GROUND HANDLING PERSONNEL IN UZBEKISTAN'S CIVIL AVIATION: AN OVERLOOKED YET INDISPENSABLE WORKFORCE

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ABSTRACT

Purpose. To analyse the position of ground handling personnel in Uzbekistan's civil aviation sector, a workforce segment that is operationally indispensable yet largely absent from public and academic discussion. **Methods.** Qualitative analysis of secondary sources (IATA and Boeing industry data, Oxford Economics/ATAG employment analysis, peer-reviewed literature, corporate communications of Uzbekistan Airports and industry reporting for 2021–2026) combined with a comparative analysis of global trends and national conditions. **Results.** According to IATA, 60% of ground handling professionals report insufficient qualified staff and 37% expect shortages to persist; annual turnover in ground operations averages about 20% and varies widely between operators. In Uzbekistan, a dedicated subsidiary, Uzbekistan Airports Handling LLC, was established in 2021 and training cooperation with Incheon International Airport has begun; however, ground handling still lacks a visible, staged career path comparable to those of pilots and air traffic controllers. Three barriers were identified: organisational framing as a support function, the absence of a progression ladder, and low public visibility. **Conclusion.** Staffing sustainability requires treating ground handling as a defined profession, with formal qualification tiers, linked pay progression, occupational health protection and public recognition.

Keywords: ground handling, aviation workforce, labour shortage, occupational prestige, career progression, Uzbekistan.

1. INTRODUCTION

Public and academic discussion of the global aviation workforce crisis has concentrated on pilots and air traffic controllers, the most visible and prestigious professions in the industry. Ground handling personnel — check-in agents, baggage and ramp handlers, aircraft cleaners and ramp equipment operators — receive far less attention, although the International Air Transport Association (IATA) identifies staff recruitment and retention as the first priority of the ground handling sector. In a 2023 IATA survey, 60% of ground handling professionals reported not having enough qualified staff to ensure smooth operations, 37% anticipated staffing shortages until the end of 2023 and beyond, and 27% feared that their current employees would leave soon [1]. The shortage has its roots in the COVID-19 crisis: according to Oxford Economics' analysis for the Air Transport Action Group, by the end of 2021 aviation employment was 2.3 million jobs (21%) below pre-pandemic levels, with the largest loss — 1.7 million jobs (−29%) — among on-airport employers other than airlines and airport operators [2].

Uzbekistan's civil aviation sector is expanding rapidly. Central Asia handled 60 million passengers in 2025 and is described as the world's fastest-growing aviation sub-region, and over the past eight years the number of airlines serving Uzbekistan has risen from 15 to 44 [4]. The Chairman of Uzbekistan Airports, J. Umarkhodjaev, named skilled personnel as the most critical shortage facing the industry over the next five years [4]. Within this shortage, ground handling occupies a paradoxical position: it is essential to every flight, yet rarely treated as a priority career path. No academic study of the ground handling workforce in Uzbekistan could be identified, which defines the novelty of this research.

The aim of this study is to analyse the current state of the ground handling workforce in Uzbekistan's civil aviation sector, identify the structural and perceptual

barriers limiting its professional development, and propose measures to strengthen its staffing sustainability.

2. LITERATURE REVIEW

The undervaluation of ground handling can be understood through the sociology of occupational prestige. Ashforth and Kreiner show that occupations perceived as physically demanding, routine or low in status carry a "dirty work" stigma that shapes both public perception and workers' professional identity [5]. Research on airline employment relations demonstrates that frontline staff, including ground employees, are central to airline performance, and that carriers which engage them achieve better operational results [6].

Operational research confirms the weight of ground processes: ground handling determines aircraft turnaround time [7, 8], and delays in turnaround propagate through airline networks [7]. At the same time, the physical cost of the work is well documented. Studies of the Copenhagen Airport Cohort found that baggage handlers had significantly more musculoskeletal symptoms than a reference group of unskilled workers, increasing with seniority [10], and a higher incidence of knee osteoarthritis linked to cumulative years of lifting [11].

