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PSYCHOLOGICAL ASPECTS OF THE RECRUITMENT OF ADMINISTRATIVE PERSONNEL AND SERVICES IN A REGIONAL AIRPORT

Summary. The proper preparation of personnel of civil airports is justified in terms of safety and security of flight operations, airport capacity, which in turn affects the timeliness of air traffic. For airports, which have been created from scratch, in a social environment in which there are no aviation traditions, with the formal tightening of qualification rules for airport services personnel by the EASA, the selection of candidates for training, the formation of service teams, their training and cohesion constitutes a real challenge. At the discretion of airport management, the definition of minimum requirements with regard to competence, ways of training, gaining and developing professional competence, determining remit (important in terms of insurance) and specification of the manner of storing data about the competence and remit, also their resumption, extension, suspension, cancellation as well as time and duration of the refreshment. This practice, being an attribute of airport management, is commonly defined as "Under supervision of Airport Authority". For each airport function, individual training programmers are juxtaposed, using the themes listed for the first stage, second stage and for the practical course. The phase of continuous improvement focuses on the selected functions in the organisational structure of the airport. One of the elements determining the safety and efficiency of the operation of an airport is the proper selection of candidates for work, including the personal-professional profile. Psychological studies, using available research tools, are

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used for this purpose. This article includes the results of studies conducted among work candidates in a newly created airport, in accordance with the following criteria: temperament, sense of control placement, coping with stress, intelligence and mental health abilities, attention, resilience, social competences, emotional intelligence. The study findings would be helpful in the management of the selection of employees and developing individual training programmes, preparing for work in specific positions at the airport.

Keywords: staff training, regional airport, managing, new airport

1. INTRODUCTION

Air transport is one of the fastest developing areas of transport. The second half of the 20th century is a period of fast-developing air transport for both passengers and cargo as well as mail in Poland. The development of this type of transport refers to ensuring the best conditions of safety and efficiency of air operations on the ground and in the air. The airport becomes a system combining individual elements (for example, technical, organisational), whose coordinated action is responsible for the efficient and safe execution of air operations [4,8].

The last few years have been a period of dynamic progress in aviation transport in all areas of public carriage of people, goods and airmail [7,12]. Construction work of a new airport is an investment with reliance on a specific natural and operational environment, which requires the determination of a schedule of work in different fields:
- administration (vision, mission, politics, documentation and certification),
- economics (estate and equipment, economic index),
- operational (operational strategy) [6,13].

The most important is still personnel and its abilities (Fig. 1) [3].
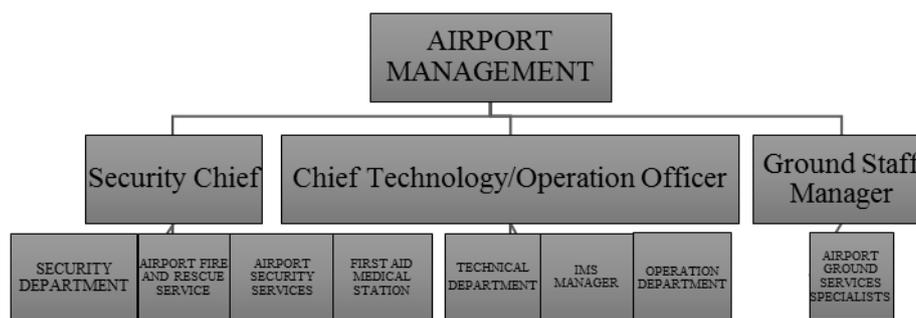
Fig. 1. Illustration of an organisational scheme of a regional airport
Source: author

The formation of a larger number of the same regional airports involves the needs of sourcing a significant amount of specialised staff in a relatively short period. Regrettably, in today's market, there is a shortage of professionals who could fulfil their duties with the right sense of responsibility required of such highly specialised positions, in specific functional

departments found in modern airports; regional or international irrespective. Considering, for instance, a regional airport whose goal is to serve one million passengers, its structure would reach an amount of approximately two hundred specialised staff in such departments as:

- administration,
- safety,
- technical,
- ground staff,
- outside safety sources lending support for the operational activity of the airport (Fig. 2) [5].

