ETIAN 2021. Interview.

1. ***Could you tell me a few words about your job/work, please?***

I'm an ATCO. I deal with aircraft. I control traffic both in the sky and on the ground. I find my job very interesting and important. I like it very much and I'm happy to have it.

Air traffic controllers help to guide planes both in the sky and on the ground. They issue/give landing and takeoff instructions to pilots; monitor and direct movement of aircraft on the ground and in the air visually or using a radar, computers; also they control all ground traffic at airports, including vehicles and airport workers; Then they provide information to pilots, such as weather updates, runway conditions and so on; alert airport emergency staff in case of any incident or an accident.

2. ***What are requirements to become a controller?***

First, a candidate for a controller must have a special higher or secondary education, then good both psychological and physical health. Excellent vision, hearing, speaking skills and a good memory are a requirement. One more requirement is the English language certificate with ICAO level four not less. Besides a young person must not be younger than 18 years old and not older than 36. Also he should be a citizen of the Russian Federation.

3. ***What professional education do you have? Where did you study?***

As for me, I graduated from St. Petersburg University of Civil aviation in 1996. (I entered and finished Riga aviation college in 2010, so I have a secondary special education. Professional courses took 2 and a half years.

I studied at … university/college from 2015 up to 2019, I got a higher education. It took me 4 years to receive my diploma.

4. ***Why are ATCOs required to have proficiency in the English language?***

Actually it's an ICAO requirement. English is an international aviation language, so air traffic controllers must have Operational Level 4 or higher /not lower/not less both in radio telephony phraseology and in a plain English. During communication (While communicating) controllers should understand pilots, their problems correctly. Of course, good English helps them to prevent misunderstanding.

5. ***What is the difference between standard phraseology and plain English?***

Standard phraseology is a special language with coded words, phrases and it's used for Pilots- Controllers communication in routine situations at certain stages of flight. As for plain English it's a simple, easy general English. It's used by pilots and controllers in non-standard, abnormal or emergency situations when the RTF doesn't cover the flight situation (isn't enough to describe the problem/situation).

6. ***In what situations you have to use plain English?***

We often (have to) use plain English in many sudden and non-routine situations, in emergencies to provide additional information, for example: to ask or give reasons for delays, to describe weather conditions, to clarify and specify technical, medical or other problems on board, to inform about obstacles or inoperative navigation or ground equipment, etc

7. ***When do you need standard phraseology?***

Pilots and controllers need standard phraseology in all routine situations at different stages of flight. It's very convenient both for pilots and controllers, it reduces workload and frequency congestion.

8. ***How can a stressful situation effect the ability to communicate in another language?***

In my opinion, it depends on controller's personality and his/her level of English. Some controllers may cope with the situation without any problem. Others may experience a language barrier, have difficulties with grammar, vocabulary. For example: confuse grammar structures and words, even forget some. Also, I think, they may change unintentionally to the native language.

9. ***What skills do controllers need to pass the English test at ICAO level 4?***

To pass the test successfully controllers need proper hearing, comprehension and speaking (communication) skills. Also they should demonstrate good grammar, pronunciation and fluency .

10. ***Why is controllers' job considered to be stressful?***

I agree with it, really, controllers' job is stressful. Controllers are responsible for people's lives, for a flight safety. But during the activities controllers face different problems, difficult even/or/and emergency situations. We may have fire in the air or on the ground, sick or drunk passengers, problems with ground vehicles. Actually controllers have a very little time to make a correct and timely decision to assist pilots and save people and the aircraft.

11. What situations may cause stress for a controller ?

It may be any non-standard situation like/such as equipment or communication failure, security issues; medical or technical problems on board; marginal weather conditions, airspace restrictions, unscheduled flights, traffic congestions. In the worst case it's an emergency, for example an aircraft without communication. In general, it's any situation that/which may raise controllers' adrenaline or pressure level, increase their workload or may make them nervous. Controllers have a large responsibility while on duty as any minor mistake can lead to fatality/disaster/catastrophe.