Labour-relations research adds a structural explanation. Harvey and Turnbull argue that the liberalisation of European civil aviation has worsened the terms and conditions of aviation workers [9], and the European Parliament noted that ground handling is highly labour-intensive, with personnel accounting for roughly three-quarters of handling costs, and that providers struggle to find and retain skilled staff [12]. However, this literature addresses mainly Europe and North America; the ground handling workforce in Central Asia remains unstudied, a gap this article partly addresses.

3. MATERIALS AND METHODS

The study is based on qualitative analysis of open sources: IATA survey data on ground handling [1] and human resources [13, 14]; workforce analyses by Oxford Economics/ATAG and Boeing [2, 3]; peer-reviewed literature [5–11]; official documents [12, 20]; and corporate communications and media reporting on Uzbekistan Airports, Uzbekistan Airports Handling LLC and airport development in Uzbekistan [4, 15–19, 21]. All figures were checked against the original or the earliest available source. A comparative method was applied to distinguish problems shared with the global industry from those specific to the national context, and the barriers were classified by comparing national evidence with factors described in the literature.

4. RESULTS

4.1. The global ground handling labour shortage

IATA identifies effective recruitment and retention as the first of three priorities for the ground handling sector, alongside global standards and digitalisation [1]. Key indicators of the shortage are summarised in Table 1.

Table 1. Key indicators of the global ground handling staffing shortage

Indicator	Value	Source
Respondents reporting insufficient qualified staff	60%	IATA survey, 2023 [1]
Respondents expecting shortages until the end of 2023 and beyond	37%	IATA survey, 2023 [1]
Respondents fearing that current employees would leave soon	27%	IATA survey, 2023 [1]
Average annual staff turnover in ground operations	20%	IATA Aviation HR Report 2018, via [13]
Range of annual turnover across ground handling operations	from <5% to >90%	IATA Ground Handling Conference panel, via [14]

Source: compiled by the author from [1, 13, 14].

The wide range of turnover rates shows that the problem is one of retention as much as recruitment and depends heavily on pay, working conditions and the way companies develop their staff [14]. IATA itself proposes competency-based training, automation of physically demanding tasks and promotion of career development as responses [1].

A related shortage exists among aircraft maintenance technicians: Boeing's 2026 Pilot and Technician Outlook forecasts a global need for 728,000 new maintenance technicians through 2045 [3]. Maintenance technicians are a separate occupational group from ground handling staff and are mentioned here only as context for the overall competition for technical labour.

4.2. Ground handling in Uzbekistan

In November 2021, Uzbekistan Airports JSC established a dedicated subsidiary, Uzbekistan Airports Handling LLC, to consolidate ground services at Tashkent airport [15]. The company then opened recruitment for check-in agents, baggage loaders, bus and vehicle drivers and aircraft cleaners [15]. At that time Uzbekistan Airports JSC was headed by R. Juraeva, Chairwoman of the Management Board (February 2021 – August 2023) [16].

Restructuring has continued alongside infrastructure expansion: public–private partnership projects at Fergana and Namangan airports, a competition for a new airport in Bukhara with Incheon International Airport Corporation (IIAC) as partner [4], and a public–private partnership agreement signed in 2026 for a new Tashkent international airport with a consortium that includes IIAC [17]. To address the personnel constraint, Uzbekistan Airports has established cooperation with IIAC's training academy and plans a dedicated academy at the new Tashkent airport [4]; in September 2026 it was also proposed that IIAC's planned Tashkent office serve as a competence centre for airport management, digitalisation and personnel training [18]. Regional infrastructure

is being renewed at the same time — for example, Andijan airport was closed in April 2023 for reconstruction and reopened with a new 3,300 m runway [19] — which increases demand for trained ground staff at regional airports.

