APRIL 2017

SOCAR Polymer Newsletter / Issue 4 / 2017

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4,922,869
Man-hours LTI Free

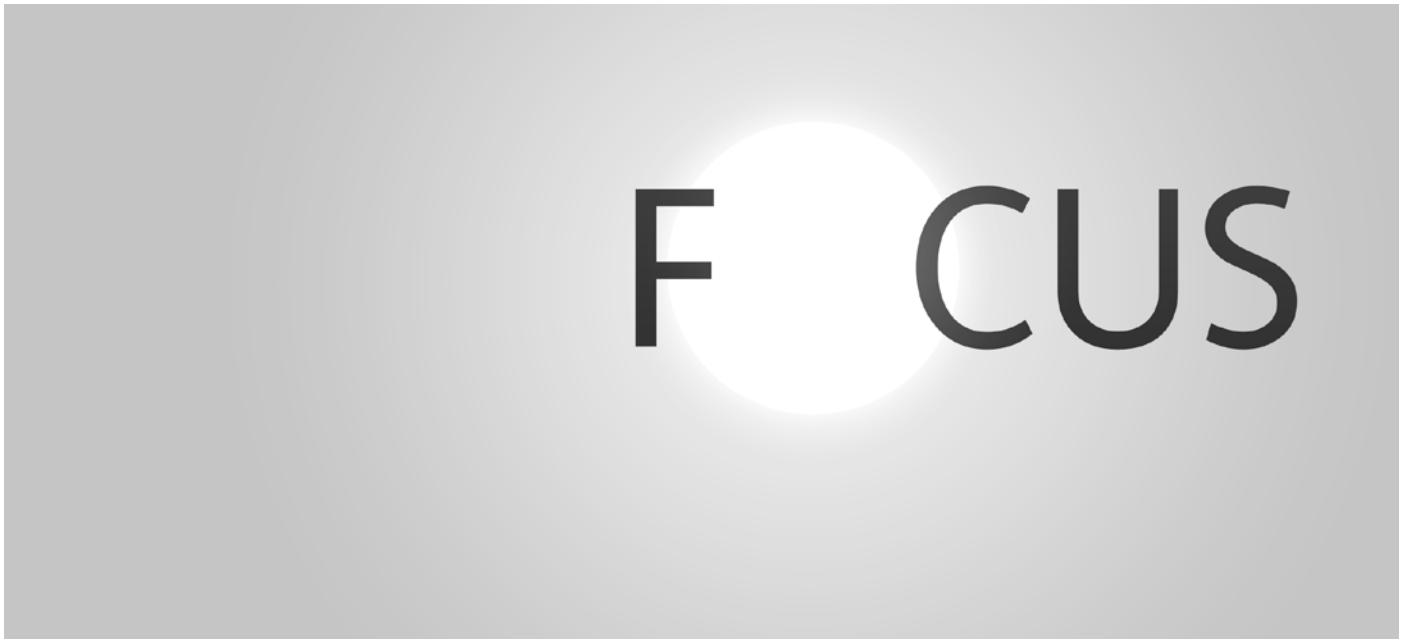
285
Employees

78.3%
PP Total progress in April

38.5%
HDPE Total progress in April

SOCAR POLYMER

A message from the General Manager



Dear team members,

On April 10, we were honoured by personal attention of the President of the Azerbaijan Republic Mr. Ilham Aliyev as he specifically mentioned SOCAR Polymer in his speech to the Cabinet of Ministers.

Through collective efforts, we are working towards the development of a significant industry branch which will help satisfy the domestic demand for products without resorting to imports. Through the accomplishment of this primary goal we shall also serve the purpose of providing employment to hundreds of people, thus, making our modest contribution towards the improvement of people's well-being. Our project is also useful as a provider of raw material for the subsequent links of the production chain, with new facilities to be established and run by local entrepreneurs for supplying consumers with end products. The unique business formula on which our Project's finance scheme was based will become a good example for many start-ups to follow to relieve them of some of the major concerns regarding investment sources. We are proud that the good start and considerable progress we have made in our activity are bringing us closer to the accomplishment of tasks set forth by the Head of state; and our President's words are the best manifestation of the fact that we are on the right track. Mr. President has very keenly accentuated the advantages of our Project and the direction to move in. Thus, the month of April has been rich in events inspired from his speech and aimed at the targets he had set.

We thank Mr.Ilham Aliyev for his personal attention to the Project. It is a great honour and appreciation of the progress achieved. Meanwhile, the Project is made possible through the efforts and dedication of each and every one of us, so, credit is given accordingly to all. We cannot accomplish all that we need without working together. Together we can achieve more and will always succeed.

Good job and way to go!

Farid Jafarov

April 2017

Site Photos

PROGRESS ON SITE

In most sections of the HDPE part of the construction site, Reinforced Cement Concrete (RCC) works were ongoing. A transformer at the electrical substation was installed. Piperack SS works were started in the Solvent Recovery and Steam Condensate area.

IN THE PP PLANT AND UTILITY/OFFSITE AREA:

- Brickwork was continued at the Laboratory, Gate/guard house, and at the Extrusion, Administration and Workshop buildings; with masonry works started at the Chemical Additives Storage building.
- Foundation and rebar works for the Nitrogen Package were completed.
- Underground works at the Chemical & Additives Storage building were completed, with brickwork initiated.
- RCC works for the Impounding Isobutane Basin were completed, with backfilling ongoing.
- Steel structure (SS) assembly/erection works for Interconnecting Pipe Racks were completed, with piping and cable tray installation started.
- The leak test was conducted at the Firewater Pump House and Water Retention Basins, with 90% of steal structure installation works completed and firewater pump installation continued.
- Panel installation was started at the Common Control Room.
- Roof installation was started at the Laboratory building.

March	Progress over April	April
	Administration building. Brickwork ongoing	
	Bagging and Packing Building. Tank installation started	

March	Progress over April	April
	Cooling Tower. RCC work completed. Piping and equipment installation started	
	Flare Knock Out Drum. Pipe connection works started	
	Side Stream Filter Package. Tank installation completed. Pipe installation started	
	Side Stream Filter Package. Tank installation completed. Pipe installation started	

March	Progress over April	April
	Homogenization / Blender Silo. Tank installation completed	
	Raw Water Storage Tank. Tank installation completed	
	DM (demineralized) Water Storage Tank. Tank installation completed	
	Isobutane Sphere. Pipe racks' installation started/ongoing	

March	Progress over April	April
	Pipe Sleepers. Piping and cable tray installation ongoing	
	Temporary Substation. Construction completed. Cable connection completed	
	Warehouse. Installation of SS columns started, with 12 columns accomplished so far	

SOCAR Polymer's project highlighted by the President of Azerbaijan

On 10 April 2017, President of Azerbaijan, Ilham Aliyev chaired a Cabinet meeting on the results of the 1st quarter of 2017 and the tasks set for the next months.

The Head of State made an opening speech at the event, emphasizing that as early as at the end of 2016 he had foreseen the successes the forthcoming year of 2017 was promising. The results of its 1st quarter alone revealed the fast pace of the development ongoing in many spheres of Azerbaijan's social and economic life.

Commenting further on the economic situation, the President underlined that its key indicator is the development of the non-oil sector, non-oil industry and agriculture. The former two have demonstrated a 2.4% and 2% increase, respectively. Despite the crisis in 2015-2016 when oil prices dropped by 3-4 times, the risk of economic stagnation was swiftly assessed, with well-coordinated rapid preventive measures, including serious reforms, undertaken to restructure our economy and promote businesses, investment projects and exports, the President said. Azerbaijan's trade turnover and exports in the 1st quarter of 2017 were mentioned to have increased by 15% and 50%, respectively. It was pleasantly noted that non-oil exports had grown by about 10%, with total imports volume decreased by 17%. The President pointed out efforts made towards promotion of local production and creation of favourable conditions for businesses in order to escape from dependency on imports and ensure economic stability. As a result, Azerbaijan was ranked number 37 in the Davos World Economic Forum's Global Competitive Index. Meanwhile, among developing countries, Azerbaijan was rated 1st or 2nd for economic competitiveness. This year has already been marked with 85,000 new jobs created in both the public and private sectors, with 70,000 of them being permanent jobs, against the background of 9,000 work positions closed. The President stressed this fact as an indication of economic growth.

Other speakers at the meeting included Azerbaijan's Minister of Defense Industry Yavar Jamalov, Chairman of Azerbaijan Railway CJSC Javid Gurbanov, and Chairman of the Azerbaijan Caspian Shipping CJSC Rauf Valiyev.

The meeting ended with President Aliyev's closing speech, in which he named industrial production and agriculture the key priority areas, and told about industrial zones created in districts, such as the Mingachevir Industrial Park, the Chemical Industrial Park and Technologies Park in Sumgayit, the Industrial Parks in Pirallahi and Balakhani, and the Industrial Districts in Neftchala and Masalli.

