

Digest #1/2015

Composites

Overview of the industry

Published by «ArTek Composites»



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IT IS PLANNED TO REDUCE THE IMPORT-DEPENDENCE OF POLYMERIC MATERIALS FOR HIGHWAY ENGINEERING IN RUSSIA



An inter-industrial meeting concerning outstanding issues on localization and quality of polymeric materials for highway engineering was held at the production site “Voronezhsintezkauchuk” (Voronezh). SIBUR was the sponsor of the meeting with the support of the Federal Road Agency and the state company «Avtodor».

THE PURPOSE of the event was to develop concerted recommendations for implementation of the Russian Prime Minister’s instructions given at the meeting which was held on the 9th of February, 2015 in Voronezh. The meeting was devoted to the sustainable development of chemical and petrochemical industries.

It was decided to renew the current State standard (released in 2003) governing application of polymeric materials in road construction. In addition, a new industry document is expected to include standards of SBS polymers application in road construction, which will further increase functionality and

efficiency of used products.

Igor Astakhov, Deputy Head of the Federal Road Agency pointed out that localization policy should be pursued in terms of Russia’s participation in the World Trade Organization and consider not only restrictive measures, but also create favorable incentives. Increasing competition among domestic manufacturers will improve the quality of the materials and make public investment in innovation more effective».

Source: <http://dorinfo.ru>
March 2015

CARBON FIBER FOR PURPOSES OF LOCALIZATION



Holding company, Composite presented at the Composite-Expo a new project — a carbon fiber production ALABUGA-FIBER plant, which was built under the order of Rosatom group. As expected, Russian companies will primarily be potential users for the product. Domestic consumers’ needs will be complied with the possibility of localization.

VLADIMIR KHLEBNIKOV, the First Deputy General Director of the Holding company, Composite told the conference participants about new possibilities for consumers of composite materials in connection with the launch of the new ALABUGA-FIBER plant. According to him, within two and a half years HC, Composite had managed to build high-tech production in the special economic zone «Alabuga» in the Republic of Tatarstan and complete start up works. The first line capacity is 1,700 metric tons of carbon fiber per year.

Every year 350 metric tons of carbon fiber is consumed in

Russia, 120 metric tons of which are produced in our country, the rest is imported. Carbon fiber is used in various industries: aviation, shipbuilding, automotive industry, construction, wind energy. In some industries, consumption of imported carbon fiber creates a potential threat for national security, as polymer composite materials based on carbon fibers are dual use products.

Source: <http://rusnanonet.ru>
March 2015

Localization and personnel training

COMPOSITE SOLUTIONS GENERATED AT THE TVER PLANT TVERSTEKLOPLASTIK



January 29. Tver journalists were invited to learn about the plant Tverstekloplastik, affiliate of the RUSKOMPOZIT group of companies. Media representatives met with technology engineers and designers of the plant and learnt details about the company's new projects. Thus, the focus was moved to local sewage units made from composite fiberglass, which production technology is being developed at the plant.

ILYA SPIRIDONOV, plant's Chief Technology Engineer said that currently the project is still under research and development. "We are still learning: developing the technology from scratch, designing, conducting strength analysis, selecting polymer-composite matrix, and so forth. R&D of local sewage unit's production technology is a joint project of the RUSKOMPOZIT group, Minpromtorg (Ministry of Industry and Trade) and Federal Road Agency: Rosavtodor. These agencies act as customers for the development and co-investors. This helps the plant overcome the challenge of obtaining customers in the near

future.

The main advantage of our technological solution is that this product is made of composite materials. Composites are lighter than metal or concrete, respectively cheaper and easier to manufacture and install. Also, composites are corrosion resistant. Local sewage unit or tube made of fiberglass composite can last from 30 to 70 years without replacement and repair».

Source: <https://tverweek.com>
January 2015

PRIME MINISTER DMITRY MEDVEDEV IS READY TO SUPPORT STAFF TRAINING FOR THE PRODUCTION OF COMPOSITE MATERIALS.