5. DISCUSSION

The comparative neglect of ground handling in Uzbekistan mirrors the global pattern. Pilot training has received considerable institutional investment, including the civil aviation flight school established within Tashkent State Transport University in cooperation with France's ENAC under Presidential Resolution PQ-5100 of 30 April 2021 [20]. Ground handling roles, by contrast, are advertised as entry-level vacancies [15] rather than as a career track with defined progression.

Three barriers help explain this gap, consistent with the literature. First, **a framing problem**: ground handling is treated organisationally as a support function rather than a core aviation competency, although it determines turnaround time and delay propagation [7, 8]. Second, **a progression gap**: unlike pilot and controller tracks, with defined licensing stages and salary progression, ground handling in Uzbekistan lacks a visible staged career ladder, while the work carries documented physical risks [10, 11]; cooperation with IIAC and the planned Tashkent academy are only beginning to address training [4, 18]. Third, **a visibility gap**: skilled ground handling specialists rarely appear in public narratives about the sector, whereas air traffic controllers, for example, are profiled in the press [21]. This corresponds to the status mechanisms described by Ashforth and Kreiner [5].

Accordingly, the following measures are proposed: (1) formal qualification tiers for ground handling staff with corresponding pay scales; (2) publication of career progression paths by Uzbekistan Airports Handling and other operators; (3) investment in lifting equipment and occupational health protection for ramp staff; (4) inclusion of ground handling specialisations in university and college programmes; (5) public

recognition of skilled ground crew comparable to that extended to other aviation professions.

6. LIMITATIONS

The study relies on secondary sources. Official workforce statistics for ground handling in Uzbekistan (headcount, turnover, vacancy rates) are not publicly available, so national conclusions are based on corporate communications and media reporting. Global turnover figures come from industry surveys with differing samples. Interviews with ground handling staff and managers are a promising direction for further research.

7. CONCLUSION

Ground handling personnel occupy a paradoxical position in Uzbekistan's civil aviation sector, as they do worldwide: indispensable to every flight, yet undervalued in terms of career visibility, training pathways and public recognition. The creation of Uzbekistan Airports Handling in 2021, cooperation with IIAC's training academy and plans for a training academy in Tashkent are meaningful steps, but they remain at an early stage compared with the investment in pilot training. As airport projects proceed in Tashkent, Fergana, Namangan, Bukhara and the regions, the ground handling workforce will require greater attention, since shortages in this segment translate directly into delays and service failures.

Closing the gap requires treating ground handling as a defined profession rather than an entry-level function: formal qualification tiers with pay progression, protection of workers' health, public visibility for skilled ground crew, and investment in people matching investment in infrastructure.

CONFLICT OF INTEREST

The author declares no conflict of interest.

REFERENCES

1. IATA. (2023, May 16). *Ground handling priorities: Recruitment & retention,*

global standards and digitalization [Press release]. https://www.iata.org/en/pressroom/2023-releases/2023-05-16-01 (accessed 22 September 2026)

2. Air Transport Action Group. (2021). *Covid-19 analysis fact sheet (September 2021 update)* [Analysis by Oxford Economics]. https://atag.org/media/cphbiv30/abbb21_factsheet_covid19-1.pdf (accessed 22 September 2026)
3. Boeing. (2026). *Pilot and technician outlook 2026–2045*. https://boeing.com/pto (accessed 22 September 2026)
4. UzDaily. (2026, June 17). *Central Asia aviation targets hub status amid skills and market gaps*. https://www.uzdaily.uz/en/central-asia-aviation-targets-hub-status-amid-skills-and-market-gaps/ (accessed 22 September 2026)
5. Ashforth, B. E., & Kreiner, G. E. (1999). "How can you do it?": Dirty work and the challenge of constructing a positive identity. *Academy of Management Review, 24*(3), 413–434.
6. Bamber, G. J., Gittell, J. H., Kochan, T. A., & von Nordenflycht, A. (2009). *Up in the air: How airlines can improve performance by engaging their employees*. Cornell University Press.
7. Schmidt, M. (2017). A review of aircraft turnaround operations and simulations. *Progress in Aerospace Sciences, 92*, 25–38.
8. Horstmeier, T., & de Haan, F. (2001). Influence of ground handling on turn round time of new large aircraft. *Aircraft Engineering and Aerospace Technology, 73*(3), 266–271. https://doi.org/10.1108/00022660110390677
9. Harvey, G., & Turnbull, P. (2020). Has labour paid for the liberalisation of European civil aviation? *Journal of Air Transport Management*. https://www.sciencedirect.com/science/article/abs/pii/S0969699720305512