Remarkably, the President specifically mentioned the SOCAR Polymer project:

"I would like to draw entrepreneurs' attention to a large project, namely, the SOCAR Polymer production facility which is currently under construction at the Sumgayit Chemical Industrial Park. It is a huge industrial facility, with millions of US dollars invested into it. It will produce a useful product, which will be used both domestically and for export. However, I must emphasize that a very substantial segment of industry can be established on the basis of this raw material. Now, we are importing almost all plastic items and ware from abroad, whereas SOCAR Polymer's end products will create good opportunities for establishing manufacture of ready plastic ware and items in Azerbaijan. It will be a very profitable business. Therefore, I am calling upon government entities to explain it well to entrepreneurs that factories and plants can be established for applying SOCAR Polymer's end product as raw material. Such developments imply creation of new jobs, more profit for entrepreneurs and better prices for our export products on foreign markets. Otherwise, SOCAR Polymer's product will be exported only as raw material, which is good in itself, too. However, I am confident that my advice will be heard and taken into account."

Among the priority issues, the President emphasized boosting of Azerbaijan's export potential and mentioned the reforms implemented in this direction to promote export of non-oil products. Participation in international exhibitions, worldwide promotion of the Azerbaijan brands, establishment of Commerce Chambers abroad and arrangement of trade-export missions

also serve the same purpose. The Head of State underlined the necessity of advertising campaigns in foreign Mass Media to promote the "Made in Azerbaijan" brand. The goal is to reach new export markets, to diversify the product range currently supplied to export markets and search for new markets, to establish logistic centers and, overall, to retain the positive dynamics witnessed so far in the year 2017.

Entrepreneurs get an insight into the opportunities presented by SOCAR Polymer

In accordance with the task given by the President Ilham Aliyev at the Ministerial Cabinet meeting, the Ministry of Economy, SOCAR and SCIP in collaboration with the SOCAR Polymer company arranged a meeting with entrepreneurs. The business meeting designed to inform entrepreneurs of the opportunities that SOCAR Polymer's future products present for various production fields of our country took place in the Baku Business Center's Conference Hall on 14 April 2017. Along with the representatives of relevant government entities, the event was attended by mass-media representatives and over 50 businessmen.

The Minister of Economy, Shahin Mustafayev who delivered an opening speech spoke about the work targeted at diversifying the country's economy and increasing the export potential by replacing imports with local production. Having pointed out that the Head of state is keeping the SOCAR Polymer project's implementation progress constantly in view, the minister described it as one of the largest projects of the Sumgayit Chemical Industrial Park and underlined its significance to our country. SOCAR Polymer's Polypropylene (PP) and High-Density Polyethylene (HDPE) products will not only boost exports, but also stimulate production at local enterprises by providing small and medium-size entrepreneurs with raw materials and giving impetus to their development. As a result, hundreds of product types currently imported to Azerbaijan will start to be manufactured domestically. It was underlined that to fulfill the President's task, it is necessary to organize broad propaganda among entrepreneurs to make them more knowledgeable about SOCAR Polymer products

and to trigger establishment of new plants and factories that will put polymers to use.

Speaking of the significance of the SOCAR Polymer project, the president of SOCAR, Rovnag Abdullayev emphasized that the activity of this enterprise will also give impetus to the development of other industrial sectors of the country. "The role of alternative energy is constantly on the rise. In 40-50 years, the demand for hydrocarbons will decrease. So, serious attention must be paid to the development of the chemical industry which is a promising branch of industry in Azerbaijan. Therefore, I am calling upon businessmen to actively participate in the development of the chemical industry"- SOCAR's President said. Having emphasized SOCAR Polymer's potential influence on the development of entrepreneurship in Azerbaijan through involvement of private companies, Mr.Abdullayev also spoke of the good opportunities for local companies to turn PP and HDPE into various consumer goods. It was stressed that providing local enterprises with raw materials, SOCAR Polymer will become one of the largest leading enterprises in the non-oil sector and will give an additional impetus to the strengthening of the export potential.

The Chairman of the Supervisory Board of Azerikimya PU, Mukhtar Babayev presented information about Azerikimya's activities, whereas the Deputy Director of the Sumgayit Chemical Industrial Park Zaur Mammadov spoke of the Park's residents, the infrastructure created here and the benefits offered to the residents.

During his presentation, SOCAR Polymer's General Manager Farid Jafarov presented comprehensive information on the kinds of products that could be manufactured from polymers offered by the company. Farid Jafarov noted that samples of such consumer goods could be viewed at the exhibiting stand set up at the entrance to the conference hall. He invited entrepreneurs to cooperation towards establishment of new enterprises that would use polymers as raw materials.

The presentations were followed with discussions about ways of applying SOCAR Polymer's products in subsequent production, and entrepreneurs' questions were answered.

Also, at this event, the STDC LLC company was solemnly presented with a registration certificate making it the 10th resident of the Sumgayit Chemical Industrial Park.

Press tour to the Sumgayit Chemical Industrial Park

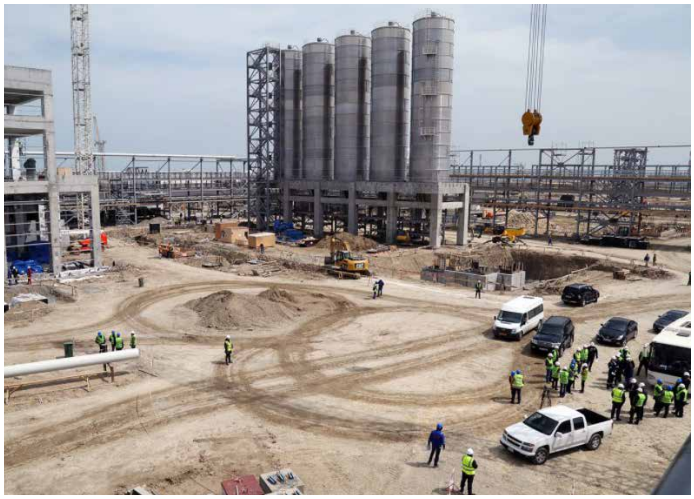
At the meeting held with the Cabinet of Ministers for discussing the outcomes of the country's socio-economic development in the first quarter of 2017, President Ilham Aliyev positively assessed the progress of SOCAR projects implemented in Sumgayit and gave his recommendations to entrepreneurs. On 13 April 2017, a media-tour to the Sumgait Chemical Industrial Park was arranged for a group of journalists consisting of representatives of several leading media in order to familiarize them with the progress achieved under the given projects including the SOCAR Polymer project.

In his interview to the journalists, the Deputy Director of the Sumgayit Chemical Industrial Park Zaur Mammadov pointed out that within the short period of time since its foundation in 2011 the Park has made a few record achievements. For instance, about 10 companies including SOCAR Polymer have received the status of the Park's residents, with investment totaling 1.2 billion US dollars which is a record mark for the given region. "Overall, SOCAR Polymer is the largest project at SCIP", Z.Mamedov said. The resident enterprises operate based on the technologies provided by the USA, Germany, Austria, Turkey, South Korea and China.

An underground utility network has been constructed and commissioned on a 167.66 ha plot out of the overall 466.37 ha territory of the Park. Construction and installation works are continued to construct the Park's internal motorways, internal power lines and a vocational training center.

Upon arrival, the mass-media representatives first visited Azerikimya PU's ethylene-propylene production facility and obtained detailed information on the progress of the modernization and renovation works. It was noted that the construction of the Polyethylene and HDPE plants in the SCIP territory created the need to modernize the "ER-300" unit and erect new plants and supportive production facilities. The first stage envisages increasing of the "EP-300" unit's capacity from 135,000 to 190,000 tonnes per year, bringing of nitrogen density from 90 to 99.9% by constructing new units, and modernizing of the operation control system. Earthworks and foundation works have already been completed, while geological studies and soil investigations are nearing completion. Public surveys have been conducted regarding environmental impact assessment. As the plant's Director Mr. Ogtay Niftaliyev stated in his interview to the journalists, 120,000 tonnes of ethylene and 190 000 tonnes of propylene a year will be produced under the agreement between SOCAR Polymer and Azerikimya PU.

Further on, the media representatives visited the plants constructed under the SOCAR Polymer project in the territory of SCIP. It was stated that 60% of the project works had already been completed. More than 2600 people have been engaged in the construction works. 50% of the construction works for the polypropylene plant have been completed. This includes the installation of equipment, piping works, reinforced concrete and electrical works, and the works for the erection of steel



structures. As for the HDPE production plant, the reinforced concrete works, metal structure installation and piping works are duly under way. In an interview given to the visiting journalists, the General Manager of SOCAR Polymer, Mr. Farid Jafarov stated that polypropylene to be produced at these plants could be used in many areas including the manufacture of medical supplies and different products of the light industry, while the polyethylene could become a feedstock for the manufacture of plastic pipes and various grades of plastic. The fact that the LyondellBasell and Ineos companies are the licensors of the SOCAR Polymer project is a guarantee that the manufactured products will meet the highest international standards.

The journalists then visited the carbamide plant with the production capacity of about 650-660 thousand tonnes a year. According to the plant's Director Khayal Jafarov, the nitrogen fertilizer which is the core product of this plant will fully satisfy the domestic demand for it, with some 400,000-500,000 tonnes of the product to be exported to foreign markets. The main target markets are expected to be Turkey and the countries of the Black and Mediterranean Sea regions. As about 94% of the construction works have already been completed here, the plant is planned to be commissioned in 2018.

