

**DIPLOMACY: Combating tax evasion, job creation, global financial reforms are high on agenda**

## G20: Mapping global economic recovery

As the chair of G20, Russia's top priority will be to focus on mechanisms to kickstart investment and cut down risks to build a balanced global financial architecture

TATIANA LISINA  
RIBR

The forthcoming G20 summit in St. Petersburg on Sept 5-6 should finally map out a solution to the global community's main task: how to stimulate economic growth. As the host country, Russia will place investment at the top of the agenda.

As the St Petersburg authorities put the finishing touches to a new purpose-built highway, the world's leading politicians are readying themselves for the G20.

The tone of the September summit has essentially been set already by the meeting of the "F20" which took place in late July. In their final communiqué, the finance ministers outlined three plans of action: examining ways to increase long-term investments; combating tax evasion, and, most importantly, the St Petersburg Plan of Action. The latter will be finalised by September and submitted for consideration at the summit. This comprehensive plan, as stated in the communiqué, is intended to promote growth in the world economy through job creation.

The economic slowdown is set to dominate the summit. The issue concerns not only the recession-scarred Europe and the underemployment-hit US, but also developing countries, whose GDP growth rates have slowed markedly. "The focus of the summit will be the slowdown in the world's leading developing economies observed over the past few years. Partly it is the result of cyclical processes, and partly a lack of structural reforms," says Nariman Beravesh, chief expert on macroeconomics at IHS Global Insight.



A core challenge for the G20 is the creation of institutions to manage investments.

In July, the IMF cut its global growth forecast for the year from 3.3 to 3.1 per cent. The figure for developed countries remained unchanged at a paltry 1.2 per cent, but the picture painted by the IMF for developing countries was gloomier still: China's GDP will grow not by 8 per cent but 7.8 per cent, Brazil can expect 2.5 per cent (down from 3 per cent),

and India 5.6 per cent (revised from 5.7 per cent). Alarm bells are ringing for Russia, too. In July, the country's Purchasing Managers Index (PMI) not only fell (for the first time since August 2011), but also was down to below 50 points — the lowest level since December 2009. That followed pessimistic appraisals for the Russian economy from the

IMF and the World Bank, which lowered their forecasts for GDP growth in 2013 to 2.5 per cent and 2.3 per cent, respectively.

As the chair of the G20, Russia is focusing attention on the need to increase investment to spur a global recovery. As pointed out by the head of the Economic Expert Group, Evsei Gurvich, "Overall, economic recovery comprises two major tasks: how to kickstart the investment process, which drives development, and how to reduce risk through building an international financial architecture and correcting for imbalances that could lead to a new crisis."

According to Yaroslav Lisovolik, chief economist at Deutsche Bank, a core challenge for the G20 is the creation of institutions to manage investments. Dmitri Polevoy, an economist at ING Bank, argues greater control is required to ensure that investments are effective, besides changes in government policies to support investors.

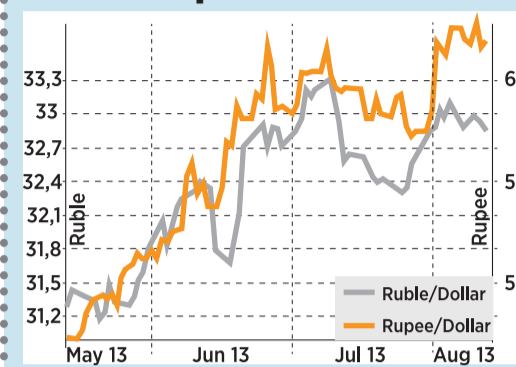
Another crucial issue to be discussed at the G20 is the "de-offshoring" of the global economy, including coordinated measures to combat tax evasion. "It is imperative that all countries play ball, and do not seek to channel financial flows," says Lisovolik.

The fight against tax evasion is closely linked to anti-corruption policy, which is also on the agenda of the upcoming summit. The plan — initiated under Russia's presidency and set for further development after the handover to Australia — provides for coordinated action to ensure the independence of anti-corruption agencies. It also seeks to introduce measures to tackle money laundering and the proceeds of corrupt activity, and impose restrictions on the movement of public officials found guilty of corruption. Politicians expect the business community not to remain on the sidelines.

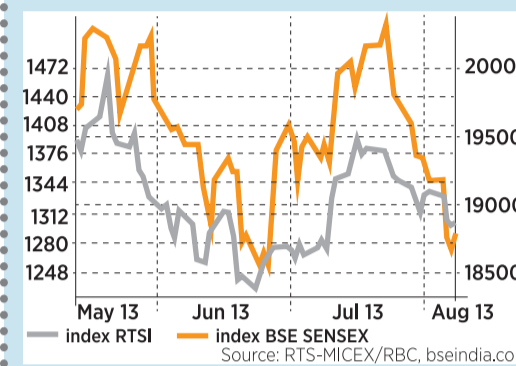
Russia has "inherited" other issues from previous G20 meetings that will not escape the attention of the world's top politicians: in particular, the ongoing reform of the international financial architecture and financial regulation. For instance, the revision of IMF quotas in favour of developing countries was approved by the G20 back in 2010, but the reform has since stalled, causing anxiety among the BRICS countries.