Fig. 2. Areas of experience, which need to be trained at the airport
Source: author

2. AIR PERSONNEL TRAINING

Taking into case consideration, the training of a newly created airport staff presents very different situational demands, as it is a specific and challenging task for the crew involved. The specification of this task is about not only having comprehensive knowledge about the functioning of the entire civil airport, tasks of the staff but also having the ability to foresee how the organisational scheme of the future airport would look like. The preparation assumption for the personnel-training program should include a series of conditions relevant to the airport. It is necessary to answer a number of questions, for example, how the new airport would function, its role in the scheme of things, what tasks will be fulfilled by the airport, who will complete the cast list, and what is the final outcome of the whole personnel training process. While trying to answer the above questions, there is one more to deal with, namely, the precept of the Law to use in the preparation of the training processes. This is where the first problems arise. Apart from the training fields of the Airport Security Services and Fire and Rescue Services, the training of other airport services is defined in a very abstract manner in ICAO 9776 Manual on Aerodrome Certification, Regulation (EC) No 1108/2009 of the European Parliament and of the Council of 21 October 2009 [9]. It leads such organisations as ICAO, EASA and the National aviation authorities of many countries to the serious problem of maintaining standards for licensed personnel, including air traffic control and pilots' problems with the standard of the English language, maintenance engineers – problems with standards of the maintenance services and guidance in understanding the Aircraft Manuals. It is necessary to bear in mind though that should the issue of airport staff-licensing obligation to high-class standards arise, it would cause a huge problem for many European airports to fill in their cast lists. The lack of qualification criteria in multiple air staff specialisations encourage the possibility of discretionary qualification of the staff in the certification process and theoretically legitimises a tremendous discrepancy in the knowledge and experience of the staff of same size airports. This is transferred to the level of airport safety. Therefore, it is extremely important to define the minimum requirement of

knowledge, skills and competence for particular labour groups such as airport operations duty managers, marshallers, airport lighting specialists, computer system validation (CSV) engineer/specialist, and seasonal workers. In these guidelines should be found, not only qualifications but also health status, eligibility such as driving license, certificates for electrical installation contracting, etc., suitable for the job. Furthermore, it would be a good practice if executives used such instruments as psychological and emotional health check-up for the interviewees who apply for airport-based jobs. This commonly exists in other fields of life. Applicants for a license to carry a weapon, drivers and firefighters need to do specialised psychological check-ups; this might as well pertain to the whole group of airport specialists (Fig. 3).
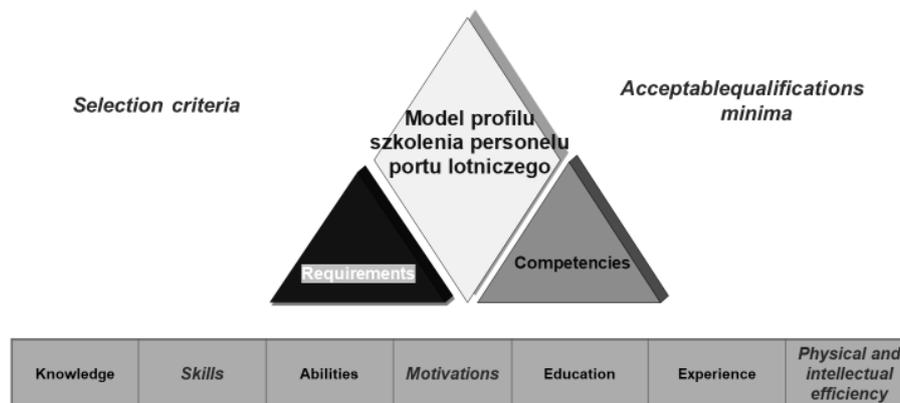

Fig. 3. Philosophy and vision for the training of airport specialists
Source: author