At the end of the media-tour, the journalists were apprised that the products to be manufactured at the facilities of the Sumgayit Chemical Industrial Park will not only meet the needs of the domestic market, but also be exported under the "Made in Azerbaijan" brand name. In fact, more than 50% of the products manufactured by the "AzerTechnoLine" plant have already been exported. This year will see commissioning of 5 production facilities, with 2 more expected to start production operations in 2018. The park residents are expected to create more than 2000 jobs under the ongoing projects. The managing entity of the Park is the "Sumgayit Chemical Industrial Park" LLC operating under the supervision of the Ministry of Economy.

State officials and the representatives of Azerbaijan ministries visited the Sumgayit Chemical Industrial Park

On 20 April 2017, the representatives of the Presidential Administration and the executives of relevant ministries visited the Sumgayit Chemical Industrial Park (SCIP). The purpose of the visit was to view the facilities under construction and discuss the experienced problems. The event was attended by the Minister of Finance Samir Sharifov, the Deputy Head of the Presidential Administration Ali Asadov, the Minister of Economic Development Shahin Mustafayev, the Deputy Minister of Economic Development Niyazi Safarov, the President of SOCAR Rovnag Abdullayev, the Head of Sumgait City Executive Power Zakir Farajov, the Chairman of the Supervisory Board of Azerikimya PU Mukhtar Babayev, the General Manager of SOCAR Polymer Farid Jafarov, the Director of the Carbamide plant Khayal Jafarov, and other persons in charge. Mr. Babayev met the guests at the SCIP office and apprised them about the

infrastructure of the Park, the benefits provided to the Park's residents and the work done.

The guests visited the construction sites of the carbamide plant and the polypropylene/high-density polyethylene plants. After the field visit, the participants of the event held a private meeting in the assembly hall of the Azerikimya PU office building. At the meeting, detailed presentations were made about the carbamide and polymer plants, followed by discussions on the status of construction works and issues that require prompt solution. At the entrance to the assembly hall, a display stand was installed with exhibits of a wide range of consumer goods and other items made from feedstock polymers to demonstrate the vast opportunities for creating new production fields based on polymer feedstock.

The perspectives of cooperation between SOCAR Polymer and entrepreneurs

Following the public event with entrepreneurs, where the business opportunities created by polymer production in Azerbaijan were broadly discussed, some companies demonstrated genuine interest in the topic. Thus, in particular, a representative of the Karvan-L company got in touch with the General Manager of SOCAR Polymer Farid Jafarov and visited him in the company office to further discuss cooperation possibilities.

https://www.youtube.com/watch?v=DxO-cllxiEw

On 20 April 2017, a national television channel invited the senior representatives of SOCAR Polymer, Carbamid plant, Sumgayit Chemical Industrial Park (SCIP), and KARVAN-L company to publicize the exchange of opinions on the topics of Azerbaijan industry development and potential establishment of new local businesses in the favourable conditions created by industrial parks and its residents.

Commenting on the favourability of conditions for doing business in Azerbaijan, the head of the Karvan-L company, Abulfaz Gafarov emphasized the positive influence of reforms, international forums and support given to exporters. Having operated in Azerbaijan for quite a long time, the Karvan-L science & production company is now exporting to 30 world countries, the list of which includes CIS, Europe, Argentina, Brazil, Japan and even the largest exporter on earth – China. Mr.Gafarov emphasized the challenges of entering international market competition.

He stressed the positive outcome and significance of the event held on April 14 with the participation of local entrepreneurs, where they were broadly informed about the opportunities offered by the production facilities in SCIP. On the basis of the obtained information, the design-, process- and cost-engineers of the Karvan-L company started developing new business projects targeted at local production and export of consumer goods. Mr.Gafarov expressed his hopes for fruitful and mutually beneficial cooperation, as well as deep satisfaction with the outcomes of his meeting with Farid Jafarov.

Mr.Jafarov, in his turn, once again invited entrepreneurs to present their project proposals and expressed readiness to support new production startups with long-term feedstock supply and consultations regarding overall technical, engineering or financial issues, such as financial planning of the project and seeking of bank support. F.Jafarov mentioned that some plastic good producers have already started getting in touch with SOCAR Polymer and the prices shall be negotiated based on the type of the requested polymer product, given a long-term contract.

The Deputy Director of the Sumgayit Chemical Industrial Park, Zaur Mammadov reiterated that SOCAR Polymer will produce polymers under different specifications, thus, enabling production of various sorts of goods from feedstock polymers. He mentioned that SCIP, too, was receiving inquiries from entrepreneurs and manufacturers, including foreign companies. Local companies could use the feedstock polymers to produce goods for sale both on the domestic and foreign markets, he said. Mr.Mammadov also emphasized that on the basis of SOCAR Polymer's products alone, an average of 30 new small- or medium-size companies could be established, and that SCIP provides favourable conditions for such multiplication, planning to further intensify the process of interaction with potential startups. He suggested that the Ministry of Economy, SOCAR, SOCAR Polymer and SCIP unite efforts to develop project schemes that could then be 'showcased' as readily available startup ideas and roadmaps for potential partners.

Commenting on the development of the chemical branch of economy, Mr.Jafarov also underlined the benefits to the population in terms of employment opportunities. Statistical analysis shows that production of every 100 tonnes of oil requires, roughly speaking, employment of 2 people, and this number rises to 10 people in the process of turning ethylene into polymer pellets; whereas production of consumer goods from pellets requires employment of 50 people per 1,000 tonnes, thus, making this last stage of the production chain the most productive in terms of creating new jobs, Mr.Jafarov said.

The full length video of the above television broadcast intended to disseminate information about the current development trends of the chemical industry, is available for view at SOCAR Polymer's youtube channel.

SOCAR Polymer at the 4th International Caspian Energy Forum

4th INTERNATIONAL CASPIAN ENERGY FORUM APRIL 12, 2017 BAKU

On 12 April 2017, the 4th International Caspian Energy Forum-2017 organized by the Caspian European Club (CEC) and Caspian Energy International Media Group (CEIMG) assembled in Baku 500 delegates from 20 world countries. Speaking about the objectives of the forum, the First Deputy Chairman and CEO of the Caspian European Club and Caspian American Club Telman Aliyev underlined that the main goal is to support strengthening of ties between businesses and the public sector, as the event was attended by heads of government institutions, ministries, committees and agencies of Azerbaijan and other countries across the Caspian-Black Sea and Baltic regions, as well as by the executives of large international companies, and representatives of diplomatic missions and delegations of international organizations accredited in the Azerbaijan Republic. The SOCAR Polymer company was represented by the Senior Financial Analysts of the company – Babek Beydullayev and Elchin Mammadov, and the Junior Financial Analysts - Nigar Jabrayilova, Aghil Rahimov and Natig Karimov.

The Forum was held in sessions. The first, chaired by the Deputy Chairman of Milli Majlis and Head of the Committee for Natural Resources, Energy and Environment – Valeh Alasgarov, was focused on the outcomes of economic reforms implemented in Azerbaijan and all aspects of integration into world energy markets across the Caspian-Black Sea and Baltic sea regions. Azerbaijan's key role in energy, transport and infrastructure projects, the growing gas upstream sector, the Southern Corridor projects and the Caspian resource potential remained the focus of speakers, delegates and forum participants' attention. Among the speakers of the first session were the Assistant to the President of AR on Economic Reforms – Natig Amirov, the Chairman of the State Customs Committee of AR – Aydin Aliyev, the Chairman of the State Committee of Standardization, Metrology and Patent – Ramiz Hasanov, the Supervisory Board Chairman of Azersun Holding – Abdolbari Goozal, the President of the Veyseloglu Group of Companies – Aydin Talibov, the Board Chairman of Polymart Ltd. – Rashad Mammadov, and the General Director of the R.I.S.K. company – Jabir Jumshudov. At this session, the speaker for the SOCAR Polymer company, Babek Beydullayev presented an overview of petrochemical projects in Azerbaijan, including the SOCAR Polymer, SOCAR GPC projects and modernization of the Heydar Aliyev Baku Oil Refinery and Azerikimya. Telling the success story of SOCAR Polymer, which had for the first time in Azerbaijan established a Project finance template, Mr. Beydullayev emphasized absence of debt repayment or completion guaranties from SOCAR or the Azerbaijan government, and covered other details of the project. Elaborating on the SOCAR GPC project, our speaker touched upon different potential financing structures, such as the Sovereign Guarantee, Build-Operate-Transfer and Corporate Loan options; accentuated the advantages and disadvantages of Project Finance compared to traditional Corporate Finance; and pointed out the benefits of Lump Sum Turn Key (LSTK) Contracts.

Chaired by the Chairman of the Committee for Economy, Industry and Entrepreneurship of the Milli Majlis, Ziyad Samadzade, the second session of the forum was dedicated to the development of the non-oil sector, businesses and dialogue with the government, with discussions around the deployment of innovations in the financial, banking, insurance, leasing, telecommunications, tourism, machine engineering, construction and other sectors of the non-oil industry.