On February 12, at the RF Government meeting concerning development of secondary professional education, Alexey Ostrovsky, the Smolensk region Governor, spoke about the situation in this area in the region and made several requests to the Head of the Ministry.

AS THE GOVERNMENT press service noted, at the meeting the necessity to create the conditions for personnel training on the most in-demand professions by 2020 was discussed.

Alexei Ostrovsky, in his report said:

«Also I ask you to support our proposal to include Composite materials industry into the Federal targeted program of education development, direction «Improvement of integrated regional development programs of professional education». Composite materials industry is extremely important not only for our region, so it is necessary to train

skilled personnel for companies oriented toward localization».

Dmitry Medvedev commented on the Smolensk governor's request and said that as for his suggestions, he agreed to consider amendments in the law "On Education in the Russian Federation" in the part concerning secondary professional schools and to amend the relevant provisions of the Federal program relating to the development of composite materials, because the topic is of vital importance.

Source: <http://www.rabochy-put.ru/>
February 2015

AEROCOMPOSIT OPENED A LABORATORY FOR COMPOSITE CONSTRUCTIONS TESTING



AeroComposit, an affiliate of United Aircraft Corporation, has launched a new testing laboratory of materials and structural elements made of composite materials. Currently the parts of the wing for MS-21 aircraft construction are being tested here.

TECHNICAL competence of the laboratory and its personnel has been approved by the accreditation Certificate in Aviation register (IAC).

«Launching of a new laboratory gives us opportunity for testing products during various stages of production. It is great advantage, since now we are independent from the third parties. We are planning to upgrade significantly the testing laboratory during the year to meet the new challenges facing the company and use new domestic materials in the production», **Anatoly Gaidanskii, General Director of AeroComposit, CJSC** said.

Earlier, during 2013-14 "United Aircraft Corporation" opened two new production facilities: «KAPO-Composite» (Kazan, the Republic of Tatarstan) specialized in production of wing and tail high-lift devices and nose elements of the aircraft using autoclave technology, and «AeroComposite-Ulyanovsk» specialized in production of aircraft construction elements made of composite materials based on infusion technology.

Source <http://plastinfo.ru>
March 2015

THE FIRST STAGE OF MS-21 AIRCRAFT FIN BOX STATIC TESTING HAS PASSED WITH POSITIVE RESULTS



In February, a test center «Prochnost» (FSUE TsAGI) conducted the first stage of static tests for strength under operational loads on composite fin torsion box for the MS-21-300 aircraft.

THE CONSTRUCTION has been produced and assembled by Aviastar-SP, CJSC (Ulyanovsk) and ORPE Tekhnologiya (Obninsk), under the design of Irkut Corporation. The detailed measurements of the stress-strain state of the composite fin torsion box have been conducted and compared with the calculations. «The analysis showed that the first stage of static test of fin torsion box for the MS-21-300 aircraft gave positive results», — Alexander Dzyuba, the head of the Static and Thermal Strength Department of TsAGI, explained.

Mikhail Zichenkov, Deputy General director FSUE TsAGI, Head of Strength Complex commented on the results of productive work: «the test was attended by heads and engineers of FSUE TsAGI, Irkut Corporation, Ulyanovsk branch of Irkut Corporation, NPC Composite and Certification Center «Prochnost»; it shows the importance of this stage for the general overall work on the project MS-21-300.»

Source: <http://sdelanounas.ru>
February 2015

IN 2015 SIBNIA WILL BOOST INTO THE AIR A COMPOSITE BIPLANE



In 2015, the composite biplane TVS-2TD (technology demonstrator) created in Siberian Aeronautical Research Institute named after S. A. Chaplygin (SibNIA) based on one of upgraded AN-2 will rise into the air. The plane has already started flying in the version of «monoplane». The plane made its debut on December 6, 2014 flying from Novosibirsk factory airfield Eltsovka.