12. What skills do you need in emergency situations?

In emergency situations controllers should be able to cope with pressure, stress and stay calm. Also they must be able to make a quick and correct decision. They shouldn't lose attention and concentration.

13. How controllers cope with stress at work?

First of all, controllers should know documents, rules. It's very important to know when and what to do. Besides controllers have role-plays during briefings and regular simulator training with different emergencies, so they are ready/prepared/trained to resolve (to cope with) real dangerous situations successfully. Also other controllers may support him.

14. What are your main duties?

My main duty is to handle aircraft safely, I mean to prevent collisions between aircraft, between aircraft and vehicles also with different obstructions in the area of responsibility in accordance with Federal regulations. For example, as a Tower controller I give clearances/instructions for takeoffs or landings, I inform pilots of weather conditions on route, at destination; about traffic, RW conditions, restrictions and prohibited areas. Also/besides I support pilots in difficult/non-standard/emergency situations.

- TOWER CONTROLLERS direct the movement of aircraft, vehicles on runways and taxiways. They check flight plans and give pilots clearance for takeoff and landing. Most work from control Towers, watching the traffic they control.

15. What does a controller do to make sure the job is done well?

To understand/realize it, I think, the controller should assess his activities, to analyze if he acted correctly or made some mistakes. Also he should pay attention to supervisor's remarks. If the supervisor gives him a good mark the controller might be sure that the job is done well. (hat he did the job well/properly). There are no complaints from pilots.

16. What ratings have you got? What ATC units do you work in?

I'm a multi-rated air traffic controller. I have ratings for Approach, Radar, Precision, Tower, Ground and Local routes control units. (I can do my job in different control units such as: …). But I prefer the Tower unit.

17. ***What should a controller do to receive another rating?***

(In order) to obtain another (next) rating a controller must have (pass/undergo) an on-the-job training for a new sector. Trainee controllers also pass the simulator. Finally they take an exam. If successful they get a next rating.

18. Could you describe your work schedule, please?

As a rule air traffic controllers work (rotating) shifts and have standard shift patterns: morning, day and night shifts. The shifts last from 8 up to 10 hours, night shifts are the longest. But after night shifts controllers have two or three days off, it's enough to have a good rest. Besides during the shifts controllers have 20 or 30 minute brakes every two hours and one additional hour for sleeping at night.

19. Is your working schedule convenient?

Oh, yes, it's really convenient. I'm pleased with our work organization very much. Between the shifts I have enough free time for my personal life.

20. Why do you operate 24 hours a day and 7 days a week?

Our airport and ATC service operate round the clock. (Lots of) aircraft arrive at our airport and depart in the mornings, daytime and at nights. So safety must be provided all the time (always).

21. How does flight intensity changes from shift to shift?

Traffic intensity is the highest in the morning. So we have peak hours and handle about ??? flights during the shift. Then traffic becomes less and especially it's quite at nights.

22. What are advantages of a day shift/a night shift?

During day shifts we work and rest regular hours, we go to bed in time. I think it's good for our health. After night shifts controllers have several (two and three) days off. So it's enough to relax properly and spend time with the family. In my opinion, it's the main advantage of night shifts.

23. What are disadvantages of a day shift/ a night shift?

During day shifts we have the highest traffic intensity so we have greater workload. We may experience fatigue, work under pressure. It's a negative side of day shifts. As for night shifts they are the longest and it's not very easy not to sleep and stay awake at nights. It can negatively affect controllers' health/general condition. (night shifts act against the body clock).

24. Could you describe your Tower/Aerodrome unit, please?

The Tower Unit is located in the Tower building in a large well- lighted and well-ventilated room. From here we have a very good view of the maneuvering area and can control traffic visually. Our Tower zone is not very big (is quite small). It has a radius of 35kms. (It's ? kms from east to west , ? kms from north to south). It's in the lower airspace from ground up to FL 100. The Tower unit has the following sectors: Radar, Precision and Ground. It's structure includes a maneuvering area, taxi and traffic circuits, several SIDs and STARs, airways and routes, prohibited and restricted zones, holding and fuel dumping areas.

25. How do you control traffic in your zone? What procedures do you apply to provide safety/safe separation/sequencing/orderly flow of traffic?

