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The Human Challenges of Modernising the Air Force

The aim of my article is to provide an overview of the capability development of the Air Force's fleet within the framework of the Zrínyi National Defence and Armed Forces Development Program and the effects of the related tasks that fundamentally affect the operator and maintenance personnel. The article briefly describes the peculiarities of the organisational culture of the Air Force, the age and position of the available personnel, which is the initial knowledge necessary for the planning of the recruitment. The article covers the complex security policy, social and technological environment to which the selection system applied by the Hungarian Armed Forces must be adapted, and which is the key to successful training and success indicators. Through personal reports, the article seeks to present a real situation about the challenges and motivations and path-finding of the personnel currently serving in military aviation.

Keywords: *capability development, human resources, generation, analogue–digital switchover, Hungarian Armed Forces, military suitability, Zrínyi National Defence and Armed Forces Development Program, NATO*

1. Introduction

The Hungarian Armed Forces is facing a new and unprecedented opportunity and situation. At the same time, new aircraft are procured and set up, the necessary operating conditions and infrastructure are developed, the regulations, manuals are rewritten and taken over and introduced, the operator and maintenance staff are trained and retrained, and efforts are made to solve the shortage in several ways. This is done on the condition that, in the meantime, the formations concerned must carry out their tasks in full.

In this multi-parameter and constantly changing system, an optimum must be found, which can be achieved with virtually no full efficiency or only with limitations. It is the responsibility of the flight experts to discover intervention points and directions in processes that have already been recorded with certain errors, which may provide an opportunity to perform the task safely and achieve the goals originally set, prioritising the most valuable element of the system, the aircrew itself [5].

2. In the light of the current challenges

The Hungarian Government has set the goal of creating a strong, capable army that meets the requirements and challenges of the age. During the preparation of the Zrínyi National Defence and Armed Forces Development Program, launched in 2015, it had to be stated that in order to develop the complex capabilities of the Air Force, it is necessary to go back to the basics for virtually all (combat) services. Although it was clear to military professionals – as stated in senior management reports in 2009 – that failure to modernise military equipment would result in a severe loss of capabilities, we only received an effective response from a budgetary point of view with the Zrínyi program [2].

As a result of force development, a technical era change is underway across the entire Air Force. The following capabilities will be replaced and developed: fighter aircraft, helicopter, military transport aircraft, basic training aircraft, anti-air missile, radar, unmanned aerial vehicle systems, command and control.

Building on existing elements of fighter aircraft capability, upgrading the Gripen armament and modifying the on-board software package is essential to fulfil the mission to be performed and undertaken within NATO.

In case of helicopters, in addition to the Mi-17 medium transport helicopters, the Mi-24 combat helicopters, the AS-350B light helicopters used primarily for basic training and liaison tasks operate in parallel, and the H145M lightweight multi-purpose helicopter fleet, which will soon be in its full range of applications.

The H225M, which is expected to be delivered from 2023 with a medium-range multi-purpose helicopter fleet and the full operational capability (FOC) of the two new models, could also complete the planned rotorcraft capability. The full development of a rotorcraft capability is also a prerequisite for special operations air support (SOATU[1]), which is considered a priority capability.

With regard to transport aircraft, the retirement of the An-26T medium-tactical transport aircraft from service in 2020 also resulted in a change of era and, unfortunately, a temporary loss of capability. The arrival of the new generation Embraer KC-390 Millennium aircraft in 2024, taking into account the Airbus A319-112 troop transport and the Dassault Falcon long range, multi-purpose liaison and transport aircraft already in operation, can be said once full operational capability (FOC) is achieved there will be a unique capability of the kind in our region.

The re-establishment of the basic training aircraft capability, which was virtually discontinued in 2015 – the Zlin Z-242L light training and Zlin Z-143LSi light training and liaison aircraft acquired between 2017 and 2021 – provides the opportunity to operate the newly acquired military aircraft listed so far, basic flight training for pilots. Furthermore, the NFTC[2] of the personnel undergoing flight training is based on this ability, then the training of the same purpose and also of high quality replacing it, such as the training of the Department of Aerospace Controller and Pilot Training restarted at the University of Public Service in 2018 after 23 years.