### FIGURE IT OUT

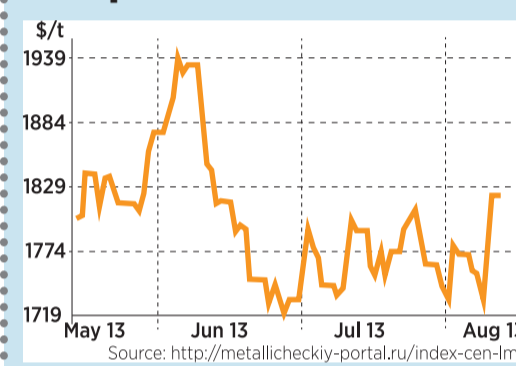
#### Ruble/Rupee dollar rates



#### Stock market index



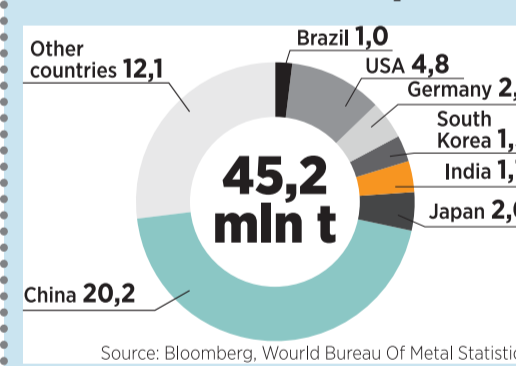
#### LME price for aluminium



#### LME price for steel



#### Aluminium consumption



## Metal, mining industry faces hard choices

VITALY PETLEVOY  
Vedomosti

The end of the commodity boom is forcing metals and mining companies to cut costs — lay off workers and shut down plants.

The sharp drop in aluminum prices has forced UC Rusal, the world's largest aluminum producer to consider changing the specialisation of its Volkhovskiy Plant and possibly freeze production at four others, the company's CEO Oleg Deripaska told Interfax. He added that his company was forced to adjust its plans to protect its smelters in Siberia, which are still profitable. The

mothballed plants will be relaunched once the aluminum price tops \$2,400/tonne once again; otherwise, they would have been bleeding money. Yet Deripaska expects the price to hit a low of \$1,800 by year-end.

The combined market capitalisation of mining companies has shrunk by \$36.4 billion a year to date. Severstal has shed 33.6 per cent, MMK 28.3 per cent, Norilsk Nickel 34.6 per cent, UC Rusal 45.3 per cent, and Mechel 58 per cent of MCAP. Down 61 per cent, Evraz's valuation has suffered most.

Each company is looking for its own way out of the crisis. Igor Zyuzin's Mechel is trying to offload non-core and money-losing assets to bring down its debt, Vladimir Lisin's

NLMK is looking at 20 per cent staff cuts at its Western plants; gold miner Petropavlovsk is downsizing its workers by 8 per cent, while Norilsk Nickel is rewriting its development strategy to match the new price reality.

The key problem facing the mining sector is the overproduction crisis coupled with flagging demand and rising costs, says Moody's vice-president Denis Perevezentsev. With total consumption at 50 million tonnes, 1.5 million tonnes of aluminum might not find buyers in 2013, predicts Renaissance Capital analyst Boris Krasnozhenov.

According to BCS analyst Oleg Petropavlovsky, a drop in prices for rolled

metal was primarily caused by a weaker demand from China (the biggest consumer of construction materials), leading to lower prices for coking coal, a key feedstock. Adds Perevezentsev: "The upshot: low capacity utilisation (80 per cent, on average, for steel-makers globally and slightly higher than 70 per cent for those in Europe), depressed coking coal and rolled metal prices and a considerable decline in capital spending by companies."

NLMK has decided to cut costs at its European plants by 20-30 per cent. Severstal CEO and principal owner Alexei Mordashov announced in late June that his company was planning to cut costs by 20 per cent in 2013. This could affect management, too.



## EDUCATION IN RUSSIA

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### BIG PICTURE

## China's Central Asia win-win strategy



M. K. BHADRAKUMAR  
Foreign policy analyst

The recent India-China dialogue at the 'working level' added a new vector with the foreign-ministry level meeting in Beijing regarding Central Asia. Indian officials told the media that they hoped to learn from China's experience of making "deep inroads" in Central Asia.

Indeed, China's policies toward Central Asia have been hugely successful. After having cleared the debris of Soviet history, Beijing held the Russian hand within the Shanghai Cooperation Organization [SCO], which enabled it to tap into Moscow's considerable regional influence, and once that too was successfully achieved, China's mutually beneficial bilateral cooperation with the five 'Stans' began surging. China has lately shifted gear to co-opt the US' New Silk Road vision of creating trade, transport and telecommunications connections across Eurasia.

The 'three evils' of extremism, terrorism and separatism motivated Beijing to take a holistic view that the development of the backward Xinjiang region is best achieved by connecting it with the Central Asian market and its resources and by achieving stability and political control over the restive western region through investment and economic growth. It has proved to be a 'win-win' strategy.

The Chinese railway projects in Central Asia are poised to forge what Beijing refers to as the New Eurasian Land Bridge that connects China with Western Europe. The US' New Silk Road concept had a pronounced animus against China and focused on northeast-southwest links that integrated Afghanistan with its Central and South Asian regions. But instead of confronting the US challenge to its growing influence in Central Asia,

China blithely turned the New Silk Road concept around as an 'all-roads-lead-to-Urumqi' strategy riveted on an overwhelmingly east-west basis. The proposed 'Karakorum Corridor' and Gwadar port ensure that Beijing takes over the US' New Silk Road vision.

In comparison, India's Central Asian diplomacy has remained largely bereft of intellectual content. New Delhi had accumulated enormous goodwill through the Soviet period and Russia regarded India as its preferred partner country in Central Asia, but it failed to build on these advantages. India's Central Asia policy remains heavily laden with geopolitics. New Delhi has tied itself in knots by allowing the spirit of rivalry with China to condition its thinking. The RIC [Russia-India-China] framework virtually remains dormant.

China, on the contrary, worked its way around the incipient rivalries with the US and ended up adopting the US' New Silk Road to serve its national priorities and needs, while at the same time taking care not to tread on Russian sensitivities. The 'win-win' doctrine helps China to advance its core interests in Central Asia.