I control traffic visually and using (with the help of) different equipment and procedures. My working place is equipped with primary and secondary radar screens, voice communication systems, radio-stations, a touch screen for connection with neighboring sectors, a meteo-screen with current weather data at the aerodrome. Also/then we have modern satellite technology and hi-tech computer systems which provide controllers with all the necessary safety data. As for the procedures these are : both standard and special procedures, for example: SIDs and STARs, go around, low pass, vectoring, holding, sequencing, low visibility and speed control procedures.

26. What are the reasons for controllers to lose situational awareness?

Picture of the flight situation (situational awareness) may be lost due to traffic congestion, high workload, health problems and fatigue of the controller. Other reasons are: poor radio discipline, distractions, inattentiveness and carelessness.

27. What flight data are necessary to handle traffic?

To handle traffic effectively we need up-to-date information of the aircraft like (such as) the call-sign, the Squawk, heading, speed, rate of descent or climb, a cruising FL, location of air traffic, reporting points, the destination, alternates, important weather changes and so on. All the necessary flight data are included (can be found) in the flight plans and in the flight labels of the aircraft on the radar screen.

28. What are the reasons to assign Squawks to aircraft? Why is a flight transponder a strict requirement in a controlled airspace?

Squawks (Squawk codes) help controllers to monitor/to see aircraft position on the radar screen, to identify the aircraft (each particular aircraft) and communicate effectively.

29. What re the rules of a transponder code assignment?

Each aircraft receives a special transponder code. In case when transponder code is not assigned yet pilots use/set Squawk 2000. Squawk codes are four-digit numbers, including digits from 0 to 7 . There is no '8' and no '9' digit in transponder code. Codes 7700, 7600, 7500 are used internationally by pilots encountering an emergency, radio communication failure or unlawful interference.

A pilot is instructed to squawk a given code by an air traffic controller, via the radio, using a phrase such as "Cessna 123AB, squawk 0363". The squawk code is assigned as part of the ATC clearance and stays the same (isn't changed) during the flight.[6][7]

No aircraft flying in the same area have the same code.

30. When can pilots change the Squawk on their own?

Pilots may change the Squawk to declare emergency and to confirm exact type of emergency. When hijacked pilots set Squawk 7500; experiencing communication failure Squawk 7600. Squawk 7700 is used to communicate in all general emergency situations during the flight**.** (Engine Failure, Medical Emergencies, etc)

31. What procedures do you use in the aerodrome zone?

In my sector I use separation, vectoring, holding, sequencing and speed control procedures. If necessary we apply a short cut, direct routing (direct) to, Go around, low pass, touch and go or low visibility procedures. Also we assign particular SIDs and STARs for aircraft.

To provide safety we use (apply) separation, holding, vectoring, speed control procedures, assign SIDs , STARs and FLs. Besides we assist pilots in bad weather conditions and emergency situations.

32. Does the use of SIDs and STARs help you to avoid traffic congestion in your airspace?

Of course, yes. Actually each aircraft receives it's own SID or STAR. SIDs and STARS include special routes, levels, speed restrictions and so on. Typically, each runway has several SIDs and STARs, they don't conflict/intersect. So they help us to expedite flow of traffic.

33. What are the reasons for controllers to instruct pilots to go around?

The controller should initiate a go around procedure when the RW is not clear (is occupied). It might be a RW incursion, wildlife (animals and birds), disabled vehicles, debris and so on. Aircraft are not allowed to land until the RW is clear.

If the air traffic controller detects any unsafe conditions (loss of separation) landing aircraft may be instructed to "go-around".

Pilots may initiate a go around procedure due to technical problems, unstable approach, or the aircraft is not in landing configuration yet.

34. How do you maintain appropriate separation between aircraft?

Controllers strictly keep/follow (assigned) separation methods/rules and minima. They provide vertical, horizontal, lateral, longitudinal and time separation. According to the particular situation controllers may increase separation minima.

35. What happens if the separation reduces?

Loss of separation is quite a challenging situation. It can lead to air-miss/near-miss and finally to mid air collision/disaster/catastrophe. Unfortunately it might be fatal.