The next International Caspian Energy Forum will be held in Prague in December 2017 to bring together leading companies of the Caspian-Black Sea region and European countries. Also, in autumn of 2017 the first ever International Caspian American Forum will be organized in Baku to lay the foundation for a dialogue between the Americas and the companies operating in the markets of the Caspian-Black Sea region.

Gazprombank's business mission invites Azerbaijan companies to collaboration

On 13 April 2017, Gazprombank jointly with the Russian Export Centre JSC organised a Business mission of Gazprombank Group's industrial facilities to Baku. The event was held with the support of the Russian Federation's Trade Representative Office in Azerbaijan. In the course of the event, the participants received information about the services offered by the Gazprombank Group's industrial facilities, including supply of unique technological equipment and complex solutions for the key sectors of domestic and foreign economy: petrochemical, oil and gas, fuel and power, metallurgy and mining industries.
The business delegation comprised representatives of Gazprombank, United Machine Engineering Plants (Public Stock Company), REP Holding JSC, "УК УЗТМ-КАРТЭКС" LLC, ERIELL GROUP, ENTER Engineering Group, Ingenix Group and "Innovative oil-gas technology" LLC. The event was attended by representatives of the Ministry of Economy of the Azerbaijan Republic, and delegates from the largest companies representing the oil and gas, petrochemical, power and mining-metallurgy industries in Azerbaijan.

"Our countries have historically developed good partnership relations, the key aspect of which has been the business constituent. Our cooperation in business continues developing

very productively. I'm sure that this Business mission will give a new impetus to the ongoing projects in Azerbaijan and increase the industrial Gazprombank Group's presence in the republic," the First Vice-President of Gazprombank, Alexander Kaznacheyev underlined.

In support of these words, the General Manager of SOCAR

Polymer, Farid Jafarov shared the positive experience of collaboration with Gazprombank: "We are proud to present an example of successful implementation of Gazprombank's project finance scheme for the SOCAR Polymer company. The bank was our company's creditor in the SOCAR Polymer project, and now has become a consultant in the SOCAR GPC project. We strongly recommend our colleagues in Azerbaijan to cooperate with Gazprombank – a team of professionals always willing to suit the client."

"Gazprombank is ready to provide Azerbaijan entrepreneurs with technologies which will help boost their competitiveness. Many countries have already recovered from the shock caused by the abrupt drop in oil prices, and are targeting development by considering investment programs and the issues of efficiency buildup, and modernization of production irrefutably is one of the key tools for fortifying the competitive capacity on the global market," Mr. Kaznacheyev said. According to the First Vice President of Gazprombank, for the past 2 years the bank has paid serious attention to its Azerbaijan related activities: "Thus, in particular, we have become members to the Russian-Azerbaijan Business Council which comprised all the largest Russian enterprises. It is doubtlessly a platform that enables discussion of a long range of issues including economic and investment cooperation with Azerbaijan."

The Gazprombank Group comprises a multitude of different companies operating not only in the financial market, but also

in the precious metals, oil and gas, construction and other markets. Holding of international events in a Business-mission format gives the Bank a good opportunity to set up a dialogue among the parties interested in collaboration.

SOCAR's 2nd International Forum on "Caspian and Central Asia: Trade, Logistics, Refining and Petrochemicals"

On April 25-28, 2017, Baku hosted the International Forum on "Caspian and Central Asia: Trade, Logistics, Refining and Petrochemicals" dedicated to the 94th birth anniversary of the national leader Heydar Aliyev and organized jointly by the Baku Higher Oil School (BHOS) and the Confidence Capital LLC company of Great Britain with the support of SOCAR.

The purpose of the Forum was to analyze the latest trends and prospects in the development of hydrocarbon trade and sale in the Caspian Sea region and Central Asia. Presentations were made on the material and technical infrastructure of these regions including key export markets, local and export requirements, external commercial flows and oil ports, pipelines and railways, further followed by discussions on relevant issues. Among the participants of the Forum were representatives of Azerbaijan state and governmental authorities, the executives of SOCAR and its divisions, members of parliament, representatives of the dedicated ministries of Kazakhstan, Kirgizstan, Iran, Russia, Turkmenistan, Turkey, Ukraine, Georgia and other countries, as well as representatives of transnational corporations. More than 150 delegates participated in the year's most significant oil and gas event of the Caspian Region, including traders, analysts, and representatives of banking structures and international companies operating in the field of oil and gas production, refining and logistics.

Prior to the opening ceremony, the Forum participants visited Heydar Aliyev's tomb at the Honorable Burial Valley and laid wreathes and flowers at the foot of his monument.

Opening the first session of the Forum, the rector of the Baku Higher Oil School, Elmar Gasimov welcomed the participants and guests, and emphasized that this event would become a productive platform for establishing business relations between specialists of various countries.

The Forum's opening ceremony was attended by the Deputy Head of the Humanitarian Policy Department of the Presidential Administration of AR Maharram Ahmadov, the Head of the Petrochemicals Department of the Cabinet of Ministers of AR Asgar Aslanov, the Deputy speaker of the Parliament and Chairman of the Committee for Natural Resources, Energetics and Ecology Valeh Alasgarov, SOCAR's Vice-president for Strategic Development Tofig Gahramanov, BP's Vice-president Bakhtiyar Aslanbayli, the General Director of "Confidence Capital Ltd." Andrey Rudenko and others. The plenary sessions of the

first day of the Forum were devoted to the topic of Azerbaijan's oil and gas strategy and the development trends prevailing in the oil and gas sector.

The Minister of Energetics Natig Aliyev presented information regarding the world's current energy map and, having emphasized the successes of Azerbaijan's energy policy, spoke about the prospects of extensive projects currently implemented in the field of logistics, oil refining and petrochemistry.

SOCAR's First Vice-president, Academician Khoshbakht Yusifzadeh presented an extensive report on the history of oil production in Azerbaijan, with President Ilham Aliyev's particular attention to this sector resulting in SOCAR's expanding its business activities beyond the borders of the country.

The Chairman of the Supervisory Board of Azerikimya PU, Mukhtar Babayev spoke about the strategic line of development in the petrochemical sector of Azerbaijan economy and informed the forum participants about the prospects of the projects implemented in this field.

The Director General of the Baku International Sea Trade Port, Taleh Niyazov shared his views regarding the activities of the entity and the concept of developing this most grandiose logistic hub of the Caspian Sea region. He noted that the newly built Free Trade Zone in Alyat would make a considerable contribution into the development of the Azerbaijan oil and gas sector, increasing the commercial turnover of cargo transportation.

The 1st day's agenda also envisaged presentations on the topic of SOCAR Polymer's and Azerikimya's experience in developing modern petrochemical industries, establishing clusters of adjacent industries in Azerbaijan and managing a large-scaled interregional system of petrochemical industrial facilities – AZERIKIMYA/PETKIM. In that context, the Financial Director of the SOCAR Polymer company, Fuad Ahmadov presented an overview of petrochemical projects in Azerbaijan, including the SOCAR Polymer, SOCAR GPC projects and modernization of the Heydar Aliyev Baku Oil Refinery and Azerikimya. Telling the success story of SOCAR Polymer, which had for the first time in Azerbaijan established a Project finance template, Mr. Ahmadov emphasized absence of debt repayment or completion guaranties from SOCAR or the Azerbaijan government, and covered other details of the project.

The forum lasted 3 days, with a total of 8 plenary sessions on various topics. At the seventh plenary session dedicated to the review of the Caspian region's oil production and refining sectors presentations on various topics were made by the Director of SOCAR's carbamide plant Khayal Jafarov, the Deputy Head of Azerikimya's Modernization and Renovation Department Fazail Yusifov, the Chief Engineer of SOCAR's Refining Projects Management Department Matin Rahmanov, the Director of the "Caspian Barrel" Oil Research Center Ilham Shabanov, the Director General of SOCAR's methanol plant Elnur Mustafayev, and the General Manager of Emerson LLC for Turkey and South Caspian region Burak Gürkan.

At the Forum's final plenary session, reports on "The latest efficiency boosting technologies" were made by the Head of the Business Development Center of the CIS countries Michail Babkin and the Regional Manager of "Pentair Valves & Controls" Company Farookh Oznur Chelik.

SOCAR Polymer gave start to its Summer Internship Program 2017

The Summer Internship Program initiated by SOCAR Polymer in 2016 benefited 13 youths, having equipped them with valuable startup work experience. Moreover, 5 of the interns were subsequently employed by the company, thus, having made a remarkably good start in their professional career.

With an intention to continue the successfully piloted Summer Internship Programme, SOCAR Polymer has announced the launch of the application process for the summer of 2017.

An internship in SOCAR Polymer is more than just a great way to get a better idea of the company – it's a thrilling and rewarding opportunity to gain skills and experience, and to expose oneself to some of the incredible work the company performs.

The program stretches over a 12 weeks' period during which interns will gain real work experience as part of a specialist team. Interns will spend twelve weeks learning about the company and its activities, gaining new skills, and contributing to the ongoing projects.

Interns will start off with a full induction, following which they will join a team working on an actual project. Most of the learning will come through on-the-job experience, although we'll provide plenty of soft skills training as well. There'll be learning sessions and site visits, along with lots of opportunities to meet, and get expert insights from, the professional staff.

