

In brief #11 - The AI@Work Survey - Methodology

The AI@Work survey, which is part of the working programme of the [AI@Work project](#), is an EU-wide endeavour to explore in detail how companies in the European Union are using AI in their day-to-day business. The main focus of the survey lies on two overarching themes:

- How are companies in the EU leveraging AI to increase productivity and competitiveness?
- To what extent do companies in the EU use AI to facilitate or reshape workforce management and planning?

Data collection

Data for the AI@Work survey was collected between 30 March and 13 May 2026 through an online panel provider. To participate in the survey, respondents had to fulfil two screening criteria:

- 1) They had to be actively involved or knowledgeable about AI initiatives in their company, which had to be based in the EU [1].
- 2) The respondent's company should have specific AI use cases in operation, ideally for a period of at least 12 months, that go beyond "casual" applications of generic AI to achieve specific company aims and objectives, such as increased labour productivity, relief of employees, or addressing the shortage of skilled labour.

In total, 8,069 panel members responded to the survey. Of those, 2,764 (34.3%) were screened out, as they did not fulfil the screening criteria, leaving a sample of 5,305. The latter included 1,800 incomplete interviews (33.9%), with 1,663 already ending participation in the introduction. A further 722 cases (13.6%) were excluded by automatic and manual checks, leaving a sample of 2,755 respondents having completed the survey via the online panel provider plus an additional 28 survey respondents through distribution of the survey link by project consortium members.

[1] Foreign companies with locations in the EU were included here.



The average survey completion time for the final sample (N = 2,783) was 9:37 minutes.

Sample characteristics

As no specific quotas for economic sectors were set, the distribution of sectors was completely random.

Table 1 provides a breakdown of broad economic sectors, based on Eurostat (2022) [2], as reported by survey respondents:

- Industry (NACE codes B-E)
- Construction (NACE code F)
- Trade (NACE code G), and
- Services (NACE codes H-N)

A more detailed breakdown of sectors and company size is provided in Tables A1 and A2 in the appendix (see Page 8).

In total, there were 107 respondents who indicated that their company operated in a **sector not listed** (3.8% of the total sample). Of those, 34 could be reclassified based on respondents' text box responses (n = 30 or 88% of which belonged to the Services sector), leaving 73 entries that could not be reallocated to specific sectors (2.6% of the total sample), as shown in Table 1. The remaining "Other" sector responses have been categorised and are shown in Table 2.

In line with Eurostat, the main analysis focuses on the broad **four-sector distinction**, as described above, thus ignoring the agricultural sector and other sectors not listed, leaving a final sample of 2,632 for the main analysis.

In terms of **country**, a balanced distribution of 100 respondents from each EU member state was targeted (see Table 3). While this target was achieved for larger EU countries, such as Austria or Greece, obtained responses for smaller EU countries ranged from 66 (Bulgaria) to 76 (Slovenia). The largest proportion of respondents came from Germany (n = 136, 5.2%), whereas the smallest proportion came from Bulgaria (n = 66, 2.5%).

[2] Source: Micro & small businesses make up 99% of enterprises in the EU (October 25, 2024). <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20241025-1>

Table 1. Survey sample distribution of sectors by company size (N = 2,783)

Sample size		Company size			Total	
		0-49	50-249	≥ 250	N	%
Sector	Services	426	430	682	1538	55
	Industry	127	228	321	676	24
	Wholesale/ Retail	71	56	97	224	8
	Construction	80	57	57	194	7
	Subtotal	704	771	1157	2632	94
	Agriculture	48	14	16	78	3
	Other	34	18	21	73	3
	Total	786	803	1194	2783	100

Table 2. Categorisation of "Other sector" responses (N = 73)

Sector (NACE code)	N	%
Education (P)	27	37
Health (Q)	26	35.5
Arts, Entertainment and Recreation (R)	15	20.5
Other service activities (S)	2	2.75
Non-attributable	2	2.75
Mining and quarrying (B) / Manufacturing (C)	1	1.5
Total	73	100