36. What are your actions if you observe a potential conflict situation?

In such a situation I immediately inform pilots of a conflict and give instructions, for example to change FL, heading, to orbit, to reduce or increase speed and so on. But if a pilot declares RA I don't interfere with pilots' actions, I just acknowledge (I reply "Roger") and wait when the crew reports clear of conflict.

37. Why do sometimes pilots require to delay a departure? What are the reasons for pilots to revise their departure time?

Pilots may request to delay the departure (to revise their departure time) due to many/different reasons, like/for example: technical problems with the aircraft, crew or flight plan issues, missing passengers, not suitable/marginal weather conditions and so on. On the other hand pilots may request earlier departure, when they are in a hurry and ready for departure.

38. What arrangements are necessary in this case?

To depart earlier the crew should communicate/coordinate with the company and obtain a new flight plan. After receiving a new flight plan and a permission the controller clears the crew to depart. In case of delays the controller should coordinate with the ground staff, neighboring sectors, and adjacent units.

39. How difficult is it to provide safety in your area?

It's not very difficult to handle traffic in Tower area because traffic intensity is rather (quite) low. But on the other hand it's a Terminal area, we have a military base and an aircraft factory nearby. Due to their activities we may have restrictions, delays for civil flights causing traffic congestion. (It can lead to traffic congestion in the area).

40. What difficulties may you face when controlling traffic?

Sometime we may face difficulties (my job may become challenging) due to different reasons: ground equipment failure, marginal weather conditions, military, VIP and other special flights, traffic congestion, flight plan problems, delays, birds and animals activities and so on. Besides recently our airspace structure became smaller, so we are limited in our actions now.

41. What qualities are necessary for controllers to manage fast changing situations?

First of all, a controller needs a good reaction and quick thinking, concentration, attention and an ability to work in a team.

42. How can ATC equipment failure affect your operations?

In case of ATC equipment failure we almost always automatically change to (switch on) back up systems and continue to control traffic as normal. So such situations don't affect our operations. But on the other hand failed equipment may be put into operation only by a tele-technician. Of course it takes additional time, we have to apply and coordinate additional special procedures, for example, double separation. Our workload increases, we are very busy then. Also it can cause health problems to controllers.

43. How can ground equipment failure affect your operations?

In case of ground equipment failure controllers' workload increases, because we will have more communication to coordinate additional/special procedures with pilots, adjacent units and the ground staff. For example, instead of ILS approach we may recommend GNS, NDP or visual approaches. We may direct aircraft to a holding area which can lead to traffic congestion. At nights and poor weather conditions traffic might be delayed due to lighting systems breakdown. Controllers may experience stress/nervousness and work under pressure.

44. What do you do if there is any malfunctioning equipment?

In case of any malfunction I immediately inform my supervisor. He invites engineers or tele-technician to repair or to replace the affected systems. Engineers or tele-technicians change the operation to back up systems so I continue to handle traffic non-stop using different procedures like …

45. What makes radio telephony communication difficult?

Radio telephony may become difficult (communication difficulties may arise/happen) due to technical problems with the equipment or language problems. As for technical problems they include different interference on the frequency: distortions (other people speaking, noise, whistles), loud feedback, background noise. Also it may be a stuck microphone, sleeping receiver and in the worst case one- or two- way loss of communication. As for language aspect it may be poor English, bad pronunciation, so pilots and controllers may experience misunderstanding. Also communication may become difficult if someone doesn't follow communication rules (breaks the rules).

46. How can equipment failure affect your communication?

Due to equipment failure transmissions may be blocked so controllers and pilots will receive garbled, not full messages. It can lead to readback errors, call sigh or different instructions confusion. In case of loss of communication controllers should involve (may need to involve) adjacent units or other aircraft . So it can cause frequency congestion.

47. What are the main reasons for miscommunication between a pilot and a controller?

I think, the main reasons for miscommunication are: first of all, deviation from RTF. Then, speaking different languages on the frequency, poor grammar, vocabulary and pronunciation. Also, sometimes pilots may use slangs and jargons.