India overlooks that an effective Central Asia policy is ultimately dependent on the dynamics of its relations with Pakistan and Iran. Indian pundits remain adamant that a dialogue with Pakistan can only take place on New Delhi's terms. The ties with Iran have become hostage to the US-Iranian standoff. The lack of an ac-

cess route, coupled with India's zero-sum mentality vis-à-vis China, stifles Indian diplomacy in Central Asia. India needs to learn from China's 'win-win' strategy. The recent commissioning of the \$500 million container terminal in Colombo Port, handled by Chinese companies on BOT basis, should come as an eye opener. Interestingly, Beijing does not mind that the new container terminal that allows mega ships to

### India needs to learn from China's success rather than letting rivalry with Beijing condition its thinking and diplomacy in Central Asia.

dock for the first time in a South Asian port also will be a boon to Indian exporters who hitherto sent their goods all the way to Singapore or Dubai for transshipment to the western market.

Put differently, a Chinese project in Sri Lanka, which our pundits viewed through the geopolitical prism in zero-sum terms, is turning out to be a 'win-win' project for China, Sri Lanka and India. Similar 'win-win' projects are going to multiply in other South Asian countries as well and will pose a big challenge to Indian diplomacy.

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WEDNESDAY AUGUST 14, 2013

## NEWS

## Vikramaditya to be handed to Indian Navy in November



OLEGFILOKOV

The final phase of tests on the INS Vikramaditya commenced on August 5 with a joint practice mission involving naval aircraft from Russia's Northern Fleet. The full testing cycle involving an aircraft wing and maritime training for the Indian crew is scheduled for completion by October 15. It will take another month to fix any minor flaws. The INS Vikramaditya should be handed over to the Indian Navy in November. RIBR

## 14 countries keen to buy BrahMos supersonic missiles

Fourteen countries are interested in buying different modifications of a BrahMos supersonic cruise missile, says A. Sivathanu Pillai, CEO and Managing Director of the Russian-Indian joint venture BrahMos Aerospace. Pillai took part in BrahMos Industry Consortium Meet-2013, a conference devoted to public-private partnership in India's defence industry, of which BrahMos Aerospace is a prime example. RIBR

## Russian firm gets seismic contract in Rajasthan

IG Seismic Services PLC, a Russian pure-play land and transition zone seismic company, has been awarded a two-year contract for seismic exploration works in Rajasthan. "The agreement envisages conducting seismic exploration works, using 3-D technology. The works may cover over 1,500 square kilometres," the company said, adding that the start of works is planned for the beginning of October 2013. RIBR

## Russian Railways keen on India's modernisation plan

Russian Railways has expressed interest in the electrification of 2000 km of the Indian Railways' tracks annually, as part of the modernisation programme, Sergei Pavlov, Chief Executive of Russian Railways subsidiary RZD International, was quoted by RBC Daily as saying. Besides Russian Railways, Uralvagonzavod Research and Production Corporation is also learnt to have plans for India. RIBR

## NLMK plans to step up steel exports to India in 2013



PRESS PHOTO

Novolipetsk Steel (NLMK), one of Russia's largest steel producers, plans to increase exports to India in 2013, says company president Oleg Bagrin. NLMK supplies the Indian market with 40,000 tonnes of transformer steel per year. RIBR

TRENDS: The next logical step will be consolidation, says Uralkali's CEO Vladislav Baumgartner

## Potash industry in for a big churn

India, China stand to gain due to sharp price fall after collapse of Russia-Belarusian cartel

VIKTOR KUZMIN  
RIBR

The next step in the potash market after a change in the rules of the game is consolidation, says Vladislav Baumgartner, billionaire CEO of OAO Uralkali, Russian potash giant. "Consolidation is a logical step wherein price falls to the level of marginal producers," he explains. But it is too early to make predictions; it is unclear what will be the evaluation of companies after the changes take effect, he cautions.

On July 30, top potash companies in

## Uralkali has rejected price above the volume mantra and is betting on selling maximum production

the world - Uralkali, Canadian Potash Corp., American Mosaic, German K + S, and others - lost more than \$20 billion in capitalisation after the Uralkali's announcement that it will no longer sell potash through a joint venture with Belaruskalyi - Belarusian Potash Company (BPC).

Baumgartner says the company has now rejected the principle of "price above the volume" and is betting on selling maximum production.

Until now, a few potash companies in the world leveraged the surging de-

mand to set the price. In 2012, 42 per cent of the market was controlled by the manufacturers from CIS - Uralkali and Belaruskali through BPC and Uralkali Trading, and 25 per cent by trader Canpotex, through its trading Potash Corp., Mosaic and Agrum.

Sergei Phylchenkov of IFC "Metropol" says it is too early to write scripts of mergers. You have to destroy the market finally to see who will remain, how much it will cost, and then try to play by the new rules, he explains.

The collapse of potash prices, which followed the statement of Uralkali, can lead to the consolidation of traders and production - some manufacturers will go abroad for profitability, says AltaCorp Capital analyst John Chu.

India and China account for about 30 per cent of global demand for the crop nutrient potash and had to agree to high prices for a decade in a market dominated by two cartels. Now, the situation has changed.

For Asian players, this situation could result in some suppliers being replaced by others, coupled with a certain decrease in prices, says Timofey Sholtes, an investment expert.

He estimates the price could drop at 8-10 per cent for China and India and at 4-5 per cent for Brazil. "The Russian company will now be able to operate in a lower-price environment, which will lead to corresponding cuts in Uralkali's own costs. Fitch rating agency analysts say in the case of China and India, a cer-



Vladislav Baumgartner, CEO of Uralkali, says his company will hold on to its position in the changing potash market.

tain substitution for supplies from the North American trader Canpotex might take place.

Sholtes says that there will be an independent Uralkali with a new strategy of selling as much as possible on all of the markets. "We anticipate that all will suffer financial losses: we will see lower profits, we will see marginal manufacturers will consider what to do

next, but in the short-term, nothing will happen," says Sholtes.

According to Baumgartner, Uralkali can increase production up to 14 million tonnes, thus increasing production by 30-40 per cent, and work several years at this level. This will help compensate for the decline in revenues from falling prices.

