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“Dialogue” HAVELSAN’s new Secure Video Conferencing System

As protective measures have been adopted across the world due to the Novel Type Coronavirus pandemic, in this exclusive interview we discuss the measures HAVELSAN has implemented and the impact on production processes, and productivity with these new working arrangements, the defense industry’s critical technology support to the healthcare sector, new business opportunities, cyber security, artificial intelligence, big data, autonomous vehicles and more with HAVELSAN’s CEO & General Manager Ahmet Hamdi ATALAY.

Defence Turkey: The COVID-19 pandemic has caused quite radical changes in business as well as in our daily lives. Naturally, all sectors are affected from this situation and it’s no surprise to see that a significant amount of investment is being made now in the healthcare sector. Could you please inform us on the measures that HAVELSAN has implemented in response to the COVID-19 pandemic, your activities, and ongoing applications?

Ahmet Hamdi ATALAY: HAVELSAN is one of the first companies that took action in this area. We have a well-functioning occupational health and safety council. In addition to our colleagues in this council, we have a healthcare unit, a doctor and a psychologist. This

unit and the occupational health and safety unit are in close collaboration; they have been assessing the situation and submitting reports to me and the executive committee since the beginning of this period. Nearly four weeks ago, our executive board came up with the idea that we needed to adopt certain actions that would have a direct impact on our daily lives. Fortunately, no cases have been reported so far, but our employees were getting worried due to the developments they heard in the press and in their social environments. So, we examined the issue very seriously and held a comprehensive executive board meeting that lasted for a few hours with the participation of all our executives. For

the first time, during that week we had a break. We let all our employees - except our employees and executives who had to fulfill urgent tasks regarding our commitments to our customers or our responsibilities towards our government or those who had to work on various administrative processes - take a leave for a week. This was 4 weeks ago and during that break, nearly 30% of our employees were at the facilities to perform urgent tasks. The remaining 65% to 70% were subject to leave. We conducted both our urgent business and made plans for the aftermath with the 30% on site in the office; actually, we executed quite comprehensive activities. Some of these activities were technical and others were organizational. We

conducted activities regarding hygiene measures or measures in a broad sense to be adopted against the pandemic and revealed a plan which we have been implementing ever since.

Currently, 90% of our employees are actively working but only 30% of them are coming to the office. All the executives of HAVELSAN, including me, remain at the office; some come to the office in shifts. We implemented a special method for the remaining staff, and this includes people with chronic diseases among them, they are all considered to be on administrative leave in public institutions. So, we advised them to work from home. Also, there are employees who do not need to come into the office due to the nature of their work, and for this we established an infrastructure for tasks that could be fulfilled remotely from home. We used this technology to enable our employees who did not need to be on site at the office, allowing them to work from home in a safer environment. Our remote employees are certainly a considerable number. The remaining part of our employees were those working at customer sites and we decreased their numbers as well. As I mentioned earlier, 30% of our employees worked on-site at the office and in order to keep the number of on-site employees at a minimum, nearly 10% of the remaining group takes leaves in turns. These colleagues do not come to the office, and they do not work from home either, but a method to compensate

this time is also being applied. HAVELSAN is 90% remote now, and working from home with this structure, organization and technological infrastructure that we built.

Defence Turkey: Have there been any changes in HAVELSAN's action plan for 2020 due to the unprecedented conditions caused by the COVID-19 pandemic?

Ahmet Hamdi ATALAY: No, not yet. We are trying to measure the conditions in the interim. There is a critical technological infrastructure as well and we conducted quite crucial technological activities in the last four weeks. First of all, we focused on remote working. We built a technological infrastructure for the assignment of tasks within organizational scope and to measure performance and the quality of execution of these tasks while working remotely. In this way, we are also capable of measuring whether a colleague is more efficient when at home or in the office. The preliminary data reveals that working from home seems more effective than working in the office. If so, we are already 90% operational

and if our efficiency increased by 10% compared to our performance before the crisis, then it means on account of this model we are actually capable of conducting our business in the previously planned manner. Therefore, we have not made any changes in our plans so far and we will make decisions about future steps as the air clears.

Defence Turkey: You recently delivered the Combat Management and Command Control Systems of the Hızır Reis Submarine to Gölcük Shipyard Command during the pandemic, despite the recent slowdown. What would you like to say on how the new contract and delivery processes are being managed during the pandemic?