48. How to deal with possible miscommunication?

To minimize misunderstanding pilots and controllers should keep (follow) standard operational procedures and phraseologies especially in a busy sector. Controllers instructions must be clear, accurate, unambiguous. But still, if miscommunication occurs (in case of real miscommunication) we should ask to say again (repeat), to clarify, to use other words (to paraphrase), to spell, to speak slower or involve our colleagues.

49. When do readback errors do most likely occur?

Readback errors may happen due to frequency congestion or communication equipment problems. Also because of similar callsigns, simultaneous transmission (several transmissions at one and the same time), fatigue or distractions of the crew. Due to poor language skills.

50. Could you describe your typical working day, please?

a) Our working day starts with a medical check. Then we have (are given) a briefing where we obtain necessary (current) information about RW and weather/met conditions for different sectors at our and nearest aerodromes. The navigator advises about restricted and prohibited areas, military activities or other special flights, transition level, sunrise and sunset time. The tele-technician reports on condition of landing systems. The supervisor assigns controllers to their working places so we go there and take over traffic and start our duties.
b) (***Our everyday activities***): We monitor our airspace, communicate with pilots and give different instructions, help them around bad weather and in any non-routine situation. Also during the shift we coordinate our activities with neighboring sectors (adjacent units). At the end of the morning shift the supervisor conducts/holds a debriefing. It's a very important part of controllers' job because we analyze our activities during the shift, we discuss our progress and mistakes. Our supervisor assesses each controller's work and identifies/recommends what could be done better next time. (Also we study new incoming documents).
c) When I arrive at work, I start with a pre-shift medical check. Then I go to the briefing room, where our supervisor informs us of safety-critical issues. We get essential information about restrictions, equipment, situation, and traffic. Next I go upstairs to our operational room. After the hand-over/take-over procedure, I get down to work. I have a 20 minute break every two hours. When the shift is finished, my co-workers/colleagues and I receive debriefing, where our supervisor evaluates/assesses each controllers work.

51. Why is it necessary to have a medical check before every shift?

A pre-shift medical check is a very important element of our job. Controllers are responsible for lives of other people so they always must be in good physical and mental condition (while on duty). The doctor checks the blood pressure, the pulse, the temperature. Also the doctor may organize a random test for alcohol or drugs. If everything is OK (if there are not any problems) he clears the controller to do the job in the shift. If not the doctor restricts the controller from his job.

52. How should a controller organize his time to be fit for work?

To be fit controllers should keep healthy life style. As for me I try to do more physical activities in the open/fresh air, to go in for sports, to have enough time for sleeping. Also I try to eat more organic and healthy food. I refuse from smoking and limit alcohol.

53. How is a shift handover usually organized?

After the briefing controllers arrive in the operation room to assigned working units and take over an operating position from the previous shift. Initially controllers check the condition of the equipment, it's operation, then they receive information of flight situation in their zone and neighboring sectors. At the end of the working day we hand over the duties to the next shift.

54. How do you assess the air situation during handover procedure?

To assess the flight situation and not to miss any important information controllers should follow the checklist. They learn sector condition: if there are any holding aircraft , military or other special flights. Then traffic on frequency, potential traffic conflicts and planned actions. They also analyze weather conditions. If necessary they clarify all the information.

55. What additional questions may you ask your colleague during shift take over?

During take over procedure I ask questions (I receive information such as) number of traffic, stages and status of flights, flight conditions, RW data, equipment and aerodrome operations, restrictions and so on. All the necessary information for my work.

56. In what situation may the previous controller delay the handover ?

If a controller has some difficulties/issues with the flight and his activities he will delay the handover procedure until the problem is solved.

57. How does a supervisor arrange the work during the shift?

The supervisor is the head/the main person of the shift and he is responsible for all controllers in his team. The supervisor holds/conducts briefings and debriefings where he checks controllers' knowledge. Also he assigns/distributes controllers to particular working places, defines a break time for them, monitors and assesses their actions all the time. He supports/assists controllers in difficult and emergency situations. Also the supervisor coordinates the ATC work with different airport and emergency services. In general he is responsible for good work and friendly atmosphere in the shift.