"We believe that in 2014, the de-

mand for potash may grow by 10 per cent to 60 million tonnes, and in subsequent years, the market may begin to grow again by 3-4 per cent. This will help to stabilise the market in the medium term," he says.

"The demand will simply increase. This is a recovery of the market. We are going to hold on to our position with all our strength," asserts Baumgartner.

## BPC chronology

1992: Russia's Uralkali teams up with Belarus' Belaruskali to form the International Potash Company (IPC) to export potassium fertiliser and control the entire supply chain. IPC was substituted in 2005 by the Belarusian Potash Company (BPC) on a fifty-fifty basis.

2007/8: BPC, controlling 30 per cent of the world market, incrementally raises prices. By mid-2008, a tonne of potassium chloride costs record \$1000 per tonne. The price for China reaches \$650, while for India hits \$700.

2009: Economic uncertainty induces potassium producers to sign long-term

contracts. The first contract is signed with India for \$460 per tonne, while the market price is \$700. The price for China is set at \$350.

2010: Spot prices for Brazil and Southeast Asia grow, but the price for India drops again to \$370, which BPC tries to compensate by increased sales. In June, the

main owner of Uralkali, Dmitry Rybolovlev, sells the controlling stake of the company to Filaret Galchev, Suleyman Kerimov and Alexander Nesis.

2011: The market continues recovery. The price of the contract signed with China for the second half of the year goes up to \$470 per tonne, while the price of the contract

with India rises to \$490 per tonne.

2012: Demand for potassium chloride plummets. By mid-year, differences emerge between the companies. In July, Lukashenko says that relations with Uralkali may be revised or even broken altogether. In this case, BPC would still continue to exist.

## Pharma2020: Indian firms must aim big

ANDREI REZNICH  
RIBR

Russia's Pharma2020, an ambitious \$6 billion programme, is promising to recast the contours of the country's pharmaceutical industry by supporting local drug manufacturers through a slew of incentives.

The new strategy seeks to scale up the share of domestically produced drugs to 50 per cent by 2020 from 20 per cent in 2007. "The share of imported pharmaceuticals in Russian market in 2012 accounted for about 73.1 per cent in cash value while in volume terms it was about 35.9 per cent," says Nickolay Beshpalov, director of Pharmexpert Analytics and Consulting.

Indian pharmaceutical companies account for around 2-3 per cent of \$24.9 billion Russian market, which is dominated by MNCs. With Russia's growing market, which, according to Cegecim Relationship Management, is going to triple to \$75 billion by 2020, Indian companies need to recalibrate their strategy for a bigger share of the pie. Indian companies are quite active in announcing their localisation projects in Russia, but unfortunately most of these do not progress beyond MOUs. In February 2013, Gujarat-based Cadila Pvt. Ltd. signed an MOU with the government of Astrakhan region in south-east Russia.

In September 2011, another Indian API and formulations manufacturer, Aurobindo Pharma Limited, announced a joint venture with Moscow-based OJSC DIOD, a Russian manufacturer of ecological healthcare equipment and nutrition supplements. The JV planned to manufacture gener-

ics in Podolsk, Moscow region. When contacted, DIOD refused to comment. The spokesperson of Aurobindo Pharma told RIBR there had been no developments on the project since the MOU was signed.

Among Indian drug manufacturers that are considering localisation are Dr Reddy's Laboratories, one of the largest Indian exporters in the Russian market, Glenmark, with its Russian subsidiary Glenmark Impex and Ranbaxy Laboratories Ltd, which is discovering opportunities in Yaroslavl's pharmaceutical cluster.

Moscow-based Advanced Trading Ltd., the supplier of Indian Macleods Pharmaceuticals Ltd, which manufactures anti-tuberculosis drugs, was planning to set up a manufacturing unit in the Moscow region. Instead the company found a 4 hectare plot in Belgorod. The new \$25 million plant will be launched in 2016 and seeks to create about 160 jobs.

Under the Pharma2020 strategy, the manufacturing of Indian generic drugs in the Moscow region was named as a priority of Russia-India cooperation. Considering that registering medicines manufactured outside Russia is becoming increasingly expensive and that the Pharma2020 strategy intends to support local manufacturers, the production of Indian generics in Russia would be a safe step to preserve the market share. However, it may increase the price of Indian generics as the labour and energy costs, along with rental rates, are much higher in Russia than in India, leaving aside the stricter standards of ecological control. That could affect the price-competitiveness of Indian generics, some experts fear.

TRENDS: Space industry slashes spending and focuses on profit instead



Soyuz TMA spacecraft at a space launch site.

## Space dreams get a reality check

Russia's famous space programme faces budget cuts as it grapples with the need to balance soaring ambitions with pragmatism and profitability

ANDREI KISLYAKOV  
RIBR

Russia's space programme, used to flying high on grandiose space fantasies, is now waking up to a reality check. The country's ministry of finance wants the space-programme's budget pruned by more than \$220 million to \$5.25 billion. The ministry is also recommending that the Russian Federal Space Agency's (Roscosmos) 2015 budget of \$6.42 billion be reduced to \$6.01 billion and its 2016 budget be capped at \$6 billion, instead of the \$7.36 billion it was expecting.

"The primary factor in these [proposed] reductions... was a recalculation of the dollar-exchange rate applied to the rent being paid for the use of Baikonur [Cosmodrome]," read the Finance Ministry's vague explanation.

But the answer lies deeper. Anyone familiar with the history of global space exploration will understand how image-boosting space launches gave way to the dictates of profitability. In the 1990s, when leading US and European market players set up the Global Star space-based commercial communi-

cations consortium, the USSR was preening over 'glorious space achievements'. Lieutenant-General Georgy Lysenkov, former deputy commander of the Soviet Defence Ministry's Space Units, recalls how the Russian "leadership never spared a cent when it came to space exploration."

Times have, of course, changed. Roscosmos privatised the space sector in the early 1990s, setting up a series of joint ventures with EU and US partners.

