

ОБРАЗОВАТЕЛЬНЫЕ ТЕХНОЛОГИИ

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DELIMITATIONS HEADING OF THE SPECIAL TECHNOLOGY FROM THE ACTUAL REFERENCE VIEW

In the article are present tendency resorts of activities of the Faculty of special technology Alexander Dubček University of Trenčín for science, expertly and education activities tendency. The resorts outgoing of orientation and heading of Slovak republic in the aliance grups and partners responsibilities, in ambit which is presumption of a development, production and pursuit the special technology. In the chapter are formulated departures of intended focus of activity of faculty with practical application of the resorts and present approach examples.

Introduction

Assumed special technology development go out of needs of the operation by practical onset of the special technology into working and of the specifications of the criterions, which are set on the attributes and qualities of this technology. In the Slovak Republic conditions, this needs and criterions go out of the conditions, which are presented by personators and officials of the resorts, in ambit which is this technology engaged. One of the main users and operators of special technology are AF SR. Slovak republic ministry of defence in the document „Militarization strategy“ [1] prepares objective model about ambitions of SR in the sphere of the militarization, cooperation with industry in the research and technology sphere, by constructing own operative abilities. SR access to the strategic vision development for the militarization sphere, reflects trends in the NATO and EU in the knot on the planned reformation of the planning and realization reform of the militarization in the NATO. Slovak republic membership in the euroatlantic and europe structures, responsibilities and privileges, which are founded of this membership and acquired experience require to actualize the main approaches of Ministri of defence of SR to the defence abilities development, and so to the militarization, how one of the main part of this process too. Creation process of Militarization strategy was successful conclude by its predicting at Minister of defence advisory board and subsequently Minister of defence of SR confirmation than program proclamation working out of the Slovak republic governments for yers 2007 till 2010 for the conditions of defence department (22.11.2007). Doc. Ing. Stanislav Szabo, PhD., national director for the militarization of AF SR [2] characterize the main factors determinate military sphere:

- The SR membership in the euroatlantic and europe structures and with it coupled responsibilities exigent adequate participation of Slovak republic in the operative NATO and EU/EDA projects, designates primary collaboration territorium and product process orientaction of weaponry acquisition and military technology and requires creation of compatibile militarization system.
- Armed forces militarization present public sources exerting on the providing armed forces mision fullfilling, so have to be realizing transparently, disposeal, and adressly with

effort to expended sorces return through householder inovation programs with international project export support, offset programs and another compensation tools.

- The defence industry like state defence system element, propping on the defence research and defence technology development, is minimal independence condition in the weaponry and military technology sphere.

- Limited defence rezort capacity, like primery subscriber for the defence industry, designates orientation on the international cooperation projects with achievement objective not only according living cycle price, quality and time ambit of the delivery, but also equivalent interoperability and level of the project standardization stability and in the verification preparatory phase solution of the identified viciousness.

- Rational access to the defence ability development in the weaponry and military technology sphere expects consistently utilise the science knowledge and with equivalent method interest in science- research base.

**Assumed average of the faculty of special technology Alexander Dubcek
university of Trencin on the special technology**

Development routing

Concept special technology, determinate by liture and within the frame its terminology, for example [3], is in present conception characterize not only of possible user and operator view, for example AF SR, Interior Department, etc., but from the view construction specifity, predetermination, singleness, operation in the special, unconventional, for example extreme conditions, from the specifity of the manufacturing systems and technologies view. Away overlaped determination on the guns, explosives, and amunition, means of delivery of weapons and guns accessories, ballistic technology, dial sights, technology and material which sumarized into material classes[4].

From the topicality characteristic view of the concept special technology is liquet, that this problem will be in the future claim proper attention. We suppose, that within the frame of this concept will be specific technology:

- Technology and material designed for usage in the crisis situations.
- Technology and material for state defence requisites. It is noteworthy that concept material classes is in the conditions of the AF SR not topical. From the number of material classes 6 transforming into 27, late into 10, is in present time actual the concept „Supplying classes“ and those is 5 (1.foodstuff and feed,2. weaponry and spare parts inclusive software,3. fuelling,4. constructive and common material,5. ammunition).
- Products and services for purpose delimitate by unified standardization and codification of the aliance ingremio legis about defence standardization, codification, and state quality verification of the products and services for the defence purposes. They are codificate by special code list „Delivery classification H2“, this is treated within the frame of the NATO aliance [5].
- Technology and material designed for using in the accident situations and statuses.
- Technology and material designed for using in the nonstandard conditions, for example in the extreme conditions.
- Technology and material designed for specific, single production and production systems
- Technology and material related with assumption and research for space industry.