AS IT WAS said in SibNIA, “according to preliminary estimates, even as a monoplane the aircraft has very good characteristics – high-lift wing with half the size of the AN-2 biplane, allowed us to obtain unparalleled landing characteristics of the «aircraft-veteran”.

The wing mounted on top of the TVS-2TD was developed as part of biplane cell box wings with AN-2 dimensions, take-off weight up to 8,600 kg and landing characteristics corresponding to similar characteristics of AN-2.

The TVS-2TD wing is installed on operational hinge fittings from the wings of the AN-2 aircraft and designed for use without braces, which are used during the first testing stage in a “monoplane” configuration.

Source: <http://www.e-plastic.ru>
February 2015

ISTU DEVELOPS TECHNOLOGY FOR REPAIR THE PARTS MADE OF COMPOSITE MATERIALS



ISTU Research laboratory of high-productivity machining, forming and strengthening is equipped with tools for diagnostics and repair of composite materials used in aircraft industry. The equipment was purchased under the National research university development program for 12.8 million rubles.

DUE TO THE fact that in constructions of modern aircrafts, helicopters and other vehicles, composite materials are widely used, the university held a course for development of this area. Two years ago, the university laboratory opened the shop for processing (drilling) of titanium alloys and composites in mixed packages. Currently development of technologies for diagnostics and repair of composite materials is being performed.

«Composite materials in terms of materials are of special

interest, primarily for the aerospace industry. This is a new problem that has existed only for a few years. Currently, an aircraft with a high proportion of composite parts, which is operated for a long time, does not exist in the world, that is why there is little experience on repair of such planes.

Source: <http://www.75rus.org>
Source: <http://www.istu.edu/>
March 2015

THE U.S. IS GOING TO REDUCE THE PRICE FOR COMPOSITES DUE TO PULTRUSION METHOD



In early 2015, President Obama announced that the project IACMI (Institute for Advanced Composites Manufacturing Innovation) under the guidance of the University of Tennessee would receive investments in the amount of \$ 259 million that will be spent on the development of innovative composite materials, \$ 70 million of which is invested by the US Department of Energy

IACMI project participants will focus on innovations in production of composites for manufacturing cars, wind turbines and tanks for compressed gas storage. The main goal of the developments is price reduction of carbon fiber by almost 50%, as well as personnel training for the production of composite materials using innovative technologies.

It is expected that pultrusion method will become one of the main production processes used by IACMI to get the parts with constant cross-section in the most effective way. Pultrusion is a time-tested (used about 60 years), high-performance method for

the production of composites by combining a polymer resin and reinforcing fibers (usually glass or carbon).

According to IACMI's estimates, the use of composite materials is expected to grow by 200% by 2020. Thus, the use of composite materials with long life will reduce the «total carbon footprint» of both producers and consumers, which in the future will have a positive impact on the environment.

Source: <http://mplast.by>
February 2015

BASF AND POLYPLASTIC ARE SATISFIED WITH THE FIRST YEAR OF COOPERATION



NPP POLYPLASTIC, an absolute leader in the design and manufacture of composite materials, and BASF, the world's leading chemical company, summed up the first year of cooperation, as reported by Polyplastic.

CURRENTLY NPP POLYPLASTIC completes the homologation of their materials for leading automotive companies producing their products in Russia. NPP POLYPLASTIC, in collaboration with BASF have developed the stabilization compound systems, Armlen. Today production and delivery of these materials under the program of localization begins. The estimated output in 2015 is about 1 thousand tons. In future, it is planned to reach a production

volume of up to 6 thousand tons annually to win at least 30% of the market for localized cars.

The companies are planning to continue the implementation of the compounds in the local automobile industry.