Airport specialists responsible for education and training:
1. Airport managerial personnel
    − executive,
    − operational managers,
    − technical executives,
    − economic and financial managers.
2. Airport administrative and technical personnel
    − airport administration,
    − specialists of operating systems (ims, certification, validation),
    − specialists responsible for protection,
    − specialists responsible for communications,
    − specialists responsible for information technology,
    − specialists responsible for environment protection,
    − specialists responsible for auxiliary services.
3. Airport terminal personnel
    − terminal operational services,
    − terminal technical services.
4. Airport personnel
    − apron services (airport operations duty officer, follow-me,...),
    − apron technical services (maintenance, lighting, transport, seasonal operations, ...).

5. Other airport services
  – fire and rescue service,
  – airport security service,
  – medical service,
  – meteo service (ext.),
  – services/ground handling companies (ext.).
6. State services
  – police (airport/ext.),
  – border guards (airport/ext.),
  – customs service (airport/ext.),
  – military (airport/ext.).
7. Municipal services, institutions, specialists
  – fire and rescue service,
  – first aid medical station,
  – cleaning and contamination services,
  – special transport, crane services, ...

On the one hand, airport executives will never accept a mentally disordered or emotionally unstable person to work; on the other hand, however, they must be certain that the employees meet the criteria and will able to fulfil the planned training. It is possible to assess such persons easily using suitable tests. A casting process done on a voluntary basis will be of low cost and goodwill matter. Psychological examination of candidates for posts in an airport - personal-professional employee profile:
  • temperament:
    – amount of energy,
    – need for stimulation,
    – resistance to difficult and extreme situations,
    – pace of life,
    – response time,
    – flexible or schematic,
    – easily/not easily adaptable to new situations,
    – resistance to stress - styles of stress management,
  • attention:
    – emotional intelligence,
    – ability to recognise facial expressions, which is treated as a basic components of emotional intelligence,
    – acceptance, expression and use of own emotions in action,
    – empathy, that is, understanding and recognition of other people's emotions,
    – control, including cognitive ones, over one's own emotions,
    – understanding and realisation of one's own emotions,
    – perception, recognition and influence on the emotional condition of other persons.

Exemplary psychological tests, together with the research tools can be seen in Table 1. The aim of the investigation was to assess the psychological profile of an ideal worker for ground personnel as well as airport services [11].

Tab. 1

Exemplary psychological tests for airport job applicants

Tested selection criteria	Groups of tested candidates for specific kind of tasks				Research tools
	Managers	Administration Employee	Airport worker	Sentry post	
Temperament	yes	Yes	yes	yes	**FCZKT**
Self placement and control	yes	Yes	yes	yes	**CWP**
Stress handling	yes	Yes	yes	yes	**CISS**
Intelligence and skills	-	Yes	yes	yes	**TIS**
Mental health	yes	Yes	yes	yes	**GHQ**
Attention	-	Yes	yes	yes	**D2TEST**
Personality	yes	Yes	yes	yes	**NEO-PI-R**
Social competencies	yes	Yes	yes	-	**KKS**
Emotional intelligence	yes	Yes	yes	yes	**TSIE**
	yes	Yes	yes	yes	**PKIE**

Source: testing conception for airports

By using suitable research tools, it is possible to conceptualize social competencies as revealed in the following situations:
- social exposure,
- self-assertion,
- close interpersonal contact,
- serious hazard (Table 2).

Tab. 2

Sample scenario and procedure of a psychological test for candidates

The examined criterion of selection	Used psychological tools	Time of examination /in minutes/
Temperament	FCZKT	30
Locus of Control	CWP	15
Stress management	CISS	15
Mental health	GHQ	10
Focus	D2TEST	~ 5 /280 sec/
Personality	NEO-FFI	45
Social competences	KKS	20
Emotional Intelligence	TSIE	20
	PKIE	20

The number of types of examination in a given group of candidates	Overall number of exploited tools: 9	Total time of examination: 180 min. + 20min. for passing the information

