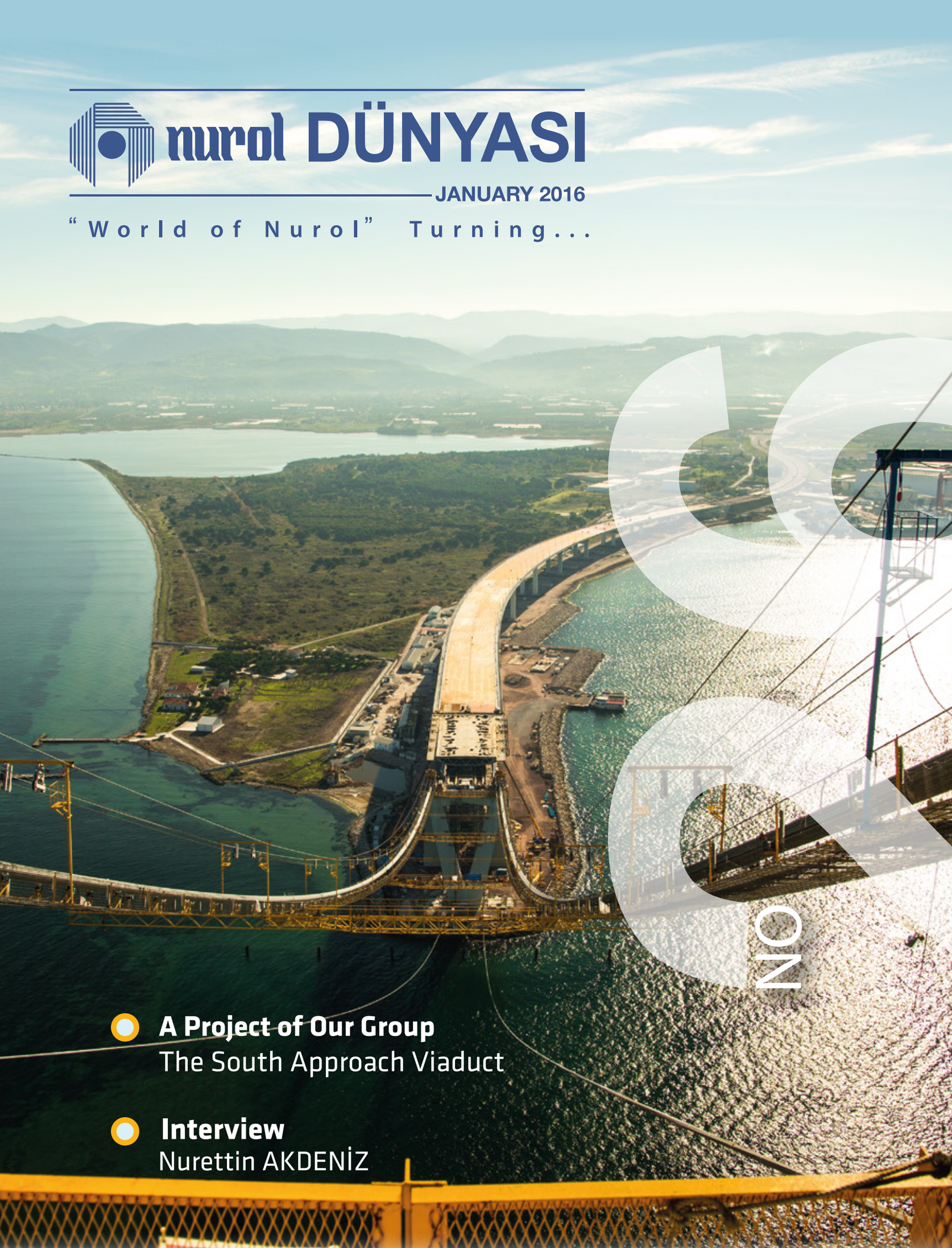
nurol DÜNYASI

JANUARY 2016

"World of Nurol" Turning...



NO

A Project of Our Group
The South Approach Viaduct

Interview
Nurettin AKDENİZ



nurol 50 yıl



Staying committed to our values under every circumstance
we established a half centennial standing background.

Our dignity in the past 50 years has been built on quality and trust.

And so it shall be our indispensible principles to
keep working as much as we can,
going further continuously, and aiming high levels of success.

There is only one constant in Nurol's 50 years history;

the respect and loyalty of the determined and dedicated employees
just like in the first day!

Happy Anniversary!

Nurettin ÇARMIKLI
Chairman of the Board

The Lists of ENR (Engineering News Record) are announced

The Lists of the world's top International Contractor's and the world's top Global Contractors are already published.

42 Turkish Company among the 250 company in the list of **The Biggest Global Contractors** were awarded by President **Recep Tayyip Erdoğan**. Vice President **Erol ÇARMIKLI** received the award on behalf of NUROL during the ceremony which was hold at Sheraton Hotel &Convention Center on 16 February 2015.





Nihat ZEYBEKÇİ, Erol ÇARMIKLI, Recep Tayyip ERDOĞAN, Mithat YENİGÜN

18 Turkish contractors take place in the list of The Biggest Global Contractors. Nurol Construction is 9th one among the Turkish list, and 180th in general list.

The “43” Turkish Contractors fall within the Top International Contractor List. NUROL İnşaat was announced as “16th among Turks and “139th” in the full list.



GRANT HOLDER
Nurol Holding A.Ş.
Yönetim Kurulu Başkanı
Nurettin ÇARMIKLI

EXECUTIVE EDITOR
Şakir KALELİ

EDITOR IN CHIEF
Meral SARI CEYLAN
meral.ceylan@nurol.com.tr

EDITORIAL BOARD
Ankara
Bahar KOVALI
bahar.kovali@nurol.com.tr

Arzu SARA
arzu.sara@nurol.com.tr

Elif CANBULAT
elif.canbulat@nurol.com.tr

İstanbul
Hatice ÇİÇEKOĞLU
hatice.cicekoglu@nurol.com.tr

PLACE OF MANAGEMENT
Arjantin Caddesi No:7
06700 Gaziosmanpaşa / Ankara
Tel: 0312 455 10 00
Faks: 0312 455 10 60
e-mail: hi.holding@nurol.com.tr
www.nurol.com.tr

DESIGN&PRODUCTION
YAPIMCI MEDYA A.Ş.
Telefon: 0312 436 7329
www.yapimci.com

PLACE of EDITION
Pelin Ofset Tipo Matbaacılık Sanayi ve Ticaret Ltd. Şti. İvedik Organize Sanayi Bölgesi Matbaacılar Sitesi 1514.Sokak No:28 Yenimahalle/Ankara
Telefon: 0312 395 25 80

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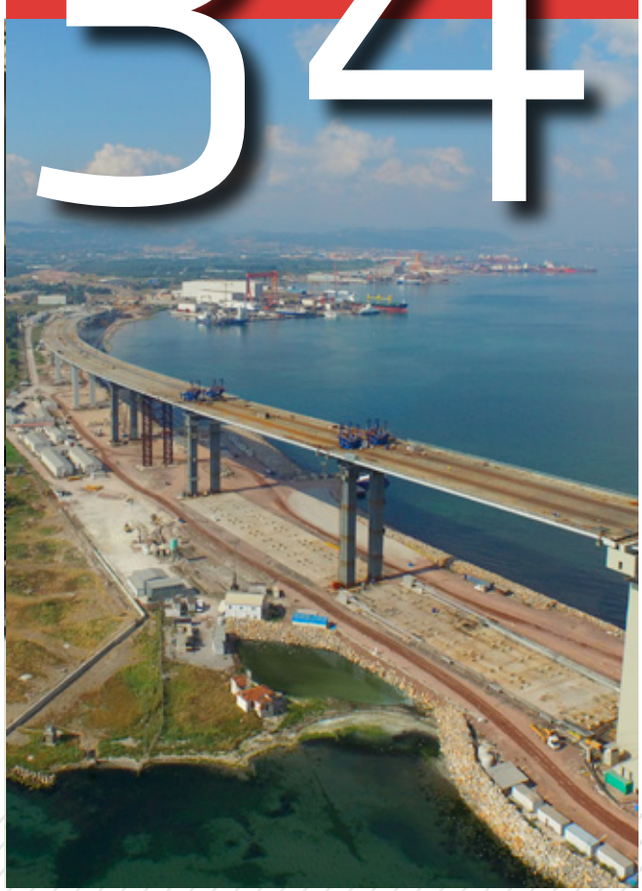
The World of NUROL is being published in full compliance to the Turkish Republic Laws by Nurol Holding

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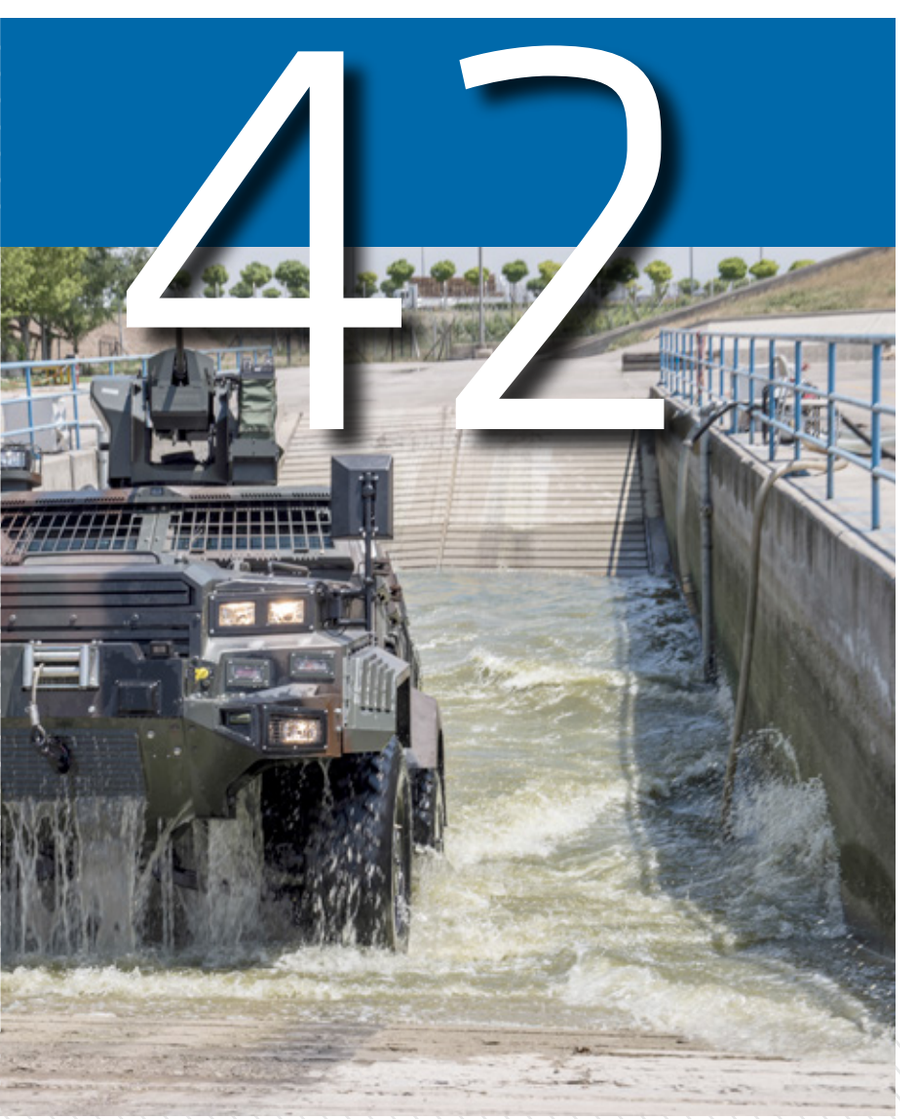




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42 **National**
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The year 2016 brought sensational days for the World of **NUROL**. We are celebrating the 50th anniversary of the continuance of the values, which **ÇARMIKLI** Family has created and then united under an institutional structure.

With its contribution to economics, its financial strength, dignity and reliability **NUROL** is a deep-rooted foundation, that carries on to invest on all fields under all circumstances. After being established in 1966, **NUROL** took its place in Turkish construction field, continued to grow with its worthy of praise success and brak new grounds for many times during its journey for over half a century .

Sometimes, no word would be sufficient to identify some greatnesses. The ones who have read the book, "**I Promised My Father**" written out by our Chairman of the Board, **Mr. Nurettin ÇARMIKLI**, would know how this greatness was constituted by experiencing various difficulties, obstacles and struggles. It is a pride for all of us how **Mr. Nurettin ÇARMIKLI** and his valuable brothers **Mr. Erol ÇARMIKL**I and **Mr. Oğuz ÇARMIKLI** brought this huge responsibility up today by preserving it in unity and solidarity and with a great effort of accomplishing to the best.

Giving an enormous importance to a balanced and sustainable growth within the target of accomplishing the best, **NUROL** has been reached up today with a great institutional culture and will continue to walk to better tomorrows with pride. We are grateful to our valuable founders and partners who commenced this long journey in which we also proud of being a part of; we send our best wishes to our workers who contributed, and we commemorate the ones who passed away with with craving and grace.

We will prepare our next issue in a quite comprehensive way related to our 50th anniversary. In this issue we hosted Mr. Nurettin Akdeniz, the General Manager of **NUROL** Construction Company, the flagship of our Group. He has been participated to our Group in 2010, in the Gebze-İzmir Highway Project and then took his new Office as of March 2015. Our dynamic manager, made time for us despite of his stucked schedule and sincerely answered our questions. At the end of the interview, he completed his words as such: "As a member of a huge family, I aim to raise the **NUROL** flag to higher places under the leadership of our bosses".

Another interesting coverage we give place in our magazine this month is the completion of Southern Access Viaduct Project. We had an interview with our Project Manager, Cengiz F. Gümüşdağ. He said to us that success has 4 key steps: to dream, to believe, to work hard and to share. He also gave very comprehensible explanations with technical details. We think that you will read the interview curiously.

Presenting our 26th issue, we wish the new year to bring health, success and happiness to everyone on behalf of Nurol World.

Meral SARI CEYLAN
Editor

INTRODUCTION



Dear Nurol Family and Readers

The developments encountered in 2015 either in Turkey or the rest of the world caused a fluctuating course in macroeconomics and this situation deeply affected the industries that have an exchange risk.

In 2015 we, as **Nurol Group of Companies**, continued our operations in construction and contracting, real estate investments, defence industry, energy and mining, tourism and finance sectors. Within the same year, the Group achieved a consolidated 1.2 billion dollar turnover and almost 4 billion dollars active growth.

The companies that build up our business profile are not only Turkey's but also the world's foremost companies who carry out medium and long-term contracting projects. In 2016, Nurol Construction and defence industry companies, being the flagships of our Group, aim to complete the existing projects and to gain geographically new markets as of top priority.

In 2015, **Nurol Construction** and **Nurol Steel companies** set a world record by completing the "**Southern Access Viaduct**", connecting Izmit Bay Crossing to land as part a of Gebze-Izmir Motorway Project, by succeeding the construction of 22.500 ton steel structure using a 1123 metre dwelling method in just two years. This project also hosted a new Turkey record. Constructed with a hundred percent Turkish workforce, The Southern Access Viaduct's **last deck**, roughly a stadium sized block with 124 metres in height, 36 metres in width and 2.600 tonnes in weight, was placed at 57 metres high and this was put into records as "**Turkey's Largest Lifting Operation**".

2016 will be a special year for us in which we will celebrate our 50th anniversary. In this context, we can list the projects and headings in our course of action as such:

An investment of about 6.5 billion dollars and one of **Nurol Construction**'s most prestigious projects, Turkey's largest build-operate-transfer project, **The Gebze-Izmir Motorway** project's most important link, Europe's second longest and the world's fourth longest spanned suspension bridge **The Izmit Bay Crossing Bridge** is planned to be put into service by April 2016.

The Ilısu Dam and Hydroelectric Power Plant project, which is to be Turkey's second largest, will also be completed in 2016. This project, aside from being one of our Group's most important reference projects will also be one of the key investment points for our country's energy portfolio. With the change in the route of the **Ordu Beltway** project the overall length of the project has reached to 21.4 km from 19.1 km. This project is also predicted to be finished by the end of 2016.

Nurol Construction which continues its operations abroad, mainly in Northern Africa and Gulf Countries with its modern machines and equipment, will begin to utilise new project opportunities in sub-Saharan Africa throughout 2016.

In the real estate sector our Group's two big projects in Istanbul, **Nurol Tower** (Çağlayan) and **Nurol Park** (Güneşli) projects which are developed by **Nurol GYO** with a total value of about 1 billion dollars, will be opened to settlement in 2016. The construction of Nurol Life (Seyrantepe) project will be continuing as planned.

In the field of defence industry, our group which embodies **FNSS**, the first private sector association of Turkey, along with **Nurol Machinery** and **Nurol Technology**, aims to grow in this sector with partnerships and acquisitions planned for the near future and to diversify its products by expanding to new branches within the industry.

As a requirement of the competitiveness in defence industry, the continuity of **R&D** activities and investment plans towards the latest technology, creates the road map for the targets of growth oriented strategy and of innovative product development of our Group in 2016.

This road map will aid our companies involving in the defence industry to contribute their expansion strategies especially the overseas countries they are operating in.

Our Group aims to add yet another sector to its scope with its mining company **TUMAD**, by transforming its long standing search efforts into investments. This will be an important step towards broadening the range of our Group which is involved in many different segments of business.

You will find the details of the previously mentioned projects and the projects realised by our other companies in the later pages of our magazine.

We hope that in 2016 external dynamics for politics and economy will be more stable and predictable than 2015 and so we manage to realize all the goals mentioned above.

This year, we are celebrating the 50th anniversary of Nurol Construction, the flagship of our Group of Companies, which has witnessed the reconstruction of our country with its projects. What started as an ordinary partnership at the beginning, now continues its existence with more than 40 companies, partnerships and affiliated companies. Being one of Turkey's leading construction companies, the success of Nurol Construction in its field has reflected onto world listings and has attained an international fame as an esteemed construction company. As the chairman of our executive board stated in his New Year message "quality and trust" creates the foundation of our 50 year old history. I believe that its operations that have spread to three continents, its history full of achievements, its name which has become the symbol of leadership and trustworthiness is the greatest proof that NUROL will continue to grow with the same velocity for many years. As of the entire Nurol Family, our goal will always be to put our signature under brand new projects and raise the Nurol flag to higher places both domestic and abroad.

With these feelings and thoughts, may we all have a great 50th anniversary.



Uğur DOĞAN
CEO

UAE

nurol LLC.



BAB AL QASR





Capital	: Abu Dhabi
Official Language	: Arabic
Management	: Constitutional Monarchy
Surface	: 83.600 km^2
Population	: 8.264.070
Currency	: Arab Emirates Dirham

Bab Al Qasr Hotel " Serviced Apartments Project is located at the most prestigious and prime location of Abu Dhabi, just opposite of the Emirates Palace Hotel and Jumeirah Etihad Towers which can also be considered as one of the landmark buildings of Abu Dhabi with its unique Moroccan Style design.

Nurol signed the Contract with Emirates and Morocco Trading & General Investment Company (EMROC) to construct a twin high rise towers, one consisting of residential building and the other one hotel, both connected with Sky Bridge and constructed over a common podium floor and underground car park structures.

Although superstructure works of the Project were completed on time, within the stipulated construction period of 780 calendar days, the Provisional Interior Decoration Works are still in progress within the framework of Client's revised construction program, under the management of M/s. Jacobs International Project Management Company. The Structural and Architectural Design and Supervision are under M/s. Surbana, and the Project is expected to be completed the at the middle of 2016.