Table 3. Survey sample distribution by company location / country (N = 2632)

Category	Count	Proportion	Category	Count	Proportion
Austria	102	3.88%	Italy	119	4.52%
Belgium	108	4.10%	Latvia	71	2.70%
Bulgaria	66	2.51%	Lithuania	68	2.58%
Croatia	75	2.85%	Luxembourg	67	2.55%
Cyprus	67	2.55%	Malta	73	2.77%
Czech Republic	113	4.29%	Netherlands	105	3.99%
Denmark	106	4.03%	Poland	118	4.48%
Estonia	70	2.66%	Portugal	111	4.22%
Finland	105	3.99%	Romania	114	4.33%
France	116	4.41%	Slovakia	74	2.81%
Germany	136	5.17%	Slovenia	76	2.89%
Greece	107	4.07%	Spain	118	4.48%
Hungary	118	4.48%	Sweden	113	4.29%
Ireland	116	4.41%	Total	2632	100%

Sample representativeness and weighting

Table 4 shows the actual distribution of companies registered in the EU based on company size and economic sector distribution, as well as the obtained sample sizes for each size category and sector.

Initially, **medium and large companies were deliberately oversampled** in order to obtain a sufficiently large number of observations to report statistically meaningful results for these groups even if they only constitute 1% of overall companies in the actual distribution. For the purpose of representativeness, however, weighting of the data became a necessity.

Company size, as expected, exerted a large effect on weighted proportions, as 99% of companies in the EU have less than 50 employees (Eurostat, 2022). This differed markedly from the sample proportions, which were dominated by respondents from medium (i.e., 50-249 employees, 29%) and large companies (i.e., > 250 employees, 44%). Consequently, the **weighted EU average** is generally close to or equivalent to the results for small companies.

Table 4. Distribution of company sizes and economic sectors (*based on Eurostat, 2022)

Distribution		Actual*	Sample	%	Difference
Company size	0-49	99%	1157	27%	-72%
	50-249	0.80%	771	29%	28.20%
	≥ 250	0.20%	704	44%	43.80%
Sector	Services	62%	1538	58%	-4%
	Industry	8%	676	26%	18%
	Wholesale/ Retail	18%	224	9%	-9%
	Construction	12%	194	7%	-5%

The data set was weighted using a **basic raking algorithm** (Battaglia et al., 2009) based on the actual EU-wide distribution of two factors: company size (i.e., number of employees) and economic sector (based on overarching economic sectors). Based on Table 4, the following raking weights were attached to each cell combination of company size by economic sector to correct for the underrepresentation of smaller companies and the overrepresentation of medium and large companies, respectively (see Table 5).

Table 5. Mean raking weights for each sector by company size combination in the survey

Raking weights		Company size			Row Mean
		Small (0-49)	Medium (50-249)	Large (≥ 250)	
Sector	Industry	1.6288	0.0132	0.0022	0.3115
	Construction	3.9216	0.0318	0.0052	1.628
	Trade	6.6184	0.0537	0.0088	2.115
	Services	3.7915	0.0308	0.005	1.061
	Col Mean	3.7013	0.0273	0.0045	1

In general, smaller companies (i.e., 0-49 employees) were underrepresented, thus receiving the highest weights (3.70 on average). Small companies in the Trade sector were especially underrepresented, thus receiving the highest weight overall (6.62). In contrast, through the relative overrepresentation of the industry economic sector in the current sample, the weight for small industry companies was comparatively lower (1.63). For both medium and large companies, the raking weights were very small, as both were overrepresented in the survey sample.

The **mean raking weight** was set to equal 1 to serve as a standardised baseline. It follows that, for instance, a weight of “2” means the respondent's data counts twice as much as the “average” respondent, while a weight of “0.5” means it counts half as much. Setting the mean to 1 also normalises the weights so that the sum of the weights equals the total sample size (here: $N = 2632$).

In briefs and fact sheets, survey results always represent **weighted** survey results, unless indicated otherwise.