[1] Special Operations Air Task Unit.
[2] NATO Flying Training in Canada.

The introduction of the modern types described above into the system and the achievement of its full operational capability level is full of challenges. The following list highlights all aspects of which a single deficiency or weakness affects the entire system:

- creating and adopting a new air operating culture;
- creating and adopting a new maintenance culture;
- developing new tactics technique and procedures (TTPs) due to emerging new capabilities;
- new demands on operating environment (hangar, airport, logistics, airport operating regulations/policies);
- developing a new selection process;
- introduction of new university training that prepares for real flight and focuses on practical training sooner;
- new challenges for pilots (language, procedures, type change, health, generation, psychology);
- new challenges for the aircraft maintenance staff (language, procedures, type change, generation, training);
- new challenges for air traffic controllers (procedures, increased traffic, joint management of aircraft with different characteristics, work environment, lack of equipment);
- new standards and quality of training (language environment, EASA[3] compliance, MAWA[4] compliance);
- belonging to a new "club" (employing countries, transport associations, P&S[5]);
- new types of challenges for the management staff (complex approach, acceptance of the specifics of the armed forces and services, significantly different unit costs, acceptance of the opinion of the experts at the decision points).

3. Characteristics of organisational culture

When discussing the human challenges of air force development, certain characteristics of the host organisation surrounding the fleet should also be addressed in order to form the overall picture.

Due to its mission, a military organisation has a hierarchical, rigid structure. For an Air Force, in order to be able to perform its task system as intended and efficiently, in addition to the availability of human resources and military equipment, infrastructure, the regulations that precisely define flight operations, as well as national and international regulations governing operational tasks must be complied with.

The construction and design of such a complex system is the work of years and decades, during which, in addition to continuous monitoring, the faulty processes must be recognised and the appropriate intervention must be taken in a short time in order to achieve optimal operation.

[3] European Union Aviation Safety Agency.
[4] Miliraty Airworthiness Authorities.
[5] Pool and Sharing.

Based on the above, it can be said that any intervention (stress) occurring affects the whole system, it initiates specific dynamic processes. In order to be able to analyse the effects of a change in context, it is not recommended to intervene at more than two significant points at the same time. In contrast, due to the current compelling circumstances, the number of intervention points is also an order of magnitude higher.

Another issue is the organisational culture, the system of values, priorities mediated by the organisation and accepted by its members, which are passed on to each other by different groups and generations of the staff in the given organisation, and which regulates the operation and behaviour of its members. This is why radical change is undesirable for a functioning complex organisation.

As the Air Force does not operate in a "vacuum", but its operation is influenced by external and internal factors together and strongly, the following have a decisive influence on the organisation:

- the general culture of society;
- national historical features;
- the professional culture of the given organisation;
- the culture of those associated with the organisation;
- the internal characteristics and common values of the given organisation;
- individual indicators of staff members, which will be discussed separately in the rest of this article.

Thus, a unified organisational culture means that people think and behave similarly in a similar organisational situation, which is also a flight safety factor, as in addition to efficiency, it significantly reduces internal conflict and simplifies management works.

The Armed Forces, including the Air Force, is a bureaucratic organisation that is typically authoritarian, hierarchical, role- and task-oriented. A particularly big challenge for this type of highly regulated organisation is the significant change itself and the lack of conditions, by which I mean, among other things, financial resources, experts, lack of information, or the operating environment. In these cases, the organisation defends itself more strongly by over-regulation, rigid responses, dysfunctional steps, typically treating the surface. Due to the disturbed balance caused by the changes, these can appear at all levels of the organisation, which impairs the efficiency of the organisation, which can affect discipline. In such an environment, informal powers are growing stronger.

The forced changes that have characterised the Air Force over the past decades have brought about permanent reorganisations over a long period of time. An organisation whose main characteristic is strong regulation cannot easily adapt to changes, disturbances and uncertainties develop in the culture.

These effects are particularly strong when external–internal changes accelerate and become uncertain, and the factual data on which decisions are based are rapidly devalued (e.g. security policy environment, economic change).