"Bab Al Qasr", which means the "Gate of Palace" in Arabic, is consisting of four underground car park structures, with a construction area of 48,000m^2, over which laying the 31,000m^2 common podium structure, consisting retail areas and offices, and two high rise towers of 85,000m^2. The total construction area of the Project reaches to 164,000m^2, in addition to over 10,000m^2 of hard and soft landscaping areas.

Podium floors, starting from ground floor to fifth floor are allocated for the common Hotel facilities:

Ground floor is mostly reserved for Main Kitchen and for the facilities related to Kitchen, where the Reception, Grand Lobby, Swimming Pool, All Day Dining, Fine Dining, Tea Lounge are located at 1st floor level, Function Rooms and Gourmet Deli Restaurant are located at 2nd floor, Grand Ball Room and

Entertainment Facilities at 3rd and 4th floors, and Male & Female SPA and EMROC's Offices are located at 4th and 5th floors.

The Hotel and Apartment Towers consist of 36 typical floors, plus lower roof, lift machine, fan, water tank room and upper roof levels.

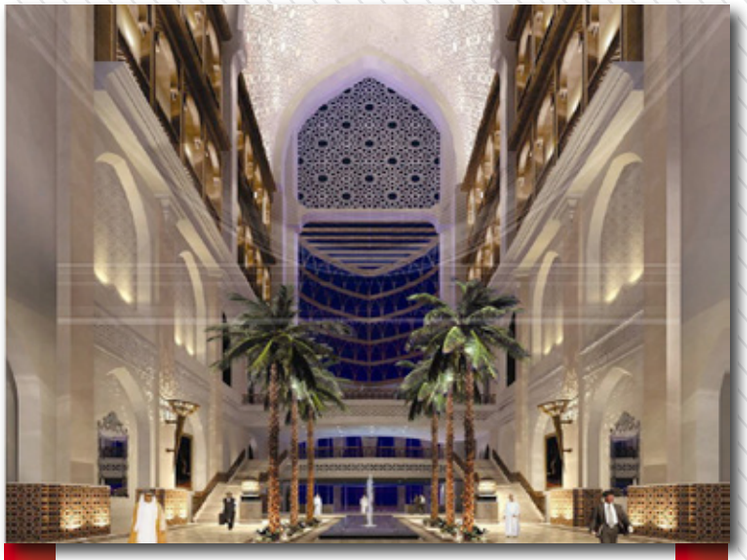
The Hotel Tower contains 412 high end keys for Millenium Group of Hotels,and the Apartment Tower contains 265 residential keys, as detailed below:

HOTEL TOWER

TYPE	NUMBER
Presidential Suite	1
Executive Suite	30
Junior Suit	54
Superior King	85
Typical King	123
Typical Queen	4
Typical Twin	115
TOTAL	**412**

APARTMENT TOWER

TYPE	NUMBER
Penthouse	1
3 Bedroom	7
2 Bedroom	50
1 Bedroom	147
Studio	60
TOTAL	265







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Barış SAYSEL, Mustafa DAĞ, Ali Mirza ÖZBEK, Doğan SÖĞÜT, Nurettin ÇARMIKLI, Abbassi, Samir WARDANI, Ömer KURT, Samir RAMADAN

Marina City



Marina City Project is a part of the settlement that is developed at Abu Dhabi Marina region, which covers 144 area of Abu Dhabi under development of National Invesment. Total construction area of the project expanded to 123.000 m^2. Project is composed of 67 super lux villas and 4 multi floor collective housing units established on 2 floored podium. Project is now under construction.

Villas on the project are designed at 3 different types and positioned at coastline collaterally according to their size.

Villa Type 1 at the coastline



has seven bedrooms, 863 m^2 closed area and 2.088 m^2 total land area. Axe of Type 1 is at natural land grade, axe grades of other type villas are established with total 500.000 m^3 filling and for each villa sea view is provided. As of today, we have finished the most parts of the construction of this loaded filling works and auxiliary retaining walls elements. Other two type villa has 723 m^2 and 561 m^3 closed area respectively. Each villa has private garden and swimming pool, common living space appropriate to Middle East geography and culture, parent's bathroom included to each bedroom specially, service areas, servant sections and closed car parks. Rough constructions at the villas continues at full tilt and application of fine works is started.

8 floored 4 collective housing consisting of 208 house take place at the section, where the area with the filled units reached to the top quota. Podium region, which includes the first two floors of the buildings and supported with sustaining wall, has car park, mechanic and electric service rooms, prayer room, common living spaces and duplex residences. There are swimming pools, children playgrounds and common living spaces take place at the open area situated over the podium. There will be only residences at the floors on the podium. Total living area of the podium is approximately 14.000 m^2 and total construction area of the buildings is 73 .000 m^2. Rough construction of the podium and three building is completed successfully. Fine works at the buildings continue.

Project is built and administered according to the sustainability and renewable construction and material principles of our age and when it is completed it will be registered with 2 Perl Certificate.



nurol LLC.



SADİYAT ISLAND
Service Tunnel



PROJECT BRIEF

Commencement Date : 2nd FEBRUARY 2014

Completion Date : 1st OCTOBER 2016

Type of Contract : Design and Build Lump Sum Contract

PROJECT ABSTRACT

The object of this Contract, is provide Design and Build Security Service Tunnel connecting to Louvre Museum Abu Dhabi, Guggenheim Museum Abu Dhabi, Zayed National Museum & District Mall on the Saadiyat Island, Abu Dhabi.

The Client is Tourism Development and Investment Company (TDIC) where M/s. Turner represents the Client and Tunnel Design performed by local/Malaysian Design Firm M/s. CHSS under Nurol performance.

The Project consists of Main Tunnel (1198 m), Branch Tunnels (225.72 m), Under Ground Security Control Building, Pump Room & MEP Systems.

The tunnel is successfully completed on time and currently under Operation and Maintenance period..

MILESTONES

1. Structural completion of Entrance & Exit Link Tunnels to Louvre Abu Dhabi – Security Screening Facility (SSF): 20th September 2014 – Completed on Time

2. Completion of Tunnel to allow full operational access to the Louvre Abu Dhabi – Security Screening Facility: 20th April 2015 – Completed on Time

3. Completion of Tunnel : 20 months from commencement date – 1st October 2015 – Completed on time.



nurol LLC.



Jumeriah

Nurol has initiated the construction activities in Dubai since 2004 and successfully completed over 600,000m² of building Projects consisting of villas, townhouses and mass housing Projects at International City and Jumeirah Village. In addition to these, 400ha of infrastructure Project consisting of underground utilities services, roads, HV/LV substations and street lighting network at Jumeirah Park for one of worlds biggest real estate developer, M/s. Nakheel.







Jumeirah Park Infrasructure Project, which comprises all components of the substructure like road, lightning, middle and low voltage electric llines, sewerage system, garden irrigation, rain and drinking water lines, transformer buildings and pump stations that will service to 2760 villa at 400 ha area, is started with 110 million $ price in 2006, Jumeirah Villas project, which comprises 856 villa construction that have 200.000 m^2 construction area, started 203 million $ price in 2007, Jumeirah Park Package-7 villas project, which comprises 453 villa construction that have 160.000 m^2 construction area, started with 280 million $ in 2008 within the scope of contracts with employer Nakheel company. Employer Nakheel company, who is effected from the economic crisis that is experienced in the world at the last quarter of 2008, soon after decided not to continue to Jumeirah Park Package-7 villa project and cancelled the contract unilaterally. At the other two project that continue works are slowed down and stopped for a while. With reconstruction contract and additional contracts that are signed later the works started again, against all the odds Nurol finished the two project on 2012-2013 successfully worthily and they are submitted to the employer following the maintenance periods. Currently attempts are continuing and necessary steps are being taken within the scope of configuration contract that is signed with Nakheel company.

In addition, to Nurol's successfully completed projects, Nurol is focusing on landmark and special Projects in Dubai, like the Route 2020 Dubai Metro, by leading an international Joint Venture.





nurol LLC.

Rawdah Residential Buildings





Gökhan Gümüş, Mehmet Kara, Galal Sakran, Ali Mirza Özbek, Omar Al Khodary, Mahmood Kamil, Samir Ramadan, Emad Sammarai, Nael Sleiman

Two Residential Buildings for H.H. Dr. Sheikh Sultan Bin Khalifa Bin Zayed Al Nahyan at adjacent Plots of C104 and C105 at Sector E-48, Rawdhat, Abu Dhabi, United Arab Emirates, is consisting of construction, completion and maintenance of G+5 and G+4, two residential buildings, over two storey underground car park structure, with the Mechanical Rooms on the top roof of each building. The challenging fast track Project started on 2nd October 2014 and anticipated to be completed by the 21st of May 2016. The total construction area is 21.878 m^2 of high end sustainable buildings, of Perl 1 rating from Urban Planning Council ,similar to Lead Sustainable Construction Certification.

Hopefully ,Nurol is to execute another two additional buildings at adjacent plots which are at the design stage nowadays.



ALGERIA

nurol
CONSTRUCTION and TRADING CO. INC.



OUR DAM PROJECTS



Capital City	: Algeria
Official Language	: Arabic
Governance	: Republic
Surface Area	: 2.381.741 km²
Population	:34.895.000
Currency	: Algerian Dinar







BOUKHROUFA DAM

Boukhroufa Dam is located at east of Algeria, close to Tunisia border and 20 km south of El Tarf city. The Region is the most rainy region of Algeria. With a capacity of 125 million m^3 the dam is a water reservoir and the water within it will be used for agriculture. Crest length of the dam is planned as 883 m and crest height is planned as 87 m.

Dam, which is designed as clay cored earth fill, comprises 7.000.000 m^3 earthmove, 280 metric diversion gallery, 900 metric grouting gallery, 80.000 m^3 pavement and 30.000 ml grout works.

In our project, body slope, bringing canal and upstream coffer dam excavations are completed. Intake structure pile foundations, upstream coffer dam slurry trench, body foundation excavations, diversion canal concrete works still continue. While left coast temporary diversion, which is a very important milestone for the project is completed permanent diversion works are continuing in order to be done at the year of 2016.

SOUK TLETA DAM

Souk Tleta Dam, which is the 2nd project undertaken in Algeria, with its yearly 98 million m^3 water holding capacity and current distribution line is planned to meet the drinking water and water requirement of Tizi Ouzou province to Boumerdes province and Capital City Algeria.

Dam, which is projected as clay cored earth fill, with collar berm comprises 3.000.000 m^3 earth movement, total 750 metric two diversion tunnel, 525 metric injection galleries, 105.000 m3 concrete and 50.000 ml injection works.

Diversion tunnel entry mirror excavation in the project still continue. Collar Berm and Spillway excavation works has also started. Due to expropriation problems around the lake area, works has been stopped by the employer and pending.







INTERNATIONAL

ALGERIA

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PTO TIZI-OUZOU MOTORWAY













48 km length PTO Motorway Project will provide connection to East West Motorway, which is main transportation way, from Tizi - Ouzou City Bouira Province.

With Job Order (ODS) being given on March 2, 2014 by Algeria National Motorway Administration (ANA) as ÖZGÜN- NUROL-ENGOA Partnership works are started. Mobilisation activities of the project are completed and the route earthwork operations are made as contractual at 60%.

Substructure works are started at 5 of 22 viaducts be about balanced cantilever and precast beam which establish approximately 11 km of 45 km route. Besides, basic, elevation manufacturing are continuing on 3 viaduct. On the other side, excavation works are continuing on the exit portal of Bouira tunnel (935 m) from two tunnels on the route.

Draa El Mizan entry portal excavation works are completed and excavation and fortification works started at right - left tunnels.



Douera Dam near Douera District at 27 km southern west of capital city Alger is the first project that our company executed in Algeria. In order to irrigate farm lands (17.200 Ha) in Mitidja Lowland and rise of underground water level with filtration, temporary admission of built Douera Dam is made on 30.09.2014.

Official launch of the dam is made on 4.07.2015 by Algeria Prime Minister Excellency Abdülmalek SELLAL and water holding is started on the dam. Work site demobilization is completed.

MOROCCO

nurol
CONSTRUCTION and TRADING CO. INC.



El Jadida-Safi Motorway which takes place on Atlantic Ocean Coast and contracted out by Morocco Motorways Company (Autoroutes de Maroc) for the purpose of contributing tourism, industry and social development of the region will be a two-lane and 142,1 km length toll road

El Jadia- Safi Motorway Construction



Capital City	: Rabat
Official Language	: Arabic - Moor
Governance	: Constitutional Monarchy
Surface Area	: 447.000 km²
Population	: 32.725.847
Currency	: Moroccan Dirhem







Under two separate contracts which are signed by ADM and our company on 2012, 3rd parcel "Sidi Smail – Oualidia" and 4th parcel "Oualidia – Safi" sections that totals 82.1 km will be constructed.

Under the coverage of projects, there are 7.1 million m^3 excavations, 8.6 million m^3 made-up ground, 230 thousand m^3 concrete, 860 thousand tons hot mix asphalt and various engineering structures.

Up to date, total 7.1 million m^3 excavation and 8.5 million m^3 made-up ground, 8.300 tons ironwork, 182.000 m^3 concrete and 57 km drainage piping and 90 km drainage channels are carried out.

98% of works on underpasses and overpasses are completed and accessory and terminating works are underway. Currently, together with sub-grade and base course, hot mix asphalt spreading carried on and total 81 thousand km binder, 58 km wearing application are completed.

Project is carried on at full steam; hand over is planned on March 2016.





nurol
CONSTRUCTION and TRADING CO. INC.



Tourism and Real Estate In Batumi

Our investments in Georgia are presently in Batum Tourism and Real Property sector. As Nurol İnşaat there is a Representative Office in Batumi. By means of this Office, both the activities of our Sheraton Batumi Hotel and the sale of the Batumi Nurol Housings are organized.



Capital	: Tiflis
Official Language	: Georgian
Governed by	: Republic
Area	: 69.700 km^2
Population	: 4.483.800
Currency	: The Georgian Lari





The Sheraton Batumi Hotel is the first 5 star hotel in Batumi. The Sheraton Batumi Hotel has been continuing its activities with its 202 rooms, 1 King Room, SPA, indoor & outdoor pool, Health Club, Turkish bath and the ball room for 1.500 persons, 6 Meeting Rooms, since April 2010.



Beside, at the Rustavali Street that is the most important street in Batumi, our **Batumi Nurol Housing** consist of 54 flats and 3 shops continue their sale as the most prestigious building. Our 6.423 m² Residence was completed in 2011. Our project continuing its sales as Batumi Nurol Housing, 26 flats and 1 shop have been sold so far and rest of the flats and shops have been rented.

Further, by means of our Nurol Georgia LLC Firm, public procurements and other contracting works are pursued. By the Nurol Georgia LLC Firm; Tiflis, the Tiflis Police Station Project was completed in 2009 and delivered to the Georgia Government. The project, is a unique special project by having the façade with more than 3.600 glass elements are in different size and angle is located on approximately 12.000 m² closed area.

Nurol Construction and Trading Co. Inc.

Nurettin AKDENİZ

General Manager



"We will work, by dreaming not only ourselves, but also for our children, right after us, would leave better traces in this firm."

•Can youmake yourself known? Would you talk about your birthplace and your family?

I was born in Ankara in 1975. My origin comes from Malatya even if I never live there and unfortunately made two trips thereto for recognition. I may say, I lived happy childhood with plenty rules, by being the smaller one of 2 sons of a soldier origin father and teacher origin mother. What is more, **I've born serious responsibility at an early age that I should make up on my own business.** During my childhood, I don't remember, any pull to shreds me, so to speak, and remind me what should I do, by my family... Now, I feel that I have been followed without being noticed by me; but, that watching has been made very carefully. Now, as the father and mother, we are not so good at it though. **In this regard, I am grateful to my family, primarily for they gave me the basic confidence that every.**

I'm married and have 2 world's prettiest daughters. We met my wife and have known each other from an early age. The love seeds spread quite early between us, even it was childish. **My wife use to make many contributions for the education of our children in the family.**

One of our daughters is 13, and the other is one and a half. The Business life, and especially 10 years I have spent abroad, caused this age disparity between my daughters. Because, I believe, due to my wife faced with some difficulties either I was unable to give to my wife a back, continuously, while our first children grows up or I always felt the absence of my daughter, discouraged us for having a second child. But, perhaps this is not a bad thought. A new baby, after a long time, excited us again. We witness our elder daughter understands the sister love better, and our small daughter looks to her elder sister as an idol. These are wonderful ...

•Can we get information about your education?

After I have completed my primary school while I was About 5 and a half years, and then secondary school in İzmir and the Fatih Anatolia High School in Manisa, my travel to Ankara has been started again for my undergraduate education in the Middle East technical University, Civil Engineer Department. After completing this undergraduate education, I've started to graduate study, once more, in the same university, while I was just a little more from 21, I have also entered into business life synchronously.

•You have started working at a tender age, with school life by taking responsibility. Which offices you have hold ?

After I have graduated from the University, as I said above, I have entered into business life, together with my graduate study. It was required to be in Ankara, because of my graduate study, subsequent to work for a relatively small company, in superstructure

work as field engineer, a quit job and held in the main office of a quite larger firm in Ankara with the position of the Group Manager of Dams. In this process, I have been charged in the planning of the Borçka and Muratlı Dams, those will be started before long, in every sense. Afterward, I was one of the first persons going to the construction site, with the realization of this project. **Either this project or my managers in this project has been important milestones in my life for me. I always say, the first managers of a professional are highly important.** I believe this too much. **Taking form in right hands, either technically or in terms of business ethic and business discipline.** After carrying out duties almost 2 years in these projects realized by the consortium composed from domestic and foreign firms, which are considered as the apple of Turkey's eye in terms of energy, I went to Romania for the construction of the Bucharest - Constanta motorway. I was one of the a few persons who take office in this project as well. **Being one of the persons who starts the projects, by being in the heart of the projects, beginning from the signing of the contract and subsequent first days in which construction site fiction has been constituted and mobilization was proceeded as well, was one of the another of my luck in my career.** Constructing of the first motorway of Romania, by being one of the member of the first Turkish firm that makes official contracting work in this country, as the phrase goes, to commence and to complete a work successfully was not so easy, without getting benefit of any experience belonging to past by beating and beating the head the work. I've started to perform a duty in this project in the technical office this time and I've promoted to the Head of Technical Office position after 2 and half years. After completing this duty, I have been brought to task of the **Country Directorate**, by completing the project and performed this duty for 2 years. Afterward, although it was demanded from me to serve as Project Manager, in one of the road projects that would just have been started, as I have been explained above, I could not accept this duty, due to a minor ailment of my smaller daughter, she was 6 that time, caused me not been beside her and I had to return to Turkey for about 5 months; because the problem was small but that must be taken in hand, to prevent that becomes chronic. We luckily overcame this problem in a short time, but the mentioned projects have been commenced as well and the management organization was completed slightly. Therefore, the road project in Qatar I started to work as a technical director for more than 1 year, and after I finish this project as Project Manager.

•When did you join the Nurol family, Would you tell about your transition process?

At the completion dates of the project, **I've just told to you, the Gebze - Orhangazi - İzmir highway project that is known as the İstanbul - İzmir highway project by the public, and the biggest Build - Operate - Transfer infrastructure project of the Republic of Turkey, even one of the prominent projects of the World was about to get in life.** This project was another chance of me, to recognize Nurol closely. **I get involved in the project, on 29 / 09 / 2010**, 2 days after 27 /09 /2010 on which 6 firms come together to realize the project, by establishing Otoyol Yatırım ve İşletme A.Ş. At the finance obtaining process, after I have, been assigned in executive board and the Technical Committee Until March - 2011, where the organization was finalized and while the detailed studies were ongoing with the banks and their technical advisors on the issues such as law, environment, traffic, maintenance - operation, etc. where the process had to be walked together on one hand, I also took charge in as the Technical manager, in the process of tender, agreement negotiations and technical studies related with the construction of world's largest 4th Suspension Bridge, and during the "due diligence" process of these issues on the other hand. At the end of this two years long rocky road and subsequent the commencing of the work, I undertook the technical coordination of the construction of the Suspension Bridge and the South Approaching Viaduct. Either this project or my managers in this project has been important milestones in my life for me. I always say, the first managers of a professional are highly important. I believe this too much.