58. What is the role of good teamwork in air traffic control?

We work as a team. Good team work in ATC is extremely/very important. We provide safety together at different stages of flight in different sectors so all our actions should be coordinated. Controllers share the workload, exchange different information. In order to prevent any global/serious errors and incidents we cross-monitor/cross-check our actions and communication. We help/support/assist each other in difficulties and emergencies.

59. What kind of assistance can controllers provide to each other?

Each controller should/can replace and take the workload of his colleague experiencing fatigue, health problems or stress (or support him psychologically, for example to give a good recommendation or an advice) . If it is a language problem controllers should help each other to understand and resolve the problem.

60. Could you describe your airport, please?

I work at the international airport. Our airport is not very large. We have one paved RW and 2 grass strips, 6 TWs and an apron with 27 stands. Different types of aircraft, including heavy, can land at our airport. We control traffic from the Tower building, we can provide ILS, NDB, RNP and visual approaches for flights. There are all the necessary services and vehicles to serve passengers and aircraft at our airport. The airport receives both international and domestic flights and operates 24 hours a day 7 days a week (round the clock) .

61. Is your airport always busy?

Not always, we handle approximately 25 flights a day. But traffic intensity can increase due to military activities, VIP and other special flights. Also we may have busy traffic when pilots and neighboring sectors use us as an alternate. As a rule traffic intensity becomes more in summer.

62. What do you do in case of shortage of stands in your airport?

We coordinate such a problem/issue with the ground staff and authorities. They may arrange additional parking positions on TWs or an apron, or we direct aircraft to a holding area and alternates.

63. What other units and services do you coordinate your work with?

We are in constant coordination with meteorological and navigation services, security and border staff, briefing office, OPS and the ground staff/ground handlers. In emergencies we are in contact with fire and medical services, search and rescue team, low enforcement and so on. Moscow Control. Belgorod and Lipetsk Tower.

64. What procedures does the coordination need/require ?

As a rule, any coordination includes communication, sharing the information (information exchange). Then we assess/analyze, discuss and solve the problems or tasks.

What procedures require coordination?

Such procedures as push back, towing, repositioning, guiding to the stand or to the RW, de-icing, RW clearing and providing emergency assistance require coordination. Also we should coordinate hand-over/take-over procedures with neighboring sectors.

65. What is the role of handling agent in airport operations?

A handling agent is a company representative. He is responsible for many ground activities such as/like re-fueling, catering, water supply and cabin cleaning. Also a handling agent provides necessary assistance for the crew, for example hotel booking/accommodation and transfers. In case of delays he supports passengers with update information, meals/food, refreshment , etc.

66. Why is it necessary to monitor the situation on the radar screen non-stop?

When we monitor the situation non-stop we have a flight picture all the time, we don't lose situational awareness in our area and in adjacent units so we can control traffic safely and successfully.

67. What information do pilots get from air traffic controllers?

Any time pilots may get all the necessary and requested information, such as weather, aerodrome or RW data, information about available landing systems and aids, about their operation, serviceability and so on. Controllers may need to give other essential information about local conditions, such as any kind of obstructions, restrictions or hazard.

68. How important and necessary is on -the-job training for controllers?

Before starting the career all trainee controllers must undergo initial on-the-job training. During this course they study various/different disciplines/subjects like ATC standard operating procedures, aerodynamics, aircraft performance, air navigation, meteorology, the use of equipment at work. Then controllers obtain/get ATC license, the first rating and permission to work/act as a controller (to control traffic on his own). Also controllers pass such a training when they need to receive the next rating for a new sector.

69. Who gives the controller a permission to work at a unit?

The permission to work at a unit is given by the order of the manager/head of the facility.

70. What do controllers need to do the job well?

First of all, controllers must know documents and follow them strictly. Also they should constantly maintain professional and English language skills. Besides, I think, it's very important to keep healthy life style to be fit for job.