Nevertheless, the Russian government's love of flashy displays has not dimmed. The Glonass satellite-based navigation system is a classic example. It mandated that every vehicle in Russia should have its receiver on board, even though civilians won't really benefit, in the short-term from using Glonass over the US GPS Navstar system. As a consequence, the Glonass system, which is needed by the Russian Army, emergency relief units and other government agencies, has failed to reach its full operational capacity of 24 serviceable satellites in orbit. Its ongoing failures prompted the Finance Ministry, in August 2012, to freeze the programme's budget at its

2011 level of 19.3 billion roubles.

Says Ivan Moiseyev, head of Russia's Space Policy Institute: "We want too much: a new launch vehicle, a new piloted spacecraft, a new spaceport, a Lunar base; but the sector's productivity is appallingly low. It would make more sense if we invested in modernisation and improvements to production effectiveness."

Against this backdrop, the best precondition for reviving the Russian space industry would be the development of new space-vehicle designs based on advanced technology.

## New launch centre

Vostochny Space Centre in Russia's Altai region, 100 km from the Chinese border, is expected to gradually replace the Baikonur Space Centre, which Russia has leased from Kazakhstan until 2050, as the main Russian launch site for heavy space carriers. The goal is to have independent and unrestricted access to space.

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TELECOM: Not just modems, Russian firm is also planning smartphone foray

# Yota targets India 4G niche

Moscow-based Yota Devices is now focusing on India as a part of its global expansion strategy



Yota Devices has to develop a special product line for India because 4G networks and devices differ in India and Russia.

ALEXANDRA KATZ  
RIBR

Yota Devices, a popular Russian LTE connectivity company, is eyeing the nascent 4G market in India as part of its expansion strategy. The company struck a deal in June with Olive Telecom, one of India's leading wireless device vendors to introduce new modems, portable and fixed routers in the Indian market.

Yota, which has sold 3 million connectivity devices since 2009 and has 6% of the global LTE devices market, started negotiating outside Russia only a year ago, focusing primarily on European markets.

"We have a few deals in Asia too - Singapore, Japan, Australia, India. Basically these are the countries with high LTE penetration. But the first real deals will be coming from Russia and India hopefully," Yota Devices COO Lau Geckler told RIBR.

The choice of Olive Telecom as a

partner is expected to work well for Yota's India plan as the Indian company has Russian-speaking expats in its management board.

"The advantage of Yota's devices is design - you can feel the difference once you take it in your hand. The performance of Yota's modems is better due to different antennas and better materials. The software solution allows a decrease in time and efforts the user spends on connecting the device. This also helps mobile operators reduce time and cost of support per customer," says Artem Orange, president, operations, at Olive Telecom.

Yota's devices may hit the shelves by October-November 2013. The Russian vendor is positioning itself in the premium market, being slightly costlier than Chinese vendors which Yota considers as the main competition both in India and globally. Huawei and ZTE have already secured strong positions in the price-sensitive Indian market.

Till date, the only telecom operator offering LTE device in India is BhartiAirtel which has established 4G networks in Kolkata, Bangalore, Pune and Chandigarh. Another big player in Indian 4G LTE market Reliance JioInfocomm is planning to launch 4G services for both data and voice within this year. Yota's COO is upbeat about the company's prospects in India.

"If you look at 3G development in India and the volumes behind it, you will see a huge business opportunity. There is no doubt that Indian operators are preparing to fight on the LTE market as well," says Geckler.

Agrees Timur Nigmatullin, an analyst with Investscfe: "It reminds one of 3G modems market in Russia in early 2000s. So I expect the demand for such devices will be growing significantly."

Geckler adds that Yota Devices has already invested quite a lot in entering Indian market as it had to develop a special product line for India because tech-

## Think out-of-the-box

Yota Devices was formed in 2010 as a separate manufacturing unit of Russia's only LTE telecom provider Scartel, operating under Yota brand. Yota started in 2007 as WiMAX-based broadband internet provider, but later switched to LTE network. "We were not very happy with the design, the quality and the 'out of box experience' with the devices coming from China," says Yota Devices COO Lau Geckler. "And we started developing products very much focused on nice design and a very solid out-of-box experience: it takes the consumer only 10-15 seconds from the time he actually takes the new device from the box to the time he connects to the network." In 2012 Russian billionaire Alisher Usmanov bought Yota's telecom business.

nically 4G networks and devices differ in India and Russia. "So we now have quite high ambitions, but it depends on telecom operators a lot," he adds.

Smartphone is the next big thing on Yota's horizon. Recently the company launched YotaPhone, an Android smartphone equipped with an electronic-paper screen on the back in addition to a standard touch screen on the front.

The sales of this smartphone, priced at around \$650, will start by 2013-end globally. "The smartphone will be launched in India in 2014, I believe," Artem Orange told RIBR. Nacheeket Nilekar, director of Sales - India at Cadyce, the Indian manufacturer of digital devices, believes that 4G LTE will be the superior alternative for Indian businesses.

"There are few companies in India but their main focus is 3G. But I have not seen any local competitors who provide LTE devices at our quality," says Geckler.

# From cancer cure to anti-ageing fix, Russian scientists make a mark

A prestigious biochemical conference infused a new burst of energy into young innovators

YULIYA MESHAVKINA  
RIBR

The return to Russia of a marquee European biochemical event after 29 years provided a powerful platform for the country's young scientists to gain valuable international exposure.

Last month, St. Petersburg hosted the 38th Congress of the Federation of European Biochemical Societies (FEBS) - one of the largest international forums on natural sciences.

Alexander Gabibov, president of the Russian Society of Biochemists and Molecular Biologists and chairman of the FEBS organising committee, says the forum offered enormous benefits for Russia's young scientists, who were able to network with 3,000 delegates from Europe, United States, Canada, China and Japan. "There were many young scientists at the Congress, and they will be the ones to rebuild Russian science in the future," Gabibov says. "It's invaluable for them to have the opportunity to evaluate the potential of their work and to gain experience with international scientific discussions at this level."

