

Agenda at the Land Systems Seminar: Sustainability and Cooperation



Navy Captain (Ret.) A. Zafer Betoner

During the two-day event in which 800 people registered, a total of 22 presentations were made in the opening sessions and the sessions concurrently performed in two different halls. 36 companies and institutions opened stands at the foyer. The main sponsors of this event – to which MSI Turkish Defence Review provided support as the event’s official publication – included ASELSAN, FNSS, Otokar and Nurol Makina, while the session sponsors included the Ayyazılım, HAVELSAN, Hexagon Studio, MARTEC Spa, NATEK Defence, ROKETSAN, Simsoft, and Wärtsilä JOVYATLAS EUROATLAS companies. In addition, there were also speakers from Atılım University, İstanbul Technical University Arı Teknokent, and Ankara University Technology Transfer Office.

The first speech of the opening session was delivered by Navy Captain (Ret.) A. Zafer BETONER (Turkish Navy-MSEE). He reminded that, with a total of seven naval systems and three land systems seminars held until now, this year’s seminar represented the 10th to be organised, and added that, “Through these seminars, we are trying to contribute to our defence industry and the defence strength in our region, and to also create added value for our economy while keeping track of the developments in the industry.” At the end of

The Land Systems Seminar (LSS), which is Turkey’s most important event on land systems, was held for the third time in Ankara on November 7-8. While the agenda of the previous seminar, which was held two years ago, focused on large projects that could be turned into contracts, this seminar’s agenda focused on sustainability for local companies and cooperation issues for foreign companies. Important messages were given during the seminar, particularly in the speeches delivered in the opening sessions of both days.

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his speech, Betoner also stated that the fourth LSS will be held on November 5-6, 2018.

Haluk Bulucu, the Vice President of TOBB (The Union of Chambers and Commodity Exchanges of Turkey) Defence Industry Council, took the floor after Betoner, and gave the following message about the future: “You can imagine what we can achieve in the next 25 years. We today have a land force that can only be described as perfect. We will accomplish even more together with our land forces and defence industry. Beginning from the 2000s, we have, under the leadership of our Undersecretariat, shown how capable we are manufacturing our own products. I can assure you that if we



Foreign military attachés serving in Ankara also showed interest in the event.

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Haluk Bulucu

work together by joining forces, the next two decades will be our best times, and that Turkish Land Forces will continue to be one of the strongest land forces of the world.” Bulucu also added that, in this process, they should pay attention to the ‘Trojan Horses’ trying to make their way into industry.

Busy Workload to Continue for Another 5-10 Years

Fatih Yakıcı, the Head of Land Platforms Department at the Undersecretariat for Defence Industries (SSM), also delivered a speech during the opening session. Yakıcı summarised 2016 as follows: “This year was a really busy one for the land vehicles industry. As the Department of Land Platforms, we have signed a total of nine contracts in 2016, and are planning to sign two more until the end of the year. Furthermore, we have issued eight Request for Proposals dossiers this year. Within the context of these projects, our department has also received many requests about urgent vehicle requirements this year, which we have worked to meet as rapidly as possible. Under our projects, some 700 vehicles are expected to enter inventory by the end of this year. Looking at our existing projects, we can say that a total of 1,300 vehicles are planned to be delivered next year. There was need to produce vehicles particularly to meet the urgent needs of the Turkish National Police and the General Command of Gendarmerie. Along with these projects involving off-the-shelf procurement, we have also put an effort into finalising our development projects. Furthermore, we have signed the contracts

for the Anti-Tank Vehicles (ATV) and Battle Field Fuel Tank projects. We are also planning to sign the contract for our project for Armoured Amphib-

LSS Special Issue of MSI Turkish Defence Review, which was the official publication and media sponsor of the event, was prepared in Turkish and has become a reference publication compiling the issues on the agenda of Turkey in the field of land systems.



Fatih Yakıcı

ious Assault Vehicle by the end of this year. Meanwhile, we have reached the final phase in our Special Purpose Tactical Wheeled Armoured Vehicle project. We will be signing the contract of this project in the first quarter of 2017. In addition, we are planning to complete the qualification of ALTAY tank, which is currently our most important project, within the first quarter of 2017. We will also finalise our work on serial production in the first quarter of 2017. Moreover, we will quickly work to conclude the project entitled ‘New Generation Light Armoured Vehicles of the Future,’ one of the important projects to be submitted to our Undersecretariat, by coming together with our industry and discussing the type of model we could establish.”