Ahmet Hamdi ATALAY: Actually, the activities are proceeding as planned. We completed the Submarine Combat Management System. Similarly, there is an Airbus Pilot Training Simulator we developed for Turkish Airlines and we will be delivering that soon. Our production, projects and new contracts continue. We noticed that we used to hold a lot of meetings in the past

and now we are holding these meetings via video conferencing. Thus, we are able to gather regardless of the physical location and time. In addition, we are also developing an indigenous version of the video conferencing system. We have been using the beta version of our own video conference system and we are offering this system to certain organizations in the meantime. In fact, it is an open-source product. We accomplished certain additional processes over this open-source system for performance and security improvement and turned the system into a product in a very short period, nearly a week. This video conference system is not cloud based; it runs in our own facilities therefore the data is not stored elsewhere. You also do not need to install any program as it is a web-based system. In this way, we are utilizing the infrastructure we built to fulfill both our requirements and to meet the telecommuting demands of other organizations or individuals, it's a product package and we will also be offering it as a service in commercial sense. It is a package that contains





many capabilities (file sharing, data sharing and performance measurement, etc.) and it includes various tools as well. Hereby, we are sharing this development for the first time with your magazine. Currently, we refer to this product as the Telecommuting Platform, however we have not given it a commercial name yet. (HAVELSAN's video conference system is called "Dialogue" was launched commercially on all platforms in May.)

Defence Turkey: HAVELSAN is at the same time a company with companies and offices in Oman, Qatar, Kuwait, Malaysia and Pakistan. Are there any disruptions or delays in the projects and activities you are executing at these companies and offices abroad due to the unprecedented environment created by COVID-19?

Ahmet Hamdi ATALAY: We have offices and actively working employees in those countries, and we are following up potential business opportunities in the Asia-Pacific region. We

also have projects that are being executed in Africa and in many countries across the world. Naturally, all these countries are affected by this pandemic. We are not able to go there and people living there are unable to come here. We are not able to ship any materials, equipment, etc. Therefore, naturally a delay occurs. Although there is a delay in terms of time, none of our business opportunities there has been lost. We fear losing our business to our competitors more than due to postponements. Yet, there is currently no such threat, presently business is suspended, and we endeavor to turn this into an advantage. On this opportunity, I have to underline that certain products required for the fight against the COVID-19 pandemic started to create business opportunities for us. We imported a thermal camera in this period and by adding certain software to it we launched it into service at our facilities and also for use in security checks of many ministries, public institutions and for

instance at Ankara City Hospital's entrance. At the same time, we are working on exporting diagnosis kits with USHAŞ Company, certified by the Ministry of Health.

Defence Turkey: Like all other areas, exports were affected negatively by the COVID-19 pandemic and trade took a major blow on global scale. According to the data provided by the Turkish Exporters' Assembly (TIM), a decrease by 49.8% was observed in the exports of the Turkish Defense and Aerospace/Aviation Industry in March, compared to the same period the previous year. Could you please compare HAVELSAN's export performance in the past three months with the figures achieved in the previous year? Considering the fact that potential markets/customers are also affected by the COVID-19 pandemic, will export targets/figures be revised for 2020?

Ahmet Hamdi ATALAY: The priorities of countries have changed in this

period. Presently, nobody is talking about the F-35 program; instead we are discussing the production of ventilators/respiratory devices. So, the agenda as well as requirements of countries have changed. Then again, this does not mean that our previous projects were left aside; perhaps they may only be postponed. Therefore, we do not perceive this situation to be a major threat or a risk. This why we have not yet revised our plans, but we are anticipating certain delays and changes.

Defence Turkey: E-Commerce activities in our country have seen a significant increase due to the COVID-19 outbreak. Therefore, IT infrastructure and cyber security have become one of the most critical aspects of this transformation. What type of efforts in cyber security has HAVELSAN been conducting as Turkey's center of excellence in cyber security during these times that have also triggered a spike in cyber-attacks? What solutions have you been providing organizations in our country on how to strengthen and support their existing information infrastructure?