Alongside with invaluable experience and a competitive hourly rate, the internship programme gives interns a chance to gain some insight, to get involved in live projects, to earn more than just experience given both a salary and paid holiday, as well as to progress by getting a part-time job upon completion of the internship term.
Detailed information on the Summer Internship programme is provided at the socarpolymer.az website.

SOCAR Polymer's Summer Internship Program 2017 presented in several higher education institutions

The issues of training young professionals, thus supporting their development and career growth, are kept constantly in the focus at SOCAR Polymer. Considering the positive outcome of the 2016 Summer Internship Programme, this year our company has once again invited students in good academic standing to take advantage of our Summer Internship programme which presents an attractive and valuable opportunity to make a breakthrough in personal career development. To broadly advertise the internship programme among the students of targeted higher education institutions, our HR Department undertook the following actions.

On 18-20 April 2017, our colleagues – the Leading Training and Development (TD) Specialist Nargiz Salimova, TD Specialist Afag Ismayilova and TD Coordinator Aylar Mustafayeva visited a number of a higher education institutions including the Sumgayit State University, the Baku Higher Oil School, and the Azerbaijan State Oil and Industry University (ASOIU) to give presentations on SOCAR Polymer's Summer Internship Program 2017. During the presentations, the details of the summer internship program and explanation of the stage-wise candidate selection procedure were provided alongside with information on the company background, activities and prospective plans. A process engineer at SOCAR Polymer, Matin Huseynli attended the event to respond to interested students' questions about the technical and operational aspects of work at our company.

Welcoming our representatives at the meeting with the students of the Sumgait State University on April 18, the Pro-rector for Science and Innovations, Professor Ramazan Mammadov spoke about the development stages in the history of the university. He underlined the importance of integrating our national education with the European education system for compliance with accepted international standards, and the necessity to cooperate with appropriate entities in order to cultivate competent human resources: "Nowadays, youths are well represented in the most significant and critical sectors of the chemical industry. Rejuvenation of human resources has turned into a trend and is of a permanent nature". Such attitude not only gives students the opportunity to gain experience, but also is a manifestation of support to those who dream of working at a given enterprise. Internship and subsequent employment of the Sumgayit State University students at SOCAR Polymer will contribute to the development of the region's human resources. At the end of the event, our representatives answered the questions of interest to students and graduates. The participants, too, expressed interesting opinions on the topics discussed.

The Rector of the Baku Higher Oil School (BHOS) Elmar

Gasimov and the General Manager of SOCAR Polymer Farid Jafarov participated in the event held at BHOS on April 19. Opening the meeting, Mr. Gasimov greeted the guests and expressed confidence that the SOCAR Polymer project will contribute to the development of the non-oil sector and of the national economy in general. He emphasized that commissioning of the polymer plants would step up the demand for new engineering staff, entailing greater employment opportunities for BHOS graduates. Further, the BHOS Rector underlined that the cooperation between BHOS and SOCAR Polymer would give a strong impetus to the process of shaping highly qualified chemical and technological specialists, meanwhile disseminating knowledge under the "Lifelong learning" concept. Then the floor was given to Farid Jafarov, General Manager of SOCAR Polymer. Mr. Jafarov expressed satisfaction with our cooperation with BHOS which produces such highly qualified English-speaking professionals securing the brilliant future of Azerbaijan's industry, and made quite inspiring comments regarding the internship programme. Mr. Jan de Vries who represented the Fluor company as a Project Director in the Integrated Project Management Group spoke about the role, functions and operations of their company. Present at the event, several finalists of the 2016 Summer Internship Program, namely, Ravan Karimli, Nijat Gasimov, Gulnar Huseynova and Elvin Alishov spoke about their success and experience gained at SOCAR Polymer, shared their impressions of the internship and gave friendly recommendations to potential interns.

On April 20, a similar event took place in the Azerbaijan State Oil and Industry University. Among the delegates from SOCAR Polymer was another former intern of 2016 - Jala Farzaliyeva who is currently employed as a Junior Cost Controller at SOCAR Polymer. She spoke in detail about her experiences as an intern, the successes she made, her professional development and career growth. In conclusion, she gave guiding recommendations to the students and wished them success.

The summer internship program sparked interest in all educational institutions, and the mission of comprehensively informing students about the program was successfully accomplished.

Certificates of professional training presented to future plant operators

The ceremony of presenting certificates for successful completion of professional training courses conducted at the Sumgayit Education and Training Centre (SETC) of SOCAR's Education, Training and Certification Department (ETCD) took place in SOCAR's main office building on 28 April 2017. SOCAR's President Mr. Rovnag Abdullayev presented the certificates to 11 trainees who had demonstrated the best results and qualify for the role of operators at SOCAR Polymer's plants. In his speech, Mr. Abdullayev underlined that in compliance with the task given by the Head of State Mr. Ilham Aliyev, the SOCAR company is taking active steps towards turning the oil capital of the country into human capital.

SOCAR's vice-president for HR, IT and regulations, Khalik Mammadov specified that ETCD comprising 5 training education centres and 1 welding centre provides re-training, advanced professional training, extra vocational training, and job instruction training courses for process engineering technicians. He also emphasized that ETCD has passed accreditation and received certificates of reputable international inspection and accreditation entities, entitling ETCD to independently conduct important courses conforming to international standards and to issue trainee certificates.

Certificates were presented to the following 11 trainees:

Fizuli Khalilov
Hikmet Karimov
Kamran Gurbanly
Ragib Sediyev
Said Gabilov
Shamil Bayramov
Shahmammad Aghjayev
Tural Mehdizadeh
Tevekkul Mammadov
Vasif Hajiyev
Zaur Shukurov

28 April – World Day for Safety and Health at Work

April 28th is the annual World Day for Safety and Health at Work, which promotes the prevention of occupational accidents and diseases globally. It is also an awareness-raising campaign intended to focus international attention on the magnitude of the HSE problems and on how promoting and creating a safety and health culture can help reduce the number of work-related deaths and injuries.

Today, on 28 April 2017, we would like to take the opportunity to express our gratitude to our HSE team, as well as our compliments for the accomplishment of over 4,000,000 safe manhours on site to date.

We are addressing our HSE team members:

Eric Strefford
Khalid Gasimov
Elshan Rahimov
Seymur Guluyev
Fuad Ilyasov

Gullar Taghiyeva
Ahmad Aliyev
Sanan Karimov
Vyacheslav Romanov
Kamran Ramazanzadeh

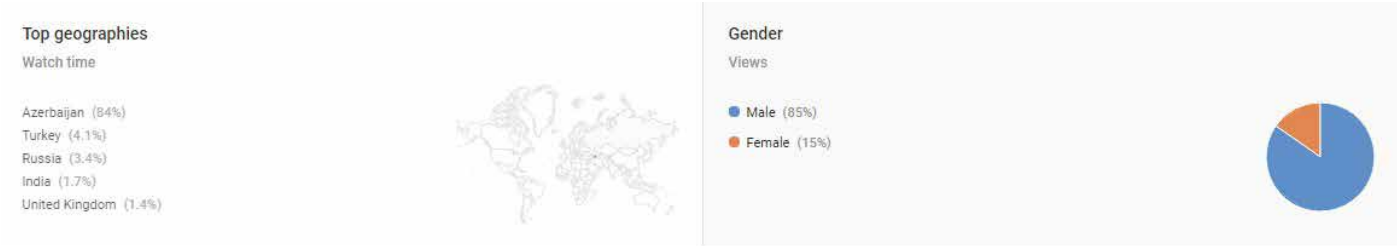
Thank you for keeping all of us (and, consequently, our families) SAFE, HEALTHY and, therefore, HAPPY!

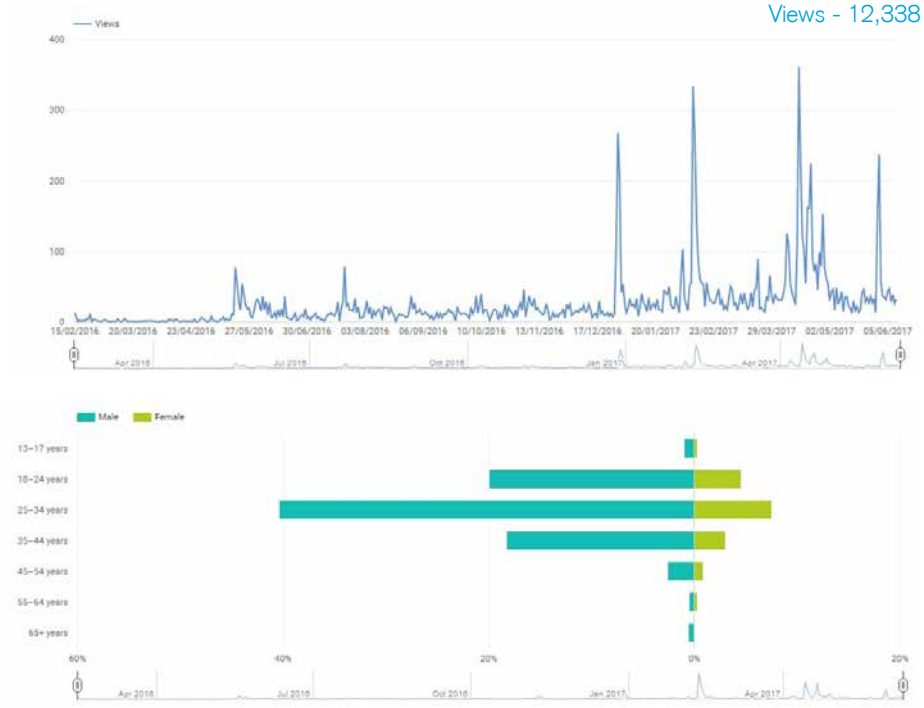
Video tracking SOCAR Polymer's progress and news

A little more than a year ago we created SOCAR Polymer's Youtube channel in order to share information with advantages that videos possess over texts and still images. Since then our channel has attracted hundreds of interested viewers, with statistics showing a total of 12,338 views up to the present day, of which approximately 3980 (i.e. 35%) have occurred since the beginning of 2017. This data is a manifestation of the growing interest in the company, particularly in the first quarter of the current year.