"Either this project or my managers in this project has been important milestones in my life for me. I always say, the first managers of a professional are highly important. I believe this too much."

Approximately 7 - 8 months to the completion of these two structures, as a subsequent I was considered worthy to entrust the position of the General Manager of Nurol İnşaat, I started this honorable and important General Manager task on 30th March 2015.

Substantially, for me, there is not such a period referred to transition process for me; if that exists, I have no awareness about that. But, in the last 5 years, I had the opportunity to become familiar with the Nurol family. My bosses saw me worthy of this task they've offered me this role. So I accepted with great honor and pleasure. **Of course, being aware of how difficult and important task I've gotten. As a matter of fact, as you would appreciate, Nurol, during the last half century and has created significant employment, in Turkey and in the world, especially during the first years, while the number of the trained technical personnel in Turkey were critically insufficient, it became a "school" and a company which plays an important role in the development of the country.** More than commercial perspective, it is an association, by adding value at home, that takes a leader role in development and industrialization of Turkey, moreover it used to paid attention to each step of him abroad for the promotion of the country's success, it has been reached today by growing with each passing day with this responsibility. **Now I'm at the helm of this association, exert my maximum effort on every step of my movement with this responsibility; and try to convey this association that has been brought here by my bosses to higher levels.**

•By being the youngest general managers in our group, you've taken a huge responsibility on your shoulder. By being the General manager of Nurol İnşaat what are your short and long term plans?

Before all else, to be successful is my target. I'm obliged to move the flag I have taken, without feeling small to my bosses who have trusted me worthy of this task, higher. There is no other choice.

While doing this, I will treat with the consciousness of what really mattersis human. Nurol is an international giant group that is just being on its way out. To bring Nurol İnşaat, that is the pioneer and leading company in this group, to these days, and continue by setting thereof to a higher standard is not easy. You cannot deny that this structure left behind many important works so far, its financial size, experience, institutional structure, by passing through all kinds of ethical examination.



But, despite all, I believe the essential capital of a commercial institute is human being. Today, if we put aside all of us, and if a completely different team come to our place. It is obvious that they would draw a different profile either less successful or more successful. However he key features of our company I mentioned above, have not changed. This means that "human being" is very important. It is reality that the institutional identity of our association places special emphasis thereon. Therefore, we will to go about with scrupulous, skilled, well - disciplined, self - sacrificing, hardworking friends who see Nurol as his / her family. I am not experiencing a serious difficulty in this regard, and presume I will not. Our present staff has these characters to a large extent. **Before all else, we have, as the Nurol Family very important character that a lot of companies do not have. And we will run faster, further, in my period without an instant's hesitation and work efficiently.** Plenty of people does not mean too much work, all the time; even sometimes vice versa. Consequently, for our firm, we see that is our, we will work efficiently without getting crowded and leave all kinds of taste of the arts we append our signature. **We will work, by dreaming not only ourselves, but also for our children, right after us, would leave better traces in this firm.**

While doing all of these, **in the short term**, we will control our present projects better &with more care. We will use our energy more accurate. The conjuncture (conditions) existing while taking the present projects might have been changed today. If it is possible to stretch to new conjuncture we will accommodate oneself thereto according to the condition; if not, we will get different and may be radical measures; at the moment we have already realized its one sample; **in long term**, we already constituted **a Project Control Unit**; in order to get the projects I mentioned above under control, in terms of technique, budgetary, profitability, cash flow, contractual, planning and cost control, audit. We will reinforce this quiet new unit with some friends who are talented and have working discipline and would be able to keep pace with us.

On the other hand, to find new markets is compulsory. While the world globalizing, getting smaller in the meantime. This situation increase competition in a serious way. We, therefore, will pursue the projects I call them "special". We, therefore, my "special" as I call the project will pursue. **Our objective will be the projects which cannot be realized by any ordinary firm i.e. by means of our institutional experience, greatness and valuable human resources.** Further, at the simple contracting works, we will be interested with the sophisticated projects, those are referred to as EPC in the terminology.

•Can we get some information about the organizational structure of the Company? In which countries you have been structured as branches and agencies?

Nurol İnşaat, as you know, carries on a business either in Turkey or abroad, in a lot of countries with different structures and partnerships. **Out of Turkey, we are in efforts to continue our work. in countries such as Morocco, Algeria, Saudi Arabia, Iraq, Qatar, Dubai, Abu Dhabi, Libya and Poland, at a section of these countries, in spite of political disruptions.** While some of them are Some of them are more intense and promising countries, while some countries can consider putting distance depending on the political stability in the country and market competition. **Of course, the construction sector is very dynamic sector. The same dynamism is true of interest in determining the needed countries.** Therefore, the construction sector, as it is when investing in a foreign country is a sector that is able to decide, without making relatively lengthy researches, beforehand and with less insistent for being flexible after giving decision. You know, we often work as project - based , out of the project management, we could be in a position to set up Country or Regional Directorates, out of the project management, after accurately evaluating the condition, market, competition medium, in that country we have been entered, the outlook of that country to foreign companies, its logistic and relations. **On the other hand, Sub - Saharan Africa, Iran, Pakistan, Lebanon, a part of the Turkic republics, Russia, Tunisia, Afghanistan, countries such as Romania and Ukraine are the countries we are interested although they are variable.**

•Ensuring coordination, audit and information flow by a big Company such as Nurol İnşaat among the construction sites spread over a wide geographical area not only in Turkey, in a lot of countries of the world, is not easy. What is your idea in this regard?

You are absolutely right. This is not so easy. First of all, each country has its own unique technical specification and norms, work habits, financial systems, local resource condition, law system, and working procedures and principles of employer, and each project has its own, unique terms. Consolidation of all these variables is impossible. Therefore, it is not easy to manage the projects in this wide geography by a single method by installing a single coordination, audit and information flow system. But, on the other hand your parameters for managing are definite. **Completing of a project within the foreseen time, quality, profitability and employer satisfaction are the most fundamental goals.** In order to reach to these objectives, accurate planning, accurate budgeting as well as having a command of project specifications and contractual rights and responsibilities are required. But, as I said before, all of these is possible with the right people.

And the thing we call management is mainly a team work. This is not something I did on my own. We manage together with my all colleagues. And in the construction sector, another factor that is perhaps more prominent by many sectors is communication. Communication is highly important either in site management or in the communication between the main office and construction site.

And again, in the construction sector, management of a project sufficiently and efficiently with reporting, remote

communication methods is beside the mark. **To see the project in situ, to testify to the constructions made, to their speed and quality in place is a sine qua non condition.** Even this see in situ status is imperative in all processes from work development and from tender preparation phase to execution of project and the acceptance by the employer. I relayed my decision about "**I must know everything**" in the early days. But, despite this, rather than reaching the subject to me verbally, to see them personally and warn them in an instant, if any is my choice.

I wish to live in a country and world where virtuous, honest, decent people are valid; and to raise our children this way.

• Let's talk about your private life, even if just a bit. What are your hobbies? Do you like music, cinema?

I use to play guitar during university years; it has been years not to handle. Music is very important in my life. I like to listen and sing. But, even if I try to listen all kinds of music, the styles I can sing are limited. don't let it be misunderstood, I'm not too ambitious; I did not have much audience, even more than myself, until today. I was interested in photography in the past for a while. I have a considerable amount of equipment, but I cannot find time especially these times. I could not take a concrete step, for now. **But, I have an intention to set up a small carpenter's shop at home in future for a while now. I** am interesting with the sea and boats too, nut, for now I'm in the position of gathering theoretical knowledge thereon; for now I am unable to put that into practice. I like to much to drive cars, although not as fast as in the past.

• How would you describe yourself in a few sentences?

Unfortunately, I have a bad habit. **I guess I am not the one who lives for himself. My family and my job was always ahead.** As a matter of in fact, I am aware of that I also has to prioritize myself, but probably I fall down on to do this. **I do believe that, success cannot be earned in the absence of discipline and hierarchy.** I think I'm an emotional person. An outsider looking in says that I'm somewhat serious and tough-looking. Sometime, I think that is an attitude maintained as reflex, in order to hide this emotional side of me.

•Do you play sports? Are you interested with football? Which team you're supporting ?

I cannot, unfortunately, since a few years. **In the past, I played football like every Turkish youths.** Besides, I would swim and play tennis on occasion. I'm not fanatic, **but a good Fenerbahçe supporter.** Although, loving the play side of sport, I am also interested with its managerial side. **I' m a member of congress and have a nice dream for taking part in the club management one day.** I hope that one day I realized my dream.

•We learn one of your goals. To take part in the management of Fenerbahçe Club. OK, what are the other aims of you about life?

As I said, I am one of those who takes pleasure for the happiness of others. Is this a good thing, I'm not sure, but I'm so. **I always have a target; when I reach to any target, another one appears.** I believe, clutching onto the life of anyone of us depends to this. **What I fear most remain untargeted.** I guess one of the worst things that can happen to a human might be this. And I hope we would have sufficient amount and healthy time to accomplish these goals **In addition to the personal goals of me, an important part there of related with my family, and my children.** The personal preferences of them in the life will of course will be shaped according to their choices, but, **I am such a father that beats his brain out for his family to try them to raise to be an individual who have gotten a contemporary and a progressive education, are family and country - conscious, have sense of belonging, social, helpful and have hobbies.** I'm trying as much as I can they feel that I always with them, even if we are not physically so and make an endeavor to deal with every detail matters. Of course, may be this question should also be asked to them; rather than what I'm doing, much more important is how they feel.

•What is your horoscope? Do you carry on its properties?

I did not believe horoscopes in the past. But I feel myself gradually closer to them. I'm a Capricorn and always make detailed plans for the future. It's not like a few years; for a few ten years ...

•Thank you very much for the information you provide. Even though, the most basic features of this horoscope are honesty and hardworking also symbolizes loneliness and discipline. And, none of horoscope is so determined for human being for reaching goal. The things you already told us manifest that. What are your last sentences?

First and foremost, I wish peace in my country and throughout the world. I hope, it would be realized to see a world where the human being is not exposed to discrimination, and live under equal rights and conditions becomes possible. And by being a huge family, I aim to move Nurol flag to higher levels under the leadership of our bosses. I wish we live this happiness all together.



Reportage: Meral CEYLAN

A PROJECT IN OUR GROUP



The biggest arduousness is not having a similar example of this viaduct in the world. The route had been offset with a 2 thousand meter radius in order not to prevent to spoil the natural structure of the Cape Hersek wild life that provides breathing-space for migratory birds at Lake Hersek.

SOUTH APPROACH VIADUCT

"Even if when I thought there is no solution I would produce, during the most difficult moment of me, Mr. Çarmıklı family above all else, all top rank managers of us have been support and solution partner. "

We are presenting the interview of our project manager Cengiz Fuat GÜMÜŞDAĞ;





Can we recognize you in a few words? Please would you tell us your education and business life thereafter?

Cengiz F. GÜMÜŞDAĞ, Project Manager, I was born in 1975 in Ankara. After completing the elementary education and high school in Ankara, I have completed my License Education in Gazi University, Mechanical Engineer Department.

I've started my business life of the mechanical design of industrial facilities, I found the chance to get experience in various fields such as planning, procurement, R & D, manufacturing, and rection. With residence abroad on three continents almost five years, I took charge 17 years, ten years of which in international projects. I'm working as the Project Manager, from the Project of the Natural Gas Combined Cycle Co-Generation Power Plant built in Macedonia in 2009 until now.



Cengiz F. GÜMÜŞDAĞ, Project Manager

When did you participate in the Nurol Group?

In October 2012, I joined the Nurol Group by getting the tender of the South Approach Viaduct within the scope of the Gebze - Orhangazi - İzmir Motorway Project.

Before our questions about Viaduct, what will you tell about the Gebze - İzmir Motorway Project that is the one of the Turkey's and world's largest project?

The Gebze - Orhangazi - İzmir Motorway Project is the largest infrastructure Project in the budgetary standpoint, of the world and is a good example for Turkey, with the Build-Operate-Transfer (BOT) Model and the Izmit Bay Crossing Bridge is the heart of this Project.

By being the persons who spent the last three years of our lives in the region, we found the chance to live life in order to find out how that project is necessary for the region.

By means of two 252 meter high towers, erected with a distance of 1.550 meter apart from each other inside the sea, that bridge is the largest 4th bridge of the world, and the largest bridge of the Europe. That is 4.5 km long with its viaducts, ground to ground.

In fact as another perspective, that is the realization of a 35 years long dream of which preliminary draft work has been done, to begin with, at the end of the 70s at the same location and then it might not realized due to the insufficiency of the technology that is able to overcome the seismic requirements of the region or due to financial inadequacy.

You have completed the mounting of the largest part of the Izmit Bay Crossing Southern Access Viaduct as a part of the Gebze-Izmir Motorway Project. Could you give us some information about the viaduct?

The Southern Access Viaduct which connects the crossing to land, is approximately 1.4 kilometres long. It consists of a one thousand four-hundred metre solid steel deck which sits upon 11 steel piers between the two concrete abutments on either side. By solid we mean that it was made without bolts, only by welding, and it is a single piece. The main steel structure weighs 32 thousand 500 tonnes and connects the bridge deck at 60 metres high with the motorway deck at 11 metres high.

What can you say as regard with the structural design of the viaduct? Would you mention about its sizes and the construction techniques?

Our design criteria has been made based on three earthquake possibility. It is calculated



according to assumptions called return period to which the static calculators have a better command of. There are return periods for 150 years, 1000 years and 2 thousand 475 years. That means; an earthquake with occurrence possibility of every 150 years, with occurrence possibility of every 1000 years and with occurrence possibility of every 2 thousand 475 years, Of course there is no record for an earthquake with occurrence possibility of 2 thousand 475 years. Moreover, the theories of earthquake return period for 1000 years and 2 thousand 475 years are available in the design criteria in 10 years. If this bridge has been constructed 15 years ago, that maybe would have been made for an earthquake for 150 years.

We are constructing this bridge for 99 years lifetime and design so as to withstand for an earthquake with occurrence possibility of 2 thousand 475 years, along 99 years. The structure does not collapse even under the worst conditions. In the earthquake with occurrence possibility of 2 thousand 475 years, failure of individual components may occur to closure of the traffic, on the other hand, in the possibility of an earthquake for 1000 years, there is a design that withstands and durable against to the said earthquake that enables repair works without closing traffic. In the earthquake for 150 years our bridge by no way been affected.

The South Approaching Viaduct is very close to the North Anatolian Fault that is one of the world's activist seismic regions. What are the precautions taken in this regard?

Being so close to the North Anatolian Fault, was one of the most tough side. The Gölcük earthquake in 1999, gave a lot of lessons to the construction sector. One of these most important lessons was the demolition of the structures due to the structures on the piles which were subjected to individual fragmentation due to the piles were independent from each other. During the bidding period, as a consequence of additional soil surveys we have that done at each corner of foundations on which each leg would be lodged, we made the foundation structure that looks like pile, with diaphragm base, which is integrated with each other as bearing structure. This is the first time in Turkey was applied in this project. If we roughly describe that; we embed a reinforced concrete apartment with a size of 8 x 21 meters, up to 22 meter down into the ground. This was done with the method of filling the holes dug at the required width same as the pile structures. This method is commonly used, especially in the Far East countries in the world those are accustomed to earthquakes.

On this reinforced foundation, we are tied with a embedded anchorage structure, and the structure is fully welded from its steel piers. There is no fixed connection between the pier and bridge deck, there are seismic isolation equipment such as lead rubber bearings spherical bearings and hydraulic dampers. **In this sense, South Approach Viaduct will be the most technologic bridge in Turkey.**

Can we get information about the difficulties you have encountered, used materials and their sizes, during the construction of viaduct?

The biggest arduousness is not having a similar example of this viaduct in the world. The route had been offset with a 2 thousand meter radius in order to be in harmony the natural structure of the Hersek peninsula wild life that provides breathing-space for migratory birds at Hersek Lake.

We had to develop very fast solutions. For this purpose we chose two critical construction techniques with our Taiwanese design firm Wiecon. The first was the incrementally launching with the push method. We solved 1,123 meter section of the bridge deck, by the method of incrementally launching with the push method. It was very difficult to do that upward with 3.5 % inclination. At the juncture with the bridge, owing to the deck route is flattened by leaving radius, we could not perform the last two span with the incrementally launching, so, eventually we choose the heavy lifting method that is the second critical construction technique.

As far as we know, a world record was broken in the project. Would you explain the "manufacturing, joining and driving processes?

The structure consists of 32 thousand 500 tons of steel, including the footing, The production of this steel structure was designed with the orthotropic section, by separating first to modular parts and then to the sub component parts that can be transported by land from the production facility. All of the steel plates have been imported from Italy and only for raw material transfer, thousands of TIR transportation were used. All designed panels were unique and therefore the needed sub-components were requiring a comprehensive manufacturing and logistics planning so as they have to be supplied when needed.

This planning was started by determining the point where every steel plate purchased would be used, the production was planned.

"Success had four steps. Dreaming, believing, working hard and share. The item I have to explain mostly was to share. No success is possible without sharing. We overcome every difficulty we've encountered by believing these items from the moment we started the construction of the project."



Erol BUYURGAN, Semih KAYAALP, Melih KAYAALP, Gürhan ÇARMIKLI, Oğuzhan ÇARMIKLI , M. Oğuz ÇARMIKLI, K. Yavuz BATUM, Bülent ERDOĞAN, Levan VARSHALOMIDZE





With an investment of approximately $ 11 million a construction yard was established at the southern end of the viaduct.

For the box section the Sefine shipyard and for the panel manufacturing Eran Mühendislik have been selected and production processes was started. The process, production and quality control structures were constituted in order to fabricate over 2 thousand ton per month. Nevertheless, the narrowest point of the hourglass was the point being capable of making a production continuously with a capacity obtained by our construction yard to which 40 years of steel production factories cannot reach. Another point, being more critical was in need of low tolerances and very high quality requirements, at such 36 meter wide a giant structure where steel usage is fit - up with the orthotropic sectional solutions. **In this field, by means of two gantry cranes with a total capacity of 200 tons, we have completed 22 thousand 500 tons erection work in 15 months. Of course, with the help of project - specific designed hydraulic and mechanical equipment.**



In April, we have been realized the installation of world's heaviest deck by means of the drive with the incrementally lauching method with the completed of the last module, and by pushing forward 1.123 meters long one piece to 40 meter ahead.

And in 5th of July, you realized another Turkey record as well. What do you say about this issue?

As a matter of in fact, when we mount the first span with 2 thousand 350 ton heavy lifting operation, we had been broken Turkey record as quietly. The second span was completed in 5th of July, and by this operation we have broken heavy lifting record that belongs to us and lifted 128 meter long, 36 meter wide 2 thousand 600 tone part to 57 meter high.