Ahmet Hamdi ATALAY: We provide various services to our customers regarding cyber security. One of them is the security maintained by our teams at the customer site. We have security experts in certain public institutions, and they are actively providing the security of



that institution. On the other hand, there are 100% indigenous and national products that we develop, and we are providing services to our customers with these products as well. Our third service is related to areas that we do not have any products, but we offer a cyber security package composed domestic or foreign products existing on the market. Moreover, we began providing training for general online public emphasizing the social responsibility dimension of our business, particularly in the recent period. The courses we designed are focused on increasing awareness in cyber security. We wish to create social awareness so that with this awareness, the public and especially our youngsters will be able to improve themselves to meet competency requirements in this area. This was among the areas that I suggested

initially when the “stay home stay safe” period appeared on the agenda. Our young people could train themselves in cyber security during the time they were at home; presumably nearly 3 million cyber security experts are in demand across the world. Turkey needs around 30,000 experts in this area, and this creates a job opportunity for our youth. We complain about the high level of youth unemployment, this is not because there are no job opportunities. Unemployment is due to the lack of required capabilities. This is why we tell them to improve their qualifications and train themselves in cyber security. Artificial Intelligence (AI) is another popular topic as AI is becoming more involved in our daily lives. Surely, one must improve their software expertise to be capable of collaborating in

all these areas. Graduating from the Computer Engineering department is not essential to become a software developer; there are many successful software developers who have degrees from different branches. Therefore, one is completely capable of becoming a successful software developer independent from the branch they studied. And now, all the training material required for this is at your fingertips via the internet, so this truly is a great opportunity.

There are three critical components when we are speaking of cyber security: Human beings, technology and processes, the weakest link in this chain are human beings. One cannot solve this problem merely through technology or systems without strengthening this link (executives, employees, experts,

etc.) in the chain. Both a shortage of experts and a lack of awareness exists in the human dimension of the chain in addition to apathy. HAVELSAN is helpless to do anything if the awareness of our people is not sufficient in this area, one can only go so far with technological facilities and capabilities.

Defence Turkey: Our defense industry companies have been providing great support to the healthcare system during this period. How has your Company’s software and system solutions in information technologies been utilized in healthcare within the scope of the measures against COVID-19? And how could they be utilized in the future? For instance, has HAVELSAN’s ATLAS CARE Health Management Information System been launched in this period?

Ahmet Hamdi ATALAY: We are an information technology company that develops software-intensive technologies. These technologies exist in all aspects of life and now they are being increasingly used in the healthcare sector. Once, the Republic of Turkey was the country that made the best information technologies in the banking sector. Nowadays the healthcare field is going through what the banking sector experienced before. This is irrespective of the pandemic period that we are living in. We are now at such a state that on account of the information technologies both diagnosis and treatment

and management systems are presently more effective, less costly and more qualified. Hence, information technologies are the most critical tool and infrastructure to maintain the best price, quality and performance in healthcare information systems of the hospitals. This fact is recently being realized by the whole world, yet Turkey has been well aware of it, and therefore information technologies are being rapidly adapted to the healthcare sector. The Hospital Information Management Systems that we refer as HIMS composes a critical part of this. A large amount of data on healthcare is being generated here; the data of 80 million people is being collected. This, at the same time is very valuable data, in a way data is the oil of our times. Now, if this data is correctly analyzed with the help of Artificial Intelligence, then the behavior/pattern of many types of disease, their geographic or demographic context or periodic states could be observed. Naturally, HAVELSAN is the technology provider of this sector as an information technology company. HAVELSAN previously built the Military Healthcare Automation System (MHAS) as well. We modified this system and made it compatible with the city hospitals upon the demand of the Ministry of Health and added many new technologies such as Artificial Intelligence to support decision makers. For instance, the system intervenes when the doctor attempts to



prescribe a rheumatism drug to a patient with high blood pressure. We call it the healthcare information management system but in fact it is way beyond that, its name in English is ATLASCARE and we call it ATLASÇARE (“çare” is a word for remedy/cure in Turkish). Our ATLASCARE system will be the CURE for the healthcare sector. We have hospitals of colossal sizes that do not exist anywhere else in the world and this system will play a key role in the management of these gigantic hospitals. Compatible software technologies or technological infrastructures are required for their management. Presently, two hospitals are using this system and it will become more widespread.

Software development does not merely involve coding. Software development can be compared to the process of putting up a wall; to construct a building the architect designs the building; the civil engineer makes the calculations and the mason builds the wall. The construction is revealed through the

coalition of all these disciplines. It is similar in software development, there are many sub-disciplines. Therefore, in hospitals of such grand sizes, products that come out from a system involving all these disciplines are required for the management of healthcare information systems. There was a gap in this area in Turkey and we introduced a new product to fill this gap upon the direction of our Ministry of Health. We have placed several bids abroad and we aim to sell this product to foreign countries as well.