Source: testing conception for airports

The results of the research with the above-mentioned tools can be considered complementary, and at the same time, in line with the expectations of the employer with regard to the employees (Figs. 4 and 5).
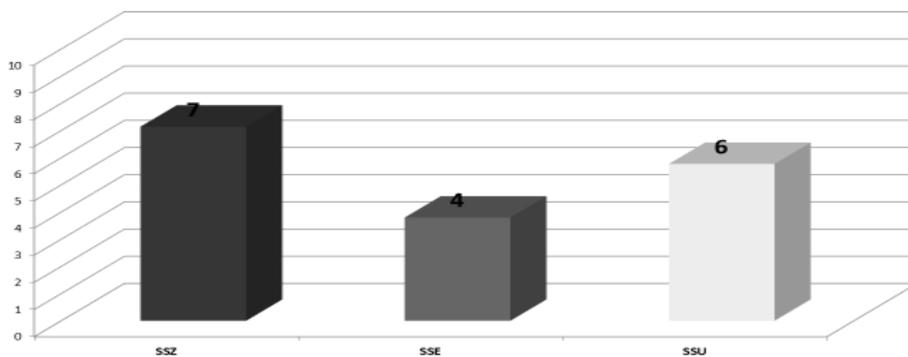
RESULT: a group of examined candidates for jobs related to ground maintenance and airport services of the airport meets the preferable expectations for this psychological characteristic (i.e. style of coping with stress).

Fig. 4. Stress handling test
Source: author

The results of the research with the above-mentioned tools can be considered as mutually complementary, and at the same time in accordance with the expectations of the employer towards candidates.

The personnel training process should not be one - time only. The dynamic progress of aviation requires a highly responsive way of operation, which calls for the need for continuous refining in the field of organisation, procedures and high technology. Thus, the process should not only be repetitive but universal for a specific kind of labour group by using theory elements and practicals, cooperating with other services, especially in a hazardous situation (Fig. 6).

Model of a theoretical training programme of airport operational staff, universal for every operational skill (a type of airport GCSE), requires a minimum of three weeks of intensive training and theoretical tests for applicants. Unquestionably, this involves exertion on the instructors as well as the participants of the course and an organising effort on the part of the employer.

Such a training programme should take into account the fact that most of the candidates are unfamiliar with aeronautics, not to mention operational airport activities. Technical university programmes are either too extensive or inapplicable to a progressive airport reality. Furthermore, the programs do not include the most important factor - airport practice (airport internships are too short and do not give full competencies). Moreover, these types of training are difficult to define in a simple way, thus, it is impossible to give specific eligibility to a student. Another problem is the choice of trained and highly experienced lecturers. A very

important factor of the training process is to prepare teaching aids, for example, presentations, movies and papers. Some practical scrutiny shows that there is no better way to speak to somebody than to show him practically what the whole airport process looks like. Specific airport cases are gotten into the imagination in a special way. Students need to know that the training programme is addressed to them and that their duty is to gain this knowledge, which should be checked recurrently during the course. On completion of the course, the whole material should be checked with an appropriate exam. Passing the tests and exam should be sufficient to obtain a certificate of skills with regard to specific theoretical training. Unfortunately, in our reality, proper accreditation of such training and a certificate still poses a serious problem. There are too many loopholes and imperfections of the local law in this matter. The regulations are too general and common practice has not yet developed a good habit of a high standard training for personnel in many fields Tables 3 and 4 [14].
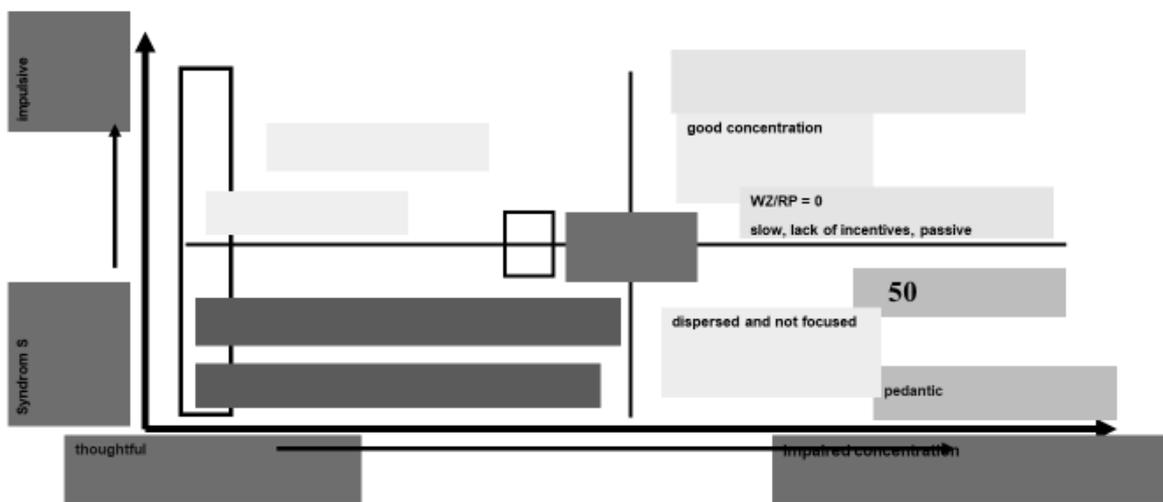
Fig. 5. D2 - examining attention test
Source: author