Yakıcı gave the following messages about the future: “There is currently an excessive demand for off-the-shelf procurement, especially from the Turkish National Police and the General Command of Gendarmerie. It seems that we will be quite busy with these projects in the several years ahead; however, taking into account the ongoing development projects, I think that the next five- or ten-year period will be busy as well. Given the intensity of activities they have seen over the past one or two years, companies decided to increase their capacity for rapid deliveries, and made new investments to that effect. Carrying out the projects I mentioned earlier will require bigger investments. However, the demands for rapid delivery have, unfortunately, also shed light on some of the weaknesses our companies have in terms of project management and quality management. Regardless of how fast you have to deliver [a product], the number one rule in the defence industry is that you should always be able to ensure the best product quality. Rapid delivery should definitely not result in lower quality. Especially in the case of armoured vehicles, the control and final quality of survivability, firing and mobility parameters are of critical importance. Therefore, companies should always attach the necessary importance to tests on quality management during the project implementation phase.”

Emphasis on Indigenisation

Yakıcı, who also touched on the indigenisation of subsystems, said, “Presently; design, development, production and integration activities in our land vehicles industry are successfully being carried out by our local companies. However, when we have a look at subsystems, we can see that we are still externally dependent for engines, transmissions, running gear parts, suspensions, weapons and ammunition.



Indigenising such subsystems, especially weapons and ammunition, has become even more important following recent incidents. Since subsystems for vehicles are basically subsystems from the commercial automotive industry, there are not so many restrictions in procuring them from abroad. However, we should keep in mind that under current circumstances, even these subsystems may, one day, become subject to restrictions. We have come across with such restrictions due to the recent incidents. Thus, to fully eliminate the problems such restrictions may bring, we are working in coordination with our Industrialisation Department and Subsystems Department to indigenise certain subsystems through our projects. However, at this point, we are facing some stiff resistance from prime contractors about the indigenisation [of subsystems]. Since there is a demand for fast delivery, and since our prime contractors are not willing to change their existing supply chain, they tend to prefer off-the-shelf, imported subsystems. Indigenising off-the-shelf systems imported from abroad is vitally important. Such changes will inevitably take time. There is indeed a time effect caused by indigenisation. We cannot immediately start providing an indigenous product tomorrow; but if there are local equivalents of qualified products, especially of imported products, we will always prefer these local equivalents. It is important for us to have prime contractors that plan the required supply chain activities in advance... As long as our industrialisation plans are properly followed, we will be able to achieve indigenisation in cooperation with our prime contractors.

You ask us the following question: 'In a bidding environment characterised by high competition, how can we actually include expensive indigenous subsystems in our proposals?' We are continually negotiating this point with you. We always want to see competition in subsystems, and we support this. We think that, in terms of quality and price, our indigenous subsystems are capable of competing with their equivalents in the world. This particular aspect is really important for us. In the context of these subsystems, our projects on developing engines and transmissions with indigenous resources are continuing. We think that the outcomes of these projects, and of the works conducted by our Subsystems Department, will soon become apparent. Besides, we are also working on developing running gear parts, axle shafts, and suspensions in coordination with our Industrialisation Department and Subsystems Department. Regarding weapons and ammunition, we will, in cooperation with our Weapon Systems

Department, also launch new development projects for the indigenous development of especially 7.62 mm and 12.7 mm machine guns.

In addition to all these, we are expecting new projects from you regarding other special systems and technologies. Through our projects, the number of which have recently increased, and also by utilising technology acquisition obligations, category C industrial participation / offset obligations, and other resources; we will

always be able to support your own special, result-oriented projects. To this end, it is very important that we come together with our prime contractors, universities and subsystem producers to have them conduct studies about new technologies, which they will later present to us. Our aim is to use these development projects, which we will launch accordingly, in the indigenisation of all subsystems to be included in our future platform projects, and particularly in our next generation light armoured vehicle projects. In this context, we, as the SSM, are expecting new projects from you on technological products."