Other than that, we endeavor to develop other products to meet the needs of our times. For instance, we have a project for the management of people who interacted with our patients with positive COVID-19 test results. The Ministry of Health has a project in this area, and we are working on the technologies to render this project more effective. We are developing a solution that builds up the profile of anyone who has been in contact with our citizens with positive test

results and shares them with decision makers by forming a network. This retrospective scanning is for the time being limited to the families of the patients and their colleagues at work, yet with the help of this system to be developed, the people they coincide with on public transportation or at supermarkets could also be identified. We have other projects in this area as well. Healthcare information technologies have become one of our main functions and from now on our activities in this area will be increasing.

Defence Turkey: HAVELSAN is a major company experienced in critical areas such as Robotics and Autonomy, Big Data and Artificial Intelligence, Secure Mobile Communication and Augmented Reality. What are your comments on the latest status of the ongoing technology development activities in these areas?

Ahmet Hamdi ATALAY: HAVELSAN has been conducting activities in these new technologies, referred to as ‘disruptive technologies’ by some, such as Artificial Intelligence, Autonomous Systems, Big Data Analysis, and Augmented and Virtual Reality. HAVELSAN really has a great opportunity here. Last year, we attended a NATO meeting in Germany and the topic of the meeting was disruptive technologies. While we were expecting to hear about newly developed weapons and bombs, instead they introduced

to us Artificial Intelligence, Big Data Analysis and Augmented Reality at the meeting. These areas we have been working on are also regarded as disruptive technologies by NATO. As HAVELSAN, we are active in all these areas. For instance, perhaps we may have one of the most powerful teams in Turkey in the field of Artificial Intelligence; around 50 of our experts are working on this subject. This team only focuses on Artificial Intelligence and develops algorithms in this area. Besides, nearly 2,000 of our employees are working on Artificial Intelligence and its derivatives and approximately 1,700-1,800 of them are computer engineers. Therefore, this is among our main areas of activity, and it provides input to the Healthcare Information Management System as well as our other products. Augmented/Virtual Reality is another of our focus areas. We are establishing virtual reality platforms. There are two pioneer companies in the world in this area. One of them is interestingly a Turkish company located in Germany. They are working on game engines used in computer games. Surely, we have no interest in building game engines like them, instead, we are developing a more industrial model of that engine which could be employed by augmented reality/virtual reality and simulations and at the same time we are manufacturing a framework which the virtual reality applications will be developed over. Presently, all actors working on virtual reality are using a framework that is produced



by one or two companies in the world. Universities also use them; they cannot break their habits once they get used to it. We are building our own indigenous and national framework, and we have made great progress. Hopefully, we will provide it to our universities free of charge and our children will be educated through its use. In this way, they would not be dependent on the products of multinational companies. We have technical and cooperation agreements with nearly 25 universities. Our team in Istanbul has been cooperating with Gebze Technical University in this area.

Regarding autonomous systems, as you know we define software as intelligence included in existing or new systems. Certain functions are added to a semi-intelligent or “dumb” system and it becomes a smart system. This is the exact role of HAVELSAN, we add intelligence to systems, and we do it through software-based

products. Automation can be achieved by enhancing products through intelligence. We also have a project on a self-driving car. Test drives on lane keeping are currently being conducted in Ankara on various highways. Our genuine intention is not achieving a driverless car, we are in fact focused on automation of Land, Naval, and Air platforms in the area of defense. We are working on autonomous and unmanned systems and technologies where autonomous systems can act as swarms. At this point, I would like to underline the concept “swarm”. Most existing systems function independently, but the new concept is swarm intelligence, these systems function as a swarm and we are working on it. For instance, we have an armored land vehicle developed for CBRN (Chemical Biological Radiological Nuclear) threats. There are special units assigned for each of these subjects and our competent colleagues are working in these units

Defence Turkey: Presently, within the scope of the Turkish Armed Forces’ needs, HAVELSAN is actively taking part in many projects in Land, Naval and Air categories such as ADVENT SYS, SGRS, REIS Class Submarine Combat Management System (CYS), TCG Anadolu LHD, I-Class Frigate, BARBAROS MLU, PREVEZE MLU and MELTEM-III. Is a slowdown or delay in these projects anticipated due to the COVID-19 pandemic? Could you inform our readers on the measures you have adopted to minimize the effects of the COVID-19 pandemic and on your ongoing implementations and activities?