Tab. 3

Scope of a simplified course for candidates for an airport worker

No.	Information about the programme	L	E
•	Official start of course, welcoming participants	X'	X
•	Information about staff training system of the airport		
•	Overview of the requirements for the course participants, their tasks and conditions for participation in the course	X	X
•	Thematic scope of the programme; theoretical and practical	X	X
•	Course schedule for the implementation of the programme	X	X
•	Manner of the programme implementation	X	X
•	Materials and didactic aids for course participants	X	X
•	Introducing lecturers and instructors responsible for conducting particular thematic blocks	X	X
•	Ways of checking knowledge and skills of course participants	X	X
•	Ways of raising qualifications and resuming the validity of staff qualifications	X	X

|			
•	System of supervision over the proper implementation of the programme		X
•	Discussion of the assessments for acquiring individual programme modules	X	X
•	Airport organisational regulations (including organisational structure - brief)	X	X
•	Safety at work training (including specific threats at the workplace)	X	X
•	Fire-fighting training	X	X
•	Passes training	X	X
•	Productivity and team coordination	X	X
•	English language training (aviation terminology - selected issues)	X	X
•	Signs, markings (pictograms), signals and messages applicable at an airport (Landside and Airside)	X	X
•	Code of Ethics for an airport	X	X
•	International and domestic aviation law - basic training	X	X
•	Communication systems in PL [communications systems in general, radio, tranking) - basic training	X	X
•	Quality System - basic training	X	X
•	Safety system (safety) - basic training		
•	Security system (security) - basic training		
•	System of Environmental Protection - basic training		
•	Structure, topography, airport equipment, threats - basic training	X	X
•	Airport services and their tasks - general training (introduction)	X	X
•	Organisation of vehicle traffic, equipment and pedestrians within the airport	X	X
•	Airport operations in a normal and special mode (alert, contingency, crisis)	X	X
•	Seasonal operations at the airport	X	X
•	Monitoring and surveillance system for the operation of the airport	X	X
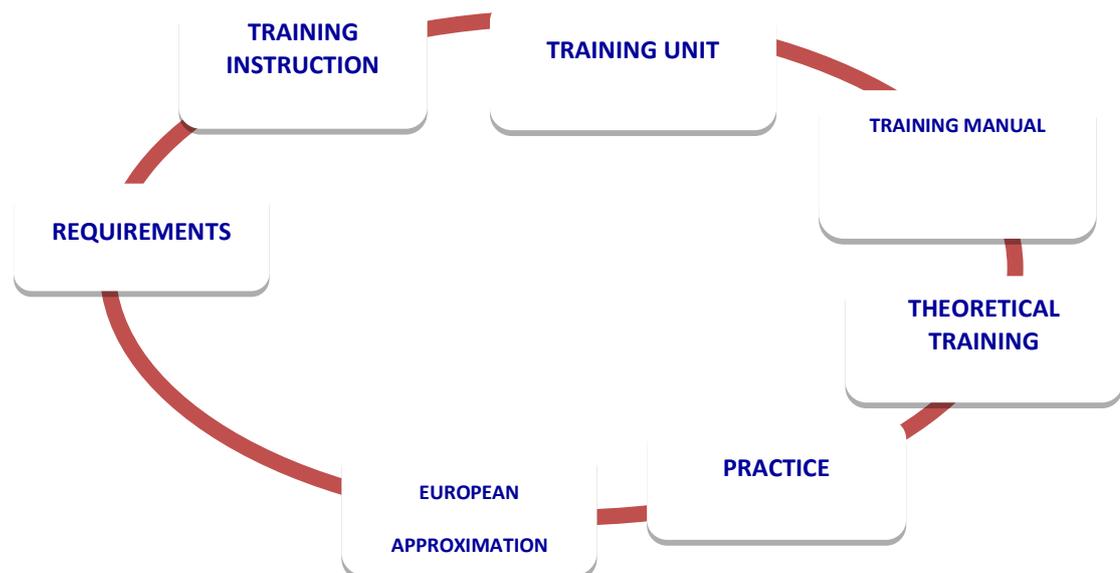
Fig. 6. Elements affecting training process
Source: author