Prototypes to Compete

Yakıcı shared his other messages for the industry as follows: "Finally, I would like to share with you my views about the maintenance, management and logistics of the vehicles we deliver. The issue of logistic support is the one we attach the most importance to when evaluating projects. Another important issue is the establishment of authorised services that will provide rapid and timely response in case of malfunctions. As you all know, we presently have many vehicles operating in the Southeastern region of our country; and when a need [for support] arises there, it becomes necessary to intervene very rapidly to provide maintenance for the vehicles and supply the necessary spare parts. Contractor companies are establishing authorised service network to meet such needs and requirements in the region. It is also important for new companies to also establish authorised service networks for the maintenance and management of systems. I also would like to mention that from now on, prime contractors will be responsible for the management of a system throughout its life cycle, and that we will implement a life cycle logistic support system especially in our development projects.

In addition to these activities, we are also working on improving our procurement system. We are establishing new systems to enable faster evaluation of off-the-shelf procurement projects and to ensure rapid deliveries. In addition, we are aiming to implement in our projects a concept in which various companies' prototypes compete with each other; this is an approach which is already being applied in many countries across the world for the land vehicles industry. The said method will first be implemented in pilot projects of our choice. Based on the feedbacks we will receive, we plan to make regulations that will allow the efficient application of this method in the land vehicles industry."

FNSS Prepares for the Technologies of the Future

The opening session continued with speeches from the main sponsors. First to address the audience after Yakıcı was Aybars Küçük, Director of Business Development and Programmes at FNSS. At the beginning of his presentation, Küçük summarised the projects which FNSS has undertaken so far. He stated that, until now, FNSS has signed approximately \$2 billion worth of contracts in Turkey, as well as approximately \$2 billion worth of contracts abroad.

Küçük pointed out that a significant portion of the vehicles they have delivered have proven themselves in battlefield environments both in Turkey and abroad. He also informed that 53 vehicles will be delivered as part of serial production activities under the Self-Propelled Low Altitude Air Defence Gun System Project.

Küçük listed the KAPLAN tracked vehicle family, the TEBER turret, and the 3rd Generation PARS 8x8 and 6x6 vehicles as the development projects they are presently working on with their own resources.

Küçük stated that when they invest for the future, they invest not only in technology but also in human resources, and cited the MILDESIGN military vehicles design contest organised by the company as an example of this.

He also shared his predictions about the future by referring to the developments in civilian automotive industry. He then said that with the increasingly widespread use of electric and hybrid vehicles and the associated technologies becoming more cost-efficient, the use of similar vehicles for military purposes will soon be on the agenda of the industry as well.



As a result of this, components such as transmissions that transfer power from the engine will no longer be needed. Küçük mentioned their future plans by mentioning the design that won first prize in the MILDESIGN 2011 contest:

- There will be engines with direct propulsion system in each of the wheels.
- There will also be batteries and diesel generators to provide average power.
- The vehicle computer will have hardware and software that control the vehicle's dynamics, and which will enable the vehicle to be driven by controlling each wheel independently.
- Suspension parameters may also see changes.
- It thus seems possible that the day may come when vehicles may no longer need a driver.

With the PARS product family, FNSS has achieved export success in the Gulf Region as well.





Dr. Mehmet Karaaslan

Otokar Ready for Serial Production of ALTAY Tank

Otokar’s presentation was given by Mehmet Karaaslan, the Director of the ALTAY Tank Programme. Karaaslan stated that acceptance tests and qualification activities for the project were in their final phases, and provided the following information:

- The PV1 prototype – one of the prototype tanks for the acceptance tests, is mainly used for manoeuvrability tests and the 10,000 km endurance test. As of the date of the presentation, 9,500 km of the endurance tests for the PV1 had already been completed. It is expected that the PV1 will cover all 10,000 km in the month of November.
- Meanwhile, tests for the PV2 – which is subject to the firing platform tests – are expected to be completed in December.
- In addition, the tests on the Ballistic Hull and Turret Prototype (BHT), produced for the survivability tests, are planned to be completed by the end of November.

- Otokar is aiming to complete the project – which covers the development and qualification of the tank – in the first quarter of 2017, once all the relevant tests and required documentation are completed by the end of this year.

Karaaslan reminded that they submitted their final proposal for the Altay Project Phase II Serial Production Stage on August 29, and listed their schedule predictions for the project as follows:

- Initiation of contract negotiations in the last quarter of this year,
- Signing the contract by the end of January 2017,
- Signing of the contracts by the critical subcontractors until April 2017, and initiation of the project,
- Delivery of the first group of tanks in December 2018,
- Completion of the delivery of 250 tanks until mid-2023,
- Completion of the project in 2025, when the warranty period of all the tanks expires.