According to the chairman of the Russian Fund for Fundamental Research, Vladislav Panchenko, more than 300 young Russian scientists participated in the conference. The Russian and global biochemical landscape has undergone profound changes since the country first hosted FEBS in Moscow in 1984, with major advances in the cloning of mammals, stem-cell transplants and unlocking the human genome.

In the intervening 30 years, Russia's scientific sector had faced extreme hardships, which alienated it from cutting-edge research and from colleagues overseas. Difficulties

included cuts and shortages in funding, unpaid salaries, the collapse of institutions and a brain drain from Russia to the West.

Despite these setbacks, Russian biologists are now being internationally toasted for their research and innovation. Led by Vladimir Skulachev, the Iona Skulachev Project synthesised the SkQ1 compound - an antioxidant touted as an anti-ageing medicine.

The development of fluorescent protein-production technology, which allows living micro-organisms to be studied on a cellular level, is another feather in the cap. This was developed by Sergey Lukyanov, biologist and academician at the prestigious Russian Academy of Sciences. Developed by scientists at the Russian Institute of Gene Biology, a molecular nano-transporter, a technology capable of delivering medicine into cell nuclei, is hoping to improve the survival rate for cancer.

Russia was awarded the chance to host the FEBS Congress in 2011. Among the participants were Nobel Prize Laureates Sidney Altman, Kurt Wuthrich, Ada Yonath, Roger Kornberg, Jean Marie Lehn, Dr Richard Roberts, Susumu Tonegawa, Jules Hoffman, Robert Huber, Aaron Ciechanover and Jack Szostak. The Skolkovo Innovation Centre representatives hosted discussions on stem-cell research, the bill on Russian biomedical cellular products and the latest developments in cancer treatments.

"We would most likely not have achieved today's results without the involvement of the Skolkovo Centre, which funds two of our projects," says Peter Fedichev, scientific director of Quantum Pharmaceuticals and resident at Skolkovo. Ada Yonath, Laureate of the Nobel Prize for Chemistry in 2009, has predicted a bright future for young Russian scientists.

ENERGY: Despite post-Fukushima scepticism, the share of atomic energy will continue to grow and could double by 2030

# Sun, wind or shale will not dim the demand for 'peaceful' atom

IAEA Forum in St Petersburg focuses on safety concerns and suggests a new strategy to position atomic energy in the backdrop of renewed focus on renewables and 'shale gas revolution'

ALEKSANDER YEMELIANENKO  
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Neither the sun, nor the wind, nor shale gas will dislodge nuclear power from the global energy balance. Contrary to scepticism among some sections, Yukiya Amano, the director general of the International Atomic Energy Agency (IAEA), has predicted that the share of atomic energy will continue to grow, and could even double by 2030. This was also the broad conclusion at the "Nuclear Energy in the 21st Century" International Conference, held recently in St Petersburg, which attracted ministerial-level delegations from 89 countries worldwide.

Among those who participated were Indian experts headed by Ratan Kumar Sinha, chairman of the Atomic Energy Commission of India and secretary of the Department of Atomic Energy. The conference reviewed the post-Fukushima trends like the political decision of the German authorities to phase out the country's nuclear plants, and the

warniness displayed by Italy. But by and large the trend has been largely positive. According to the official figures declared by Amano, the total capacity of the nuclear power plants currently in operation worldwide amounts to 372 gigawatts (GW). That figure is set to rise by 80-90 GW in the foreseeable future.

## From Middle East and Africa to Central and South America, atomic energy is back in the reckoning

France, the US, Canada, Russia and Sweden are all optimising and expanding their national nuclear programmes. China and South Korea have confirmed plans to boost growth in nuclear power generation.

In fact, the demand for nuclear power is surging across the globe, from the Middle East and Africa to Central and South America. Therefore, profes-

sionals need to understand and agree the terms and conditions on which nuclear power will be developed, whose projects will be implemented and where, and what financial models and production alliances are required for construction to go ahead. They also need to think afresh on how to position nuclear power against the chang-

## Rosatom has bagged orders for the construction of 19 new nuclear reactors worth \$80 billion.

ing backdrop of developments in other energy sectors, including renewables and the so-called "shale revolution".

Addressing safety concerns should top the list. The IAEA director general visited the Kalinin nuclear power plant in Russia and checked the operation of new equipment installed in line with post-Fukushima requirements. Having personally started the emergency die-

sel generators, Yukiya Amano noted that they "fired up" just as good as his car. Rosatom CEO Sergei Kiriyenko reminded his audience that the esteem enjoyed by Russian nuclear technology was borne by the fact that the corporation's portfolio already includes orders for the construction of 19 new units which are estimated to cost revenues \$80 billion by 2030.

Deputy Prime Minister Dmitri Rogozin underlined that Russia saw uses of the "peaceful atom" not only in nuclear power plants, but also in space, medicine, new information technologies, and supercomputers for complex calculations, project works, and computational tasks. The nuclear icebreaker fleet, which is presently experiencing a revival, is a new example of Russian prowess in this sector. He noted that last year saw a record generation of nuclear electricity: 177.3 billion kilowatt-hours, or 16% of total generation. Russia currently has 33 power units in operation, with nine more under construction at five sites. "The future of the nuclear industry lies with innovative technologies," concluded Rogozin. "And the absolute priority is safety."

It is basic installations such as these, say experts, that have brought about the transition to fourth-generation reactors. The same idea was propounded at the IAEA Forum by R.K. Sinha, the head of the Indian delegation.