Tab. 4

Scope of a simplified course for candidates for airport workers

No.	Information about the programme	L	E
•	Official start of the course, welcoming participants	X	X
•	Information about staff training system of the airport	X	
•	An overview of the requirements of the course participants, their tasks and conditions for participation in the course	X	X
•	Thematic scope of the programme; theoretical and practical	X	X
•	Course schedule for the implementation of the programme	X	X
•	Manner of the programme implementation	X	X
•	Materials and didactic aids for course participants	X	X
•	Introducing lecturers and instructors responsible for conducting particular thematic blocks	X	X
•	Ways of checking knowledge and skills of course participants	X	X
•	Ways of raising qualifications and resuming the validity of staff qualifications	X	X
•	System of supervision over the proper implementation of the programme		X
•	Discussion of the assessments for acquiring individual programme modules	X	X
•	Airport organisational regulations (including organisational structure - brief)	X	X
•	Safety at work training (including specific threats at the workplace)	X	X
•	Fire-fighting training	X	X
•	Passes training	X	X
•	Productivity and team coordination	X	X
•	English language training (aviation terminology - selected issues)	X	X
•	Aviation terminology (airport terminology in the Polish language)	X	X
•	International aviation organisations	X	X
•	Signs, markings (pictograms), signals and messages applicable at an airport	X	X
•	Code of Ethics for an airport	X	X
•	International and domestic aviation law - basic training	X	X
•	Airport functions (as a whole) and functions of its main services	X	X
•	Documentation standards of the airport – best practice (Best Practice)	X	X
•	Automatic Identification System (AIS)	X	X
•	Airport equipment – basic information	X	X
•	Airport Communication System (general communication, radio, tracking)	X	X
•	Quality System - basic training		X
•	Safety system (safety) - basic training	X	X
•	Security system (security) - basic training		X
•	Airport Environmental Protection - basic training		X
•	The protection of civil aviation against acts of unlawful interference and state border – basic training	X	X
•	Aircraft; building, classification - basic training	X	X
•	Structure, topography, airport equipment, threats - basic training	X	X