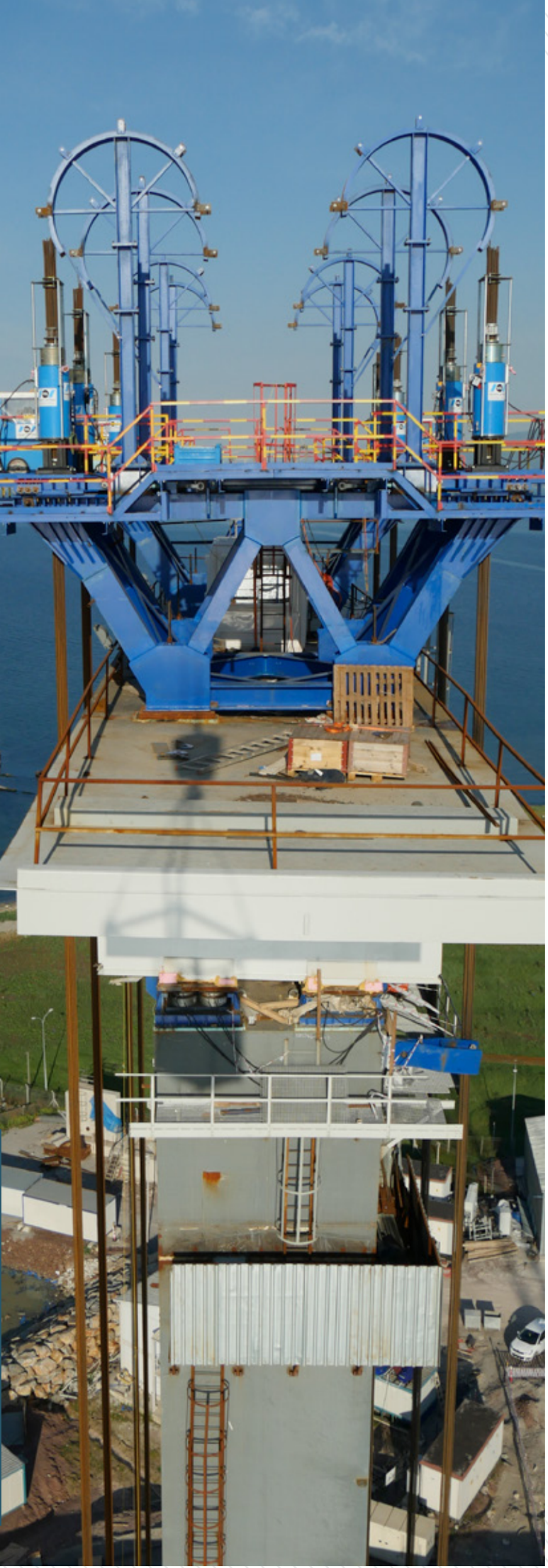
Here engineering science becomes a part of this activity. If you want to push a 22 thousand 500 tons of material, you have to minimize the friction of this material. If you able to reduce friction to 5 percent, with the best technology used in the World (The state of art technology) you must realize a pushing with 1300 ton force. Or, in order to lift a 2 thousand 600 ton weight from 8 points, you need a lifting equipment with a capacity of at least 325 tones.

I'm trying to say, as long as figures grow and the issue they lose their quantities they have, in proportion as they grow and the matter becomes a requirement has to be overcome.

At this point we transfer the work to philosophy. Success had four steps. Dreaming, believing, working hard and share. The item I have to explain mostly was to share. No success is possible without sharing. We overcome every difficulty we've encountered by believing these items from the moment we started the construction of the project.

And the most important thing to emphasize is having a team that dedicated their two years to this project, with dedication and exemplary diligence forming the hidden subject of the above sentence and the belief of this team for completion of this project.

"And the most important thing to emphasize is having a team that dedicated their two years to this project, with dedication and exemplary diligence forming the hidden subject of the above sentence and the belief of this team for completion of this project."





Nurettin ÇARMIKLI, Uğur DOĞAN, Özcan BAŞKAZANCI

Group such as NUROL provided benefits to your business partners, what were they?

As a matter of in fact, the chance pave the way for us to say "We could do this project!" was the powerful support of the firm behind us.

Especially, the difficulties experienced during supply and production processes, were able to be surmounted with a confidence given by the name of Nurol.

Our financial powerfulness has enabled us during all construction process to be persistent for our requests, having alternatives for unforeseen problems, and successful in producing quick solutions.

Were there changes in your plans, from the beginning of the project so far? What were they?

We can say, we had no plans without change. First planned joining site was about 1 kilometer long, The water treatment plant Just at the 300 meters south of the viaduct spoiled this plan. The producer usage arose from this requirements. We gave up from the plan transporting modules from sea and joining them at the site due to similar environmental reasons.

We were obliged to say good bye to a lot of engineering solutions, which have been deleted from our memory today, those were developed by us such as the using temporary towers instead of cable stayed tower designed for deflection, the lifting techniques used at the footing installation and to produce new solutions instead.

By means of performance assessments, we changed the work scopes of the production plants, and get supply services. We even forced into termination of contract.

> *"Especially, the difficulties experienced during supply and production processes, were able to be surmounted with a confidence given by the name of Nurol."*



It is seen that you have already finished an ordeal in the world and in Turkey. What were the reactions you have taken at home and abroad?

Generally we have been and are taken very positive comments. Including the corrosion protection of the structure, a lot of information demands are coming continuously as regard with the techniques developed during the construction. Even owing to we spend most of our time in the field, we hope the real reactions have reached to you, positively.



We sure that at each project phase, a lot of new professional information and experienced were gained. Will you have any prudential study in respect to sharing these experiences?

Our book writing is ongoing, but we could not find the solution how we remove and eliminate the book from boring engineering formats yet. There are a lot of differences between the engineering language and daily language used and especially literature language. The book we'll write for this project will only attracts the attention of engineers. Because of the high possibility of the book is boring, we're preparing a video explaining the construction process of the project. In order to minimize boring effect, we get an agreement with professional firm of which business is documentary video production. They were recording all phases together with us.

Your working conditions should be hard. What did you do to ensure the motivation of your employees and yourself in the process?

On the contrary, we could intensify to our work only by means of the facilities provided by the Nurol to our employees. Our one side is blue sea, one side is green forest and maybe we are at the best construction site atmosphere to be work.

Motivation is really important. Even if when I thought there is no solution I would produce, during the most difficult moment of me, Mr. Çarmıklı family above all else, all top rank managers of us have been support and solution partner. I emphasize this because I have found the chance to share this issue with them during their site visits.

On the other hand, this project might be implemented by another team, but being the selected persons, we always have been happy due to this chance was granted to us. We had shared success from head to foot with our all employees, same as undertaking any responsibility.

We all believed that self-denial and any effort involved with diligence reach to success.

Finally, our readers wonder about the completion time of this project. Would you make a brief explanation in this regard?

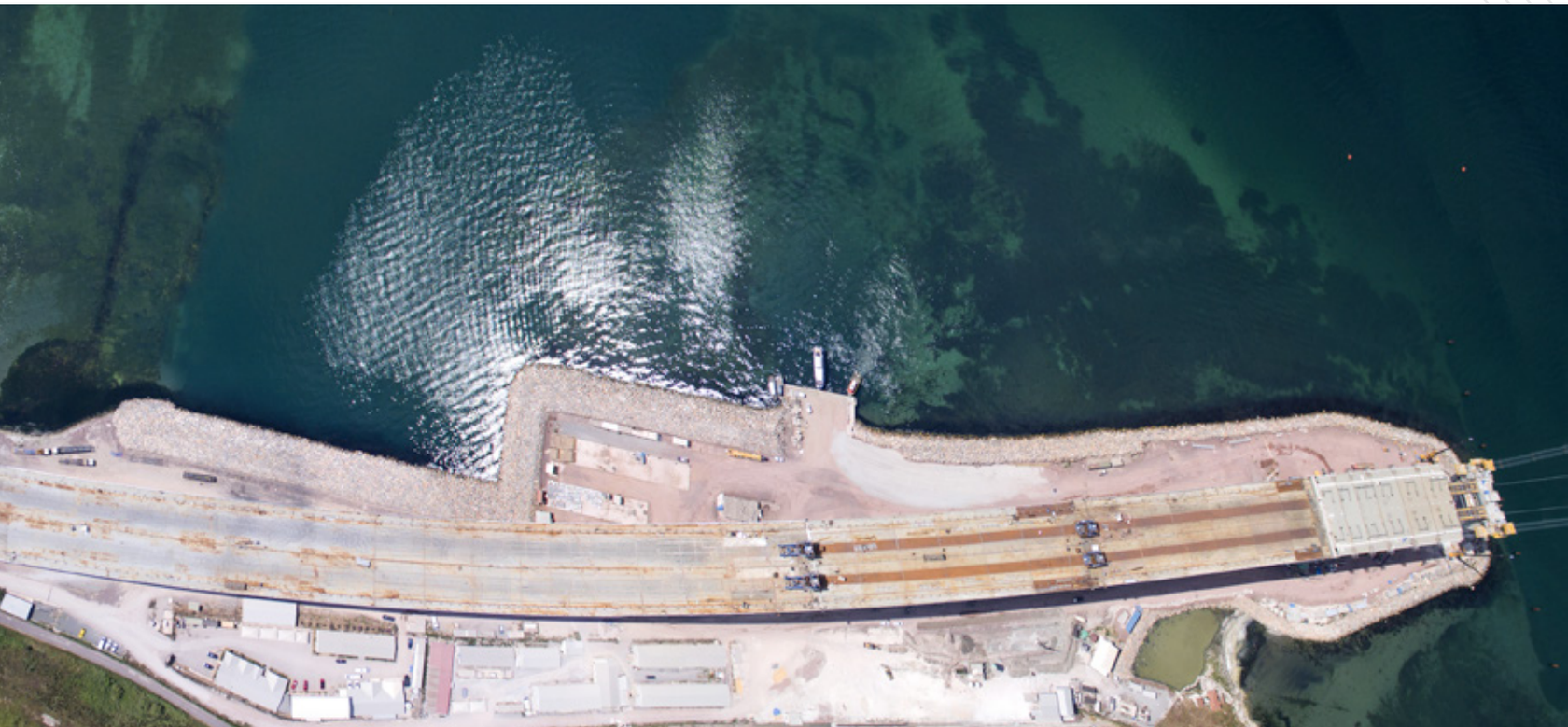
As of September 2015, we have completed our main works. We will be completed the secondary works a section of which have to be placed as common with the bridge as asphalt, electricity and lighting, mounting of expansion joints and mounting of earthquake equipment, until the end of the year. And the rest would be left for the completion of İzmit Bay Crossing Bridge.

Thank you very much for the information you provide. Do you have any other thing you may add?

On this occasion, I would like to thank once again to all the bosses and our project management team for their support, the chance and opportunities provided to us.

Reportage: Meral SARI CEYLAN







Ejder YALÇIN 4x4 ACV satisfied the needs of the security forces, with its growth & customization potential and additional payload capacity expedites by its' easy integration to different configuration modes, at IDEF 15. The pay-load on the vehicle, exhibited at IDEF -15 had been produced by Aselsan. Vehicle with attire,had been presented for users taste during the IDEF and to reply technical questions Nurol Makina engineers were accompanied by Aselsan engineers. Ejder YALÇIN 4x4 has provoked interest and curiosity in many defence industry committees, also augmented coursing to the Nurol Makina stand.



Nurol Makina attracted a great deal of attention during IDEF

Nurol Makina that has been participated to IDEF 2015 which occured between 5-8 May with new products and developed armored vehicles, attracted a great deal of attention with its unique solutions for defense industry and domestic security, not only from domestic or but also foreign relavent committees. In the Nurol Makina stand, Ejder YALÇIN 4x4 ACV, ILGAZ 4x4 İnterior Security Vehicle, Ejder TOMA Riot Control Vehicle and Ejder KUNTER Armored Truck had been exhibited.

Including Mr. President, especially Ejder YALÇIN 4x4 ZMA had attracted great interest by domestic and foreign committees that visited the stand. NM General Manager Mr. Engin AYKOL had given detailed briefing to Mr. President Recep Tayyip ERDOĞAN about Ejder YALÇIN 4x4 ZMA, complete & indigenous design of Nurol MAKİNA. Ejder YALÇIN 4x4 had first been launched at IDEF 2013, had now been exhibited as Armored Border Security Vehicle.



İsmet YILMAZ, Recep Tayyip ERDOĞAN, Engin AYKOL, Gürol ÇARMIKLI



The exhibited version of Ejder YALÇIN 4x4 had been designed to ensure monitoring and response can be done most effectively against smuggling & illegal border crossing activities. The process that is already ongoing for Ejder YALÇIN 4x4 which have been required and demanded by Turkish Army for inventorial recognition had been exhibited during IDEF 2015 in that version, and development studies have continued within this scope.





Ejder KUNTER Logistic Support Truck that is completely a design and production of Nurol Makina had been launched at IDEF 2015 for the first time. Ejder KUNTER has been designed and manufactured as an armored truck to initially enhance & supply logistic requirements and could have contribute immediate response to different operational needs. In the fair, Ejder KUNTER, experienced debut with the loading system of HIAB Company, and the tanker module manufactured by WEW Company, had been exhibited with its 6x4 version. 4x4, 6x6 and double cabin versions, also have satisfied the user needs with regards to requirements. This customization talent, without limiting the character of vehicle and adoption areas have enabled to reach & attract wider customer spectrum. In our country, since there is no suitable truck solution with same properties & allure currently, with armored cabin, and theatre adoptable talent, the vehicle have already fascinated the users attention.



Another benchmark vehicle actively used by security forces safely at the critical and important parts and regions of Turkey, ILGAZ 4x4, had been exhibited with Augmented Virtual Reality System developed by GFDS.



Ejder TOMA that have extensively been used in our country, also fanning out abroad, have been preferred by users due to its superior peculiarities was on display at the fair as Border Security Vehicle. Ejder TOMA that has been used by many countries in the world currently, notably have been used by the Turkish security forces safely also. TOMA has been used, not only in the security field, but also by TAF border troops, and the General Command of Gendarmerie for different operational purposes as it has proved itself and have taken an active role in the border line surveillance and guarding for military accomplishments as well. Ejder TOMA is being used by the TAF, along Syria border effectively against mass refugee transit which also has ensured active response to the illegal communities and demonstrators with the watercanon, which is a non-lethal power on board. Further, by means of 360 degree covering long range camera, it has enabled taking preventive measures against distant danger, by keeping environmental security at maximum level.





Nurol MAKİNA, by signing two cooperation agreements during the fair, has taken the first steps on long-lasting togetherness for future domestic and international market opportunities. It was stated that the abilities to be shared through development of potential projects. Collaboration Agreement signed with WEW Company that supplies modular and deliverable fuel and water systems, oriented to the post-civil and post-disaster aids, would create great opportunities for both sides. During the fair, the Second Collaboration Agreement signed with the GFDS Company, it has been planned that Augmented Reality System, developed by GFDS to get used on Nurol Makina relavent platforms. Thanks to this system being developed, it has been planned increasing the mission efficiency of crew, carries out a duty in Nurol Makina vehicles, and the operational talent through wide and all around surveillance possibilities generated out of vehicle. Nurol Makina, aiming at upper degree of service support to its users by means of new system, unique solutions, being produced will no doubt continue being helpful for its users during possible threat medium shortfalls in the future.



EJDER TOMA SHIPMENT TO REPUBLIC OF CONGO HAS BEEN REALIZED BY AIRWAY

Within the scope of the EJDER TOMA Agreement signed in April, between Nurol Makina and the Republic of Congo, the delivery had been completed in short time. The Congo Ministry of Internal Affairs concentrated its attention to importance of technical talents of the system, and elucidated that EJDER TOMA system has been best and unique among all other competitor vehicles in terms of indigenous technical specifications. It also has sorted out that being Nurol Makina has not only been a solution partner but also a reliable main contractor, would provide great advantage regarding system sustainability. It has been envisaged that since the fiduciary process gaining strength within the scope of the Agreement signed at the end of the mutual negotiations, and the fact that Nurol Makina had realized deliveries in a short time. The welcoming process have created good deal of synergy for both Nurol Makina and the Republic of Congo. The deliveries had been carried out by airway and had been completed at the end of August 2015.

EJDER TOMA that would become the key role player in the support of Congo Security Organization, in terms of enhancing internal security, and satisfying operational requirements, had conducted security endavour by ensuring covering security support during African Olympiad Games first time.

NUROL MAKINA IN TAF BRANCH SCHOOLS

Nurol Makina had carried on one of her introduction & awareness activities in Army Engineer Corps School. In the seminar being held between 9-10 June, Ejder KUNTER remaining at the forefront, Ejder YAÇIN 4x4 and the other unique Nurol Makina products had been introduced. A presentation oriented to the Nurol Makina capabilities had been screened to many ranking Military Staff and positive feedbacks have been reflected. Besides, Nurol Makina capabilities had been shared, by efflorescing participation in seminars being held in the TAF Küçükyalı Military Supply School on 26 May 2015, and in the TAF Tuzla Infantry School on 28 May 2015. Through contributing to these activities, Nurol Makina has been aiming at, continuing and addressing her willing to recognize and meet user requirements and introducing her products with relevant stages of customer.

Nurol Makina is at the National Congress & Exhibition of XI. Welding Technology

Nurol Makina had been represented at the National Congress & Exhibition of XI. Welding Technology on 20-21 November 2015, realized by the Union of Chambers of Turkish Engineers and Architects (TMMOB) in Ankara and had been introduced through below indicated memorandum headings;

- Arc Stud Welding to Armor Steel Material
- Laser Cutting and Parameter Optimization of Fine Grain Structural Steel and Armour Steel
- Welding Mouth Geometry and Additional Wire Optimization at Amour Steel Welding



VISITS



TURKISH MILITARY WAR ACADEMY (TMA) CADET VISIT: 30 TMA cadets being officer candidates of future have opportunity for recognition & familiarization to our products, after introduction. The cadet program ended by factory tour and Ejder YALÇIN 4x4 demonstration.



CAMEROON DELEGATION VISIT: Mr. Rene Claude MEKA, The Cameroon Chief of General Staff and accompanying Delegation visited Nurol Makina were escorted by MSB representatives. The Company introduction brief and vehicle demonstration & test drive in place being conducted to Cameroon Delegation after Cameroon Delegation addressed their enthusiasm and finalized their visit schedule.



TUNISIAN DELEGATION VISIT: Nurol Makina Company introduction brief had been partaken to Mr. Brigadier General Mohamed Foued ALOUI, The General Inspector of Tunisia Armed Forces and accompanying Delegation visited NM facility followed by vehicle demonstrations. The Delegation had the chance for examination and testing vehicle capabilities at trial area. The program got over by highlighting of individual and delegate satisfaction.



CHADIAN DELEGATION VISIT: The engineering capabilities of Nurol Makina had been introduced to Chad Ambassador and accompanying delegation, together with the MOD representatives. Mr. Ambassador had conveyed his positive thoughts and opinions after the vehicle demonstrations. Visit schedule had been completed after a luncheon followed by happy waving Delegation mood.



GUINEA DELEGATION VISIT: Guinea Ambassador Mr. Daouda BANGOURA and accompanying Delegation visited Nurol Makina facility in January, after Company introduction brief being addressed to Guinea Delegation, attendees had been showed around and the demonstration & test drives of indigenous vehicles had been exhibited. Following the lunch, Guinea Delegation had been waved from Nurol makina facility with many notes of satisfaction.



SUDANESE DELEGATION VISIT: Mr. James Ibrahim Ismail Manzoul, the Lieutenant General, General Secretary of Sudanese Ministry of Defence and accompanying Delegation visited Nurol Makina facility in July. After the detailed Presentation, Delegation had caught the chance to examine indigenous products in test area. The visit had ended up after factory tour.



REPUBLIC OF THE CONGO DELEGATION VISIT: The Congo Delegation visited Nurol Makina facility under custody of Mr. Albert NGOTO, the Deputy General Director of Security. Delegation had witnessed the close glance chance to Nurol Makina products at demo area, after Company introduction had been carried out. Through later steps and visits & negotiations had followed a procurement agreement delivery of Ejder TOMAs had been completed no sooner.