71. How do you check the equipment during shift takeover?

Firstly, I check the communication equipment for readability. For this (for this purpose) I call different units on different frequencies and wait for replies. Also I switch on and off different equipment. For example, I check the intensity of RW and TW lighting systems, especially it's important in the dark /at nights. Then, indicator lights show me operation status of our devices. Besides my colleagues may inform me of/about any equipment malfunction.

72. Who can become a supervisor?

Any controller can become a supervisor, but he must meet (if he meets) the following requirements. Firstly, he must have a higher education, then qualification with the first class, ratings for all units and enough experience . Also it is fine if he has good organization skills.

73. How is your work controlled?

First of all, the work of the shift is controlled by the supervisor. Besides, there are video cameras in the center operating days and nights. They record all our actions and the authorities can check the situation any time. Also our radio-exchanges are analyzed by the English language specialist/teacher. So we are under constant control.

74. What special features does your center have?

First of all, it's small. Then it's not a separate unit, we are a branch of the Moscow Center. That's why/so we have limited supporting staff. At the same time we have two departments in another towns, they are in Lipetsk and Sasovo. But in general it's a typical control center.

75. What units does your center have?

Our center has three units. The first is a Tower – Ground unit which provides safety on the ground. The second is a Tower-Radar unit for controlling traffic in the vicinity of the aerodrome. Also we have a Local routes control unit to handle light aircraft and helicopters below minimum safe altitudes during daylight time and recently at nights too.

76. Could you describe your airport layout, please?

Like any international airport our airport has a landside and airside areas. There is a terminal building and parking places for cars and public transport. The airside area includes RWs, TWs and an apron with stands. They are provided with necessary markings, signs and lighting systems which help pilots during landings, taxiing and takeoffs. Our RW configuration is suitable/perfect for aircraft to land and takeoff with the headwind (into the wind). In general, our airport layout is quite simple without any hotspots.

77. Boundary between your and adjacent unit?

We have particular/certain/exact boundaries between adjacent units. And when the aircraft passes the boundary between two units controllers hand-over or take over control of it/them.

a) We have a combined Tower unit with Radar and Ground sectors, so one controller is responsible for activities from the apron up to FL 200. He gives clearances for landing on the RW or for start up, taxi, take off and climb. Then he hands over traffic to the neighboring sector.

b) <u>Boundary between Tower and Ground.</u>

Ground is responsible for aircraft operations from parking stand to the holding point and Tower gives clearances for takeoffs and landings on the RW.

c) ***<u>Boundary between Tower and Radar</u>***.

Tower is responsible for RW operations until FL 50 in the air and after 5000 feet Radar controller takes over traffic.

78. How often do you have international fights?

Unfortunately/currently , not often. Number of international flights decreased mainly due to COVID pandemic. Now there are about ? scheduled flights a week. And from time to time we have charter flights. But I hope the situation will change for better soon.

79. What holding patterns do you use in your operating area?

Recently our area of responsibility became smaller, so at present we have only two holding areas . They are above fix points on both RW headings.

80. What landing systems are available at your aerodrome?

We have only ILS, GBAS landing systems at our airfield. But it's enough for us to work successfully. In addition, I can say we have different types of approaches for landing, for example: ILS, NDB, GLSS, RNAV and visual ones.

81. How can construction works influence your operations?

Of course, any like any additional activity, construction works negatively affect ATC operations especially if they happen in the maneuvering area. They can cause/be the reason for delays, traffic congestion, high/increased workload of controllers. On the other hand, if construction works are in the vicinity of a RW or TWs we just instruct pilots to taxi with caution and we watch over the situation.

82. Do you cooperate with the military?

As I have already said, we have a military base close to out airport. We share a part of the airspace. Though we don't have joint operations we are in constant cooperation and coordination with them.

83. What situations do you coordinate with the military?

Sometimes we need to re-route civil traffic when military activities are in progress. So we initially coordinate with the Air Force and only then we clear the crew a new route.

84. What difficulties may you face due to military traffic?

Military flights always have priority over civil ones. During their activities they close/use a part of our zone that's why we have to use less number of FLs, SIDs and STARs. We may delay civil aircraft, direct them to holding areas. Actually it brings to traffic and frequency congestion. So our workload increases, we work with great pressure. Besides, sometimes we need to handle military aircraft, as we have different procedures it can also cause difficulties or problems for controllers.