Further, looking at the numbers, one concludes that the company is quite popular with English-speaking viewers, as the most watched SOCAR Polymer Presentation Movie has collected by 45% more views than its twin-brother in the Azerbaijani language. Among other MOST WATCHED videos is one providing a wordless depiction of progress achieved at SOCAR Polymer's construction site by the threshold of 2016-2017 and one produced by the national TV channel in the series of comprehensive video coverages about the company's activity, project goals, performance and safety standards, staff development trainings with an emphasis on foreign language instruction, and the implemented internship program to support talented youths. Much attention is drawn by videos presenting President Ilham Aliyev's comments about the project at official government meetings and events of economic-industrial significance, such as in December of 2016 and April 2017. A total of 20 videos uploaded up to the present day provide select information on the range of events attended by SOCAR Polymer management, interviews given by the General Manager, and other details of the company's activity.

The number of subscribers to our channel has topped 61, with expectation to grow rapidly as we increasingly approach the planned dates of plant commissioning and first product delivery. To get the best bits of filmed news about our company, subscribe to our official SOCAR Polymer channel on YouTube.

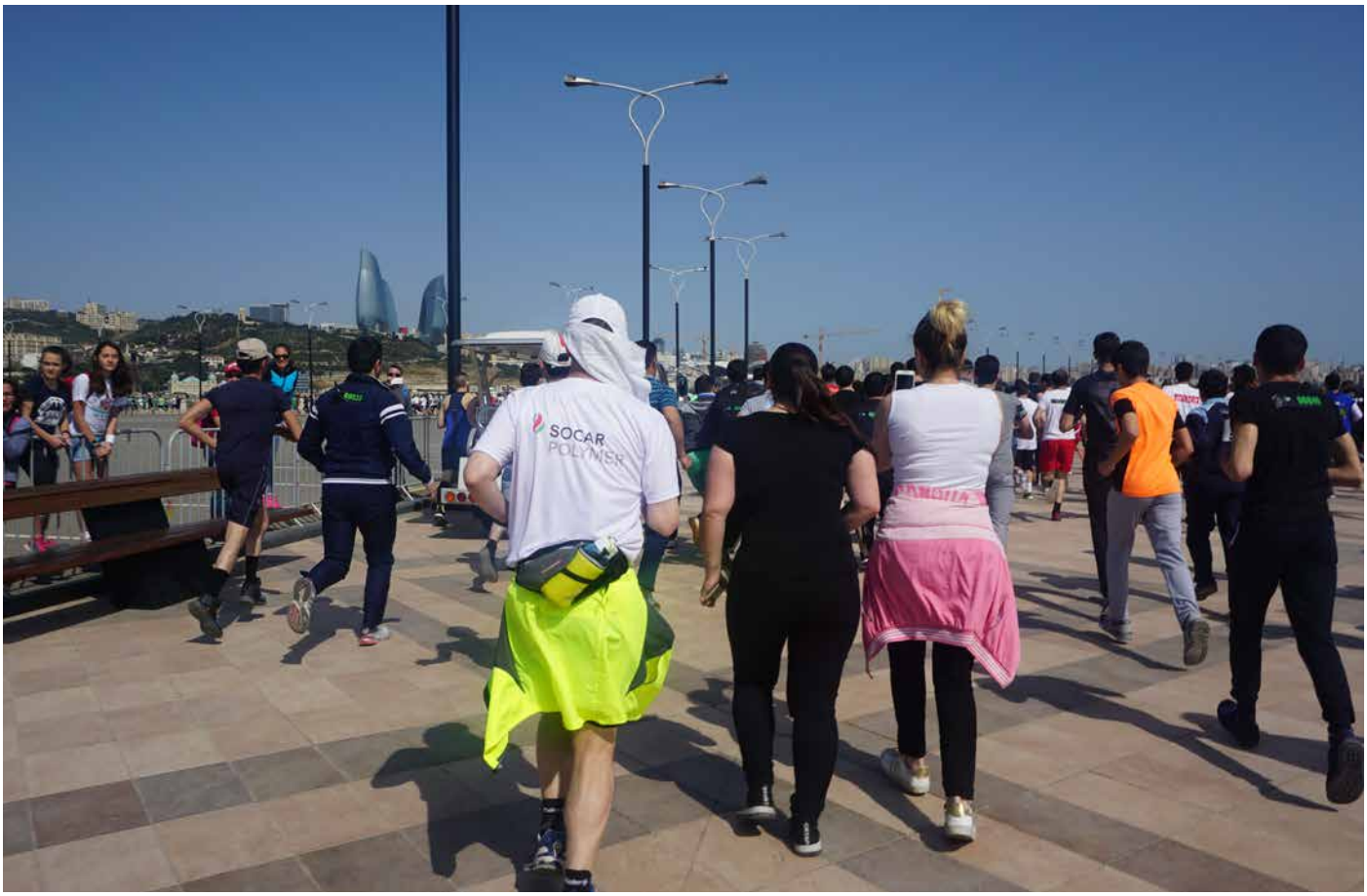




Race the wind

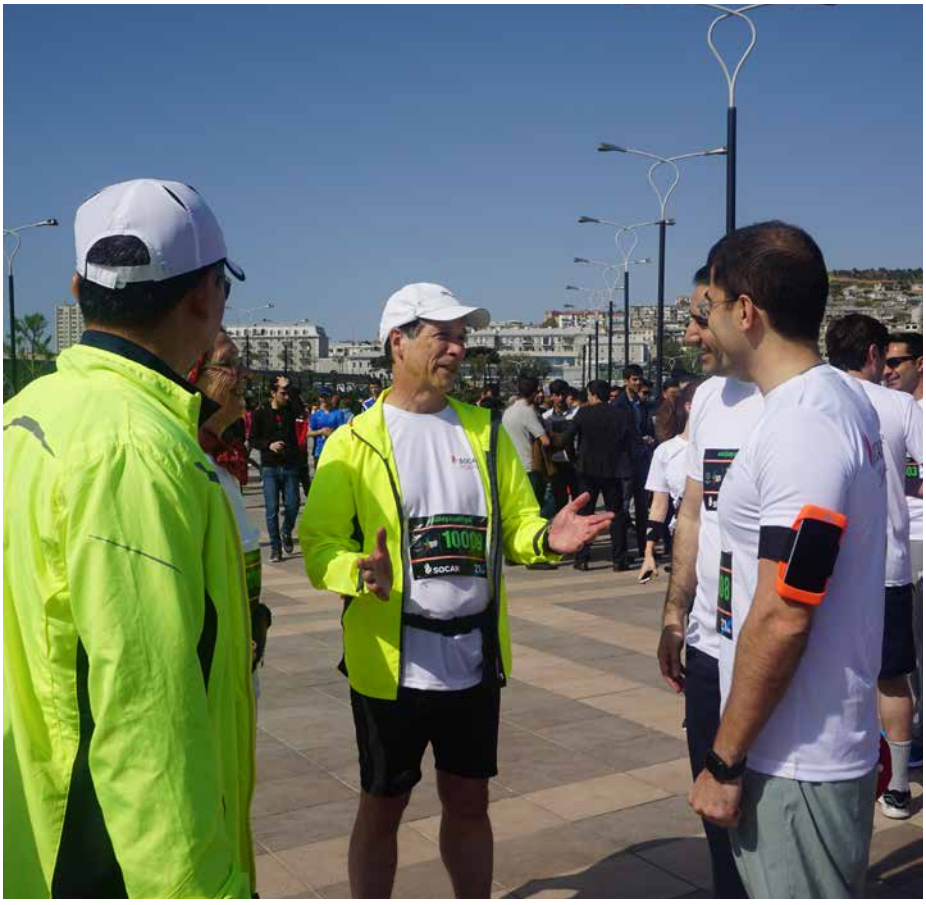
In 2017, SOCAR continued its tradition of both supporting and actively participating in Baku marathons – the modern sporting events organized at the initiative of the Heydar Aliyev Foundation, with the support of the Seaside Boulevard Office and the Baku Olympics Stadium.