Karaaslan also explained the reasons why the serial production contract should be signed with Otokar by emphasising the following arguments:

- Within the context of the project regarding the development and qualification of the tank, Otokar has managed to raise a team of 260 that is full capable of handling such projects. The company has also established a business ecosystem covering critical subcontractors,
- And built a significant production and testing infrastructure in the context of the project.
- Otokar has also defined and planned all the infrastructural and organisational requirements for increasing capacity in order to conduct serial production.

Otokar has also been working on the development of derivative products such as the Mine Cleaning System, Engineering Tank, and Rescue Tank. In this context, it has developed with its own resources a suspension system with torsion bar that can be used in the ALTAY, and in all vehicles to be derived from this platform.



Otokar aims to undertake the serial production of the ALTAY tank, whose design, development and qualification activities it has been successfully carrying out until now.

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Melih Şahin



Mustafa Kaval



Indigenous and Reliable Solutions by Nurol Makina

Melih Şahin, the Deputy General Manager of Nurol Makina, who took the floor after Karaaslan, emphasised the concept of indigenisation. Şahin said, "We have to make a distinction between what is national or local and what is indigenous. You can make a product locally. However, to be able to say that [a product] is indigenous, its design and technology must be national as well, and you need to hold all the rights relating to that product... If you bring a system from abroad and say 'We are producing it here locally,' you will probably run into difficulties when there is a problem that requires you to work or intervene directly on the product... and so, you will be obliged to contact the original manufacturer. Such cases have occurred in the past... Licensed production, bringing from abroad and assembling here, or making production with cheap subsystems brought from abroad are some of the examples of what is done under the name, or guise, of indigenous production. Such efforts actually harm the development of the industry."

Another issue pointed out by Şahin was the creation of national concepts to meet the needs of users. He stated that the approach of imitating in Turkey a vehicle that is very popular abroad is also harming the industry.

Şahin explained their approach as follows: 'We, as Nurol Makina, have adopted, and are implementing, production approaches that are entirely national, reliable and indigenous.'

ASELSAN Proceeds from Concept to Solution

The last speaker of the opening session was Mustafa Kaval, the Vice President of Defence Systems Technologies at ASELSAN. In the first part of his presentation entitled 'Changing Security System Requirements and ASELSAN's Solutions,' Kaval underlined changing security requirements, and noted that conflicts have started to become more centred in urban areas. He said, "Cities have become the centre of attention for terrorist activities. Since terrorist acts have begun to shift towards cities, close combat has become a priority. Improvised explosives, bombs in buildings or under the ground used as traps, and suicide attacks carried with bomb-laden cars have become commonly used methods for terrorists. In such an environment where battles are fought mainly on land in the form of close encounters, it is an indisputable fact that land combat systems are greatly needed, and that this need will continue to increase [in the future]."

Emphasising that ASELSAN is looking to develop leading technologies and products that will provide innovative solutions for problems, help cope with uncertainties, and make a difference, Kaval also provided information about the solutions they offer. Among these solutions, those which have not covered in previous issues of MSI Turkish Defence Review were as follows:

EJDER YALÇIN stands out with its operational experience, which only a limited number of vehicles of its class possess.



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- ASELSAN is adding new capabilities to SARP systems. In this context, integration of acoustic sensors to SARP, which will enable immediate counterfire, and radar integration are being considered.
- ASELSAN's works on the development of an unmanned turret with 25 mm and 30 mm guns against land platforms are about to be completed. The company has also been receiving demands for this product.
- ASELSAN aims to use the real time operating system developed by TÜBİTAK in the computer unit of SARP. In this context, work on the first prototype has already been completed.
- ASELSAN has developed the İHTAR anti-drone system that detects, tracks and neutralises mini/micro unmanned aerial vehicles (UAV), which have become a threat due to their widespread use.
- ASELSAN is also working on the development of effective air defence systems against rockets, artillery, and mortar ammunition (i.e. C-RAM).

At the end of his presentation, Kaval shared the following messages: "Another factor which is relevant for the development of our national defence industry is working in cooperation with our local companies. If a local company is selling a vehicle, ship or boat to a foreign country, the remote-controlled weapon station to be installed on it shouldn't be one belonging to another country, but should instead be one that is produced by Turkey, such as the SARP, STAMP, UMTAS, CİRİT, etc. We will of course be competitive to help the platform manufacturers. We are confident with the performance of our systems. We are also keeping close track of the world market, and are quite knowledgeable in this area. If we open to foreign markets by working together with our platform manufacturers, this will bring us a step closer to meeting our defence industry's export target of \$5 billion. Our expectation is to work together with our local platform manufacturers in all markets."