Source: <http://www.e-plastic.ru>
February 2015

TENCATE WILL SUPPLY COMPOSITES FOR KESTREL



According to the new agreement between Kestrel Aircraft (Wisconsin, USA) and TenCate Advanced Composites (California, USA), the latter will supply thermoplastic composite material (prepreg TC275-1) on the basis of carbon fiber and epoxy resin for manufacturing a new all composite turboprop Kestrel K-350

THE TC275-1 is produced using out-of-autoclave molding method, under low pressure. The material provides the bulk of the work pieces (increasing the thickness by more than 100 layers) with extremely low porosity (less than 0.5% for all thickness). The quality of the prepreg hardly requires post processing; load resistance meets all standards of the aviation industry. What is more, the method accelerates production. Kestrel has not provided the details of the all composite six-seat turboprop, but it is already known that the aircraft with Honeywell TPE331-14GR,

1000 HP engine and four-blade composite Hartzell propeller can cover the distance of about 2, 400 km; its maximum speed is 600 km/h (cruise speed – 593 km/h); altitude ceiling is 310 flight level; time to climb at the ground level is 11.4 m/s. The average consumption is about 220 l/h. The jet will be equipped with Garmin G3000 avionics.

Source: <http://privat.aero>
February 2015

COMPOSITE SHIP «ALEXANDER OBUKHOV» WILL BE DELIVERED TO THE NAVY IN NOVEMBER



This is the first minesweeping ship built of composite materials. The ship has the largest, unparalleled hull in the world, made of cast non-magnetic material, obtained with vacuum infusion method.

ADVANTAGE of “nonmagnetic” structure design is its high strength, which allows achieving greater damage control of the ship during mine actions in the sea. The length of service of a cast non-magnetic hull of minesweeping ship «Alexander Obukhov» is several times higher than that of the hulls made of low-magnetic steel. Substantial weight reduction has also been achieved.

The ship is designed for the search and destruction of mines

alongside a naval fleet at a safe distance for the ship. It is planned to build at least 3 of such ships for the Navy. Ship draft is 890 tons, length 61 meters, width 10 meters, speed at full draft 16.5 knots, crew 44.

Source: <http://www.nord-news.ru>
February 2015

THE LARGEST IN RUSSIA HOUSE BUILDING PLANT, DSK HAS APPEARED NEAR MOSCOW.



The DSK Grad plant has been opened in Naro-Fominsk district of the Moscow region. This is a joint project of Morton Group and RUSNANO. The total investment into the project has been amounted to 9 billion rubles, 2 billion of which has been invested by RUSNANO.

THE CAPACITY of the new plant reaches 525 thousand square meters of products per year: 450 thousand square meters of apartment area and 75 thousand square meters of community infrastructure facilities area.

Unlike earlier modular housing plants, DSK Grad is not limited to any specific residential construction series. Modern equipment allows the plant to produce simultaneously virtually unlimited number of types of houses of any architectural and planning design. Actually, it is possible to organize industrial production of high-quality individual houses. The designs for apartment buildings «Grad-1M» and «Grad-2M» as well as exclusive layouts for schools and kindergartens have already

been developed for DSK.

For the production output DSK Grad uses a number of innovative solutions proposed by RUSNANO portfolio companies.

Among them: SP Glass (energy-saving glass with nano-coating), Akrikan (concrete plasticizer, nano-dispersion paints and fillers) and Galen (fiberglass window profiles, basalt-plastic rebar and other composite materials to improve the thermal efficiency of walls)

Source: <http://sdelanounas.ru>
February 2015

COMPOSITE RAILS WILL BE INSTALLED ON THE BRIDGES OF THE FEDERAL M-5 URAL HIGHWAY



The bridges of the Federal M-5 Ural highway will get new composite railings. The Penza, Ulyanovsk, Orenburg and Saratov regions are involved in the pilot project to install new types of railings.

AS IT WAS noted by Composite, Holding company press service, composite railings will be installed on 14 bridges with total length of 1.3 km. These railings are lightweight, corrosion resistant and resistant to frost. They will be free from the ice mount in winter and will require repairing more rarely than metal railings. Also, in case of accidents at electric power lines, bridge rails will pose no danger to pedestrians.