"There is no doubt that the total number of nuclear reactors in the world will increase," he predicted confidently. "What's more, the range of nuclear technologies from which to extract energy is expanding. The chief requirements for the operation of nuclear reactors are reliability and safety. We consider the thorium fuel cycle to be a cutting-edge technology. Thorium can be used to extend the application



YUKIYA AMANO  
Director General, IAEA

"We are duty-bound to do everything in our power to identify the root causes of the tragic accident at the Fukushima nuclear power plant. But in the wake of Chernobyl, the nuclear industry entered

a period of stagnation, that has evidently not happened post-Fukushima. Most countries are continuing to develop nuclear energy, and new members are actively seeking to join the club."

of nuclear energy in the near future. And in the long term, it will ensure large-scale advancement."

In the backdrop of safety concerns over Kudankulam nuclear plant in India, Sinha stressed on a respectful dialogue between supporters and opponents of the "peaceful atom".

447

nuclear generating units in 30 countries are in operation worldwide, according to the IAEA.

## Kudankulam start-up: 'Safety is paramount'

Atomic scientists await startup like doctors the wail of a newborn baby. Physical startup signifies that the unit is operational and that the reactor - the heart of the installation - is in proper working order. It also complies with all safety requirements, both passive and active. It is an important event for atomic scientists as creators, and for financiers and consumers in India, because nuclear energy can improve living standards and stimulate economic growth. Physical startup provides a firm guarantee of our joint achievements and prospects. True,

we have recently spoken out in favor of unifying certain projects, but that does not negate the individual approach we adopt to each plant's distinctive safety parameters. Each project takes account geographical and climatic features of the particular region in India, including storms and other natural phenomena. A project cannot simply be repeated without adapting it to the specific climatic conditions. Safety is paramount in all aspects of Rosatom's projects. Physical startup or 'going critical' is the culmination of the collective work of the team of specialists. It is the decisive step in



bringing the plant commercially on stream. Thereafter, we can consider the prospects for other reactors, too, which for India is a pressing matter.

Nikolai Kuselev, professor, National Research Nuclear University

**CULTURE: A fiercely independent woman, she was an agent of change and freedom**

# Blavatsky's life-long bond with India

Russian mystic and founder of Theosophical Society Helena Blavatsky harnessed her gift of clairvoyance for promoting social reforms in India

DIYA LAHIRI  
RIBR

Mystic, writer and world traveller Helena Blavatsky, a co-founder of the Theosophical Society, wrote many of her philosophical texts in Bombay and was a pioneering social reformer in pre-independence India.

Magic, enigma, occult, clairvoyance...these are just some of the words that come to mind when one thinks about Madame Blavatsky. Although she is little remembered in India, a country where she spent around six years, her impact on societal reforms, women's liberation and education was quite remarkable and need to be looked at afresh.

Born in Yekaterinoslav (in modern-day Ukraine) in 1831 into a wealthy aristocratic family, Helena Blavatsky was known to be a special child from the time she was very young.

There are numerous stories of how she used her clairvoyant powers to help the police and the aristocracy in solving cases and personal problems. She probably did have these special powers, but how they were developed and used for a larger purpose is of far greater importance.

Blavatsky is credited with setting up the Theosophical Society, along with H.S. Olcott, an English colonel, in 1875. The Theosophical Society is an international organisation which is dedicated to the promotion of universal brotherhood and encourages the study of religion, philosophy and science. It also stands for complete freedom of individual search and belief.

## A Passage to India

Madame Blavatsky's journey to India began in London, while taking a walk with her father. She saw an Indian man whom she recognised as a protector who she had seen in her visions as a child. The man, a Rajput (a traditional Indian warrior clan), told her that she would have work to do in the future under his direction in the East. A few years later, she made her way to Tibet where



she trained in spiritualism and other occult forces under the guidance of the masters. During these years she made a name for herself as a talented pianist

## She encouraged Indians to look into finest aspects of their culture and share knowledge with others

as well as an artist. In the years to come, she received further instructions from the masters to travel to other places in the world to carry out their work.

## Theosophical Society

After forming the Theosophical Society in New York, Madame Blavatsky and Col. Olcott sailed in 1882 for Bombay (under the masters' instructions) where they would live for the next few years. They set up the Theosophical Society in Madras (now Chennai) and in Bombay (now Mumbai). It is interesting to see that most people in India associate the Theosophical Society as something of the past and only with freedom fighter Anne Besant, who was inspired by the celebrated Russian mystic.

It is largely forgotten that the Theosophical Society is still very

much in existence and has numerous branches all over India. What is even more fascinating is that in a country where religion plays such a dominant role there still exists an organisation which believes that "there is no religion higher than truth."

## Legacy: Knowledge is Power

Madame Blavatsky's legacy can be defined as a life-long pursuit of knowledge. She encouraged people to open their minds and learn to be better in all aspects of their lives. While she was in Bombay, it is said that she copiously wrote pages after pages only so that she could share her knowledge with other people.

These writings came in the form of her books such as "Secret Doctrine," 2 volumes (published in 1888) and "The Key to Theosophy" (published in 1889). She was also the only person who the masters would communicate directly with. Stories of the masters magically appearing at various places to talk to her are well-documented.

Apart from all the talk about occult and mysticism, Madame Blavatsky was also a pioneer, at a time when very few women actually dared to travel around the world and that too in such arduous conditions.

She travelled all the way to places such as Egypt and Tibet. She also devoted her life to education and teaching which was not very common for women in those days.

The Theosophical Society lives on with Madame Blavatsky's legacy and philosophy. They believe in the progress of mankind and that education and knowledge are how mankind better themselves. They were some of the first people who led the movements against social evils such as caste-discrimination.

Col. Olcott also started the first school for the so-called untouchables in India. Madame Blavatsky encouraged Indians to look into the finest aspects of their own culture.

It is believed that one of the secrets of her remarkable power was her ability to change the lives of people around her. Her insight and depth of learning brought forward a change in society which very few people can achieve. Much before India became independent, this Russian woman brought us the mantra of knowledge is power - the most powerful instrument of change in society. Madame Blavatsky was, in all senses, an independent woman, something that many of us still strive to be even in this day and age, in a society that is still riven with inequality.