ROMANIA DELEGATION VISIT: Colonel Stefan TANASE, Romania Ministry of Defense, Technical and Supply Program Director and accompanying Romanian Delegation had a homage visit to Nurol Makina in April. Following the Company introduction, the Romanian Delegation had visited Nurol Makina Facility plain. Day after another relevant Romanian Delegation had visited Nurol Makina. The luncheons had been very beneficial. Vehicle demonstrations had been appreciated by Romanian Delegations.





NUROL MAKINA HAS BEEN QUALIFIED WITH R&D CENTER CERTIFICATE

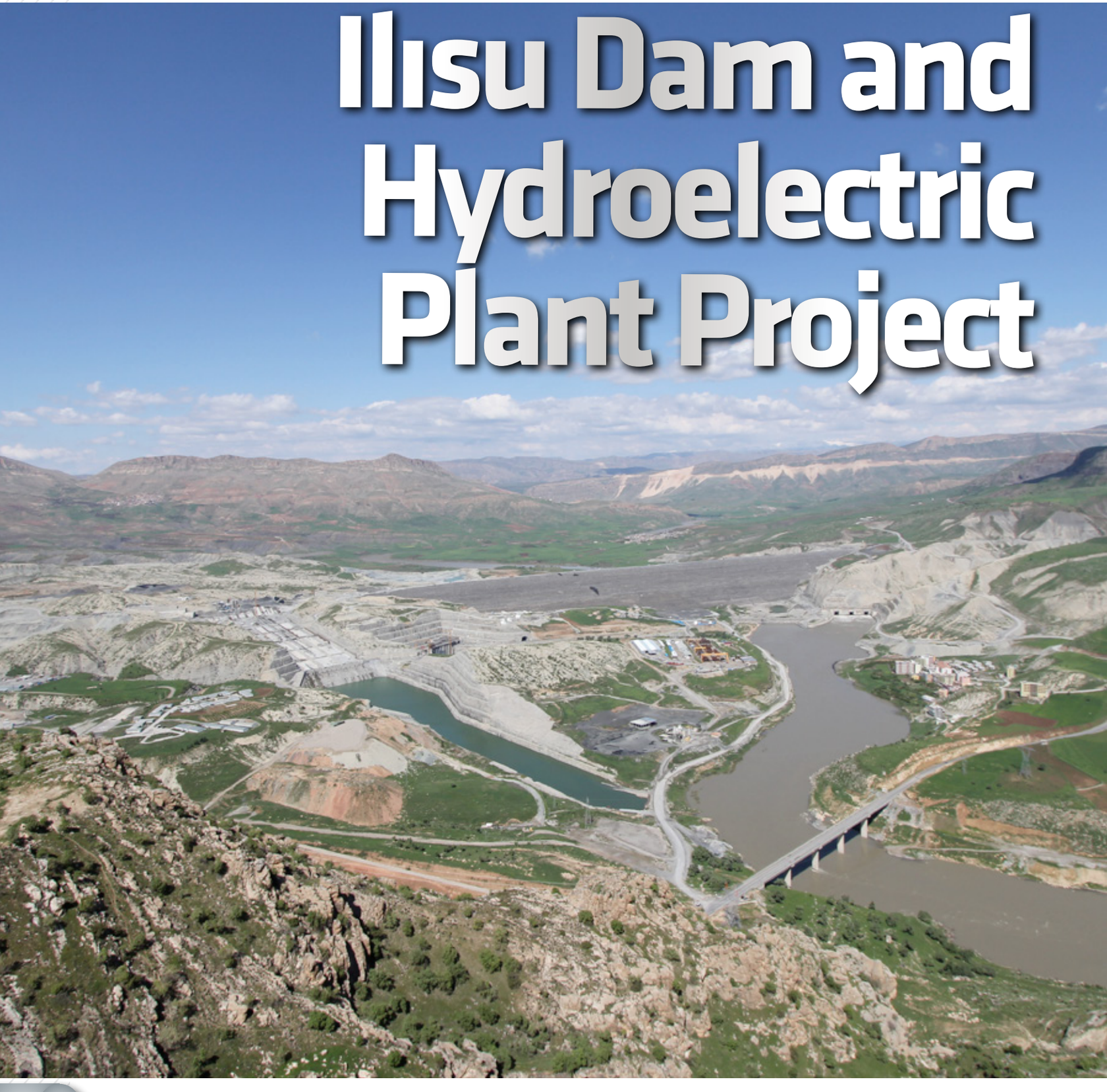
Reduction of the minimum number of personnel to 30 and by means of Board of Directors Resolution, the application process has commenced. During the said application process, detailed administrative, financial and physical information had been transferred about not only Nurol Makina R&D department but also completed, conducted and planned projects, through the R&D Centers' Portal of the Ministry of Science, Industry and Technology.

The Inpection Team formed from Professors who had been charged with a duty of the Audit Arbitration Board by the Ministry, from the Universities located outside of Ankara, had visited our company at different times. The visitors, with the detailed introductions, kept informed on Nurol Makina, the R&D Department and the Projects. The audit had been carried out following the introductions of the R&D Department. After the completion of the audit by the academics, the questions of the members of the Evaluation and Inspection Commission, Prof. Dr. Hüseyin BAYRAKÇEKEN, Prof. Dr. Mehmet UÇAR, Semih Volkan BAYRAKTAR, Ali ERAY and Mithat KAYA who had been charged with a duty by the Ministry were negotiated & answered during their visit to Nurol Makina Company and the factory and, the R&D Department had been rechecked.

Subsequent to these audits, Nurol Makina has deserved to get R&D Center Certificate with the meeting being held in Ministry of Science, Industry and Technology by the members of the Evaluation and Inspection Commission.

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Ilısu Dam and Hydroelectric Plant Project





Ilısu Dam and Hydroelectric Plant Project on Tigris River, 44 km. from Syria Border is concrete-covered rockfill type which has longest dam crest of this type on the world. The project which is designed to provide electric power will have 1200 MW installed capacity and yield 4120 GWh electric power annually.

Ilısu Dam which is one of the main components of Southeastern Anatolia Project with Ataturk Dam, has 24 million m^3 rockfill dam volume and filling works are completed. Power house has 6 units. Construction and assembly of Building and Electro Mechanic works continue.

When Power house is completed, project will be fourth biggest Hydroelectric Power Plant of Turkey.

Construction works on Concrete gravity dam and overflow dam are carried on and to get ready for water retention is targeted at the end of 2016.

Within the project, the bridges of which the construction work is carried out by us has been put out to tender by General Directorate of Highways in order Hasankeyf to be moved upper grades and to cross the ways present in Ilısı Dam with bridges.





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Ordu Beltway Project



Contract of Ordu Beltway Project, of which the construction is undertaken by Nurol-Yüksel-Özka-YDA Partnership, signed on February 7, 2012 and the construction is started on March 20, 2012. Ordu Beltway disconnects from Akçaova River, goes under Boztepe with tunnel, passes Civil Brook, Melet River and Turnasuyu with viaduct and connected to coast road ahead of Turnasuyu Village. With the change of itinerary total project length reach to 21.4 km from 19.1 km.

There are 7 viaduct with total 3.105 m length, 6 tunnel with 18.759 m (single tube) length, total 6 crossway of which 3 of them are bridged take place at Ordu Beltway which will be constructed as 26 m platform width 2x2 m divided road.

In spite of very bad ground conditions since the project started, 11.816 m (single tube) tunnel excavation is completed, 8.910 m tunnel cincture concrete paving is made. Excavation works of 3.311 m (single tube) Boztepe Tunnel and 2.019 m (single tube) Öceli Tunnel are finished. It is reached to final stage at the construction of 785 m length Civil Viaduct. Apart from all of these, construction of craft structures, earth works and other manufacturings continue.



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Gebze - Orhangazi - İzmir Highway Construction

Ch: 40+000 - 41+000 General View



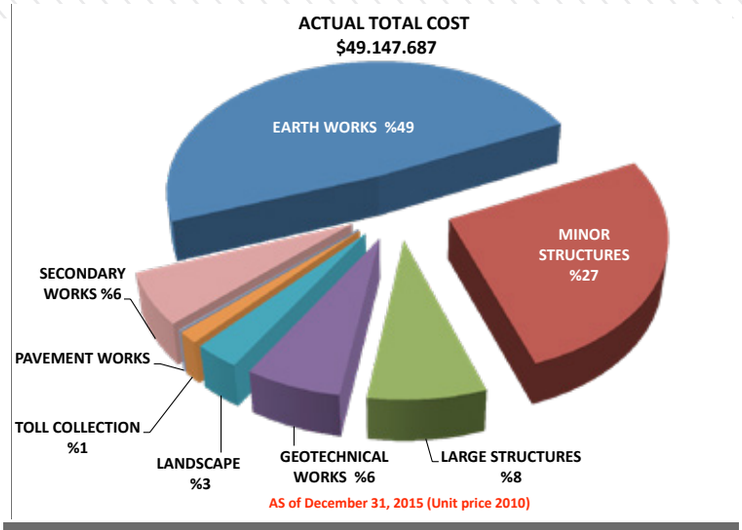
Figure 1

Gebze – Orhangazi Section

It is approached to the end of the construction works within the scope of contract that NUROL signed with NÖMAYG (Employer) for the construction works of section approximately 9 km length that takes place between Gebze - Orhangazi (Ch: 34+350-43+296) of "Gebze - Orhangazi - İzmir Motorway (Including Izmit bay suspension bridge and access roads)" (Figure 1), which is constructed with Build-Operate-Transfer model under the obligation of Otoyol A.Ş. (Company In Charge). Responsibility area of NUROL takes place between Samanlı Tunnel exit and Orhangazi (Figure 2). Earth works, structures, geotechnical works, landscape, toll collection and secondary works (utility relocations, service and park areas) are under the responsibility of NUROL pavement works are excluded. In addition to service area on Ch:37+500 K4 Junction and toll collection area were constructed on Ch: 40+000 of the Motorway.



Figure 2



Graphic 1

Actual total cost of the project is 49.147.687 USD per 2010 unit prices and distribution of the total amount according to work items are shown at the graphic 2.

PROJECT (KM: 34+350 – 43+296)	
EXCAVATION	6.196.082 m^3
FILL	6.285.377 m^3
ROCK FILL	469.487 m^3
BORED PILES	6.323 m
WICK DRAIN	52.880 m
BOX CULVERT	17 nos
UNDERPASS	16 nos
BRIDGE	2 nos
PEDESTRIAN OVERPASS	1 nos
U TYPE RC CANAL	9 nos
RETAINING WALL	2 nos

Table 1

QUANTITIVE REALIZATIONS	Revised Quantity	Quantitive Realization	% Realization
1. EARTH WORKS			
1.2 EXCAVATION	**6.046.550 m^3**	**6.196.082 m^3**	**%102**
1.2 FILL	**6.039.167 m^3**	**6.285.377 m^3**	**%104**
2. MINOR STRUCTURES			
2.1 CONCRETE	**66.530 m^3**	**66.759 m^3**	**%100**
2.2 REBAR	**6.075 m^3**	**6.096 m^3**	**%100**
3. LARGE STRUCTURES			
3.1 CONCRETE	**13.724 m^3**	**13.749 m^3**	**%100**
3.2 REBAR	**2.075 m^3**	**2.077 m^3**	**%100**
4. GEOTECHNICAL WORKS	**451.959 m^3**	**469.487 m^3**	**%104**
5. LANDSCAPE	**$2.134.334**	**$1.378.516**	**%65**
6.TOLL COLLECTION AREA	**$950.000**	**$576.193**	**%61**
7. SECONDARY WORKS	**$2.931.256**	**$3.044.977**	**%100**
7.1 UTILITY RELOCATIONS	**$2.931.256**	**$3.044.977**	**%100**
7.2 SERVICE & PARK AREA			
7.3 MAINTENANCE CENTER			

Table 2

Works under NUROL's contract commenced on 22.11.2011 with the "Notice to Proceed". Mobilization works are completed on February 2012 and as end of December 2015, physical and financial realization reached 100% level.

Within the project over 6 million m^3 excavation and fill, over 90.000 m^3 concrete and over 8.000 tonnes of structural reinforcement works were completed.

Total works are shown on Table 1 in detail and quantitive realizations as of end of December 2015 are shown on Table 2. Finishing works are under progress on main road service and toll collections areas besides landscaping. Opening the road to traffic is targeted by the end of January 2016. Junction lightings, guardrail, Row fence, traffic signs and road markings to be completed by NOMAYG(Employer) before the road is opened to the traffic.



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Ertuğrul Construction Site Offices



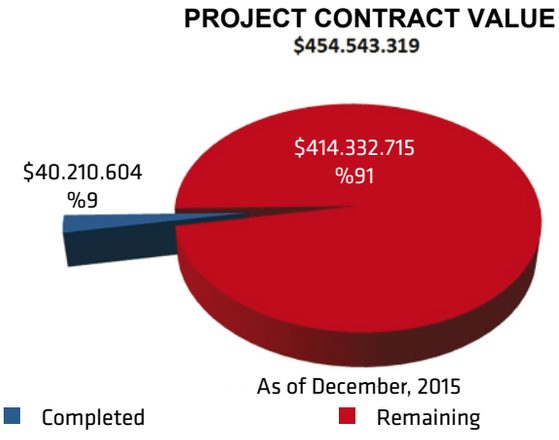
Figure 3

Balıkesir – Kırkağaç - Akhisar Section

Under the contract which is signed between NOMAYG (employer) and NUROL, construction works on approximately 93 km of motorway between Balıkesir - Kırkağaç – Akhisar (Ch: 224+300-317+284) as a part of Gebze – Orhangazi – İzmir – Motorway (Including Izmit bay suspension bridge and access roads commenced as of April 2015.

In this section there are 5 junction and toll collection areas which connect the motorway to Balıkesir, Savaştepe, Soma, Kırkağaç, Akhisar Settlements. In addition there are 4 service facility areas which are placed on both directions as type A(1), type B(1) and type D(2).(Figure 3)

Within the scope of the Project, earth works, minor and large structures (6 viaducts with a total length 4.436 m.), pavement works (wetmix and hotmix), geotechnical works, landscaping, toll collection and secondary works (utility works, servicing and parking areas, maintenance centers) will be constructed. Traffic signs, road marking, guardrail and Row fence constructions are excluded and will be contracted out by NÖMAYG separately.



Graphic 4

STRUCTURES BETWEEN Ch: 224+300 AND 317+284	
TYPE	**PIECE**
Box Culvert	223
Underpass	75
U type RC Canal	10
Retaining Wall	6
Underpass Bridge	15
Overpass Bridge	22
Viaduct	6
Prestressed Beam	2944
Bored Pile (m)	19.642 m

Table 3

	TOTAL QUANTITY CH: 224+300 - 317+284	COMPLETED QUANTITY (As of December 31, 2015)
Excavation	21.220.000 m^3	5.448.979 m^3
Fill	24.686.000 m^3	2.789.807 m^3
Borrow pit Excavation	6.675.000 m^3	-
Concrete	911.286 m^3	135.563 m^3
Pavement - Wet Mix	4.378.230 tonnes	-
Pavement - Hot mix	2.161.286 tonnes	-

Table 4

Within the scope of the Project, mobilization works on Ertuğrul worksite at Ch:238+000 are completed at the end of March 2015 and construction works on the site commenced on early April 2015 with employer's instruction letter dated 06.03.2015.

By end of December 2015, minor structures and earth works on section Ch: 224+300 – 267+000 and works on Ertuğrul, Köyyeri and Savaştepe viaducts commenced and proceeding. By the end of 2015, 9% progress is made on construction works (Graphic 4). Mobilization of other site offices are under progress, meanwhile construction works at Kırkağaç – Akhisar section commenced in December 2015.

Quantitive amounts in Project and realizations as of end of December 2015 are shown at Table 4. According to planning of 2016, 11 million m3 excavation on main road, 1,7 milion m^3 borrow pit excavation, 1,2 milion m^3 topsoil excavation, 12.7 milion m^3 fill, 334.000 m^3 reinforced concrete, 22.000 m^3 concrete trenches, 450 number of prestressed beams, 4.000 m. bored pile, 300.000 tonnes wetmix pavement, 150.000 tonnes hotmix pavement and utility relocations are planned to be completed. Contract end date is 31.12.2018.

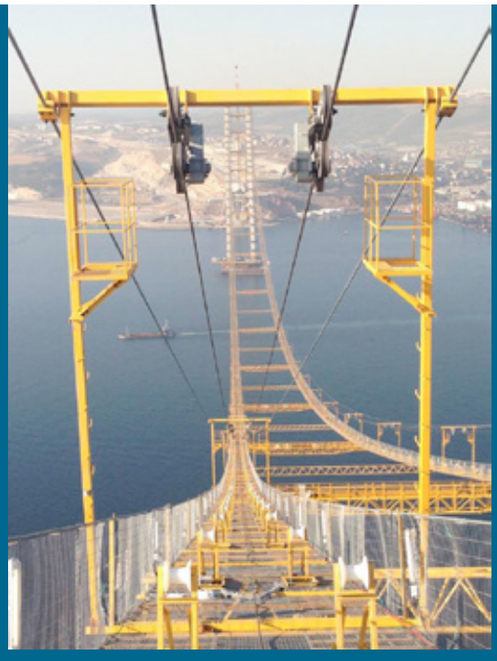






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YATIRIM VE İŞLETME A.Ş.





Gebze - Orhangazi - İzmir Motorway

The Gebze - Orhangazi - İzmir Motorway; is a giant Build Operate Transfer (BOT) Project comprises of a total 405 kilometer highway body and 49 km accommodation roads, separated from the TEM motorway with a junction, reaches to Gebze - Dilovası after approximately 4 km, by Crossing the Bay with a suspension bridge, by Crossing to the Yalova - Cape Herzegovina and then respectively going to Orhangazi and Bursa; and after connected to 21 Km long Bursa - West Ring Road existed in Bursa, reaching to İzmir.

The quantities belonging to the main structures and main work items can be summarized as follows:

The İzmit Bay Crossing Suspension Bridge is one of the vital parts of the İzmit Bay providing by a suspension Bridge, as is evident from its name, is a Motorway Project with "Gebze - Orhangazi - İzmir (including İzmit Bay Crossing and accommodation roads)going down in history of the Republic of Turkey which will be held at one time as the largest infrastructure project in history as BOT.

Since the sizes of the suspension bridges, is mainly determined by their main spans that will be 4th Suspension Bridge of the world and 2nd Suspension Bridge of the Europe.