Statistical comparisons

To test for statistically significant group differences based on company size, sector, or other variables of interest, **pooled two-proportions z-tests** were computed*. A pooled two-proportion z-test compares whether the proportion selecting a category differs between two independent columns/groups. For two groups, Group 1 and 2, the **null hypothesis** states that there is no difference between groups [$H_0: p_1 = p_2$], whereas the **alternative hypothesis** suggests that groups are unequal [$H_A: p_1 \neq p_2$]. In general, tests were two-sided: that is, any difference, positive or negative, was considered.

The test compares percentages calculated down each column - not row percentages - across groups. Under H_0 , both samples estimate one common population proportion. Therefore, their successes and bases are **pooled** (“pooled” refers specifically to this common proportion used to calculate the null-hypothesis standard error).

The **z-statistic** and associated p-value denote statistically significant differences between proportions. whereas the former also indicates the direction of the outcome:

- ($z > 0$): the first-named column has the higher proportion;
- ($z < 0$): the second-named column has the higher proportion;
- larger ($|z|$): stronger evidence against equal proportions.

Reversing the column order changes the sign of (z), but not the two-sided p-value.



*For a short introduction to two-proportion z-tests, see [here](#).

Assumptions and limitations

The test assumes:

- the two groups are mutually exclusive and independent;
- observations within groups are independent;
- each outcome is binary for the tested category: selected versus not selected;
- sample sizes are large enough for the normal approximation;
- expected pooled successes and failures are sufficiently large (i.e., ≥ 10)

Data basis

For comparisons based on company size, unweighted counts and proportions were used as the data basis, as the expected weighted counts and proportions were too small for medium and large companies to meet test assumptions. This is because the latter were overrepresented (i.e., 56% in the sample vs 1% actual) and thus received very small weights, hence leading to too little weighted counts and proportions. For comparisons based on sector, weighted counts and proportions were used instead.

Multiple-comparison adjustment

When three groups are compared (e.g., as is the case when comparing responses based on company size: small, medium, and large), there are three pairwise tests:

- Group 1 versus Group 2
- Group 1 versus Group 3
- Group 2 versus Group 3

The Bonferroni adjustment controls the family-wise error rate, by dividing it through the number of tests performed. Hence, when three pairwise tests are conducted, the level required for a statistically significant difference drops from $p = .05$ ($\alpha = 5\%$) to $p = .0167^*$.

Combined categories

In some instances, response categories were combined to draw more general conclusions. Where adjacent response categories were analytically combined, their counts were first added within each group. Then, the same pooled z-test and Bonferroni procedure were applied to these combined proportions. This is a separate test of the broader combined outcome - not an aggregation of the individual categories' z-statistics.

*Please note that statistical significance does not measure practical importance. The percentage-point difference and its confidence interval should be considered alongside the adjusted p-value.

Appendix & References

Table A1. Economic sector distribution according to NACE codes (N = 2,632)

Category	Count	Proportion
A - Agriculture, forestry, and fishing	0	0.00%
B - Mining and quarrying	30	1.14%
C - Manufacturing	467	17.74%
D - Electricity, gas, team and air conditioning supply	126	4.79%
E - Water supply, sewerage, waste management and remediation activities	52	1.98%
F - Construction	194	7.37%
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	221	8.40%
H - Transportation and storage	189	7.18%
I - Accommodation and food service activities	92	3.50%
J - Information and communication	413	15.69%
K - Financial and insurance activities	245	9.31%
L - Real estate activities	57	2.17%
M - Professional, scientific, and technical activities	305	11.59%
N - Administrative and support service activities	207	7.86%
Sector not listed (please specify)	34	1.29%

Category	Count	Proportion
< 10	246	9.35%
10-49	458	17.40%
50-249	771	29.29%
250-499	436	16.57%
500-999	323	12.27%
≥ 1.000	398	15.12%

Table A2. Sample distribution of company sizes (N = 2,632)

References

Battaglia, M. P., Hoaglin, D. C., & Frankel, M. R. (2009). Practical considerations in raking survey data. *Survey practice*, 2(5). <https://doi.org/10.29115/SP-2009-0019>

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