**TRENDS: Iyengar's visit a turning point**

# Yoga forever in Russia: A never say die love affair

From the time it was seen as strange to the first official yoga schools, the path of popularising yoga in Russia has been long and windy



Russians experimenting with yoga techniques in Moscow.

OLGA KAZAK  
Yoga journal

From the end of the 19th century right till this day, Indian philosophy and yoga have enjoyed popularity and esteem in Russia.

Right at the beginning of the 20th century, Swami Vivekananda's book on Raja Yoga, Yoga Sutra by Patanjali, and the philosophical poem Bhagavad Gita came out as a translation, with commentary in 1956. In 1915, on the brink of a revolution, in Russia appeared a mystic, hypnotist and maverick philosopher Georgy Gurdjieff. He was then starting to work on his groundbreaking book, Fourth Way, which, as he described it, "contains elements of teaching from the yogis, Sufis, Tibetan Buddhism and some Shamanic techniques from various different traditions, including Mongol traditions". But the revolution, and then the civil war interrupted his plans.

Even during the dark, harsh, Stalinist times, yoga was harnessed to survive inhuman conditions in camps. Tatiana Okunevskaya, one of the most famous starlets of the Stalinist period, a lady with whom the powerful Lavrenty Beria fell in love,

told journalists that she had survived for six long years, thanks to "fresh carrots and yoga".

Another great example of Russians' undying love for yoga is Boris Smirnov, a surgeon, doctor and academic, who under Stalin found himself as a political prisoner at Ashkhabad. Smirnov independently studied Sanskrit and in 1939 embarked on a project to translate Mahabharata into Russian. Bhagavad Gita came out as a translation, with commentary in 1956.

In the 1980s the first yoga groups appeared - sessions were held at people's flats. At that time yoga was taboo as the Soviet authorities regarded it as a very strange activity.

However, at the end of the 1980s yoga emerged from the underground. Elena Fedotova, a PhD psychology student, invited the celebrated Indian yoga master B.K.S. Iyengar to Russia in 1989 for the first conference on yoga. Now yoga schools can be seen all over Russia, with Russians seeing it as a path to good health and holistic living.

Full story  
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## City Sightseeing MOSCOW

There are 4350 kilometres of streets in Moscow. Walking non-stop at an average of 5 kilometres per hour would take you 36 days. Here is a list of must-see city landmarks....

**Start Point:** Red Square  
**Ticket Length:** 24 hours

**Duration:** 60 mins  
**Season:** All Year Round

**Frequency:** Every 20 mins  
**Commentary:** Russian, English, Spanish and German

**The Udamnik Cinema**  
Built in 1931 for the 14th anniversary of the October Revolution, the Udamnik is one of the oldest cinemas in Moscow. It is located in the House on the Embankment, an apartment complex that was home to the Soviet elite scientists, Heroes of the Civil War, party leaders and prominent writers. The frescoes in the apartments were painted by the artists who restored the Hermitage Museum in St Petersburg.

**Bolshoi Moskvoretsky Bridge**  
The famous bridge over the Moskva River, located next to the Kremlin's Spassky Gate. It was on this spot amateur West German pilot Mathias Rust landed on May 28, 1987 after flying from Hamburg to Moscow.

**Red Square**  
A UNESCO World Heritage Site, Moscow's main square is located west of the city's Kremlin. Red Square is home to the famous St Basil's Cathedral and Lenin's Mausoleum.

**Bolshoy Kamenny Bridge**  
A steel arch bridge spanning Moskva River at the western end of the Moscow Kremlin. The existing bridge was completed in 1938 by engineer Nikolai Kalmykov. The railing illustrates the distinct styles of that era.

**Kropotkinskaya Metro Station**  
Originally named Dvoretz Sovetov, the station was opened in 1935 as part of the original Moscow Metro. The station was renamed in honour of geographer, traveller and anarchy theoretician Peter Kropotki, who was born nearby in 1957.

**Arbat Square**  
One of the oldest squares of Moscow, it is now dominated by the wide avenue of New Arbat street. However, prior to redevelopment of 1960s, the square was located south from this avenue, on the line of Arbat Street and the vestibule of Arbatskaya subway station.

**Red October**  
Founded in 1851, Kransy Oktyabr ("Red October") is one of Russia's oldest confectioneries. Kransy Oktyabr is the forerunner to such iconic Soviet confectionery products as Alyonka chocolates and Mishka Kosolapy sweets.

**Bolotnaya Square**  
In the 17th-19th centuries, Bolotnaya Square was a place for having fun and engaging in fisticuffs. Criminals were punished on the square, including public executions. The last public execution to take place on Bolotnaya Square took place in 1775, when Yemelyan Pugachev, leader of the peasant rebellion of 1773-1775, was put to death.

**Sivtsev Vrazhek Lane**  
Its name came from the ravine (Vrazhek), along the bottom of which flowed a small river Siviec (or Sivka), which flowed into the stream along the walls of the White City Chertovy creek. River Sivka called because of sivomu (gray) the color of its waters. The river is 0.8 km, is enclosed in a pipe at the beginning of the XIX century.

**The Bolshoi Theatre**  
One of the Russia's biggest - and the world's most important - opera and ballet theatres. The image of the Bolshoi is one of Russia's most iconic symbols; it appears on Vdokhnoveniye ("inspiration") sweet wrappers produced by Krasny Oktyabr, one-hundred-rouble notes, and Soviet and Russian stamps.

**Alexander Garden**  
Moscow's oldest park was built in the 18th century. Sprad over ten hectares, the garden is home to historic sites like the Kutafya Tower and the Italian Cavern.

**Okhotny Ryad (Hunters' Row)**  
A historical street close to the Kremlin, it is home to the building of the State Duma (Parliament) and Moskva Hotel, one of the biggest in the city.

**Balchug**  
The Balchug is a man-made island that was formed when the Vodootvodny Canal was being laid down along an oxbow lake of the Moskva River.

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