Ahmet Hamdi ATALAY: The course of events so far indicates that no major delays will be expected. There may be delays of a few days or weeks, but we have not experienced any cases that would cause a postponement of months

or years in the projects. The only difference we observe compared to our past activities is that we are working without meeting face to face. The meetings are being conducted via teleconferences or video conferences. None of the projects have been suspended and there are no disruptions in any of our activities.

Defence Turkey: Is there some good news to share in 2020 regarding the projects you have mentioned?

Ahmet Hamdi ATALAY: It would not be proper to talk much on defense projects. Moreover, the Presidency of Defense Industries informs the public on these developments. I would once again like to underline that we do not foresee any delays in the planned projects. Then again, we may reveal several surprise products when the needs occur just like with the needs for telecommuting. Let me give an example, the public also has to be informed. There was a Thermal Camera crisis in the beginning of the COVID-19 pandemic. At that time, we were already working on the analysis of the images captured by such cameras with a company located in Germany owned by Turks for another project. Then, as the crisis emerged, we thought whether we could utilize these thermal cameras during this process. Once we decided that we could, we utilized these cameras initially for our own requirements then gave them to those who were already informed about this product in the

Turkish Armed Forces and the Ministry of National Defense. I do not wish to tell the prices now, but cameras with similar capabilities are sold for prices three to four times higher than this one. We were unaware of the prices as this was not an area we were interested in. We installed these cameras to hundreds of public institutions at one fourth of their market price. In this way, we obtained a thermal camera capable of scanning body temperatures and we have been conducting software development activities regarding this. Therefore, we came up with different types of projects during new emerging conditions. Each period contains different opportunities and the actual skill here is to identify these opportunities and to realize them. I believe there is no need for pessimism. I will be repeating myself but HAVELSAN did not have any plans on telecommuting or working from home until a very short while ago. I probably would not have approved a project of such nature 6 months ago. And here we are, stating that perhaps a few years later HAVELSAN will be conducting a considerable part of its activities from home or maybe the staff we employ will be located in other cities. We are speaking of a brand-new and independent business model that is not limited by time and location. This requires a cultural change, and a new organizational structure and it alters the business infrastructure and requires secure and consistent technologies. Presently, we are in a

sense conducting a proof-of-concept study, we are testing the products and the results have been positive so far. This may not be practical for companies that engage in active production, such as companies that need to operate on site at factories, but for us, our colleagues are capable of working from their computers at home via the secure connection we provide them.

Defence Turkey: Since the defense industry is quite a critical sector, unfortunately many companies cannot operate irrespective of time and location, employees must actively work on site at their workplaces. Do you have any activities going on right now to provide this infrastructure to other defense industry companies?

Ahmet Hamdi ATALAY: We are preparing a product package in this respect and we will offer it to willing parties and to organizations that require it. It is a package that contains many products; a video conference system and secure communication are included as well. We have a product called "Dialogue" and we are developing both the desktop and mobile version of it. We have a sharing platform called HVL-Drive to share large scale data and it will also be included in the aforementioned package. We have a tool for business management known as JIRA by the world and we are integrating it to this system as well. Once we install it to the related

organization, it really does not matter where your physical location is. Therefore, this period of pandemic contains major opportunities for companies such as HAVELSAN, that focus on information and communication technologies.

Defence Turkey: Would you like to convey any messages to our readers?

Ahmet Hamdi ATALAY: We have implemented and are following isolation precautions and hygiene procedures quite effectively at HAVELSAN. We also have a comprehensive document titled as COVID-19 Action Plan in this regard. We prepared this document at the end of March and we have been sharing it with other organizations as well, because there is a need to share know-how in this respect. We are facing a pandemic that does not pay regard to religion, language, or race of the infected. All of humanity is experiencing an unprecedented crisis. The experts instruct the washing of hands, avoid touching the face after contacting a given surface, keeping the social distance of a few meters between people and avoid leaving home and avoid blending with crowds as much as possible. We need to abide by all these rules very strictly because by obeying the rules we are not only protecting ourselves; we are protecting others at the same time; we all have a responsibility to society and hereby I invite everyone to be more sensitive to these issues ■