One of the keys to the Air Force's operational processes is the ability to anticipate future challenges and the state of information sharing. This is especially important when the expected knowledge and responsibilities of individuals at the level of implementation have visibly changed [8].

4. A new era of human–machine interface and new ways of the selection process

Following the latest developments in military technology, we find a number of programs that extend the physical or cognitive abilities of individual soldiers (e.g. UAS[6] operators, cyberwar actors, PSYOPS[7] users) or even push the boundaries of their abilities (e.g. digital military program, pilots of airplanes, helicopters with high manoeuvrability or special purpose, or information processing speed requirements exceeding human performance). However, behind everything is still the human who, on an evolutionary scale, finds himself facing much faster technological development. Real challenges in certain abilities that he can no longer meet for psychological and physiological reasons, or only with limitations.[8] The question is, where are the limits of technical capability development, and what are the further opportunities, challenges and directions of development? What are the ultimate boundaries and characteristics of this new era, that is, the new human–machine teaming, both during training and on the battlefield?

It should be understood that new aircraft and helicopter types will not replace an old military technology with previously identifiable capabilities, but will display new capabilities that have so far been largely unexperienced, and should be introduced as a new generation of military equipment.

As a result of an efficient and targeted selection process, a number of identified, specific factors arise for the pilots, trained and performing their duties at a high level, which affect the effectiveness of the task performance, the individual's health, ability to work and even his/her professional career.

It can be stated that at present the selection system of the Armed Forces and the human resources that form the basis of the military technical developments has not been developed or is only partially developed, in fact it was not possible to establish it in full. On the one hand, this is due to the lack of expertise, the complexity and relative rigidity of the regulatory environment, and on the other hand to the chronic lack of information that did not allow for a methodological closing up in time [1].

The language of operation has been completely moved to English. It can be said that the situation has really been simplified for the technician/maintenance staff, as the computer-aided fault diagnostic system in most cases limits the fault and the repair is done by replacing modules. That is, technician repairs are no longer typical. With regard to combat application, although it has become more user-friendly and indeed the need for physical force has been significantly reduced, a significant increase in the capabilities of the weapons system has necessitated the development and practice of fundamentally new combat procedures. Thinking in the network (e.g. the appearance of an executive element at a great distance from the operator's position in space) and following complex, parallel processes in space came to the fore. The nature of the human–machine relationship is constantly changing, necessarily the expected capabilities of the operator staff are being

[6] Unmanned Aerial Systems.
[7] Psychological Operations.
[8] Recognizing this situation, a method and device for measuring mental performance has been included in the digital soldier program.

pushed. This also requires a redesign of the selection process, as both the ability components and their testing methods may need to be reviewed to achieve a high success rate.

Recognising the bottleneck of the labour market, great emphasis should be placed on one of the main elements of the aptitude test to predict "future behaviour", based on which we can obtain the determinant value of "accuracy of forecast, gain". The key significance of this is also shown by the fact that the training for modern military equipment involves extremely high costs (e.g. total NFTC training per capita is almost HUF 1 billion, Gripen costs about 3 million HUF per FH,[9] Zlin 242L/143LSi costs approximately 400,000 HUF per FH). Thus, in the case of the planned candidate, the determination of the specific and complex skill elements required for the given position and task must be realised primarily during the screening and selection process, in the smallest possible real environment, during the flight training.

In leading NATO member countries, the success rate for the Army Selection Center (AC) is over 90%.

It should be treated as an unfortunate fact that the military technical development needs formulated in the Zrínyi program launched in 2016 and the selection process necessarily associated with it take place on the basis of specifications whose main directives fall in the period before 2015.

If we take an international look, we can see that throughout history, different criteria have been applied to a given army to determine who leads the troops. Typically, physical strength, military capabilities, origin, political power, scientific knowledge, personality traits should be considered. The leadership of a modern army is the responsibility of commanders (primarily officers), so it is important to examine how they are selected.