10. Bern, S., Brauer, C., Møller, K. L., Koblauch, H., Thygesen, L. C., Simonsen, E. B., Alkjær, T., & Bonde, J. P. (2013). Baggage handler seniority and musculoskeletal symptoms: Is heavy lifting in awkward positions associated with the risk of pain? *BMJ Open*, *3*(11), e004055. https://bmjopen.bmj.com/content/3/11/e004055
11. Mikkelsen, S., Pedersen, E. B., Brauer, C., Møller, K. L., Alkjaer, T., Koblauch, H., Simonsen, E. B., & Thygesen, L. C. (2019). Knee osteoarthritis among airport baggage handlers: A prospective cohort study. *American Journal of Industrial Medicine*, *62*(11), 951–960. https://doi.org/10.1002/ajim.23044
12. European Parliament. (2007). *Report on airport capacity and ground handling: Towards a more efficient policy* (A6-0349/2007). https://europarl.europa.eu/sides/getDoc.do?language=EN&reference=A6-2007-0349&type=REPORT (accessed 22 September 2026)
13. Garcia, M. (2018, August 22). Recruiting and training for critical jobs threaten airline growth. Can technology help? *Forbes*. https://www.forbes.com/sites/marisagarcia/2018/08/22/recruiting-and-training-for-critical-jobs-threaten-airline-growth-can-technology-help/ (accessed 22 September 2026)
14. AviationPros. . *Retention on the ramp*. https://www.aviationpros.com/ground-handling/ground-handlers-service-providers/article/12384311/retention-on-the-ramp (accessed 22 September 2026)
15. Darakchi.uz. (2021). *В аэропорт Ташкента набирают сотрудников: список вакансий* [Tashkent airport is recruiting staff: list of vacancies]. (accessed 22 September 2026)
16. Spot.uz. (2023, August 8). *Что изменилось в Uzbekistan Airports во время руководства Рано Джураевой* [What changed at Uzbekistan Airports under

Rano Juraeva]. https://www.spot.uz/ru/2023/08/08/rano-juraeva/ (accessed 22 September 2026)

17. The Korea Herald. (2026). *Incheon Airport backs Uzbekistan's aviation hub ambitions*. https://www.koreaherald.com/article/10782977 (accessed 22 September 2026)
18. Spot.uz. (2026, September 16). *Incheon International Airport Corporation to open office in Tashkent*. https://www.spot.uz/en/2026/09/16/iiac-tashkent (accessed 22 September 2026)
19. Kun.uz. (2025, April 30). *Andijan airport set for revival with new terminal, international routes, and night operations*. https://kun.uz/en/news/2025/04/30/andijan-airport-set-for-revival-with-new-terminal-international-routes-and-night-operations (accessed 22 September 2026)
20. Oliygoh.uz. (2021, May 11). *O'zbekistonda fuqaro aviatsiyasi uchuvchilarini tayyorlash maktabi ochiladi* [A civil aviation pilot training school opens in Uzbekistan]. https://oliygoh.uz/post/fuqaro-aviatsiyasi (accessed 22 September 2026)
21. Sputnik Uzbekistan. (2025). *Небесные постовые: как женщины-авиадиспетчеры регулируют небо над Ташкентом* [Sky guards: how female air traffic controllers manage the sky over Tashkent]. (accessed 22 September 2026)