Metal railings will be replaced with composite railings on M-5 Ural highway by the order of the Federal Road Board «Big Volga». The pilot project has been developed by Composite

Nanotechnology Center, which is included in the structure of the Composite, Holding company.

In the Saratov region composite railings will appear on three bridges, in the Orenburg region - on nine. It should be noted that the bridge with such protections already exists in the Voronezh region. It is a bridge over the Vorona river on the P-22 Caspy highway.

Source: <http://dorinfo.ru>
January 2015

WOOD FOR CONSTRUCTION OF HOUSES WILL BE REINFORCED WITH CARBON AND ARAMID FIBERS



Teijin Limited announced that it has launched a new project to develop technology for advanced fiber-reinforced wood (AFRW). The material will be a structural product comprising a number of layers of dimensioned timber and high-performance fibers bonded together with structural adhesives.

TEIJIN has developed composite material AFRW for the construction of medium and low-rise wooden buildings based on its expertise in fiber-reinforced composites including carbon fiber by Toho Tenax and aramid fibers by Teijin.

CFRW is carbon fiber reinforced wood, includes layers of carbon fiber, and stiffness of the composite and its flexural strength achieves twice the flexural stiffness of conventional laminated timber. CFRW offers not only high strength, but also can be used

as a decorative material.

The targeted development of advanced fiber-reinforced wood is expected to extend applications of CFRW. Thanks to new technology, reinforced wood can be used for the construction of medium and low-rise buildings.

Source: <http://www.nanonewsnet.ru>
February 2015

PRODUCTION OF COMPOSITES COULD DROP BY 70% DUE TO THE USE OF FLEXPLAS RELEASE FILM



The Infiana Group and Fraunhofer IFAM have agreed upon an exclusive cooperation for the production and marketing of FlexPlas release film, which is used for production of composite materials.

SCIENTISTS of the Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM) and experts of the Infiana Group are jointly working on the further development and marketing of the FlexPlas technology, an elastic release film for composites. It optimizes the production of complex large structures made of composite, in particular, of fiber-reinforced plastic parts (FRP)

FlexPlas can be used for production of parts for aircraft and wind turbine blades. This film is a key to safe, effective and fast production process without release agents: immediately after curing, the material can be coated.

FlexPlas can be used for molding in autoclaving, vacuum infusion, hand lay-up process and even Resin Transfer Molding (RTM) molding under pressure. This release film is extensible up to 300%, highly elastic and thermally stable. After completion of composite production process FlexPlas can be safely and easily removed or it can either remain on the component as transport protection.

Source: <http://compositeonline.ru>
March 2015

AN INNOVATIVE COMPOSITE BUS WAS DEMONSTRATED TO THE MINISTER OF INDUSTRY AND TRADE OF THE RUSSIAN FEDERATION



On Tuesday, February 17, a new project to create innovative buses with modular composite hulls was introduced. The project is being implemented on the Nanotechnology Center for Composites premises. The event was attended by Denis Manturov, Minister of Industry and Trade of the Russian Federation and Oleg Bocharov, Head of the Department of Science, Industrial Policy and Entrepreneurship of Moscow.

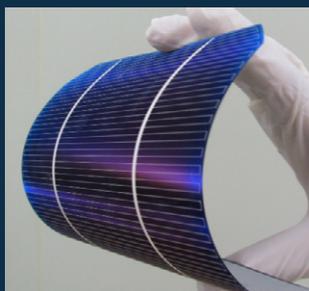
MIKHAIL STOLYAROV, the General Director of the Nanotechnology Center for Composites during the presentation outlined the advantages of the new bus. For instance, the use of a composite integrated body helps reduce the vehicle weight from 18.5 tons to 13 tons per bus with 100 passenger capacity. Due to the lightweight, the power consumption and the amount of harmful exhaust are reduced. In comparison with conventional metal buses, cost of service life of a composite bus is decreased by 40% and at the same time, the operating time of the vehicle is doubled. Another advantage of the lightweight is quality safety of roadways. According to Mikhail Stolyarov, today the Nanotechnology Center for Composites is

the first company in the world, which launched the project on development composite modular bus production.