The main objective of a study by a group of NATO member states from late 1997 to mid-2000 was to map the relevant selection practices of different nations. Experts from the research team (RSG 31) [9] in Belgium, Canada, Denmark, France, Germany, the Netherlands, the United Kingdom and the United States focused primarily on the officer selection process. Data collection using the questionnaire procedure involved nineteen NATO and several in those days non-NATO countries.

It could be seen that the aptitude testing/selection practices of individual countries are embedded in the national culture and traditions, but over the decades – in addition to the development of science – many external conditions changed,[10] which also affected the methodology of these procedures, as follows:

- new international military tasks and missions have been established since the end of the Cold War, such as humanitarian, peacekeeping and peace-building tasks. Instead of high-intensity conflicts across the continent, like a world war, smaller, new types of military operations are typical, where new thinking, approaches and behaviours are expected from the staff (e.g. promoting cohesion in a multicultural environment, taking multilingualism into account in communication);

[9] Flying Hour.

[10] For example, the Warsaw Pact expired on 1 July 1991 at the Prague Summit of Member States, as a result of which the military balance of the world became unipolar. Some of the former Warsaw Pact members have committed themselves to NATO membership. First they cooperated within the framework of the NATO Partnership for Peace (PfP) and then applied for effective membership.

- in many NATO countries, compulsory military service has ceased or is intended to end. The professional army also expects commanders from professional and contract personnel to have a different attitude than the – often occurring – bad practices recorded during the existence of compulsory military service;
- the reduction of the military strength of the studied countries – such as also in Hungary[11] – demanded stricter requirements for officers, both in terms of select-in conditions and quality of work;
- recent decades have brought about a change in social attitudes in many areas, such as equal opportunities, gender and racial/ethnic minorities. The emergence and increasing proportion of these groups also influence the review of selection methods, the adaptation to new challenges, and which selection results can be considered acceptable, what criteria are adequate for selection;
- changes in training goals have perhaps the most significant impact on the renewable selection process. Weapon systems are becoming newer, easier to operate, and no longer require extensive, much more specialised knowledge. On the other hand, the theoretical foundations, general education and professional information are still important. Moreover, operations using the high technology that characterises modern warfare have become faster and more complex due to their integrity, which requires quick thinking, outstanding information processing, and outstanding communication skills.

Given the Armed Forces need for quality in the labour market and the Armed Forces drive to apply the most advanced selection methods, the recruitment system has to play a significant role and a review of the Armed Forces retention personnel policy is essential [1].

5. Situation of the existing personnel

Taking into account the developments in military technology and the outflow of pilots by health statistics and age, we can conclude that the aviation medicine profession has an unprecedented responsibility. Pilots' physicians know and monitor age-related health problems and natural aging processes, however, while in the 1980s and 1990s the average age of the active pilots did not exceed 30–35 years, it now reaches in some types of branches also 45 years. There is a risk level which is acceptable in medical assessment protocol, which is an order of magnitude stricter than civilian military flight compared to civilian aviation.

[11] According to the peace stock table, the number of soldiers of the Hungarian People's Army at the end of 1988 was 126,777. By the end of 1993, the number of personnel in the Hungarian Armed Forces had decreased significantly, to a total of 101,140. The permitted number of members of the Armed Forces was continuously reduced. On 20 December 1996, the National Assembly already maximised 60,000. And in 2004, the level of ambition was already 40,000.

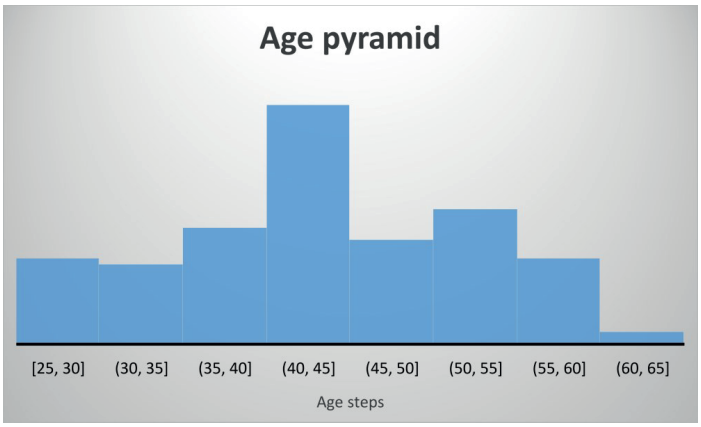

Figure 1
Age pyramid of aircrew member. Source: Compiled by the author.