•	Documentation, manuals, operating procedures for air traffic services, in the section on airports	X	X
•	Airport information systems and their compatibility with other information systems - basic training	X	X
•	Airport services and their tasks - general training (introduction)	X	X
•	Organisation of vehicle traffic, equipment and pedestrians within the airport	X	X
•	Airport operations in normal and specific conditions (alert, contingency, crisis)	X	X
•	Airport operations in day and night - basic training	X	X
•	Seasonal operations at the airport - basic training	X	X
•	Air operations in LVP conditions - basic training	X	X
•	Human Factor in the work of airport services (Human Factor) - basic training	X	X
•	Monitoring and surveillance system for the operation of the airport	X	X
•	Air information (FIS/AFIS) - basic training	X	X
•	Ground-based air traffic protection installations - introduction training	X	X
•	Identification of aircraft types and their basic technical operational data	X	X
•	Removing grounded aircraft from airport apron (introduction)	X	X
•	Introducing the content of the Airport Operations Manual (basic training)	X	X
TOPICS OF TRAINING FOR LANDSLID PERSONNEL			
•	Maintenance and servicing of terminal (Terminal Resource Management)	X	X
•	Operation of parking spaces (only for service staff car parks) + practice	X	X
•	Running an airport sound system (only for sound system personnel) + practice	X	X
•	Passenger handling (including unaccompanied children and passengers with reduced mobility PRM)- introduction	X	X
•	Baggage handling (passenger baggage, cargo, cargo DGR) - introduction	X	X
TOPICS OF TRAINING FOR AIRSIDE PERSONNEL			
•	Signs, signals and messages applicable in the Airside sector	X	X
•	Measurement of roughness of the surface DS and DK - introduction	X	X
•	Control, calibration, operation (service) of ground-based air traffic security installations -introduction	X	X
•	Apron resource management (maintenance of ground ait traffic) – introduction	X	X
•	Airport work under LVP conditions	X	X
•	Animal threats at the airport and in the operational area of the airport	X	X
•	Audio equipment and bang weapons used in deterring animals and birds at the airport	X	X
•	Aircraft refuelling -introduction	X	X
•	Apron Maintenance – introduction	X	X
•	Operation of luggage carriages, luggage conveyor belts and other devices on the aircraft apron - introduction	X	X
•	Towing, pushing, operation of 400 Hz equipment and connecting an aircraft, handling an immobile aircraft (RTG) - introduction	X	X

•	Transport of passengers and their baggage on the tarmac (shuttle buses, transport of luggage, transport of cargo) – introduction	X	X
•	Snow removal and de-icing of aircraft – introduction	X	X
•	Seasonal maintenance (including de-icing/snow removal) of the air traffic ground – for information	X	X
THEMES FOR JOINT COORDINATION EXERCISES			
•	Theoretical exercises (Desk Research) within coordination and the implementation of emergency procedures, contingency and crisis involving State and municipal services at the airport	X	
•	Practical exercises (Field Research) within coordination and the implementation of emergency procedures, contingency and crisis in/or on the grounds of the airport	X	

The next step, which concurrently poses a challenge, is a practise training. There is neither legal footing which would legitimise the minimum qualification for most airport specialities nor a consistent standard of legal requirements addressed to airport personnel in a matter of most specialities practical training process. The program preparation should be based on solid practical knowledge gained during long-term practice at large airports together with a confirmation of this knowledge internationally. Interpersonal contacts with specialists of large airports and organisations such as IATA (International Air Transport Association), ACI (Airport Council International) or FAA (Federal Aviation Administration) have proved to be extremely helpful. There is the priceless opportunity of practising at a big airport, where it is possible to train under different scenarios in a natural environment, under the eye of a specialist and in different weather conditions, where one can really feel the atmosphere of the airport [2].

The final step is to practise at the target airport, using the airport's own equipment. This stage of training is vital but its processing depends on the prefigured notation made in the contract with the equipment provider about its duty to reliable staff training [10].

The lay of the land of the whole staff preparing process is a phase of testing the new airport. It is a stage, which did not exist in any airport regulations, hence, it is rather a stopping factor than a stimulant in the training process, as before the certification of the airport there is no way that any plane can land on it. This means there is no way of practice, conducting any tests in the new airport topographic reality or harmonising the whole safety system with outside services (Fig. 7).