Mukaddes Burhan



Shaping the Future

The opening session of the event's second day started with Mukaddes Burhan's presentation entitled 'Science & Technology in the Defence Industry as We Near the Centennial of our Republic, and Predictions on Technology'. In her presentation, Burhan examined the effects of TÜBİTAK's Vision 2023 project from the perspective of the defence industry.

Haluk Bulucu, President of Strategy and Public Relations Council at the Defence and Aerospace Industry Manufacturers Association (SASAD), took the floor after Burhan, and gave a presentation entitled 'Lessons Learned and Our Defence Policies'. He argued that Turkey's defence budget, which is currently around \$14 billion, should be increased to \$35 billion. Bülent E. Beyoğlu, President of Economic, Commercial and Legal Implementations Committee of SASAD, then gave a presentation entitled 'Turkish Land Systems Industry Overview-2,' which was a continuation of the speech he delivered in the previous seminar. Beyoğlu summarised the developments of the last two years, and provided a brief update on the industry-related issues he had mentioned two years ago:

- Prime contractors are now able to achieve the growth rates that are required by contracted projects, and by the rapid-paced projects that are associated with the procurement for urgent needs; however, there are still persisting problems for medium and small sized companies with regards to the development of subsystems.

- There are some developments about transferring certain logistics-related works to the industry. Prototype projects are being launched, and working groups are being formed.
- It is expected that problems on testing infrastructure will be resolved by the testing company that is currently being established, with the involvement and contribution of the SSM.
- There are certain projects initiated on power packs, weapon systems, armour materials, and sensors, which are externally dependent.



Bülent E. Beyoğlu



Beyoğlu commented on the competition in the industry as follows: "In tenders where commitments are evaluated on paper, companies automatically accept all the requirements that are listed [by the tender], since they do not have the freedom to make a difference in terms of technical aspects and product quality. Thus, they cannot propose something different with regards to product quality, capabilities or functionality, and focus instead on price competition. Presently, there is a very serious and disruptive competition in the land vehicles industry, and this is all due to a price competition. The method we use for the evaluation of bids, as well as our tender practices, have the potential to cause the closing down of certain companies in the long term and harming the competitive environment... If we continue like this, the industry may end up by consisting of a single company in the future. Allow me to give you an example: I can clearly say that the Anti-Tank Vehicles project is a project that actually has the potential to request in foreign countries a price that is twice the value specified in the signed contract."

Beyoğlu explained the expected change in the industry's business volume with figures. He stated that between the years of 2007-2016, the total value of contracts signed through the SSM has been \$2.75 billion, while the annual turnover of the industry has varied between \$150-200 million. He noted that new projects worth €5-6 billion could be signed in the short term. Reminding that a significant portion of future estimations comes from the serial production of ALTAY tank, Beyoğlu stated that the company which fails to win the tender for the serial production will actually run the risk of being pushed out of the industry. Based on this picture, Beyoğlu commented that Turkey should make a decision if it is willing to shape the future of the land vehicles industry or not. He said, "We believe that we should design the future, because we are right at that point. The future will be shaped based on what we choose to do and what decisions we make in these coming one or two years. Then let's imagine ourselves as if we were in the future, and looking back to the present-day... We have a project portfolio roughly valued at \$30 billion for the next two decades. This means an annual turnover of about \$1.5 billion. What is our goal? Our goal is to have a very strong armed forces. Our goal is to have a highly deterrent police force. We also want to have a sustainable industry that will offer us cost-efficient solutions over these two decades. We expect no significant increases in prices. And of course, we expect that the industry will generate employment, make exports, and create a strong economy. While we are expecting all of these to happen, there is only a few tools we can actually control and manage: project models and request for proposal dossiers. What carries us to the future is what we choose to write in the request for

proposal file, and how we define the project model. Let me give you some concrete examples. For example, the bidding for the serial production of the ALTAY tank may be conducted through various methods. One of them may involve making a contract directly with a single company. Another one may involve an open bidding process to select a single company, while another one may involve an open bidding process to select two companies. Yet another option is to make a contract by bringing together three companies without opening a bidding process. Serial production of the tank can be carried out using any of these methods, and the tanks can be delivered to the armed forces accordingly. What happens to the industry two decades later? What happens if there is a single company? What happens if there are two companies? What happens if there are three companies? What happens if three companies come together? We need to think about all these options very thoroughly, because there is no way to reverse a step once it is taken. We should implement the model which we believe will bring us closer to our goals."