The "ageing" of the pilots by the regulators poses a new situation for both the aeromedical experts, the command staff of the flight units and strategic level. The age as retirement is not the beginning of old age and not a professional decision, but an indicator of the national economy. Although a pilot can be employed in commercial aviation until the age of 65, its role is not comparable to that of military aviation. New physiological situations are emerging that have not been studied or have no method of study so far (e.g. deterioration in contrast sensitivity, which cannot be examined). The regenerative ability deteriorates, loss of function may occur, the personality becomes more rigid, habit-controlled, and type rating is more difficult.

We are all interested in a kind of "successful ageing" provided by a balanced life program, so it makes sense to understand how we classify ageing and what changes it results in our abilities:

- national economic indicator;
- biological indicator (DNA, epigenetic clock);
- chronological;
- psychological;
- sociological.

At a younger age, the more characteristic "fluid intelligence" dominates. This is when we have a stronger ability to think and reason in the abstract, we experience a personality that responds well to novel and unique situations. As you age, as experience accumulates, nature gives you the opportunity to compensate. "Cristal intelligence" is based on learning from past experience and means the ability to use the knowledge gained [6].

Dominant intelligence can be assessed well on the basis of an aptitude test using an appropriate methodology, so in addition to setting medical standards, the person must also be assessed individually, and a decision on the continuity of flight work will be made after all aspects have been taken into account.

However, it is necessary to be prepared for the fact that in addition to the present regulations, the Hungarian Air Force has types of aircraft that cannot be flown by the pilot until retirement.

In order to make the right decisions concerning the military men, human resource management and the planning of the new staff, it is necessary to know the problems of the current experts (pilots, maintenance engineer, technicians, air traffic controller) and to follow the evaluation of the dismantled and civilian college. When identifying the interviewees, a total of thirty professionals were interviewed, taking into account the age distribution and the years spent in the field. In terms of age, I visited the most experienced people from the beginning of the career to retirement. Some of the targeted interviews were answers to bound questions, others were free conversations. To this end, targeted interviews were conducted, the evaluation of which identified the following key issues.

It can be stated that in several of the listed cases, points concerning condition (whether family or financial) or flight safety have also appeared:

1. Lifestyle risks that are primarily attributable to the individual's actions:
   - inadequate nutrition, fluid intake;
   - lack of exercise, lack of physical fitness;
   - fatigue (lack of rest, relaxation);
   - self-imposed stressors (lack of "moral fibre");
   - subjective environment (hygiene, residence, workplace, community);
   - community and private (interpersonal) conflicts;
   - health concerns;
   - additional burdens associated with introducing a new type (feeling of "fear of the new");
   - anxiety due to lack of language skills or an inadequate level of language skills;
   - age or technological generation conflict;
   - peculiarities of the analogue–digital transition due to age and education.
2. Systemic components outside the individual's sphere of action.
   - due to the specifics of military aviation tasks, the balance of time that can be spent on everyday life due to the lifestyle and schedule of duty/mission/task is systematically upset, i.e. the following is mixed:
     - physiologically bound time (circadyan rhythm);
     - socially bound time (determination by established rhythm of social life);
     - leisure;
   - the hierarchical system;
   - overwork and underload (tensions caused by understaffing, lack of coordination);
   - working under time pressure (importance of individual ability);
   - multi-shift or unpredictable work schedules;
   - unclear tasking/briefing;
   - lack or inadequacy of a system of rules;
   - uncertain perspective, lack of a predictable trajectory (active flying position until the age of 60 or 65? Separation in a different public service direction than a flying specialist?);
   - lack of recognition;
   - lack of opportunity to complain;