We don't suppose and either ambit of this article don't allows complex determination of this concept „Special technology“ actual for present time. Progress direction of the determination hinted Doc.Ing.Stanislav Szabo,PhD., national director for the militarization AF SR: „Militarization sphere don't touch only armed forces of SR, but outgrow his

political, social-economic and technologic impact defence department activity. Si it is convenient this ties to formalize by higher than department document processed in close contact mainly with the Department of Agriculture of SR, Interior Department of SR, Military defence industry association of SR“. From this strategy accrue the document: „Development and defence competences strategy of SR at the weaponry and military technology sphere“, with objective of „national“ formulation of development and strategy not only armed forces competences at the weaponry and military technology sphere, but also dearly and obligate formulate „national“ access to the defence research, defence industry and their development within the frame euroatlantic and europe structures. The document harmonization with the long-time planenable concretize priorities of the militarization and create long-time orientation not only to the research, develop and production subjects[2]. Example of this access is provision preparing of the system and complex solution process automatization of the army command and control or troops engaged within the frame crisis management into operations and actions“.

Within the frame of the Alliance and its strategic targets is in the main programs set emphasis on [6]:

- Alliance Ground Surveillance – AGS.
- Active Layered Theatre Ballistic Missile Defence – ALTBMD.
- Air Command and Control System – ACCS.
- Airborne Warning and Control System – AWACS.
- Deployable Communication and Information System – DCIS.
- NATO General Communication System – NGCS.

To the strategic vision blocks of the spheres which are related with special technology [6]:

• Fixations on the custom development of the living cycle management like militarization planning components.

• National abitious definition in the given sphere with ambitious doublestriking of SR in the NATO key projects.

• Access harmonization of SR to the building – up questions of the defence abilities with bearing, to the militarization, research and technologies within the frame of NATO and EU.

• Form definition and SR industry co – operation ambit with partner and allies industry.

Faculty of special technology basis and decisions in the special technology development routing

From the special technology development routing view for the state defence needs, we can how

basis apply clause characterizing like defence abilities trends [7]:

• New technologies development and application.

• Effectivity growth and destructive force of asymmetric menace, above all active terrorist forces.

• Post – conflicts situations reason.

• Remaining allotment battle conducting in the settled terrain and cities.

• High accurate and efficient guns applications on the targets in the area with civil population.

• Human resources saving like priority by operation planning.

• Consecutive robotization of the military action.

Section program bearings defence research and development of the technologies in the defence department in the long-time horizon, would fade above on the objectives implicit of the documents of NATO and EU [7]:

- Search compendium system and target detection within the frame of the operations, realized in the settled area.
- Biologic and toxic chemical substances detection and indication and protection over them, their decontamination.
- Battlefield digitalization and hardware force integration into network- centric warfare.
- Protection and safety of the information systems.
- Observeables decrease and technology camouflage of the military equipment.
- Operations and defence systems modeling and simulation, training technologies development.
- Common battelfield operating view creating.
- Nanotechnologies explotation at the military forces.
- Micro – electromechanical systems (MEMS).
- Army outfit advanced systems to the interoperability gaining in the NATO.
- Living force protection and ballistic protection increment.
- Mobility in the settled areas.
- Force equipment and back up sending to the outland.

Faculty of special technology get in this path in- process and commented document : „Bearing and support reserach conception and defence sphere development to year 2010“ and faculty members share to its commented. Substantial on the document for FST AD U Tn is that faculty is arranged among educational establishments of Slovak Republik, with will be chose ministries and central bodies of the state administration co-operate by defence research and development long-time plan conception and will be debug with the complex security research.

Faculty of special technology get in this path in- process and commented document : „Development strategy of the ZOP SR on the season 2008–2012“ and faculty members share to its commentation. Inherent on this document for FST AD U Tn will be delegate industry needs. Accord document is assume, that AD U Tn will be delegate by responsibilities:

- Systemic integrator of university preparing of experts for defence industry.
- Studing program inovation of the 2 level university studing oriented into supporting areas of defence industry of SR development.