SOCAR Polymer staff members were highly encouraged by the company management to participate in such an energizing sportive event, with a truly inspiring example set by the General Manager, Farid Jafarov. On a Sunday morning of April 30th, the marathon spirit assembled SOCAR Polymer's both office and site employees at the National Flag Square.



Determined to overcome every challenge, the most persistent runners, namely, Farid Jafarov, Guy Lombarts, Elizabeth Viellerobe, Fidan Huseynova, Gabil Mikayilov, Tariyel Bagishov, James Chau, Tarlan Abiyev, Samir Javadov and Matin Huseynli, made it to the finish line. Meanwhile, it is not winning but taking part that counts! So, we are proud of all our colleagues who dared to face their share of challenge by joining in the Baku Marathon-2017.

The run started at 10:00, with a maximum of 4.5 hours set for runners to cover the 21-km distance from the National Flag Square to the finish line at the Baku Olympic Stadium. For the length of its route, BakuMarathon-2017 can be referred to as a half-marathon. The current official length of a full marathon established at 42.195 km was adopted by the IAAF in 1921, and it is assumed to have derived from the 1908 Summer Olympics in London, which was remembered for its nearly dramatic finish, as the leading runner – the Italian Dorando Pietri – stricken by extreme fatigue and dehydration staggered towards the finish line, turned the wrong way, and fell down. With over 75,000 spectators, reporters and race officials in the stadium watching, umpires helped him up and directed him in the right direction. After nearly ten minutes of his faltering, wobbling steps, Pietri crossed the finish line, helped by the race officials to win the first place.



Farid Jafarov
Guy Lombarts
Elizabeth Viellerobe
Fidan Huseynova
Gabil Mikayilov

Tariyel Bagishov
James Chau
Tarlan Abiyev
Samir Javadov
Matin Huseynli

Bahruz Hajiyev
Elman Bakhish
Tural Aliyev
Sona Ramazanova
Ilaha Hajiyeva

Electrical Works

On 28 April 2017, preservation power was applied to the Medium Voltage Switchgear for the PP plant upon completion of installation works. The switchgear is rated 12 kV, 50 kA with the ingress protection level of IP42. The Factory Acceptance Test for that piece of equipment had been performed in September 2016 with subsequent delivery and installation at the site.

Meanwhile, in the trench of cables pulled to the Substation, installation of 6.3kV feed cables capable of carrying 35MW of peak power to the electrical substation that will feed both the PP and HDPE plants was completed. Backfilling is ongoing. 20 km of medium voltage cables had been delivered to the site at the end of March 2017.

Dry Section Works under way at the PP plant's construction site

Work at the construction site continues at scheduled rate. Equipment has been delivered and installed in the Dry Section of the Polypropylene (PP) plant. One-by-one installation of three silos, including 2 Intermediate Surge Silos and 1 Powder Blending Silo, was performed during April and successfully completed. Heavy duty cranes (with 300 tonnes lifting capacity) were used for installing these pieces of equipment due to the silos' large dimensions, with 5 m in diameter and 17 m in length. The capacity of the silos is 320 m^3 each.

To describe the Dry Section of the PP plant in greater detail, we must mention that polypropylene is produced through polymerization of propylene gas in the presence of a catalyst system. Following polymerization, the polymer powder (also called "fluff" or "flake") is cleansed of residual monomers, catalysts and solvents to become clean, dry powder. That is where the Dry section of the production flow begins. It is also called the Finishing section. The polymer powder from the Dryer is pneumatically transferred with nitrogen (to prevent oxidation) to an Intermediate Surge Silo and further to the Extruder Feed Hopper situated several levels above the melt Extruder – in our case it is located at the top of the extrusion building. In case the extruder is shut down for periodic maintenance (like knife replacement), the silos are capable of ensuring about 18 hours' operation until extruder maintenance ends. At the next stage of the production process, the powder is transformed by extrusion into PP pellets which are then bagged and packaged.

PP and HDPE application

Polypropylene and High Density Polyethylene pellets can be applied for production of woven and non-woven fabrics, fiber, yarn, carpets, mats, diapers and hygiene products, toys, garden furniture, flower pots, trays for food, medical supplies such as syringes, closures & caps, bags and woven sacks, nets for different purposes, sport bags, bulk bags, blanket bags, safety belts, brush & broom filling, sanitary products like toothbrushes, carpet backing, wipes and tissues, upholstery, sportswear food containers, bottles, drinking straws, disposable dishes, packaging, thin film, sheets, pipes, hot and cold water tubing, fixtures and fittings, various household items, automotive parts, office & stationery supplies, laminates, glue tape, water-insulation materials, ropes, strapping, garbage bags, road cones, bathtubs, pallets, crates, camping tents, protective clothing, artificial grass, new year trees.

Polyethylene or polypropylene are well-regarded in the textile and manufacturing industries because of their strength, colorfastness and comfort. They are also excellent at resisting damage from staining, mildew, abrasion and sunlight. They also maintain these properties whether they're wet or dry. Owing to such amazing properties, they are highly resilient, meaning products made from them can withstand years of use and still look and perform great.

Artificial pine and fir trees

Artificial pine and fir trees for New Year with polypropylene needles decorate hundreds of houses every year.

Artificial grasses

Artificial grasses are textiles made to look, feel and perform as well as or better than natural grass. Fake grass is made of polyethylene or polypropylene: the former more suitable for residential application, while the latter is good for a cheaper type of artificial grass.

Thermal underwear

Polypropylene is a popular material for thermal underwear because of its affordability. It is less expensive than many other options, but has many of the same benefits: polypropylene will stay warm even when it gets wet. It is durable and will last a long time. It dries fast compared to other materials and it wicks moisture away from the skin. It is also very light weight.

Protective clothing

Protective clothing, be it for firefighting or for the pharmaceutical industry, is best produced from spunbond nonwoven fabric material from polymers. With a unique combination of barrier protection and inherent breathability that actually allows moisture vapor to pass through, such fabric is ideal for a wide range of protective applications. It is made of strong, ultrafine continuous, HDPE fibers which are thermally bonded into a tight, homogeneous, light, soft, but tough fabric that is intrinsically breathable, does not shed fibers ('linting') and has inherent barrier properties, i.e. not reliant on a thin applied coating or layer to ensure impermeability. The ability to evacuate body moisture, on the other hand, results in greatly improved wearer comfort.

Carpets

In comparison with wool and nylon, polypropylene fibre carpets are extremely stain resistant, making it ideal for families with young children, where spillages and accidents are likely to happen more often than not. With PP being naturally high wearing, it can last on the floor for years to come - though not quite as resilient as nylon, it does the job. The carpet also shows great ability to hold colour for a much longer period of time than wool or nylon.

Kitchen and household

Owing to their high resistance to chemicals solvents, bases and acids, polymers are chemically inert and famous for their kitchen and household applications. Products made from PP or HDPE do not contain bisphenol-A which can be very harmful to humans, therefore, products made from them (also LDPE and polyethylene terephthalate) are deemed the 'safer' plastics and can be used to store food. Plastics are classified into seven categories depending on their chemical content, and you can use their code numbers to choose packaging that you can use and reuse safely.

Packaging and storage

Polymers can be used for countless packaging and storage purposes, be it water, food, hygiene products or dangerous chemical liquids or gels (e.g., shampoo, ketchup or lotion bottles, petrol canisters, stain-removing gel bottles, etc.)

Medical supplies

A multitude of medical supplies, from drug and pharmaceutical packaging products, to disposable medical equipment, syringes, tubes, surgical instruments and expensive laboratory supplies, are producible from polymers. The requirements with respect to chemical, thermal, optical, mechanical and magnetic properties of the material are perfectly adjusted by additives. For instance, antimicrobial additives for plastics and polymers offer excellent protection against bacteria, biofilm, fungi and mould, thus, helping stop the spread of diseases in hospitals all around the world. Antimicrobial plastic can repel or even kill bacteria on surfaces that doctors and patients regularly touch. Speaking of advantages, plastics can withstand tough stresses and last longer, due to their structural integrity and malleability, while metallic devices wear out due to friction and organics interfering with their functionality. In some instances, plastics are reducing the number of product failures attributable to corrosion. Plastic devices are cheaper to produce and easier to replace. The savings are benefiting everyone involved in the patient care cycle. This is especially true in the case of re-usable plastics, which have longer useful lives compared to single-use metal devices, or other medical products made from lesser materials. Also, plastics do not shatter like glass, which makes their use generally safer for preserving the integrity of hazardous materials and important specimens.

House and garden furniture

Plastic from homopolymer is relatively strong and can be used for many applications, including house and garden furniture. Unlike organic materials such as wood and natural textiles, plastic doesn't decay, rust, swell or deform when exposed to wet or damp conditions for long periods. Polyethylene is "inert" and cannot produce mold or mildew. It has a lower static charge than polypropylene so it attracts less dust and dirt. To prevent cracks and degradation from ultraviolet (UV) exposure (sunlight), special additives must be added to the material during manufacture. Polypropylenes, on the other hand, have high resistance to cracking, high melting point and good dielectric properties.