- market drain (professional challenge or income level, or "following a colleague" feeling);
- in case of possible dismantling, the disappearance or absence of the feeling of loss services and present lifestyle;
- bonding by legislation;
- the uncertainty and lack of the provision of social benefits supporting the performance of services;
- lack of service and professional conditions required by international standards;
- operational using with incomplete or short adaptation period preparation and subsequent intensive use;
- partial or complete absence of simulation;
- additional tasks arising from a structure other than the Allied environment;
- "no blame culture"[12] applying or just pretending;
- sub-optimal use of the personnel and the aircraft operated;
- unfavourable physical working conditions (noise, comfort climate, vibration, hypoxia, lack of protective equipment, or known deficiency);
- regeneration training performed at an inappropriate site or delayed;
- simultaneous execution of tasks on several types and/or type variants;
- inadequacy/lack of adequate mental training in addition to the introduction of the latest developments to be introduced into the military system.

The above list outlines well all the organisational and individual difficulties, tasks that need to be solved, and by solving them we can improve step by step the efficiency of operation in order to achieve full capability.

6. Social change and the military profession

In the recent period, the military leadership has placed great emphasis on a better assessment of the soldier's place and role in society, and in close connection with this, on defence education, as the two factors are built on each other. It is important to be able to reach young people, to find the way to them, so that they are ready to do something for national defence [3].

The approach to this is multifaceted. At the same time, it is necessary to take into account the changing relationship between employers and employees, the specific characteristics of the next target generation, the way they are addressed and the changes in security policy in the world.

[12] With the advent of the Gripen program at the air formations of the Hungarian Defence Forces – primarily in Kecskemét – during the Swedish training system, training, and the ever closer Swedish–Hungarian aviation professional cooperation, a kind of change in attitudes towards human error was slowly formed. "No blame culture" supports the approach where it is accepted that flight personnel may make mistakes in their operations. This will be published by the person(s) concerned in each case (e.g. in the form of a rapid report) or, if the error has a more serious consequence, the specific phases of the investigation and then a summary of the results. The purpose is not to stigmatise the subject, but to draw a lesson. Despite the unintentional mistake, the person must remain a valuable and important element of the system, he or she should not be disadvantaged from a professional and moral point of view, but the professional evaluation of the mistake and the incorporation of experience into the training process must be an indispensable step.

An important trend in recent decades has been the changing relationship between employers (companies) and employees. In the old model, the company offered stable, long-term employment, and through it security to its employees, who gave them loyalty, that is, they built their careers at the company, planning their future there, often until retirement. In such a situation, both parties are ready to invest in the future: the company trains, develops its employees, takes care of them, which obviously costs money, but you can expect a return on that investment because your people do not want to go, they profit where they spend on them. It is also easier for the employee to make sacrifices for the benefit of the company, as he knows that he gets stability, a career, a decent livelihood and care from the organisation.

This model operated after the Second World War until about the beginning of the eighties, and in the former socialist countries until the change of political regime, which later began to change rapidly due to several factors (technological development, globalisation, sharpening of labour market competition, etc.). The change was well reflected in labour statistics. At the time of the old model, employment indicators indicated low entrepreneurial staff mobility, with mass redundancies and emigration being rare. The turnaround was ushered in the great wave of redundancies in the 1990s, when companies that had previously offered "retirement jobs" began laying off thousands of employees through reorganisation and outsourcing programs. The promise of stability, secure employment disappeared, and as a result, loyalty to the organisation began to weaken due to insecurity. Unfortunately, this also affected the Hungarian Armed Forces.

The employer–employee relationship is increasingly characterised by temporarity: neither party promises or expects a lasting relationship. The company quickly gets rid of redundant manpower, is constantly looking for cheaper solutions, thinks globally but not globally in terms of manpower provision, packs up easily and moves away if it finds it too expensive instead of one. In this context, the employee takes advantage of the opportunity to move internationally, building his career not in a specific place, but moving between companies and companies, accepting a better offer without hesitation. In such a situation, both parties will consider what sacrifices (costs, investments) to make in the present, as their future results may be enjoyed by others. However, this model significantly impairs the existing capability and the possibility of subsequent capability development for the armed forces.