MAIN STRUCTURE ITEMS	TOTAL (EA.)
SUSPENSION BRIDGE	1
TUNNEL	3
VIADUCTS	35
Reinforced Concrete	33
Steel	1
Composite	1
BRIDGES	187
Overpass	91
Under Pass	58
Hydraulic	37
Composite	1
CULVERTS	973
Box Culvert (Under Pass)	270
Box Culvert (Hydraulic)	703
JUNCTION	22
MOTORWAY SERVICE FACILITIES	17
MOTORWAY MAINTENANCE OPERATION FACILITY	4
TUNNEL MAINTENANCE OPERATİON FACİLİTY	2

PROVINCE BORDERS	KOCAELİ		YALOVA		BURSA		BALIKESİR		MANİSA		İZMİR		GENERAL	
	TOTAL EA.	TOTAL LENGTH (m)	TOTAL EA.	TOTAL LENGTH (m)	TOTAL EA.	TOTAL LENGTH (m)	TOTAL EA.	TOTAL EA.	TOTAL EA.	TOTAL LENGTH (m)	TOTAL EA.	TOTAL EA.	TOTAL EA.	TOTAL LENGTH (m)
SUSPENSION BRIDGE	1	2.907,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	1	2.907,00
TUNNEL	0	0,00	0,55	1.903,99	1,45	2.866,10	0	0,00	0	0,00	1	1.610,00	3	6.380,09
VIADUCTS	1	253,50	6	4,329,28	14	5.799,79	9	5.145,41	3	1.556,50	2	2.635,53	35	19.720,01
BRIDGES	6	791,81	11	602,00	43	3.125,32	30	1.539,10	73	4.673,08	24	961,5	187	11.693,36
CULVERTS	16	620,06	55	4.409,51	297	22.665,39	240	16.573,21	307	19.436.14	58	4.373,34	973	68.077,65
JUNCTION	1	0,00	2	0,00	5	0,00	4	0,00	5	0,00	5	0,00	22	0,00
MOTORWAY SERVICE FACILITIES	1	0,00	1	0,00	6	0,00	5	0,00	4	0,00	0	0,00	17	0,00
MOTORWAY MAINTENANCE OPERATION FACILITY	0	0,00	1	0,00	0	0,00	2	0,00	1	0,00	0	0,00	4	0,00
MOTORWAY MAINTENANCE OPERATION FACILITY	0	0,00	1	0,00	0	0,00	0	0,00	0	0,00	1	0,00	2	0,00

The İzmit Bay Temporary Suspension Bridge is formed from main span is 1.550 m, and each of side span length is 556 m and the length is total 2.682 m. With the North and south crossing spans the total length of the bridge is 2.907 m the width of deck is 35, 93 m, the height of deck is 4,75 m and the bridge consists of 6 lanes, three lanes of traffic in each direction with a width of 3,65 m.

There is total 75.000 tone steel production consists of 55.000 tone structural steel in the construction of the Suspension Bridge, 20.000 ton cables & suspension cables.

BRIDGE LENGTH FROM TOWER TO TOWER	1550 m
SUSPENTION BODY LENGTH OF THE BRIDGE	2682 m
WIDTH OF THE BRIDGE	35.930 m
HEİGHT OF TOWER	252.000 m
HEIGHT OF NORTH ABUTMENT	53.700 m
HEIGHT OF SOUTH ABUTMENT	52.200 m
DIAMETER OF SUSPENSION CABLE	105, 103, 180 mm
NUMBER OF SUSPENSION CABLE	105 + 105 = 210
DIAMETER OF MAIN CABLE (MAIN TENSION)	781 mm
DIAMETER OF MAIN CABLE (MAIN TENSION)	788 mm
NUMBER OF STRANDS IN MAIN CABLE	110 ea.
SUSPENSION CABLE WEIGHT	127 ea.
NUMBER OW WIRE IN STRAND	18.750 ton
MAIN CABLE WEIGHT	740 ton
SIZES OF CAISSONS	67 x 54 x 15 m
DEPTH OF SETTLEMENT ON SEA BOTTOM	40.4 m
ANCHORAGE NORTH CONCRETE AMOUNT	36.245 m^3
ANCHORAGE SOUTH CONCRETE AMOUNT	83.770 m^3
CAISSION CONCRETE AMMOUNT OF NORTH TOWER	21.000 m^3
	21.000 m^3
NUMBER OF PILES THAT TO BE USED FOR CONRETE IMPROVEMENT IN THE SEA (NORTH)	195 ea.
NUMBER OF PILES THAT TO BE USED FOR CONRETE IMPROVEMENT IN THE SEA (SOUTH)	195 ea.
NUMBER OF DECK SEGMENTS	111 Ea.
WEIGHT OF DECK	33.800 ton







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South Approach Viaduct

The steel structure of the South Approach Viaduct that is located at the continuation of the Suspension Bridge is also an important structure that requires high construction technology as much as suspension bridge construction (it requires engineering processes demanding extensive knowledge such as processing of crude steel, subjected to controls and tests and in situ assembly) and all of them will be made by Turkish contractors

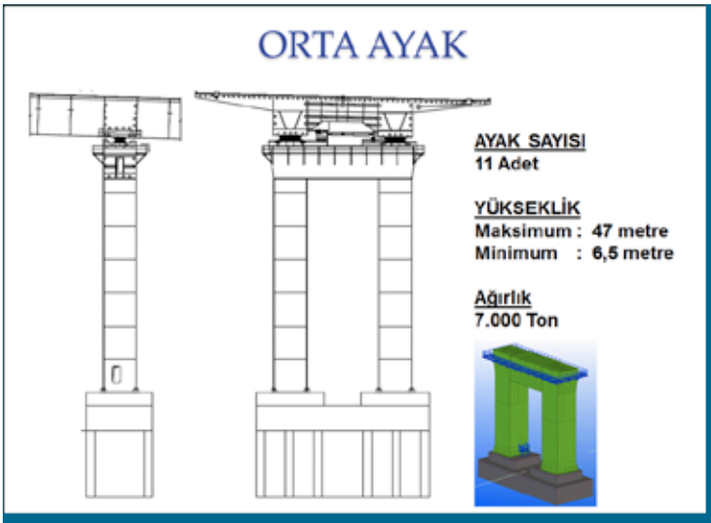
The South Approach Viaduct is at the Cape Herzegovina section of the project, will be constructed on 1.378,92 meter route on 11 steel footings as steel deck between the Km 7 + 081,76 point, starting with the reinforced concrete approach abutment at the end of the south section of the Suspension Bridge and the Km 8 + 460,68 point that is the last reinforced concrete abutment at the south direction, the structure has been completed to a large extent. The superstructure works are ongoing.

The general properties of the South Approach Viaduct and the quantities of the work items can be summarized as follows:

LENGTH OF VIADUCT	1378,92 m
WIDTH OF VIADUCT	35.930 m
NUMBER OF PIERS	11 Ea.
NUMBER OF ABUTMENT	1 Ea.
FOOTING HEIGHT (MIN. - MAX) (FROM THE UPPER LEVEL OF THE DECT)	13 – 57 m
PROVISION OF TOTAL STEEL MATERIAL	33.000 Ton
STEEL FOOTING	7.000 ton
STEEL DECK	26.000 Ton
TOTAL CONCRETE AMMOUNT	37.735 m^3
CONCRETE REINFORCEMENT BAR AMMOUNT	5 .900 Ton
NUMBER OF SYSMIC DAMPER	108 ea.
LRB NUMBER OF SUPPORT	22 Ea.
SPHERICAL SUPPORT	4 Ea.



South Approach Viaduct
Three dimensional modeling



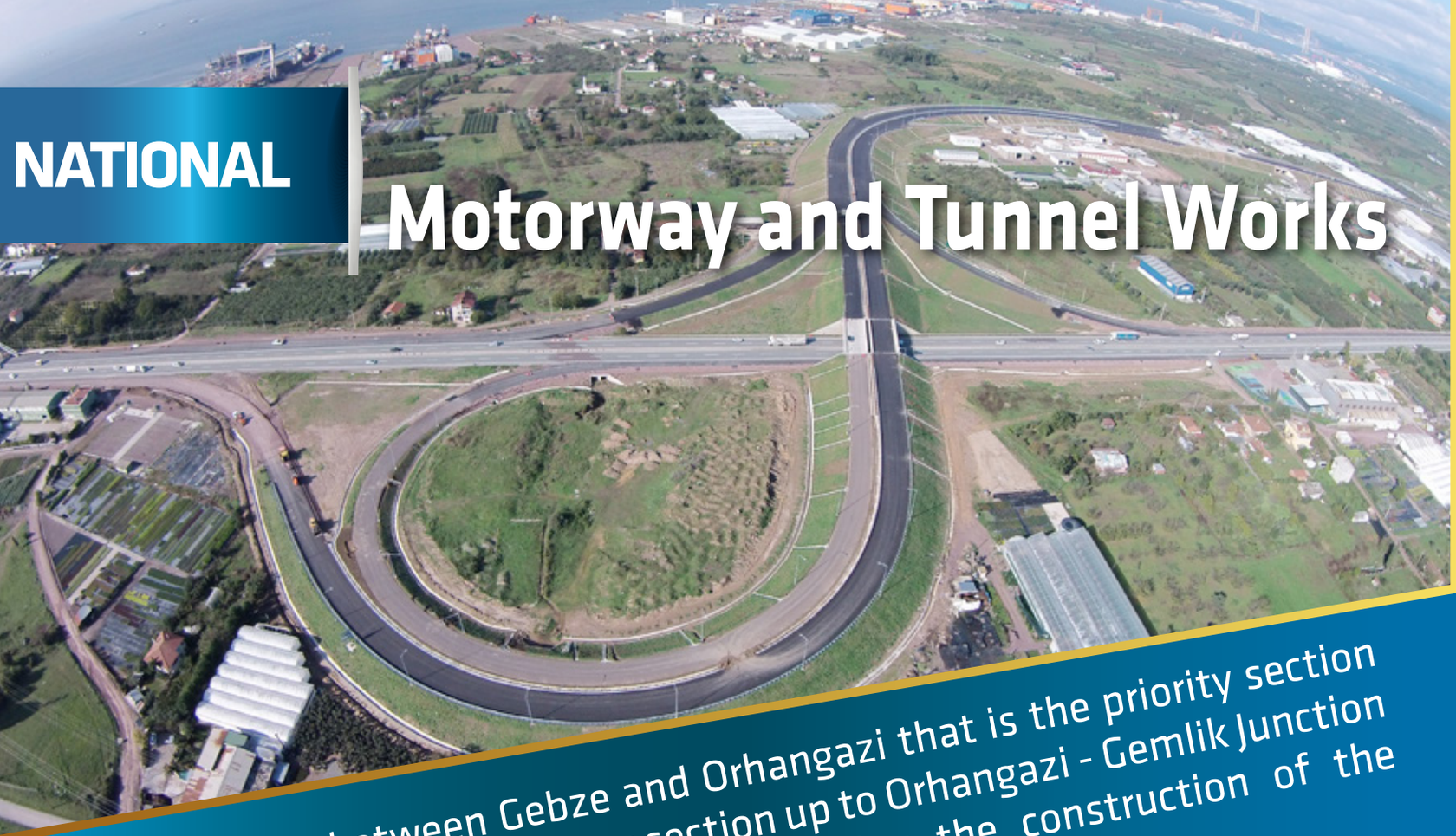
South Approach Viaduct
Pier Elevation Detail



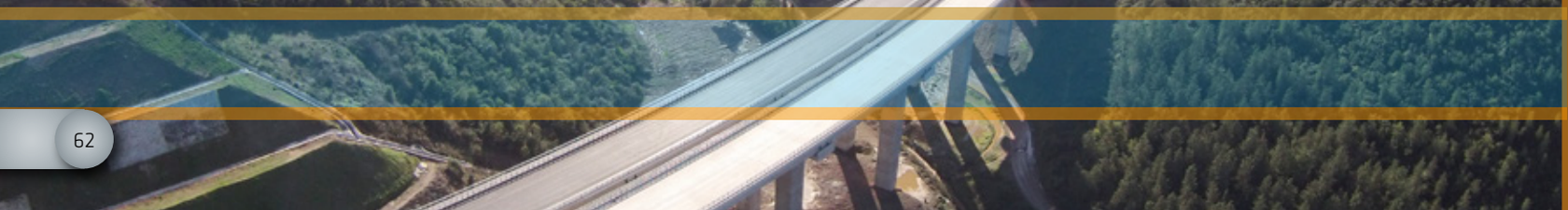
NATIONAL

Motorway and Tunnel Works

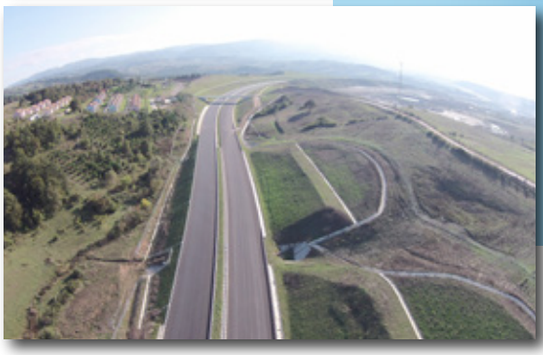
The activities between Gebze and Orhangazi that is the priority section of the project and at 53 km long section up to Orhangazi - Gemlik Junction have been extensively completed including the construction of the viaducts.














At the 25 Km Section to the Gemlik Junction - Bursa ring road, the motorway construction studies are intensively ongoing, the mobilization activities at the motorway sections between Bursa and İzmir are completed within the scope of Phase II B.

The works are completed in 1 of the tunnel among 3 that took part in the project and in the other 2 tunnels it has gotten ahead extensively in the other 2 tunnels.

In the Samanlı tunnel, which is total 7.020 meter long, constituted from 3.534 meter right tube and 3.486 meter left tube has assumed the title of the longest motorway tunnels of our country, the construction activities are completed and within the scope of the electric - electro mechanic works, the construction of generator and the tunnel control center, installation of fire detection systems, closed circuit television system mounting are completed and the construction of the facilities oriented to operation has been commenced.

While approximately 80 % of excavation activities In the Selçukgazi Tunnel located between the Gemlik Junction - Bursa are completed; in the Belkahve Tunnel that took part at the İzmir Province Bornova district the excavation activities are completed as 100 % and electric - electro mechanic works are commenced.








nurol REIT

The Nurol Tower, Nurol Park and the Nurol Life Projects, rising at 3 important locations of Istanbul, as Mecidiyeköy, Basın Ekspres and Seyrantepe respectively, reshape Istanbul, by means of the projects of the Nurol GYO, which carries out to exclusive projects in Istanbul, with its "Investment to Life" motto. Those 3 projects of the Nurol GYO adding value to the city, make your life easier with its privileged and modern services.

The Nurol Tower project, developed by the "Home Office" concept of Nurol GYO, brings the luxurious residence's comfort in a single structure together, with the services of office and home.

Nurol Tower, designed to meet all your needs in daily life, makes your life easier with markets, shops, restaurants and cafes. The Concierge Services in Nurol Tower think of everything for you, bring a matter to a solution just with a single phone. It responds to your all needs, from your travel consultancy services to delivering of your daily shopping up to your home or your office, insomuch as the realization of organizations of your most special invitations, unfailingly. The opportunity of Nurol Tower is waiting for you, to satisfy your needs effortlessly, without leaving the building.

With the models, ranging in size from 73 to 193square meters, Nurol Tower, with 4 meters of ceiling height, and 270 single spaces, has 149 meters of height and offers 360 degree unique panoramic city and Bosporus view in a high quality atmosphere.

Nurol Tower become neighbors to the Caglayan Square, opposite to the new Palace of Justice, comes to the forefront with the road advantage as well. With its E5 façade position, immediate accessibility to peripheral road and the Bosporus bridge connections, closeness to metro and metro bus stop provides a significant convenience in transportation.

We thought about , everything for you, most Exhaustively at the

NUROL TOWER...

FEATURES OF THE BUILDING

- 360 degree Istanbul and Bosporus view at the 158 meter high, with 35-stories ,
- It is in a distance of 25 minutes to the Atatürk Airport, with its unique position at the Mecidiyeköy, center of Istanbul, easy to transfer with the metro stop next thereto.
- Its distinctive triangular architectural design, combining aesthetics and functionality , signed by Turgut Toydemir,
- A candidate of LEED certificate, green house, providing water and energy saving,
- The Home Office ranging from 73 to 193 m^2 floor area are tailored to your needs,
- 8 elevators in the Tower, for parking lot + 3 elevators, for bazaar + 1 elevator,
- Central air conditioning office.



FEATURES OF HOMEOFFICE

- Home Office to be delivered as Shell and Core, as ready to decoration
- 4 meter high ceiling
- Open able windows,
- Sound proof glasses,
- Raised floors offer flexibility in interior decoration
- Internet, IP telephone, IP TV, Central satellite TV system, Digitürk, D-Smart, Cable TV infrastructure

NUROL TOWER BAZAAR

- 1951 m^2 bazaar are a comprises of 15 units
- Café and restaurant
- Pharmacy
- Cosmetic shop
- Hairdresser
- Tobacco shop
- Dry Cleaning
- Supermarket

COMFORT

- Concierge services
- 24 Hours special security
- Valet services
- Meeting halls
- Food service

SKY LOUNGE

- The Sky Lounge at the penthouse offering 360 degree breathtaking Istanbul scenery to building residents





With Nurol Life be acquainted with a brand - new luxury concept that is "Practical Luxury"



Nurol Life, Raising at Seyrantepe just beside Belgrad Forest, bringsall privileges together with exciting details. Nurol Life ensuring to leave life defining luxury concept once more with the "Practical Luxury" concept, by allowing you to enjoy for a pleasant and more practical life, is supported with special solutions to meet the needs of modern life.

The "Practical Luxury" concept of Nurol Life contain the privileges that makes your life easy within itself.

The special "Guest House" where sleepovers spend the night, the "Pet Care" you may consign your little friends thereto, when you had a business emergency, the "Theater Room" that enables you watch the films you like in a more pleasant environment, the "Premium catering" that brings the world's delicious foods to your doorstep, the "Yoga Pilates Studio" where you would able to realize your hobbies freely and rest your mind and your soul, the "Spa & Sauna - Steam Rooms", help you relive your nervous tension, the functional "Meeting & Working Rooms", with the equipment to satisfy all your necessities

The "Organic Garden Service" that brings the most healthy foods to your door, in 7 days are just a few of Practical Luxuries offered by Nurol Life ...

With Autoban owned original interior design, Nurol Life, designed by award-winning architect Hakan Kıran, who has and are signing of Turkey's largest and most important projects, gives its word for a luxury and spacious home life, with its forest view flats having its 4 meter high ceiling, open able windows, and breathing stone walls.

Nurol Life, located at neighbour on Maslak and Levent, stands out with its proximity to the Fatih Sultan Mehmet and Bosphorus bridges. Raising in the immediately vicinity of the Türk Telekom Arena, Nurol Life also is located within walking distance to Metro.

FEATURES OF THE BUILDING

- 440 Tower Flats
- 26 Terrace Homes
- 50 Offices
- Reasoned fine details on the necessary standards have the signature of the award-winning architect Hakan Kıran
- Authentic interior design of Autoban and sophisticated living areas
- Unique location surrounded by the North Forests of Istanbul
- By having 9 meter high ceiling, the lobby takes shape with marble covered floors and walls
- 23 elevators
- Parking lot for 1 or 2 vehicles, as per residence type
- Façade composed of natural stone and glass wind the building



COMFORT

- Special service of the Guest House where sleepovers spend the night
- Pet Care you may consign your little friends thereto,
- Theater Room that enables you watch the films you like in a more pleasant environment
- Play room that carries console play pleasure to the giant screen
- Premium catering that brings the world's delicious foods to your doorstep
- Fitness center for a healthy and physically-fit life
- Relaxing Yoga - Pilates Studios
- Spa & Sauna - Steam Rooms help you relive your nervous tension,
- Functional Meeting & Working Rooms, with the equipment to satisfy all your necessities
- Concierge Services offering the reception, vale, vehicle and driver services for making life easier

FOOD & BEVERAGE

- Premium room service
- Roof Bar at 261 meters with Istanbul Scenery
- Pool Café
- Ordering Service for organic vegetables and fruits

FEATURES OF THE HOUSE

- 4 meter ceiling height in all residences
- Wide, spacious halls and high flat entrances
- Fully opening windows, from ceiling to floor
- Floor heating system
- Internet, IP Telephone, IP TV infrastructure





Nurol Park,
Opens the doors to you slightly for a peaceful life

Nurol Park, that carries Nurol Park into effect at Basın Ekspres that is one of the important locations, in Istanbul. Nurol Park, where the texture of intimate hot neighbourhood, we are longing for, has been reactivated, it opens the door for a peaceful life with the landscaping area in size of five football fields as well as with the shopping areas inspired by traditional street life, with an advantageous location and high standard construction quality.