Beyoğlu said that although certain ratios are defined in projects with the aim of increasing domestic participation, it would be far better to instead specify the items which should be indigenously produced. He noted that this approach would be better for guiding the industry towards the desired outcomes.

Ahmet Raci Yalçın



The Industry Should Prepare for Life Cycle Management and Supporting Operations

The last speaker of the event's second day was Ahmet Raci Yalçın, Director of Tank and Modernisation Projects under the SSM Land Platforms Department. In his presentation, Yalçın provided information about the SSM, the way SSM's projects are implemented, and the ongoing projects of the Department of Land Platforms.

Yalçın also mentioned the works they have been conducting in various areas, including logistics and life cycle management: "Today, armed forces request life cycle logistic support. As with industrial participation/offset contracts, we are planning to have life cycle logistic contracts signed together with our project contracts."

Yalçın stated they are also working on a plan to enable the SSM to conduct cost analysis, and that they are preparing a database. He described the cycle applied by SSM in case of urgent purchases: "In these particular cases, the requirements submitted to the SSM are not as detailed as in our regular projects. We receive very brief information of either one or two pages regarding the need in question. The SSM's

Urgent Purchase Council, headed by a Deputy Undersecretary of SSM, then evaluates if this need is really urgent or not. What is the evaluation criteria here? If there is an ongoing project, can it be integrated to this project? Or is it actually possible to procure the indicated number of items within the context of an urgent purchase? Or is the project budget appropriate for the urgent purchase? If an approval is granted, the projects are distributed to the relevant departments of SSM. Then, we define the model together with the user. Is there a demand for a previously used system? Or does the user clearly have a specific system in their minds? We determine all this, and share it with STM. STM completes our ordinary process for the evaluation of request for proposal documents, and notifies us about the results. And if we approve, the contract is signed and transferred to the user together with the delivery.”

Yalçın stated that speed is a very important factor for the solutions requested from companies, especially given the ongoing operations in the country. He noted that these solutions are put into practice directly in the field, and are not required to be absolutely perfect. He also added that they are planning to eventually share with the industry the experiences gained during operations.

In the following pages, our readers may find the articles regarding the presentations given by companies during the parallel sessions, and the systems which they exhibited at the foyer during the event.



ASELSAN Has a Solution for Every Need

A total of four presentations were given by ASELSAN personnel during the event. İlker Özdemir, Expert Engineer from the Air Defence Gun Systems Programme Directorate, described the subject of air defence against air-to-ground missiles. In recent years, the number of cruise missiles, air-to-ground missiles, and unmanned aerial vehicles has increased more rapidly than that of conventional air units such as aircraft and helicopters. For this reason, it is becoming more likely for air defence systems to face such threats. Özdemir stated that ASELSAN’s air defence gun systems as well as missile systems serve as countermeasures against these threats. Tansel Kibar, SARP Project Manager at ASELSAN, described

the history and current status of remote-controlled weapon systems, as well as ASELSAN’s solutions. In the Q&A session held after the presentation, Kibar stated that they have reached an indigenisation ratio of 75 percent in the SARP system.

In his presentation entitled ‘The Fight for Existence of Tanks in Today’s Conflict Environment,’ Abdullah Karaarslan, Tank Programme Director at ASELSAN, explained the role of ASELSAN’s SARP and AKKOR systems in tank defence.

Tuba Pakin, Senior Leader from ASELSAN’s Programme Directorate of Artillery and Infantry Systems, gave a presentation on ASELSAN’s fire support systems family.