If we deviate from the traditional military education and socialisation path and want to supplement the vacancies from the market, we will introduce the above-described social phenomenon into the Armed Forces. In such circumstances, the dynamics of cooperation is positively influenced by the harmonisation of organisational culture, management values, organisational goals and career model, which in turn can tilt the balance sheet language in favour of the defence sector [4].

The process of social socialisation of people has also changed. On the one hand, there is a process of socialisation from an early age, in which people learn to adapt and follow the rules in different organisations. On the other hand, neither society nor individuals accept coercions that involve overt physical or mental violence. Another key issue is how long this commitment will last and, of course, how much the personality needs to be transformed. These and the increase of expertise at lower levels also transform the practice of leadership.

There is a fundamental change of attitude in the labour market. The previously characteristic nature of supply has been replaced by a strong nature of demand. The change is particularly strong among the young and the highly educated, who could ensure that the Air Force fills

highly deficient positions. For the time being, ambiguous measures have been taken in the private sector to address the challenges, in many organisations only temporary crisis management steps have been taken, and no complex solutions concerning human resources have emerged. Due to the contradictory generational changes of the last decades, which also affected the Hungarian Armed Forces to a greater extent, the older generations are missing and there was no way to pass on the experience. This situation has intensified in the Air Force in almost all branches, wings or at the strategic level. Problems also occur strongly in the case of leaders, and in addition to several generations, many fundamentally lack leadership skills. Within a few years, the HDF's will be staffed mainly by members of generations Y and Z, whose general social and military social integration can and must be helped by completely different leadership tools than before [7].

7. Summary

As can be seen, the modernisation of the Air Force is multifactorial. One aspect is the human side, which hides many issues, challenges, identified risks. Ignoring this and handling it improperly is not allowed due to the complexity of the air force structure, it may endanger its functionality.

It can be stated that in Hungary, past and present assessments of the human resource capacity of state aviation, including the defence sector, and forecasting future trends, decision-makers and leaders should use only a complex systematic approach in both theoretical and practical sides. Among the reasons for previous inefficiencies and erroneous decisions, the lack of this comprehensive approach played an important role. Any well-intentioned, professional change process alone can be ineffective if the characteristic processes, structures, regulators are not clear, or if no changes occur in them.

It is also important that decision-makers and professionals examine not only the characteristics of human resources of the Air Force and the organisations that can be classified as public aviation in a broader sense, but also all social processes and international trends that can and do have a significant impact on the human capacity of military aviation.

In the interest of the success of the Zrínyi National Defence and Armed Forces Development Program, strategic organisational development prepared on a professional basis, the basic building block of which is human, cannot be avoided. The current developments can also be considered a comprehensive organisational development process. Anchoring adequate professional principles in the light of today's challenges and incorporating them into the day-to-day operating culture, training and education system is an important condition for securing dedicated staff.

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A légierő modernizációjának humán kihívásai

Írásom célja áttekintést adni a Zrínyi Honvédelmi és Haderőfejlesztési Program keretein belül folyó, a légierő repülőeszközeit érintő képességfejlesztésről és az azzal összefüggő, az üzemeltető és üzemben tartó állományt alapvetően érintő feladatok hatásairól.
A cikk röviden ismerteti a légierő szervezeti kultúrájának sajátosságait, a rendelkezésre álló állomány életkorból adódó helyzetét, ami az utánpótlás tervezéséhez szükséges kiinduló ismeret. Az írás kitér arra a komplex biztonságpolitikai, társadalmi és technológiai környezetre, amelyhez a Magyar Honvédség által alkalmazott kiválasztási rendszernek igazodnia kell, és amely a sikeres kiképzési és beválási mutatók záloga.
A cikk személyes interjúkon keresztül törekszik valós helyzetet bemutatni a jelenleg a katonai repülésben szolgáló állomány kihívásairól, motivációiról és útkereséseiről.

Kulcsszavak: *képességkialakítás, humán erőforrás, generáció, analóg-digitális átállás, Magyar Honvédség, katonai alkalmasság, Zrínyi Honvédelmi és Haderőfejlesztési Program, NATO*

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