Mikhail Stolyarov also spoke about desirable conditions for a full-scale innovative bus manufacturing with the production capacity from 250 to 500 buses per year. At present, at the premises of the Nanotechnology Center for Composites the first 50 composite bus bodies for exporting are being manufactured. The final assembly work will be conducted in Hungary.

Source: <http://www.nccrussia.com>
February 2014

RUSSIAN SCIENTISTS WILL DEVELOP CLOTHES WITH INTEGRATED SOLAR PANELS



Maybe soon in the Russian market we will be able to find clothes made of flexible solar panels based on composite nanomaterials. The scientists of Tomsk State University are working to create new type of solar cells based on Gretzel cells using oxide nanomaterials and their composites.

THE TECHNOLOGY is the following: the scientists develop nanomaterials and apply them on any flexible surface: metals, polymers, cloth, thin glass, and others. After heat treatment the coating gains the ability to convert sunlight into electrical energy.

«Our technology can be used in different spheres: household, agriculture, defense industry and other. For example, you can take flexible solar cells when you go camping, use them to recharge your laptop or mobile phone. This source of electricity is convenient for transporting: it can be rolled up and put in a backpack», — Lyudmila Borilo, head of TSU Multifunctional materials laboratory says.

More promising is the use of innovative solar cells in clothes manufacturing. With their help, scientists will be able to create fabrics that will generate heat from sunlight. Such clothing will be light, and warm. This is the best option for the people who work in the Arctic or in the North in rough environments.

Solar cells being developed by TSU scientists will be very light and cheap. Moreover, they will collect and generate electricity even on a cloudy day.

Source: <http://compositeonline.ru>
March 2015

SHANGHAI SCIENTISTS PRINT ARTIFICIAL BLOOD VESSELS



One of the most common surgical techniques used, including, coronary bypass surgery is to permanently redirect blood flow around unhealthy blood vessel surgically attaching vascular grafts, «borrowed» from other parts of the patient's body. Although the procedure is highly effective, its use is limited by availability of suitable vessels for the use in the operation.

RESEARCHERS from Shanghai University Rapid Manufacturing Engineering Center have created a method of developing synthetic blood vessels. The three-layer model is the mixture of different materials, designed to provide necessary strength and elasticity, and at the same time facilitate the recovery of cells and, in fact, serve as a support for the formation of new blood vessels.

The interesting point is that the resulting 3D-printed vessels are not prone to diseases, and therefore the risk of the need for re-surgery during the recovery period is significantly reduced. After implantation, synthetic vessels must fulfil the same role as natural vessels, allowing new cells to grow around them while degrading slowly at the same time. Synthetic grafts are eventually

decomposed and removed from the body of the patient.

As Yuanyuan Liu, associate professor at Shanghai University explains, the composite vascular grafts could be better candidates for blood vessel repair than the grafts taken from a patient's body.

However, it is too early to speak about testing of this development on humans; the researches are confident in future of artificial blood vessels implantation. The next step for the research team is to test the vascular grafts on animals and follow up long-term effects.

Source: <http://3dtoday.ru>
February 2015

RUSSIAN SCIENTISTS HAVE PRINTED COMPOSITE MATERIAL STRONGER THAN ALUMINUM ON A 3D PRINTER



Russian Skoltech scientists have developed a new method of printing composite materials on a 3d printer. Core of technology is in adding of reinforcing fiber (carbon or fiberglass) in material.

«THE MAIN problem of this technology is low quality of the material. Our goal was to achieve good quality of the composite - with lower porosity, strong bond between the components and optimal orientation of the fibers. Skoltech scientists solved the problem: they invented a new method of fibers coating with special chemical substance, which forms strong interface between the components of composite material,» Fedor Antonov, senior researcher at Skoltech, explained.

