à 40 heures, permettant une conversion des emplois à temps partiel en emplois à plein temps.

La médiane divise le groupe des salariés en deux moitiés: la première se situe au-dessus de la médiane, la seconde au-dessous.

Source: Enquête suisse sur la structure des salaires (ESS)

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