The advantages of plastic furniture are obvious. Generally having no sharp corners, it is safe for children. Comfortable and stylish furniture can be made from plastic at a very low cost, as the best option for tight budget. Plastic furniture is available in vibrant colours and can change the appearance and the mood of spaces. Plastic can be easily moulded to any desired shape and carvings can be easily made to get variety of designs. Light weight makes it easily movable to any convenient locations without much hassle or help. With plastic furniture, cutting of trees and thereby deforestation is reduced.

Swimming pool

Swimming pool walls from polymers are totally non-corrosive and can endure contact with salts which normally accelerate corrosion. Polymer wall panels for pools offer premium performance without premium pricing. The advantages are low cost, light weight, ease of installation, and a finish that can be repaired. They are not painted, and therefore will not fade or lose paint over time. One of the drawbacks of a plastic swimming pool is that it can become chipped, or cracked. The good news is that both cracks and chips can be repaired. Repair kits can be purchased with all the needed parts to repair a crack, or chip. Plastic surfaces are nonporous and have a beautiful glass like finish, making it an ideal surface for the interior part of a pool. Cleaning is also easy owing to stain resistant properties of plastic.

Household

Countless types of household and other items are manufactured from polymers.

Colouring

Items from polymers can be easily coloured using pigments.





Sport

Many sports items are made from plastic, be it sportswear, sportsgear or other accessories. Reducing the weight is one of the most important factors for the use of plastics. By using light, high quality plastics, the weight of sport goods is extremely reduced, leading to performance improvements and higher comfort for the athlete.

Soccer balls are nowadays made of plastic and not leather. The reason for the change in material is that plastic does not absorb water and has very good flight characteristics. Besides, plastics also have good damping properties. In sport shoes and tennis racquets plastic is used to relieve the joints and to provide more comfort. Modern tennis rackets are made of high-tech plastics. Weight on the one hand and the stiffness and strength on the other hand lead to the choice of plastics.







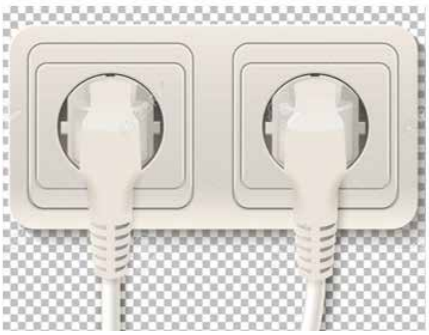



Withstanding higher temperatures

Polypropylene is able to withstand higher temperatures than HDPE, and so is used for applications where a product must be sterilized or heated, e.g. kettles and dishwasher proof kitchenware. Almost all parts of the electric kettle in the picture below are produced from polypropylene: the main body, handle, lid, power switch, window with scale, power plate, spout cover, and partially the filter.

Electronic industry

Plastics are the second largest group of materials used in the electronic industry. Besides the ability of good insulation, properties such as flexibility, good processability, tensile strength and weight militate in favour for the use of technical plastics. Technical plastic compounds are extremely adjustable through the addition of additives. That is why they are highly suited for applications such as housing, cables and switchgears. With regard to the safety aspect, engineering plastics are well-selected materials, as they can be endowed with flame retardants. Thus, the flammability of the material is lowered and the risk of smoldering fires is decreased. Polyethylene is a good electrical insulator. It offers good tracking resistance, however, it becomes easily electrostatically charged, which can be reduced by additions of graphite, carbon black or antistatic agents.



Decorative items

Polymers are well applicable for decorative items, including flower pots, planters, vases, decorative wall panels, plastic flooring, etc.

Automotive industry

Plastic has become to one of the most important materials used in the automotive industry. Well over 1,000 different plastic parts are applied in the construction of an average car. The applications are endless. Panels, tail lights housings, displays, headlamp components, center consoles, door panels, glove boxes, cup holders, instrument panels, decorative elements, controls, overhead consoles, pillar trim and car interior lighting are only some examples for parts that are made of plastics. Today, even the Mercedes star is composed of plastic. The reasons for the high plastic usage in the automotive industry are the excellent price-performance ratio, the good workability, the huge variety of molding, the extreme impact resistance, the high weather & chemical resistance and the low weight, whereby the end user also has savings potential due to a lower petrol consumption. Polyethylene is sturdy and has physical properties that allow it to stand up well in cold temperatures.

Water-proof

Polymers don't soak in water and are suitable for making camping tents, rain-proof coats and other insulating items.

Entertaining products

Countless kinds of toys and entertaining products can be made from polymers, including playgrounds, waterslide tunnels, kid tents, soft toys, etc.


2
1

Did you know?

Plastic Fantastic

Imagine that constructing a road would take days instead of months. That roads would last three times as long. That maintenance and traffic disruption are things of the past. And that cable and piping problems as well as the urban water problem are solved overnight. What if you could take the plastic that's polluting the oceans and turn it into roads? This may sound like a scenario in the distant future, but a Dutch company is now making this vision a reality. KWS, a VolkerWessels company, Wavin and Total are working on the development of plastic roads, also known as the PlasticRoad. Every component of the PlasticRoad is being designed to make its application completely circular, with the goal of using recycled plastic as much as possible.

Plastic Road

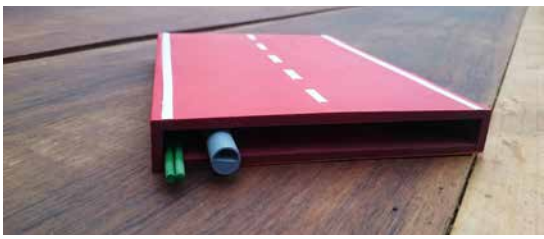
Prefabricated and modular
The prefabricated production, the light weight and the modular design of the PlasticRoad make construction and maintenance faster, simpler and more efficient compared to traditional road structures.

Hollow design
The PlasticRoad has a hollow space that can be used to (temporarily) store water, thus preventing flooding during extreme precipitation. The hollow space can also be used for the transit of cables and pipes, thus preventing excavation damages. And there are numerous other conceivable applications, including the installation of sensors or the electric charging of vehicles. Integrated solar cells could make the surface self-sufficient or even energy-generating. Sensors could deliver real-time information on traffic flow, temperature, snow, and ice, thus enhancing safety and dramatically reducing congestion.

Sustainable
The PlasticRoad is a completely circular product that is made from recycled plastic. It has a significantly smaller carbon footprint than traditional road structures thanks to the longer lifespan and the reduction of transport movements involved in its construction.

Photo: Anne Koudstaal (left) and Simon Jorritsma (right) are convinced that future roads won't be made of traditional blacktop, but plastic

The idea for the concept was conceived by Anne Koudstaal and Simon Jorritsma, who have since been made available to lead the project as Asphalt Advisors for KSM and make sure the first pilot takes place in 2017. The idea was inspired by looking at the problems that municipalities, provinces, regional water authorities and contractors deal with. This includes societal problems such as plastic waste, extreme precipitation, consolidation of the subsoil, an increasing need for mobility, and a crowded subsurface. They came up with a simple, but far-reaching idea: If plastic from landfills or the oceans could be used to build lightweight, prefab roads, this would solve a variety of problems all at once.



3x LONGER

70% FASTER

4x LIGHTER

100% CIRCULAR

- Faster construction (months shorter) and less maintenance time
- Higher quality and a longer lifespan (homogeneous and prefabricated)
- Little to no maintenance required. The material is virtually impervious to conditions such as the weather and weeds.
- The innovation is considerably more sustainable. The goal is to make the PlasticRoad out of 100% recycled plastic and to make it fully reusable. It is perfectly in line with the Cradle to Cradle philosophy and the principles of the circular economy.
- Double use of space. The hollow space in the design can be used to store water or as space for cables and pipes.
- The possibility of constant (traffic) safety and water drainage
- Everything on and around the road can be prefabricated (road markings, guardrails)
- The concept offers opportunities for further innovation. Examples include solar heated roads, light poles and traffic loop sensors.
- Contribution to the social problem of plastic waste

Three companies are each contributing its own expertise and experience to the development of this innovative concept. KWS is the market leader in road construction and the production of asphalt in the Netherlands. A market leader in the recycling of plastic, WAVIN also specializes in making plastic products for rainwater drainage. TOTAL makes important contributions to the project with regards to improving the properties of plastics, the recycling of plastics and the available production techniques. The consortium is currently working hard on the business case and is investigating the best way to produce the PlasticRoad. The development of a first prototype will start soon. Several municipalities, provinces and regional water authorities have already shown interest and offered a pilot location to test the PlasticRoad. Once the PlasticRoad meets all the technical, environmental and safety requirements, a pilot installation will be built to perform practical tests. Initially, the PlasticRoad will be used as a bicycle path. Completion of the first prototype is expected by year-end 2017.

There are challenges, too. Recycled plastic would require some kind of block to shield it from UV-radiation. And the material would need to be engineered to be flame-retardant and low-noise. Still, Anne and Simon are optimistic that all of these challenges can be met. “We want to start out small with a bicycle path, then build bigger and bigger roads using the intelligence we gather from our laboratory tests and pilot projects. Once the base material is in place,” they say, “the possibilities of the plastic road are endless.”

Reference sources:
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