At Nurol Park that will be the region, which would become a new point of attraction with the shopping areas inspired by traditional street life, we are offering you to be able to make pleasant walks as a family, or the opportunity to welcome your friends in the café of your neighbourhood, at the home comforts.

In the project, street shops, which open to the Nurol residents and visitors take part as well. These shops come into prominence as a different alternative for those tired of asphyxiation and uniformity of shopping centers. Nurol Park, inspired by the oldest shopping street in Istanbul offers you the opportunity of a pleasant shopping experience under the open sky, and rediscover the smiling faces and warmth as well.

FEATURES OF THE PROJECT

- Total 1512 flats - consist of 84 Loft, 544 Residence, 884 Tower flats
- 19.000 Office Complex
- The design signed by Öncüoğlu + ACP Architecture
- Unique location offering easy transportation to TEM and E5 at the Güneşli Basın Ekspres Road
- The Metroline, which is planned to be provided in 2017,is in proximity of 230 m and Atatürk Airport is in 7,5 Km as well.
- 1 ea. Closed parking lot for 1 + 1 flats and 2 same for 3 + 1 and 4 + 1 flats.
- Heat insulated façades.
- 24-hour private security



LOFT

- Loft Complex formed from 7 stories & 2 blocks
- 84 Loft flats
- Options of 2 + 1, 3 + 1 and 4 + 1 flats

RESIDENCE

- Residence Complex formed from 19 & 29 stories & 2 blocks
- 544 Residence flats
- Options of 1+ 1 and 2 + 1 flats

TOWER

- Tower Complex formed from 31 stories with 2 blocks and 27 stories with single block
- 884 Tower Flats
- Options of 1+ 1 and 2 + 1 and 3 + 1 flats

PARK BAZAAR

- Street shops double your pleasure and restaurant and cafes add enjoyment on your pleasure
- All kinds of commercial units to meet your every need

GREEN ZONES

- 43.200 m^2 Landscape area, which have been designed by the Dalokay Design Studio, as large as 5 football fields
- Socializing areas portraying the Neighborhood life : recreation areas, courtyards and terraces

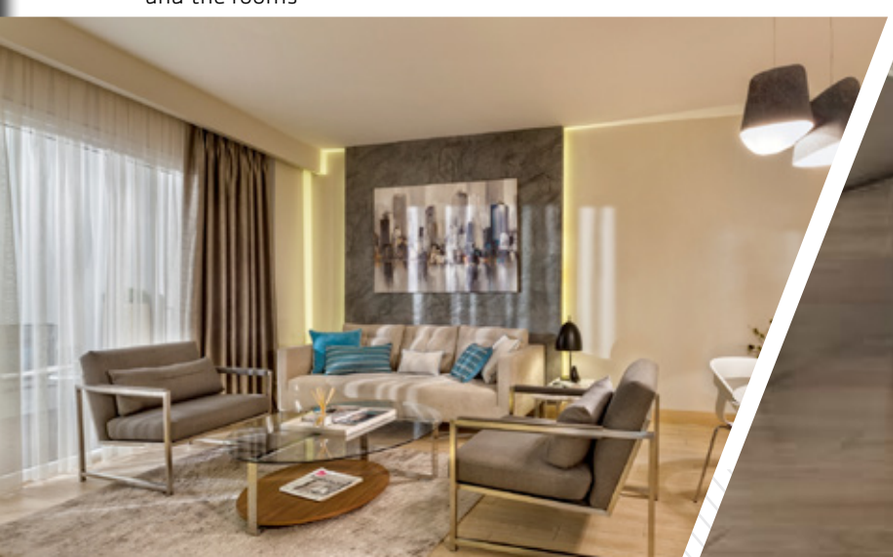
ACTIVITIES

- Indoor and outdoor swimming pools you can use 4 seasons
- Gymnasium for a healthy life

FEATURES OF THE HOME

- Entrance, hallway, kitchen, balcony and bathroom with ceramic floors
- 1st class Laminate flooring in the living rooms and bedrooms
- mproved sound insulation between apartments
- Central security and intercom system offering video communication with entrance doors
- 2 exterior telephone lines, 4 data inputs
- IP telephone, IP, TV, internet infrastructure
- TV installation suitable to satellite broadcasting in Living room, kitchen and the rooms





NATIONAL



nurol
ÇELİK

FACTORY MANUFACTURINGS







Besides performing the fabrications regarding contracting projects, Nurol Çelik (Nurol Steel) carries out hydromechanical and electromechanical fabrications of generator and turbine projects to be undertaken by foreign origin companies such as Alstom, Voith and Andritz such as “Spiral Case”, “Rotor Spider”, “Pit Liner”, “Generator Stator Frame”, “Draft Tube With Cone”, “Upper & Lower Bracket”. To exemplify;

Some of the projects performed for Alstom, Voith and Andritz;

- 3 pc of 5.400 mm Diameter “Draft Tube” (49 tons x 3 Units: 147 ton) for the Upper Kaleköy Dam & HEPP project which is undertaken by Voith Company has been fabricated in eight pieces. Manufacturing of the “Spiral Case” Pressure test Caps, belonging to the same project have been completed and delivered as well. Also, the manufacturing of the 10.940 meter diameter “Spiral Case” 3 Units (107 tons x 3 Units: 321 ton) and “Pit Liner” (10 ton x 3 Units: 30 ton), which are appurtenant to the Upper Kaleköy Dam Project have been completed, final acceptance tests of productions were made by the client and delivered.

- The Artvin Dam and HEPP which is undertaken by Alstom Company within the scope of the Project of the equipment the Turbine, generator and switchyard equipment, the manufacturing of Spillway Stop Logs (30 tons x 7 units: 210 ton) and 4 Unit tail water Caps (102 tons) have been completed and delivered.

- Within the scope of the Upper Kaleköy Turbine & Generator Project which is undertaken by Andritz Hydro Company, the manufacturing of the “Stator Frame” having 11.500 mm diameter (54 tons), which is one of the most critical parts to which generator and rotor would be mounted, has been made as two parts and delivered. Regarding Çetin HPP project which is undertaken by Andritz Company similarly, Derivation Entrance and Exit Tunnels Embedded Elements have been completed and delivered to the Client.

In addition;

- The 4.718 tons of the total 5.790 ton of the hydro mechanical manufacturing,belonging to the Upper Kaleköy Dam & HEPP of which construction is ongoing by the Kalehan Elektrik Üretim ve Ticaret A.Ş. (Kalehan Power Production and Trade Corp.) has been manufactured in our factory and then delivered. The manufacturing of 1.072 tons is ongoing in our factory.

- The hydro mechanical manufacturing of the 4.266 tons of the total 4.381 tons of the Kiğı Dam and HEPP, of which construction is ongoing by the Özaltın İnşaat (Özaltın Construction) has been manufactured in our factory and then delivered. The manufacturing of 115 tons is ongoing in our factory.

The Projects



ARTVİN DAM and HEPP

The Artvin Dam & HEPP that is on the Çoruh River will have 332 MW installed power. The manufacturing & installation works of the total 1.600 ton, 4.500 mm - 6.000 mm diameter penstock and the manufacturing & installation works the Inlet Pipe of the Power House, the Stop Logs and Spillway Radial Gates, that have been undertaken by the NUROL ÇELİK of the Artvin Dam & HEPP have been completed, and water has been retained in the dam. The power production will be started in the first quarter of 2016.



BEYHAN 1 DAM and HEPP

The hydro mechanical works of Beyhan 1 Dam & HEPP on the Murat River have been made by Nurol Çelik , and subsequent to the provisional acceptance, power production was initiated. The total installed power of the plant is 550 MW and the annual production amount will be 1.253 GWh. Within the scope of total 5.800 ton steel production and installation of the Dam, there are;

- Diversion Gates
- Radial Gates
- Stop Logs and Service Gates
- Gate Lifting Assemblies,
- Bottom Outlet Grates
- Penstock and Accessories Φ7800 mm, Φ3200 mm
- Butterfly Valve Φ2800 mm
- Conic Valve Φ2800 mm and
- Portal (Gantry) Cranes

are progressing...



KİĞI DAM and HEPP

The manufacturing and installation of Hydro mechanical Equipment of the Construction of Kiğı Dam and HEPP that is located in the Bingöl Province as a DSİ investment with 180 MW installed power, is carried out by NUROL ÇELİK. The said Hydro mechanical Equipment works, of which 92 % were completed, are in progress, and at the beginning of 2016 water will be retained in the dam. The annual production of the Dam will be 650 GWh.
Within the scope of the work, there are;

- Radial gates and embedded elements,
- Gate lifting assembly and control assemblies,
- Bottom outlet valves & gates and control mechanisms,
- Switchyard and cable channel steel structures
- Penstock and its steel supports,
- Gantry crane of power house & portal cranes.

UPPER KALEKÖY DAM and HEPP

Upper Kaleköy Dam and HEPP, located on Murat river at Bingöl, is being realized under the investment of Kalehan Energy Production and Trade Inc. at the time of completion. The total installed power of the plant will be 625 MW and the annual production amount will be 1.505 GWh. The fabrication and installation of Hydro-mechanical Equipment are performed by NUROL STEEL, and approximately 55 % of the Power Plant is already completed.
Within the scope of the work, there are;



- Spillway stop logs, embedded elements and lifting beam,
- Spillway radial gates, embedded elements and lifting assembly,
- Energy inlet grates, service gates, cofferdam gates and embedded elements,
- Power House inlet pipe covers, embedded elements and gate lifting assemblies,
- Penstock and its accessories, Φ6.400 mm, Φ2.200 mm,
- Butterfly valve,
- Conic valve,
- Gantry cranes,
- Sluice outlet sliding valve and
- Cooling water system.



Nurol Teknoloji Sanayi ve Madencilik Ticaret A.Ş.



nurol
TECHNOLOGIES INC.



Our objective, as Nurol Teknoloji Sanayi ve Madencilik Ticaret A.Ş.in addition to the classic armored systems, is to design and manufacture the lighter and more durable and reliable armor systems by means of hybrid solutions that exists in very few countries in the world yet, comprise of nano - sized powder metallurgy, advanced techniques ceramics and composite materials. Within this scope, it successfully produces advanced ballistic solutions oriented to defense industry with the classified "NATO Confidential" and "National Confidential", Facility Security Clearance and the "Production Permit".

From the day it was founded until today, The Nurol Technology Firm has attached great importance, to R & D studies, created its technology and increased its background information has the ability to analysis the process from raw material to end product by means of the Quality Laboratory and the Test Shooting Gallery those have been equipped with at the technological highest level. Our company is also Quality Management System is implemented in the highest possible standards in production. Within this scope, we have ISO 9000, 14000 and 18000 serial documents.



NATIONAL

nurol TECHNOLOGIES INC.





The designed and developed armor systems are successfully applied at all kinds of platforms such as Land Platforms, Naval Platforms, And Air Platforms, Personnel Protection and Architectural Protection.

The armor solutions which are used on these platforms are offered to our valuable clients as the most appropriate combination of factors of threats, weight and cost.

With the developed laboratory facilities exist within its structure, Nurol Technology demonstrate, all kinds of sensitivities in respect to the product quality, high performance and product reliability from raw material input. The developed equipment and test devices equipped as parallel to the technology in our laboratory so as to be used in the quality control, product applications, technical analysis and research and development activities, as well as the developed and high standard Ballistic Test Shooting Gallery meet the needs of our defense industry sector.

In order to increase domestic amount of contribution, the hybrid armor systems designed and produced as unique to our firm are successfully introduced to the service of security forces, and other needers at home and abroad.











The investments ofour Firm continues unceasingly, in the presence of increasing demands each day, either to increase existing capacity, or to allow new technologies. With the vision to bring the highest technology in its field to Turkey,our firm, NurolTeknoloji, which follows, develops and applies the material related worldwide technologies, has taken place between not only Turkey's but, the world's leading organizations with its experienced crew's belief to innovative thought.



On 20th September 2015, Tuesday, at 16:30, Ali Rıza ALABOYUN, the T.R. Minister Of Energy and Natural Resources, together with Professor doctor Abdülkerim YÖRÜKOĞLU, the President of National Boron Research Institute, visited Nurol Teknoloji A.Ş. Uğur DOĞAN, CEO of Nurol Teknoloji A.Ş, and Gürol ÇARMIKLI, the member of Board of Directors, introduced "thank you plaque" to each of them, at the end of introductory meeting by uttering the pride in they have taken owing to honoring to our Company, of the Esteemed Minister and President.

As Nurol Teknoloji Sanayi ve Madencilik Ticaret A.Ş. some of our projects those were already completed or ongoing are given below:

- Office protection application for our presidency
- Ballistic protector stand application for T.R. Premiership
- MİLGEM 2. Armoring project of Ship's bridge
- The armoring project of TCDD baggage car& locomotives to protect them against to ammunition with kinetic energy and high amount of mines
- TAI Göktürk - 2 Project, Satallite test station project
- MSB Special Forces, ballistic protective vest project
- EGM Sikorsky helicopter pilot cab floor armoring project
- STM - Gendarme General Command, ballistic protective vest project
- Gendarme General Command - BTR vehicle floor armoring project
- Gendarme General Command - shield project
- Gendarme General Command - armored guard room project
- EGM protective vest project
- EGM ballistic protective shield project
- EGM shield set project
- Şırnak Vehicle armoring project for the Provincial Directorate of Security
- Vehicle armoring project for the Ministry of Foreign Affairs
- Turkish Cooperation and Coordination Agency, vehicle and security material projects
- Vefa Group - vekon, container / cottage armoring project
- Saudi Arabia, Ground Forces - ballistic plates and vest project
- Libya Ministry of Security, ballistic vest project
- Republic of Azerbaijan, ballistic plate and vest project
- Italy - Larimart ballistic protective plates project
- Ukraine - ballistic protective chest plate project
- Czech republic, Ministry of Defense, ballistic vest project
- Pakistan - HIT Firm "Protector", armoring project of military personnel carrier vehicle
- Armoring project for various civilian Vehicles



FNSS IDEF 2015

The Turkish Defense Industry's leading land systems company and export champion, FNSS Savunma Sistemleri A.Ş. attended the 12th IDEF '15 International Defense Industry Fair which took place at TUYAP Fair Convention and Congress Center, Buyukcekmece, Istanbul.

FNSS introduced its 3 new products along with the existing ones. New Generation Armored Combat Vehicle KAPLAN-20. Launched in IDEF '15, TEBER-30 Weapon System and PARS 4x4 Reconnaissance Vehicle were under the spotlight of both local and foreign visitors as well as press.

Next Generation One-man Stabilized Turret Designed and manufactured for Malaysian Army, and Turkey's top military export in single line, 8x8 Wheeled Armored Combat Vehicle, FNSS 6x6 CBRN vehicle and SABER 25mm were first exhibited at IDEF fair.

In addition to these vehicles, PARS 8x8 Wheeled Armored Combat Vehicle, PARS 6x6 Reconnaissance Vehicle, AAAB Amphibious Assault Bridge, AACE Amphibious Armored Combat Earthmover. ACV 120mm Tracked Mortar Vehicle and Multispectral Camouflage AAPC were also offered to the visitors during IDEF '15.

FNSS have also displayed its land systems with another two local defense companies; ROKETSAN and ASELSAN. ACV-19 self-propelled Laser Guided Missile System exhibited at ROKETSAN and ACV-30 self-propelled Air Defense Gun and Missile platforms displayed at ASELSAN's booth.

With a new application, FNSS's international partners; FNSS Middle East Co. Ltd. KSA and DRB-HICOM Defense Technologies Sdn. Bhd. (DEFTECH) Malaysia were also represented with their counters inside the FNSS stand. Both companies, presented their products and services during IDEF 2015 Exhibition for the first time.

During the event, FNSS signed a Memorandum of Understanding (MoU) with US-based TenCate to mount and test the TenCate ABDS™ Active Blast Countermeasure System on a FNSS armored vehicle.

On the second day, representatives from the defense industry representatives, evaluation committee of the MILDESIGN 2015 and the competition finalists attended the MILDESIGN 2015 award ceremony which took place at IDEF'15. The event started with FNSS's CEO Nail Kurt's opening speech and continued with FNSS CEO Advisor Haluk Bulucu's presentation. Prominent representatives of the defense industry presented the awards to winners of the competition.



Following are the results of MILDESIGN2015 International Military Land Vehicles Design Competition:

PROFESSIONAL CATEGORY

Rank	Project Owner	Participation Type	Project Name	City
1st Place	LEVENT TUNA	INDIVIDUAL PARTICIPATION	ANDARKAN	İSTANBUL
2nd Place	BERKANT ORÇUN ÇANGAL	INDIVIDUAL PARTICIPATION	MAMBA	ANKARA
3rd Place	TOLGA YAŞAR YILMAZ	INDIVIDUAL PARTICIPATION	ALTAR	ANKARA

STUDENT CATEGORY

Rank	Project Owner	Participation Type	Project Name	City
1st Place	ALİCAN SAYAN; ENES YİĞİT; KÜBRA KAYA; FARUK MERT	TEAM PARTICIPATION	ATILGAN	Gazi Üniversitesi
2nd Place	MEHMET ÇİÇEK; MEHMET METİN	TEAM PARTICIPATION	ROBOZIRH	Mimar Sinan Üniversitesi / Marmara Üniversitesi
3rd Place	BERK KAPLAN	INDIVIDUAL PARTICIPATION	MV1	Gazi Üniversitesi

FNSS





KAPLAN-20

The New Generation Tracked Armoured Fighting Vehicle from FNSS

FNSS Defence Systems Inc. proudly presents KAPLAN-20 NG-AFV, the latest member of its New Generation Armoured Fighting Vehicles, designed to meet the tactical and technical requirements of the armed forces of Turkey well as those of friendly and allied countries. KAPLAN-20 brings together various innovations in its class thanks to the experience gained from the 3000 of our tracked armoured vehicles that are currently in service with various armies around the world, our field experience of 25 years and the more than 200 specialized engineers.

The vehicles architecture which contains protection systems against mines, rocket propelled grenades and kinetic energy threats. In addition up to date electronic subsystems are also integrated together with high performance power pack, heavy duty suspension and tracks which enables the vehicle to carry heavy loads such as 105mm gun systems.

KAPLAN-20 is a new generation armoured fighting vehicle that has the ability to move together with main battle tanks, has a 22-25 hp/tone power-to-weight ratio, which takes into account the weight of the communication system and the automatic transmission.

KAPLAN-20 has a low silhouette, and with its twin 6 road wheeled tracks, has the ability operate in hot/cold weather conditions at high speed not only on asphalt and stabilized highways, but also in soft soil, muddy and rough terrains. The advanced suspension system, tracks has been designed to reduce vibration and increase road holding. Access to the vehicle is gained through a personnel door on the ramp or the hydraulic ramp located at the rear of the vehicle. On the top, there is a wide hatch for personnel and another hatch that has been specifically designed to maximize the driver's field of view. The maintenance and repair of the power pack are performed via the cabin access hatch and hatches that are at the front of the vehicle. The two fuel tanks are located at the rear for balance and are fully-armoured and isolated from the vehicle to ensure the security of personnel.

KAPLAN-20 is one of the very few vehicles that have amphibious characteristics. Thanks to the two water propulsion systems located at the rear of the vehicle, KAPLAN-20 can perform in deep and water current rate. It can perform pivot turns in the water and even move backwards. In addition to this, it allows the driver to enter the water without any preparation.