Atilla Yenidoğan

Ayyazılım, the Expert of Vetronics, Describes the Concept of Vetronics

Ayyazılım, a company whose vetronics (vehicle electronics) solutions are used in nearly 1,000 vehicles across the world, exhibited its capabilities at the foyer area. Atilla Yenidoğan, the Founder and General Manager of Ayyazılım, mentioned the latest developments in the field of vetronics in the presentation he gave on the first day of the event. Yenidoğan pointed out that the technologies used in commercial vehicles are applied in military vehicles as well, listing examples such as the ABS brake system, and the transformation of subsystems such as cameras and navigation into command & control systems. In the conclusion part of his presentation, Yenidoğan drew the attentions to two developments:

- The contribution percentage of electric and electronic systems in land platforms is on a rapidly increasing trend.
- This trend indicates that it is becoming more likely for electronics companies to be assigned as prime contractors in land system projects.

FNSS Also Prepares for Hybrid Warfare

Haldun Olgun, Business Development Manager at FNSS, gave a presentation entitled ‘An Assessment of Hybrid Warfare and The Future of Armoured Combat Fighting Vehicles’ on the first day of the event, in which mentioned that the changes in combat environments and the developments in military equipment and armoured vehicle technologies had led to the need for next generation armoured combat vehicles. Olgun described the specifications of such vehicles by giving the KAPLAN Next Generation Armoured Combat Vehicle as an example.

In addition, Kıvılcım Ersoy, who also gave a presentation on behalf of FNSS, explained FNSS’ approach toward technology management.

Bünyamin Kahraman Karadeniz



NATEK Defence to Detect Snipers with KENES

NATEK Defence displayed its Sniper Detection and Tracking System (KENES) at the foyer area. Bünyamin Kahraman Karadeniz, the Deputy General Manager of NATEK Defence, said during his presentation that the system proved successful in all scenarios applied during tests conducted this year on the tactical field, and added that this system has also been certified by the R&D Section of the Special Forces Command. The system detects sniper telescopic sights and warns its user accordingly. Another feature of the system is that it is not subject to ITAR (The International Traffic in Arms Regulations) restrictions.

Nurol Makina Draws Attention to the Inadequacy of Standards

Fikret Çınar, Design and Engineering Manager at Nurol Makina, gave a presentation on the tests conducted for the protection of wheeled land vehicles against mines and improvised explosives. In addition, İbrahim Yumak mentioned the threats faced during daily operations, and what the EJDER YALÇIN vehicle accomplishes against these threats. Both presentations emphasised that test standards on survivability did not fully meet the threats faced in the field of operation, and that local testing requirements that are higher than these standards should be defined.

Otokar Focuses on the Issue of Suspension

In his presentation during the event, Serkan Yılmaz, Powerpack and Suspension Group Section Manager at Otokar Tracked Vehicles, described the function and types of suspension systems. He also told about Otokar's capabilities in developing suspension systems. In addition, Çağrı İyidiker explained Otokar's activities on designs that would enable amphibious vehicles to regain their vertical position (self-righting) in water on their own. İyidiker stated that they have verified the results of their works together with RMK Marine.

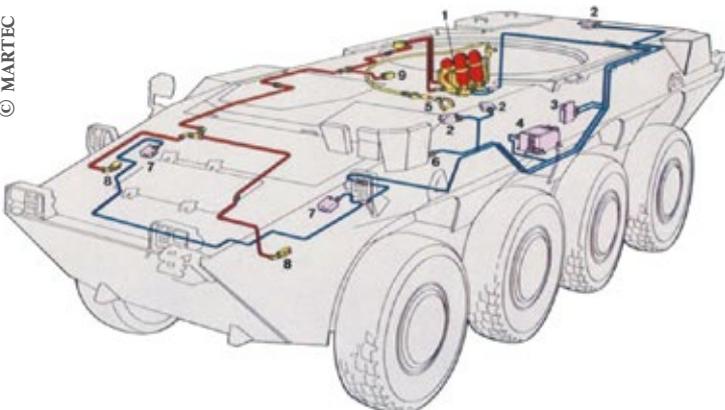
MARTEC Looking for a Local Partner

MARTEC, which designs and produces fire and explosion suppression systems, displayed its solutions at the foyer area, while Paolo Bona, CEO of MARTEC, gave a presentation to inform the audience about these solutions. In his presentation, Bona said that they are aware of the high importance of local participation for Turkey, and that they are looking for a local partner. Noting that their works in Brazil could be given as an example to this approach, Bona added that they could offer solutions such as local production and logistic support. He also said that they are open to cooperation with vehicle manufacturers.



Sniper Detection and Tracking System (KENES)

© MARTEC



MARTEC's fire and explosion suppression systems are also used in the wheeled vehicles of the Italian Armed Forces.