Within the frame of the studing program is to realize assume:

- Expert preparation for the specialization „weaponry systems“.
- Expert preparation for the specialization „Ammunition and explosives“.
- Expert preparation for the specialization „Wheel and tracked military technology“.
- Expert preparation for the specialization „Mechatronic systems of the military technology“,

(controll units and computers, senzoric, regulate, power elektronik and combination electrofluid components and systems, algorithmization components and system activity programming, etc.)

- Export preparing for specialization „Optic and optoelectronic military systems“.

Broad ambit of the education is in the present document characterized:

- To inovate current studing programs about production technologies specification, with CAD/CAM products support, apply education of the new materials, compozits for the military technology and nanomaterials for development and military technology production include nanotechnologies for production realization. Append the education of new laboratory methods and modern methods on the materials properties modification.

• Accredited AD U Tn with program preparation for the 3. level of the university study-postgraduate study in the science specialization, related with special technology within the frame of the research advancement and defence Technologies development organizing, is in the document characterize objective: Accredited AD U Tn by organizing and coordinating of main effect live research for the defence industry needs.

Orientation of the faculty of special technology in activities related with special technology development

From requirements, which are marked in the previous chapters, related with Faculty of special

technology activity, we can assert in the activity object are included assumed spheres of faculty

parts on the research, development and education in the work sphere with special technology.

Considering to studying specification of studying subjects categorization is term „special technology“ classified within the frame of terminology „Special machine technology“.

Present activities interrelated with:

• Education related with constructive problem, operation and special technology production.

• Grant project solving and projects for experience at the spheres:

– Interaction missile and material with usage assumption for safety issues.

– Sappers and logistic operation provision.

– Ways of aggregate placing of the armoured fighting vehicle (AFV).

– Reason intention of mobile repair and diagnostic equipments.

– Sort reliability sampled from special technology.

– Dynamic properties of shot – firer parts of the guns and possibilities of their influences.

– Simulation of activities and actions with simulator construction assumption.

– Cybernetic systems of special technology.

Assumed tendency of FST activities will be in the future go out from the requirements of special technology users in the proposal, development, production, operation and logistic support background pertinent to Slovakia routing within the frame of alliance groups and partners objective fulfilling. Orientation will route to the sphere and content filling related with this activity subjects:

• Determination and actualization of the special technology term, special technology categorization, education programs solution within the frame of this determination.

• Access to the standardization, codification and state verification of quality of the products and services for defence purpose [5].

• Solution of crisis, accident and defence situation from the onset view of the special technology predestined to the life and attributes saving, life possibilities renovation and environment (harmfulness, and contamination of terrain and scene research, energy distribution and production, production and distributing drinking and supply water, field health and sanitation requirements), hit area and terrain trimness, command by crisis and accident situation requirements and etc.[8].

• Crisis, accident and defence situations solving from the logistic support view.

• Nanotechnologies utilization for requirements related with special technology its production and operating.

• Mobile repair, diagnostic and service equipments with the condition those field conditions onset [9].

- Field position containerization and concept of its securing.
- Character and definition of so – called extreme conditions, abilities and concepts their simulation, technology parameters impact of special technology.
- Etc.

Some of present gaining achievements illustrate on the sufficient assumes on this activity. For example is in the cooperation phase preparing the research case of the equipment technology of forest fire slacking and inaccessible terrain fire[10], field diagnostic and repair Instruments solution, shield mechanical working decisions, the simulation technology parts, which simulated special technology activity.

So we can observe, that the special technology problem, questions and objectives, which depends with its development, construction, production and operation are parts of activity charge of the Faculty of special technology. It is essential, that conception questions and ideas were early presented by member of faculty so, that sufficient area was created for them realization.

Conclusion

International science conference „SPECIAL TECHNOLOGY 2008“ which is organized by Faculty of special technology of Alexander Dubcek University in Trencin. In the cooperating with Faculty of military Technologies of Defence University in Brno is place on the opinion Exchange of the correct routing of science and realized work of personnel, working at this or collateral areas. It is assume, that after knowledge evaluation and classification, presented within the frame of this conference, will be orientation of science and technical routing of the activity and FST activity modified in the accord with this finding. Work assumes in the areas related with special technology are relatively deep and it is apparent, that faculty find there its realization place.

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