PARS 4x4



The Wheeled Armoured Vehicle from FNSS

FNSS Defence Systems Inc. is unveiled the latest member of its PARS wheeled armoured vehicle, the PARS 4x4, at IDEF'15.
The PARS 4x4 was designed at FNSS's R&D centre, located in Ankara, by our engineers, who have over 25 years of expertise and field experience. The PARS 4x4, the IPRs of which completely belong to FNSS, challenges the standards of 4x4 WAVs in the global land vehicle sector with its improved characteristics and design.

Being the latest member of the PARS family, the PARS 4x4 has been designed to undertake special operational roles such as advanced surveillance, anti-tank and command & control. The vehicle was designed in a way to meet all the operational requirements that might be required in the theatre.
The PARS 4x4 has a power-to-weight ratio of 25-30 hp/tonne , a silhouette of just 1.9m and amphibious capabilities. The vehicle with its crew of 5 can operate in water that is deep and fast-flowing without any preparation. In the water, the vehicle can perform pivot turns and even move backwards when required. The increased manoeuvring capability in the water is due to the two water jets located at the rear of the vehicle.

The PARS 4x4 can operate on any rough terrain with a reduced break of angle, low centre of gravity, fully independent suspension system, ABS-assisted hydraulic disc brakes, low ground pressure and increased angles of approach and departure. The PARS 4x4 can climb slopes of 70% and hold on slopes of 40%, and it can pass over 50 cm vertical obstacles with ease.

The hydraulic recovery winch system located at the front of the vehicle has the ability to provide self-recovery when required. The mobility of PARS 4X4 has been increased via the central tyre inflation system, and it also has a run-flat capability. The PARS 4x4 has a top speed of 120 km/h on asphalt and a range of 700 km. The vehicle can switch from 4x4 mode for rough terrain to 4x2 mode for use on a highway. The PARS 4x4 has an automatic transmission and an axle lock for slippery surfaces and soft soil.

The windows are ballistically protected and designed to afford a wide field of view for both the driver and the crew. The PARS 4X4 also provides the driver and the commander with integrated night and day vision cameras that enable operations in night drives without head lights. The command and warning panels and the mine-protected seats have been specifically developed for the commander, driver, gunner and military personnel with their equipment.

The body of the vehicle is made of ballistic material, which provides protection against mines and improvised explosives.
The vehicle is especially noteworthy due to its load carrying capacity, its open architecture features and the way it was designed to accommodate the equipment that is used in the vehicle in order to carry out different missions and meet user requirements.

The PARS 4x4 can be transported using any kind of military transport aircraft including the CH-47 Chinook heavy load helicopter.



PARS 6x6

INTRODUCTION OF 6x6 PARS CBRN RECONNAISSANCE VEHICLE

The CBRN Reconnaissance Vehicle, produced as a prototype by FNSS, was developed using the PARS 6x6 platform. The CBRN Reconnaissance Vehicle has stand-off detection capability, radiation detection capability and the capability to detect and identify Chemical Warfare Agents (CWAs), Toxic Industrial Materials (TIMs) and Biological Warfare Agents (BWAs).

The CBRN collective protection system fitted to the PARS 6x6 provides over pressure and an assisted breathing face mask system to the vehicle. The collective protection system is designed in accordance with the NATO standard AEP - 54.

The vehicle is fitted with a remote control stabilized weapon system on which a 40mm automatic grenade launcher, 12.7mm or 7.62mm machine gun can be fitted in accordance with user requirements.

PARS 6x6 CBRN Reconnaissance vehicle has been designed for a CBRN Reconnaissance team of 4 personnel comprising driver, team / vehicle commander and two CBRN operators. An additional crew seat has been included within the vehicle to improve operational capability and crew flexibility, particularly when taking and handling Chemical and Biological samples for further analysis. The PARS 6x6 CBRN Reconnaissance Vehicle can be designed using the PARS 8X8 configuration which is capable of incorporating a larger CBRN team and more equipment if required.

Chemical Detection and Identification: The PARS 6x6 CBRN Reconnaissance vehicle is fitted with chemical detection units to monitor continuously for the presence of Chemical Warfare Agents and Toxic Industrial Materials both outside and inside of the vehicle. There is an additional device which is used for detection and classification of solid or liquid samples within the glove box. This unit can be removed from the vehicle for dismounted operations if required.

The vehicle is equipped with a Stand-Off Detector which uses laser technology and can detect up to a distance of 5km.

A gas chromatograph and mass spectrometer (GC/MS) device for further detailed chemical analysis of a range of samples is integrated into the PARS 6x6 CBRN Reconnaissance Vehicle. This unit is available for dismounted operations if required.

Biological Detection and Identification: The PARS 6x6 CBRN Reconnaissance Vehicle is capable of continuous Biological Agent Detection. If a potential biological agent is detected, a secondary sample is taken for further analysis that is carried out within the fully integrated glove box designed to provide operator safety. Due to the integrated design of the glove box, a variety of ground samples can be taken to the glove box via the sample handling mechanism for further analysis and identification.

Radiological and Nuclear Detection: Gamma radiation detectors are integrated to the outside of the vehicle in order to alert the crew to the direction and level of the radiation hazard. The PARS 6x6 CBRN Reconnaissance Vehicle is fitted with an internal radiation detection device and individual crew dosimeters for personnel protection and dose rate monitoring.

Manual Sampling and Contaminated Area Marking: The PARS 6x6 CBRN Reconnaissance Vehicle incorporates the Double Wheel Sampling System which provides a continuous detection and identification capability whilst on the move. Ground samples can be obtained by the operator safely from within the vehicle and can be stored outside the vehicle prior to onward transportation and further laboratory analysis. The integrated area marking system of the PARS 6x6 CBRN Reconnaissance Vehicle allows the operator to mark any contaminated area identified without having to leave the vehicle. The NATO standard ground marking flags are placed from within the vehicle using the interlocking delivery system which maintains vehicle over pressure and crew safety at all times.

The Central Processing Unit and CBRN Software: The CBRN detection devices integrated into the PARS 6x6 CBRN Reconnaissance Vehicle are linked to the Warning and Reporting CBRN software in order to provide real-time alarms and information of any potential CBRN threat. The CBRN information gathered, when incorporated with the data received from the integrated meteorological device and GPS, can be transmitted using the on board communication system, in accordance with ATP 45 format.



SABER 25

ONE-MAN MEDIUM CALIBER TURRET FOR INFANTRY FIGHTING VEHICLES

SABER-25 is a medium caliber one man power operated turret that can be deployed on wheeled and tracked armored vehicles. SABER turret incorporates the latest technologies in turret drives, fire control, protection and lethality. The compact dimensions and light weight makes SABER a suitable choice for different types of armored vehicles.

The main armament consists of an ATK M242 Enhanced Bushmaster 25mm dual-feed automatic cannon with 240 ready to fire rounds. The secondary armament is a 7.62mm coaxial machine gun with 600 ready to fire rounds.

The digital fire control and sighting system includes a 3rd Generation Long Wave or Mid Wave Thermal Imager, a telescopic day optical channel and an eye safe Laser Range Finder and ballistic computation capability.

The gun turret drive system is electrical and fully digital with two axis stabilization capability to ensure a high accuracy of fire on the move.







The newly designed **GRAND BALLROOM**

The newly designed Grand Ballroom with the ravishing harmony of bronze, copper, wood and marble incorporates the past and the present with a modernist approach and an impeccable artisanship.

The last activity in this majestic ballroom took place in June. 2 million guests and a decade later it was time for the final curtain. The suspense was kept alive for the next act... The curtain was raised again and unveiled a new era created by the architect **Eren Yorulmazer**. **A fitting start for this new era was the G20 Summit taking place on the 4th of September.**

Every city has its' special meeting points which over time have become classics in people's memories and their daily life. When it comes to Ankara's address of grand gatherings, Sheraton Ankara Hotel & Convention Center represents a deep-rooted tradition for the past 25 years. You sure have your own memories...

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Sheraton Ankara Hotel & Convention Center will be celebrating its 25th anniversary next year.

Over the years our hotel has been the icon of the city and a true example of high quality and personal service. The first half of 2015, as usual, we have hosted Presidents of Azerbaijan, Mali, Turkmenistan, Iraq, Ministers of USA, Sudan, New Zealand, Representatives of United Nations, CEOs and high bureaucrats. ISEDAK, Turkish Exporters Assembly, The Union of Chambers and Commodity Exchanges of Turkey, Ministry of Foreign Affairs, the World Bank, OECD events, the annual International Women's Day event of the Ankara Municipality are only a few examples.

Also this year we have had the annual SPG (Starwood Preferred Guest) Member Event in our Health Club. Joining our SPG Members, Health Club Members and our business contacts, the evening was a success with the contribution of our long time partner dietician Ferin Batman. Healthy foods and drinks were served to put emphasize on the importance of eating a balanced diet.



SHERATON 2020:
A New Digital Experience

The digital experience across desktop, mobile and tablet has been completely redesigned with a more flexible and modular framework, as well as enhanced user journey, high-end design, vibrant photography, and a modern color palette. The site's design makes it easier to issue updates, incorporate exciting new content, and grow with the brand as we introduce new and enhanced programming for our guests.

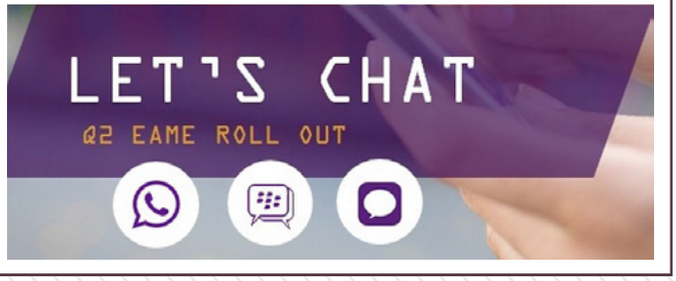


Sheraton Ankara Grand Ballroom is Renovated

Having served over 10 years, our renowned Grand Ballroom is renovated. The doors opened with the Finance Ministers and Central Bank Governors' G20 Meeting on September 4th, 2015. With its new look and advanced functionalities, we reckon the venue will be appreciated by our guests and customers. The total of 1,360 sqm of opulent space with a contemporary look, the expertise of our banquet team together with the state of art technology, are proven solutions to successfull events. Sheraton Ankara offers more than an event space.

In the age of great change with mobile connectivity and digital dialog in exponential growth, our guests have been quick to adopt these communication channels both in their professional and private lives.

The Let's Chat programme allows guests to communicate with our Guest Service Center with What's Up, BBM, Imessage. "60 second response time" races with technology.

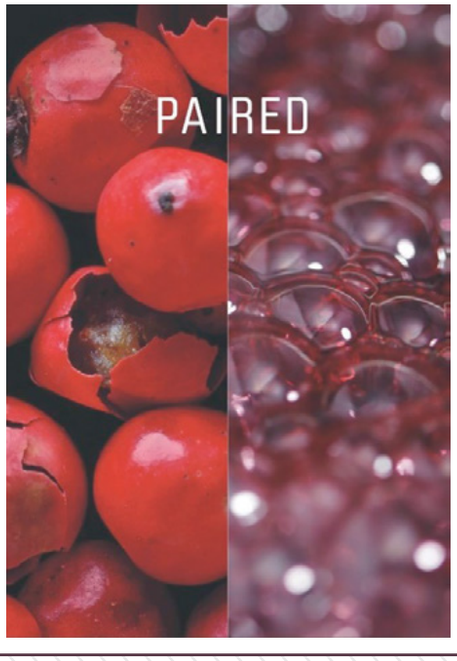


New menu and cocktails at the
Copper Sports Bar

The one and only Copper Sports Bar is inviting with the new Mixology Cocktails in which all ingredients are cooked with care and mixed with expertise.

The Lobby Bar

Savor the unexpected with "Paired", our menu of expertly mathced small plates, premium wines and craft beers. Highligting imaginative ingredient combinations, Paired delights the palate and invites exploration.





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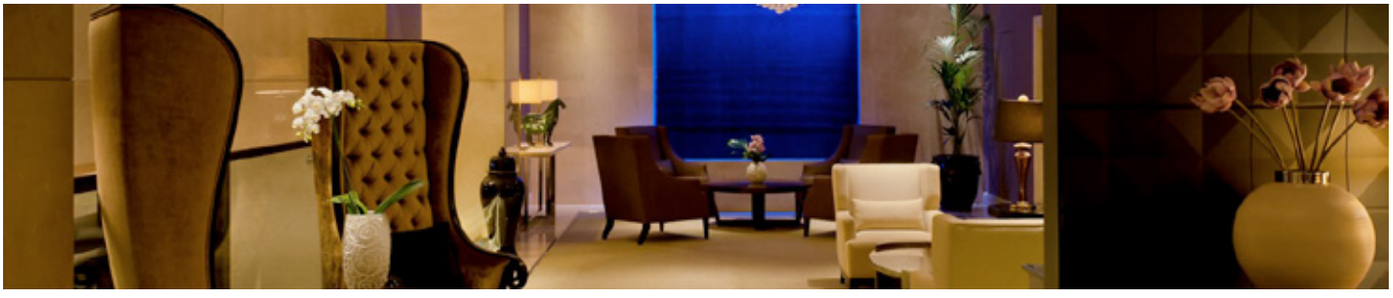
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Aruni Restoran & Bar offers something to explore for every meal

Sunday breakfasts last **until 13:00hrs**; even if you are not staying in Lugal.

Lugal guests do not limit themselves but enjoy buffet and a-la-carte menu at the same time. And if they do not feel like leaving their room, in-dining option is also available.

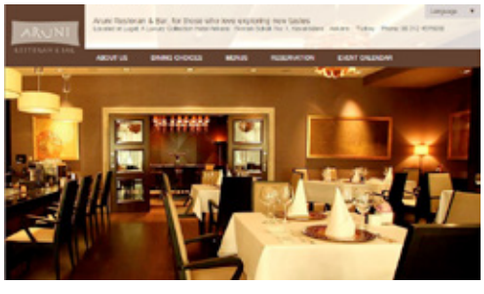
A-la-carte and Gourmet menus are filled with the richness of the local area. '

Every body loves it, but these are our own specialties; right from the wooden oven, **hot and crispy pizza... 30, 60 and even 90cm.**

Every Friday enstrumental melodies will accompany your chit chat in the Winter Garden.

Afternoons get longer without a break; **tea and delicious snacks** will boost your energy and help you to get through the rest of the day.

Signature Cocktails follow the path of indigenous ingredients.



Aruni Restoran & Bar is now digital

Live the digital experience! Menus, special offers, enhanced user journey, high-end design, vibrant photography, and a modern color palette. www.arunirestoran.com

Do not miss out on becoming an SPG Member

Starwood Hotels and Resorts Inc. award winning loyalty program offers guests the opportunity of becoming an SPG member when dining locally. The ongoing special offers are very tantalizing so is earning points... Make sure you ask our service attendants when dine in Aruni Restoran & Bar and sign in to become a member. Because once you are a member, you receive 10% discount.

spg.restaurants & bars

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Might I Suggest Maps

Experience the personal touch of our renowned Concierge Team, who will guide you to hidden treasures of the capital city. Might I suggest maps are curated specially for Lugal guests.

Turn down Cards

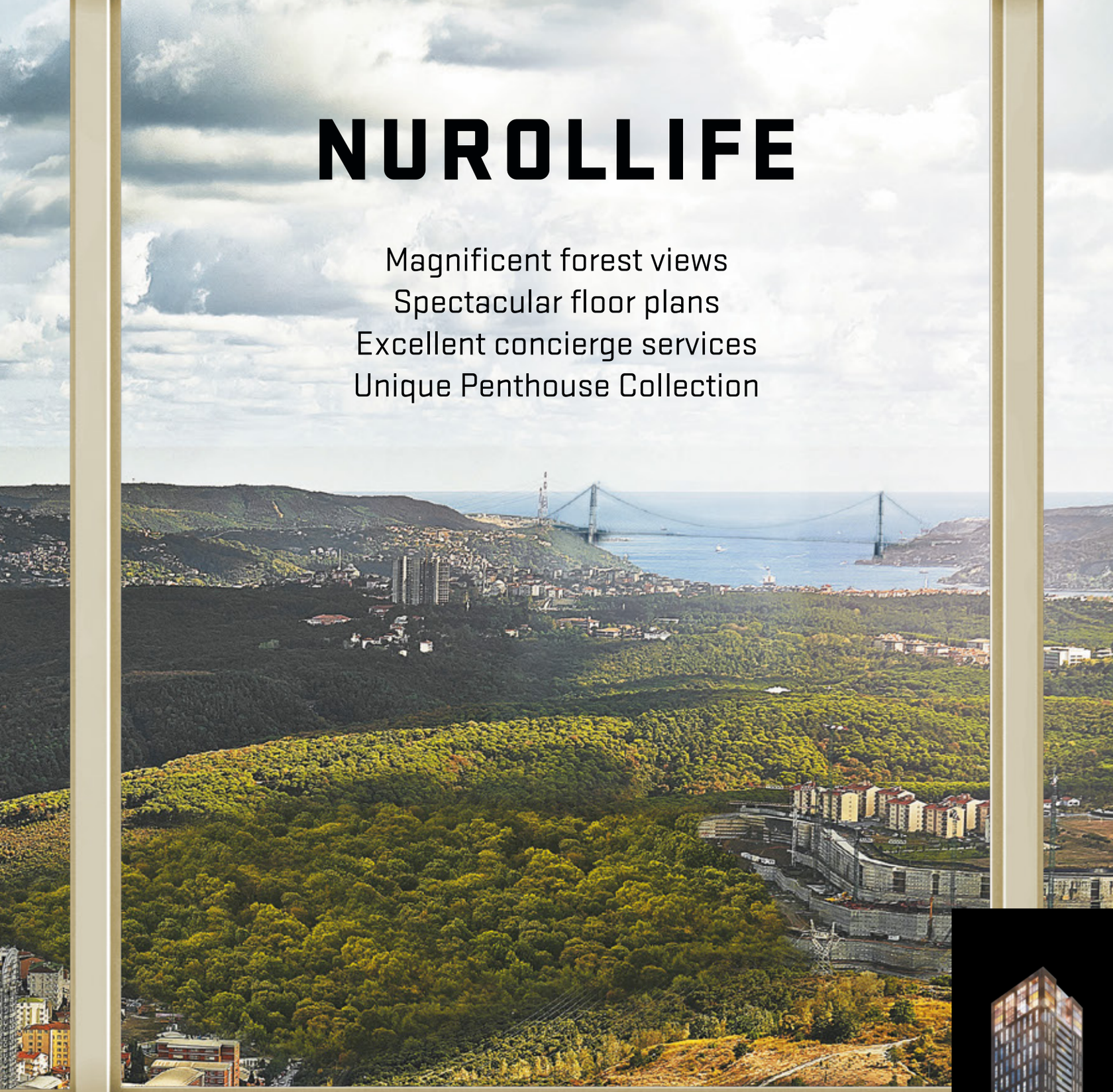
Tailor made turn down cards give a short description of the cities best areas. Each come with a story of its own. Your bed side story is placed everynight...

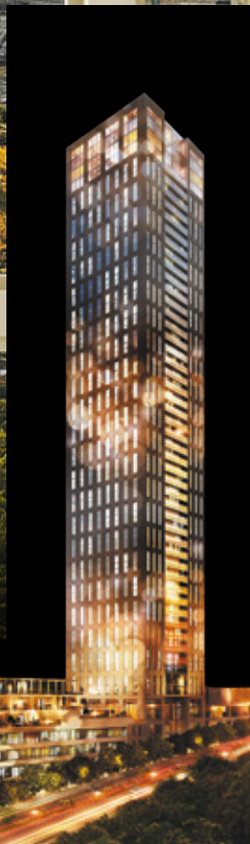
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