One of the areas of such materials application is professional and amateur sports. Eventually even the simplest household 3D printer can be used to create parts of drones, quadcopters and robots, corrective insoles, mobile phone housings and many other things.

Source: <http://compositeonline.ru>
March 2015

JEC EUROPE 2015 FORTIFIES ITS NUMBER-ONE POSITION IN THE WORLD AND ANNOUNCES NEW NAME AND NEW LOCATION



With exhibitors & visitors up by +13%, JEC Europe 2015 held in Paris, 10-12 March, stood once again as the number one Composites Show in the World, gathering the whole composites value chain from around the globe. It cements the major role played by the JEC Group in the sector's economy.

"JEC EUROPE Show & Conference in Paris is a global reunification of the best advancements and innovations we can find today in the world. With not less than 10 different parallel programs, the 2015 session attracted an impressive number of exhibitors and visitors: 36,222 versus 31,919 in 2014 (+13%)" explains Mrs. Fr-d-rique Mutel, JEC Group President and CEO. "The logical consequence of this success is the change of name and location of our event. Recognizing the global nature of the Paris event, JEC Europe changes its name and becomes JEC World starting with the next session to be held in March, 8-10, 2016. Moreover, with the number of manufacturers and visitors constantly increasing, the largest global meeting for composites has to adapt its size and location and will move to the biggest venue in France: the Paris Nord Villepinte fairgrounds with a substantial growth, reaching 62,000sqm of exhibit space next year. The new venue will, with no doubts, improve the

attendees and exhibitors' experience with JEC World, as the modern and functional site is close to infrastructures like the Roissy Charles de Gaulle airport and the Roissy TGV high-speed train station, giving our international visitors easy access to it, for better networking and shared knowledge." adds Mrs. Frederique Mutel.

Additionally, JEC Group reaffirmed its will to develop its activities in America with the 4th JEC Americas in Houston in June and in Asia with the 8th session of JEC Asia in Singapore in 2015. New partnerships have also recently been engaged allowing JEC Group to address new promising markets such as Latin America with Compecity in Sao Paulo in November 4-6, 2015 (in partnership with ALMACO) or South Africa in 2016.

Source: <http://www.jeccomposites.com/>
March 2015

PARTICIPANTS OF THE COMPOSITE-EXPO 2015 FOCUSED ON NEW TECHNOLOGIES



From 25 th to 27th of February 2015 Crocus Expo IEC hosted the 8th trade show Composite-Expo - International Specialized Exhibition of Composite Industry in Russia.

IN 2015 Composite-Expo was attended by 126 companies from 19 countries.

Sigmax company's carbon laboratory is engaged in research and implementation of carbon fiber and aramids environmental innovations in everyday life. In the trade show the laboratory presented finished products (a carboxylic snowmobile and an electro-moto-cycle), as well as new developments of an electric bike from carbon. Currently, an ultra-light electric wheelchair is being developed. The researchers are working on alternative geometries for varying the center of gravity and acceleration of movement

At trade show Izhevsk Electromechanical Plant Kupol, JSC for the first time presented a unique technology of manufacturing metal-carbon nanocomposites for modification of composite materials. Also, they introduced fiberglass fittings reinforced by

metal-carbon nanocomposites and superplasticizing agent for concrete. – a collaborative development with KomAR, LLC

At Composite Expo Atena Co Ltd presented novelty in the market - composite material Jesmonite. The material is lightweight, durable, and resistant to all types of weathering. Special technology allows composing the materials with metal, stone, adding various pigments.

GRM Systems introduced new developments of highly UV stable epoxy resins. The company is engaged in the production and sales of composite materials for automotive, aerospace, small shipbuilding industries and for the production of sports equipment.

Source: <http://rccnews.ru>
Source: <http://www.composite-expo.ru/>
March 2015