An extremely important element of the organisation of preparing an airport worker for work is the monitoring of their suitability for the position through documenting, storage and archiving data. Each course participant should have his or her own documentation file:
- education and useful skills prior to the start of the course,
- course of training,
- course of hands-on training,
- protocols of periodic inspection of knowledge and skills.

The creation of an effective, coordinated staff training, certifying of competences and authorisations to carry out tasks within the Lublin Airport and in the operational airport zone should become one of the main strategic objectives of the airport [1].
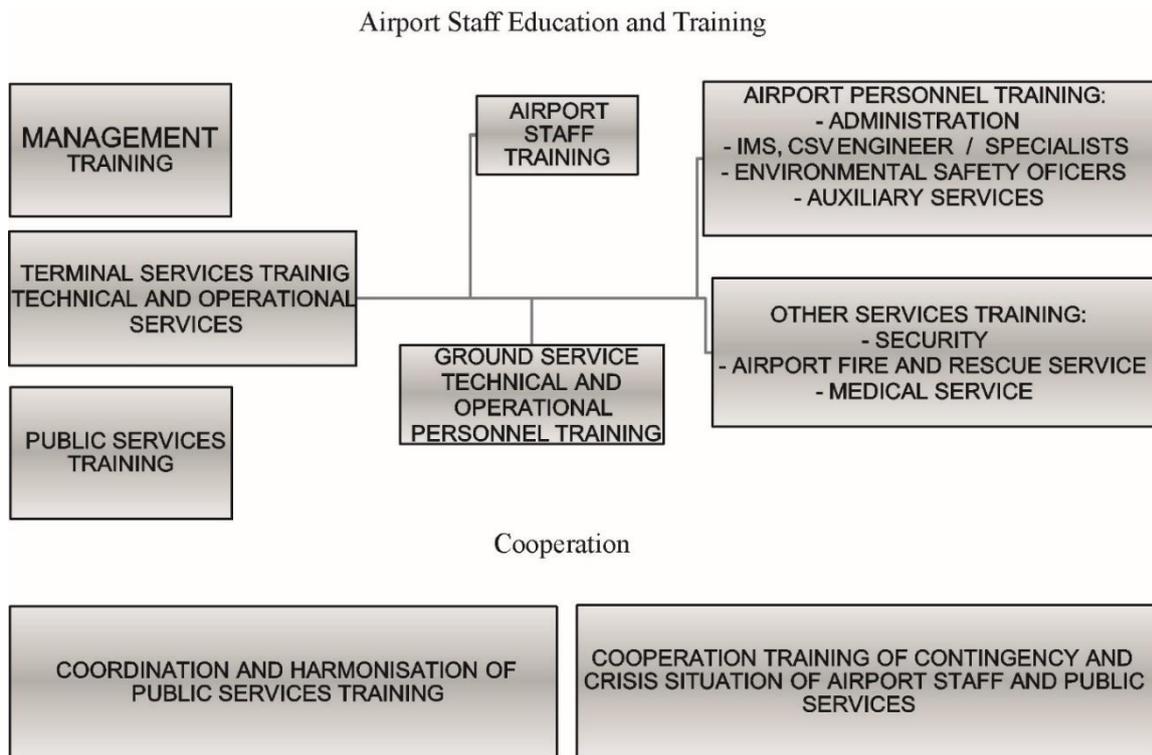
Fig. 7. General model of airport specialists training
Source: M. Sławiński, Training conception for Lublin Airport

3. CONCLUSIONS

In light of the above-presented examples of training problems, it is definitely clear how difficult the task of preparing all needed personnel for a newly created airport is.

We may assume that the main task of the airport officials in the future is to create the possibility of specialised training for all levels of airport staff. A complete training program unified through all airports gives the assurance that the same service level of staff can be achieved irrespective of place.

However, due to the observation of the situation at different airports, it is quite evident that there is still a problem with the same level of airport staff qualification. It is hoped that future training centres all around the world will create training rudiments, with the use of which full airport staff training will be implemented. Special certification process will help find staff with the same level of abilities notwithstanding the airport.

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