85. What is the role of aviation documents in your work?

We use different kinds of aviation documents in our job, they are: the Air Law, Federal and local rules and regulations, orders, instructions, demands or recommendations. They play a great role in our activities: they regulate our work and rest hours. Besides, all controllers' standard and emergency procedures are published in documents and we must strictly follow them.

86. How important are aviation documents in controllers' work?

As I have already said, controllers must strictly follow aviation documents. On the one hand it's very convenient, because we have step- by- step description of our actions for this or that/another situation, we know when and what to do. Of course, it's very convenient and makes our job easier. But on the other hand, our actions are limited by the rules, any minor deviation from them is a mistake (punished) and may have negative consequences/ a great impact in/on controller's career.

87. What is the priority among ICAO and local documents?

As our country is a member of this aviation organization together with the local documents controllers use ICAO papers too. Moreover/indeed our local documents are based on them and very close to them. But still we can find (there are) differences in some items/aspects of the rules. Our local documents have priority over the ICAO ones as they are published in accordance with specific features of our zone.

88. What knowledge is necessary for controller's work?

To do the job well ATCOs need the knowledge of following: meteorology, air navigation and navigation rules, English language, maps and charts, operational procedures, rules and regulations, aircraft types and performance, use of equipment at work and so on. I'd say a lot of knowledge.

89. What are the reasons for delaying departures?

Controllers may delay departures due to flight plan problems, computer failure/glitch, poor weather conditions at the aerodrome, on route and at the destination. Also departures may be delayed because of restrictions in the zone (VIP, military or other special flights). The, pilots may delay departures if they have some technical and passenger problems or they need additional time for cabin preparation.

90. What are the reasons to delay arrivals?

One of the main reasons to delay arrivals is a blocked or contaminated RW. Controllers will never clear the crew to land until the RW is clear. Then it may happen due to an emergency or special traffic. Also pilots will chose to go around or hold if they experience a technical problem and they need some time to check systems. Besides if the aircraft is not in landing configuration or is experiencing wind shear, turbulence or a strong cross wind the arrival will be delayed as well.

91. What are main reasons for your equipment failure?

We may have faulty equipment due to short circuit or power cut in generators and batteries, overheating of the devices, their fatigue. Besides, human factor is often the reason for equipment breakdown, it may be incorrect actions of controllers, poor service/maintenance or manufactures errors also it may be hacker/hacking or terrorist's attacks.

92. Our ground equipment.

Types of aerodrome ground equipment. There are the following types of aerodrome equipment:

Radar/surveillance devices	Radio navigation aids	Visual aids for navigation
▪ **PSR** (Primary Surveillance Radar) ▪ **SSR** (Secondary Surveillance Radar) ▪ **SMR** (Surface Movement Radar) ▪ **ADS-B** (Automatic Dependant Surveillance - Broadcast)	▪ **NDB** (Non-Directional Beacon) ▪ **VOR** (VHF Omni-Directional Radio Range) ▪ **DME** (Distance Measuring Equipment) ▪ **ILS localizer beacons** ▪ **ILS glide path beacons**	▪ **VASI** (Visual Approach Slope Indicator) ▪ **PAPI** (Precision Approach Path Indicator) ▪ **ALS** (Approach Lighting System) ▪ **Runway edge lights** ▪ **Runway centre-line lights** ▪ **Taxiway lights**

Note: steady burning red lights are used to mark obstructions on or near airports.

Sometimes ATCOs have to inform pilots about the unserviceability of ground equipment.

93. What are the main reasons for ground equipment failure?

См. 91. Besides, operation of the ground equipment may be affected by certain weather phenomena. For example, in subzero temperatures localizer antenna(s) can get ice and stop functioning. Severe lightning strike can damage lighting systems and so on.

94. How to improve simulator training in your center?

In general, I'm satisfied with the simulator training in the center. But still, it will be better if they use more hi-tech technology and add more complicated exercises for training.